Canalis®
20 to 1000 A

Catalogue 2016

Prefabricated busbar trunking

schneider-electric.com

Life Is On Schneider Electric

Green Premium™

Endorsing eco-friendly products in the industry

Green Premium™
Product

Green Premium is the only label that allows you to effectively develop and promote an environmental policy whilst preserving your business efficiency. This ecolabel guarantees compliance with up-to-date environmental regulations, but it does more than this.

Over 75% of Schneider Electric manufactured products have been awarded the Green Premium ecolabel

Discover what we mean by green ….

Check your products!

Schneider Electric's Green Premium ecolabel is committed to offering transparency, by disclosing extensive and reliable information related to the environmental impact of its products:

RoHS

Schneider Electric products are subject to RoHS requirements at a worldwide level, even for the many products that are not required to comply with the terms of the regulation. Compliance certificates are available for products that fulfil the criteria of this European initiative, which aims to eliminate hazardous substances.

REACh

Schneider Electric applies the strict REACh regulation on its products at a worldwide level, and discloses extensive information concerning the presence of SVHC (Substances of Very High Concern) in all of these products.

PEP: Product Environmental Profile

Schneider Electric publishes complete set of environmental data, including carbon footprint and energy consumption data for each of the lifecycle phases on all of its products, in compliance with the ISO 14025 PEP ecopassport program. PEP is especially useful for monitoring, controlling, saving energy, and/or reducing carbon emissions.

EoLI: End of Life Instructions

Available at the click of a button, these instructions provide:

- Recyclability rates for Schneider Electric products.
- Guidance to mitigate personnel hazards during the dismantling of products and before recycling operations.
- Parts identification for recycling or for selective treatment, to mitigate environmental hazards/ incompatibility with standard recycling processes.

Range contents

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Canalis,
the ideal offer to match with your needs

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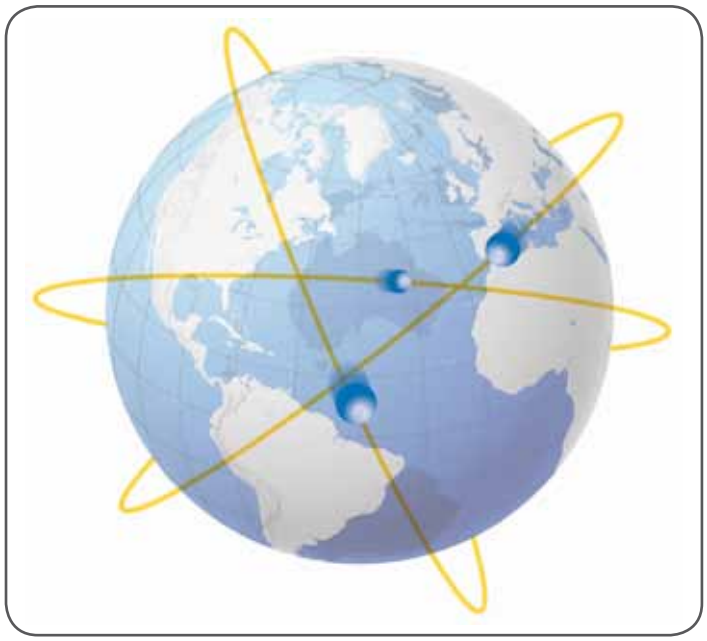


More than 70,000 km of Canalis busbar trunking has been sold around the world.

A total coordination with the Schneider Electric system

- Canalis is part of a comprehensive offering of Schneider Electric products designed to operate together.
  Our circuit breakers ensure overload and short-circuit protection.
  Tap-off units ensure installation upgradeability without production downtime and continuity of service.
  Our protection switchgear optimise switchboard functions.

- It guarantees and enhances the safety of equipment and people, and provides installation continuity of service, upgradeability and simplicity.

- This concept covers all low and medium voltage electrical distribution components.

- The result is an optimised electrical installation with even higher performance through full electrical, mechanical and communication compatibility.

- It is perfectly suited to traditional applications (factories, warehouses, etc.) and to the distribution of electrical power from the incoming transformer on through to all types of loads in offices, commercial premises, livestock production buildings, warehouses, parkings, etc.

Canalis, a comprehensive and consistent busbar trunking system for...

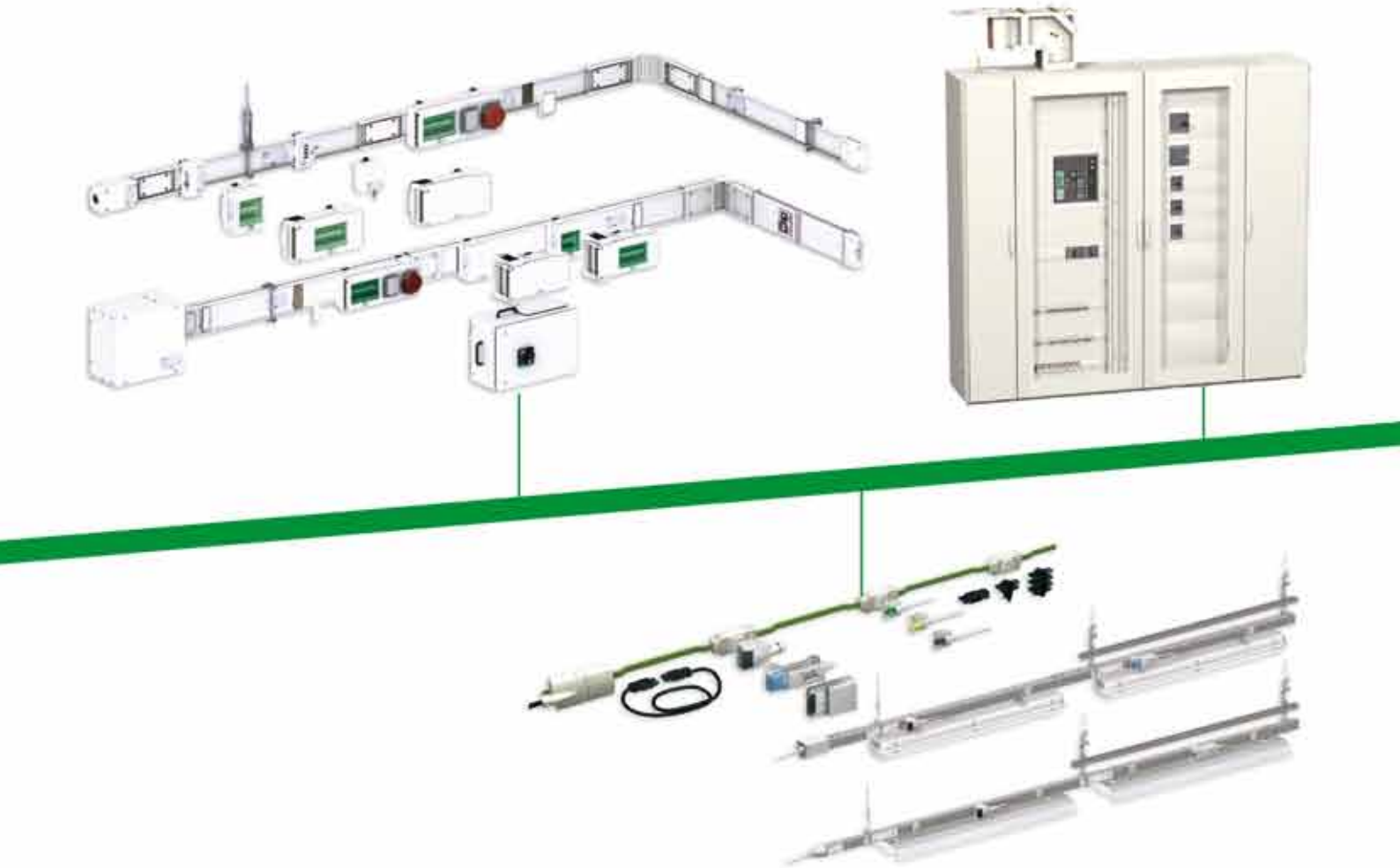
A new path for achieving your electrical installations

Canalis is part of a comprehensive offer of products that are perfectly coordinated to meet all medium and low voltage electrical distribution requirements.
All of these products have been designed to work together: electrical, mechanical and communication compatibility.
The electrical installation is thus both optimised and high-performance.

Optimum system performance is ensured by coordination between the protection circuit breakers and the busbar trunking used for decentralised distribution.

Decentralised electrical distribution with total coordination perfectly satisfies all your requirements in terms of safety, continuity of service, upgradeability and simplicity.

Decentralised electrical distribution with total coordination is the ideal solution for a wide range of applications including factories, warehouses, commercial premises, parkings, etc.



... lighting and power distribution in all types of buildings

Easier

• Coordination
Schneider Electric proposes coordinated busbar trunking and circuit breaker combinations for all your applications.
For typical applications with power ratings up to 630 kVA, a solution including the low-voltage electrical switchboard, circuit breakers and Canalis busbar trunking ensures an installation sized to handle all short-circuit levels encountered.

• Design
The electrical installation can be designed without knowing the exact location of the equipment to be supplied.

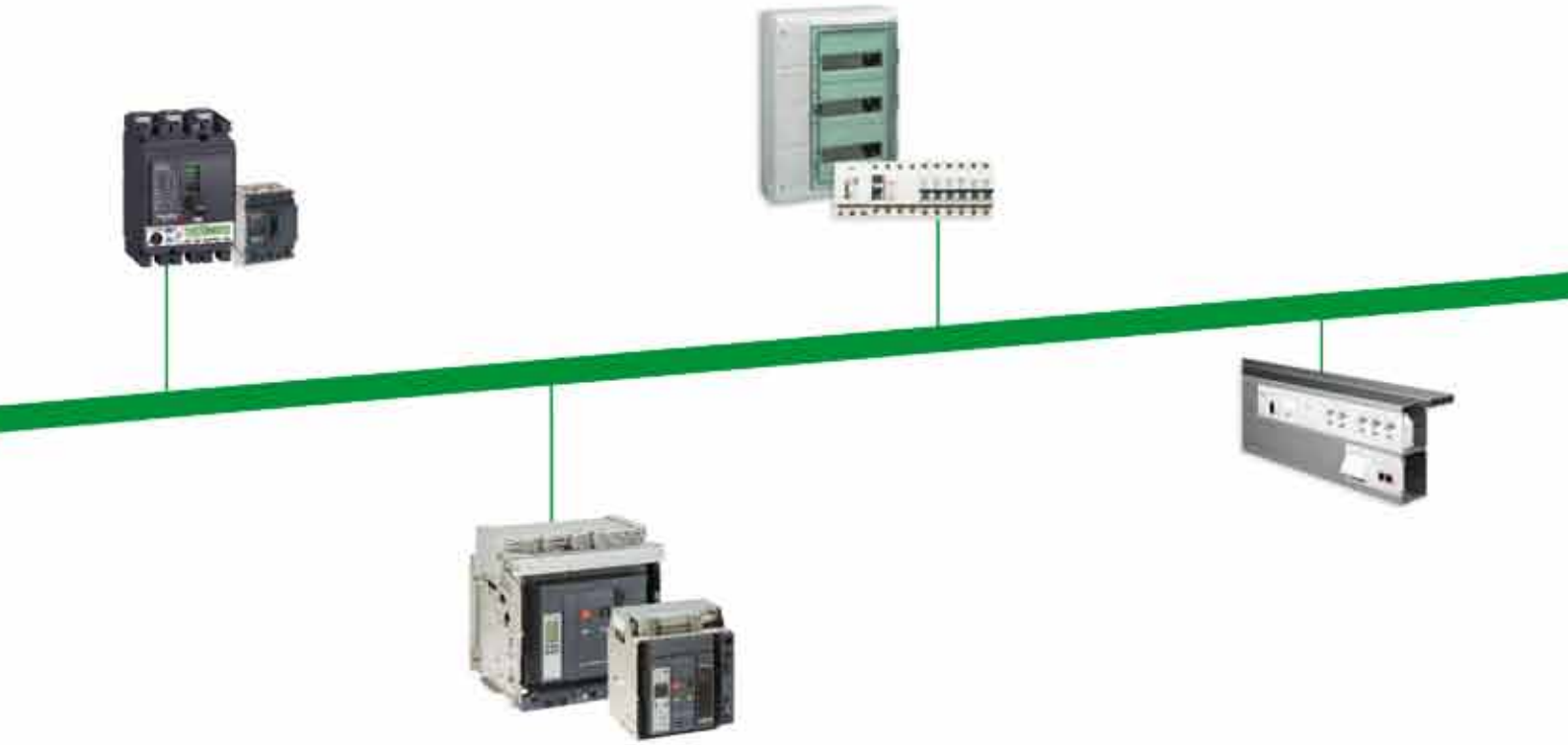
• Operation
Canalis opens the door to total upgradeability throughout the installation.
Tap-off units with standard performance circuit breakers can be installed at any point along the busbar trunking run.

Safer

• Decentralised distribution system
The combination of cascading and discrimination techniques guarantees optimum safety and continuity of service.

• Design
Total discrimination for enhanced protection as standard and at a lower cost.point de la canalisation.

• Operation
Any changes to your installation are carried out in complete safety.
Tap-off units can be plugged in and out with the trunking live. They are equipped with interlocking systems to prevent incorrect mounting.
Coordination guarantees their installation at any point on the busbar trunking system.



For each distribution system its own Canalis

Schneider Electric ...

offers different distribution systems to fit your operating needs.

Distribution systems

Centralised distribution

For all continuous processes

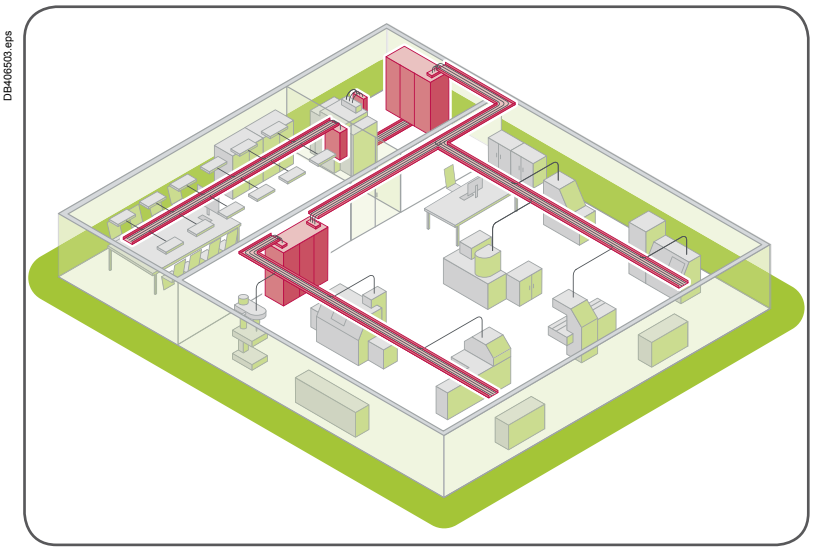
- Cement plants
- Oil and gas
- Petrochemicals
- Steel
- Paper, etc.

Centralised distribution offers

- Continuity of service
- Combined distribution of power, control and monitoring circuits
- Supervision, etc.

Our solutions

- Prisma Plus and Okken switchboards.



Decentralised distribution

For manufacturing industries

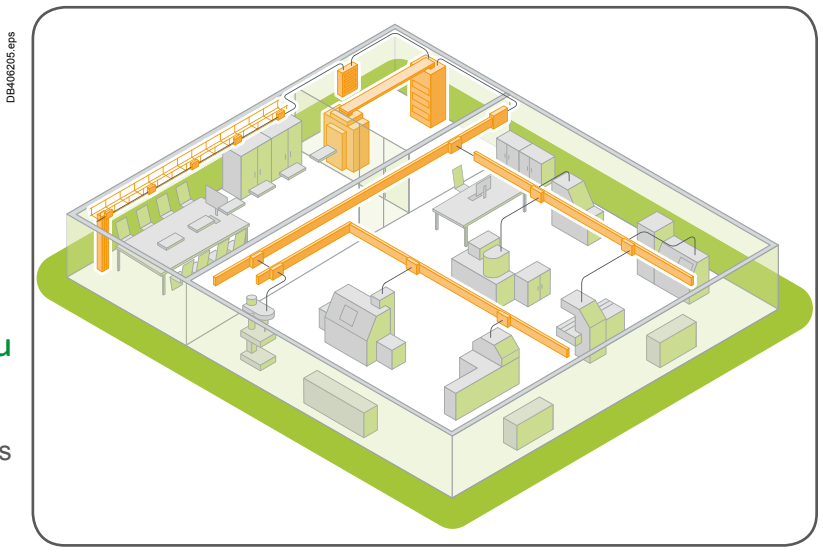
- Mechanical
- Textiles
- Lumber
- Injection moulding
- Electronics
- Pharmaceuticals
- Livestock, etc.

Decentralised distribution lets you

- Design installations without layout details
- Upgrade without shutting down production
- Get systems up and running sooner thanks to faster installation
- Generate savings depending on the number of loads.

Our solutions

- Prisma Plus switchboards.
- Canalis busbar trunking.



Combined distribution

Where the advantages of both centralised and decentralised distribution are required.

Commercial and service buildings

- Offices
- Stores
- Hospitals
- Exhibition halls, etc.

Infrastructures

- Airports
- Telecommunications
- Internet data centres
- Tunnels, etc.

Industrial facilities

- Pharmaceuticals
- Food processing, etc.

Our solutions

- Prisma Plus and Okken switchboards.
- Canalis busbar trunking.

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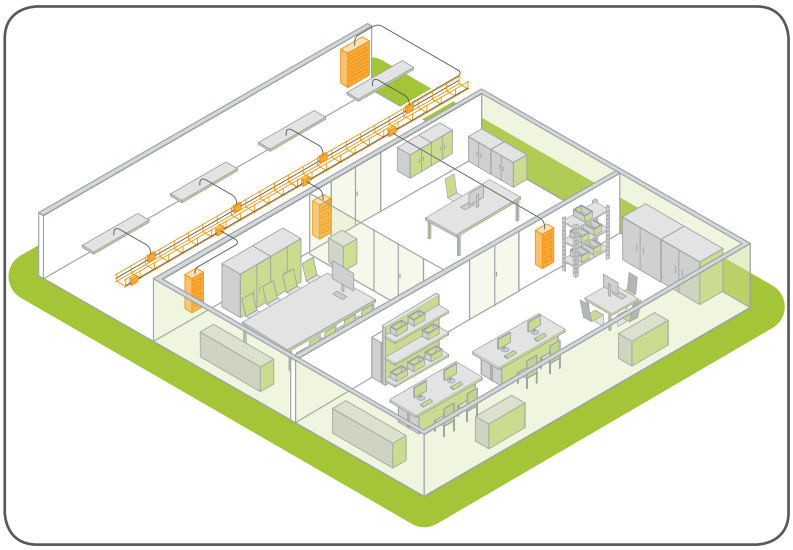

For each distribution system its own Canalis

The **Canalis** decentralised distribution concept.

Electrical power
available at all points, throughout the installation

"Exclusive features of the Schneider Electric system"

Total coordination of the Schneider Electric system provides maximum safety of life and property, continuity of service, upgradeability and ease of installation.
Total coordination is made easy by the tables in the "Selection Guide". They help you chose the right combination of circuit breakers and busbar trunking.
Product characteristics are checked by calculations and tests carried out in our laboratories.

A competitive installation

Simplicity, upgradeability, safety and continuity of service and operation.

Savings start with installation
with tap-off points every 3 metres, Canalis busbar trunking reduces installation costs.
Given the low cost of adding new circuits, savings increase as the number of loads increases, a natural consequence of the growth of your business.

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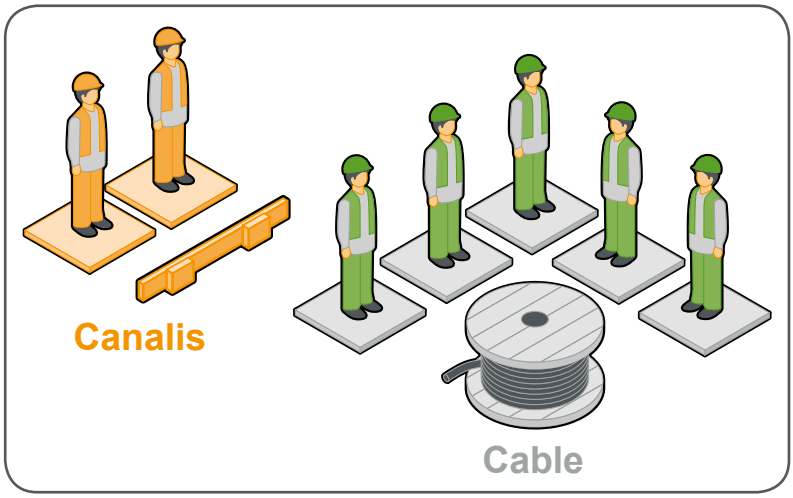

Comparative investment
of 400 A electric power system equipment.

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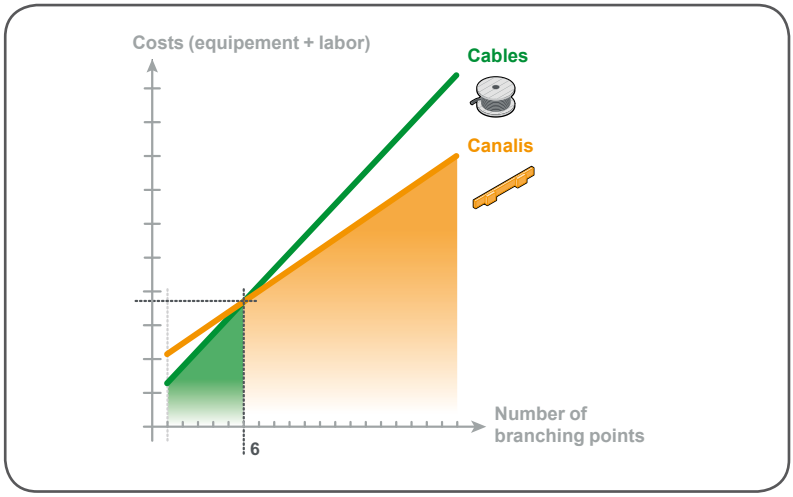

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Upgradeable during operation

In decentralised distribution, evolving operating requirements and costs are integrated right from the start.

- The addition, relocation or replacement of load equipment can be carried out quickly, without de-energising the supply trunking or shutting down operation.
- The cost of making such changes is greatly reduced:

> loads are located close to supply points

> tap-off points are always available

> tap-units can be reused or new ones added quickly for load relocation or replacement needs.

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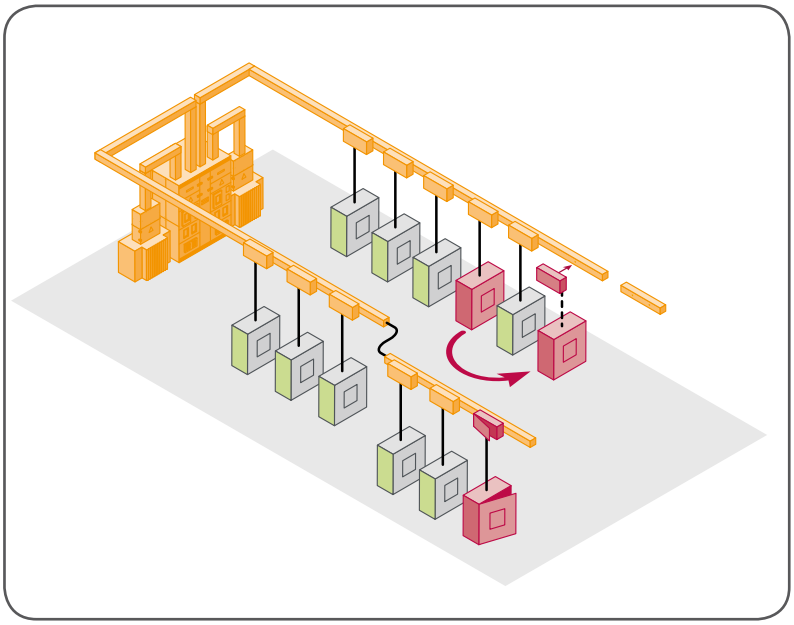

Reusable in the event of major changes

When making major modifications to your installation, the existing trunking can be easily dismantled and reused.

Canalis, an electrical distribution divided safely

Decentralised distribution for **small** sites

Maximum power
available throughout the installation

The main busbar trunking distributes the full power of the source.

Continuity and flexibility

The large number of tap-off points makes it easy to supply new loads.
Anyone can connect and disconnect loads quickly and safely.
These additions or modifications are carried out without shutting down the installation.
Thanks to rational design, the reliability of Canalis trunking installations is far less dependent on installation skills.
Canalis is an industrial product. Stringent inspection at all stages of production ensures a long service life.

Small sites (buildings < 5000 m²)

1. Medium-power distribution.
2. Low-power distribution.
3. Lighting.

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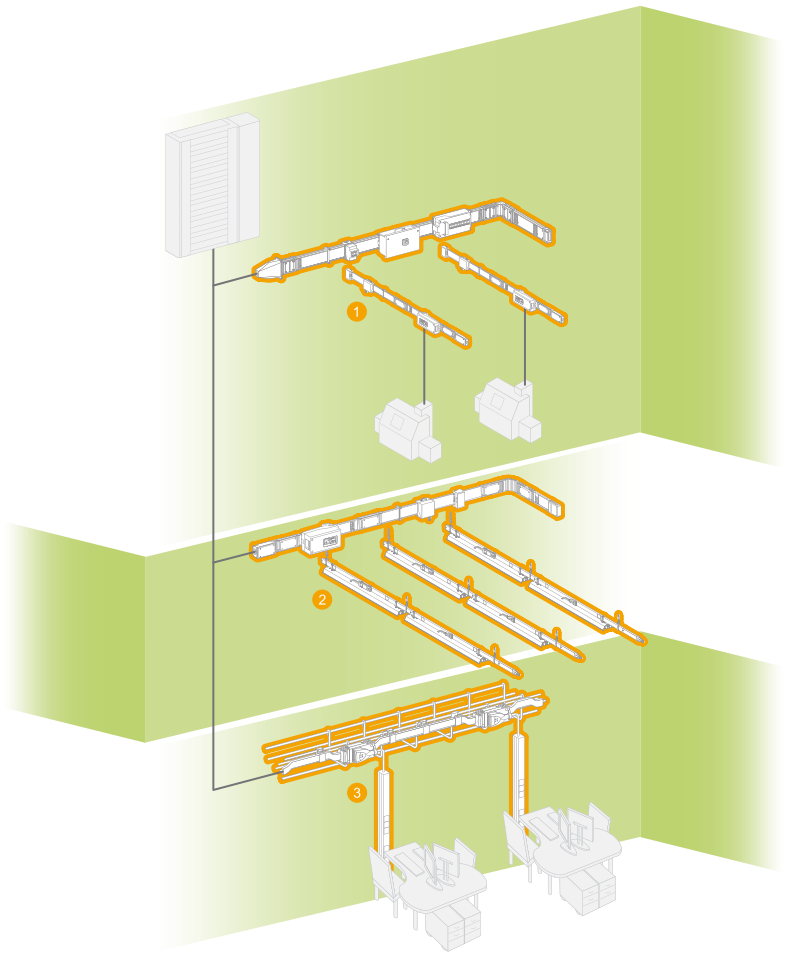

Decentralised distribution for **large** sites

The simplicity of decentralised distribution systems

The distribution system can be designed without detailed knowledge of load locations. Only the source and load characteristics are needed.
Trunking is selected in advance with optimum results.

Easy upgrading

Canalis can easily adapt to installation modifications or extensions. Simply move an existing tap-off unit or add a new one at the desired location.

Total safety

Tap-units can be connected and disconnected without de-energising the trunking.
Changes can therefore be made safely on live installations:
> protection against direct contact
> mismatch prevention for tap-off units and automatic compatibility between the performance levels of tap-units equipped with circuit breakers and the prospective short-circuit current at the point of installation.

Large sites (buildings > 5000 m²)

1. Transformer to low-voltage switchboard supply.
2. High-power distribution.
3. Medium-power distribution.
4. Low-power distribution.
5. Lighting.

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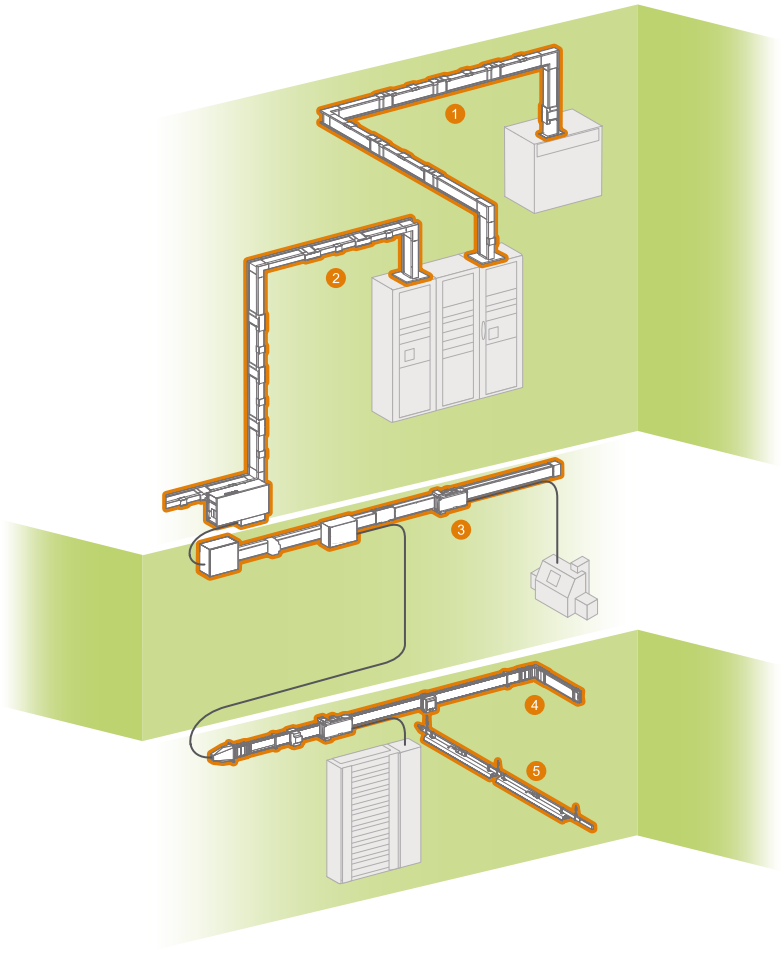

Canalis, in total harmony with the environment

Safety of life and property

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Example:
Consequences of a fire in a 100 m² office with electrical distribution by cables.
200 kg of cables (i.e. 20 kg of PVC) produces:
• 4400 m^3 of smoke.
• 7.5 m^3 of hydrochloric acid.
• 3.7 kg of corroded steel.

With Canalis, no toxic emission in case of fire

The busbar trunking has a low combustible load. Its construction uses very little consumable material and is **halogen free.**
In the event of a fire, the busbar trunking does not emit any gas or toxic smoke.

The busbar trunking helps prevent the propagation of a fire through partition walls and floors.

Halogen-sensitive applications
• Public buildings (infrastructures, hospitals, schools, etc.).
• Buildings with evacuation difficulties (high-rises, ships, etc.) and service-activity buildings.
• Sensitive processes (production of electronic components, etc.).

Canalis contains no PVCs

When PVCs burn, they produce large amounts of smoke that can be a serious safety hazard.
• Reduced visibility:
> risk of panic
> complicates rescue work.
• Smoke toxicity:
> hydrogen chloride gas (highly toxic)
> carbon monoxide (danger of asphyxiation).

Health

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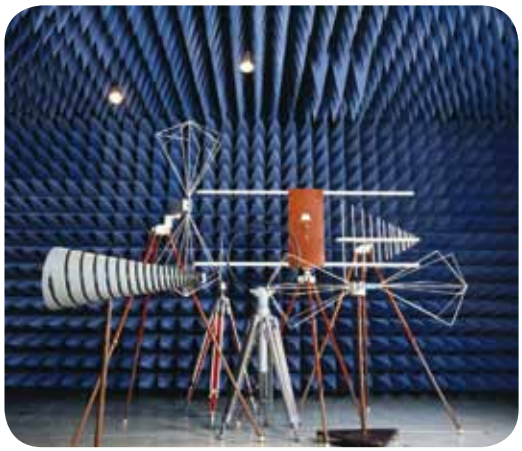


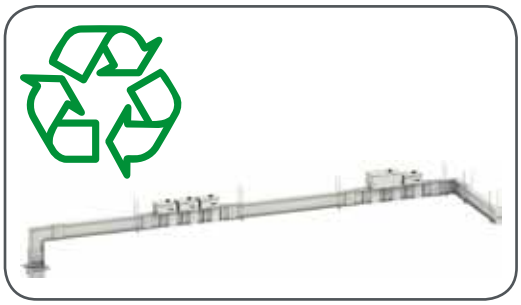
Canalis reduces the risk of exposure to electromagnetic fields

According to the WHO (World Health Organisation), exposure to electromagnetic fields can be a health hazard starting at levels as low as 0.2 micro-Teslas and could represent a long-term risk of cancer. Some countries have created standards that stipulate limits (e.g. 0.2 µT at 1 metre in Sweden).

All electrical conductors generate magnetic fields proportional to the distance between them. The design of Canalis busbar trunking with tightly spaced conductors in a metal enclosure helps to considerably reduce radiated electromagnetic fields.

The electromagnetic field characteristics of Canalis busbar trunking are well-defined and measurements show that they are far below potentially dangerous levels.
You will find the magnetic induction values of our products on the "Characteristics" pages.

Environment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Example:
1 kg of PVC generates 1 kg of waste.

Canalis is fully recyclable

- Canalis busbar trunking can be reused.
  Canalis busbar trunking is designed for a long service life and can easily be dismantled, cleaned and reused.
- All packaging materials can be recycled (cardboard or recyclable polyethylene film).
- All Canalis products are designed for safe end-of-life recycling. PVC, on the other hand, requires neutralisation of the hydrochloric acid produced using lime and generates dioxins that are extremely toxic.

Canalis helps conserve natural resources

The depletion of raw materials (copper, plastics, etc.) is one of our ongoing concerns.
For this reason, we have optimised the used of all materials used to make our busbar trunking.

- Reduction of dangerous or polluting materials. We design our products to meet future European directives.
- Reduction in the weight of insulating materials.
- Reduction in the use of plastics for improved fire performance: less energy released during combustion, thereby limiting propagation and facilitating extinction (lower calorific value).

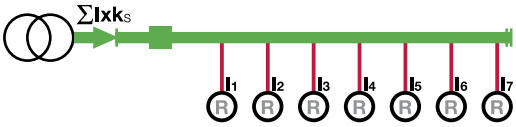
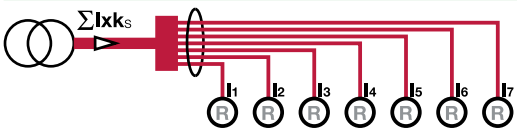
Conservation of natural resources

Canalis reduces your line losses by 20 %

Canalis divides your consumption of plastic by a factor of four

The cost of an electrical installation includes the initial investment for the equipment and its installation, the cost of maintenance and the cost of energy losses during operation.
The concept of decentralised distribution is a way to merge all the circuits in one and thus to reduce to the maximum the low cross-section lengths and the weight of insulating materials.

Example:
34 m of **Canalis KS 250 A** trunking equipped with fourteen 4-pole 25 A feeders.

Type of distribution	Insulation	Consumption
Decentralised		
 DB406492.eps	 23 kg	 1600 Joules
Centralised		
 DB406493.eps	 90 kg	 2000 Joules

K_S: diversity coefficient = 0.6

K_S: diversity coefficient = 0.6

Canalis is adapted for all types of buildings

Parkings

Key points

- Security.
- Opertating continuity.
- Energy management.

PB110319.eps

Garages

Key points

- Evolutivity.
- Costs reduction.
- Opertating continuity.

PB110345.eps

Cruise ships

Key points

- Security.
- Flexibility.
- Competitivity.

239001.eps

Logistic centers

Key points

- Security.
- Evolutivity.
- Costs reduction.

PB110340.eps

Canalis is adapted for all types of buildings

Warehouses

Key points

- Easy to maintain.
- Costs reduction.
- Evolutivity.

PB110344-45.eps

Livestock production buildings

Key points

- Security.
- Easy to maintain.
- Evolutivity.

PD2020114.eps

Hypermarkets

Key points

- Operating continuity.
- Security.
- Evolutivity.

PB110347-H8.eps

Offices

Key points

- Comfort.
- Security.
- Energy savings.

PB110371.eps

Panorama of Canalis **Lighting solutions**

Busbar trunking for lighting and low power distribution from 25 to 40 A

IP55

Rated service current	Permissible rated peak current	Rated insulation voltage	Color
Inc	Ipk	Ui	
KBA			
25 A 40 A	4.4 kA 9.6 kA	690 V	Pre-lacquered white (RAL9003)
KBB			
25 A 40 A	4.4 kA 9.6 kA	690 V	Pre-lacquered white (RAL9003)

Flexible busbar trunking for lighting and low power distribution 20 A

IP55

Rated service current	Permissible rated peak current	Rated insulation voltage	Color
Inc	Ipk	Ui	
KDP			
20 A	3.6 kA	690 V	-

Panorama of Canalis **Power solutions**

Power distribution from 40 to 160 A

IP55

Rated service current	Permissible rated peak current	Rated insulation voltage	Color
Inc	Ipk	Ui	
KN			
40 A 63 A 100 A 160 A	6 kA 11 kA 14 KA 20 kA	500 V	Pre-lacquered white (RAL9001)

	Line components			Branching points		Accessories
	Length of components	**Number of conductors**	**Branching centre to center distance**		**Protection type**	
	2 m and 3 m	2 or 4 + PE	0.5 m, 1 m or 1.5 m	L + N + PE or 3L + N + PE (10/16 A) pre-cabled or to be cabled, with phase selection or fixed polarity, with lighting control	With fuses or without protection	> Flexible components > Fixing devices with quick adjustment > Remote control bus (DALI, DSI) > Cable ducts
	2 m and 3 m	Single circuit 2 or 4 + PE Dual circuit 2 + 2 + PE 2 + 4 + PE 4 + 4 + PE	0.5 m or 1 m	L + N + PE or 3L + N + PE (10/16 A) pre-cabled or to be cabled, with phase selection or fixed polarity, with lighting control	With fuses or without protection	> Flexible components > Fixing devices with quick adjustment > Remote control bus (DALI, DSI) > Cable ducts

	Line components			Branching points		Accessories
	Length of components	**Number of conductors**	**Branching centre to center distance**		**Protection type**	
	24 m roll to 192 m winder	2 or 4 + PE	1.2 m to 3 m	-	With fuses or without protection	> Fixing devices for all supports > Factory-built connections

	Line components			Branching points		Accessories
	Length of components	**Number of conductors**	**Branching centre to center distance**		**Protection type**	
	2 m and 3 m	4 + PE	0.5 m, 1 m or 1.5 m	16 A to 63 A (plug-in)	Units for modular circuit breakers, fuses and sockets	> Flexible components > Fixing devices with quick adjustment > Remote control bus > Cable ducts > Installation accessories

Panorama of Canalis **Power solutions (cont.)**

Horizontal and vertical distribution from 100 to 1000 A

IP55

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Rated service current		Permissible rated peak current	Rated insulation voltage	Color
Inc		Ipk	Ui	
KS				
Aluminium:	**Copper:**		690 V	Pre-lacquered white (RAL9001)
100 A		15.7 kA		
160 A	160 A	22 kA		
250 A	250 A	28 kA		
400 A	400 A	49.2 kA		
500 A		55 kA		
630 A	630 A	67.5 kA		
800 A	800 A	78.7 kA		
1000 A		78.7 kA		

Power transmission and distribution from 800 to 5000 A

IP55

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Rated service current		Permissible rated peak current		Rated insulation voltage	Color
Inc		Ipk		Ui	
KT *					
Aluminium:	**Copper:**	**Standard:**	**Optional:**	1000 V	Pre-lacquered white (RAL9001)
800 A		64 kA	73 kA		
1000 A	1000 A	110 kA	143 kA		
1250 A	1350 A	110 kA	143 kA		
1600 A	1600 A	143 kA	187 kA		
2000 A	2000 A	154 kA	242 kA		
2500 A	2500 A	176 kA	248 kA		
3200 A	3200 A	189 kA	248 kA		
4000 A	4000 A	198 kA	264 kA		
	5000 A	209 kA	264 kA		

* Canalis KT range is available on Schneider-electric.com or catalogue ref. DEBU021EN

Power transmission for outdoor and harsh environment from 800 to 6300 A

IP68

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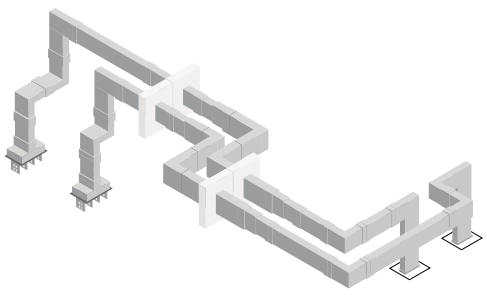


Rated service current	Permissible rated peak current		Rated insulation voltage	Color
Inc	Ipk		Ui	
KR *				
	Aluminium:	**Copper:**	1000 V	Gray (RAL7030)
800 A	56 kA	-		
1000 A	56 kA	80 kA		
1250 A	117 kA	-		
1350 A	-	80 kA		
1600 A	117 kA	143 kA		
2000 A	143 kA	176 kA		
2500 A	176 kA	176 kA		
3200 A	220 kA	220 kA		
4000 A	220 kA	220 kA		
5000 A	220 kA	275 kA		
6300 A	-	275 kA		

* Canalis KR range is available on Schneider-electric.com or catalogue ref. DEBU031EN

	Line components			Branching points		Accessories
	Length of components	**Number of conductors**	**Branching centre to center distance**		**Protection type**	
	3 m, 5 m and additional or customized components	4 + PE	0.5 m or 1 m on each side	25 A to 400 A (plug-in)	Units for circuit breakers (modular, Compact NSX), fuses, sockets, Transparent Ready	> Riser ducting offer > Fixing devices with quick adjustment > Cable ducts > Installation accessories > Fire barriers

	Line components			Branching points		Accessories
	Length of components	**Number of conductors**	**Branching centre to center distance**		**Protection type**	
	2 m and 4 m	3P + PE 3P + N + PE 3P + N + PER	0.5 m or 1 m	25 A to 630 A (plug-in) 400 A to 1250 A (bolt-on)	Units for circuit breakers (modular, Compact NSX), fuses, sockets. Transparent Ready	> Power supply ends > Direction change angles and T-pieces > Fixing devices and fuses

	Line components			Branching points		Accessories
	Length of components	**Number of conductors**	**Branching centre to center distance**		**Protection type**	
	Up to 3 m	3L 3L + N or 3L + PE or 3L + PEN 3L + N + PE	-	-	-	> Power supply ends > Direction change angles and T-pieces > Fixing devices > Fire resistant elements

Canalis tools and services

Applications

Canalis

> Download the app from the Apple Store

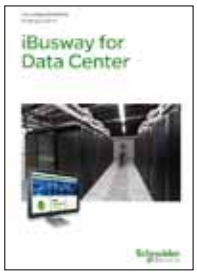
> Download the app from the Google Play Store

Canalis & Argus

> Download the app from the Apple Store

> Download the app from the Google Play Store

Solution for Data Center



iBusway for Data Center catalogue

> DEBU028EN

iBusway for Data Center brochure

> DEBU027EN

Solution for lighting management

iBusway for lighting management: Canalis-DALI technical installation guide

> DEBU032EN

iBusway for lighting management catalogue

> DEBU035EN

iBusway for lighting management brochure

> DESWED112002EN

Lighting technical guide

> A9GT15EC

Application sheets/Technical guides

In cruise ships

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In livestock production buildings

> DESWED105010EN

In logistic centres

> DESWED105011EN

Automotive industry guide

> KD0C98CTAAUEN

In car parks

> DESWED108011EN

In greenhouses

> DESWED105013EN

In garages

> DESWED106004EN

Hypermarkets guide

> KD0C98CTAHYEN

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Contents

Design guides and characteristics

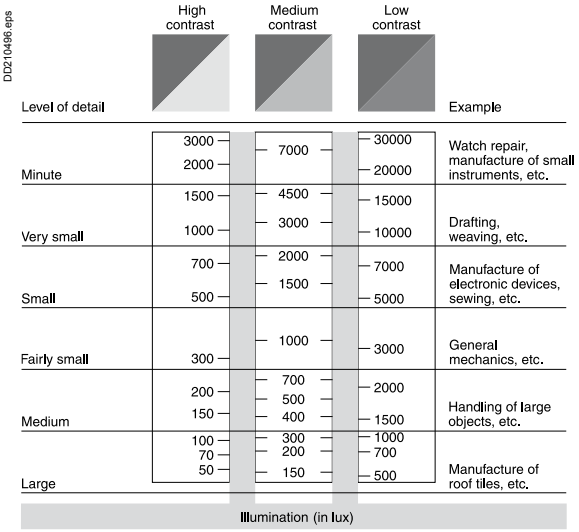
Simplified design guide for lighting distribution

Lighting-technology review

Selection of lighting levels

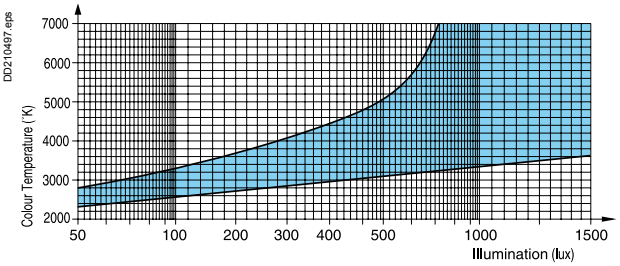
The table below indicates the necessary illumination in lux for different tasks.
In general, a higher level of illumination is required when:

- work involves small parts
- objects are dark
- the task requires a high level of visual attention
- work is carried out at high speeds.



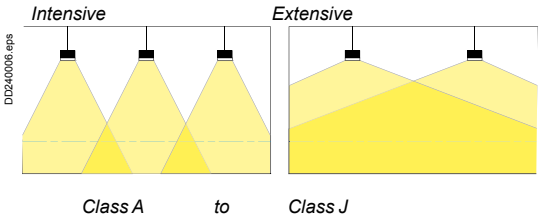
Selection of light sources

Visual comfort depends on the level of illumination (in lux) and the colour temperature (in degrees Kelvin).
The Kruithof diagram below can be used to make an optimum choice.
The blue zone represents a comfortable environment.



The table below sums up the essential characteristics of the main types of light source.

Type of light source		Colour temperature (°K)	Length of tubes (m)	Power (W)	Luminous flux (Lm)
Incandescent lamps		2800 to 3000	-	75	850
			-	150	2100
			-	300	4750
			-	750	13500
White industrial fluorescent tube	With starter	4250 to 4500	1.20	40	3200
			1.50	65	5100
			1.50	80	5900
	Instant start	4250 to 4500	1.20	40	2900
			1.50	65	4800
			2.40	105	8000
Mercury vapour	With starter	3300 to 4300	-	125	6500
			-	250	14000
			-	400	24000
			-	700	42000
			-	1000	60000



Selection of the lighting system

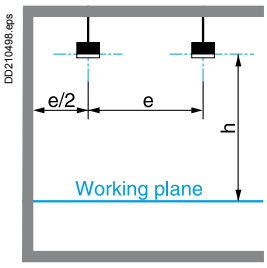
Direct lighting is used in offices, workshops and factories.
Semi-direct and indirect lighting is generally reserved for exhibitions, auditoriums, etc.
On industrial premises, direct lighting is generally used, from the most intensive to the most extensive, i.e. from class A to class J according to standards UTE 71-120 and 121.
Tables A and B determine the photometric class of luminaires depending on the rating of the sources and the illuminance.

Table A - Lighting in offices

Illuminance in lux	Fluorescent tubes		
	40 W 1.20 m	65 W 1.50 m	105 W 2.40 m
0 to 600	E	E	-
800	D	D	-
1000	D	D	C
1200	C	C	C
1500	C	C	C

Table B - Lighting in workshops and factories

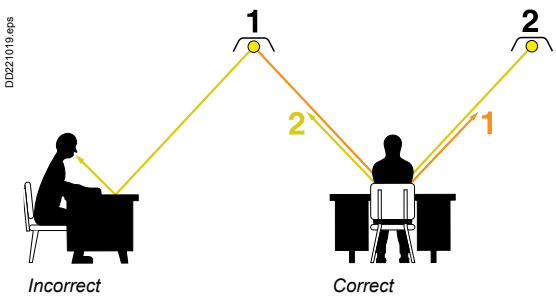
Illuminance in lux	Fluorescent tubes				
	40 W 1.20 m	65 W 1.50 m	80 W 1.50 m	105 W 2.40 m	Other lamps
0 to 200	G	G	-	-	E
400	F	F	-	-	D
600	E	E	-	-	C
800	D	D	-	-	C
1000	D	D	C	C	B
1200	C	C	C	C	B
1500	C	C	C	C	A



Distribution of light sources

The maximum distance between two luminaires is indicated in the table below, taking into account the photometric class and the height h.

Luminaire class	Maximum distance between two luminaires
A	e = 0.90 x h
B	e = 1.00 x h
C	e = 1.10 x h
D	e = 1.20 x h
E	e = 1.30 x h
F	e = 1.40 x h
G	e = 1.45 x h
H	e = 1.50 x h
I	e = 1.50 x h
J	e = 1.50 x h



Distribution is determined by the position of work stations (caution concerning reflection), which in turn determines the number of luminaires, on the condition that the total luminous flux is sufficient (see next page).

Simplified design guide for lighting distribution

Lighting-technology review

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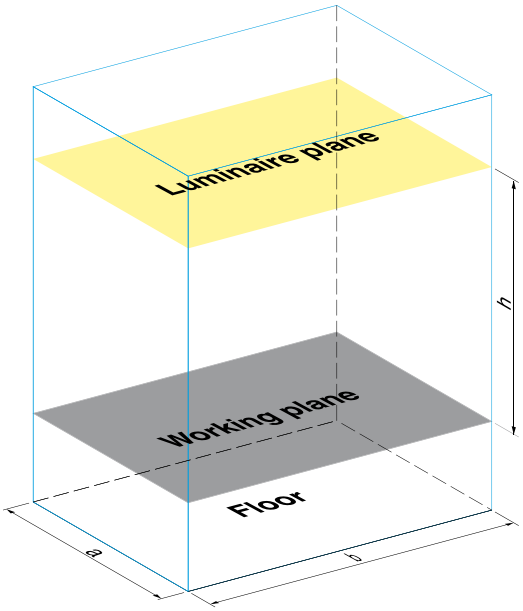


Total luminous flux

The total luminous flux required for the desired illuminance in a room is provided by the equation below:

$$F = \frac{E \times S \times d}{u}$$

F: Total luminous flux required (in lumens).
(Lumen: quantity of light per second reaching the working plane).
E: Illuminance (in lux).
(1 lux = 1 lumen/m²).
S: Surface area of room in m².
d: Depreciation factor taking into account ageing of light sources and of the room *(1.3 to 1.5).*
u: The walls and ceiling absorb a part of the flux emitted by the light sources. The utilisation factor is the ratio between the luminous flux reaching the working plane and that emitted by the lamps.

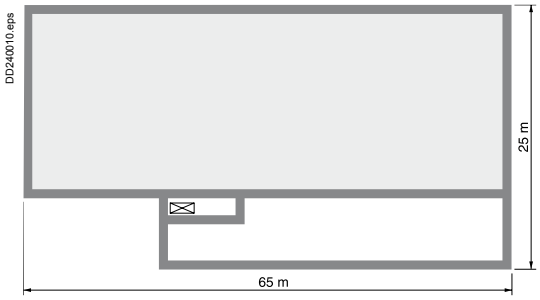
- ■ It depends on:
  - □ room proportions according to the K index:

$$K = \frac{a \times b}{h(a + b)}$$

  - □ reflectance factors of the walls and ceiling,
  - □ flux distribution of the luminaires.

Determining the utilisation factor “u”

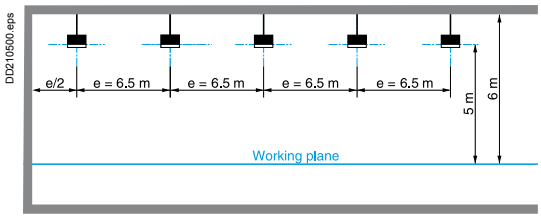
Type of lighting	Room index	Reflectance factor					
		Ceiling 70 %			Ceiling 50 %		
	K	Walls 70 %	50 %	10 %	Walls 70 %	50 %	10 %
Direct lighting	0.6	0.49	0.42	0.39	0.46	0.42	0.39
Polished-aluminium industrial reflector for mercury-vapour lamps	0.8	0.58	0.51	0.48	0.54	0.51	0.48
	1	0.64	0.56	0.53	0.59	0.55	0.53
	1.25	0.69	0.60	0.58	0.62	0.60	0.57
	1.5	0.73	0.64	0.61	0.65	0.63	0.61
	2	0.78	0.68	0.66	0.69	0.37	0.65
	2.5	0.81	0.71	0.69	0.72	0.70	0.69
	3	0.84	0.73	0.72	0.73	0.72	0.71
	4	0.87	0.75	0.74	0.75	0.74	0.73
	5	0.88	0.76	0.75	0.76	0.75	0.74
Direct lighting	0.6	0.31	0.24	0.20	0.28	0.23	0.20
Lacquered sheet-metal industrial reflector for two fluorescent tubes	0.8	0.39	0.31	0.28	0.36	0.31	0.27
	1	0.45	0.37	0.33	0.41	0.36	0.33
	1.25	0.51	0.42	0.38	0.46	0.41	0.38
	1.5	0.56	0.46	0.43	0.50	0.45	0.42
	2	0.62	0.52	0.49	0.55	0.51	0.48
	2.5	0.67	0.56	0.53	0.58	0.55	0.53
	3	0.70	0.59	0.56	0.61	0.58	0.56
	4	0.74	0.63	0.61	0.64	0.62	0.60
	5	0.76	0.65	0.63	0.65	0.64	0.62



Example of a design project

Preliminary design of lighting for a factory:
- length: 65 m
- width: 25 m
- height: 6 m.

Selection of light sources taking into account the long daily use and the lu minaire installation height set at 5 metres.
Luminaires in photometric class E are selected (table B, page 31).

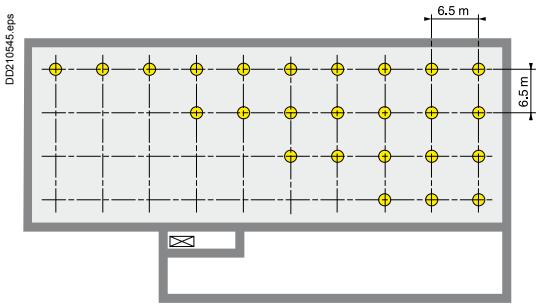


Distribution of luminaires

Distance between two class E luminaires: e = 1.30 x h = 1.30 x 5 = 6.5 m.
Number of luminaires over the length: 65 / 6.5 = 10 luminaires.
Number of luminaires over the width: 25 / 6.5 = 3.8 (i.e. 4 rows of 10 luminaires).
Total luminous flux:

$$\mathbf{F} = \frac{\mathbf{E} \times \mathbf{S} \times \mathbf{d}}{\mathbf{u}}$$

E: Illuminance: 250 lux.
S: Surface area: 65 x 25 = 1 625 m^2.
d: Depreciation factor: 1.5.
u: Utilisation factor: the table on page 32 gives “u” directly as a function of K.



$$\mathbf{K} = \frac{\mathbf{a} \times \mathbf{b}}{\mathbf{h}(\mathbf{a} + \mathbf{b})} = \frac{25 \times 65}{5(25 + 65)} = 3.6$$ that we round to 4

Given a reflectance factor of 50 % for the ceiling and 10 % for the walls and the use mercury-vapour lamps:
u = 0.73.
Total luminous flux:

$$F = \frac{\mathbf{E} \times \mathbf{S} \times \mathbf{d}}{\mathbf{u}} = \frac{250 \times 1625 \times 1.5}{0.73} = 834760$$ lumens

Rating of each source (f):

$$\mathbf{f} = \frac{\mathbf{F}}{\text{Number of luminaires}} = \frac{834760}{40} = 20869$$ lumens

The table on page 30 allows you to choose 400 W (24 000 lumens) mercury-vapour lamps which provide a lighting level of slightly above 250 lux.

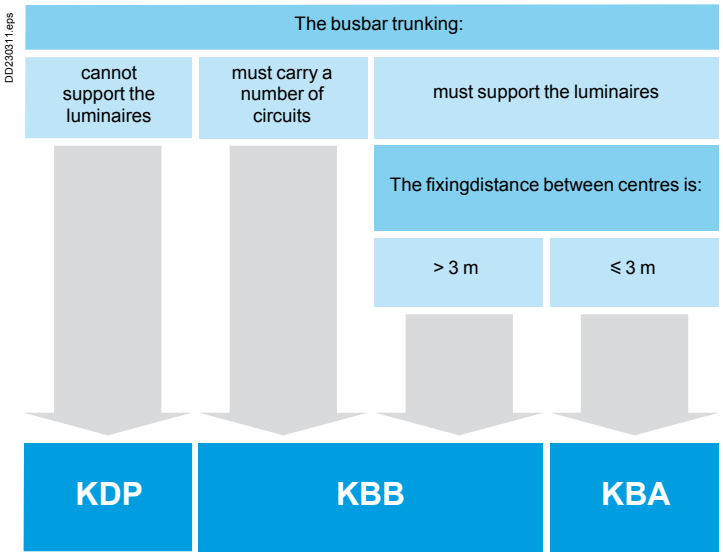
Note: *if changes in workshop layout require modifications in the illumination on the working plane, Canalis makes it easy to add or remove luminaires.*

Simplified design guide for lighting distribution
Installation

Due to its flexible design, KDP busbar trunking simplifies routing and thus reduces design and installation times.
It is the optimum solution for installations with false ceilings or floors.

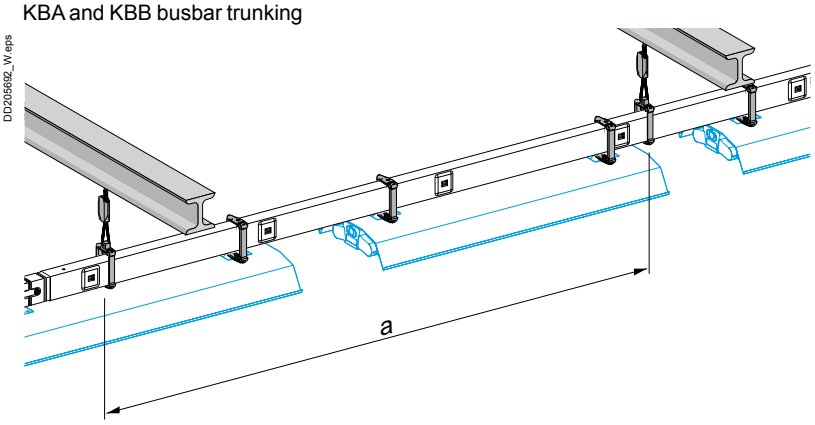
KBA and KBB busbar trunking is ideal where the building structure cannot support the luminaires. They offer an IP55 degree of protection which means they can be installed in all types of buildings.

Busbar-trunking selection



Fixing distance

KBA and KBB busbar trunking



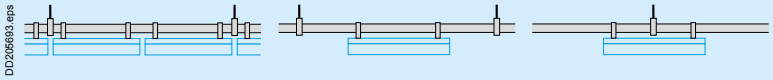
The fixing distance for KBA and KBB busbar trunking depends on the number and weight of the luminaires, as well as the building structure. The table below indicates the maximum permissible load (kg) between two fixing points for a deflection of 1/500. If the load is concentrated between two fixing points (mercury-vapour lamps), apply a coefficient of 0.6 to the values.

Maximum load (kg)

Type of busbar trunking	tap-offs distance (m)	Fixing distance a (m)								
		2	2.5	3	3.5	4	4.5	5	5.5	6
KBA	1	34	22	15	no load					
	0.5	29	19	13	no load					
KBB	1 circuit	60	60	48	35	27	21	17	no load	
	2 circuits	60	51	41	30	23	18	17	no load	

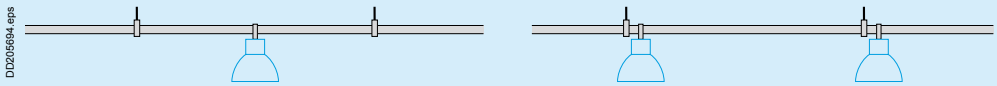
The tables below indicate the possible fixing distances in metres for a deflection of 1/350, depending on the type of luminaire used and the installation method (trunking installed edgewise).

Industrial reflector type fluorescent luminaires without protection grill
Industrial reflector type fluorescent luminaires with protection grill
Dust and damp-proof industrial reflector type fluorescent luminaires



Power (W)	Unit weight (kg)			Possible spacing (metre)					
	Without protection gril	With protection gril	Dust and damp-proof						
				KBA	KBB	KBA	KBB	KBA	KBB
1 x 36	4.20	5.20	3.30	3.00	5.00	3.00	5.00	4.00	6.00
1 x 58	5.30	6.50	4.20	3.00	5.00	3.00	5.00	4.00	6.00
2 x 36	4.90	5.90	5.20	3.00	5.00	3.00	5.00	4.00	6.00
2 x 49	4.90	5.90	5.20	3.00	5.00	3.00	5.00	3.00	5.00
2 x 58	6.30	7.50	5.39	3.00	5.00	3.00	5.00	4.00	6.00

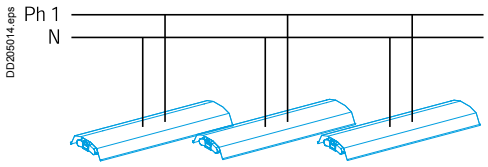
Mercury-vapour luminaires



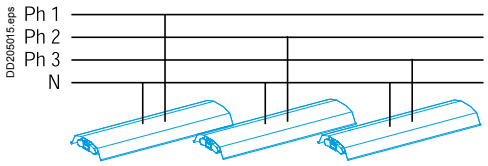
Power (W)	Unit weight (kg)	Possible spacing (metre)			
		KBA	KBB	KBA	KBB
250	6.00	3.00	5.00	4.00	6.00
	8.50	3.00	5.00	4.00	6.00
	10.00	3.00	5.00	4.00	6.00
400	6.50	3.00	5.00	4.00	6.00
	9.00	3.00	5.00	4.00	6.00
	11.00	3.00	5.00	4.00	6.00

Simplified design guide for lighting distribution

Determining the operational current



Ph + N distribution



3Ph + N balanced distribution

The tables below show the **operational current** as a function of the type and number of luminaires installed on a **single-phase line** (L + N) supplied with 230 V AC current. For a three-phase + N (AC, 400 V between phases) line, with equivalent phase current, the number of luminaires is three times higher.

Procedure:

- identify the type of luminaire (e.g. 2 x 58 W compensated fluorescent)
- on the corresponding line, select the number (or next highest) of installed luminaires (e.g. 26 if there are 23 luminaires)
- at the bottom of the table, read the corresponding operational current (e.g. 20 A).

Industrial reflector type fluorescent luminaires

Type of ballast	Power (W)	Number of luminaires on the line											
		Single-phase line						Three-phase + N line					
Electronic	1 x 36	33	53	66	-	-	-	99	-	-	-	-	-
	1 x 58	25	40	50	62	-	-	75	-	-	-	-	-
	2 x 36	21	33	42	52	67	-	63	99	-	-	-	-
	2 x 49	20	32	40	50	64	80	80	96	120	-	-	-
	2 x 58	13	20	26	32	41	52	39	60	78	96	-	-
Ferro-magnetic	1 x 36	22	35	44	55	-	-	66	105	-	-	-	-
	1 x 58	14	22	28	35	45	-	42	66	84	-	-	-
	2 x 36	11	17	22	27	35	44	33	51	66	81	-	-
	2 x 58	7	11	14	17	22	28	21	33	42	51	66	84
Operational current (A)		**10**	**16**	**20**	**25**	**32**	**40**	**10**	**16**	**20**	**25**	**32**	**40**

Mercury-vapour luminaires

Type of ballast	Power (W)	Number of luminaires on the line									
		Single-phase line					Three-phase + N line				
Compensated	250	7	11	14	17	22	21	33	42	51	66
	400	4	6	8	10	13	12	18	24	30	39
Non-compensated	250	4	7	9	11	14	12	21	27	33	42
	400	3	4	6	7	9	9	12	18	21	27
Operational current (A)		**10**	**16**	**20**	**25** (1)	**32**		**16**	**20**	**25**(1)	**32**
Type of busbar trunking		**20 A KDP 25 A KBA or KBB**				**40 A KBA or KBB**		**25 A KBA or KBB**			**40 A KBA or KBB**

High-pressure sodium-vapour luminaires

Type of ballast	Power (W)	Number of luminaires on the line									
		Single-phase line					Three-phase + N line				
Compensated	150	11	17	22	27	35	33	51	66	81	105
	250	7	11	14	17	22	21	33	42	51	66
	400	4	7	9	11	14	12	21	27	33	42
Non-compensated	150	5	8	11	13	17	15	24	33	39	51
	250	3	5	6	8	10	9	15	18	24	30
	400	2	3	4	5	6	3	9	12	15	18
Operational current (A)		**10**	**16**	**20**	**25** (1)	**32**	**10**	**16**	**20**	**25** (1)	**32**
Type of busbar trunking		**20 A KDP 25 A KBA or KBB**				**40 A KBA or KBB**		**25 A KBA or KBB**			**40 A KBA or KBB**

- Then refer to:

□ page 38 to determine the type of busbar trunking and cables sizes as a function of type of protection (circuit breaker or fuse),
□ page 41 to check voltage drop in the busbar trunking and the supply cable.

(1) *For this type of luminaire, for 25 A and higher, select a 40 A KBA or KBB to take into account the overcurrent during starting.*

Precalculating XLPE or PVC cables + Canalis

Drawn from the Ecodial low-voltage installation-calculation software, the information provided here assists in defining busbar trunking (cables and Canalis) and their protection in compliance with installation standards and calculation guide.

Protection of the main busbar trunking (cable + Canalis)

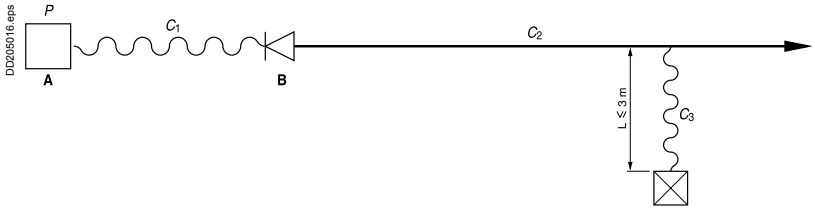
■ The tables below may be used to determine:
□ the rated current (In) or the setting current (Ir) of the overload-protection devices,
□ the rated current (Inc) of Canalis,
□ the thermal minimum cross-section of cables.
■ These three characteristics are defined for the following installation conditions:
□ maximum ambient temperature 30 °C,
□ cables placed in cable trays. Layout as a single horizontal layer or in groups of 2 or 3 cores.

Tap-off protection

Canalis tap-offs must have overload protection. The tap-off is created using a fused tap-off unit to protect the cable (C_3) and the device against short-circuits.
This protection offers good discrimination during operation (continuity of service, trouble-shooting, etc.).
For lighting, it may be useful to take advantage of the **possibilities for dispensing with or remotely locating** the protection, offered by standard IEC 60-364-4-43 (§ 433 and 434) and summarised in the texts below, drawn from UTE C 15-107.
The tap-off is created using a pre-wired tap-off unit.

Supply to devices not subject to overloads

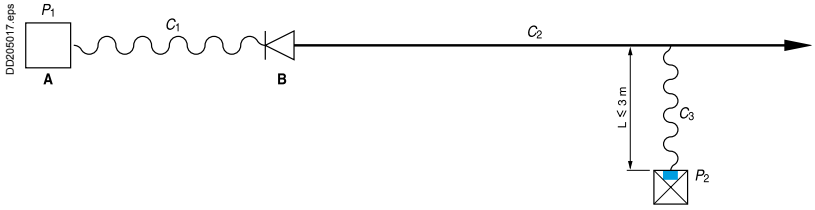
Exemption possibilities:
■ the C_3 cable (connection to the device) does not need to be protected against overloads (NF C 15-100, 473.1.2b) or short-circuits (NF C 15-100, 473.2.2.1) because the cable:
□ is not subject to overload currents,
□ does not have tap-offs or power sockets,
□ is less than or equal to three metres,
□ is designed to reduce to a minimum the risk of short-circuits,
□ is not located near any flammable material.



*Example: **luminaires**, convectors, etc.*

Supply to devices with built-in overload protection

Exemption possibilities:
■ the device P_2 protecting C_3 cable against overloads is not positioned at the head (NF C 15-100, 473.1.1.2 b) of C_3 because the latter:
□ does not have tap-offs or power sockets,
□ is less than or equal to three metres,
□ is designed to reduce to a minimum the risk of short-circuits,
□ is not located near any flammable material.



NB: P_1 - P_2 are short-circuit protection devices.

Simplified design guide for lighting distribution
Overload protection

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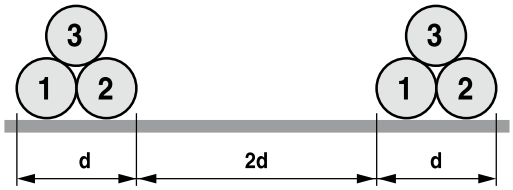

Cables spaced in cable trays.

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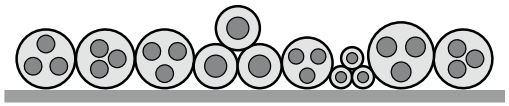


Cables touching in cable trays.

Precalculating XLPE or PVC cables + Canalis

The tables below determine, as a function of the type of overload protection (circuit breaker or fuse):

- the type of busbar trunking required
- the size of supply cables (in mm^2) as a function of the installation method, for all conductor configurations.

Protection by iC60 (curve C) modular circuit breaker

Type of busbar trunking	Operat. current Circuit-breaker rating (A)	XLPE cable			PVC cable			
		Spaced	Touching (number of cables)		Spaced	Touching (number of cables)		
			2 to 5	6 or more		2	3	4 or more
20 A KDP 25 A KBA 25 A KBB	10	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	16	1.5	1.5	1.5	1.5	2.5	2.5	2.5
	20	1.5	2.5	2.5	2.5	2.5	4	4
25 A KBA 25 A KBB	25	2.5	4	4	2.5	4	4	6
			2.5(1)	2.5(1)				
40 A KBA 40 A KBB	32	4	6	6	4	6	6	10
		2.5(1)	4(1)	4(1)				
	40	4	6	10	6	10	10	10
				6(1)				

Protection by gG fuses

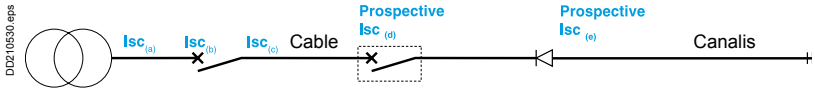
Type of busbar trunking	Rated current (A)	XLPE cable			PVC cable			
		Spaced	Touching (number of cables)		Spaced	Touching (number of cables)		
			2 to 5	6 or more		2	3	4 or more
20 A KDP 25 A KBA 25 A KBB	10	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	16	1.5	2.5	2.5	2.5	2.5	2.5	4
			1.5 (1)					
	20	2.5	2.5	2.5	2.5	4	4	6
		1.5 (1)						
25 A KBA 25 A KBB	25	2.5	4	6	4	6	6	6
				4 (1)				
40 A KBA 40 A KBB	32	4	6	6	6	6	10	10
		2.5 (1)	4 (1)					

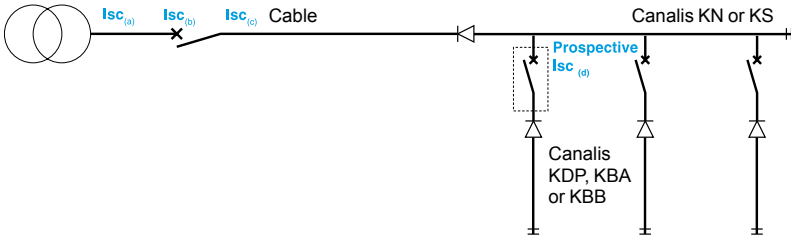
(1) *Permissible cable cross-sections for single-phase distribution.*

Determining the prospective short-circuit current at the origin of the Canalis

There are two possible situations:

■ the busbar trunking for lighting is supplied by a secondary switchboard.





Isc(a): rms short-circuit current across the transformer terminals.

Rms Isc (a) values across the transformer terminals (U = 400 V)													
Power (kVA)	50	100	150	200	250	315	400	500	630	800	1000	1250	1600
Isc(a) (kA)	1.8	3.6	5.7	7.2	8.9	11.2	14.2	17.6	22.1	24.8	27.8	31.5	36.7

Isc(b): downstream short-circuit current, less than Isc(a), limited by cable impedance.

Isc(c): short-circuit current across circuit-breaker terminals, less than Isc(b), limited by circuit breaker.

Isc(d): prospective short-circuit current, limited by cable impedance (case 1) or by impedance of cable + Canalis (case 2).

Isc(e): prospective short-circuit current, at head of Canalis by the circuit breaker (d) and the impedance of the Canalis supply cable.

Drawn from the Ecodial low-voltage installation-calculation software, produced by Schneider Electric for fast and precise evaluation of prospective short-circuit currents at different points in the circuit.

Please consult your regional sales office.

Canalis and protection coordination

Drawn from tests specified in standards (used in our guides and software), the table below determines the type of circuit breaker or fuse required for a particular type of busbar trunking depending on the prospective short-circuit current at the head of the Canalis trunking.

Type of busbar trunking	Circuit-breaker protection Isc (d) (Prospective Isc)					Fuse protection Prospective Isc
	10 kA	15 kA	20 kA	25 kA	50 kA	50 kA
20 A KDP	iC60N20	iC60H20	iC60L20	iC60L20	-	20 A gG
25 A KBA, 25 A KBB	iC60N25	iC60H25	iC60L25	iC60L25	NC100LH25	20 A gG
40 A KBA, 40 A KBB	iC60N40	iC60H40	iC60L40	iC60L40	NC100LH40	32 A gG

Characteristics of Canalis busbar trunking

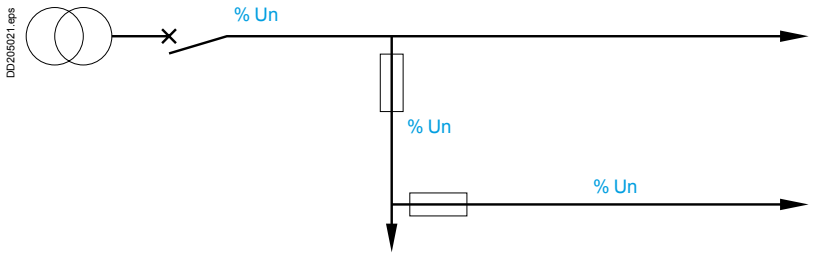
Type of busbar trunking	Short-circuit withstand Rated peak short-circuit current (kA)	Permissible thermal stress for 0.1 s ≤ t ≤ 3 s (A^2S)
20 A KDP	3.6	12×10^4
25 A KBA	4.4	19.5×10^4
40 A KBA	9.6	90×10^4
25 A KBB	4.4	19.5×10^4
40 A KBB	9.6	90×10^4

Simplified design guide for lighting distribution

Check on voltage drop

Recommended design procedure

■ Assign each circuit with a voltage-drop value expressed as a % of the rated voltage (Un), given that the voltage drop between the head of the circuit and any point must not exceed the values in the table below.



Type of installation	Voltage drop (for lighting)
Installations supplied directly from a public low-voltage distribution network	3 %
Installations supplied by a subscriber substation or a transformer substation from a high-voltage installation (1)	6 %

(1) Wherever possible, voltage drops in final lighting circuits must not exceed 3 %. When the main busbar trunking in the installation is longer than 100 metres, the permissible values may be increased 0.005 % per metre of trunking over 100 metres, on the condition that the total addition not exceed 0.5 %.

■ Convert into volts the % of the rated voltage (Un) assigned to each circuit.

■ Using the tables, check that the trunking and/or cables selected in the previous pages are compatible with the calculated voltage drops.
Otherwise, it is necessary to increase the size of the cables.

Remarks

■ In a mixed circuit, the most economical option is to increase the size of cables and avoid the use of prefabricated trunking with a higher rated current (Inc).

■ For certain loads, it may be necessary to take into account transient voltage drops.

Voltage drop in the Canalis busbar trunking

The table below indicates the three-phase voltage drop, in volts, in the Canalis busbar trunking (electrical power uniformly distributed).
The single-phase voltage drop is obtained by dividing the three-phase voltage drop indicated below by 0.866.
If the exact operational current (Ib) and length are not available, select the next highest.

Type of Canalis	Operational current (A)	Length of line (m)															
		6	8	10	12	15	20	25	30	35	40	45	50	60	70	80	100
20 A KDP	10	0.3	0.5	0.6	0.7	0.9	1.2	1.5	1.7	2	2.3	2.6	2.9	3.5	4.1	4.6	5.8
cos 0.8	16	0.6	0.7	0.9	1.1	1.4	1.9	2.3	2.8	3.2	3.7	4.2	4.6	5.6	6.5	7.4	9.3
	20	0.7	0.9	1.2	1.4	1.7	2.3	2.9	3.5	4.1	4.6	5.2	5.8	7	8.1	9.3	11.6
20 A KDP	10	0.4	0.5	0.7	0.8	1	1.3	1.6	2	2.3	2.6	2.9	3.3	3.9	4.6	5.2	6.5
cos 0.9	16	0.6	0.8	1	1.2	1.6	2.1	2.6	3.1	3.6	4.2	4.7	5.2	6.2	7.3	8.3	10.4
	20	0.8	1	1.3	1.6	2	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.8	9.1	10.4	13
20 A KDP	10	0.4	0.6	0.7	0.9	1.1	1.4	1.8	2.2	2.5	2.9	3.2	3.6	4.3	5	5.8	7.2
cos 1	16	0.7	0.9	1.2	1.4	1.7	2.3	2.9	3.5	4	4.6	5.2	5.8	6.9	8.1	9.2	11.5
	20	0.9	1.2	1.4	1.7	2.2	2.9	3.6	4.3	5	5.8	6.5	7.2	8.6	10.1	11.5	14.4
25 A KBA	10	0.4	0.5	0.6	0.7	0.9	1.2	1.5	1.8	2.1	2.4	2.8	3.1	3.7	4.3	4.9	6.1
25 A KBB	16	0.6	0.8	1	1.2	1.5	2	2.4	2.9	3.4	3.9	4.4	4.9	5.9	6.8	7.8	9.8
cos 0.8	20	0.7	1	1.3	1.5	1.8	2.4	3.1	3.7	4.3	4.9	5.5	6.1	7.3	8.6	9.8	12.2
	25	0.9	1.2	1.5	1.8	2.3	3.1	3.8	4.6	5.3	6.1	6.9	7.6	9.2	10.7	12.2	15.3
25 A KBA	10	0.4	0.5	0.7	0.8	1	1.3	1.7	2	2.3	2.7	3	3.4	4	4.7	5.4	6.7
25 A KBB	16	0.6	0.9	1.1	1.3	1.6	2.1	2.7	3.2	3.8	4.3	4.8	5.4	6.4	7.5	8.6	10.7
cos 0.9	20	0.8	1.1	1.3	1.6	2	2.7	3.4	4	4.7	5.4	6	6.7	8	9.4	10.7	13.4
	25	1	1.3	1.7	2	2.5	3.4	4.2	5	5.9	6.7	7.5	8.4	10.1	11.7	13.4	16.8
25 A KBA	10	0.4	0.6	0.7	0.9	1.1	1.4	1.8	2.2	2.5	2.9	3.2	3.6	4.3	5	5.8	7.2
25 A KBB	16	0.7	0.9	1.2	1.4	1.7	2.3	2.9	3.5	4	4.6	5.2	5.8	6.9	8.1	9.2	11.5
cos 1	20	0.9	1.2	1.4	1.7	2.2	2.9	3.6	4.3	5	5.8	6.5	7.2	8.6	10.1	11.5	14.4
	25	1.1	1.4	1.8	2.2	2.7	3.6	5.4	5.4	6.3	7.2	8.1	9	41.8	12.6	14.4	18
40 A KBA	16	0.2	0.3	0.4	0.5	0.6	0.8	1	1.2	1.4	1.6	1.8	2	2.4	2.8	3.2	4
40 A KBB	20	0.3	0.4	0.5	0.6	0.7	1	1.2	1.5	1.7	2	2.2	2.5	3	3.5	4	5
cos 0.8	25	0.4	0.5	0.6	0.7	0.9	1.2	1.6	1.9	2.2	2.5	2.8	3.1	3.7	4.4	5	6.2
	32	0.5	0.6	0.8	1	1.2	1.6	2	2.4	2.8	3.2	3.6	4	4.8	5.6	6.4	8
	40	0.6	0.8	1	1.2	1.5	2	2.5	3	3.5	4	4.5	5	6	7	8	10
40 A KBA	16	0.3	0.4	0.4	0.5	0.7	0.9	1.1	1.3	1.6	1.8	2	2.2	2.7	3.1	3.6	4.5
40 A KBB	20	0.3	0.4	0.6	0.7	0.8	1.1	1.4	1.7	2	2.2	2.5	2.8	3.4	3.9	4.5	5.6
cos 0.9	25	0.4	0.6	0.7	0.8	1.1	1.4	1.8	2.1	2.5	2.8	3.2	3.5	4.2	4.9	5.6	7
	32	0.5	0.7	0.9	1.1	1.3	1.8	2.2	2.7	3.1	3.6	4	4.5	5.4	6.3	7.2	9
	40	0.7	0.9	1.1	1.3	1.7	2.2	2.8	3.4	3.9	4.5	5	5.6	6.7	7.8	9	11.2
40 A KBA	16	0.3	0.4	0.5	0.6	0.7	1	1.2	1.4	1.7	1.9	2.2	2.4	2.9	3.4	3.8	4.8
40 A KBB	20	0.4	0.5	0.6	0.7	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3	3.6	4.2	4.8	6
cos 1	25	0.5	0.6	0.8	0.9	1.1	1.5	1.9	2.3	2.6	3	3.4	3.8	4.5	5.3	6	7.5
	32	0.6	0.8	1	1.2	1.4	1.9	2.4	2.9	3.4	3.8	4.3	3.8	5.8	6.7	7.7	9.6
	40	0.7	1	1.2	1.4	1.8	2.4	3	3.6	4.2	4.8	5.4	6	7.2	8.4	9.6	12

Voltage-drop conversion

Operational voltage (V)	Voltage drop in volts for a given %															
	0.3	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	6	7	8	9	10
230	0.7	1.2	2.3	3.5	4.6	5.8	6.9	8.1	9.2	10	12	14	16	18	21	23
400	1.2	2	4	6	8	10	12	14	16	18	20	24	28	32	36	40

Simplified design guide for power distribution

Power distribution via Canalis

Except for the most extreme environments, there is no reason to hesitate. Canalis can be installed everywhere.

The procedure presented below describes the steps in creating a simple installation. For a detailed design study, it is necessary to use the suitable tools, approved by certification organisations and in compliance with local installation standards. ***Ecodial*** software, published by Schneider Electric, is perfectly suited to the task.

Procedure

1 Identify external influences.
2 Layout the Canalis structure in the building according to the load locations.
3 Carry out a power sum.
4 Size the busbar trunking.

1 - Identify external influences

The ambient temperature, the presence of dust or condensation, etc. are all factors in defining the degree of protection for the room containing the electrical installation. Canalis prefabricated busbar trunking provides an IP55 degree of protection and can be installed on virtually all sites.

- Examples:
  - mechanical workshops: IP32
  - warehouses: IP30
  - poultry farms: IP35
  - greenhouses: IP23
  - ...

2 - Layout of Canalis busbar trunking

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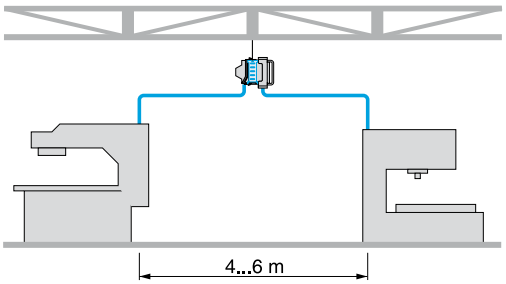

Layout of the distribution lines depends on load and source locations as well as trunking fixing possibilities.

- A single distribution line can supply a zone four to six metres long.
- Load protection is located in the tap-off units, as close as possible to the loads.
- A single Canalis feeder can supply a set of loads with different power ratings.

3 - Power sum

Once the busbar trunking has been laid out, calculate the currents drawn by the Canalis lines.

Calculation of the total operational current drawn by the line

(In) is equal to the sum of the currents drawn by the loads (Ib): In = Σ Ib.
The loads do not all operate at the same time or continuously at full rated load, i.e. it is necessary to calculate the diversity coefficient (K_S): In = Σ (Ib x K_S).

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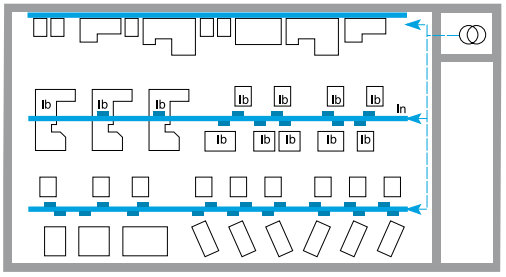


Diversity coefficient as a function of the number of loads

Application	Number of loads	K_S coefficient
Lighting, heating	-	1
Distribution (Mechanical workshop)	2...3	0.9
	4...5	0.8
	6...9	0.7
	10...40	0.6
	40 or more	0.5

***Caution**. For industrial installations, remember to allow for changes in types and numbers of machines. Similar to a switchboard, a margin of 20 % is recommended:*
In = Σ Ib x K_S x 1.2.

Selection of busbar trunking rating as a function of the operational current total In

Operational current total In (A)	Busbar trunking
0...40	**KNA40**
40...63	**KNA63**
63...100	**KNA100 or KSA100**
100...160	**KNA160 or KSA160**
160...250	**KSA250**
250...400	**KSA400**
400...500	**KSA500**
500...630	**KSA630**
630...800	**KSA800**
800...1000	**KSA1000**

4 - Sizing the busbar trunking

Overload criterion

Ambient temperature

Canalis busbar trunking is sized for an ambient temperature of 35 °C. For higher temperatures, the trunking must be derated as per the data in the tables on the technical characteristics.

Example: Canalis 400 A KSA at 45 °C: In = 400 x 0.94 = 376 A.

Installation method

Canalis KN and KS trunking is designed to be installed edgewise.

In certain cases, it can also be installed flat (false floors) or vertically (KS rising mains).

These installation methods do not require derating for the KN and KS trunking.

Protection against trunking overloads

To enable future extensions, protection for prefabricated busbar trunking is generally sized for the rated current Inc (or the permissible current Iz if coefficient K1 is applied as a function of the ambient temperature).

■ Protection using gG (gl) flues:

□ determine the standardised rated current In of the fuse such that In ⩽ Inc/1.1 (K1=1.1 for the fuses),

□ select the standardised rating In equal to that value or just below.

Check that In ⩾ Σ (Ib x K_S). If that is not the case, select the busbar trunking with the next highest rating.

Nota: *protection using gl fuses results in a reduction of the permissible current in the trunking.*

■ Circuit-breaker protection: select the setting current Ir for the circuit breaker such that Σ (Ib x K_S) ⩽ Ir ⩽ Inc.

Nota: *circuit-breaker protection means Canalis busbar trunking can be used to the full rated load.*

Voltage-drop criterion

The voltage drop between the head and any other point in the installation must not exceed the values in the table below:

Installation supplied by a distribution network	Lighting	Other application
LV public system	3 %	5 %
High voltage	6 %	8 %

For Canalis, voltage drops are indicated in V/100 m/A in the “Characteristics” section.

U = Σ (Ib x K_S) x L / 100

Example: “Characteristics” page for KN, 40 to 160 A

For a cos φ of		Canalis KN			
		40 A	63 A	100 A	160 A
0.7	V/100 m/A	0.376	0.160	0.077	0.063
0.8	V/100 m/A	0.425	0.179	0.084	0.067
0.9	V/100 m/A	0.474	0.196	0.089	0.071
1	V/100 m/A	0.516	0.208	0.088	0.068

Short-circuit current criterion

For typical applications with power ratings up to 630 kVA, a Schneider Electric solution including the low-voltage electrical switchboard, circuit breakers and Canalis busbar trunking ensures an installation sized to handle all short-circuit levels encountered.

To check the configuration of your installation (Isc up to 150 kA), refer to the coordination tables on page 262 to page 264.

We also invite you to discover Ecodial, our complete design software for low-voltage installations (selection of circuit breakers and cables, calculation of breaking capacities, short-circuit currents and voltage drops, etc.), available from your Schneider Electric representative.

Simplified design guide
Determining the degree of protection

Standard IEC 60364-5-51 categorises a large number of external influences to which electrical installations can be subjected, for instance the presence of water, solid objects, shocks, vibrations and corrosive substances.
The importance of these influences depends on the installation conditions.
For example, the presence of water can vary from a few drops to total immersion.

Degree of protection IP

Standard IEC 60529 (February 2001) indicates the degree of protection provided by electrical equipment enclosures against accidental direct contact with live parts and against the ingress of solid foreign objects or water.

This standard does not apply to protection against the risk of explosion or conditions such as humidity, corrosive gases, fungi or vermin.

The IP code comprises 2 characteristic numerals and may include an additional letter when the actual protection of persons against direct contact with live parts is better than that indicated by the first numeral.

The first numeral characterises the protection of the equipment against penetration of solid objects and the protection of people.
The second numeral characterises the protection of the equipment against penetration of water with harmful effects.

Remarks concerning the degree of protection IP

■ The degree of protection IP must always be read and understood numeral by numeral and not as a whole.
For example, an IP31 enclosure is suitable for an environment that requires a minimum degree of protection IP21. However an IP30 wall-mount enclosure is not suitable.

■ The degrees of protection indicated in this catalogue are valid for the enclosures as presented. However, the indicated degree of protection is guaranteed only when the installation and device mounting are carried out in accordance with professional standard practice.

Additional letter

Protection of persons against direct contact with live parts.

The additional letter is used only if the actual protection of persons is higher than that indicated by the first characteristic numeral of the IP code.
If only the protection of persons is of interest, the two characteristic numerals are replaced by the letter “X”, e.g. IPXXB.

Degree of protection IK

Standard IEC 62262 defines a coding system (IK code) indicating the degree of protection provided by electrical equipment enclosures against external mechanical impact.

Installation standard IEC 60364 provides a cross-reference between the various degrees of protection and the environmental conditions classification, relating to the selection of equipment according to external factors.

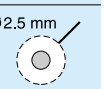
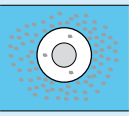
IK code●●

The IK code comprises 2 characteristic numerals (e.g. IK05).

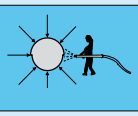
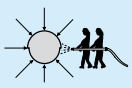
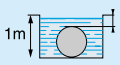
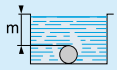
Practical guide UTE C 15-103 shows, in the form of tables, the characteristics required for electrical equipment (including minimum degrees of protection), according to the locations in which they are installed.

Meaning of the numerals and letters representing the degree of protection IP.

1st characteristic numeral: corresponds to protection of equipment against penetration of solid objects and protection of persons against direct contact with live parts.

Protection of equipment	Protection of persons		
Non-protected	Non-protected	**0**	
Protected against the penetration of solid objects having a diameter greater than or equal to 50 mm.	Protected against direct contact with the back of the hand (accidental contact).	**1**	DD210014.eps 
Protected against the penetration of solid objects having a diameter greater than or equal to 12.5 mm.	Protected against direct finger contact.	**2**	DD210531.eps 
Protected against the penetration of solid objects having a diameter greater than or equal to 2.5 mm.	Protected against direct contact with a 2.5 mm diameter tool.	**3**	DD210532.eps 
Protected against the penetration of solid objects having a diameter greater than 1 mm.	Protected against direct contact with a 1 mm diameter wire.	**4**	DD210017.eps 
Dust protected (no harmful deposits).	Protected against direct contact with a 1 mm diameter wire.	**5**	DD210018.eps 
Dust tight.	Protected against direct contact with a 1 mm diameter wire.	**6**	DD210019.eps 

2nd characteristic numeral: corresponds to protection of equipment against penetration of water with harmful effects.

Protection of equipment		
Non-protected	**0**	
Protected against vertical dripping water (condensation).	**1**	DD210006.eps 
Protected against dripping water at an angle of up to 15°.	**2**	DD210007.eps 
Protected against rain at an angle of up to 60°.	**3**	DD210008.eps 
Protected against splashing water in all directions.	**4**	DD210009.eps 
Protected against water jets in all directions.	**5**	DD210010.eps 
Protected against powerful jets of water and waves.	**6**	DD210011.eps 
Protected against the effects of temporary immersion.	**7**	DD210012.eps 
Protected against the effects of prolonged immersion under specified conditions.	**8**	DD210013.eps 

Additional letter

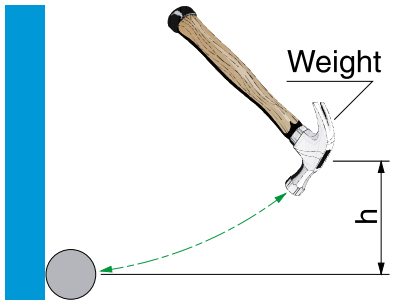
Corresponds to protection of persons against direct contact with live parts.

A	With the back of the hand.
B	With the finger.
C	With a 2.5 mm diameter tool.
D	With a 1.0 mm diameter tool.

Degrees of protection IK against mechanical impact

The IK code comprises 2 characteristic numerals corresponding to a value of impact energy, in joules.

DD210533.eps



	Weight (kg)	Height (cm)	Energy (J)
00	Non-protected		
01	0.20	7.50	0.15
02		10	0.20
03		17.50	0.35
04		25	0.50
05		35	0.70
06	0.50	20	1
07		40	2
08	1.70	30	5
09	5	20	10
10		40	20

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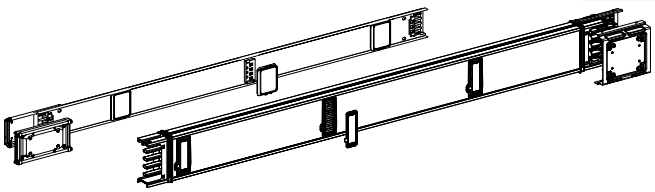


The Canalis KN and KS busbar trunking products are designed to provide IP55D and IK08 protection.

Canalis KDP, 20 A
Busbar trunking for lighting and power socket distribution

Run component characteristics

Rating of trunking (A)				KDP	20
General characteristics					
Compliance with standards					IEC/EN 61439-6
Degree of protection:			IP		55
Mechanical impacts			IK		07
Rated current at an ambient temperature of 35 °C			I_{nc}	**A**	20
Rated insulation voltage			U_i	**V**	690
Rated operational voltage			U_e	**V**	230...400
Rated impulse voltage			U_{imp}	**kV**	4
Rated frequency			f	**Hz**	50/60
Conductor characteristics					
Phase conductors					
Mean resistance at an ambient temperature of 20 °C			R_{20}	**mΩ/m**	6.80
Mean resistance at I_{nc} and 35 °C			R_1	**mΩ/m**	8.30
Mean reactance at I_{nc}, 35 °C and 50 Hz			X_1	**mΩ/m**	0.02
Mean impedance at I_{nc}, 35 °C and 50 Hz			Z_1	**mΩ/m**	8.30
Protective conductor (PE)					
Mean resistance at an ambient temperature of 20 °C				**mΩ/m**	7.25
Fault loop characteristics					
Symmetrical components method	Ph/N at 20 °C	Mean resistance	$R_{0\ ph/N}$	**mΩ/m**	27.21
		Mean reactance	$X_{0\ ph/N}$	**mΩ/m**	0.85
		Mean impedance	$Z_{0\ ph/N}$	**mΩ/m**	27.22
	Ph/PE at 20 °C	Mean resistance	$R_{0\ ph/PE}$	**mΩ/m**	27.21
		Mean reactance	$X_{0\ ph/PE}$	**mΩ/m**	0.85
		Mean impedance	$Z_{0\ ph/PE}$	**mΩ/m**	27.22
Impedance method	At 20 °C	Mean resistance Ph/Ph	$R_{b0\ ph/ph}$	**mΩ/m**	13.61
		Mean resistance Ph/N	$R_{b0\ ph/N}$	**mΩ/m**	13.61
		Mean resistance Ph/PE	$R_{b0\ ph/PE}$	**mΩ/m**	13.61
	For I_{nc} at 35 °C	Mean resistance Ph/Ph	$R_{b1\ ph/ph}$	**mΩ/m**	16.60
		Mean resistance Ph/N	$R_{b1\ ph/N}$	**mΩ/m**	16.60
		Mean resistance Ph/PE	$R_{b1\ ph/PE}$	**mΩ/m**	16.60
	For Inc at 35 °C and 50 Hz	Mean reactance Ph/Ph	$X_{b\ ph/ph}$	**mΩ/m**	0.04
		Mean reactance Ph/N	$X_{b\ ph/N}$	**mΩ/m**	0.04
		Mean reactance Ph/PE	$X_{b\ ph/PE}$	**mΩ/m**	0.04
Other characteristics					
Short-circuit withstand capacity					
Rated peak withstand current			I_{pk}	**kA**	3.6
Maximum thermal limit I^2t				**A^2s**	120 x 10^3
Rated short-time withstand current (t = 1 s)			I_{cw}	**kA**	0.34
Voltage drop					
					Composite voltage drop (hot state) expressed in V/100 m/A (50 Hz) with the load uniformly distributed over the run. If the load is concentrated at one end of the run, the voltage drop is twice the value indicated in the table.
For a power factor of			1	**V/100 m/A**	0.72
			0.9	**V/100 m/A**	0.65
			0.8	**V/100 m/A**	0.58
			0.7	**V/100 m/A**	0.50
					This table is given for three-phases network. The single phase voltage drop is obtained by dividing the three-phase voltage drop indicated above by 0.866. For lower neutral / neutral voltage phase, we divide the voltage drop above by 1.732.
Radiated magnetic field					
Radiated magnetic field strength 1 metre from the trunking			B	**µT**	< 2 x 10^{-3}
Product selection when harmonics are present (for details, see the "Special Applications" section)					
Operational current as a function of 3rd-order harmonic content			THD ⩽ 15 %		20
			15 % < THD ⩽ 33 %		16
			THD > 33 %		14

Permissible current as a function of ambient temperature

Ambient temperature	°C	< 35	35	40	45	50	55
Cœfficient K1	**%**	n/a	1	0.93	0.85	0.76	0.66

Tap-off unit characteristics

See KBC tap-off unit characteristics on page 49.

Canalis KBA, 25 and 40 A
Busbar trunking for lighting and power socket distribution

IP55
Ue = 230...400 V
RAL 9003 white

Run component characteristics

Rating of trunking (A)				KBA	25	40
General characteristics						
Compliance with standards					IEC/EN 61439-6	IEC/EN 61439-6
Degree of protection:				IP	55	55
Mechanical impacts				IK	06	06
Polarity					L+N or 3L+N	L+N or 3L+N
Number of live conductors					2 or 4	2 or 4
Rated current at an ambient temperature of 35 °C				I_{nc} **A**	25	40
Rated insulation voltage				U_i **V**	690	690
Rated operational voltage				U_e **V**	230...400	230...400
Rated impulse voltage				U_{imp} **kV**	4	4
Rated frequency				f **Hz**	50/60	50/60
Conductor characteristics						
Phase conductors						
Mean resistance at an ambient temperature of 20 °C				R_{20} **mΩ/m**	6.80	2.83
Mean resistance at I_{nc} and 35 °C				R_1 **mΩ/m**	8.30	3.46
Mean reactance at I_{nc}, 35 °C and 50 Hz				X_1 **mΩ/m**	0.02	0.02
Mean impedance at I_{nc}, 35 °C and 50 Hz				Z_1 **mΩ/m**	8.33	3.46
Protective conductor (PE)						
Mean resistance at an ambient temperature of 20 °C				**mΩ/m**	1.57	1.57
Fault loop characteristics						
Symmetrical components method	Ph/N at 20 °C	Mean resistance		$R_{0\ ph/N}$ **mΩ/m**	27.21	19.40
		Mean reactance		$X_{0\ ph/N}$ **mΩ/m**	0.85	0.38
		Mean impedance		$Z_{0\ ph/N}$ **mΩ/m**	27.22	19.41
	Ph/PE at 20 °C	Mean resistance		$R_{0\ ph/PE}$ **mΩ/m**	19.40	13.83
		Mean reactance		$X_{0\ ph/PE}$ **mΩ/m**	0.38	0.73
		Mean impedance		$Z_{0\ ph/PE}$ **mΩ/m**	19.41	13.85
Impedance method	At 20 °C	Mean resistance	Ph/Ph	$R_{b0\ ph/ph}$ **mΩ/m**	13.61	5.68
			Ph/N	$R_{b0\ ph/N}$ **mΩ/m**	13.61	5.68
			Ph/PE	$R_{b0\ ph/PE}$ **mΩ/m**	11.01	7.66
	For I_{nc} at 35 °C	Mean resistance	Ph/Ph	$R_{b1\ ph/ph}$ **mΩ/m**	16.60	6.91
			Ph/N	$R_{b1\ ph/N}$ **mΩ/m**	16.60	6.91
			Ph/PE	$R_{b1\ ph/PE}$ **mΩ/m**	12.50	8.70
	For Inc at 35 °C and 50 Hz	Mean reactance	Ph/Ph	$X_{b\ ph/ph}$ **mΩ/m**	0.04	0.90
			Ph/N	$X_{b\ ph/N}$ **mΩ/m**	0.04	0.90
			Ph/PE	$X_{b\ ph/PE}$ **mΩ/m**	0.035	0.035
Other characteristics						
Short-circuit withstand capacity						
Rated peak withstand current				I_{pk} **kA**	4.40	9.60
Maximum thermal limit I^2t				**A^2s**	195×10^3	900×10^3
Rated short-time withstand current (t = 1 s)				I_{cw} **kA**	0.44	0.94
Voltage drop						
				Composite voltage drop (hot state) expressed in V/100 m/A (50 Hz) with the load uniformly distributed over the run. If the load is concentrated at one end of the run, the voltage drop is twice the value indicated in the table.		
For a power factor of				1 **V/100 m/A**	0.72	0.30
				0.9 **V/100 m/A**	0.67	0.28
				0.8 **V/100 m/A**	0.61	0.25
				0.7 **V/100 m/A**	0.54	0.22
				This table is given for three-phases network. The single phase voltage drop is obtained by dividing the three-phase voltage drop indicated above by 0.866. For lower neutral / neutral voltage phase, we divide the voltage drop above by 1.732.		
Radiated magnetic field						
Radiated magnetic field strength 1 metre from the trunking				B **µT**	$< 2 \times 10^{-3}$	$< 2 \times 10^{-3}$
Product selection when harmonics are present (for details, see the "Special Applications" section)						
Operational current as a function of 3rd harmonic content				THD ≤ 15 %	25	40
				15 % < THD ≤ 33 %	20	32
				THD > 33 %	16	28

Permissible current as a function of ambient temperature

Ambient temperature	°C	< 35	35	40	45	50	55
Cœfficient K1	**%**	n/a	1	0.96	0.93	0.89	0.85

Tap-off unit characteristics

See KBC tap-off unit characteristics on page 49.

Canalis KBB, 25 and 40 A
Busbar trunking for lighting and power socket distribution

IP55
Ue = 230...400 V
RAL 9003 white

Run component characteristics

Rating of trunking (A)			KBB	25			40		
General characteristics									
Compliance with standards				IEC/EN 61439-6			IEC/EN 61439-6		
Degree of protection:	IP			55			55		
Mechanical impacts	IK			06			06		
Polarity				L+N or 3L+N	3L+N and L+N	3L+N and 3L+N	L+N or 3L+N	3L+N and L+N	3(L+N) and 3(L+N)
			If polarity	L1 N L2 N	*Consult us.*				
Number of circuits				1	2	2	1	2	2
Rated current at an ambient temperature of 35 °C	I_{nc}		**A**	25	23	23	40	38	38
Rated insulation voltage	U_i		**V**	690			690		
Rated operational voltage	U_e		**V**	230...400			230...400		
Rated impulse voltage	U_{imp}		**kV**	4			4		
Rated frequency	f		**Hz**	50/60			50/60		
Conductor characteristics									
Phase conductors									
Mean resistance at an ambient temperature of 20 °C	R_{20}		**mΩ/m**	6.80			2.83		
Mean resistance at I_{nc} and 35 °C	R_1		**mΩ/m**	8.30			3.46		
Mean reactance at I_{nc}, 35 °C and 50 Hz	X_1		**mΩ/m**	0.02			0.02		
Mean impedance at I_{nc}, 35 °C and 50 Hz	Z_1		**mΩ/m**	8.33			3.46		
Protective conductor (PE)									
Mean resistance at an ambient temperature of 20 °C			**mΩ/m**	0.80			0.80		
Fault loop characteristics									
Symmetrical components method	Ph/N at 20 °C	Mean resistance	$R_{0\ ph/N}$	**mΩ/m**	27.21			17.28	
		Mean reactance	$X_{0\ ph/N}$	**mΩ/m**	0.85			5.25	
		Mean impedance	$Z_{0\ ph/N}$	**mΩ/m**	27.22			18.06	
	Ph/PE at 20 °C	Mean resistance	$R_{0\ ph/PE}$	**mΩ/m**	17.28			13.83	
		Mean reactance	$X_{0\ ph/PE}$	**mΩ/m**	5.25			0.73	
		Mean impedance	$Z_{0\ ph/PE}$	**mΩ/m**	18.06			13.85	
Impedance method	At 20 °C	Mean resistance Ph/Ph	$R_{b0\ ph/ph}$	**mΩ/m**	13.61			5.68	
		Mean resistance Ph/N	$R_{b0\ ph/N}$	**mΩ/m**	13.61			5.68	
		Mean resistance Ph/PE	$R_{b0\ ph/PE}$	**mΩ/m**	10.26			6.92	
	For I_{nc} at 35 °C	Mean resistance Ph/Ph	$R_{b1\ ph/ph}$	**mΩ/m**	16.59			6.92	
		Mean resistance Ph/N	$R_{b1\ ph/N}$	**mΩ/m**	16.59			6.92	
		Mean resistance Ph/PE	$R_{b1\ ph/PE}$	**mΩ/m**	11.77			7.14	
	For Inc at 35 °C and 50 Hz	Mean reactance Ph/Ph	$X_{b\ ph/ph}$	**mΩ/m**	0.35			0.90	
		Mean reactance Ph/N	$X_{b\ ph/N}$	**mΩ/m**	0.35			0.90	
		Mean reactance Ph/PE	$X_{b\ ph/PE}$	**mΩ/m**	0.07			1.85	
Other characteristics									
Short-circuit withstand capacity									
Rated peak withstand current			I_{pk}	**kA**	4.40			9.60	
Maximum thermal limit I^2t				**A^2s**	195 x 10^3			900 x 10^3	
Rated short-time withstand current (t = 1 s)			I_{cw}	**kA**	0.44			0.94	
Voltage drop									
			Composite voltage drop (hot state) expressed in V/100 m/A (50 Hz) with the load uniformly distributed over the run. If the load is concentrated at one end of the run, the voltage drop is twice the value indicated in the table.						
For a power factor of			1	**V/100 m/A**	0.72			0.30	
			0.9	**V/100 m/A**	0.67			0.28	
			0.8	**V/100 m/A**	0.61			0.25	
			0.7	**V/100 m/A**	0.55			0.22	
			This table is given for three-phases network. The single phase voltage drop is obtained by dividing the three-phase voltage drop indicated above by 0.866. For lower neutral / neutral voltage phase, we divide the voltage drop above by 1.732.						
Radiated magnetic field									
Radiated magnetic field strength 1 metre from the trunking			B	**µT**	< 2 x 10^{-3}			< 2 x 10^{-3}	
Product selection when harmonics are present (for details, see the "Special Applications" section)									
Operational current as a function of 3rd harmonic content			THD ≤ 15 %		25			40	
			15 % < THD ≤ 33 %		20			32	
			THD > 33 %		16			28	
Permissible current as a function of ambient temperature									
Ambient temperature				°C	< 35	35	40	45	50	55
Cœfficient K1				**%**	n/a	1	0.96	0.93	0.89	0.85

Tap-off unit characteristics

See KBC tap-off unit characteristics on page 49.

KBC tap-off units, KDP connections

IP55
Ue = 230...400 V

Electrical characteristics of the remote-control circuit

Composition		Twisted pair, unshielded (10 twists/m)
Cross-section and type of conductor	mm^2	2 x 0.75 copper
Rated insulation voltage Ui (between power circuit and bus)	V	500
Rated operational voltage Ue (max. U between bus + and - poles)	V	50
Maximum operational current Ie	A	2
Linear resistance	mΩ/m	52
Linear capacitance	pF/m	30
DALI recommended lenght	m	150

Tap-off unit characteristics

Type of tap-off unit			KBC10	KBC10 Lighting control	KBC16CB	KBC16CF
General characteristics						
Compliance with standards			IEC/EN 61439-6			
Degree of protection:	IP		55	55	55	55
Rated current at an ambient temperature of 35 °C	I_{nc}	**A**	10	10	16	16
Rated insulation voltage	U_i	**V**	690	400	690	400
Rated operational voltage	U_e	**V**	230...400	230...400	230...400	230...400
Rated frequency	f	**Hz**	50/60	50/60	50/60	50/60

KDP connection characteristics

General characteristics

Compliance with standards			EN 60320 and NFC 60050; IEC 227-53 for H05WF cable			
Degree of protection:	IP		40	40	40	40
Number of live conductors			2	2	2	2
Rated current at an ambient temperature of 35 °C	I_{nc}	**A**	16	16	16	16
Rated insulation voltage	U_i	**V**	250	250	250	250
Rated operational voltage	U_e	**V**	250	250	250	250
Rated frequency	F	**Hz**	50	50	50	50

Conductor characteristics

Phase conductors						
Mean resistance at an ambient temperature of 20 °C	R_{20}	**mΩ/m**	12.4	12.4	12.4	12.4
Mean resistance at I_{nc} and 35 °C	R_1	**mΩ/m**	14.5	14.5	14.5	14.5
Mean reactance at I_{nc}, 35 °C and 50 Hz	X_1	**mΩ/m**	3.1	3.1	3.1	3.1
Protective conductor (PE)						
Mean resistance at an ambient temperature of 20 °C		**mΩ/m**	12.4	12.4	12.4	12.4

Canalis KN, 40 to 160 A
Busbar trunking for low-power distribution

IP55
Ue = 230...500 V
RAL 9001 White

Run component characteristics

Rating of trunking (A)				KN	40	63	100	160
General characteristics								
Compliance with standards					IEC/EN 61439-6			
Degree of protection:				IP	55	55	55	55
Mechanical impacts				IK	08	08	08	08
Rated current at an ambient temperature of 35 °C				I_{nc} **A**	40	63	100	160
Rated insulation voltage				U_i **V**	500	500	500	500
Rated operational voltage				U_e **V**	500	500	500	500
Rated impulse voltage				U_{imp} **kV**	6	6	6	6
Rated frequency				f **Hz**	50/60	50/60	50/60	50/60
Conductor characteristics								
Phase conductors								
Mean resistance at an ambient temperature of 20 °C				R_{20} **mΩ/m**	1.7	1.7	1.7	0.61
Mean resistance at I_{nc} and 35 °C				R_1 **mΩ/m**	1.94	2.05	2.2	0.79
Mean reactance at I_{nc}, 35 °C and 50 Hz				X_1 **mΩ/m**	0.25	0.25	0.25	0.24
Mean impedance at I_{nc}, 35 °C and 50 Hz				Z_1 **mΩ/m**	1.96	2.06	2.23	0.83
Protective conductor (PE)								
Mean resistance at an ambient temperature of 20 °C				**mΩ/m**	1.09	1.09	1.09	1.09
Fault loop characteristics								
Symmetrical components method	Ph/N at 20 °C	Mean resistance		$R_{0\ ph/N}$ **mΩ/m**	6.93	6.93	6.93	2.67
		Mean reactance		$X_{0\ ph/N}$ **mΩ/m**	1.56	1.56	1.56	1.4
		Mean impedance		$Z_{0\ ph/N}$ **mΩ/m**	7.11	7.11	7.11	3.01
	Ph/PE at 20 °C	Mean resistance		$R_{0\ ph/PE}$ **mΩ/m**	5.15	5.15	5.15	3.34
		Mean reactance		$X_{0\ ph/PE}$ **mΩ/m**	1.68	1.68	1.68	1.29
		Mean impedance		$Z_{0\ ph/PE}$ **mΩ/m**	5.42	5.42	5.42	3.58
Impedance method	At 20 °C	Mean resistance	Ph/Ph	$R_{b0\ ph/ph}$ **mΩ/m**	3.4	3.4	3.4	1.21
			Ph/N	$R_{b0\ ph/N}$ **mΩ/m**	3.4	3.4	3.4	1.24
			Ph/PE	$R_{b0\ ph/PE}$ **mΩ/m**	2.85	2.85	2.85	1.71
	For I_{nc} at 35 °C	Mean resistance	Ph/Ph	$R_{b1\ ph/ph}$ **mΩ/m**	3.89	4.09	4.43	1.58
			Ph/N	$R_{b1\ ph/N}$ **mΩ/m**	3.89	4.09	4.43	1.61
			Ph/PE	$R_{b1\ ph/PE}$ **mΩ/m**	3.14	3.27	3.45	2.22
	For Inc at 35 °C and 50 Hz	Mean reactance	Ph/Ph	$X_{b\ ph/ph}$ **mΩ/m**	0.52	0.52	0.52	0.79
			Ph/N	$X_{b\ ph/N}$ **mΩ/m**	0.78	0.78	0.78	0.75
			Ph/PE	$X_{b\ ph/PE}$ **mΩ/m**	0.96	0.96	0.96	0.84
Other characteristics								
Short-circuit withstand capacity								
Rated peak withstand current				I_{pk} **kA**	6	11	14	20
Maximum thermal limit I^2t				**A^2s**	1.98×10^6	1.98×10^6	1.98×10^6	8×10^6
Rated short-time withstand current (t = 1 s)				I_{cw} **kA**	1.4	1.4	1.4	2.8
Voltage drop								
				Composite voltage drop (hot state) expressed in V/100 m/A (50 Hz) with the load uniformly distributed over the run. If the load is concentrated at one end of the run, the voltage drop is twice the value indicated in the table.				
For a power factor of				1 **V/100 m/A**	0.168	0.178	0.191	0.068
				0.9 **V/100 m/A**	0.161	0.169	0.181	0.071
				0.8 **V/100 m/A**	0.147	0.155	0.165	0.067
				0.7 **V/100 m/A**	0.133	0.140	0.149	0.063
				This table is given for three-phases network. The single phase voltage drop is obtained by dividing the three-phase voltage drop indicated above by 0.866.				
Radiated magnetic field								
Radiated magnetic field strength 1 metre from the trunking				B **µT**	0.039	0.063	0.106	0.186
Product selection when harmonics are present (for details, see the "Special Applications" section)								
Operational current as a function of 3rd harmonic content				THD ⩽ 15 %	40	63	100	160
				15 % < THD ⩽ 33 %	32	50	80	130
				THD > 33 %	28	40	63	100
Permissible current as a function of ambient temperature								
Ambient temperature				°C	< 35	35	40	45	50	55
Cœfficient K1				**%**	Without	1	0.97	0.94	0.91	0.87

Tap-off unit characteristics

General characteristics

Degree of protection:	IP		55
Mechanical impacts	IK		08
Rated insulation voltage	U_i	**V**	400, 500 depending on protective device
Rated operational voltage	U_e	**V**	400, 500 depending on protective device
Rated impulse voltage	U_{imp}	**kV**	4.6
Rated frequency	f	**Hz**	50/60

Electrical characteristics of remote control circuit (KNT)

Number of conductors			3 x 2.5
Material			Copper
Rated operational voltage	U_e	**V**	500
Rated insulation voltage	U_i	**V**	500
Rated impulse voltage	U_{imp}	**kV**	6
Rated current at an ambient temperature of 35 °C	I_{nc}	**A**	6
Mean resistance at an ambient temperature of 20 °C	R_{20}	**mΩ/m**	7.6
Mean resistance at I_{nc} and 35 °C	R_1	**mΩ/m**	8.7

Canalis KS, 100 to 1000 A
Busbar trunking for medium-power distribution

IP55
Ue = 230...690 V
RAL 9001 White

Run component characteristics

Rating of trunking (A)				KS	100	160	250	400	500	630	800	1000
General characteristics												
Compliance with standards					IEC/EN 61439-6							
Degree of protection:				IP	55	55	55	55	55	55	55	55
Mechanical impacts				IK	08	08	08	08	08	08	08	08
Rated current at an ambient temperature of 35 °C				I_{nc} **A**	100	160	250	400	500	630	800	1000
Rated insulation voltage				U_i **V**	690	690	690	690	690	690	690	690
Rated operational voltage				U_e **V**	690	690	690	690	690	690	690	690
Rated impulse voltage				U_{imp} **kV**	8	8	8	8	8	8	8	8
Rated frequency				f **Hz**	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Conductor characteristics												
Phase conductors												
Mean resistance at an ambient temperature of 20 °C				R_{20} **mΩ/m**	1.19	0.55	0.28	0.15	0.11	0.09	0.06	0.04
Mean resistance at I_{nc} and 35 °C				R_1 **mΩ/m**	1.59	0.77	0.39	0.21	0.15	0.13	0.09	0.06
Mean reactance at I_{nc}, 35 °C and 50 Hz				X_1 **mΩ/m**	0.15	0.15	0.16	0.14	0.07	0.07	0.06	0.06
Mean impedance at I_{nc}, 35 °C and 50 Hz				Z_1 **mΩ/m**	1.6	0.79	0.42	0.25	0.16	0.15	0.11	0.09
Protective conductor (PE)												
Mean resistance at an ambient temperature of 20 °C				**mΩ/m**	0.42	0.42	0.35	0.19	0.07	0.07	0.07	0.06
Fault loop characteristics												
Symmetrical components method	Ph/N at 20 °C	Mean resistance		$R_{0\ ph/N}$ **mΩ/m**	4.85	1.1	1.28	0.74	0.5	0.45	0.32	0.23
		Mean reactance		$X_{0\ ph/N}$ **mΩ/m**	0.95	0.22	0.86	0.67	0.36	0.35	0.31	0.27
		Mean impedance		$Z_{0\ ph/N}$ **mΩ/m**	4.94	1.12	1.54	1	0.62	0.57	0.45	0.36
	Ph/PE at 20 °C	Mean resistance		$R_{0\ ph/PE}$ **mΩ/m**	2.75	2.01	1.34	0.88	0.4	0.51	0.35	0.32
		Mean reactance		$X_{0\ ph/PE}$ **mΩ/m**	1.11	0.93	0.7	0.67	0.48	0.55	0.43	0.4
		Mean impedance		$Z_{0\ ph/PE}$ **mΩ/m**	2.96	2.22	1.51	1.11	0.63	0.75	0.56	0.51
Impedance method	At 20 °C	Mean resistance	Ph/Ph	$R_{b0\ ph/ph}$ **mΩ/m**	2.4	1.15	0.65	0.41	0.25	0.23	0.18	0.15
			Ph/N	$R_{b0\ ph/N}$ **mΩ/m**	2.44	1.21	0.74	0.51	0.3	0.28	0.23	0.2
			Ph/PE	$R_{b0\ ph/PE}$ **mΩ/m**	1.87	1.3	0.78	0.55	0.31	0.3	0.28	0.26
	For I_{nc} at 35 °C	Mean resistance	Ph/Ph	$R_{b1\ ph/ph}$ **mΩ/m**	3.19	1.55	0.78	0.57	0.35	0.32	0.25	0.21
			Ph/N	$R_{b1\ ph/N}$ **mΩ/m**	3.21	1.57	0.82	0.7	0.41	0.39	0.32	0.28
			Ph/PE	$R_{b1\ ph/PE}$ **mΩ/m**	2.38	1.46	0.91	0.76	0.43	0.41	0.39	0.37
	For Inc at 35 °C and 50 Hz	Mean reactance	Ph/Ph	$X_{b\ ph/ph}$ **mΩ/m**	0.31	0.31	0.32	0.28	0.14	0.14	0.13	0.12
			Ph/N	$X_{b\ ph/N}$ **mΩ/m**	0.45	0.45	0.45	0.39	0.2	0.2	0.18	0.17
			Ph/PE	$X_{b\ ph/PE}$ **mΩ/m**	0.58	0.42	0.42	0.39	0.24	0.24	0.23	0.22
Other characteristics												
Short-circuit withstand capacity												
Rated peak withstand current				I_{pk} **kA**	15.7	22	28	49.2	55	67.5	78.7	78.7
Maximum thermal limit I^2t (t = 1 s)				**10^6 A^2s**	6.8	20.2	100	354	733	1225	1758	1758
Rated short-time withstand current (t = 1 s)				I_{cw} **kA**	2.6	4.45	10	18.8	26.2	32.1	37.4	37.4
Voltage drop												
				Composite voltage drop (hot state) expressed in V/100 m/A (50 Hz) with the load uniformly distributed over the run. If the load is concentrated at one end of the run, the voltage drop is twice the value indicated in the table.								
For a power factor of				1 **V/100 m/A**	0.138	0.067	0.034	0.018	0.013	0.011	0.008	0.005
				0.9 **V/100 m/A**	0.130	0.066	0.036	0.022	0.014	0.013	0.009	0.007
				0.8 **V/100 m/A**	0.118	0.061	0.035	0.022	0.014	0.013	0.009	0.007
				0.7 **V/100 m/A**	0.106	0.056	0.034	0.021	0.013	0.012	0.009	0.008
				This table is given for three-phases network. The single phase voltage drop is obtained by dividing the three-phase voltage drop indicated above by 0.866.								
Radiated magnetic field												
Radiated magnetic field strength 1 metre from the trunking				B **µT**	0.19	0.31	0.52	0.89	0.50	0.66	0.88	1.21
Product selection when harmonics are present (for details, see the "Special Applications" section)												
Operational current as a function of 3rd harmonic content				THD ≤ 15 %	100	160	250	400	500	630	800	1000
				15 % < THD ≤ 33 %	80	125	200	315	400	500	630	800
				THD > 33 %	63	100	160	250	315	400	500	630
Permissible current as a function of ambient temperature												
Ambient temperature				°C	< 35	35	40	45	50	55		
Cœfficient K1				**%**	n/a	1	0.97	0.94	0.91	0.87		

Tap-off unit characteristics

General characteristics

Degree of protection:	IP		55
Mechanical impacts	IK		08
Rated insulation voltage (1)	U_i	**V**	400 or 500 depending on protective device
Rated operational voltage (1)	U_e	**V**	400 or 500 depending on protective device
Rated impulse voltage	U_{imp}	**kV**	6.8
Rated frequency	f	**Hz**	50/60

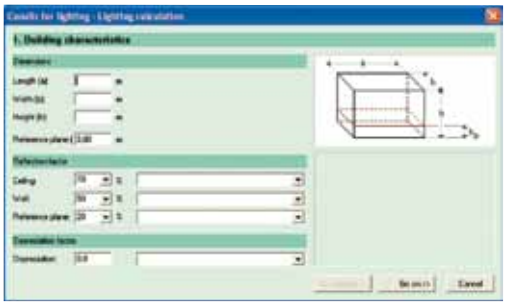
(1) For 690 V, please see your sales office.

Tools and assistance by your side

Schneider Electric offers comprehensive software to help you design Canalis installations and prepare quotations.

CanBrass, a comprehensive tool

PD202231_r.eps



Lighting design guide.

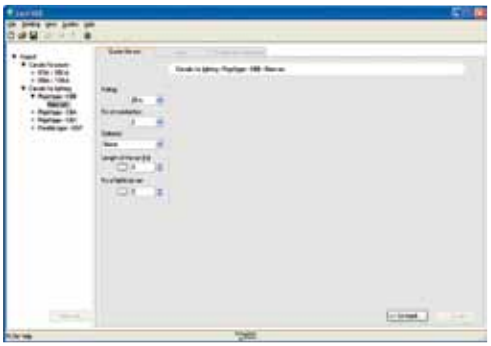
CanBrass software, from Schneider Electric, has been developed to accompany you when designing and preparing quotations for Canalis busbar trunking installations.

CanBrass software helps you rapidly design the best installation for your project. It lets you:
- easily choose the right products
- compare the busbar trunking solution with an equivalent cable-based solution
- list the catalogue numbers and quantities required
- prepare a complete quotation including parts and labour.

Functions

The user enters the following information:
- for lighting circuits: current, length, number of luminaires and identical lines
- for power circuits: current, length, number of machines and the rating and type of protection for each line.

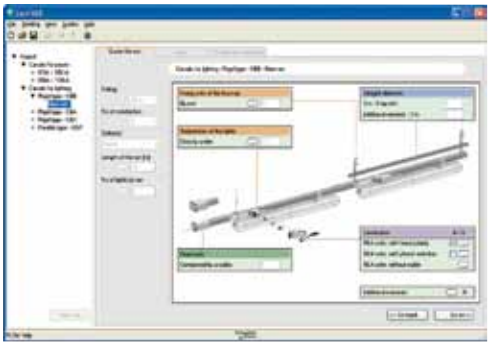
PD202127_r.eps



Data entry screen for a Canalis trunking line.

The software breaks the project down into quantities for the different product functions (fixings, straight lengths, etc.).

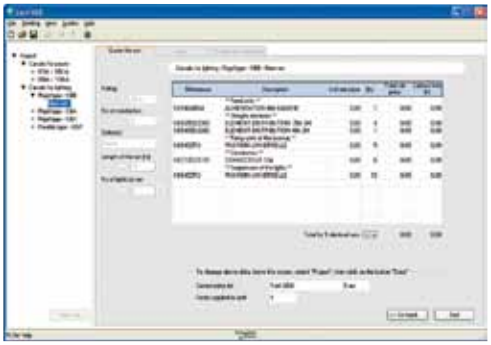
PD202128_r.eps



Breakdown of the line into product functions.

After confirming the breakdown of the line, the user accesses the costing table.

PD202129_reps

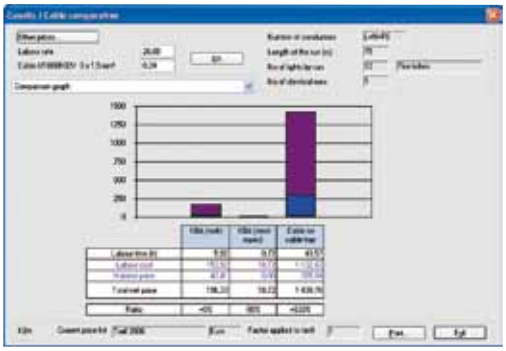


Breakdown of the line into catalogue numbers with price calculations and estimation of the time required for installation.

CanBrass software can be used to produce a complete quotation (quantities, catalogue numbers, unit price, total net price and manhours required for installation).

PD202130_reps

PD202131_reps



Comparaison of a Canalis lighting installation and an equivalent cable-based solution.

PD202132_reps

Detailed costs for both solutions.

Canalis KDP

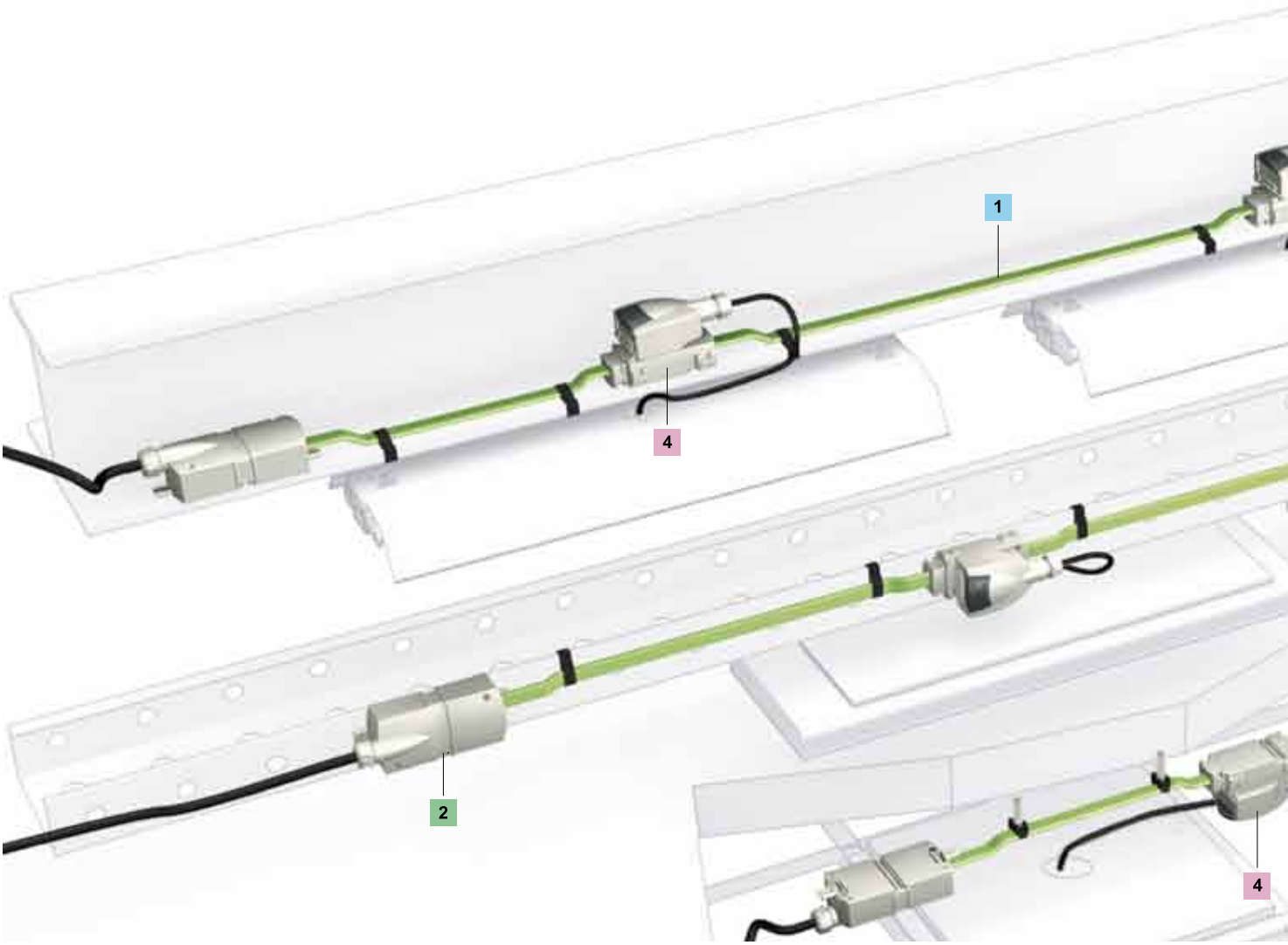
Presentation

Description

Catalogue numbers - Dimensions

Canalis KDP
For lighting and power socket distribution

PD202161.eps



1. Run components

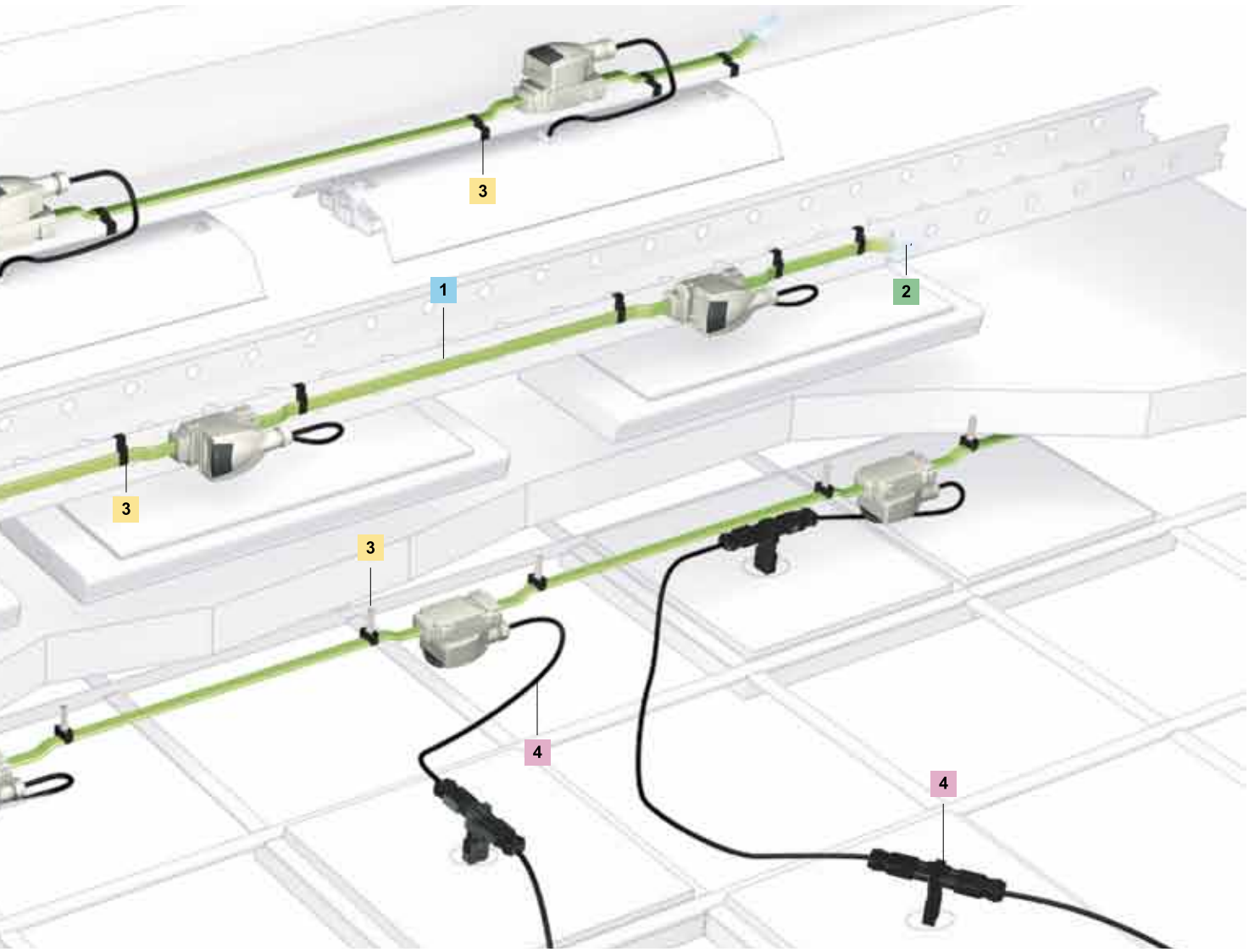
- Rating: 20 A.
- 2 or 4 live conductors.
- Available in 24 or 192-metre reels.

PD202156.eps

2. Feed units and end covers

- The feed units delivered with end covers receive the cables supplying one end of Canalis KDP trunking.

PD202157.eps



3. Fixing system

■ The fixing system is used to attach Canalis KDP to the sides of cable trays, metal structures or concrete slabs.

PD202158.eps

4. Tap-off units

■ The 10 and 16 A tap-off units (pre-wired or not) offer phase selection or fixed polarities, and can be used on the entire lighting range.

PD202159.eps

Prefabricated connections

■ Prefabricated connections can supply several luminaires from the same tap-off unit, for distribution in false ceilings.

PD202160.eps

Canalis KDP
For lighting and power socket distribution

No toxic emission in case of fire

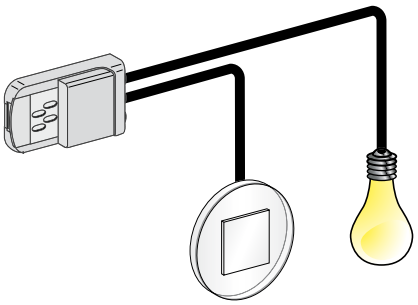
All components in the KDP range are **halogen free**.
In case of fire, Canalis KDP does not release smoke or toxic gases.

DD202141.eps

A special tap-off unit for lighting control

This tap-off unit, designed for partitioned sites, is designed for:
- single-circuit switching
- double-circuit switching
- two-way switching
- control by impulse switch or timer.

DD205717.eps



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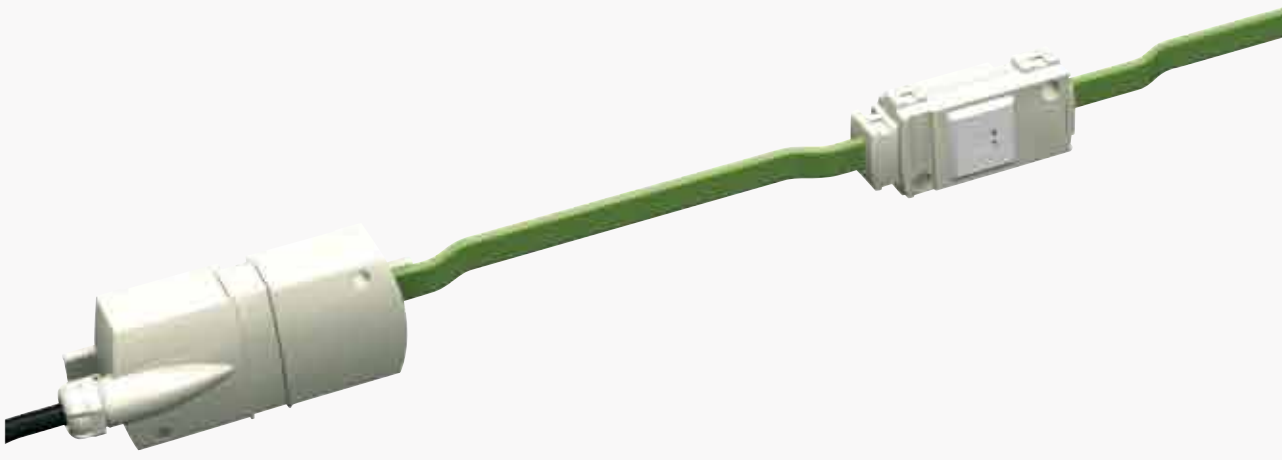
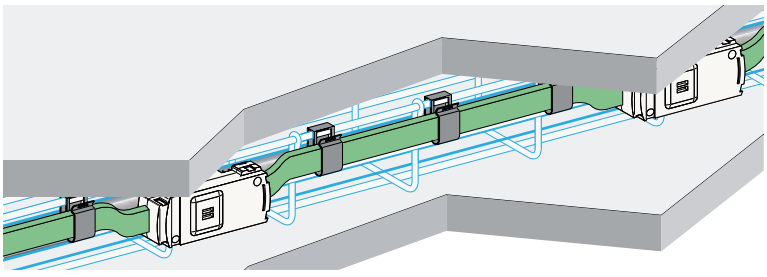


Remarkably compact

The compact design of Canalis KDP ensures easy mounting in false floors or ceilings.

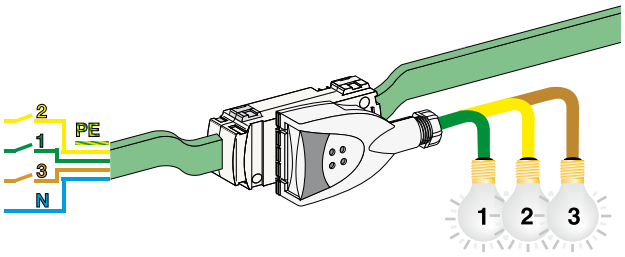
DD205718.eps



Three levels of illuminance

By using three-phase trunking, it is possible to create up to three levels of illuminance.

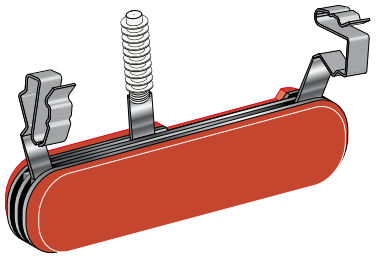
DD205719.eps



The right fixings

With fixings designed to suit the building structure, Canalis KDP is easy to install.

DD205720.eps



A high degree of protection

■ **IP55** guarantees trunking protection against splashes and dust.
■ Canalis KS complies with **sprinkler tests**, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

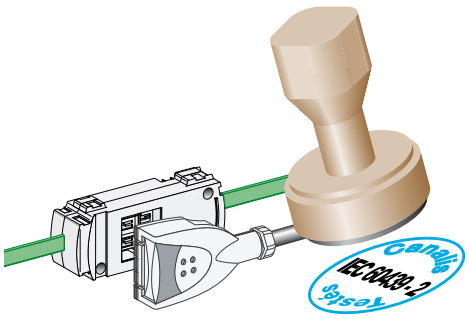
The high degree of protection for Canalis KS means it can be installed in all types of buildings.

DB403925.eps

IP55
Ue = 230...400 V

Canalis KDP, 20 A
Busbar trunking for lighting and power socket distribution

DD205727.eps

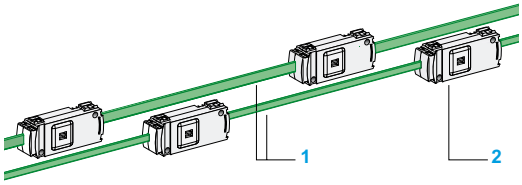


Canalis KDP is halogen free

In the event of a fire, cable and conductor insulation containing halogens (chlorine, bromine, etc.) releases dark, toxic and corrosive smoke. The latter can cause panic, difficulties for rescue teams, intoxication and severe damage to electronic and computer equipment.

KDP trunking, halogen free, avoids the above risks.

DD210155.eps



Run components

Carry the current and supply lighting fixtures.
The run components consist of:

1 **A flat ribbon cable** conforming to standard IEC 60502-1 with 3 or 5 x 2.5 mm² conductors, including one protective conductor. The copper conductors are tin-plated to protect against corrosion. Canalis KDP is available in 24-metre, 183-metre (special for 1350 mm tap-off unit spacing) or 192-metre reels. The 192-metre reel contains eight spools, clipped together, each containing 24 metres of cable. For easy installation and use of the uncoiler kit (see above), it is recommended that KDP be ordered in multiples of 24 metres.
2 **Tap-off outlets**, factory fitted. These can receive all tap-off units in the KBA and KBB ranges and ensure electrical connection of the tap-off units.

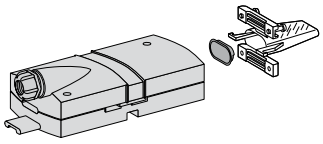
The degree of protection of the assembly is IP55.
Available distances between tap-off outlets: 1.2 m, 1.35 m, 1.5 m, 2.4 m, 2.7 m and 3 m.

All the insulating and plastic materials have increased fire-retardant capacity:
- ■ incandescent-wire test in compliance with IEC 60695-2:
- □ 960 °C for components in contact with live parts,
- □ 650 °C for other components.

KDP is certified to be non-flame-propagating in compliance with standard IEC 60332-3.

The system as a whole complies with standard IEC 61439-6.

DB403927.eps

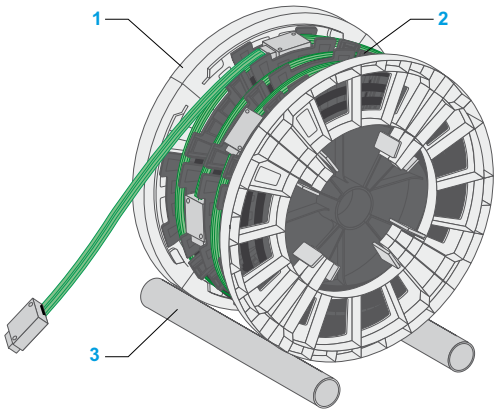


Feed units and end covers

After stripping the KDP cable, the connection is made by means of a screw terminal for copper cable with a maximum c.s.a. of 4 mm².
These components are fitted with a PG 16 cable gland. They are locked in the closed position by a screw.
They can be used to supply the run from either side and for connecting two KDP runs.
Each feed unit is supplied with an end cover for the opposite end of the run.

The system as a whole complies with standard IEC 61439-6.

DB403928.eps



Uncoiler kit

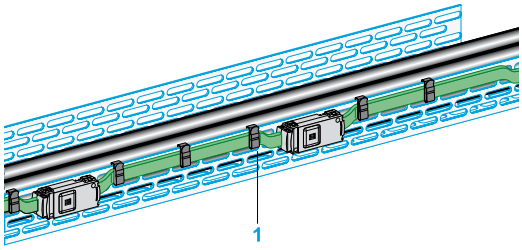
Makes for easy installation of KDP trunking by allowing the cable to be rolled out from the reel.
It can be used with all standard roller-type uncoilers.
It clips onto the packing spools and can be removed for re-use.

1 Uncoiler kit (8 parts)
2 Packing spools.
3 Cable uncoiler (not supplied).

Fixing systems

These systems are used to fix KDP in accordance with recommended installation methods.

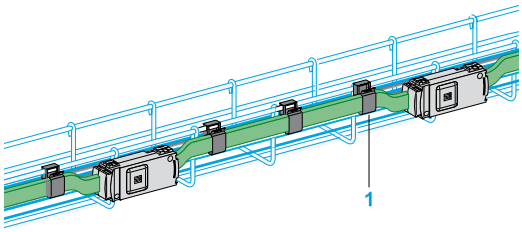
DD205728.eps



Fixing to the edge of pre-slotted sheet-metal cable trays

1 Fixing to edge of sheet metal: KDPZF10.
For the ribbon cable and the feed unit.

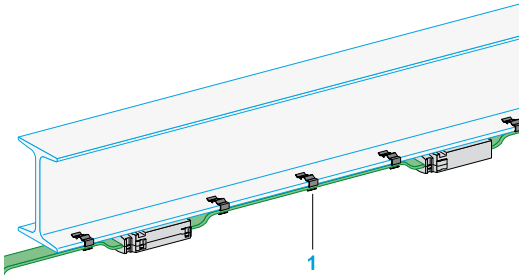
DD205729.eps



Fixing to the edge of mesh trays

1 Fixing for mesh trays: KDPZF14.
For fixing the ribbon cable and feed unit to wire diameters between 5 and 8 mm.

DD205730.eps

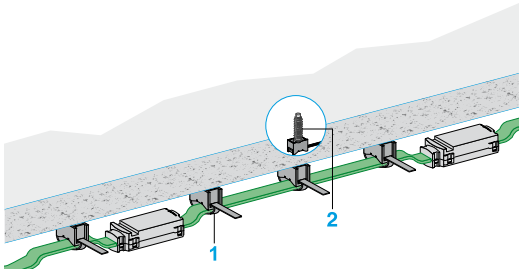


Fixing to metal structures

1 Fixings for I-beams of the following thicknesses:
- KDPZF10: 1 to 8 mm,
- KDPZF11: 8 to 13 mm,
- KDPZF12: 13 to 17 mm,
- KDPZF13: 17 to 22 mm.

For **h** ≥ 120 mm, the KDP may be fixed on top of the I-beam wing.

DD205731.eps



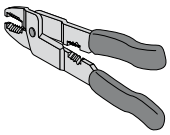
Fixing to concrete slabs or wooden structures

1 Fixing with cable tie for concrete or wood.
KDPZF20: for the ribbon cable.
2 Concrete fixing plug.
KDPZF21: for 8 mm diameter hole.

Stripping tool

Used to cut, remove the sheath and strip KDP 3 or 5-conductor cables.

DD210132.eps

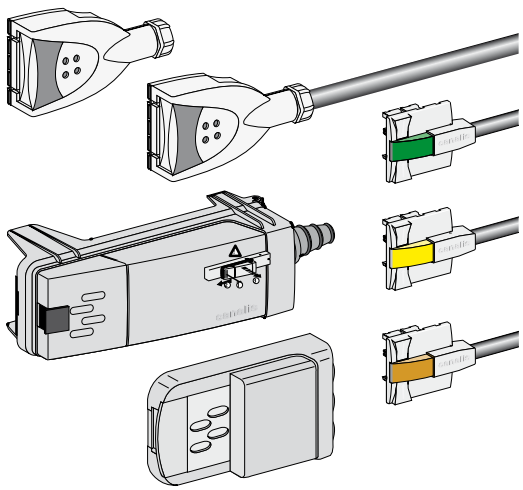


Canalis KDP, KBA and KBB

Busbar trunking for lighting and power socket distribution

Tap-off units

DD205732.eps

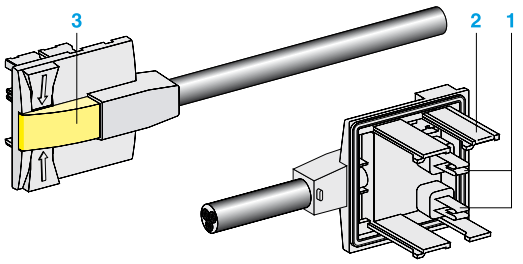


Tap-off units (general)

For instantaneous connection of luminaires to busbar trunking:
- they can be handled while energised and under live conditions
- the contacts for live conductors are of the clamp type
- PE connection occurs before that of the phases and neutral
- phase-selection system (clip-in contact studs) for balancing of 3-phase distribution systems
- selection is visible via a transparent window
- a coloured lock holds them in the tap-off outlet
- all the insulating and plastic materials have a high fire-retardant capacity:
  - incandescent-wire test in compliance with IEC 60695-2:
  - 960 °C for components in contact with live parts,
  - 650 °C for other components.

All the insulators and plastic components are **halogen free**.

DB403929.eps



Pre-wired 10 A tap-off unit with fixed polarity

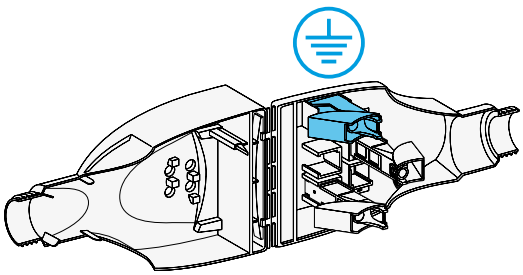
Pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 0.80 m long, pre-stripped on luminaire end:
- 10 A rating
- fixed L + N + PE polarity
- the various models make it possible to balance 3-phase distribution systems.

The colour of the lock and the casing enable remote identification of the polarity.
1 Live-conductor contacts.
2 Protective-conductor contact.
3 Lock.

Two-pole 10 A tap-off unit with phase selection

- The two contact studs are movable and can be used to set up both L + N + PE and 2L + PE distribution.
- Supplied complete with a cable gland.

DD210083.eps



10 A KBC-10DCB20 tap-off unit, 2-pole + PE, to be wired

- To be wired for connection of luminaires using a cable of specific type, size or length.
- Fast connection for 3 x 0.75 to 1.5 mm² cable. If prefabricated leads are used, the line must have 16 A protection (see possibilities of dispensing with protection in the simplified design guide for lighting distribution, in the section on protection against overloads).

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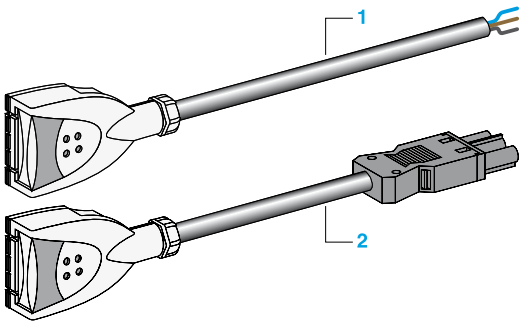
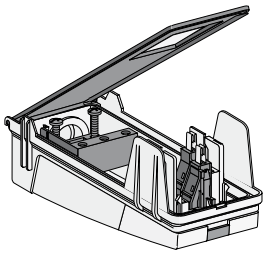


10 A KBC tap-off unit, 2-pole + PE, pre-wired

Two pre-wired versions are available:
1 pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 1 m long, pre-stripped on luminaire end,
2 for KDP, pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 1 m long and equipped with a female GST18i3 connector on the luminaire end (see prefabricated leads). In this case, The lead is IP40.

If prefabricated leads are used, the line must have 16 A protection (see possibilities of dispensing with protection in the simplified design guide for lighting distribution, in the section on protection against overloads).

DB403931.eps



16 A KBC 16DCB/DCF21 tap-off unit with phase selection

For connection of luminaires using a cable of specific type, size and length.

- Two-pole: L + N + PE (1 mobile stud, fixed neutral) or 2L + PE (2 mobile studs).
- Installation is facilitated by the side guides.
- Supplied with a cable bushing. Terminal connections for 0.75 to 1.5 mm² cable.

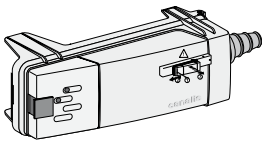
KBC 16DCB tap-off unit with terminals, direct connection (no protection)

For direct connection (no protection) of luminaires using a specific cable.
Can be equipped with the accessory to tap-off the remote-control circuit to the luminaires.

KBC 16DCF tap-off unit, with fuses

For protection of each luminaire.
Fuse carrier on the phase (1 or 2 carriers depending on the model).
For cylindrical fuse NF 8.5 x 31.5 (not supplied), 16 A gG maximum, breaking capacity 20 kA.

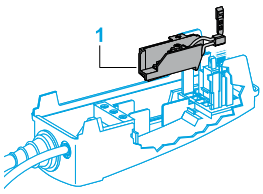
DB403932.eps



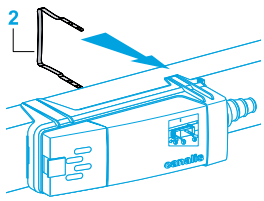
16 A L + N + PE tap-off unit with preselected polarity KBC 16DCB/DCF●6

For tap-off and individual protection of luminaires assigned to two independent circuits of 4-conductor KDP trunking.
Identical in design to the tap-off units on the opposite page, but with factory-set polarity.

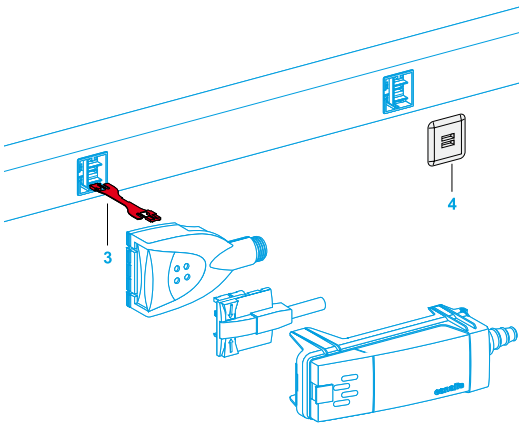
DD205737.eps



DD205784.eps



DD206064.eps



Accessories

Specific to KBC16DCF tap-off units

1 Additional remote-control contact block

- For tap-off of the remote-control circuit to the luminaire (KBB and KBA lines with T option).
- Clips onto KBC16DCB or CF (except KBC16DCF22) tap-off units.
- Terminals for data cable, max. size 2 X 0.75 mm².
- Supplied with cable bushing.

2 Rear support bracket

Additional fixing of KBC16 tap-off units using the rear support bracket may be necessary, notably if there is a risk of accidental pulling on the cable or if the cable is very heavy (great length).

Other accessories

3 Interlocking device

For all 10 A and 16 A tap-off units.
A set of three interlocking devices in different colours can be used to mechanically lock out tap-off units when two or three different distribution networks are present (load, voltage, frequency, etc.).

- An interlocking device is made up of a handle and an interlocking device on each end. It can be used for a tap-off outlet and the corresponding tap-off unit.
- Labels can be placed on the tap-off units and the trunking for remote identification.

4 Outlet blanking plate

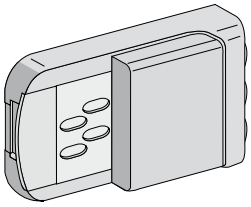
Spare part intended to restore IP55 on a tap-off outlet following removal of the tap-off unit (if original blanking plate is lost).

Canalis KDP, 20 A

Busbar trunking for lighting and power socket distribution

Tap-off units

DD210081.eps

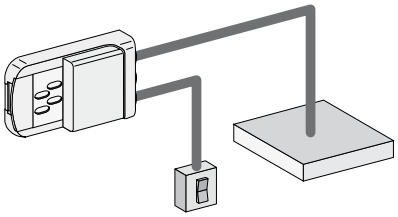


10 A units for lighting control

For the control and supply of luminaires in partitioned sites:
- rating 10 A
- phase-selection system for balancing of 3-phase distribution systems
- without pre-wiring, to allow connection of either luminaires or control devices
- cable connection to spring terminals for 0.75 to 2.5 mm^2 wires
- all units for lighting control are available in versions pre-equipped with GST18i3 connections. In this case, only the circuit supplying the luminaires is pre-equipped. In this case, the IP of lead is IP40.
- if prefabricated connections are used, the line must have 16 A protection (see possibilities of dispensing with protection on page 37).

These units can also be connected to KBA and KBB busbar trunking.

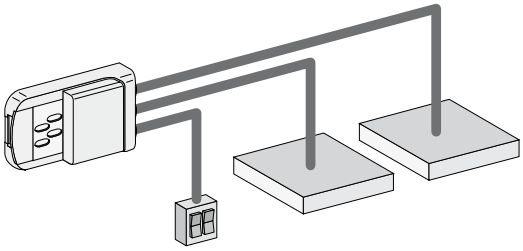
DB403933.eps



10 A units for single-circuit switching

Can be used to switch one lighting circuit from one location.

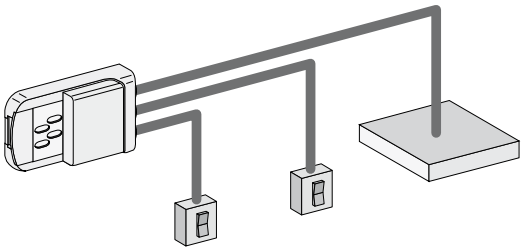
DB403934.eps



10 A units for double-circuit switching

Can be used to switch two lighting circuits from one location.

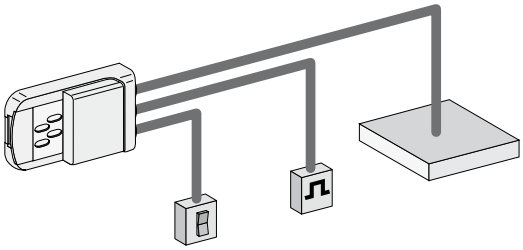
DB403935.eps



10 A units for two-way switching

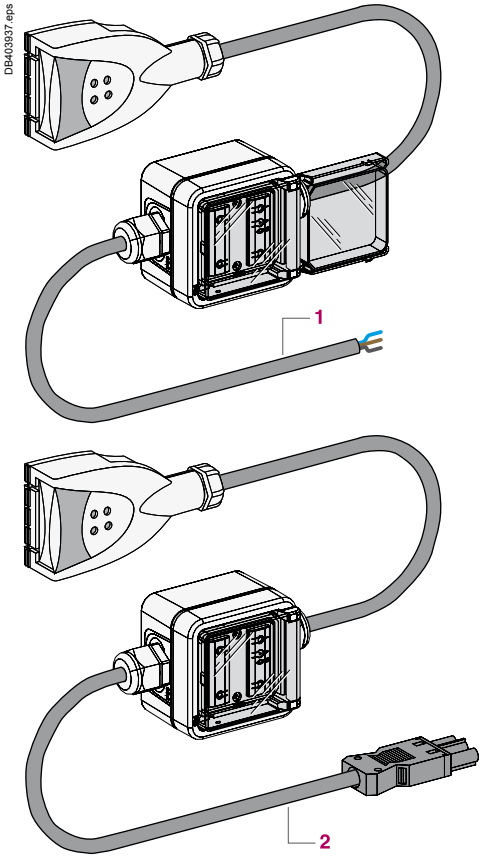
Can be used to switch one lighting circuit from two locations.

DB403936.eps



10 A units for control by impulse switch or timer

Can be used to switch one lighting circuit remotely using impulses.



The radio frequency 6 A connectors, 2 poles + PE, precabled, with phase selection for wireless lighting control

For wireless control and supplying of light fittings in partitioned sites.
Used to open and close a lighting circuit controlled by 1 to 32 switches maximum from the Alvaïs RF range.

The switches and connectors are connected by simple pairing.

- Rating 6 A.
- Phase selection system ensuring balancing on three-phase distributions.
- The two studs are mobile, allowing both L + N + PE and 2L + PE distribution.
- Supplied with cable gland.

Two precabled versions are available:

1 precabled with cable SO5Z1Z1-F 3 x 1.5 mm² 1 m long, stripped at the end of the light fitting with compacted stripped conductors,

2 with KDP connection, precabled with cable type SO5Z1Z1-F 3 x 1.5 mm², 1 metre long and pre-equipped with a female socket GST18i3 at the end of the light fitting (see prefabricated connections). In this case, the flex is IP40.

If prefabricated connections are used, you need to protect the entire line at 16 A (see the protection waiver cases, see “Simplified study guide for lighting distribution – Overload protection”).

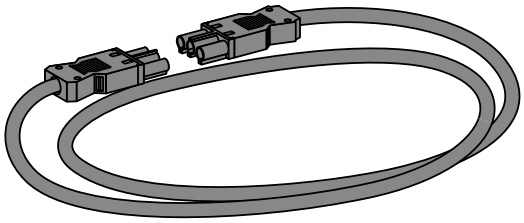
These connectors can also be mounted on KBA and KBB busbar trunkings.

Canalis KDP, 20 A
Busbar trunking for lighting and power socket distribution
Prefabricated connections

Prefabricated connections

To supply several luminaires from the same KBC tap-off unit, for distribution in false ceilings.

DD210159.eps

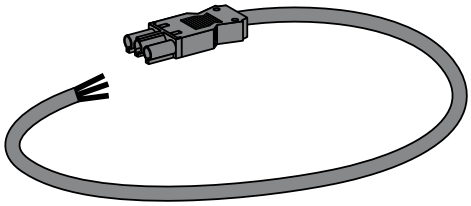


KBZ31EFM●●●

Prefabricated lead

■ Male-female extension lead **KBZ31EFM●●●**.
Cable type SO5Z1Z1-F 3 X 1.5 mm², available in 2, 3, 4, 5, 7 and 9 metre lengths.

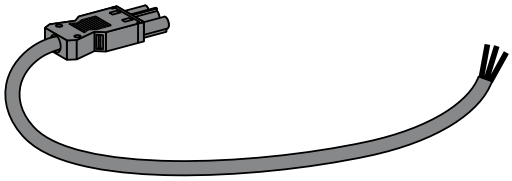
DD210161.eps



KBZ31EMC●●●

■ Connection lead for luminaires **KBZ31EMC●●●**.
Connection lead with one male end and one end stripped for connection to a luminaire which is not pre-equipped.
Cable type SO5Z1Z1-F 3 X 1.5 mm², available in 1 metre length.

DD210160.eps

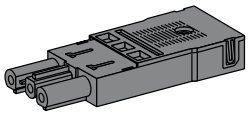


KBZ31EFC●●●

■ Connection lead for tap-off unit **KBZ31EFC●●●**.
Connection lead to be wired, with one female end and one stripped end.
Cable type SO5Z1Z1-F 3 X 1.5 mm², available in 1, 3 and 5 metre lengths.

Connectors

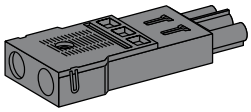
DD210165.eps



KBZ32APFR2

■ Female connector **KBZ32APFR2**.
Spring connection for 2 rigid cables 3 x 1.5 to 2.5 mm² or 2 stranded cables 3 x 1.5 to 2.5 mm² fitted with ferrules.

DD210166.eps

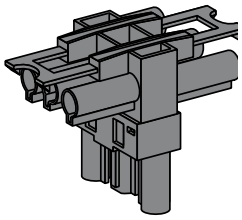


KBZ32APMR2

■ Male connector **KBZ32APMR2**.
Spring connection for 2 rigid cables 3 x 1.5 to 2.5 mm² or 2 stranded cables 3 x 1.5 to 2.5 mm² fitted with ferrules.

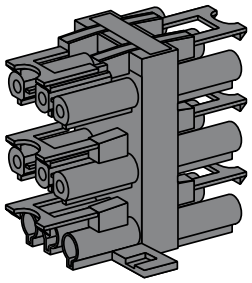
Splitter block

DD210162.eps



KBZ32DBA12

DD210163.eps



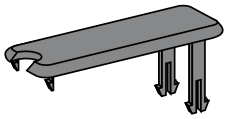
KBZ32DBA15

■ Splitter block, 2 outlets **KBZ32DBA12**.
One male input and two female outputs for connection to a pre-wired luminaire.

■ Splitter block, 5 outlets **KBZ32DBA15**.
One male input, five female outputs.

Lock

DD210164.eps



KBZ30ZVP01

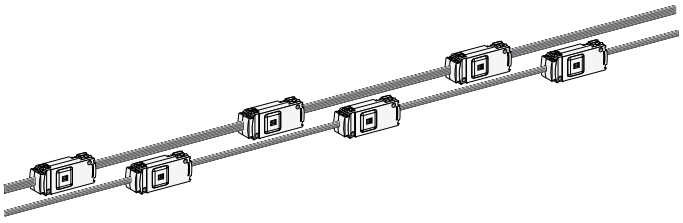
■ Lock **KBZ30ZVP01** for extension leads.
Can withstand pulling forces greater than 20 N on the leads.

Canalis KDP, 20 A
Busbar trunking for lighting and power socket distribution

Run components

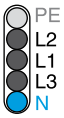
Catalogue numbers

DB403938.eps



3L + N + PE

DD210122.eps



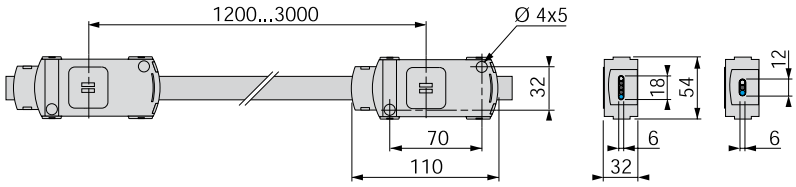
Polarity

Distance between tap-offs (mm)	1200
Weight (kg/m)	0.320
24 m spool	**KDP20ED424120***
192 m reel	**KDP20ED4192120***

** Available up to June 30, 2017.*

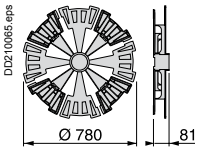
Dimensions

DD210023.eps



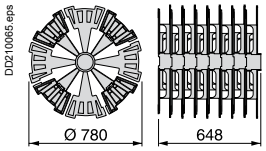
KDP20ED●●●●●●●

DD210065.eps



KDP20ED424120

DD210065.eps

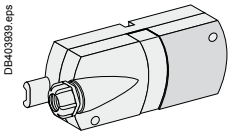


KDP20ED4192120

Feed units (supplied with end cover)

Catalogue numbers

DB403939.eps

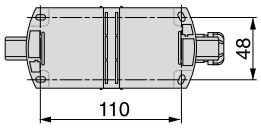


Designation		**Feed unit**
Mounting		Left or right
Cable connection	**Terminals mm²**	4
	Cable gland Ø max. (mm)	PG 16. Ø 15
Weight (kg)		0.120
Cat. no.		**KDP20ABG4***

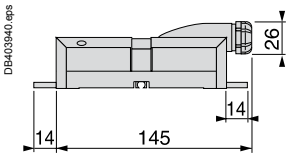
** Available up to June 30, 2017.*

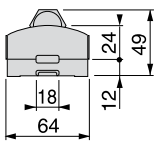
Dimensions

DB403940.eps

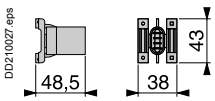


DB403940.eps





DD210027.eps



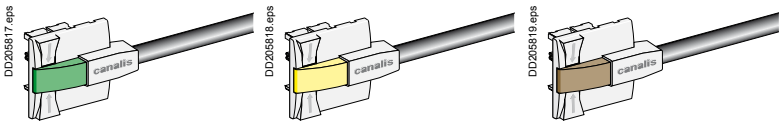
The end cover KDP is a spare part of the after-sales service ref. **KDP20AF**.

Canalis KBA and KBB tap-off units, 25 and 40 A
For lighting and power socket distribution

10 A tap-off unit, direct connection

Catalogue numbers

L + N + PE, with fixed polarity, pre-wired SO5Z1Z1-F 3 x 1.5 mm², 0.8 m long



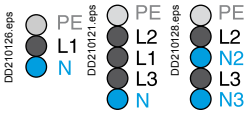
Type of busbar trunking

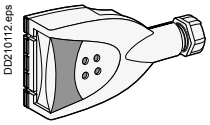
Single-circuit switching

Balancing on 3 phases or 3-circuit switching

Polarity	L1 + N	L2 + N	L3 + N
Colour of lock	Green	Yellow	Brown
Order in multiples of	10	10	10
Cable length (mm)	800	800	800
Weight (kg)	0.100	0.100	0.100
Cat. no.	**KBC10DCS101**	**KBC10DCS201**	**KBC10DCS301**

L + L + PE or L + N + PE, with phase selection



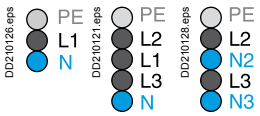


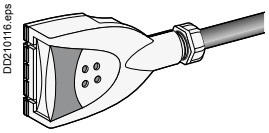
Type of busbar trunking

All types possible

Polarity	L1 + N or L2 + N or L3 + N L1 + L2 or L1 + L3 or L2 + L3 L2 + N2 or L3 + N3
Order in multiples of	10
Weight (kg)	0.065
Cat. no.	**KBC10DCB20**

L + L + PE or L + N + PE, with phase selection, pre-wired SO5Z1Z1-F 3 x 1.5 mm², 1 m long



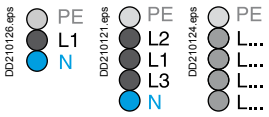


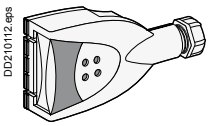
Type of busbar trunking

All types possible

Polarity	L1 + N or L2 + N or L3 + N L1 + L2 or L1 + L3 or L2 + L3 L2 + N2 or L3 + N3	
Pre-equipped with female GST18i3 connector	No	Yes (1)
Order in multiples of	10	10
Weight (kg)	0.165	0.165
Cat. no.	**KBC10DCC211**	**KBC10DCC21Z**

3L + N + PE





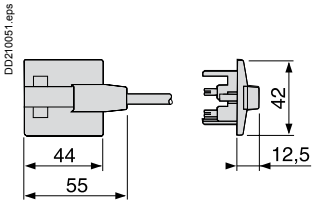
Type of busbar trunking

All types possible

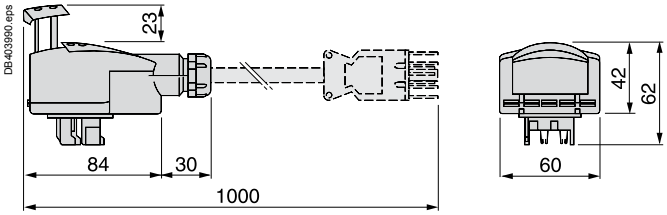
Polarity	To be defined for each application (dimmer, emergency lighting, etc.)
Order in multiples of	10
Weight (kg)	0.065
Cat. no.	**KBC10DCB40**

(1) For IP, see KBA and KBB tap-off units description page 64.

Dimensions



KBC10DCS●01



KBC10DCB20, KBC10DCC21●, KBC10DCB40

16 A single-phase tap-off unit, with or without fuses

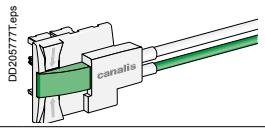
Catalogue numbers

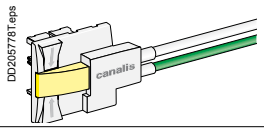
L + N + PE + BUS (D+/D-)

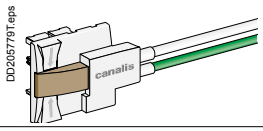
Type of busbar trunking

Single-circuit switching

Balancing on 3 phases or 3-circuit switching







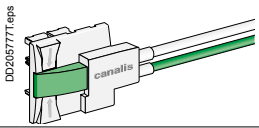
Polarity	L + N + PE (D+/D-)	L + N + PE (D+/D-)	L + N + PE (D+/D-)
Colour of lock	Green	Yellow	Brown
Order in multiples of	10	10	10
Cable length (mm)	1000	1000	1000
Cat. no.	**KBC16DCS101T**	**KBC16DCS201T**	**KBC16DCS301T**

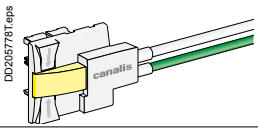
L + N + PE + BUS (D+/D-)

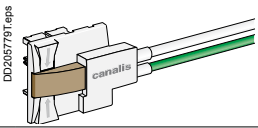
Type of busbar trunking

Single-circuit switching

Balancing on 3 phases or 3-circuit switching







Polarity	L + N + PE (D+/D-)	L + N + PE (D+/D-)	L + N + PE (D+/D-)
Colour of lock	Green	Yellow	Brown
Order in multiples of	5	5	5
Cable length (mm)	2000	2000	2000
Cat. no.	**KBC16DCS102T**	**KBC16DCS202T**	**KBC16DCS302T**

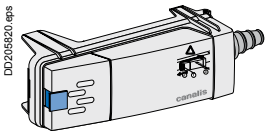
Catalogue numbers

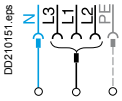
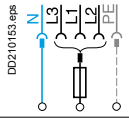
L + N + PE, with phase selection

Type of busbar trunking

Single-circuit switching

Balancing on 3 phases or 3-circuit switching

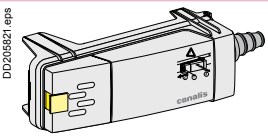


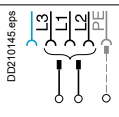
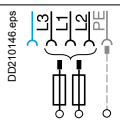
Polarity	L1 + N or L2 + N or L3 + N	
Scheme		
Protection	None	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)
Colour of lock	Blue	Blue
Order in multiples of	10	10
Weight (kg)	0.090	0.090
Cat. no.	**KBC16DCB21**	**KBC16DCF21**

L + L + PE, with phase selection

Type of busbar trunking

Balancing on 3 phases without neutral



Polarity	L1 + L2 or L1 + L3 or L2 + L3	
Scheme		
Protection	None	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)
Colour of lock	Yellow	Yellow
Order in multiples of	10	10
Weight (kg)	0.090	0.090
Cat. no.	**KBC16DCB22**	**KBC16DCF22**

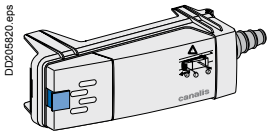
Canalis KBA and KBB tap-off units, 25 and 40 A
For lighting and power socket distribution

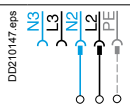
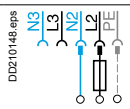
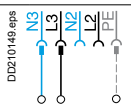
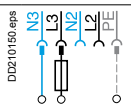
16 A single-phase tap-off unit, with or without fuses

Catalogue numbers

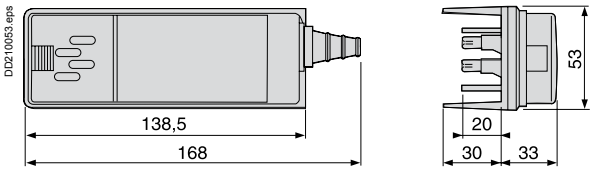
L + N + PE, with preselected polarity

Type of busbar trunking
2 single-phase circuits



Polarity	L2 + N2		L3 + N3	
Scheme				
Protection	None	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)	None	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)
Colour of lock	Blue	Blue	Blue	Blue
Order in multiples of	10	10	10	10
Weight (kg)	0.090	0.090	0.090	0.090
Cat. no.	**KBC16DCB226**	**KBC16DCF226**	**KBC16DCB216**	**KBC16DCF216**

Dimensions



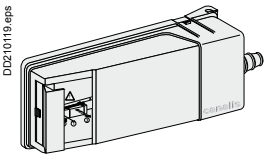
KBC16DC2●●, KBC16DC●2●6

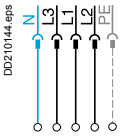
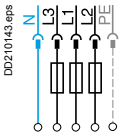
16 A three-phase tap-off unit, with or without fuses

Catalogue numbers

3L + N + PE

Type of busbar trunking
All types possible



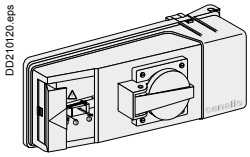
Polarity	3L + N	
Scheme		
Protection	None	Cylindrical fuse NF 8.5 x 31.5 12 A gG maximum (not supplied)
Weight (kg)	0.090	0.090
Cat. no.	**KBC16DCB40**	**KBC16DCF40**

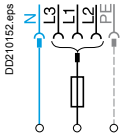
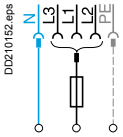
16 A three-phase tap-off unit, with or without fuses

Catalogue numbers

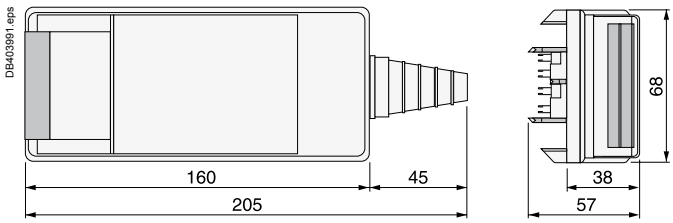
3L + N + PE, with power socket

Type of busbar trunking

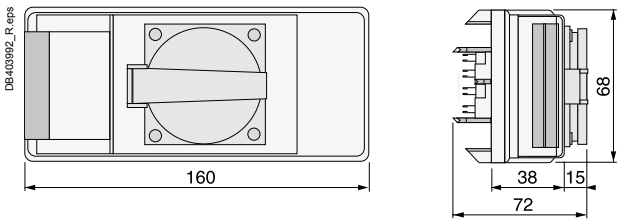


Polarity	3L + N	
Scheme		
Type of power socket	NF 2P + T 10/16 A, 250 V	VDE 2P + T 10/16 A, 250 V
Protection	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)
Weight (kg)	0.090	0.090
Cat. no.	**KBC16DCP1**	**KBC16DCP2**

Dimensions



KBC 16DC●40



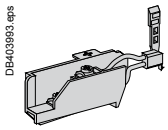
KBC16DCP●

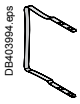
10 A single-phase tap-off unit for lighting control

For KDP description, see page 66. For KDP catalogue numbers and dimensions, see page 69.

Accessories for KBA and KBB tap-off units

Catalogue numbers





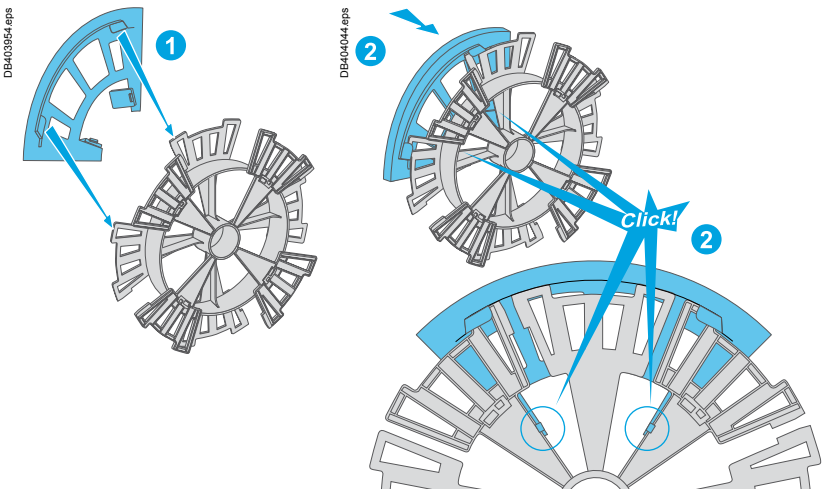
Designation	Bus connection device	Rear support bracket
Function	For 16 A single-phase or three-phase tap-off units to tap off the remote control circuit of the trunking to the remote receiver	For securing 16 A single-phase tap-off units to the trunking
Order in multiples of	10	10
Weight (kg)	0.010	0.020
Cat. no.	**KBC16ZT1**	**KBC16ZC1**

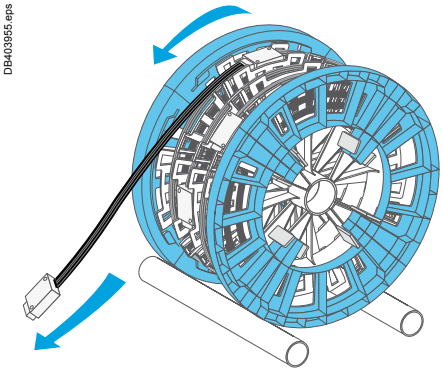
Canalis KDP, 20 A

Busbar trunking for lighting and power socket distribution

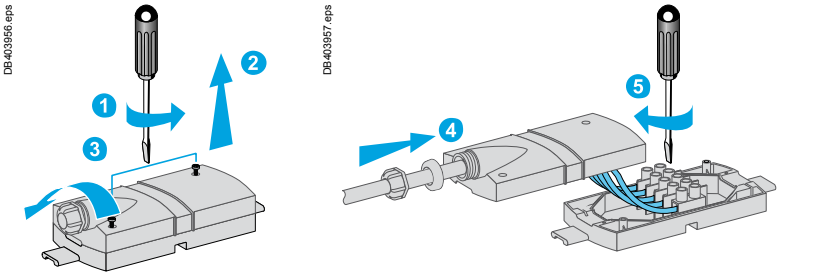
Assembly of trunking components

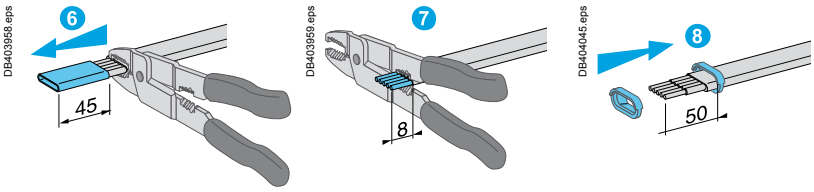
Assembling the uncoiler kit

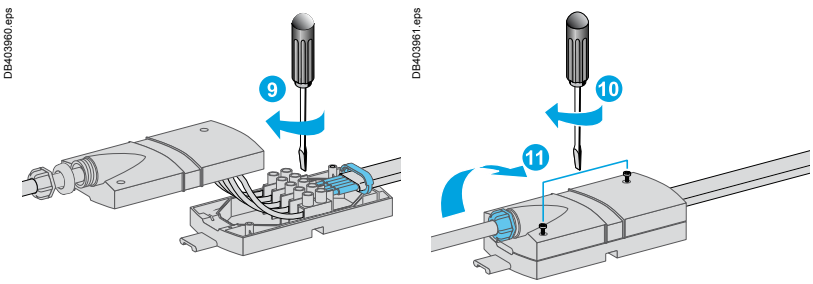




Connecting the feed unit



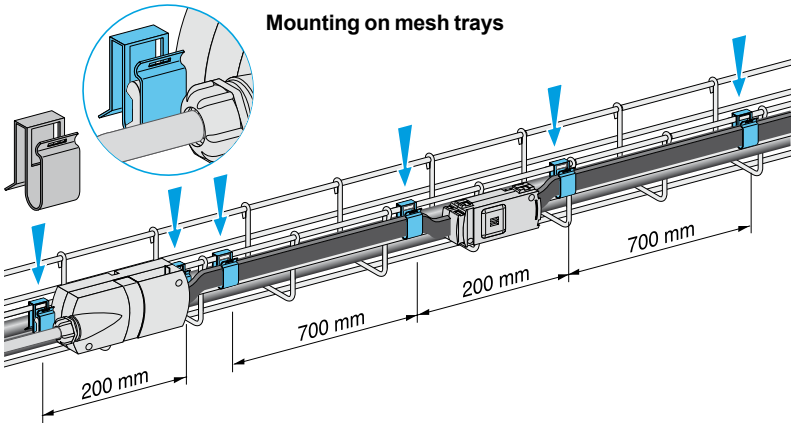




Fixing Canalis KDP on its support

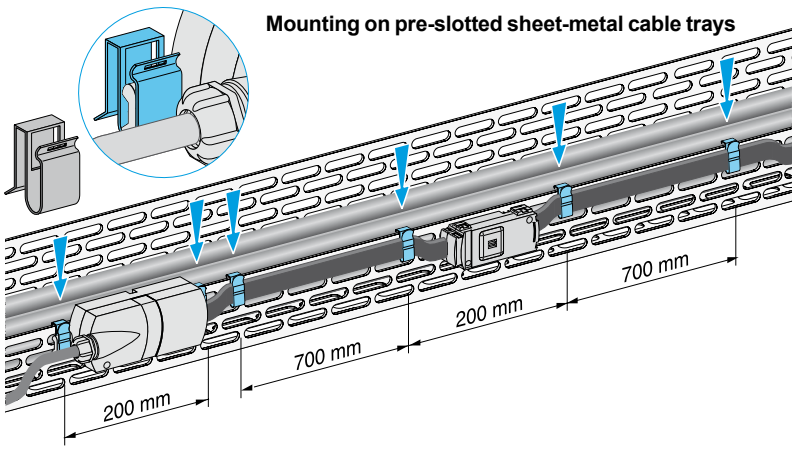
DB403962.eps

Mounting on mesh trays



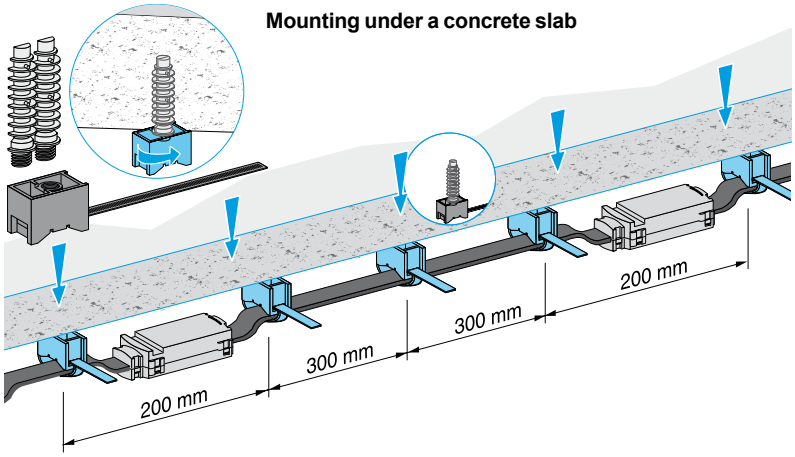
DB403963.eps

Mounting on pre-slotted sheet-metal cable trays



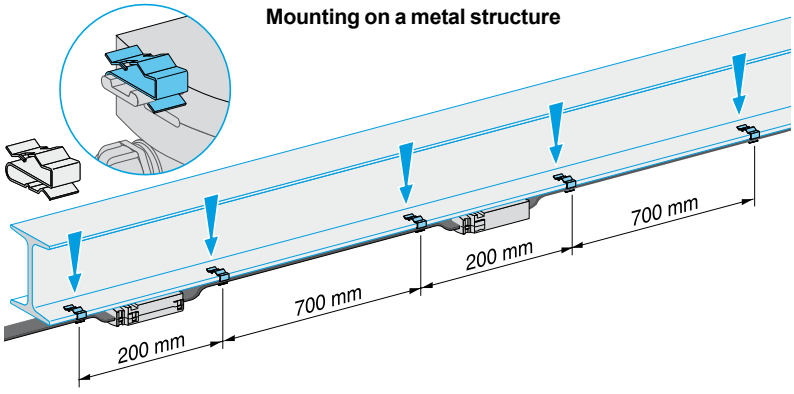
DB403964.eps

Mounting under a concrete slab



DB403965.eps

Mounting on a metal structure

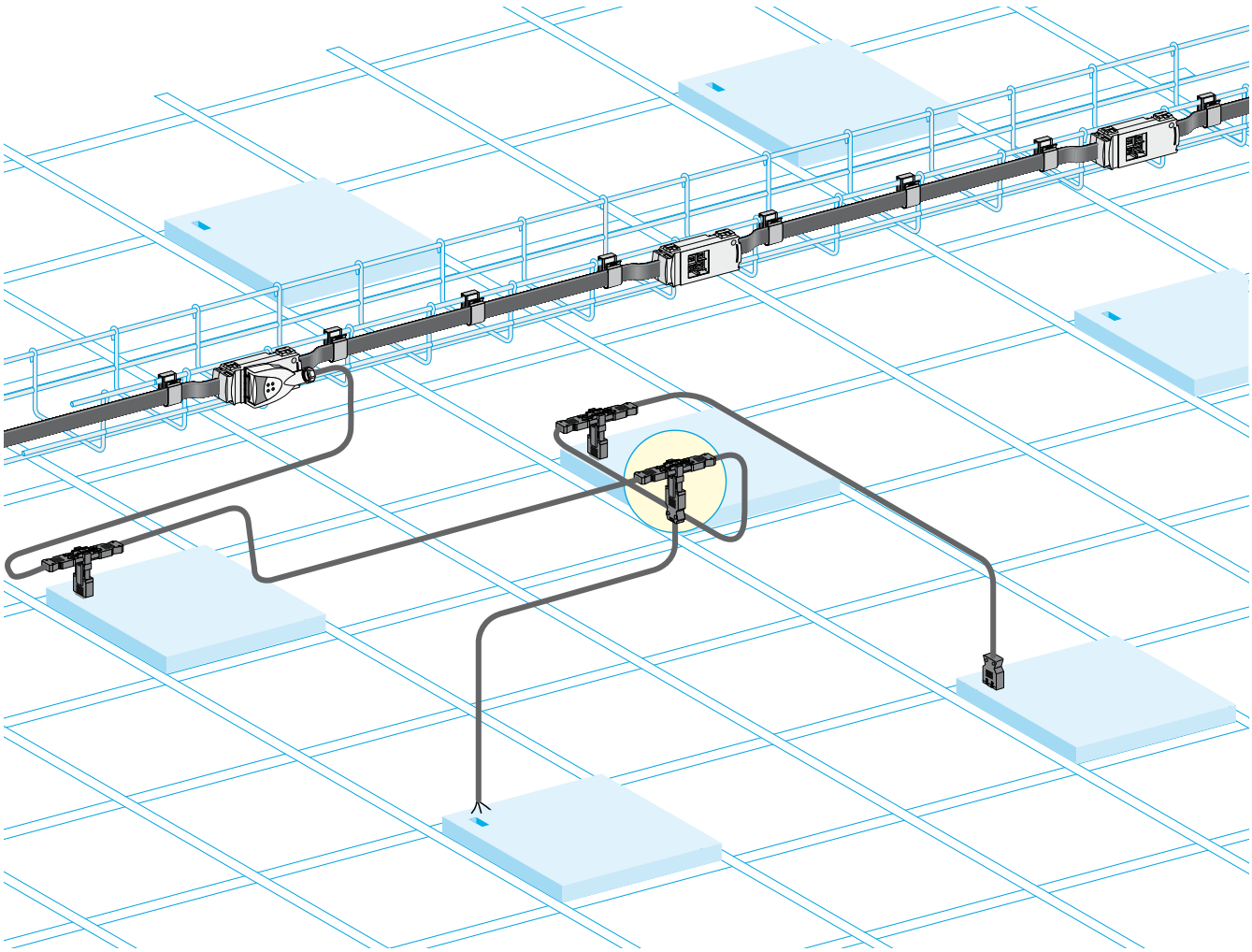


IP55
Ue = 230...400 V

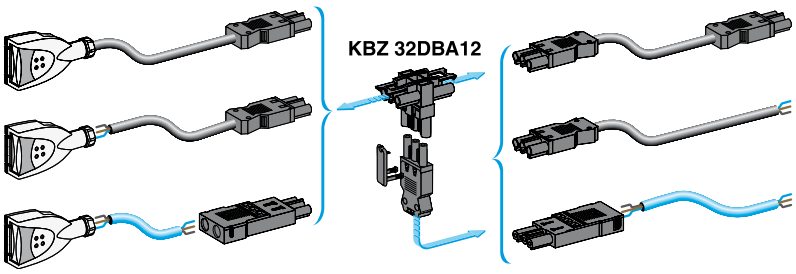
Canalis KDP, 20 A
Busbar trunking for lighting and power socket distribution
Assembly of trunking components

Assembling the prefabricated connections to supply luminaires by bridge connection

DD210344.eps



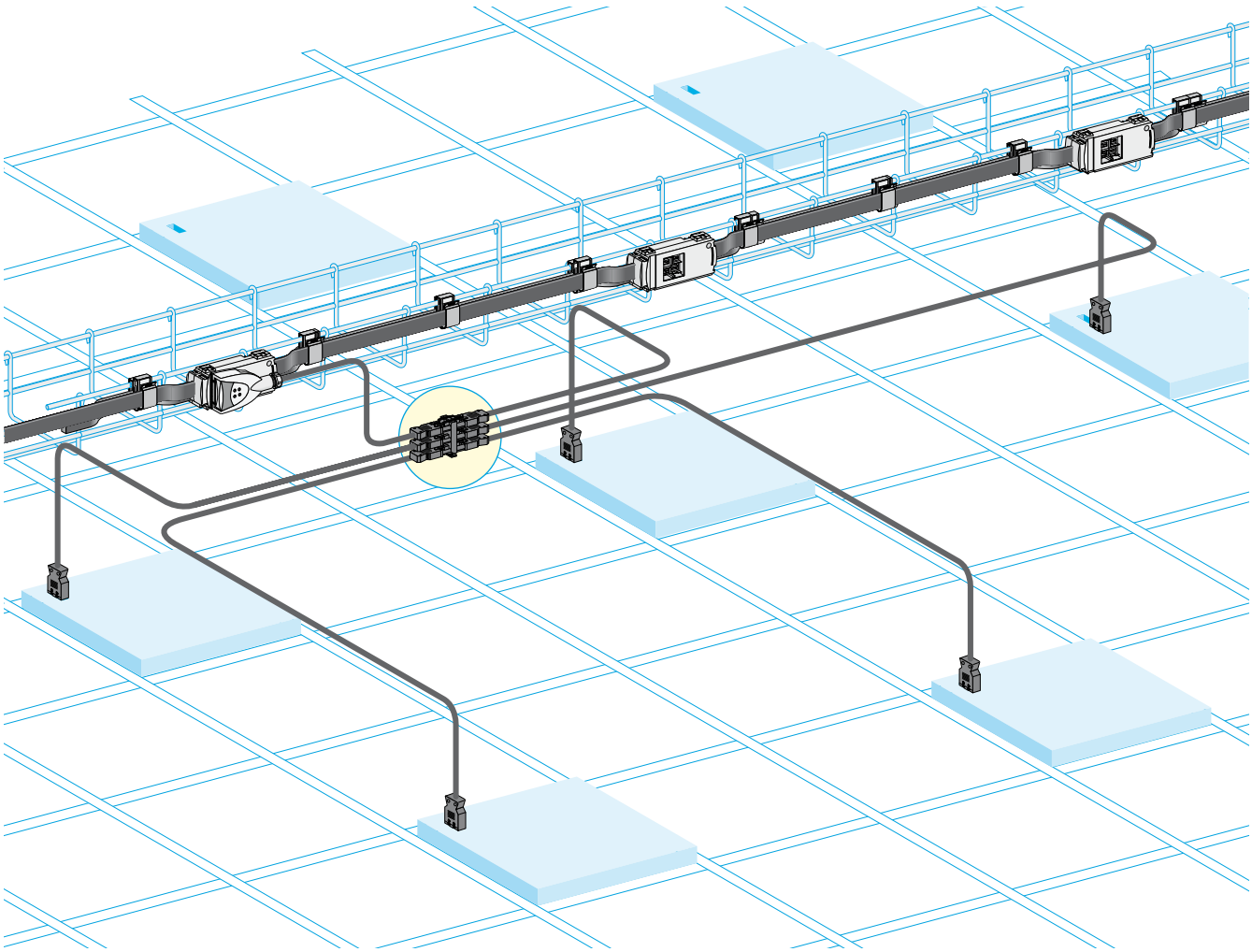
DB403966.eps



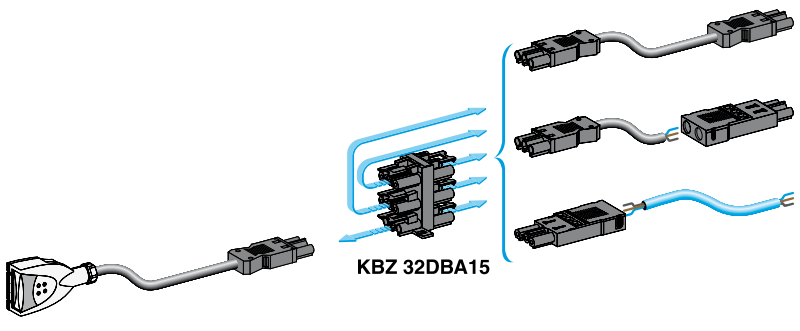
Solution 1 Pre-wired tap-off unit equipped with female GST18i3 connector.	**Solution 1** Male/female lead for luminaires equipped with a GST18i3 connection.
Solution 2 Tap-off unit to be wired plus female lead with end stripped.	**Solution 2** Male lead with end stripped for connection to a luminaire.
Solution 3 Tap-off unit to be wired plus female GST18i3 connector (cable not supplied).	**Solution 3** Male plus female connectors to be wired (cable not supplied).

Assembling the prefabricated leads to supply luminaires by star connection

DD210346.eps



DB403967.eps



Solution 1
Male/female lead for luminaires equipped with a GST18i3 connection.

Solution 2
Male lead with end stripped for connection to a luminaire.

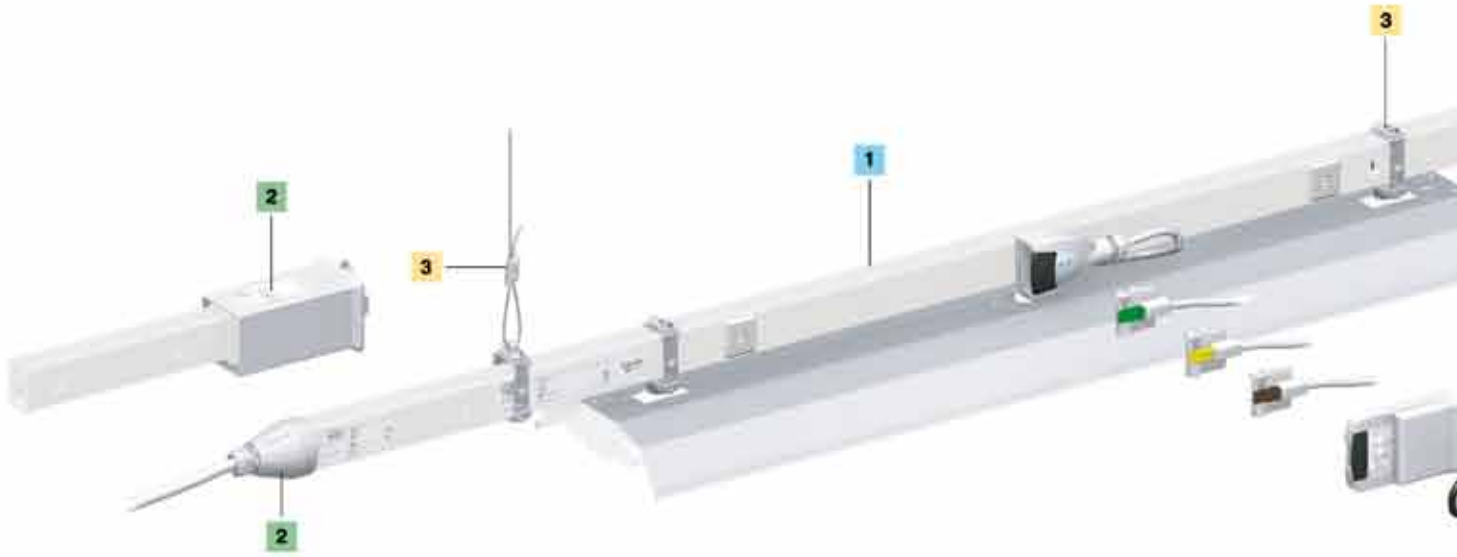
Solution 3
Male connector to be wired (cable not supplied).

Canalis KBA

Canalis KBA

For lighting and power socket distribution 25 and 40 A

DD205760R.eps



1. Run components

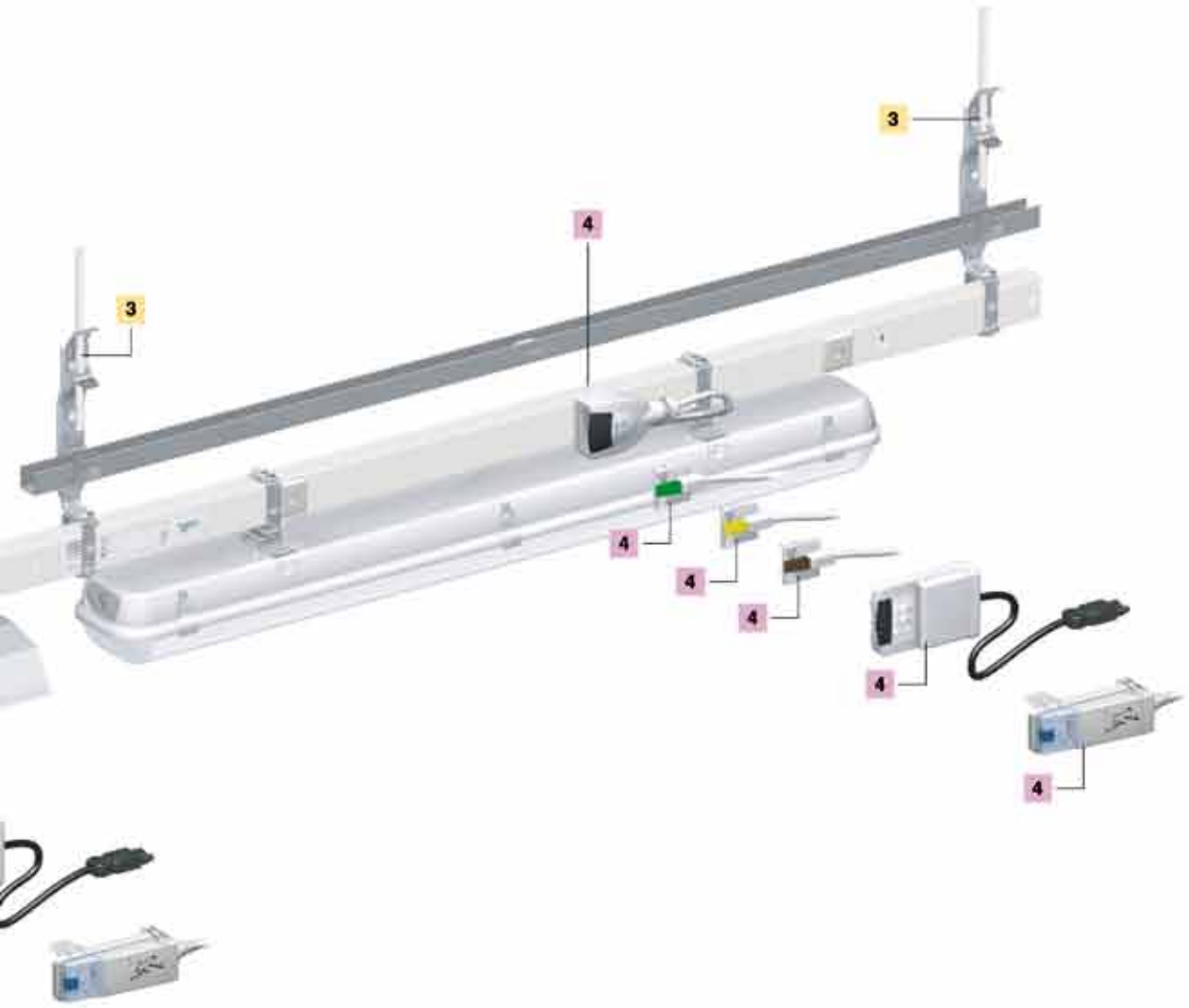
- Rating: 25 or 40 A.
- 2 or 4 live conductors.
- Basic lengths: 2 and 3 metres.

PD202163R.eps

2. Feed units and end covers

- The feed units delivred with the end covery receive the cables supplying one end of Canalis KBA trunking.

PD202164R.eps



3. Fixing system and cable trays

■ The fixing system ensures that Canalis KBA is well secured, whatever the type of building structure.
There are also fixings to secure the luminaires to Canalis KBA.
■ A metal duct is available for running other circuits such as emergency lighting, low-current circuits, etc.

PD202165.eps

4. Tap-off units

■ The 10 and 16 A tap-off units pre-wired or not, offer phase selection or fixed polarities, and can be used on KDP, KBA and KBB ranges.

PD202439.eps

Canalis KBA

For lighting and power socket distribution 25 and 40 A

No toxic emission in case of fire

All components in the KBA range are **halogen free**.
In case of fire, Canalis KBA does not release smoke or toxic gases.

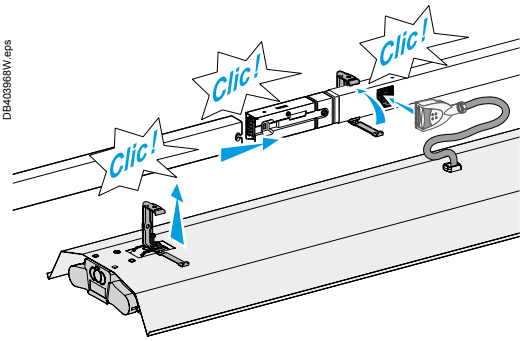
DD202141_r.eps

PD202169RW.eps

Fast and easy mounting

Canalis KBA components can be assembled in just a few clicks.

DB403968W.eps



A high degree of protection

■ **IP55** guarantees trunking protection against splashes and dust.
■ Canalis KBA complies with **sprinkler tests**, guaranteering operation under vertically and horizontally sprayed water for 50 minutes.

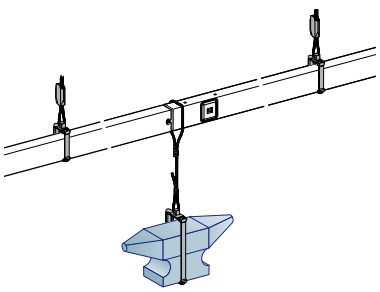
The high degree of protection for Canalis KBA means it can be installed in all types of buildings.

DD202142_r.eps

Very rigid

Canalis KBA trunking forms a rigid beam, even at the junction between two lengths.

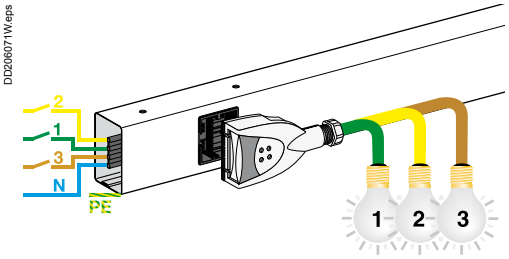
DD206070W.eps



Three levels of illumination

By using three-phase trunking, it is possible to create up to three levels of illumination.

DD206071W.eps



IP55
Ue = 230...400 V
RAL 9003 white

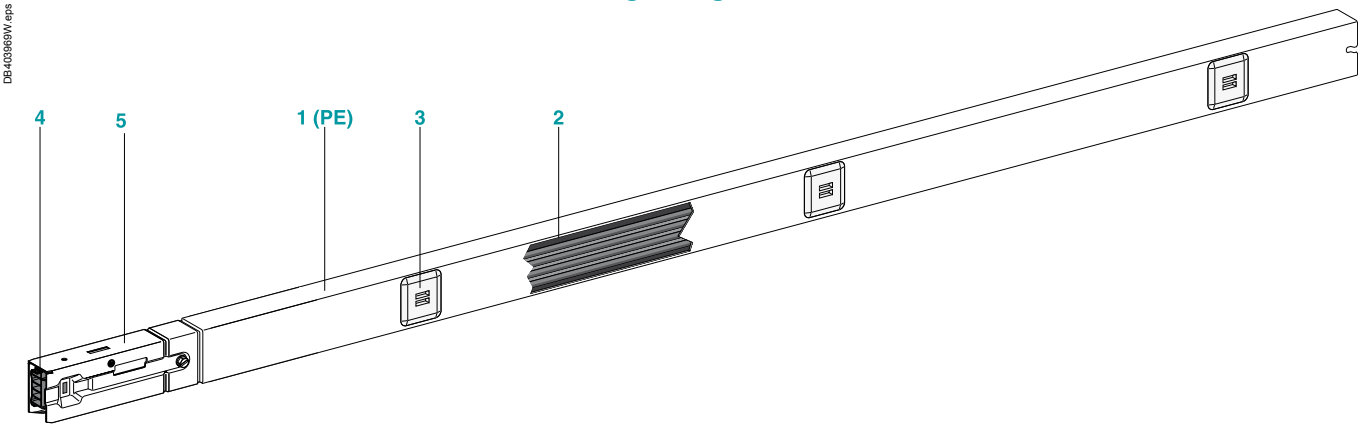
Canalis KBA, 25 and 40 A
Busbar trunking for lighting and power socket distribution

Run components

Carry current, support and supply the luminaires.

Straight lengths

DB403969W.eps



Straight lengths constitute the basic structure of the line and are made up of:
1 an all-in-one carrier casing, crimp closed, forming a rigid beam made of sheet steel, in RAL 9003 white lacquered sheet steel, hot galvanised on both sides. This casing also acts as the protective earth conductor (PE),
2 a ribbon cable with two or four copper conductors,
3 one, two, three or five tap-off outlets,
4 an electrical jointing unit ensuring automatic and simultaneous connection of all live conductors,
5 a mechanical joining device made of galvanised sheet steel that makes the connection of two lengths rigid and resistant to bending.

The degree of protection is IP55 (without accessories).

The busbar trunking is non-flame-propagating as per the recommendations of standard IEC 60332-3. All the insulating and plastic materials are **halogen-free** and have enhanced fire-withstand capabilities (incandescent wire test as per standard IEC 60695-2).
- 960 °C for components in contact with live parts.
- 650 °C for other components.

Feed units and end covers

Supply a Canalis KBA line.
They clip on (jointing unit) to the end of the line.

The end cover for the opposite end of the line is supplied with each feed unit.

1 Feed unit, 1 circuit (25 and 40 A ratings).
2 Line outlet box (for rating 40 A only).

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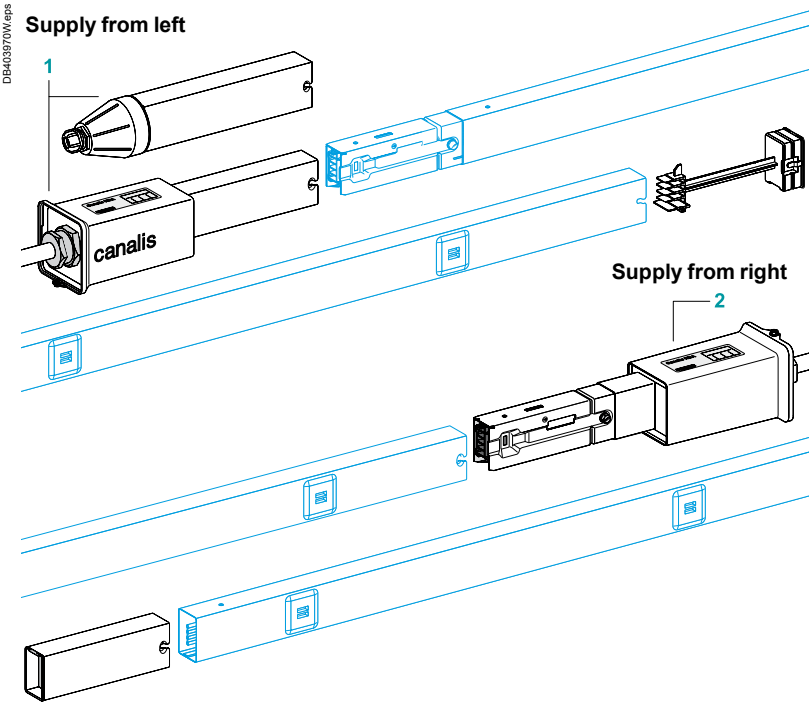

Flexible lengths

Flexible length
For changes in direction or levels and detours around obstacles.
It is mounted in the same way as a straight length.

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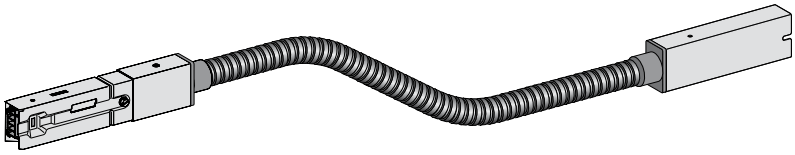

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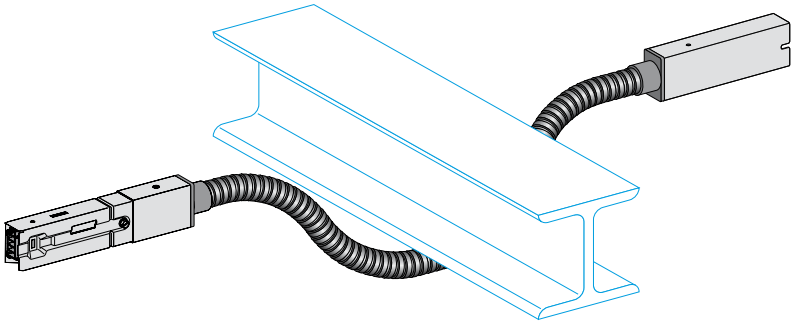


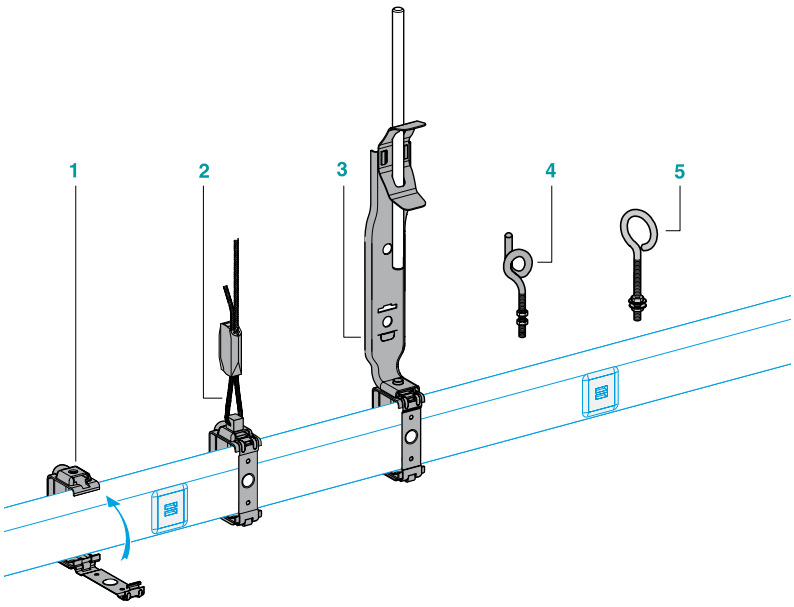
Fixing systems

Busbar trunking

For attachment of the busbar trunking to the structure of the building, either directly or via a threaded rod, chain or steel cable (the latter two with a pigtail hook or a closed ring).
■ Designed to relieve the installer of the weight of the busbar trunking once placed in a bracket.
■ Automatic locking of moving part on closing (unlocking requires a tool).
■ The maximum recommended fixing distance is: 3 metres.

1 **Universal fixing bracket bracket**
For suspension on a threaded rod, diameter 6 mm. For horizontal mounting on a beam, pendant, wall, etc.
2 **Cable suspension system**
Cuts mounting time of the fixing system to one-third of that required for threaded rods.
Enables height adjustment of the trunking.
3 **Adjustable, threaded-rod suspension system**
For suspension on a threaded rod, diameter 6 mm. A spring system locks the threaded rod in position for fast adjustment of the trunking.
4 **Pigtail hook**
For suspension by a chain.
5 **Closed ring**
For suspension by a steel cable.

DB403973.eps



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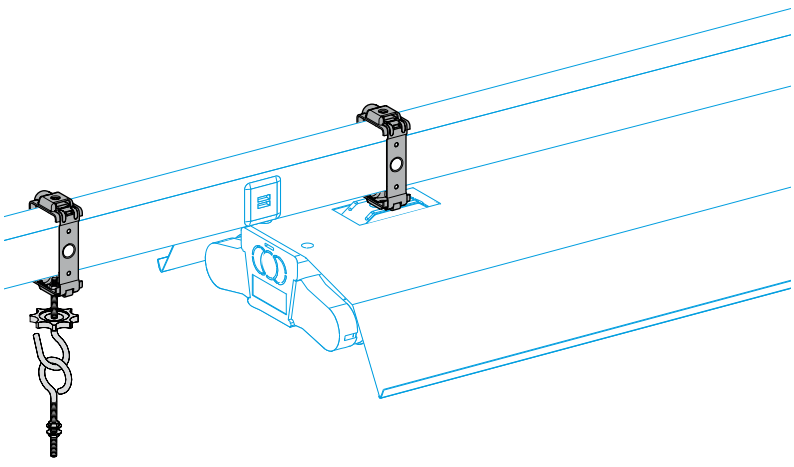


Luminaires

Attached to the luminaires before mounting, these fixings ensure fast and direct fixing to Canalis KBA.
■ Same catalogue numbers as the busbar fixings.
■ Automatic locking of moving part on closing.
■ Use with an open hook and/or closed ring enables suspension.

IP55
Ue = 230...400 V
RAL 9003 white

Canalis KBA, 25 and 40 A
Busbar trunking for lighting and power socket distribution

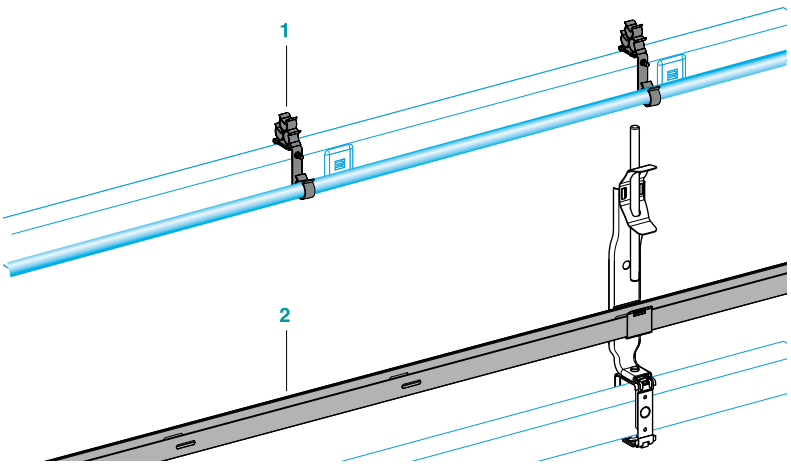
Cable support

For running adjacent circuits such as emergency lighting, low-current circuits, etc.

1 Cable brackets
Clips to trunking for fast mounting. It is possible to run three cables (diameter 5 to 16 mm) and two IRL tubes.

2 Cable duct
The cable duct fits on support KBB40ZFG1, which in turn fits onto a threaded rod suspension system KBA40ZFPU. An intermediate support is placed between the duct and the trunking if the distance between the suspension points exceeds 2 metres. Each duct is equipped with a connection device.

DB403974.eps

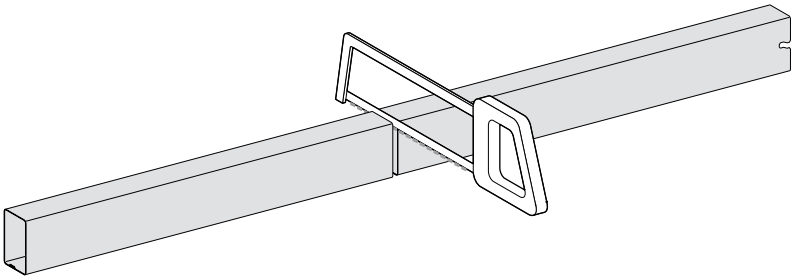


Options

Empty length (no electric circuit)

Used to adjust line length to building dimensions (e.g. to reach a fixing point).
Two metres long, can be cut on site.

DB403975.eps



Optional remote-control circuit (code T)

Factory mounted, an SELV remote-control circuit (U 50 V) is available for the loads supplied by the KBA trunking. The main applications are:
- remote control (rest mode or testing) of self-contained emergency lighting units,
- dimmer control,
- transmission on a building automation bus (please contact us).

The system is built in compliance with IEC 61439-6 and the LV and EMC directives.

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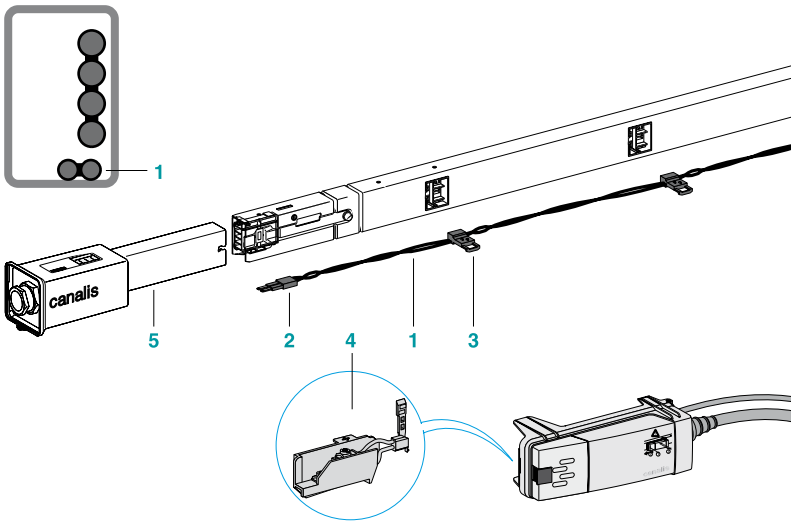


Electrical characteristics of the remote-control circuit

Composition	Twisted pair, unshielded (10 twists/m)	
Cross-section and type of conductor	mm^2	2 x 0.75 copper
Rated insulation voltage Ui (between power circuit and bus)	V	500
Rated operational voltage Ue (max. U between bus + and - poles)	V	50
Maximum operational current Ie	A	2
Linear resistance	mΩ/m	52
Linear capacitance	pF/m	30
DALI recommended lenght	m	150

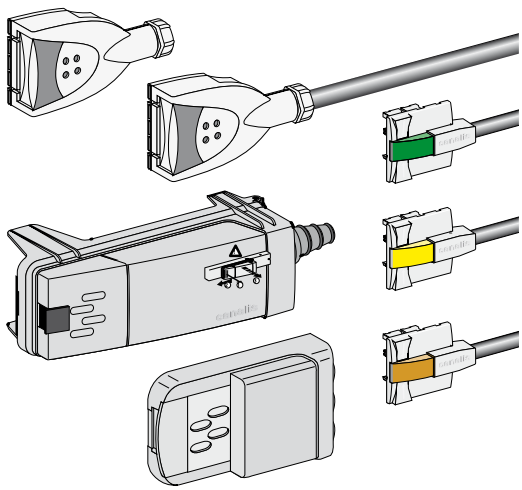
1 The remote-control circuit is factory mounted next to the main circuit in the trunking (in front for two-circuit trunking).
2 Electrical jointing unit equipped with additional bus contacts. Installation of components fitted with option T requires no additional assembly operations.
3 Each tap-off outlet is equipped with dual output contacts to tap-off the remote-control circuit to the receiver.
4 Connection of the remote-control receiver using a KBC-16DCB or DCF tap-off unit equipped with a KBC16ZT1 contact-block accessory.
5 Feed units equipped with an additional bus terminal block.

Possibility to use KBA/KBB with T option to transport and distribute DALI protocol for lighting management.
DALI stands for Digital Addressable Lighting Interface and is a protocol set out in the technical standard IEC 62386.

www.dali-ag.org

Canalis KDP, KBA and KBB
Busbar trunking for lighting and power socket distribution
Tap-off units

DD205807.eps

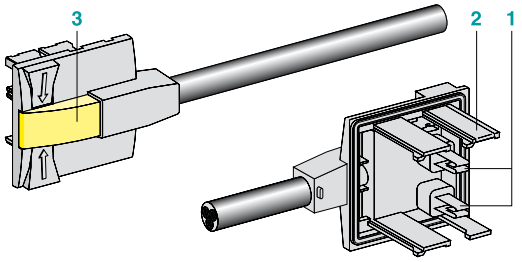


Tap-off units (general)

For instantaneous connection of luminaires to KDP busbar trunking:
- they can be handled while energised and under live conditions
- the contacts for live conductors are of the clamp type
- PE connection occurs before that of the phases and neutral
- phase-selection system (clip-in contact studs) for balancing of 3-phase distribution systems
- selection is visible via a transparent window
- a coloured lock holds them in the tap-off outlet
- all the insulating and plastic materials have a high fire-retardant capacity:
  - incandescent-wire test in compliance with IEC 60695-2:
    - 960 °C for components in contact with live parts,
    - 650 °C for other components.

All the insulators and plastic components are **halogen free**.

DB403976.eps



Pre-wired 10 A tap-off unit with fixed polarity

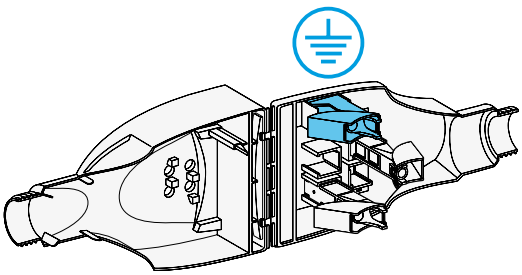
Pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 0.80 m long, pre-stripped on luminaire end:
- 10 A rating
- fixed L + N + PE polarity
- the various models make it possible to balance 3-phase distribution systems.

The colour of the lock and the casing enable remote identification of the polarity.
1 Live-conductor contacts.
2 Protective-conductor contact.
3 Lock.

Two-pole 10 A tap-off unit with phase selection

- The two contact studs are movable and can be used to set up both L + N + PE and 2L + PE distribution.
- Supplied complete with a cable gland.

DD210083.eps



10 A KBC-10DCB20 tap-off unit, 2-pole + PE, to be wired

- To be wired for connection of luminaires using a cable of specific type, size or length.
- Fast connection for 3 x 0.75 to 1.5 mm² cable. If prefabricated leads are used, the line must have 16 A protection (see possibilities of dispensing with protection in the simplified design guide for lighting distribution, in the section on protection against overloads).

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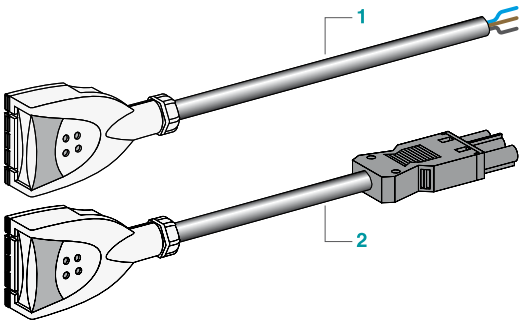


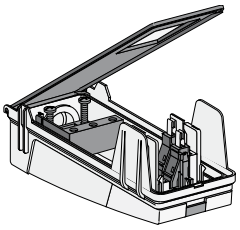
10 A KBC tap-off unit, 2-pole + PE, pre-wired

Two pre-wired versions are available:
1 pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 1 m long, pre-stripped on luminaire end,
2 for KDP, pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 1 m long and equipped with a female GST18i3 connector on the luminaire end (see prefabricated leads). In this case, the lead is IP40.

If prefabricated leads are used, the line must have 16 A protection (see possibilities of dispensing with protection in the simplified design guide for lighting distribution, in the section on protection against overloads).

Canalis KDP, KBA and KBB
Busbar trunking for lighting and power socket distribution
Tap-off units

DB403931.eps



16 A KBC 16DCB/DCF21 tap-off unit with phase selection

For connection of luminaires using a cable of specific type, size and length.

- Two-pole: L + N + PE (1 mobile stud, fixed neutral) or 2L + PE (2 mobile studs).
- Installation is facilitated by the side guides.
- Supplied with a cable bushing. Terminal connections for 0.75 to 1.5 mm² cable.

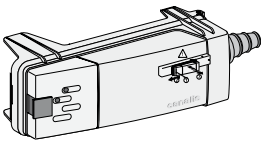
KBC16DCB tap-off unit with terminals, direct connection (no protection)

For direct connection (no protection) of luminaires using a specific cable.
Can be equipped with the accessory to tap-off the remote-control circuit to the luminaires.

KBC16DCF tap-off unit, with fuses

For protection of each luminaire.
Fuse carrier on the phase (1 or 2 carriers depending on the model).
For cylindrical fuse NF 8.5 x 31.5 (not supplied), 16 A gG maximum, breaking capacity 20 kA.

DB403932.eps



16 A L + N + PE tap-off unit with preselected polarity KBC16DCB/DCF●6

For tap-off and individual protection of luminaires assigned to two independent circuits of 4-conductor KBA trunking.
Identical in design to the tap-off units on the opposite page, but with factory-set polarity.

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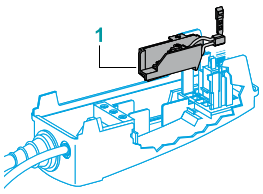
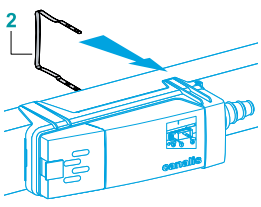
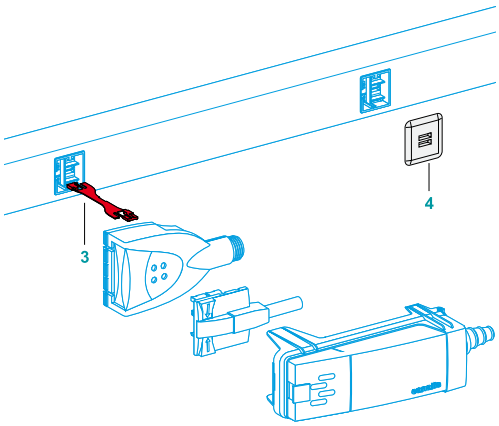


DD205812_r.eps



DD206073_r.eps



Accessories

Specific to KBC16DCF tap-off units

1 Additional remote-control contact block

- For tap-off of the remote-control circuit to the luminaire (KBA and KBB lines with T option).
- Clips onto KBC16DCB or CF (except KBC16DCF22) tap-off units.
- Terminals for data cable, max. size 2 x 0.75 mm².
- Supplied with cable bushing.

2 Rear support bracket

Additional fixing of KBC16 tap-off units using the rear support bracket may be necessary, notably if there is a risk of accidental pulling on the cable or if the cable is very heavy (great length).

Other accessories

3 Interlocking device

For all 10 A and 16 A tap-off units.
A set of three interlocking devices in different colours can be used to mechanically lock out tap-off units when two or three different distribution networks are present (load, voltage, frequency, etc.).

- An interlocking device is made up of a handle and an interlocking device on each end. It can be used for a tap-off outlet and the corresponding tap-off unit.
- Labels can be placed on the tap-off units and the trunking for remote identification.

4 Outlet blanking plate

Spare part intended to restore IP55 on a tap-off outlet following removal of the tap-off unit (if original blanking plate is lost).

Canalis KBA, 25 and 40 A

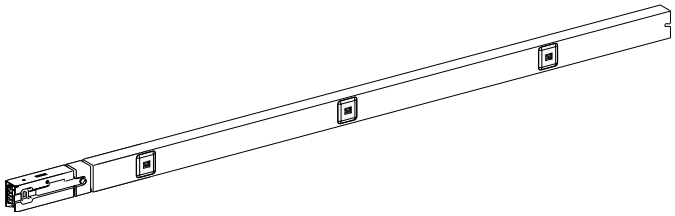
Busbar trunking for lighting and power socket distribution

Optional remote-control circuit (code T)

Straight lenghts

Catalogue numbers

DB403878W.eps



L + N + PE, straight length standard

DD210095.eps

Polarité de la canalisation

Length (m)	3				2	
Number of tap-offs	0	2	3	5	2	3
Order in multiples of	6	6	6	6	6	6
Option T (1)	-	-	■	■	-	■
Weight (kg)	2.400	2.400	2.400	2.400	1.900	1.700
25 A rating Cat. no.	**KBA25ED2300W**	**KBA25ED2302W**	**KBA25ED2303W**	**KBA25ED2305W**	**KBA25ED4202W**	**KBA40ED2203W**
Weight (kg)	2.700	-	2.700	2.700	-	1.700
40 A rating Cat. no.	**KBA40ED2300W**	-	**KBA40ED2303W**	**KBA40ED2305W**	-	**KBA40ED2203W**

3L + N + PE, straight length standard

DD210096.eps

Polarité de la canalisation

Length (m)	3				2	
Number of tap-offs	0	2	3	5	2	3
Order in multiples of	6	6	6	6	6	6
Option T (1)	-	-	■	■	-	■
Weight (kg)	2.600	2.400	2.600	2.600	1.900	1.900
25 A rating Cat. no.	**KBA25ED4300W**	**KBA25ED4302W**	**KBA25ED4303W**	**KBA25ED4305W**	**KBA25ED4202W**	**KBA40ED4203W**
Weight (kg)	3.100	-	3.100	3.100	-	1.900
40 A rating Cat. no.	**KBA40ED4300W**	-	**KBA40ED4303W**	**KBA40ED4305W**	-	**KBA40ED4203W**

Empty length

Length (m)	2
Number of tap-offs	0
Order in multiples of	6
Weight (kg)	1.600
25 A rating Cat. no.	**KBA40EDA20W**
Weight (kg)	1.600
40 A rating Cat. no.	**KBA40EDA20W**

(1) ■ *Option* ***T*** *may be combined. Add* ***T*** *at the catalogue number. Ex:* ***KBA25ED2303TW****.*

Dimensions

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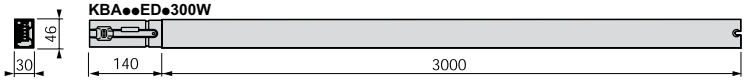
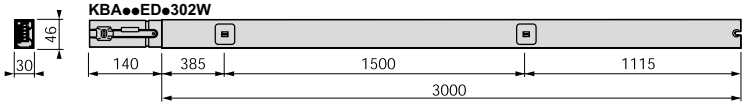
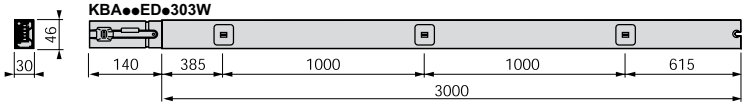
KBA••ED•300W



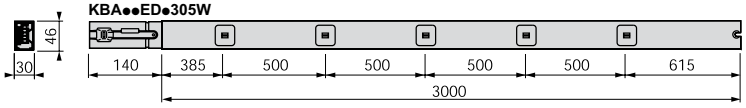
KBA••ED•302W



KBA••ED•303W



KBA••ED•305W



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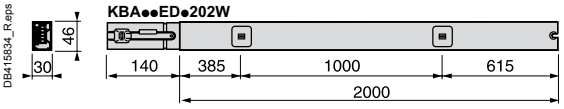
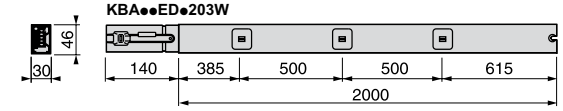
KBA••ED•202W



KBA••ED•203W



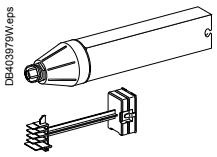
Canalis KBA, 25 and 40 A

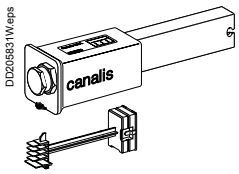
Busbar trunking for lighting and power socket distribution

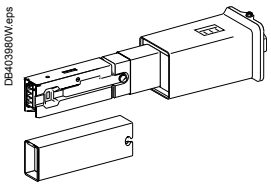
Optional remote-control circuit (code T)

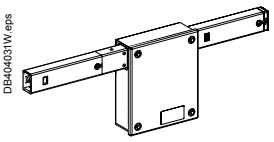
Feed units (supplied with end cover)

Catalogue numbers







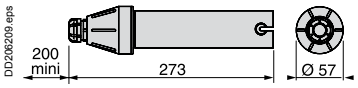


Designation		Feed unit			
Rating (A)		25	25 or 40	25 or 40	25 or 40
Mounting		Left	Left	Central	Right
Cable connection	**Terminals (mm²)**	4	10	10	10
	Cable gland max. Ø (mm)	PG 16, Ø 15	PG 21, Ø 19	PG 21, Ø 19	PG 21, Ø 19
Option (1) T		-	■	■	■
Weight (kg)		0.200	0.400	0.500	0.500
Cat. no.		**KBA25ABG4W**	**KBA40ABG4W**	**KBA40ABT4W**	**KBA40ABD4W**

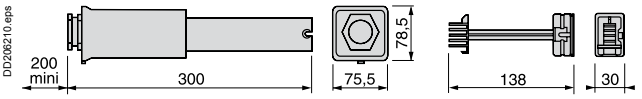
*(1) ■ Option **T** may be combined. Add **T** at the catalogue number. Ex: **KBA40ABG4TW**.*

The end cover KBA is a spare part of the after-sales service ref **KBA40AF**

Dimensions



KBA25ABG4W



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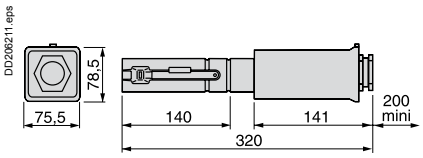
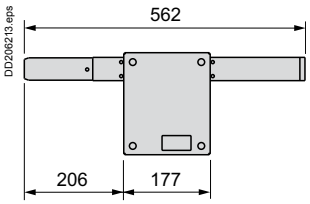


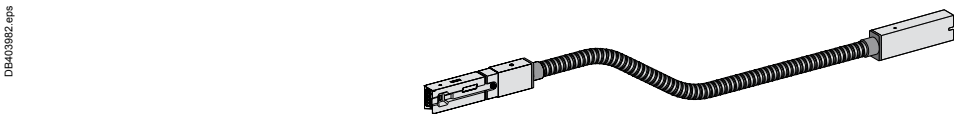
KBA40ABD4W



KBA40ABT4W

Flexible lengths

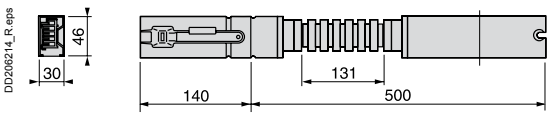
Catalogue numbers



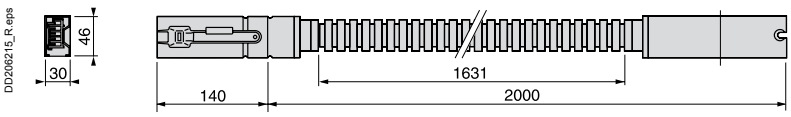
Designation	Flexible length	
Mounting	For elbows, changing levels, detours around obstacles, etc.	
Length (m)	0.5	2
Option (1) **T**	■	■
Weight (kg)	0.050	0.105
Cat. no.	**KBA40DF405W**	**KBA40DF420W**

*(1) ■ Option **T** may be combined. Add **T** at the catalogue number. Ex: **KBA 40DF405TW**.*

Dimensions



KBA40DF405W



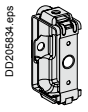
KBA40DF420W

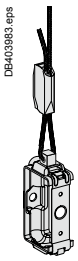
Canalis KBA, 25 and 40 A
Busbar trunking for lighting and power socket distribution

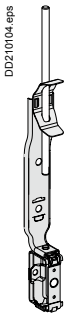
Fixing systems

Catalogue numbers

Busbar trunking fixings

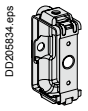






Designation	Universal fixing bracket (1)	Cable suspension system (1)			Spring fixing bracket (1)	Pigtail hook	Raiser
Mounting	Suspended on threaded rod or lateral (except wall)	Universal fixing bracket with steel cable	Universal fixing bracket for steel cable	Cable alone, 3 m long	Adjustable suspension for threaded rod, M6	Suspended by small chain	For mounting on wall or false floor
Max. load (kg)	60	60	60	60	50	60	60
Order in multiples of	10	10	10	10	10	10	10
Weight (kg)	0.050	0.105	0.105	0.070	0.100	0.020	0.040
Cat. no.	**KBA40ZFUW**	**KBA40ZFSUW**	**KBA40ZFSLW**	**KBB40ZFS23**	**KBA40ZFPU**	**KBB40ZFC**	**KBB40ZFMP**

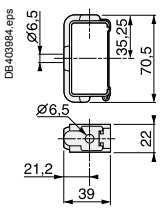
Luminaire fixings



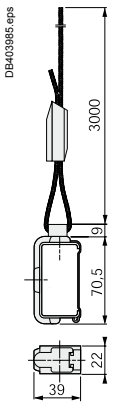
Designation	Universal fixing bracket	Open hook	Ring
Mounting	For direct suspension under trunking	To suspend the luminaire	Mounted on the luminaire
Max. load (kg)	60	45	45
Order in multiples of	10	10	10
Weight (kg)	0.050	0.050	0.050
Cat. no.	**KBA40ZFUW**	**KBB40ZFC5**	**KBB40ZFC6**

(1) *Maximun recommended distance between fixings: 3 meters.*

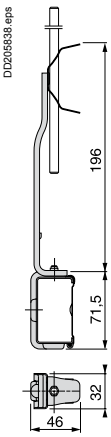
Dimensions



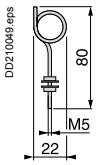
KBA40ZFUW



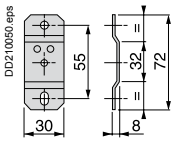
KBA40ZFSUW



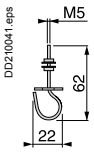
KBA40ZFPU



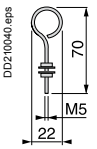
KBB40ZFC



KBB40ZFMP



KBB40ZFC5



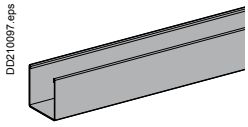
KBB40ZFC6

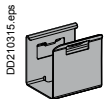
Canalis KBA, 25 and 40 A
Busbar trunking for lighting and power socket distribution

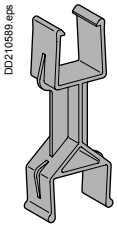
Accessories

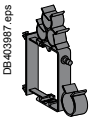
Catalogue numbers

Cable duct, support





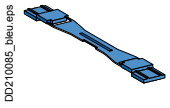


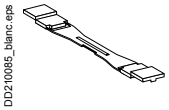


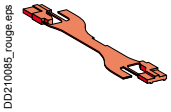
Designation	Cable duct			Cable bracket
Function	Width 25 mm, length 3 m	Cable duct support to be mounted on a spring fixing bracket (1)	Cable duct support + intermediate support (2)	For adjacent circuits
Order in multiples of	6	10	10	20
Weight (kg)	1.115	0.100	0.200	0.005
Cat. no.	**KFB25CD253**	**KBB40ZFG1**	**KBA40ZFG2**	**KBB40ZFGU**

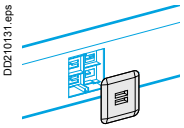
(1) *Maximun recommended distance between fixings: 2 meters.*
(2) *Maximun recommended distance between fixings: 3 meters.*

Other accessories



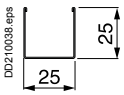




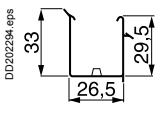


Designation	Outlet/tap-off unit interlocking device (2 parts)			Blanking plate	Cutting pliers
Function	Identification and mechanical interlocking between 1 to 3 different circuits			Restore IP55 on tap-off outlet if original blanking plate is lost	To cut steel cable used for cable suspension system
Colour	Bleu	Blanc	Rouge	-	-
Order in multiples of	20	20	20	10	1
Weight (kg)	0.002	0.002	0.002	0.005	0.300
Cat. no.	**KBC16ZL10**	**KBC16ZL20**	**KBC16ZL30**	**KBC16ZB1**	**KBB40ZFS**

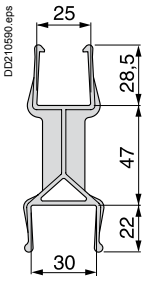
Dimensions



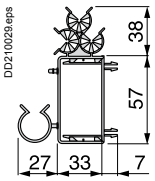
KFB25CD253



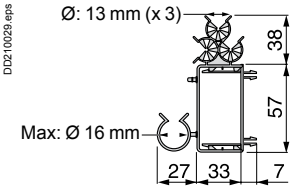
KBB40ZFG1



KBA40ZFG2



KBB40ZFGU



Canalis KBA and KBB tap-off units, 25 and 40 A

For lighting and power socket distribution

10 A tap-off unit, direct connection

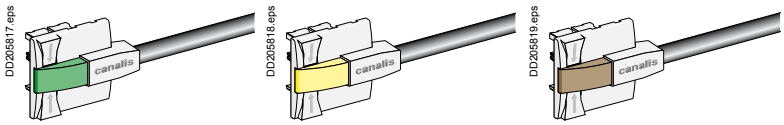
Catalogue numbers

L + N + PE, with fixed polarity, pre-wired SO5Z1Z1-F 3 x 1.5 mm², 0.8 m long

Type of busbar trunking

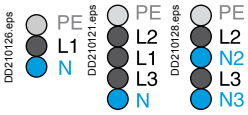
Single-circuit switching

Balancing on 3 phases or 3-circuit switching



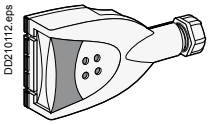
Polarity	L1 + N	L2 + N	L3 + N
Colour of lock	Green	Yellow	Brown
Order in multiples of	10	10	10
Cable length (mm)	800	800	800
Weight (kg)	0.100	0.100	0.100
Cat. no.	**KBC10DCS101**	**KBC10DCS201**	**KBC10DCS301**

L + L + PE or L + N + PE, with phase selection



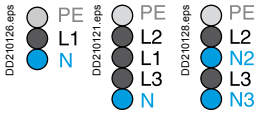
Type of busbar trunking

All types possible



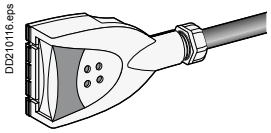
Polarity	L1 + N or L2 + N or L3 + N L1 + L2 or L1 + L3 or L2 + L3 L2 + N2 or L3 + N3
Order in multiples of	10
Weight (kg)	0.065
Cat. no.	**KBC10DCB20**

L + L + PE or L + N + PE, with phase selection, pre-wired SO5Z1Z1-F 3 x 1.5 mm², 1 m long



Type of busbar trunking

All types possible

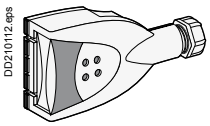


Polarity	L1 + N or L2 + N or L3 + N L1 + L2 or L1 + L3 or L2 + L3 L2 + N2 or L3 + N3	
Pre-equipped with female GST18i3 connector	No	Yes (1)
Order in multiples of	10	10
Weight (kg)	0.165	0.165
Cat. no.	**KBC10DCC211**	**KBC10DCC21Z**

3L + N + PE

Type of busbar trunking

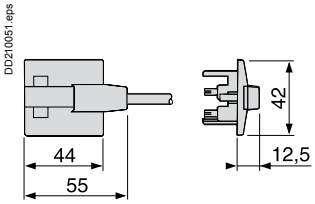
All types possible



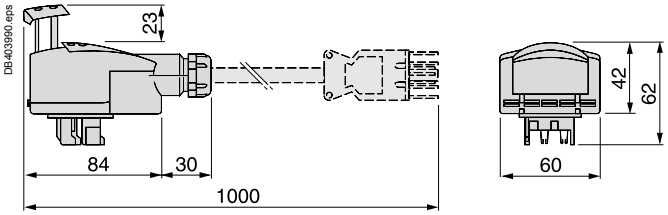
Polarity	To be defined for each application (dimmer, emergency lighting, etc.)
Order in multiples of	10
Weight (kg)	0.065
Cat. no.	**KBC10DCB40**

(1) For IP, see KBA and KBB tap-off units description page 64.

Dimensions



KBC10DCS●01



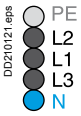
KBC10DCB20, KBC10DCC21●, KBC10DCB40

Canalis KBA and KBB tap-off units, 25 and 40 A
For lighting and power socket distribution

16 A single-phase tap-off unit, with or without fuses

Catalogue numbers

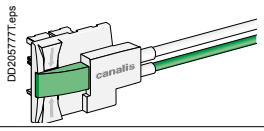
L + N + PE + BUS (D+/D-)

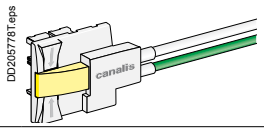


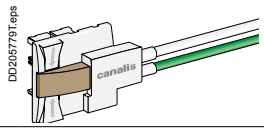
Type of busbar trunking

Single-circuit switching

Balancing on 3 phases or 3-circuit switching

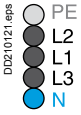






Polarity	L + N + PE (D+/D-)	L + N + PE (D+/D-)	L + N + PE (D+/D-)
Colour of lock	Green	Yellow	Brown
Order in multiples of	10	10	10
Cable length (mm)	1000	1000	1000
Cat. no.	**KBC16DCS101T**	**KBC16DCS201T**	**KBC16DCS301T**

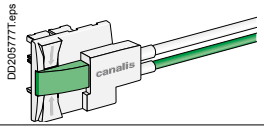
L + N + PE + BUS (D+/D-)

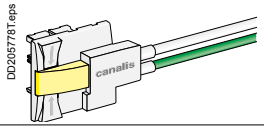


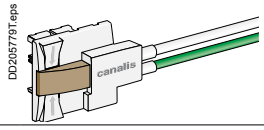
Type of busbar trunking

Single-circuit switching

Balancing on 3 phases or 3-circuit switching



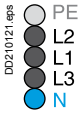




Polarity	L + N + PE (D+/D-)	L + N + PE (D+/D-)	L + N + PE (D+/D-)
Colour of lock	Green	Yellow	Brown
Order in multiples of	5	5	5
Cable length (mm)	2000	2000	2000
Cat. no.	**KBC16DCS102T**	**KBC16DCS202T**	**KBC16DCS302T**

Catalogue numbers

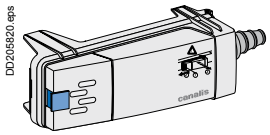
L + N + PE, with phase selection

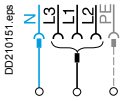
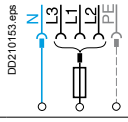


Type of busbar trunking

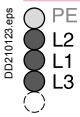
Single-circuit switching

Balancing on 3 phases or 3-circuit switching



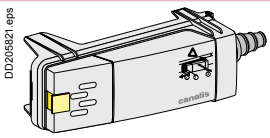
Polarity	L1 + N or L2 + N or L3 + N	
Scheme		
Protection	None	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)
Colour of lock	Blue	Blue
Order in multiples of	10	10
Weight (kg)	0.090	0.090
Cat. no.	**KBC16DCB21**	**KBC16DCF21**

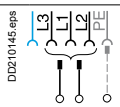
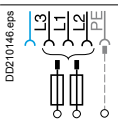
L + L + PE, with phase selection



Type of busbar trunking

Balancing on 3 phases without neutral



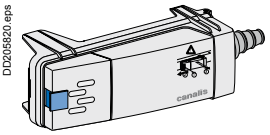
Polarity	L1 + L2 or L1 + L3 or L2 + L3	
Scheme		
Protection	None	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)
Colour of lock	Yellow	Yellow
Order in multiples of	10	10
Weight (kg)	0.090	0.090
Cat. no.	**KBC16DCB22**	**KBC16DCF22**

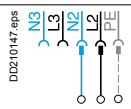
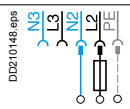
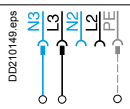
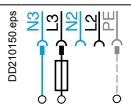
16 A single-phase tap-off unit, with or without fuses

Catalogue numbers

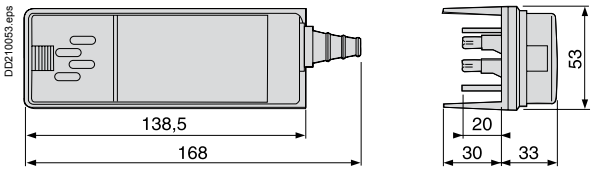
L + N + PE, with preselected polarity

Type of busbar trunking
2 single-phase circuits



Polarity	L2 + N2		L3 + N3	
Scheme				
Protection	None	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)	None	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)
Colour of lock	Blue	Blue	Blue	Blue
Order in multiples of	10	10	10	10
Weight (kg)	0.090	0.090	0.090	0.090
Cat. no.	**KBC16DCB226**	**KBC16DCF226**	**KBC16DCB216**	**KBC16DCF216**

Dimensions



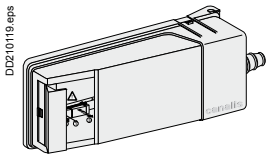
KBC16DC2●●, KBC16DC●2●6

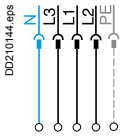
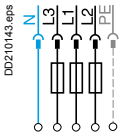
16 A three-phase tap-off unit, with or without fuses

Catalogue numbers

3L + N + PE

Type of busbar trunking
All types possible



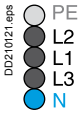
Polarity	3L + N	
Scheme		
Protection	None	Cylindrical fuse NF 8.5 x 31.5 12 A gG maximum (not supplied)
Weight (kg)	0.090	0.090
Cat. no.	**KBC16DCB40**	**KBC16DCF40**

Canalis KBA and KBB tap-off units, 25 and 40 A
For lighting and power socket distribution

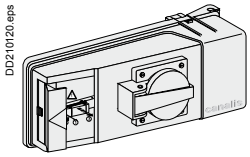
16 A three-phase tap-off unit, with or without fuses

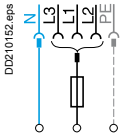
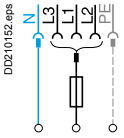
Catalogue numbers

3L + N + PE, with power socket

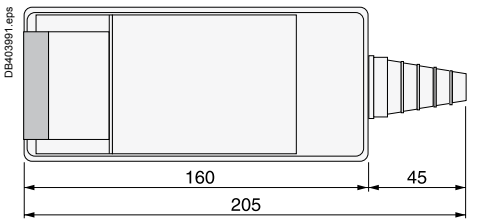


Type of busbar trunking

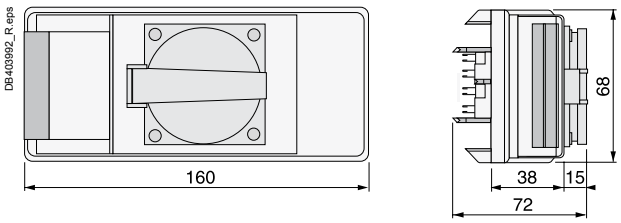


Polarity	3L + N	
Scheme		
Type of power socket	NF 2P + T 10/16 A, 250 V	VDE 2P + T 10/16 A, 250 V
Protection	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)
Weight (kg)	0.090	0.090
Cat. no.	**KBC16DCP1**	**KBC16DCP2**

Dimensions



KBC 16DC●40

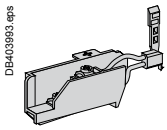


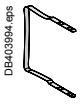
KBC16DCP●

For KDP description, see page 66. For KDP catalogue numbers and dimensions, see page 69.

Accessories for KBA and KBB tap-off units

Catalogue numbers





Designation	Bus connection device	Rear support bracket
Function	For 16 A single-phase or three-phase tap-off units to tap off the remote control circuit of the trunking to the remote receiver	For securing 16 A single-phase tap-off units to the trunking
Order in multiples of	10	10
Weight (kg)	0.010	0.020
Cat. no.	**KBC16ZT1**	**KBC16ZC1**

IP55
Ue = 230...400 V
RAL 9003 white

Canalis KBA, 25 and 40 A

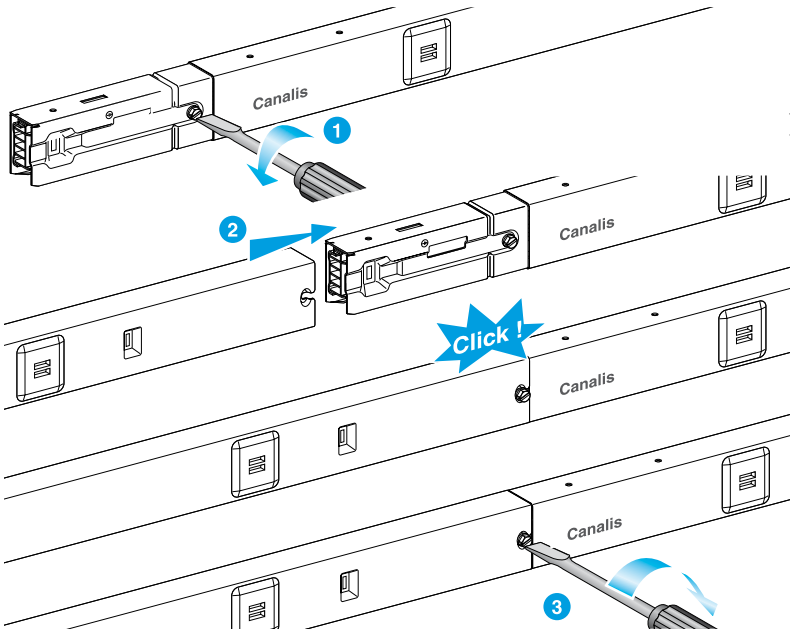
Busbar trunking for lighting and power socket distribution

Assembly of trunking components

Check out the video showing the installation **of Canalis in small and medium buildings**

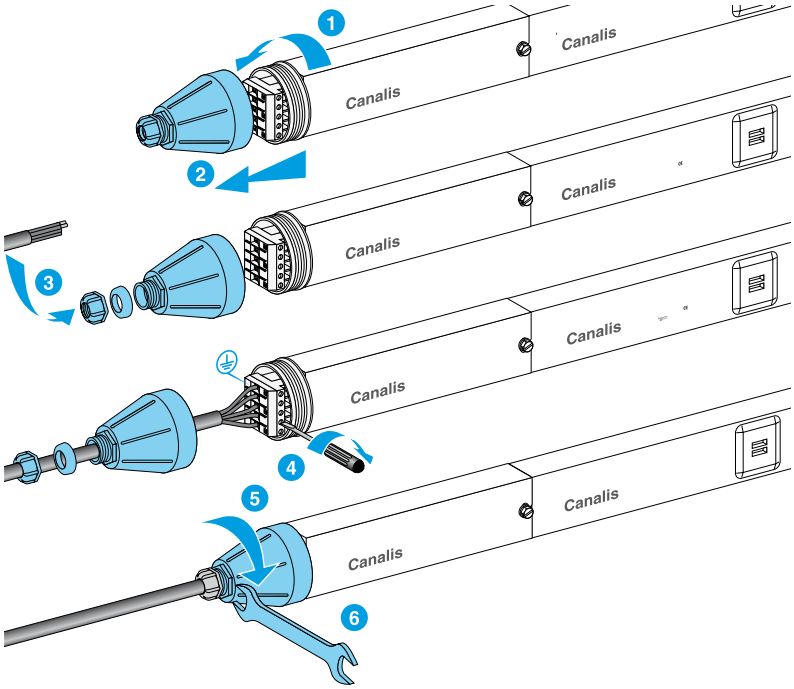
Assemble the straight lengths

DD205689W.eps



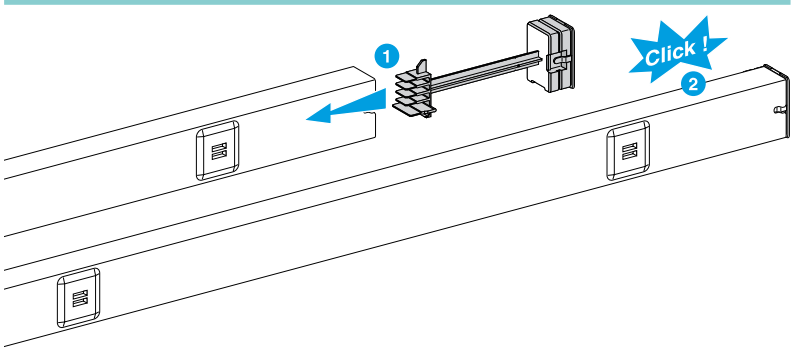
Connect the feed unit

DD205690W.eps



Assemble the end cover

DD205691W.eps



IP55
Ue = 230...400 V
RAL 9003 white

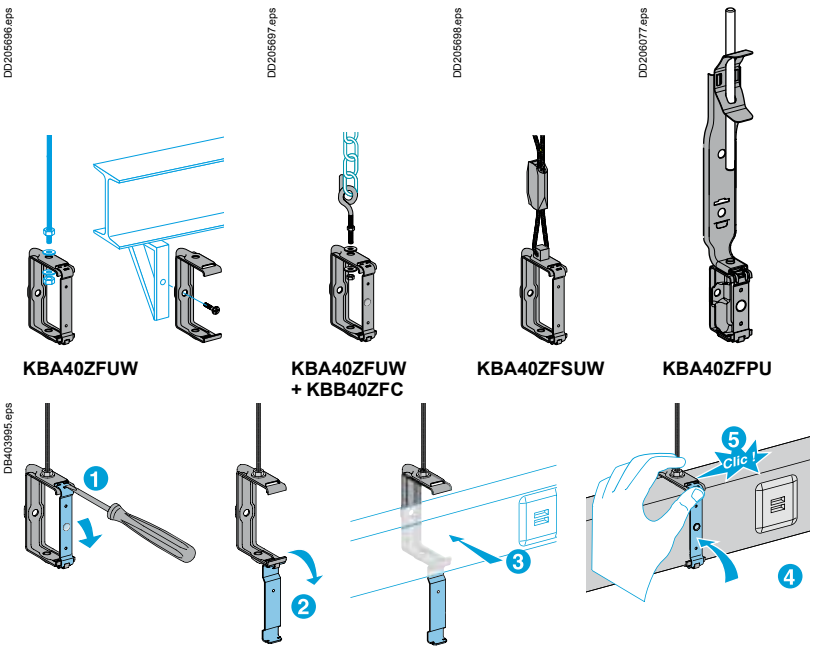
Canalis KBA, 25 and 40 A

Busbar trunking for lighting and power socket distribution

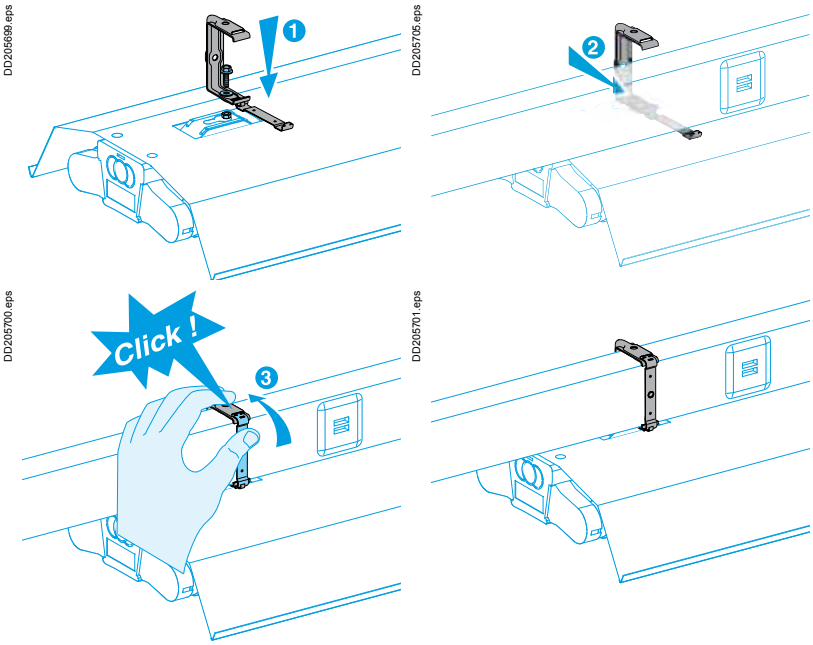
Assembly of trunking components

Check out the video showing the installation **of Canalis in small and medium buildings**

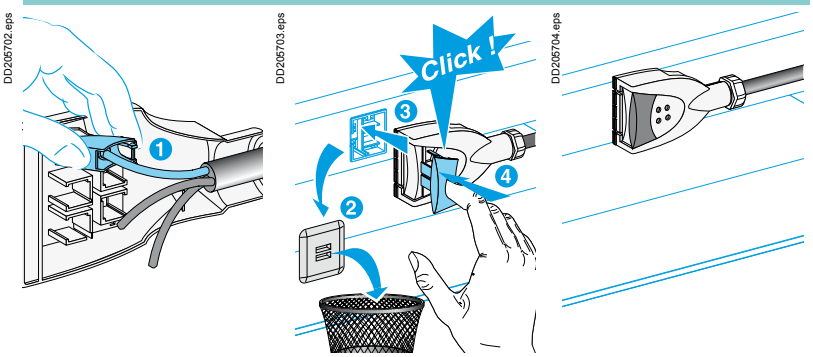
Fix Canalis KBA in the brackets



Mount the luminaires on the trunking



Connect the luminaires



Canalis KBB

Presentation

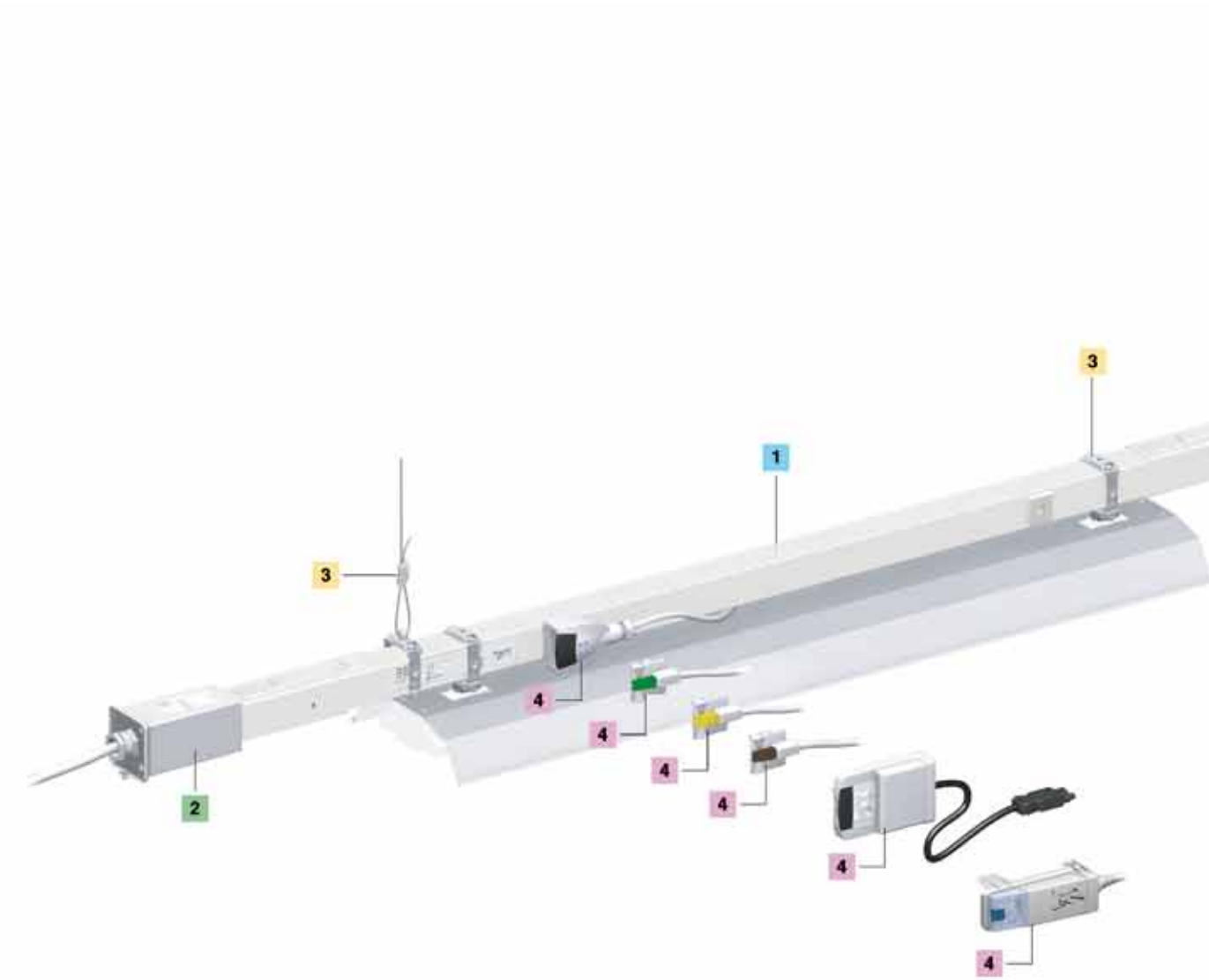
Description

Catalogue numbers - Dimensions

Canalis KBB

For lighting and power socket distribution 25 and 40 A

PD202173R.eps



1. Run components

- Rating: 25 or 40 A.
- 2 or 4 live conductors.
- Length:
  - basic lengths: 2 and 3 metres.

PD202170R.eps

2. Feed units and end covers

- The feed units delivered with end covers, receive the cables supplying one end of Canalis KBB trunking.

PD202171R.eps

3. Fixing system and cable trays

■ The fixing system ensures that Canalis KBB is well secured, whatever the type of building structure.
There are also fixings to secure the luminaires to Canalis KBB.
■ A metal duct is available for running other circuits such as emergency lighting, low-current circuits, etc.

PD202172.eps

4. Tap-off units

■ The 10 and 16 A tap-off units, pre-wired or not, single-phase with fixed polarity or multi-phase with phase selection, can be used on the entire lighting range.

PD202439.eps

Canalis KBB

For lighting and power socket distribution 25 and 40 A

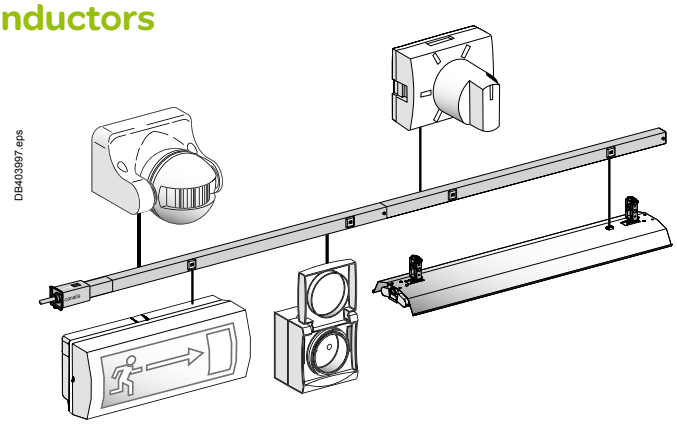
No toxic emission in case of fire

All components in the KBB range are **halogen free**. In case of fire, Canalis KBB does not release smoke or toxic gases.

PD202174RW.eps

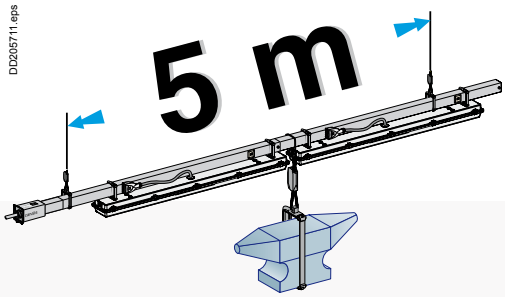
A large number of conductors

Canalis KBB offers up to 11 conductors for all applications:
- emergency lighting,
- dimmers,
- detection of presence,
- lighting and power-socket circuits, etc.



Very rigid

Canalis KBB offers fixing distances of up to 5 metres, including the jointing units.

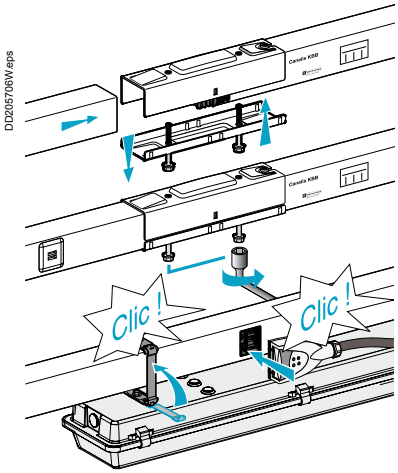


A high degree of protection

■ **IP55** guarantees trunking protection against splashes and dust.
■ Canalis KBB complies with **sprinkler tests**, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.
The high degree of protection for Canalis KBB means it can be installed in all types of buildings.

Unmatched upgrading possibilities

It is particularly simple to add or modify a Canalis KBB installation since components can be easily mounted or dismantled.
All parts can be reused.



IP55
Ue = 230...400 V
RAL 9003 white

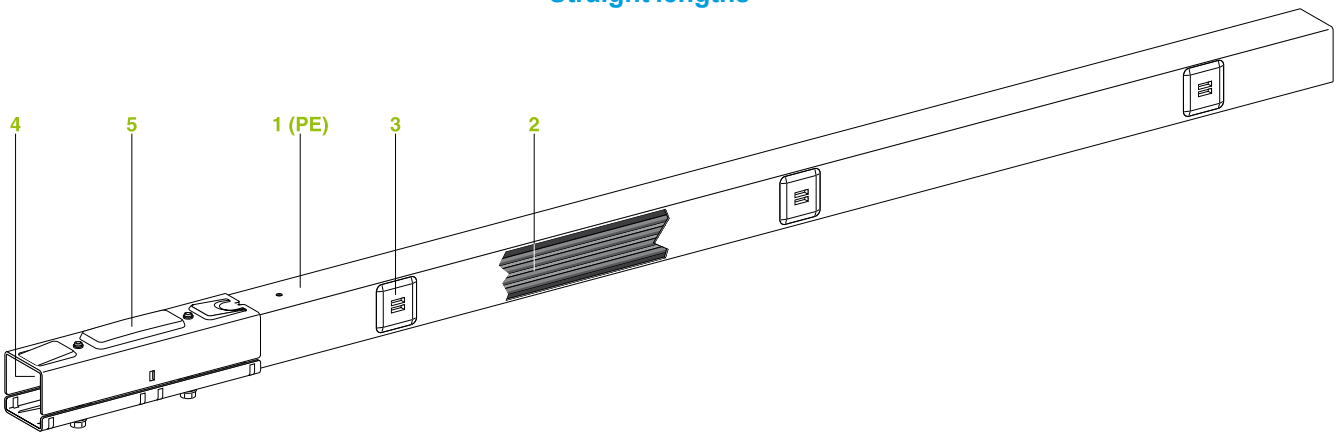
Canalis KBB
Busbar trunking for lighting and power socket distribution 25 and 40 A

Run components

Carry current, support and supply the luminaires.
Particularly strong, Canalis KBB is specially intended for installations with large fixing distances and/or heavy or numerous luminaires.

Straight lengths

DD210379W.eps

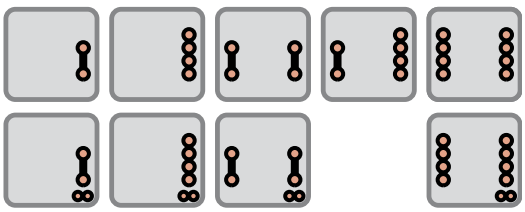


Straight lengths constitute the basic structure of the line and are made up of:
1 an all-in-one carrier casing, crimp closed, forming a rigid beam made of sheet steel, in RAL 9003 white lacquered sheet steel, hot galvanised on both sides. This casing also acts as the protective earth conductor (PE),
2 one or two ribbon cable with two or four copper conductors, making up one or two independent circuits,
3 three tap-off outlets maxi spaced every metre on the main circuit (front), two tap-off outlets maxi on the adjacent circuit (rear),
4 an electrical joint unit ensuring automatic and simultaneous connection of all live conductors,
5 a mechanical joint device in two parts, made of stamped sheet steel, that makes the connection of two lengths rigid and resistant to bending.

Multi-circuit possibilities

The many possibilities offered by KBB trunking means specialised circuits can be created, e.g. for emergency lighting, presence detection, dimming.

DD206079.eps



The degree of protection is IP55 (without accessories).

The busbar trunking is non-flame-propagating as per the recommendations of standard IEC 60332-3. All the insulating and plastic materials are **halogen-free** and have enhanced fire-withstand capabilities (incandescent wire test as per standard IEC 60695-2).
- 960 °C for components in contact with live parts.
- 650 °C for other components.

Feed units and end covers

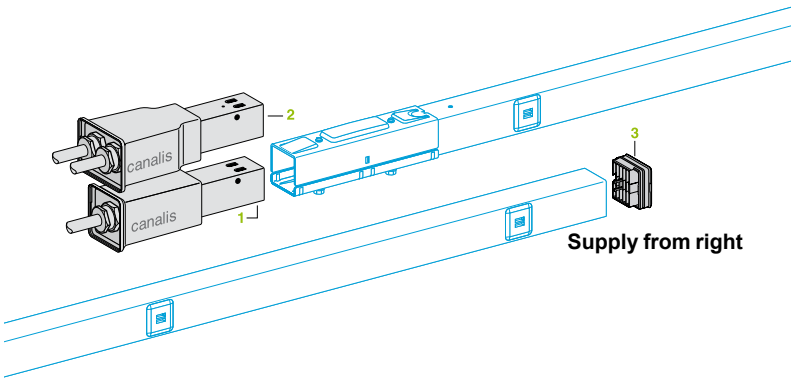
Supply a Canalis KBB line.
They clip on (jointing unit) to the end of the line.

The end cover for the opposite end of the line is supplied with each feed unit.

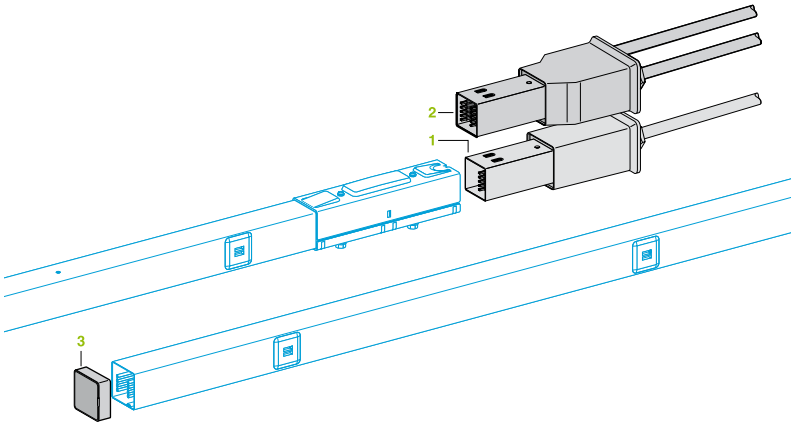
1 Feed unit, one circuit
2 Feed unit, two circuits
3 End cover.

Supply from left

DB403999.eps



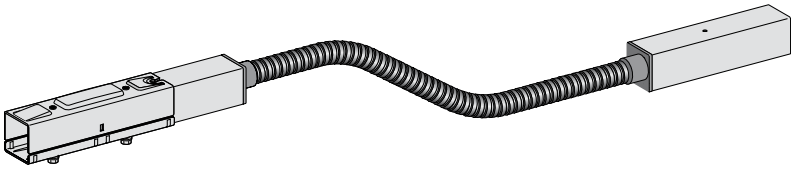
Supply from right



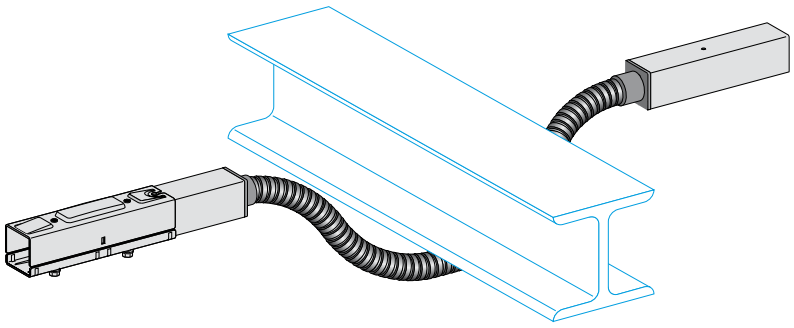
Flexible lengths

Flexible length
For changes in direction or levels and detours around obstacles.
It is mounted in the same way as a straight length.

DB404000.eps



DB404001.eps



IP55
Ue = 230...400 V
RAL 9003 white

Canalis KBB

Busbar trunking for lighting and power socket distribution 25 and 40 A

Fixing systems

Busbar trunking

For attachment of the busbar trunking to the structure of the building, either directly or via a threaded rod, chain or steel cable.

■ Designed to relieve the installer of the weight of the busbar trunking once placed in a bracket.

■ Automatic locking of moving part on closing (unlocking requires a 3 mm flat screwdriver).

■ The maximum recommended fixing distance is five metres.

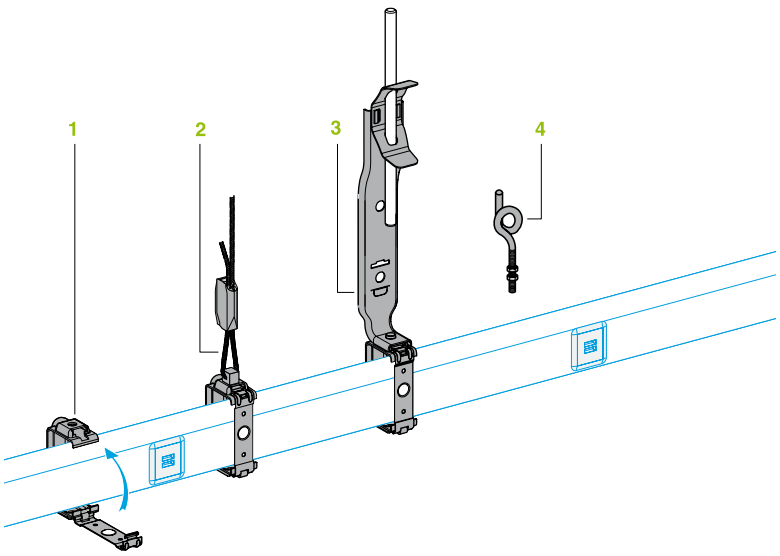
1 **Universal fixing bracket**
For suspension on a threaded rod, diameter 6 mm. For horizontal mounting on a beam, pendant, wall, etc.

2 **Cable suspension system**
Cuts the mounting time of the fixing system to one-third of that required for threaded rods. Enables adjustment of the hight of the trunking.

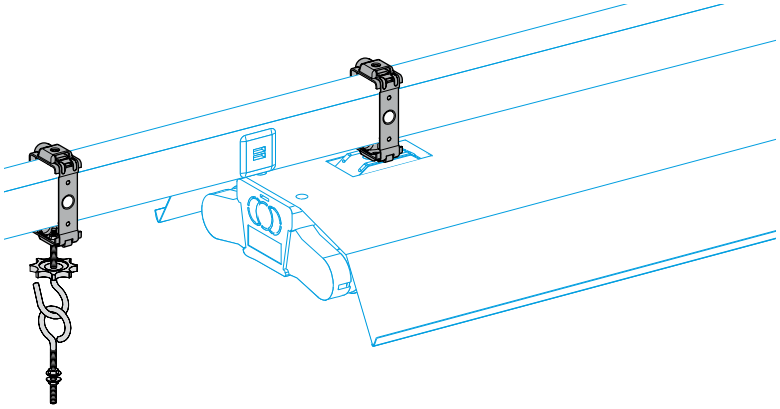
3 **Adjustable threaded-rod suspension system**
For suspension on a threaded rod, diameter 6 mm. A spring system locks the threaded rod in position for fast adjustment of the trunking.

4 **Pigtail hook**
For suspension by a chain.

DB404002.eps



DD206981.eps



Luminaires

Attached to the luminaires before mounting, these fixings ensure fast and direct fixing to Canalis KBB.

■ Fixing systems with automatic locking of moving part on closing.

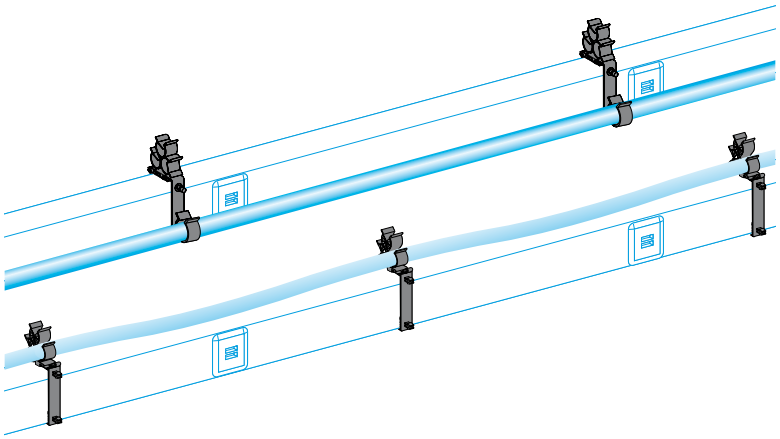
■ To be completed according to the luminaire with suspension accessories (open hook, closed ring...).

Cable support

For running adjacent circuits such as emergency lighting, low-current circuits, etc.

Cable brackets
Clips to trunking for fast mounting. It is possible to run three cables (diameter 5 to 16 mm) and two IRL tubes.

DB404003.eps



Cable duct
The cable duct fits on support (1), which in turn fits onto a threaded rod suspension system (2). An intermediate support is placed between the duct and the trunking if the distance between the suspension points exceeds 2 metres.
Each duct is equipped with a mechanical joint system.

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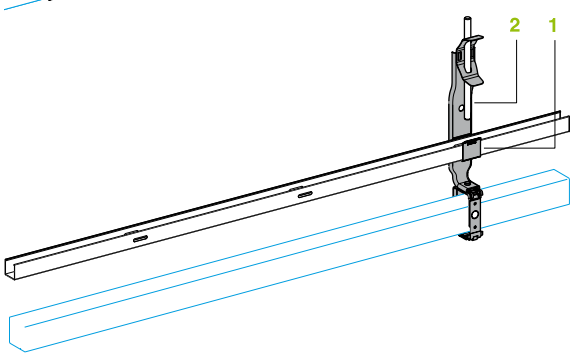
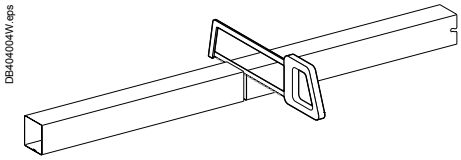


Options

Empty lengths (no electric circuit)

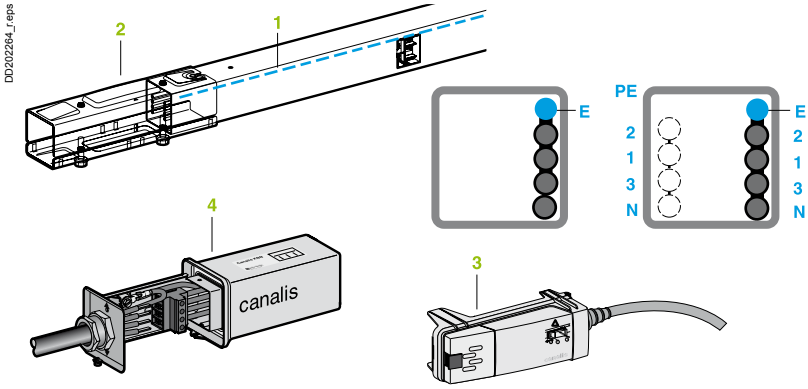
Used to adjust line length to building dimensions (e.g. to reach a fixing point).
Two metres long, can be cut on site.



Clean earth option (Code E)

As an option, a factory-fitted dedicated earth conductor isolated from the grounding is available. This is known as a Clean Earth and has a cross-section of 6 mm².

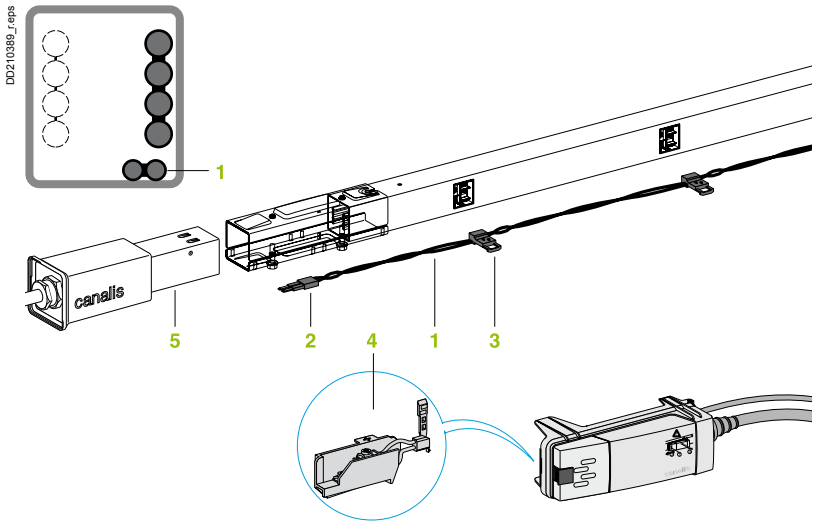
1 The clean earth is always provided on the main circuit of KBB busbar trunking, on the front panel (side with label and 3 tap-offs on KBB with 2 circuits). The ⏚ symbol, which appears at regular intervals near to the tap-off outlets, serves as a reminder of the special nature of this circuit.
2 The electrical jointing unit is supplied with additional clean earth contacts. Thus, installation of components fitted with option E does not require any additional assembly operation.
3 The receivers are connected using a standard 16 A (KBC16DCB●● or DCF●●).
4 The feed boxes are fitted with clean earth (labelled ⏚)et PE (labelled ⏚) terminals.



Optional remote-control circuit (code T)

Factory mounted, an SELV remote-control circuit (U 50 V) is available for the loads supplied by the KBB trunking. The main applications are:
■ remote control (rest mode or testing) of self-contained emergency lighting units,
■ dimmer control,
■ transmission on a building automation bus (please contact us).
The system is built in compliance with European standard EN 61439-6 and the LV and EMC directives.

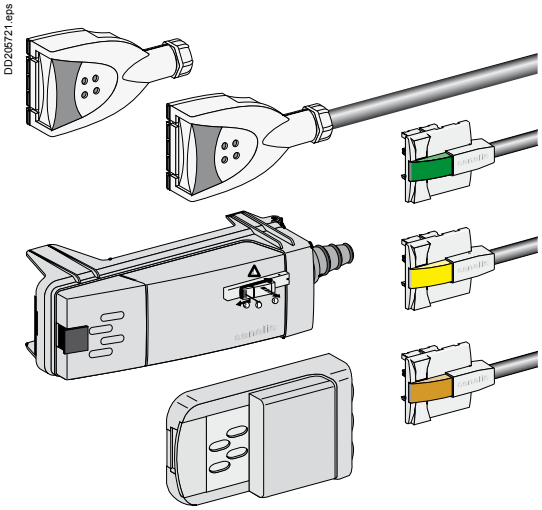
1 The remote-control circuit (twisted pair 1-10 V) is factory mounted next to the main circuit in the trunking (in front for two-circuit trunking).
2 Electrical jointing unit equipped with additional bus contacts. Installation of components fitted with option T requires no additional assembly operations.
3 Each tap-off outlet is equipped with output contacts to tap-off the remote-control circuit to the receiver.
4 Connection of the remote-control receiver using a KBC-16DCB or DCF tap-off unit equipped with a KBC16ZT1 contact-block accessory.
5 Feed units equipped with an additional bus terminal block.



Possibility to use KBA/KBB with T option to transport and distribute DALI protocol for lighting management.
DALI stands for Digital Addressable Lighting Interface and is a protocol set out in the technical standard IEC 62386.

www.dali-ag.org

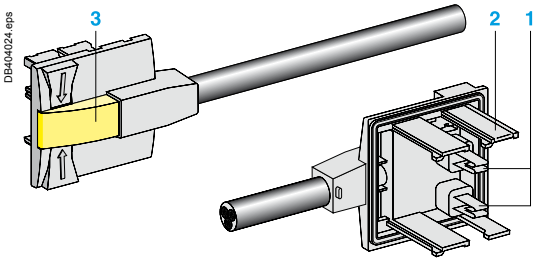
Canalis KDP, KBA and KBB
Busbar trunking for lighting and power socket distribution
Tap-off units



Tap-off units (general)

For instantaneous connection of luminaires to KDP busbar trunking:
- they can be handled while energised and under live conditions
- the contacts for live conductors are of the clamp type
- PE connection occurs before that of the phases and neutral
- phase-selection system (clip-in contact studs) for balancing of 3-phase distribution systems
- selection is visible via a transparent window
- a coloured lock holds them in the tap-off outlet
- all the insulating and plastic materials have a high fire-retardant capacity:
  - incandescent-wire test in compliance with IEC 60695-2-1:
    - 960 °C for components in contact with live parts,
    - 650 °C for other components.

All the insulators and plastic components are **halogen free**.



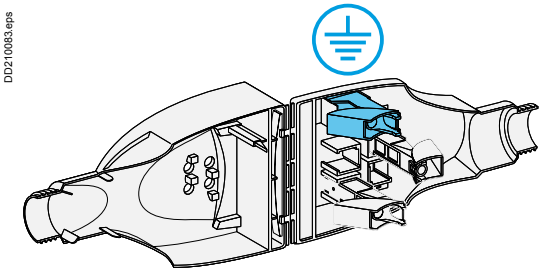
Pre-wired 10 A tap-off unit with fixed polarity

Pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 0.80 m long, pre-stripped on luminaire end:
- 10 A rating
- fixed L + N + PE polarity
- the various models make it possible to balance 3-phase distribution systems.

The colour of the lock and the casing enable remote identification of the polarity.
1 Live-conductor contacts.
2 Protective-conductor contact.
3 Lock.

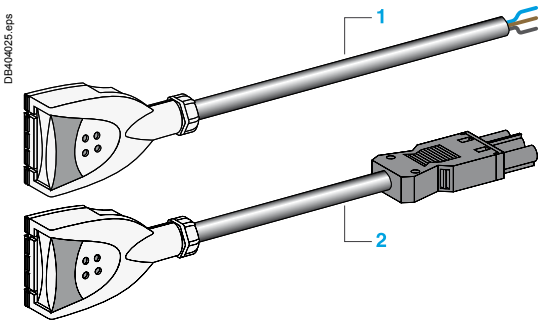
Two-pole 10 A tap-off unit with phase selection

- The two contact studs are movable and can be used to set up both L + N + PE and 2L + PE distribution.
- Supplied complete with a cable gland.



10 A KBC-10DCB20 tap-off unit, 2-pole + PE, to be wired

- To be wired for connection of luminaires using a cable of specific type, size or length.
- Fast connection for 3 x 0.75 to 1.5 mm² cable. If prefabricated leads are used, the line must have 16 A protection (see possibilities of dispensing with protection in the simplified design guide for lighting distribution, in the section on protection against overloads).



10 A KBC tap-off unit, 2-pole + PE, pre-wired

Two pre-wired versions are available:
1 pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 1 m long, pre-stripped on luminaire end,
2 for KDP, pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 1 m long and equipped with a female GST18i3 connector on the luminaire end (see prefabricated leads). In this case, the lead is IP40.

If prefabricated leads are used, the line must have 16 A protection (see possibilities of dispensing with protection in the simplified design guide for lighting distribution, in the section on protection against overloads).

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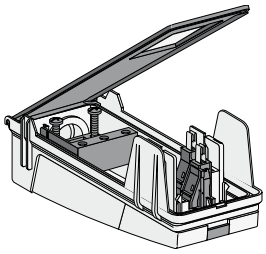


16 A KBC16DCB/DCF21 tap-off unit with phase selection

For connection of luminaires using a cable of specific type, size and length.

- Two-pole: L + N + PE (1 mobile stud, fixed neutral) or 2L + PE (2 mobile studs).
- Installation is facilitated by the side guides.
- Supplied with a cable bushing. Terminal connections for 0.75 to 1.5 mm^2 cable.

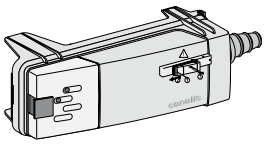
KBC16DCB tap-off unit with terminals, direct connection (no protection)

For direct connection (no protection) of luminaires using a specific cable.
Can be equipped with the accessory to tap-off the remote-control circuit to the luminaires.

KBC16DCF tap-off unit, with fuses

For protection of each luminaire.
Fuse carrier on the phase (1 or 2 carriers depending on the model).
For cylindrical fuse NF 8.5 x 31.5 (not supplied), 16 A gG maximum, breaking capacity 20 kA.

DB404027.eps



16 A L + N + PE tap-off unit with preselected polarity KBC16DCB/DCF●6

For tap-off and individual protection of luminaires assigned to two independent circuits of 4-conductor KBB trunking.
Identical in design to the tap-off units on the opposite page, but with factory-set polarity.

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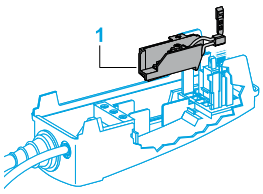

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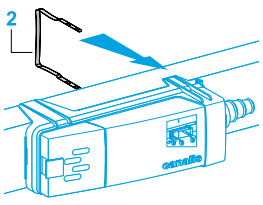
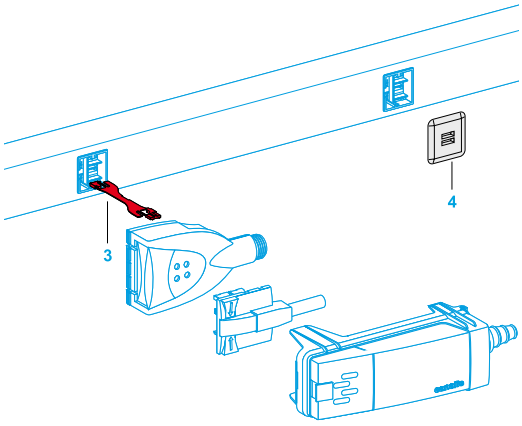


DD210192.eps



Accessories

Specific to KBC16DCF tap-off units

1 Additional remote-control contact block

- For tap-off of the remote-control circuit to the luminaire (KBA and KBB lines with T option).
- Clips onto KBC16DCB or CF (except KBC16DCF22) tap-off units.
- Terminals for data cable, max. size 2 x 0.75 mm^2.
- Supplied with cable bushing.

2 Rear support bracket

Additional fixing of KBC16 tap-off units using the rear support bracket may be necessary, notably if there is a risk of accidental pulling on the cable or if the cable is very heavy (great length).

Other accessories

3 Interlocking device

For all 10 A and 16 A tap-off units.
A set of three interlocking devices in different colours can be used to mechanically lock out tap-off units when two or three different distribution networks are present (load, voltage, frequency, etc.).

- An interlocking device is made up of a handle and an interlocking device on each end. It can be used for a tap-off outlet and the corresponding tap-off unit.
- Labels can be placed on the tap-off units and the trunking for remote identification.

4 Outlet blanking plate

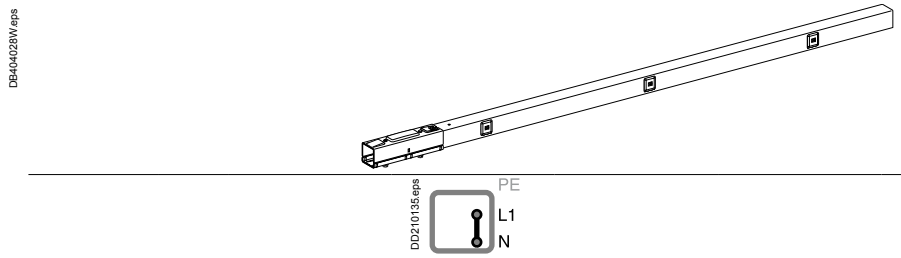
Spare part intended to restore IP55 on a tap-off outlet following removal of the tap-off unit (if original blanking plate is lost).

Canalis KBB, 1 circuit, 25 and 40 A

Busbar trunking for lighting and power socket distribution
Optional remote-control circuit (code T)
Optional isolated earth (code E)

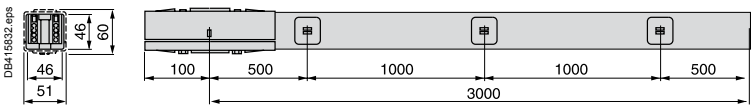
Straight lengths, one circuit

Catalogue numbers

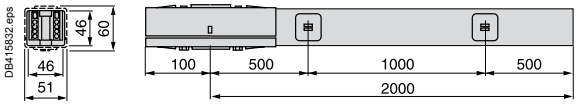


Type of busbar trunking		Standard straight length L + N + PE			Standard straight length 3L + N + PE			Empty length
Length (m)		3		2	3		2	2
Number of tap-offs		0	3	2	0	3	2	0
Order in multiples of		6	6	6	6	6	6	6
Option (1)	**T**	-	■	■	-	■	■	-
	E	-	■	■	-	■	■	-
Weight (kg)		2.400	2.400	1.700	2.600	2.600	1.900	1.600
25 A rating Cat. no.		**KBB25ED2300W**	**KBB25ED2303W**	**KBB40ED2202W**	**KBB25ED4300W**	**KBB25ED4303W**	**KBB40ED4202W**	**KBB40EDA20W**
Weight (kg)		2.700	2.700	1.700	3.100	3.100	1.900	1.600
40 A rating Cat. no.		**KBB40ED2300W**	**KBB40ED2303W**	**KBB40ED2202W**	**KBB40ED4300W**	**KBB40ED4303W**	**KBB40ED4202W**	**KBB40EDA20W**

Dimensions



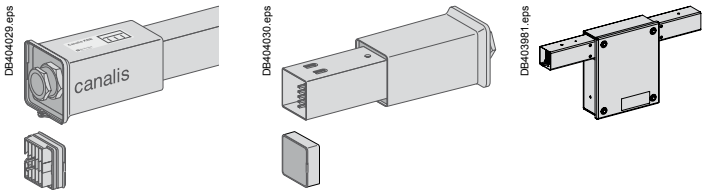
KBB●●ED●●●3W



KBB●●ED●●●2W

Feed units (supplied with end cover)

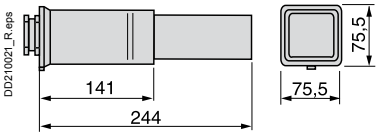
Catalogue numbers



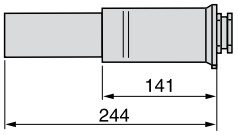
Designation		Feed unit			Additional jointing unit
Mounting		Left	Right	Central	-
Cable connection	**Terminals (mm²)**	10	10	10	-
	Cable gland Ø maxi (mm)	PG 21, Ø19	PG 21, Ø19	PG 21, Ø19	-
Option (1)	**T**	■	■	■	-
	E	■	■	■	-
Weight (kg)		0.400	0.500	0.400	0.640
Cat. no.		**KBB40ABG4W**	**KBB40ABD4W**	**KBB40ABT4W**	**KBB40ZJ4W** (2)

(1) ■ *Option* ***T*** *may be combined. Add* ***T*** *at the catalogue number. Example:* ***KBB40ABG4TW.***
■ *Option* ***E*** *may not be combined with options T. Add* ***E*** *to the cat. no. Example:* ***KBB40ABG4EW.***
(2) For T or E options, take ref. ***KBB40ZJ44TW*** *or* ***KBB40ZJ44EW****.*

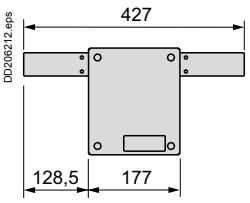
Dimensions



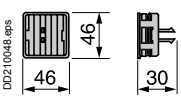
KBB40ABG4W



KBB40ABD4W



KBB40ABT4W



End cover

The end cover KBB is a spare part of the after-sales service ref **KBB40AF.**

Canalis KBB, 2 circuits, 25 and 40 A

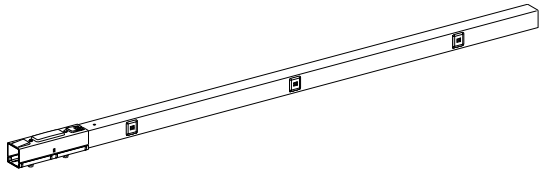
Busbar trunking for lighting and power socket distribution

Optional remote-control circuit (code T)

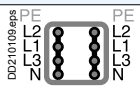
Optional isolated earth (code E)

Straight lengths, two circuits

Catalogue numbers

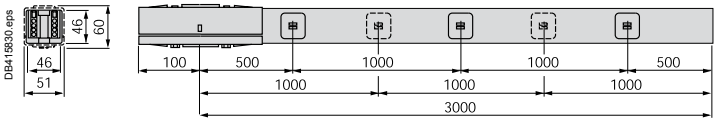


Type of busbar trunking		Standard straight length					
Length (m)		3		2	3		2
Number of tap-offs		0	3 + 2	2 + 1	0	3 + 2	2 + 1
Order in multiples of		6	6	6	6	6	6
Option (1)	**T**	-	■	■	-	■	■
	E	-	■	■	-	■	■
Weight (kg)		4.600	4.600	3.600	4.700	4.700	3.800
25 A rating Cat. no.		**KBB25ED22300W**	**KBB25ED22305W**	**KBB40ED22203W**	**KBB25ED42300W**	**KBB25ED42305W**	**KBB40ED42203W**
Weight (kg)		5.200	5.200	3.600	5.700	5.700	3.800
40 A rating Cat. no.		**KBB40ED22300W**	**KBB40ED22305W**	**KBB40ED22203W**	**KBB40ED42300W**	**KBB40ED42305W**	**KBB40ED42203W**

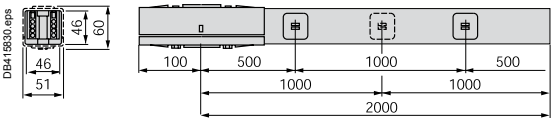


Type of busbar trunking		Standard straight length				Empty length
Length (m)		3		2		2
Number of tap-offs		0	3 + 2	2 + 1	3 + 2	0
Order in multiples of		6	6	6	6	6
Option (1)	**T**	-	■	■	■	-
	E	-	■	■	■	-
Weight (kg)		4.800	4.800	3.800	-	1.600
25 A rating Cat. no.		**KBB25ED44300W**	**KBB25ED44305W**	**KBB40ED44203W**	-	**KBB40EDA20W**
Weight (kg)		6.100	6.100	3.800	6.100	1.600
40 A rating Cat. no.		**KBB40ED44300W**	**KBB40ED44305W** (3)	**KBB40ED44203W**	**KBB40ED44305T2W**	**KBB40EDA20W**

Dimensions



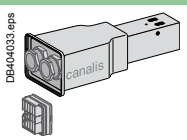
KBB●●ED●●30●W

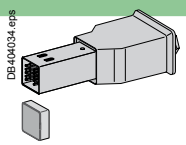


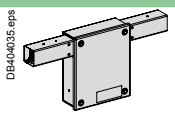
KBB●●ED●●203W

Feed units (supplied with end cover)

Catalogue numbers







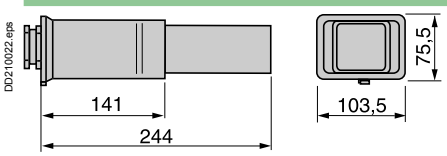
Designation		Feed unit					Additional jointing unit
Mounting		Left		Right		Central	
Cable connection	**Terminals (mm²)**	6 to 10		6 to 10		6 to 10	
	Cable gland Ø maxi (mm)	PG 21, Ø19		PG 21, Ø19		PG 21, Ø19	
Options		All	All	E	T	T	-
Option (1)(2)	**T**	■	■	-	□	-	■
	E	■	■	□	-	-	■
Weight (kg)		0.400	0.400	0.500	0.500	0.500	0.640
Cat. no.		**KBB40ABG44W**	**KBB40ABG44T2W**	**KBB40ABD44EW**	**KBB40ABD44TW** (3)	**KBB40ABT44W**	**KBB40ZJ44W**

(1) *Option **T** may be combined. Add **T** at the catalogue number. Example: **KBB40ABG4TW.** Option **E** may not be combined with option T. Example: **KBB40ABG4EW.***

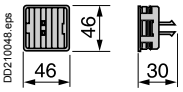
(2) *Cat. no. for which the option is automatically included.*

(3) *Cat. no. can be ordered with 2 remote-control circuits. Example: **KBB40ABD44T2W***

Dimensions



KBB40●●●44W●



End cover

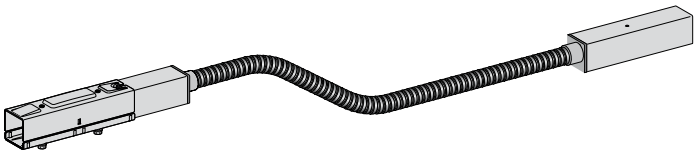
The end cover KBB is a spare part of the after-sales service **ref KBB40AF**

Canalis KBB, 25 and 40 A
Busbar trunking for lighting and power socket distribution
Optional remote-control circuit (code T)
Optional isolated earth (code E)

Flexible lengths

Catalogue numbers

DB404036.eps

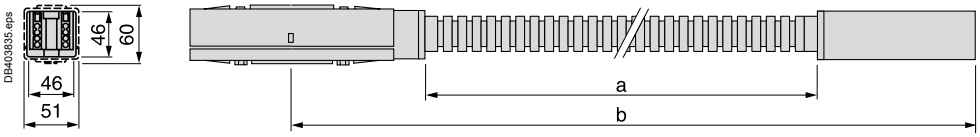


Mounting		For elbows, changing levels, detours around obstacles, etc.			
For trunking		DD210136.eps PE L2 L1 L3 N		DD210109.eps PE L2 L1 L3 N PE L2 L1 L3 N	
Length (m)		0.5	2	0.5	2
Option (1)	**T**	■	■	■	■
	E	■	■	■	■
Weight (kg)		0.800	1.900	0.800	1.900
Cat. no.		**KBB40DF405W**	**KBB40DF420W**	**KBB40DF4405W** (2)	**KBB40DF4420W** (2)

(1) ■ *Option* ***T*** *may be combined. Add* ***T*** *at the catalogue number. Example:* ***KBB40AA4TW.***
■ *Option* ***E*** *may not be combined with options T. Example:* ***KBB40AA4WE.***
(2) Equipped with double bus option.

Dimensions

DB403835.eps



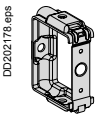
Length (mm)	a	b
KBB40DF4●●5W	153	500
KBB40DF4●●0W	1653	2000

Fixing systems

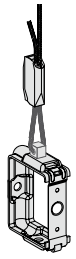
Catalogue numbers

Busbar-trunking fixings

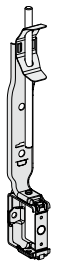
DD202178.eps



DB404037.eps



DD202211_R.eps



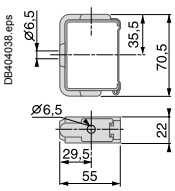
DD210110.eps

Designation	Universal fixing bracket	Cable suspension system			Spring fixing bracket (1)	Pigtail hook	Raiser
Mounting	Suspended on threaded rod or lateral (except wall)	Universal fixing bracket with steel cable	Universal fixing bracket for steel cable	Cable alone, 3 m long	Adjustable suspension for threaded rod, Ø M6	For suspension by a chain	For mounting on wall or false floor
Maximum load (kg)	60	60	60	60	50	60	60
Order in multiples of	10	10	10	10	10	10	10
Weight (kg)	0.050	0.105	0.035	0.070	0.160	0.020	0.040
Cat. no.	**KBB40ZFUW**	**KBB40ZFSUW**	**KBB40ZFSLW**	**KBB40ZFS23**	**KBB40ZFPU**	**KBB40ZFC**	**KBB40ZFMP**

(1) Maximun recommended distance between fixings: 5 meters.

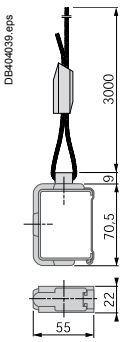
Dimensions

DB404038.eps



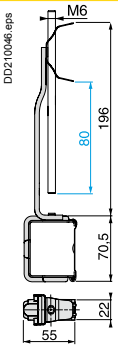
KBA40ZFUW

DB404039.eps



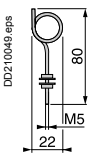
KBA40ZFSUW

DD210046.eps



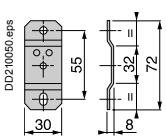
KBA40ZFPU

DD210049.eps



KBB40ZFC

DD210050.eps

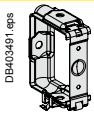


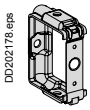
KBB40ZFMP

Fixing systems (cont.)

Catalogue numbers

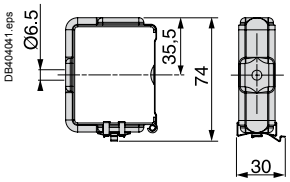
Luminaire fixings



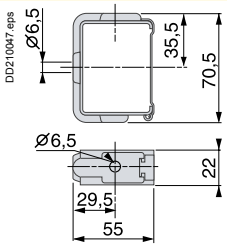


Designation	Fixing bracket	Universal fixing bracket	Open hook	Ring
Mounting	For direct suspension of luminaires on KBB	For direct suspension under trunking	To suspend the luminaire	Mounted on the luminaire
Maximum load (kg)	45	60	45	45
Order in multiples of	12	10	10	10
Weight (kg)	0.055	0.050	0.050	0.050
Cat. no.	**KBB40ZFL**	**KBB40ZFUW**	**KBB40ZFC5**	**KBB40ZFC6**

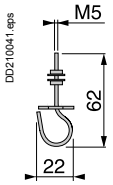
Dimensions



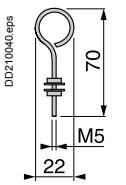
KBB40ZFL



KBB40ZFUW



KBB40ZFC5

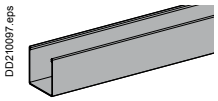


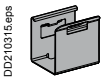
KBB40ZFC6

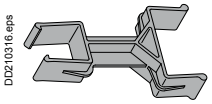
Accessories

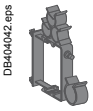
Catalogue numbers

Cable duct, support





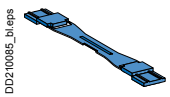


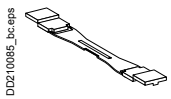


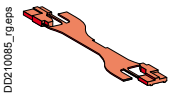
Designation	Cable duct			Cable brackets
Function	Width 25 mm, length 3 m	Cable duct support to be mounted on a spring fixing bracket (1)	Cable duct support + intermediate support (2)	For adjacent circuits
Order in multiples of	6	10	10	20
Weight (kg)	1.115	0.100	0.200	0.005
Cat. no.	**KFB25CD253**	**KBB40ZFG1**	**KBA40ZFG2**	**KBB40ZFGU**

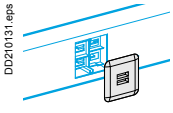
(1) *Maximun recommended distance between fixings: 2 meters.*
(2) *Maximun recommended distance between fixings: 3 meters.*

Other accessories



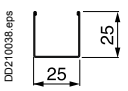




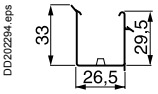


Designation	Outlet/tap-off unit interlocking device (2 parts)			Blanking plate	Cutting pliers
Function	Identification and mechanical interlocking between 1 to 3 different circuits			Restore IP55 on tap-off outlet if original blanking plate is lost	To cut steel cable used for cable suspension system
Colour	Bleu	Blanc	Rouge	-	-
Order in multiples of	20	20	20	10	1
Weight (kg)	0.002	0.002	0.002	0.005	0.300
Cat. no.	**KBC16ZL10**	**KBC16ZL20**	**KBC16ZL30**	**KBC16ZB1**	**KBB40ZFS**

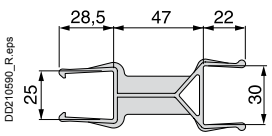
Dimensions



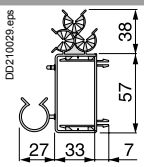
KFB25CD253



KBB40ZFG1



KBA40ZFG2



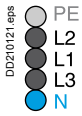
KBB40ZFGU

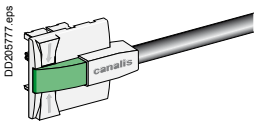
Canalis KBA and KBB tap-off units, 25 and 40 A
For lighting and power socket distribution

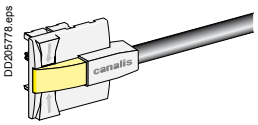
10 A tap-off unit, direct connection

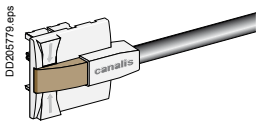
Catalogue numbers

L + N + PE, with fixed polarity, pre-wired SO5Z1Z1-F 3 x 1.5 mm², 0.8 m long





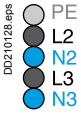


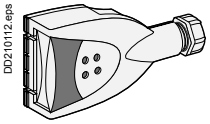


Type of busbar trunking
Single-circuit switching
Balancing on 3 phases or 3-circuit switching

Polarity	L1 + N	L2 + N	L3 + N
Colour of lock	Green	Yellow	Brown
Order in multiples of	10	10	10
Cable length (mm)	800	800	800
Weight (kg)	0.100	0.100	0.100
Cat. no.	**KBC10DCS101**	**KBC10DCS201**	**KBC10DCS301**

L + L + PE or L + N + PE, with phase selection

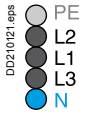


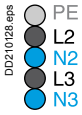


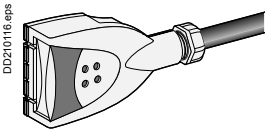
Type of busbar trunking
All types possible

Polarity	L1 + N or L2 + N or L3 + N L1 + L2 or L1 + L3 or L2 + L3 L2 + N2 or L3 + N3
Order in multiples of	10
Weight (kg)	0.065
Cat. no.	**KBC10DCB20**

L + L + PE or L + N + PE, with phase selection, pre-wired SO5Z1Z1-F 3 x 1.5 mm², 1 m long



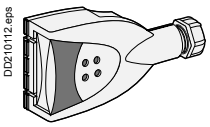




Type of busbar trunking
All types possible

Polarity	L1 + N or L2 + N or L3 + N L1 + L2 or L1 + L3 or L2 + L3 L2 + N2 or L3 + N3	
Pre-equipped with female GST18i3 connector	No	Yes (1)
Order in multiples of	10	10
Weight (kg)	0.165	0.165
Cat. no.	**KBC10DCC211**	**KBC10DCC21Z**

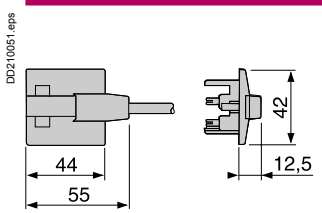
3L + N + PE



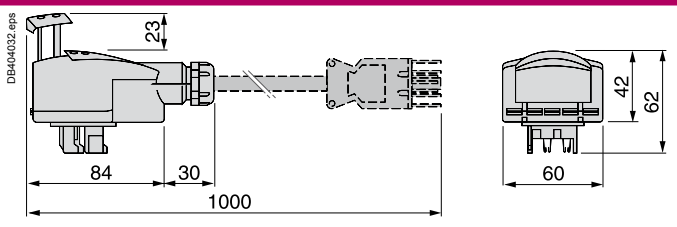
Type of busbar trunking
All types possible

Polarity	To be defined for each application (dimmer, emergency lighting, etc.)
Order in multiples of	10
Weight (kg)	0.065
Cat. no.	**KBC10DCB40**

Dimensions



KBC10DCS●01



KBC10DCB20, KBC10DCC21●, KBC10DCB40

***(1)** For IP, see KBA and KBB tap-off units description page 108.*

16 A single-phase tap-off unit, with or without fuses

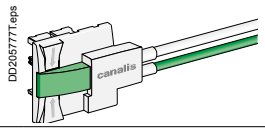
Catalogue numbers

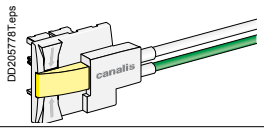
L + N + PE + BUS (D+/D-)

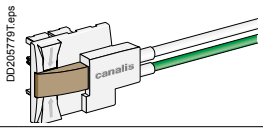
Type of busbar trunking

Single-circuit switching

Balancing on 3 phases or 3-circuit switching







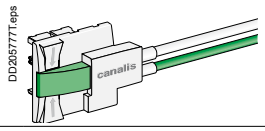
Polarity	L + N + PE (D+/D-)	L + N + PE (D+/D-)	L + N + PE (D+/D-)
Colour of lock	Green	Yellow	Brown
Order in multiples of	10	10	10
Cable length (mm)	1000	1000	1000
Cat. no.	**KBC16DCS101T**	**KBC16DCS201T**	**KBC16DCS301T**

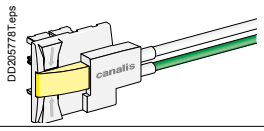
L + N + PE + BUS (D+/D-)

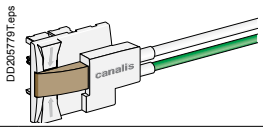
Type of busbar trunking

Single-circuit switching

Balancing on 3 phases or 3-circuit switching







Polarity	L + N + PE (D+/D-)	L + N + PE (D+/D-)	L + N + PE (D+/D-)
Colour of lock	Green	Yellow	Brown
Order in multiples of	5	5	5
Cable length (mm)	2000	2000	2000
Cat. no.	**KBC16DCS102T**	**KBC16DCS202T**	**KBC16DCS302T**

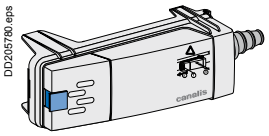
Catalogue numbers

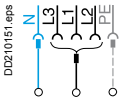
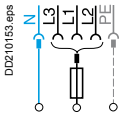
L + N + PE, with phase selection

Type of busbar trunking

Single-circuit switching

Balancing on 3 phases or 3-circuit switching



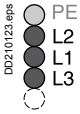
Polarity	L1 + N or L2 + N or L3 + N	
Scheme		
Protection	None	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)
Colour of lock	Blue	Blue
Order in multiples of	10	10
Weight (kg)	0.090	0.090
Cat. no.	**KBC16DCB21**	**KBC16DCF21**

Canalis KBA and KBB tap-off units, 25 and 40 A
For lighting and power socket distribution

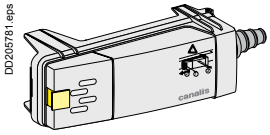
16 A single-phase tap-off unit, with or without fuses

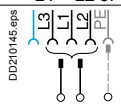
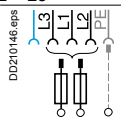
Catalogue numbers

L + L + PE, with phase selection

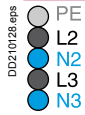


Type of busbar trunking
Balancing on
3 phases without neutral

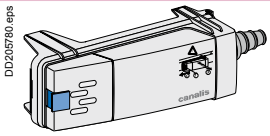


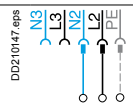
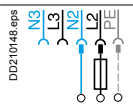
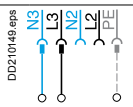
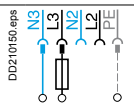
Polarity	L1 + L2 or L1 + L3 or L2 + L3	
Scheme		
Protection	None	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)
Colour of lock	Yellow	Yellow
Order in multiples of	10	10
Weight (kg)	0.090	0.090
Cat. no.	**KBC16DCB22**	**KBC16DCF22**

L + N + PE, with preselected polarity

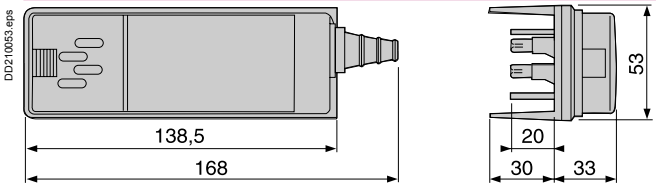


Pour canalisation
2 circuits monophasés



Polarity	L2 + N2		L3 + N3	
Scheme				
Protection	None	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)	None	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)
Colour of lock	Blue	Blue	Blue	Blue
Order in multiples of	10	10	10	10
Weight (kg)	0.090	0.090	0.090	0.090
Cat. no.	**KBC16DCB226**	**KBC16DCF226**	**KBC16DCB216**	**KBC16DCF216**

Dimensions

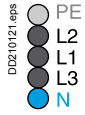


KBC16DC●2●, KBC16DC●2●6

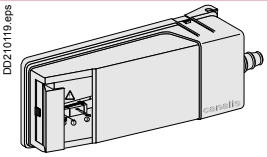
16 A three-phase tap-off unit, with or without fuses

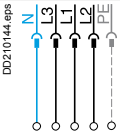
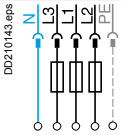
Catalogue numbers

3L + N + PE



Type of busbar trunking
All types possible



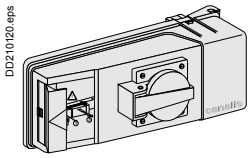
Polarity	3L + N	
		
Protection	None	Cylindrical fuse NF 8.5 x 31.5 12 A gG maximum (not supplied)
Weight (kg)	0.090	0.090
Cat. no.	**KBC16DCB40**	**KBC16DCF40**

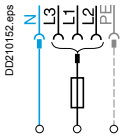
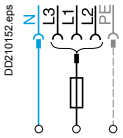
16 A three-phase tap-off unit, with or without fuses

Catalogue numbers

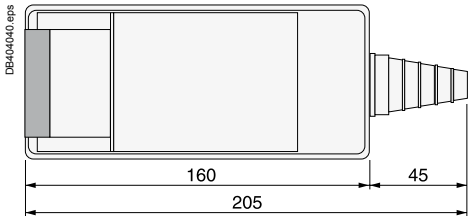
3L + N + PE, with power socket

Type of busbar trunking

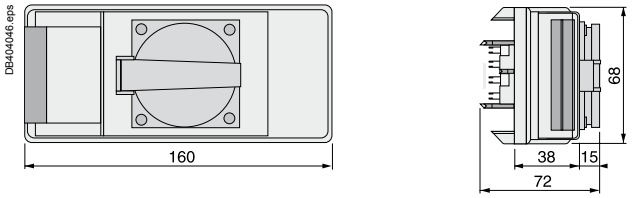


Polarity	3L + N	
		
Type of power socket	NF 2P + T 10/16 A, 250 V	VDE 2P + T 10/16 A, 250 V
Protection	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)
Weight (kg)	0.090	0.090
Cat. no.	**KBC16DCP1**	**KBC16DCP2**

Dimensions



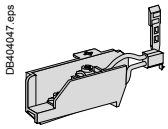
KBC16DC●40

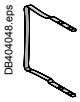


KBC16DCP●

Accessories for KBA and KBB tap-off units

Catalogue numbers





Designation	Bus connection device	Rear support bracket
Function	For 16 A single-phase or three-phase tap-off units to tap off the remote control circuit of the trunking to the remote receiver	For securing 16 A single-phase tap-off units to the trunking
Order in multiples of	10	10
Weight (kg)	0.010	0.020
Cat. no.	**KBC16ZT1**	**KBC16ZC1**

IP55
Ue = 230...400 V
RAL 9003 white

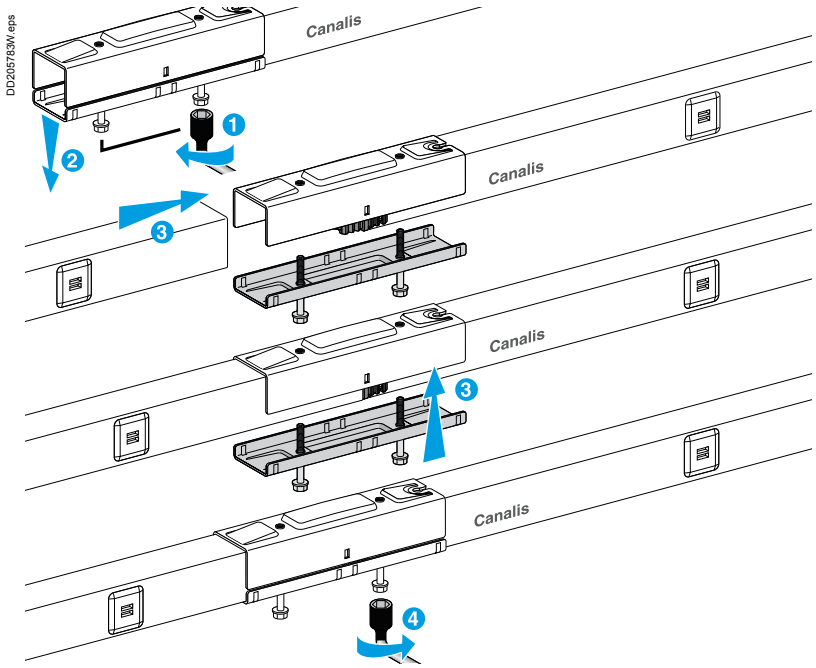
Canalis KBB, 25 and 40 A

Busbar trunking for lighting and power socket distribution

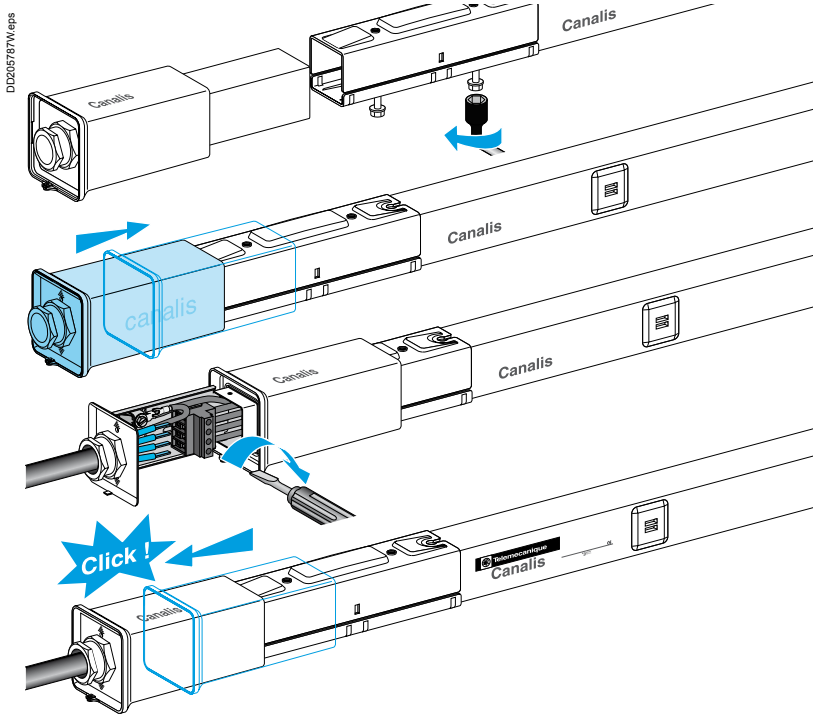
Assembly of trunking components

Check out the video showing the installation **of Canalis in an industrial environment**

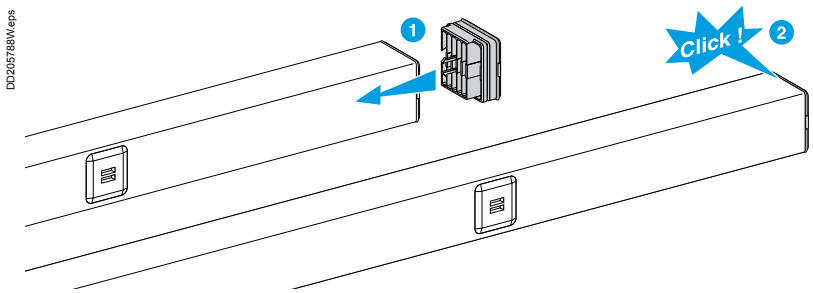
Assembling the straight lengths



Connecting the feed-unit

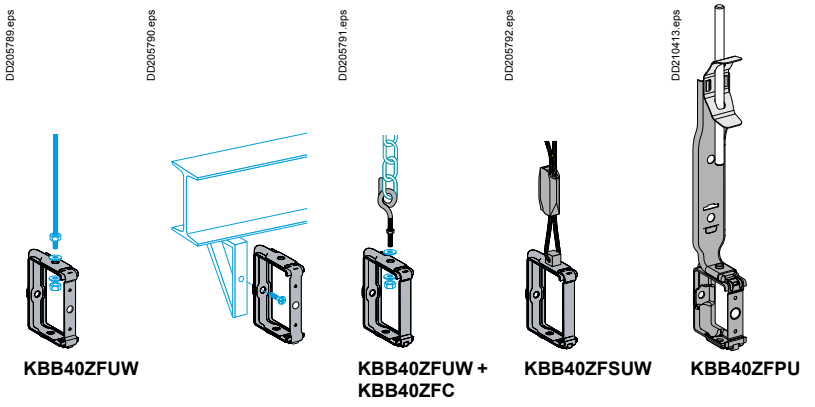


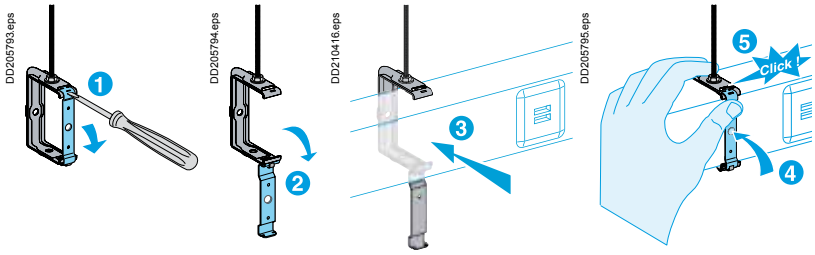
Assembling the end cover



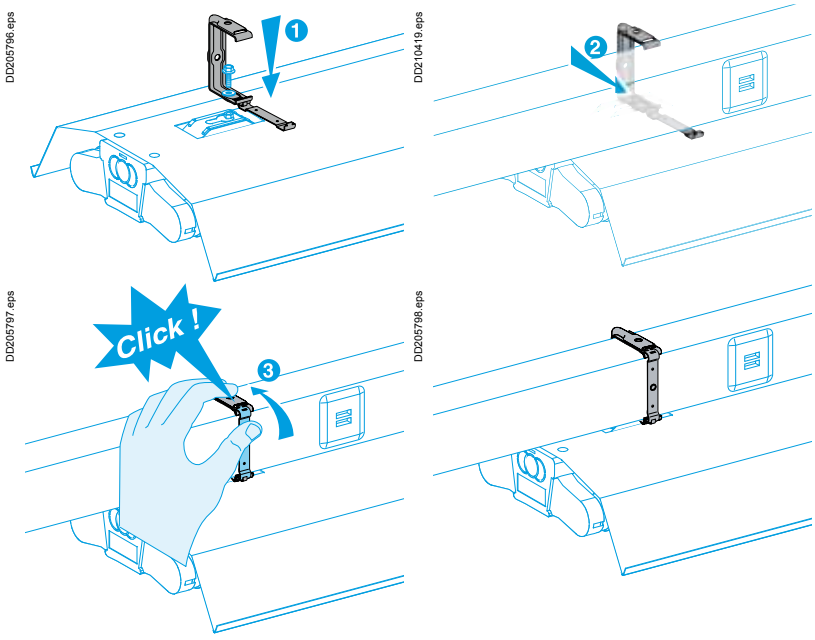
Check out the video showing the installation **of Canalis in an industrial environment**

Fixing Canalis KBB in the brackets

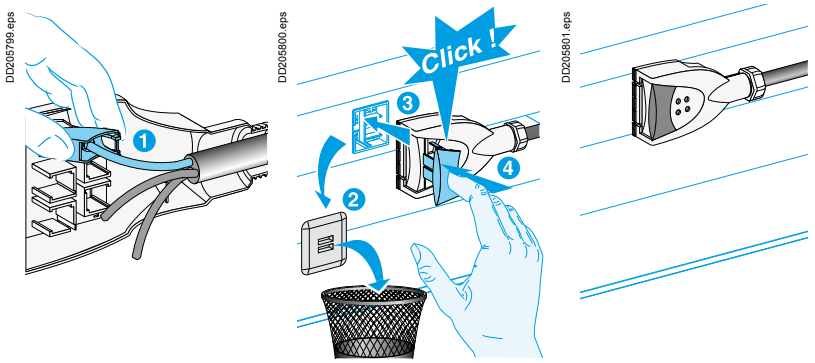




Mounting the luminaires on the trunking



Connecting the luminaires



Canalis KN

Presentation

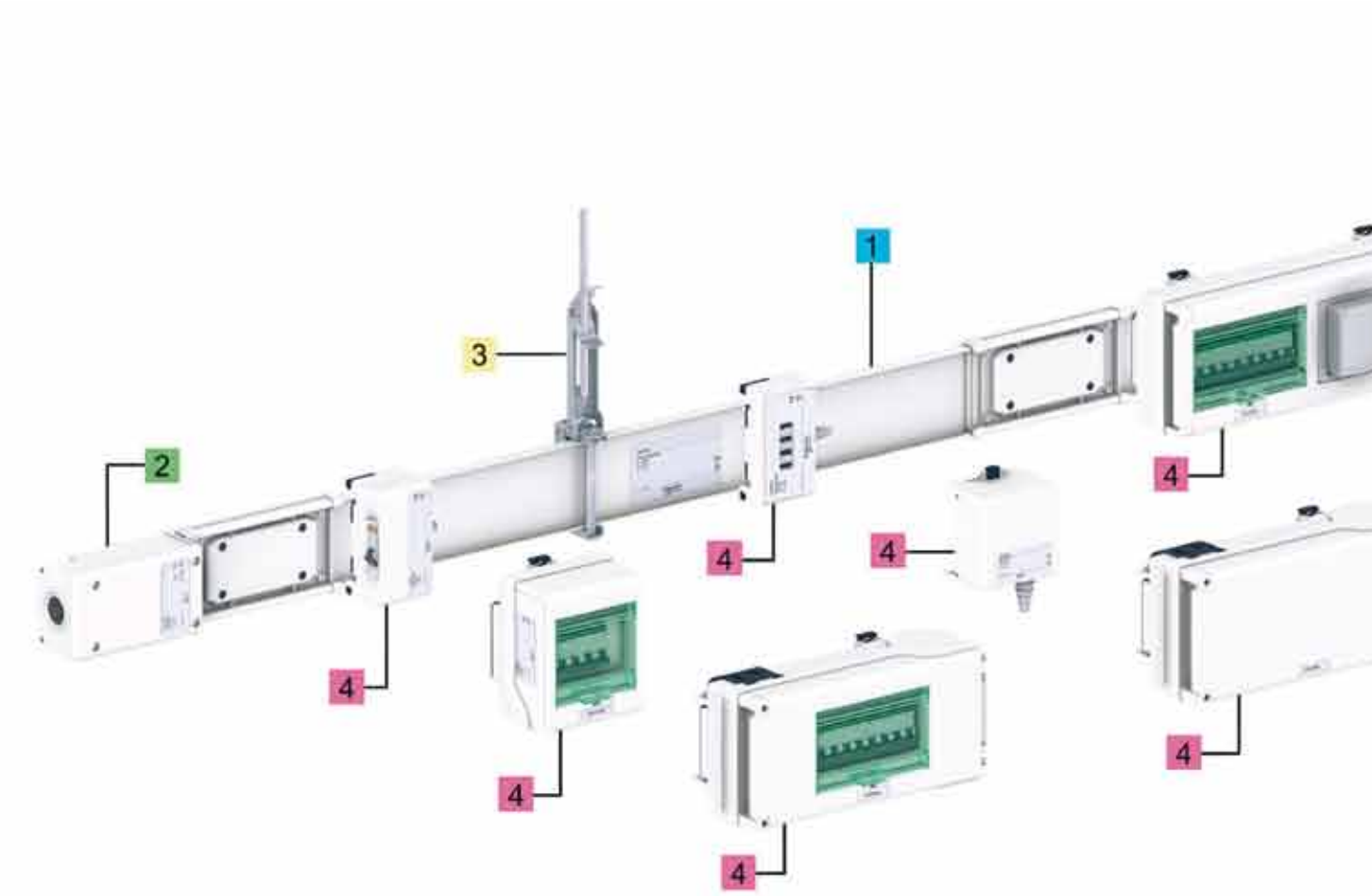
Description

Catalogue numbers - Dimensions

Canalis KN

For low-power distribution from 40 to 160 A

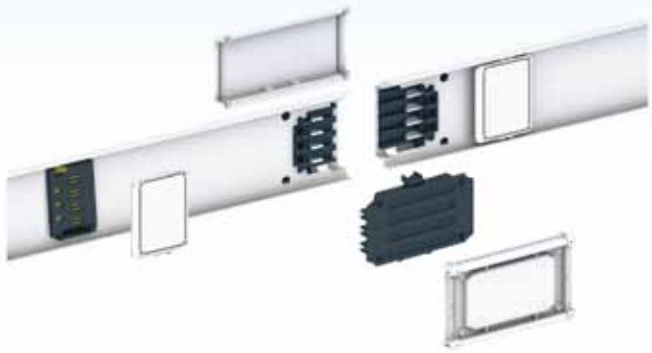
PD202202_rW2.eps



1. Run components

- Rating: 40, 63, 100 and 160 A.
- 4 live conductors.
- Length:
  - Basic components: 3 metres.
  - Additional lengths: 2 and 3 metres.

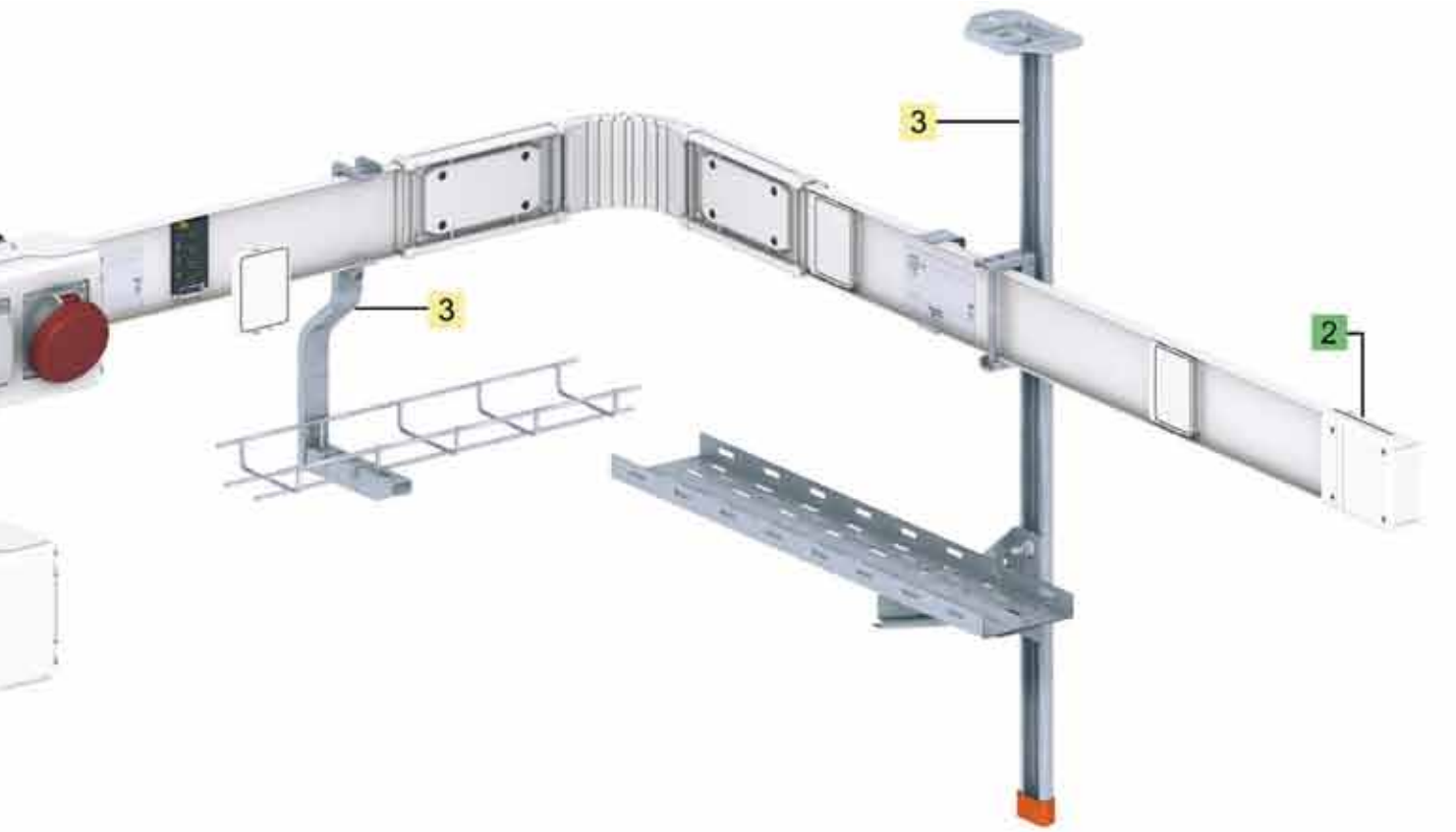
PD202198W.eps



2. Feed units and end covers

- The feed units delivered with end covers, receive the cables supplying one end or any other point of Canalis KN trunking.

PD202199_rW.eps



3. Fixing system

■ The fixing system ensures that Canalis KN is well secured, whatever the type of building structure.

DB403667.eps

4. Tap-off units

■ The tap-off units (with and without isolators) are used to:
□ supply loads from 16 to 63 A
□ or protect nearby loads against overloads due to lightning strikes

■ Protection using modular circuit breakers or fuses.

PD2022201_rW.eps

Canalis KN
For low-power distribution from 40 to 160 A

No toxic emission in case of fire

All components in the KN range are **halogen free**. In case of fire, Canalis KN releases very small quantities of smoke and no toxic gases.

DD202141_r.eps

Total safety

An interlocking device prevents mounting errors and makes it impossible to install or remove an energised tap-off unit.

DD202145_r.eps

PD202079_rW.eps

Excellent contact

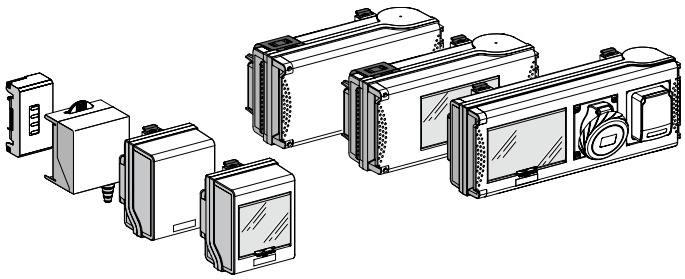
Contacts are silver-plated. The level of performance remains the same throughout the life of the product.

P1010018-W.eps

A complete range of tap-off units

- The range covers all needs from 16 to 63 A.
- Protection is possible using circuit breakers, fuses or SPD (Surge Protection Device).
- Also available are tap-off units equipped with household and industrial power sockets.

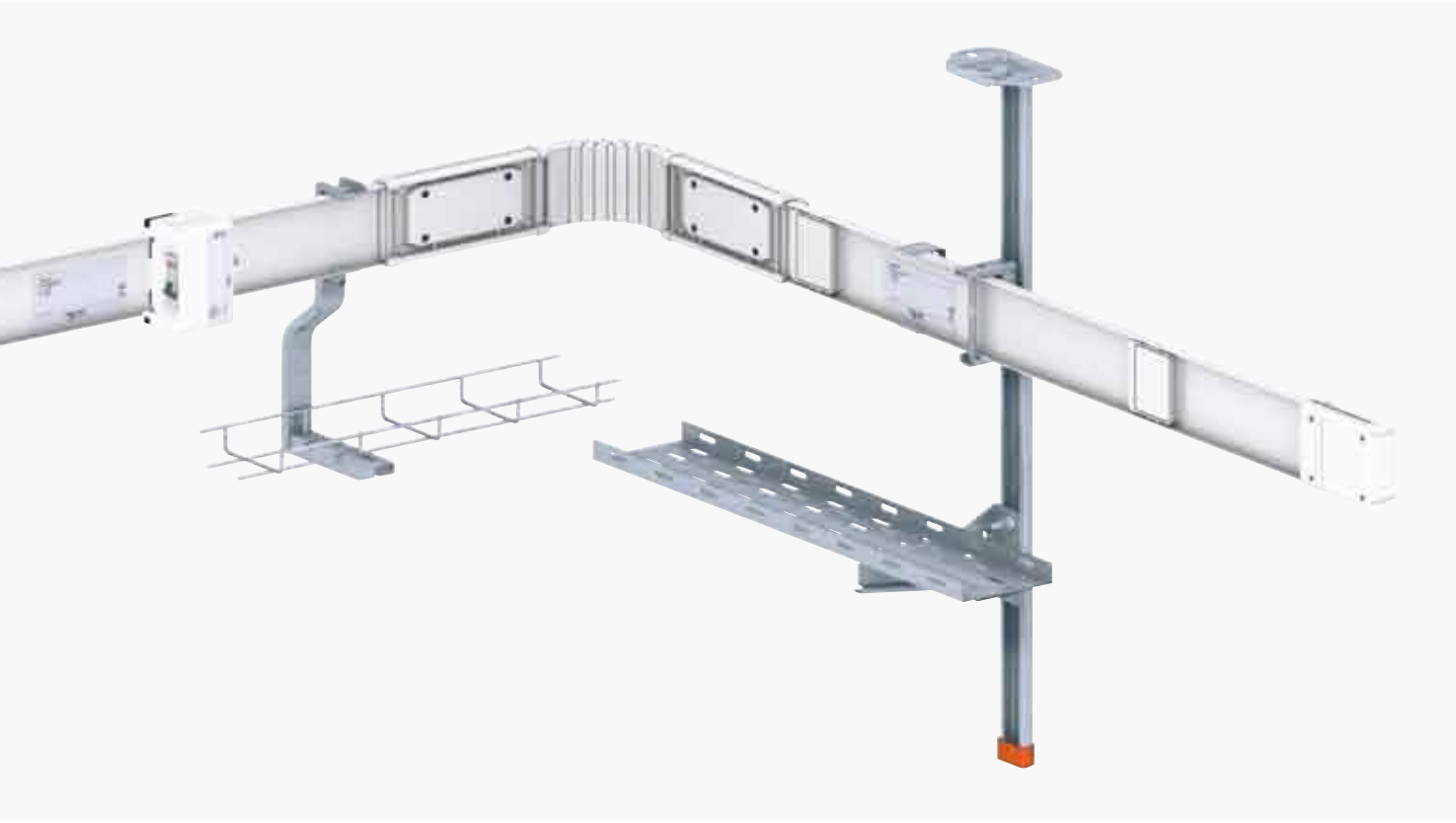
DD202172.eps



A high degree of protection

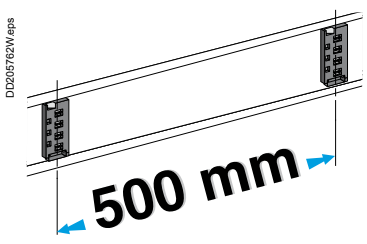
The high degree of protection for Canalis KN means it can be installed in all types of buildings.

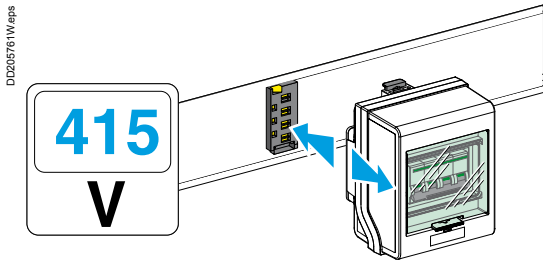
- **IP55** guarantees trunking protection against splashes, dust.
- **IK08** guarantees the strength of the trunking (resistance to shocks).
- **IPxxD** ensures totally safe working conditions for maintenance personnel.
- Canalis KN complies with **sprinkler tests**, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.



Unmatched upgrading possibilities

Tap-off outlets are positioned every 0.5 metres to ensure availability of an outgoer as close as possible to loads throughout the life of the installation.
Tap-off units can be added or removed on live installations, without interrupting the supply to the other loads.

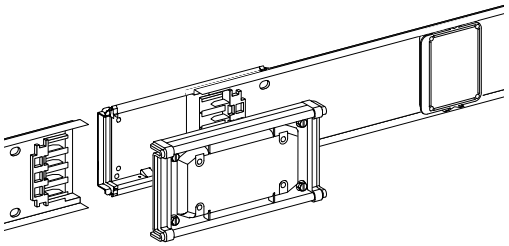




IP55
Ue = 230...500 V
RAL 9001 white

Canalis KN, 40 to 160 A
Low-power distribution

DD210183.eps



Canalis KN is designed for low-power distribution.
There are two versions:
■ Canalis KNA: busbar trunking with four live conductors (3L + N + PE), for distribution up to 160 A,
■ Canalis KNT: identical to KNA, but equipped with a transmission bus with three 2.5 mm² conductors (except 160 A).
This bus can be used to set up simple control/monitoring systems (lighting or other loads).

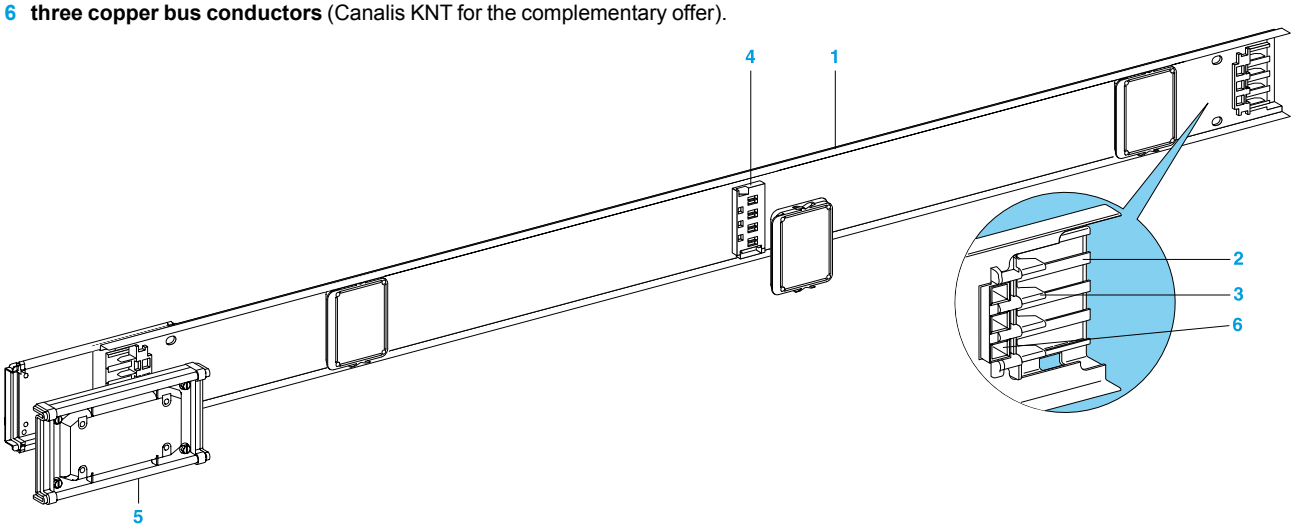
The degree of protection of KNA and KNT trunking is IP55.
All the insulating and plastic materials are ***halogen-free*** and have enhanced fire-withstand capabilities
■ incandescent wire test as per standard IEC 60695-2:
□ 960 °C for components in contact with live parts,
□ 650 °C for other components.

Straight lengths

Carry the current and supply low-power loads.
Straight lengths constitute the basic structure of the line and are made up of:

1 **a carrier casing**, crimp closed, made of hot-galvanised sheet steel, pre-lacquered RAL 9001 white. This rail also acts as the protective earth conductor (PE),
2 **an insulated mounting casing**, supporting the live conductors,
3 **four live aluminium conductors**, equipped with silver-plated aluminium/copper bimetal contacts at junctions and tap-off points,
4 **tap-off outlets** with automatic shutters that open and close automatically when tap-off units are installed or removed. They are equipped with blanking plugs to maintain the degree of protection IP55. There are one or two tap-offs per metre, depending on the version,
5 **a mechanical and electrical jointing system**. Electrical connection is via flexible grip contacts made of silver-plated copper. The system ensures automatic and simultaneous connection of all live conductors and the continuity of the protective earth conductor,
6 **three copper bus conductors** (Canalis KNT for the complementary offer).

DB403673.eps



Feed units

Supply a Canalis KN line, via a cable.
They can be mounted at the end of a line (end feed) or in the middle (central feed).
These units are made of moulded plastic for the 40, 63 and 100 A ratings and metal for the 160 A rating.
They are equipped with:
■ terminals for 16 mm² copper cables on the 63 A feed units, copper contacts for 35 mm² lugs on the 100 A feed units and for 95 mm² lugs on the 160 A feed units
■ multi-diameter knock-outs until 100 A rating and cable-gland plates for the 160 A rating
■ a 3 x 2.5 mm² terminal block for connection of the remote-transmission cable (Canalis KNT).

1 End feed units
They are equipped with a mechanical and electrical locating system (polarisation), making it possible to supply a run from the right or the left. They are supplied with an end cover.

2 Central feed units
They are supplied with two end covers.

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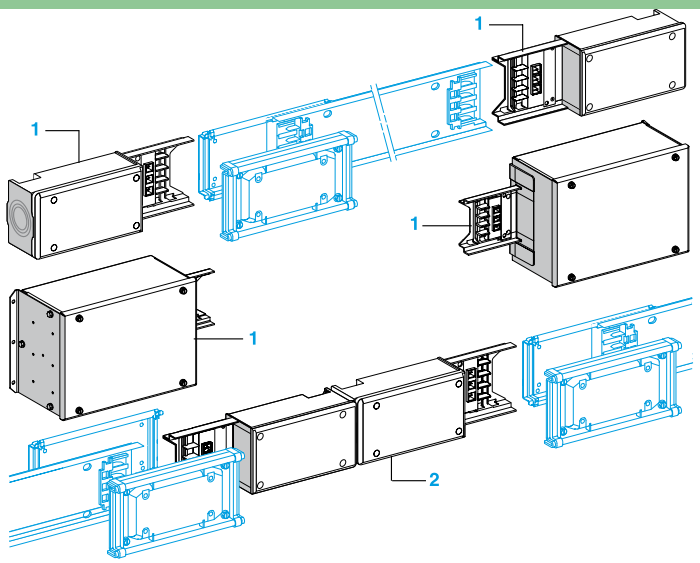
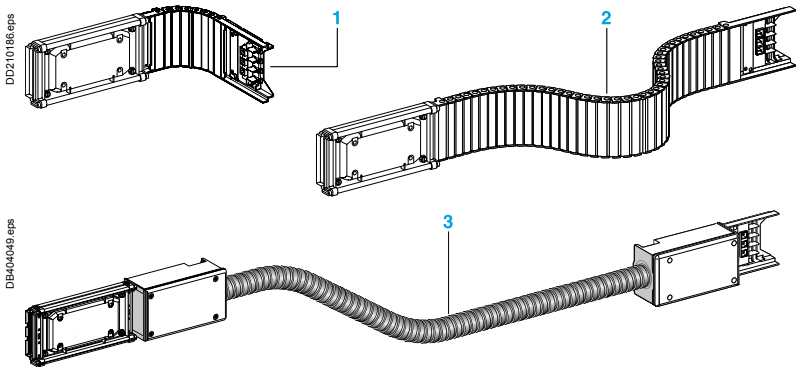


Components for changing direction

For changes in direction and detours around obstacles (posts, pipes). They can be shaped by hand, on site, to follow any path.



1 Flexible elbow

2 Flexible length
One metre long, these components can be used in corners to adjust to the lengths of the straight components running along three walls, regardless of the dimensions of the premises.

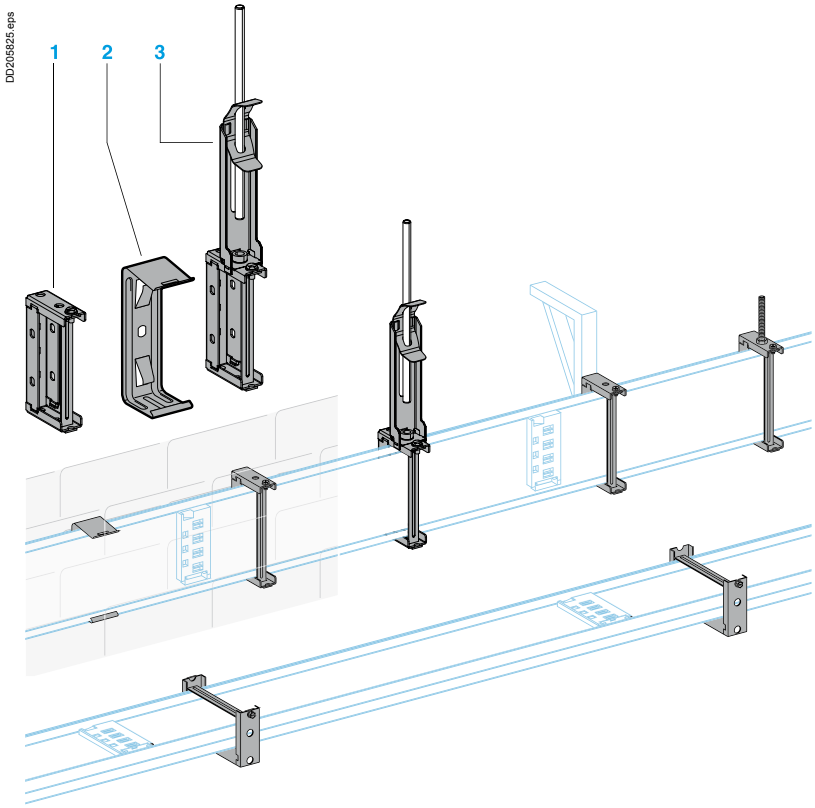
3 3D flexible length
Three metres long, it can be bent in any direction to avoid major obstacles, particularly useful in false ceilings.

Fixing system and additional cable duct

Fixing system

For attachment of the busbar trunking to the structure of the building, either directly or via threaded rods (8 mm diameter), brackets, etc.

The fixings are suitable for all types of mounting: on ceilings, suspended, on walls, etc. Regarding fixing installation, some tap-off outlets would not be available.



1 Universal fixing bracket
For edgewise or flat trunking installation.
The recommended fixing distance is three metres for trunking installed edgewise and 1.5 metres when installed flat.

2 Wall brackets
For edgewise mounting only. The recommended fixing distance is two metres.

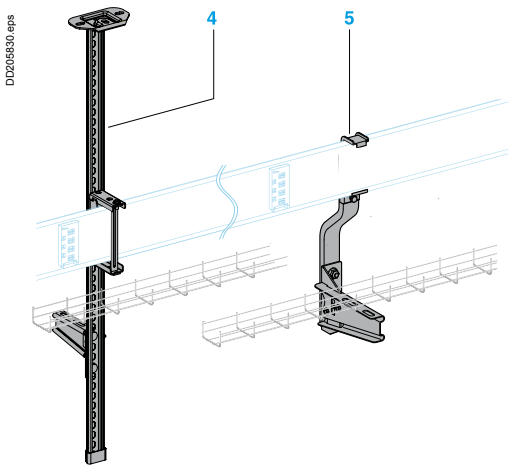
3 Spring fixing bracket
These brackets are used to suspend the KN line on threaded rods M8 and do not require tools. The bracket is attached to the treaded rod by the spring mechanism, without nuts or bolts. Adjustment of the length of the threaded rod is simplified and the KN trunking can be installed three times faster.
They are suitable for all ratings.

4 Pendant Kit
The pendant kit includes:

- a perforated pendant (length: 1 meter, width: 80 mm) used to suspend a KN line from the bulding structure, an IPN or the ceiling.

- a cantilever arm that supports the cable tray under the KN line.

- the mounting hardware required to secure the KN bracket and the cantilever arm to the pendant.
If neccessary, additional cantilever arms can be ordered.

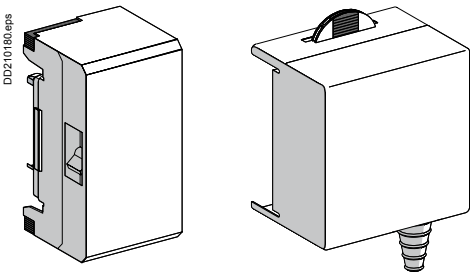


5 Fixing bracket for tracking
Designed for fast mounting, it supports the 100 mm cable trays made of perforated sheet-metal or wire mesh.
Can be directly installed on Canalis trunking: no addition fixing points required.

Tap-off units (not equipped)

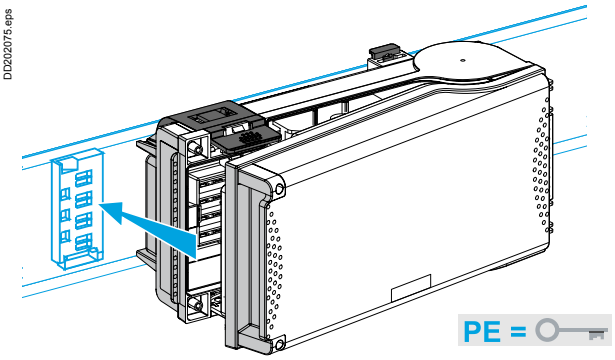
For rapid connection of loads or secondary lines (e.g. lighting), in compliance with installation standards CEI 60364 and regulations concerning TT, IT and TNS systems.

They can be handled under off-load conditions with the trunking energised.
All contacts are made of silver-plated copper.



Tap-off units with disconnection by unplugging

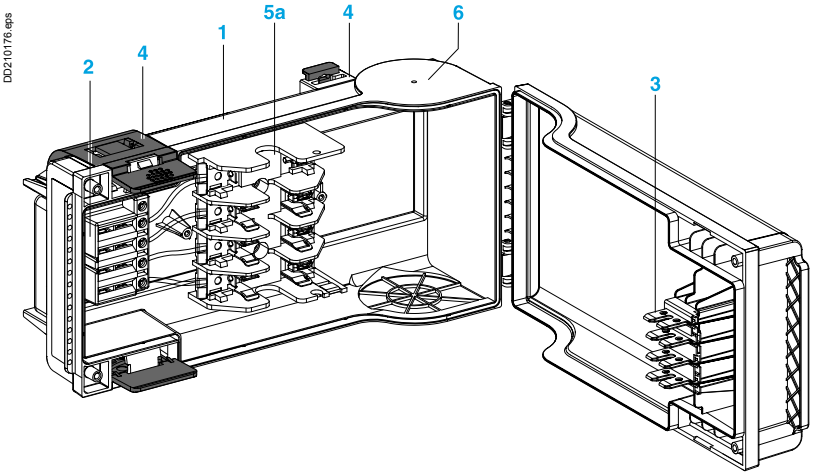
Disconnection by unplugging the tap-off unit.
Access to the electrical equipment and the terminals is possible only when the tap-off unit is unplugged (i.e. not energised).
A safety device prevents connection to the trunking when the cover has been removed.



Tap-off units with isolators

Category AC 20 disconnection is obtained by opening the tap-off unit cover. **Tap-off unit disconnection by opening or closing the cover should be carried out only if the downstreamload is de-energised.**
With the cover open, no live parts are accessible.
The degree of protection is IPxxB. (protected against access with a finger).

A number of safety devices prevent the operator from:
- plugging in the tap-off unit when the cover is closed
- closing the cover before the tap-off unit is locked onto the trunking
- unplugging the tap-off unit when the cover is closed.



1 Moulded plastic casing insulating material which is self-extinguishing and halogen free.

2 Power socket

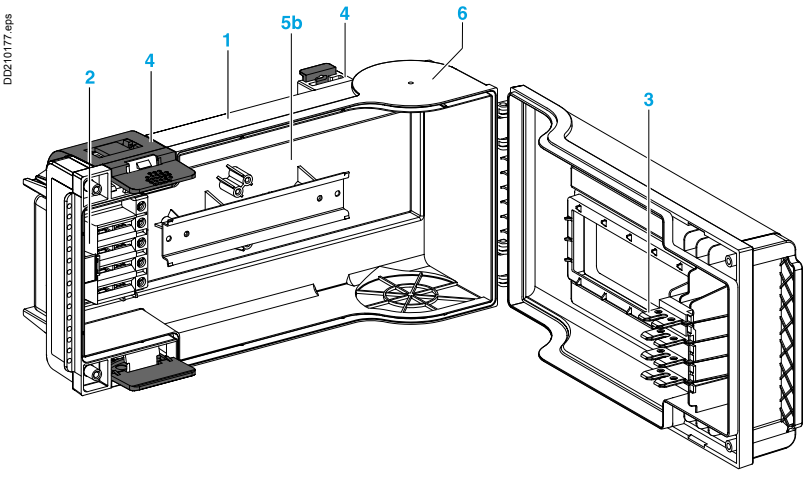
3 Cover equipped with contact blades

4 Trunking locking device (four points)

5 Protection device area:
5a for fuses
5b for iC60 type modular devices

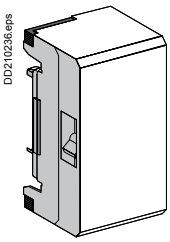
6 Cable exit knockouts

All tap-off units are manufactured in the KNA version (without a remote transmission bus).
They can be converted to the KNT version by adding an "Remote control power socket block" KNT 63ZT1 (see Accessories page) that must bo ordered separately.



Single-phase tap-off units with phase selection, equipped with a iC60 circuit breaker

They are equipped with a phase selection system (L1, L2 or L3 + N + PE).
Positioned as close as possible to the loads; extension leads are not required.

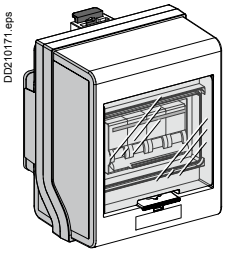


Tap-off unit with circuit breaker
For protection of the tap-off circuit by a circuit breaker.
It is equipped with a Multi 9 single-pole iC60 type circuit breaker.

Four-pole tap-off units for modular devices (not equipped)

Tap-off unit for modular devices
This tap-off unit accepts most devices available in multiples of 18 mm wide modules:
- rated current: 32 A
- maximum capacity: 5 modules.

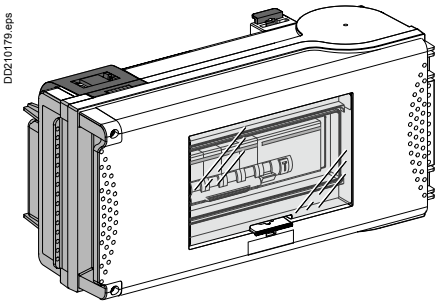
Tap-off unit covers can be lead sealed to prevent circuit-breaker switching by unauthorised persons.

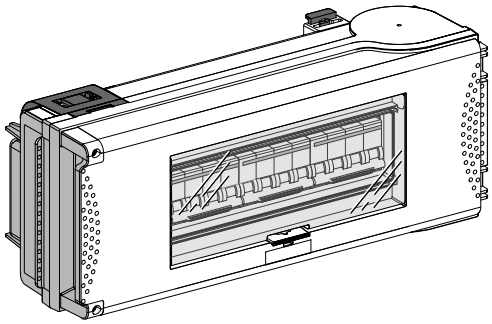


Tap-off units, with isolators, for modular devices (not equipped)

They can be equipped with modular Multi 9 iC60 type devices.
Rated current: 63 A
2 sizes available: 8 or 12 18 mm modules.
They are available with windows and blanking plates (devices visible and accessible) or with a plain cover (devices not accessible when energised).

Tap-off unit covers can be lead sealed to prevent circuit-breaker switching by unauthorised persons.





Tap-off units (with and without isolators) equipped with a SPD (Surge Protection Device)

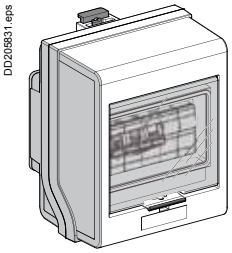
These tap-off units (with and without isolators) are pre-equipped with a modular Type 2 SPD (Surge Protection Device), with integrated disconnection device.

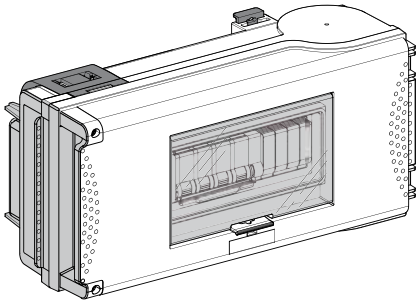
2 versions of 3P + N protection are available, based on Quick PF10 or Quick PRD40r.

These units are ready for use, can be plugged directly into the busbar trunking and do not require any additional wiring.

They should be positioned at least 30 m upstream of each load to be protected.

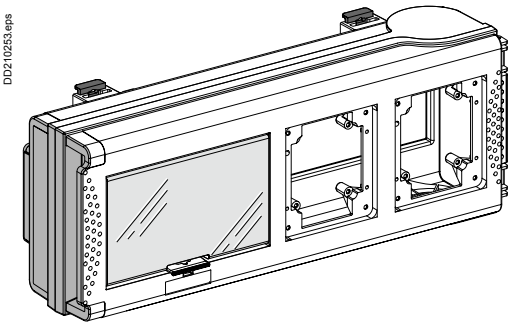
Tap-off unit covers can be lead sealed to prevent the SPD (Surge Protection Device) being tampered with by unauthorised persons.





Tap-off units with power sockets (not equipped)

For the supply of portable loads equipped with household or industrial plugs in a:
- garage,
- maintenance workshop,
- laboratory,
- battery charging room, etc.



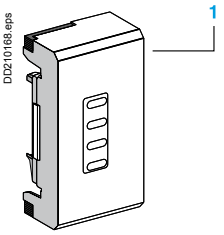
Rated courant: 32 A
Capacity: 8 modules in multiple of 18 mm wide
Two versions are available:
- pre-equipped with 2 PK or PratiKa power sockets
- customisable:
  - two 90 x 100 mm openings for PK-type (screw connections) or PratiKa (fast and reliable connection without stripping) industrial or household sockets.
  - direct mounting for industrial IEC 16 A 5P or IEC 32 A 3, 4 or 5P sockets.
  - mounting on 65 x 85 mm clip-on adapter plate for industrial IEC 16 A 3P or 5P and household 10/16 A 2P + PE sockets.

Tap-off unit covers can be lead sealed to prevent circuit-breaker switching by unauthorised persons.

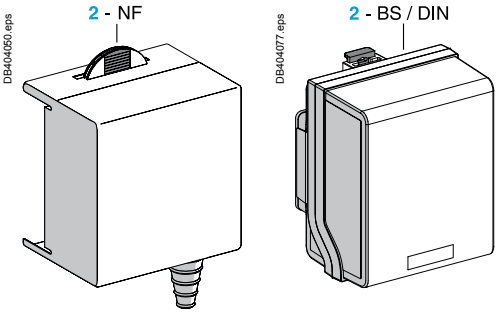
Tap-off units with fuse holders (not equipped)

For protection of the tap-off by a fuse (not supplied).

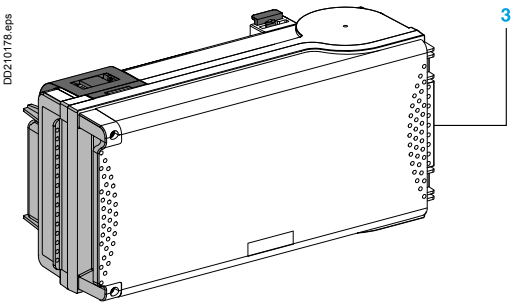
1 Single-phase tap-off unit
Can be equipped with fuse holders for:
- NF 8.5 x 31.5 fuse, 16 A maximum, gG and aM type,
- BS 88A1 fuse, 20 A maximum.



2 Four-pole tap-off unit
Can be equipped with fuse holders for:
- NF 10 x 38 fuse, 20 A maximum, gG type
- NF 10 x 38 fuse, 25 A maximum, aM type
- BS 88A1 fuse, 20 A maximum
- DIN Neozed E14 fuse, 16 A maximum.



3 Tap-off unit with isolator
Can be equipped with fuse holders for:
- NF 14 x 51 fuse, gG and aM type 50 A maxi.
- BS 88A1 fuse, 30 A
- DIN fuse, type Diazed E27 25 A or Diazed E33 50 A or Neozed E18, 50 A.



Accessories

Add-on bus connection block
Used to tap off the KNT bus.
Clips into all tap-offs with isolators and can be used to control the equipment via a bus (BatiBus...).

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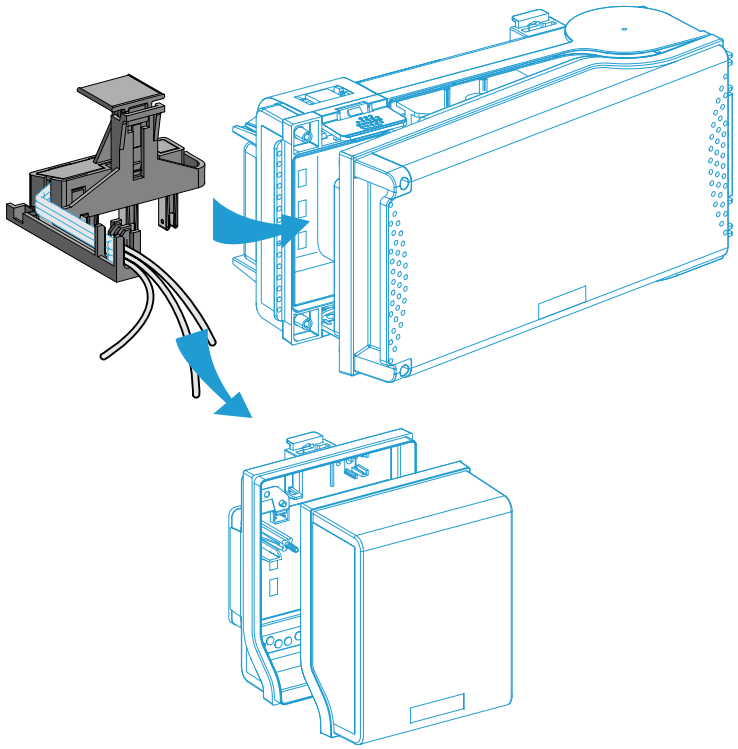

Outlet/tap-off unit interlocking device
Used to differentiate and mechanically lock out tap-off units when up to four different Canalis KN lines are present (voltage, frequency, etc.).

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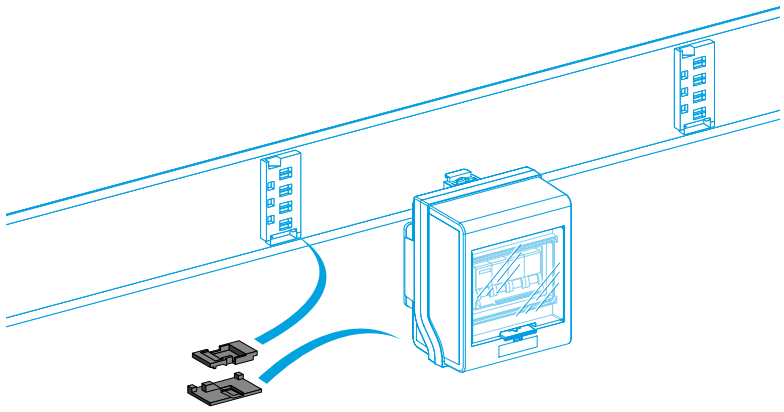
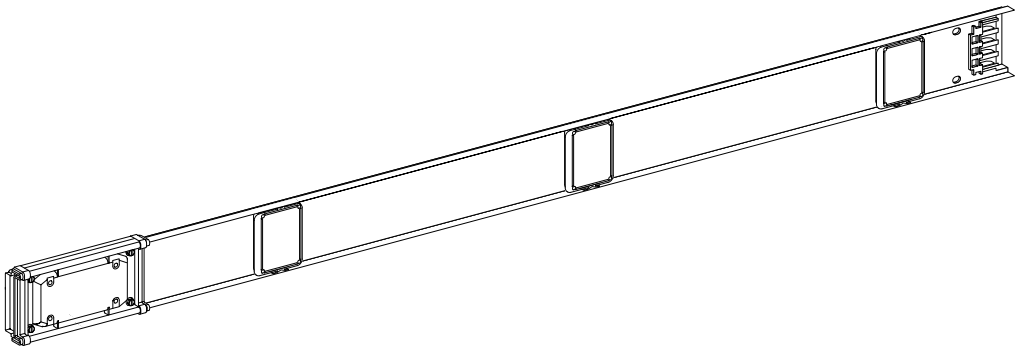


Canalis KN, 40 to 160 A
Busbar trunking for low-power distribution

Straight lengths with tap-off outlets

Catalogue numbers

DD205840.eps



Standard lengths

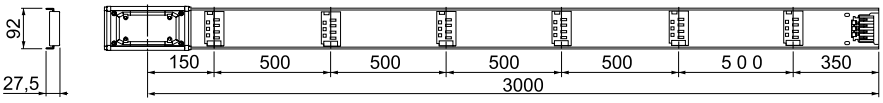
Polarity	3L + N + PE or 3L + PEN							
Rating (A)	40		63		100		160	
Length (mm)	3000		3000		3000		3000	
Number of tap-off outlets	3	6	3	6	3	6	3	6
Weight (kg)	5.60	5.60	5.70	5.70	6.70	6.70	7.30	7.30
Cat. no.	**KNA40ED4303**	**KNA40ED4306**	**KNA63ED4303**	**KNA63ED4306**	**KNA100ED4303**	**KNA100ED4306**	**KNA160ED4303**	**KNA160ED4306**

Additional lengths

Polarity	3L + N + PE or 3L + PEN					
Rating (A)	40	63		100		160
Length (mm)	3000	3000	2000	3000	2000	2000
Number of tap-off outlets	1	1	4	1	4	4
Weight (kg)	5.50	5.60	4.10	6.60	4.80	5.20
Cat. no.	**KNA40ED4301**	**KNA63ED4301**	**KNA63ED4204**	**KNA100ED4301**	**KNA100ED4204**	**KNA160ED4204**

Dimensions

DD210213.eps



KNA ●●●ED4306

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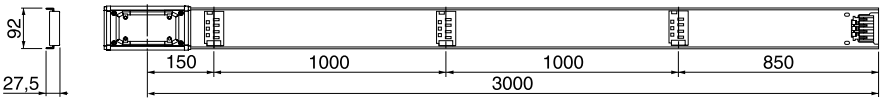

KNA ●●●ED4303

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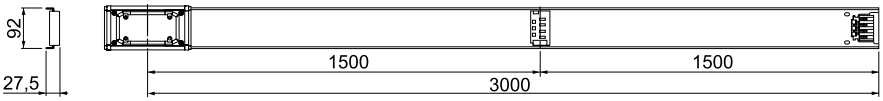
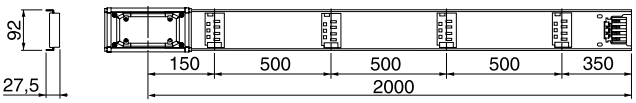


KNA●●●ED4301

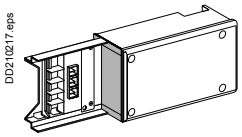
DD210216.eps

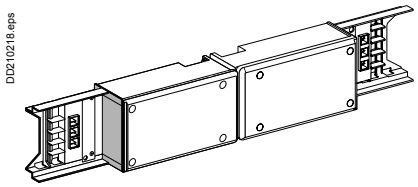


KNA●●●ED4204

Feed units (supplied with end cover)

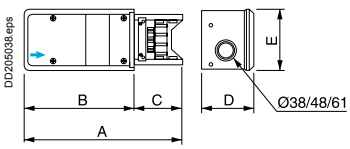
Catalogue numbers





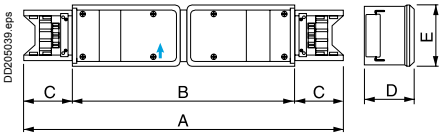
Designation		Feed unit					
Rating (A)		40 and 63	100	160	40 and 63	100	160
Mounting		Left or right	Left or right	Left or right	Central	Central	Central
Connection		Terminals	Lugs (M8 screws)	Lugs (M8 screws)	Terminals	Lugs (M8 screws)	Lugs (M8 screws)
Max. size (mm^2)	**Flexible**	16	35	95	16	35	95
	Rigid	25	50	95	25	50	95
Weight (kg)		0.58	1.12	2.80	1.47	2.94	5.50
Cat. no.		**KNA63AB4**	**KNA100AB4**	**KNA160AB4**	**KNA63ABT4**	**KNA100ABT4**	**KNA160ABT4**

Dimensions



KNA●●●AB4

Dim.	A	B	C	D	E
40 to 63 A	265	165	100	71	92
100 A	340	238	102	112	127
160 A	256	258	98	130	185



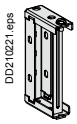
KNA●●●ABT4

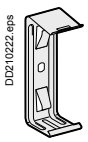
Dim.	A	B	C	D	E
40 to 63 A	535	335	100	71	92
100 A	685	481	102	112	127
160 A	600	502	98	122	243

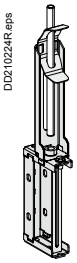
→ Cable entry

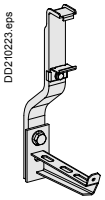
Fixing system and routing system

Catalogue numbers





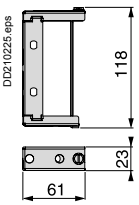




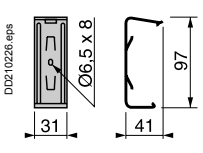
Designation	Fixing bracket		Spring fixing bracket	Fixing bracket
Rating (A)	40 to 160			
Max. load (kg)	80	39	100	11
Mounting	Suspended on M8 threaded rod (1)	Wall mounting (2)	Suspended on M8 threaded rod (1)	Clipped on trunking (3)
Order in multiple of	10	10	10	4
Weight (kg)	0.126	0.032	0.26	0.82
Cat. no.	**KNB160ZF1**	**KNB160ZF2**	**KNB160ZFPU**	**KNB160ZFG100**

(1) Maximum recommended distance between fixings: 3 meters.
(2) Maximum recommended distance between fixings: 2 meters.
(3) Maximum recommended distance between fixings: 1.5 meters.

Dimensions



KNB160ZF1



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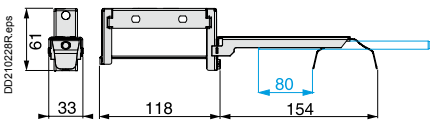
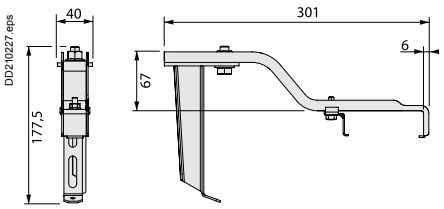


KNB160ZFPU



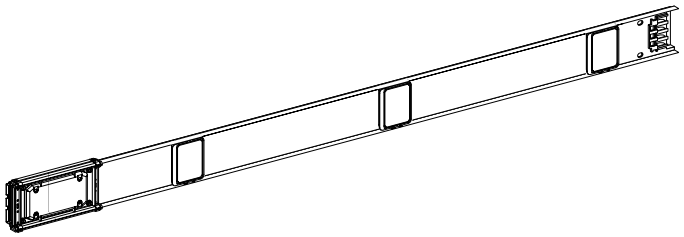
KNB160ZFG100

Canalis KN, 40 to 160 A
Busbar trunking for low-power distribution
Complementary products

Straight lengths with built-in transmission bus

Catalogue numbers

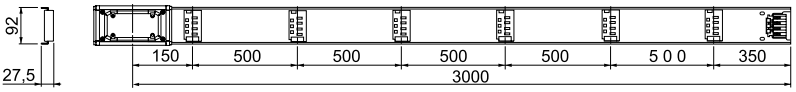
DD205841.eps



Polarity	3L + N + PE or 3L + PEN							
Rating (A)	40		63			100		
Length (mm)	3000		3000		2000	3000		2000
Number of tap-off outlets	3	6	3	6	4	3	6	4
Weight (kg)	5.6	5.6	5.7	5.7	4.1	6.7	6.7	4.8
Cat. no.	**KNT40ED4303**	**KNT40ED4306**	**KNT63ED4303**	**KNT63ED4306**	**KNT63ED4204**	**KNT100ED4303**	**KNT100ED4306**	**KNT100ED4204**

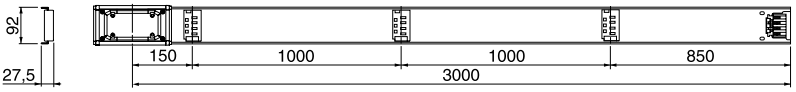
Dimensions

DD210213.eps



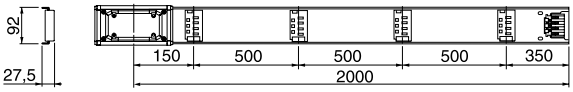
KNT ●●●ED4306

DD210214.eps



KNT ●●●ED4303

DD210215.eps

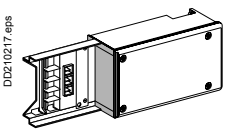


KNT●●●ED4204

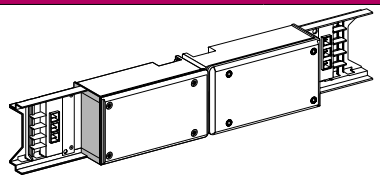
Feed units with built-in transmission bus (supplied with end cover)

Catalogue numbers

DD210217.eps



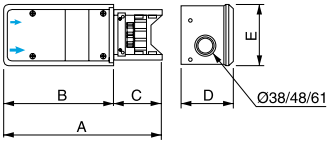
DD210218.eps



Designation		Feed unit			
Rating (A)		40 to 63	100	40 to 63	100
Mounting		Left or right	Left or right	Central	Central
Connection		Terminals	Lugs (M8 screws)	Terminals	Lugs (M8 screws)
Max. size (mm^2)	**Flexible**	16	35	16	35
	Rigid	25	50	25	50
Weight (kg)		0.58	1.12	1.47	2.94
Cat. no.		**KNT63AB4**	**KNT100AB4**	**KNT63ABT4**	**KNT100ABT4**

Dimensions

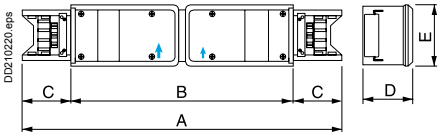
DD210219.eps



Dim.	40 to 63 A	100 A
A	265	340
B	165	238
C	100	102
D	71	112
E	92	127

KNT ●●●AB4

DD210220.eps



Dim.	40 to 63 A	100 A
A	535	685
B	335	481
C	100	102
D	71	112
E	92	127

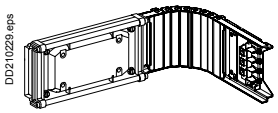
KNT ●●●ABT4

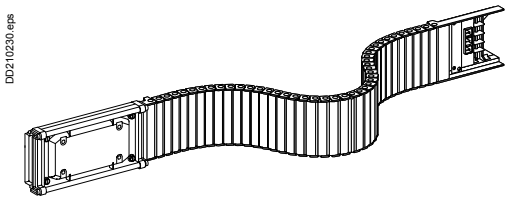
➔ Cable entry
➔ Transmission bus cable entry

Component for changing direction (one dimension)

Catalogue numbers

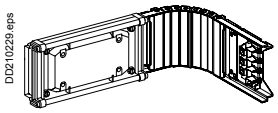
Standard

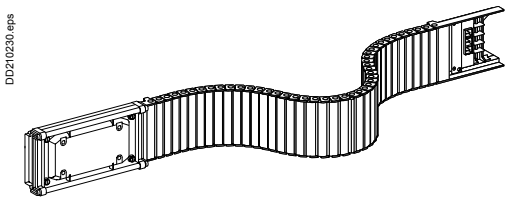




Designation	Flexible elbow, for internal or external angle, 80° to 180°			Flexible length, 1 m for detours around obstacles		
Rating (A)	40 to 63	100	160	40 to 63	100	160
Direction (edgewise)	Left or right			Left or right		
Weight (kg)	1.2	1.3	1.5	2.1	2.3	2.5
Cat. no.	**KNA63DL4**	**KNA100DL4**	**KNA160DL4**	**KNA63DF410**	**KNA100DF410**	**KNA160DF410**

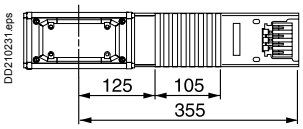
With built-in transmission bus



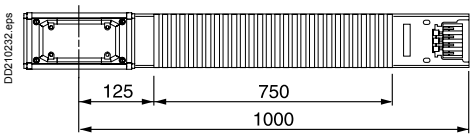


Designation	Flexible elbow, for internal or external angle, 80° to 180°		Flexible length, 1 m for detours around obstacles		
Rating (A)	40 to 63	100	40 to 63	100	
Direction (edgewise)	Left or right		Left or right		
Weight (kg)	1.2	1.3	2.1	2.3	
Cat. no.	**KNT63DL4**	**KNT100DL4**	**KNT63DF410**	**KNT100DF410**	

Dimensions



KNA●●●DL4, KNT●●●DL4

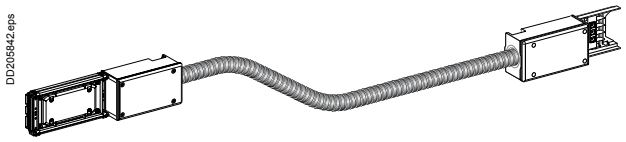


KNA●●●DF410, KNT●●●DF410

Canalis KN, 40 to 160 A
Busbar trunking for low-power distribution
Complementary products

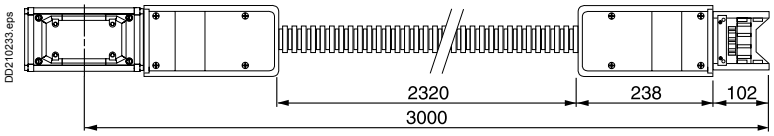
Components for changing direction (two dimensions)

Catalogue numbers

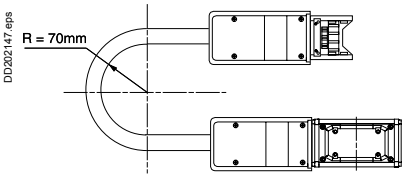


Designation	Elément souple de 3 m
Rating (A)	100
Direction (edgewise)	Left or right, up or down
Weight (kg)	5.00
Cat. no.	**KNA100EDF430**

Dimensions



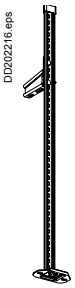
KNA100EDF430

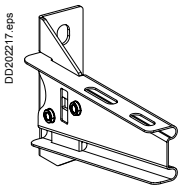


Minimum curve radius

Trunking fixing system

Catalogue numbers

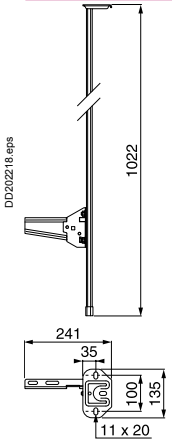




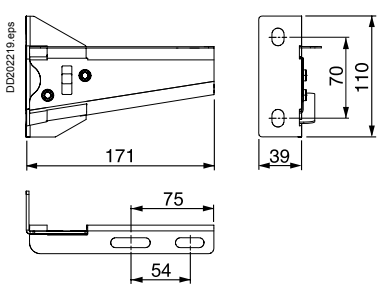
Designation	Pendant kit (1)	Cantilever arm, 100 mm
Rating (A)	40 to 160	40 to 160
Max. load (kg)	16	250
Mounting	Under ceiling or I-beam	Wall or pendant
Order in multiple of	4	4
Weight (kg)	1.60	0.35
Cat. no.	**KNB160ZFKP1**	**KFBCA81100**

(1) Maximun recommended distance between fixings: 3 meters.

Dimensions



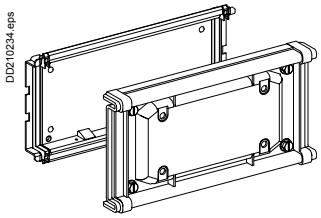
KNB160ZFKP1

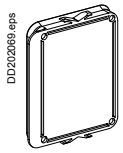


KFBCA81100

Accessories - Spare parts with built-in transmission bus

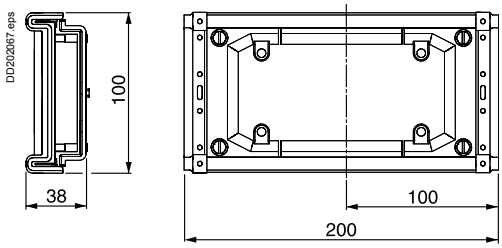
Catalogue numbers





Designation	Electrical and mechanical jointing unit				IP55 blanking plate
Rating (A)	40 to 63	100 to 160	40 to 63	100	All
Order in multiple of	1	1	-	-	10
Weight (kg)	0.6	0.6	0.6	0.6	0.02
Cat. no.	**KNA63ZJ4**	**KNA160ZJ4**	**KNT63ZJ4**	**KNT100ZJ4**	**KNB160ZB1**

Dimensions



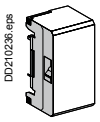
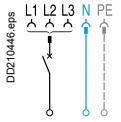
KNA●●ZJ4, KNT●●ZJ4

Ue = 230...500 V
RAL 9001 white

Canalis KN, 40 to 160 A
Busbar trunking for low-power distribution
16 to 32 A tap-off units for modular devices

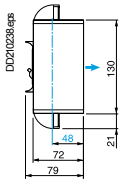
Single-phase IP41 tap-off unit with phase selection, equipped with a iC60 circuit breaker
Disconnection by unplugging the tap-off unit

Catalogue numbers

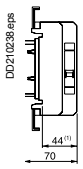
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC	
	Connector	TT - TNS - TNS	
			
Tap-off polarity		L + N + PE	
E.g. circuit-breaker protection			
Rating (A)		16	
Circuit breaker (supplied)		iC60N, 1P, curve N	iC60H, 1P, curve H
Connection		iC60	iC60
Max. size (mm²)	**Flexible**	4	4
	Rigid	6	6
Cable gland (not supplied)		Cable clamp supplied	Cable clamp supplied
Weight (kg)		0.34	0.34
Cat. no.		**KNB16CM2** (1)	**KNB16CM2H** (1)

(1) Adaptatation for transmission bus (KNT) with remote control power socket block KNT63ZT1 not possible.

Dimensions



KNB16CM2
KNB16CM2H



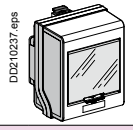
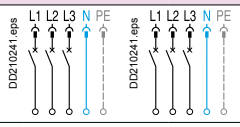
KNB16CM2
KNB16CM2H

Cable exit
Centre line of tap-off outlets

(1) *Protruding.*

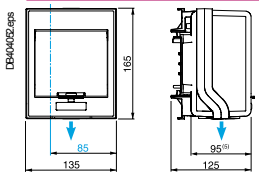
Four-pole IP55 tap-off unit (not equipped) (1)
Disconnection by unplugging the tap-off unit

Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (2)	
	Tap-off unit	TT - TNS - TNS - IT (2)	
			
Tap-off polarity		3L + N + PE (3)	
E.g. circuit-breaker protection			
Rating (A)		32	
Circuit breaker (not supplied)		5 (1)	
Connection		Pre wired	
Max. size (mm²)	**Souple**	6	
	Rigide	10	
Cable gland (not supplied)		ISO 32 max.	
Weight (kg)		0.60	
Cat. no.		**KNB32CM55**	

(1) Supplied with blanking plate (1 x 5 divisible).
(2) The neutral must be protected or not distributed (3L + PE) for IT system.
(3) Also suitable for tap-off unit 3L + PE (N not distributed).
(4) Maximum diameter for a multipolar cable.

Dimensions



KNB32CM55

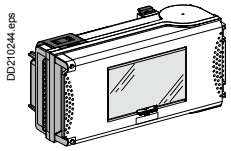
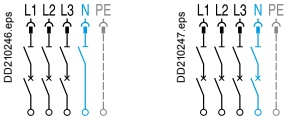
Cable exit
Centre line of tap-off outlets

(5) *Protruding.*

Tap-off unit IP55 with isolator (not equipped) (1)

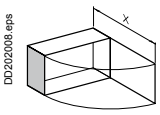
Disconnection by opening the tap-off unit cover

Catalogue numbers

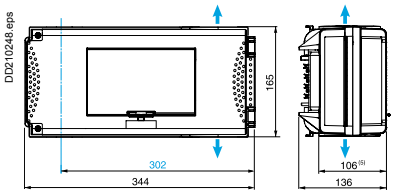
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (2)	
	Tap-off unit	TT - TNS - TNS - IT (2)	
			
Tap-off polarity		3L + N + PE (3)	
E.g. circuit-breaker protection			
Rating (A)		63	
Circuit breaker (not supplied)		12 (1)	12 (1)
Connection		Tunnel terminals	
Max. size (mm²)	**Flexible**	25	
	Rigid	25	
Cable gland (not supplied)		ISO 50 max.	ISO 50 max. or 1 x 32 + 2 x 25
Weight (kg)		2.40	2.70
Cat. no.		**KNB63SM48**	**KNB63SM412**

(1) Supplied with blanking plates 2 x 5 divisible.
(2) The neutral must be protected or not distributed (3L + PE) for IT system.
(3) Also suitable for tap-off unit 3L + PE (N not distributed).
(4) Maximum diameter for a multipolar cable.

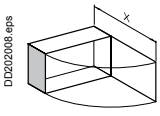
Dimensions



X = 432.5



KNB63SM48



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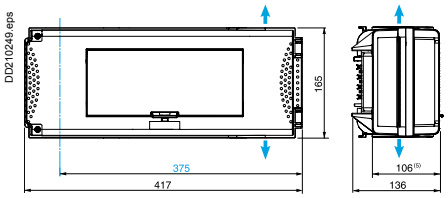


KNB63SM412

Cable exit
Centre line of tap-off outlets

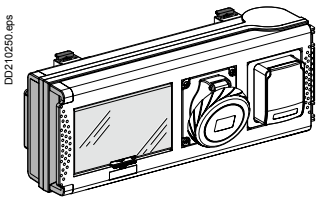
***(5)** Protruding.*

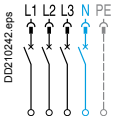
Canalis KN, 40 to 160 A
Busbar trunking for low-power distribution
32 A tap-off unit, with power sockets protected by modular devices

Tap-off unit with power sockets (1)(2)
Disconnection by unplugging the tap-off unit

Catalogue numbers

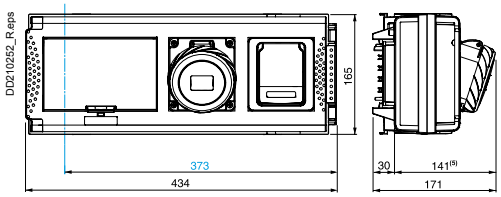
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (3)							
	Tap-off unit	TT - TNS - TNS - IT (3)							



Tap-off polarity		3L + N + PE							
E.g. circuit-breaker protection Tap-off unit wiring depends on the sockets used		 							
Rating (A)		32							
Number of modules (18 mm)		8 (1)							
Equipment	**Quantity**	2	2	1	1	1	1	1	1
	Type	Household socket Schuko	Household socket NF	Household socket NF	Industrial socket	Household socket Schuko	Industrial socket	Industrial socket	Industrial socket
	Current (A)	10/16	10/16	10/16	16	10/16	16	16	16
	Voltage (V)	230	230	230	415	230	415	230	415
	Polarity	2P + T	2P + T	2P + T	3P + N + T	2P + T	3P + N + T	2P + T	3P + N + T
Weight (kg)		2.90	2.90	3.00		3.00		3.10	
Cat. no. (4)		**KNB32CP11D**	**KNB32CP11F**	**KNB32CP15F**		**KNB32CP15D**		**KNB32CP35**	

(1) Supplied with blanking plate (1 x 5 divisible).
(2) These tap-off units are equipped with flush-mounted power sockets.
(3) The neutral must be protected or not distributed (3L + PE) for IT system.
(4) Adaptatation for transmission bus (KNT) with remote control power socket block KNT63ZT1 not possible.

Dimensions



KNB32CP●●●

Centre line of tap-off outlets

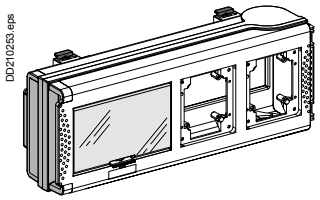
***(5)** Protruding.*

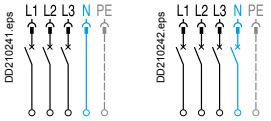
Empty tap-off units (1) (2)

Disconnection by unplugging the tap-off unit

Catalogue numbers

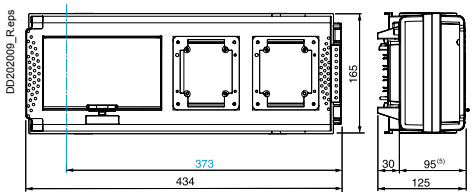
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (3)
	Tap-off unit	TT - TNS - TNS - IT (3)



Tap-off polarity	3L + N + PE
E.g. circuit-breaker protection Tap-off unit wiring depends on the sockets used	
Rating (A)	32
Number of modules (18 mm)	8 (1)
Equipment	Tap-off unit not equipped. Free choice of equipment and power sockets
Weight (kg)	2.70
Cat. no. (4)	**KNB32CP**

(1) Supplied with blanking plate (1 x 5 divisible).
(2) This tap-off unit is equipped with an adapter plate for flush-mounted power sockets.
(3) The neutral must be protected or not distributed (3L + PE) for IT system.
(4) Adaptatation for transmission bus (KNT) with remote control power socket block KNT63ZT1 not possible.

Dimensions



KNB32CP

Centre line of tap-off outlets

***(5)** Protruding*

Power sockets

Catalogue numbers

Designation	Industrial sockets							
Rated current (A)	16				32 (6)			
Rated voltage (V AC)	200-250		380-415		200-250		380-415	
Number of poles	2P + T	3P + N + T	2P + T	3P + N + T	2P + T	3P + N + T	2P + T	3P + N + T
Dimensions (W x H in mm)	65 x 85	90 x 100	65 x 85	90 x 100	90 x 100	90 x 100	90 x 100	90 x 100
Cat. no.	**PKY16F723**	**PKY16F725**	**PKY16F733**	**PKY16F735**	**PKY32F723**	**PKY32F725**	**PKY32F733**	**PKY32F735**

Designation	**Household NF sockets**	**Household Schuko sockets**	**Screw-on plate**	
Rated current (A)	10 to 16	10 to 16	For blanking of unused openings	For adapting 65 x 85 mm power-socket bases
Rated voltage (V AC)	250	250	-	-
Number of poles	2P + T	2P + T	-	-
Dimensions (W x H in mm)	65 x 85	65 x 85	-	-
Weight (kg)	-	-	0.10	0.09
Cat. no.	**81140**	**81141**	**13137**	**13136**

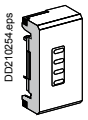
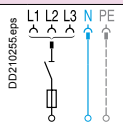
(6) The sum of currents in the 2 sockets installed on the tap-off units ⩽ 32 A.

Ue = 230...500 V
RAL 9001 white

Canalis KN, 40 to 160 A
Busbar trunking for low-power distribution
16 to 25 A tap-off units for NF fuses

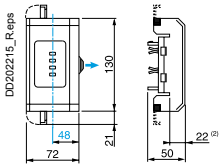
Single-phase IP41 tap-off unit with phase selection for cylindrical fuses
Disconnection by unplugging the tap-off unit

Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC	
	Tap-off unit	TT - TNS - TNS	
			
Tap-off polarity		L + N + PE	
E.g. fuse protection			
Rating (A)		16	
For fuses (not supplied)		NF 8.5 x 31.5, Type gG: 16 A max., Type aM : 16 A max.	
Connection		Cable clamp terminals	
Max. size (mm²)	**Flexible**	4	
	Rigid	6	
Cable gland (not supplied)		Cable clamp supplied	
Weight (kg)		0.16	
Cat. no.		**KNB16CF2** (1)	

(1) Adaptatation for transmission bus (KNT) with remote control power socket block KNT63ZT1 not possible.

Dimensions



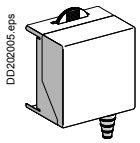
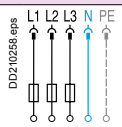
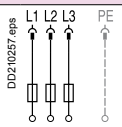
KNB16CF2

Cable exit
Centre line of tap-off outlets

***(2)** Protruding.*

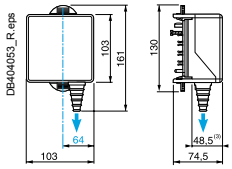
Four-pole IP55 tap-off unit for cylindrical fuses
Disconnection by unplugging the tap-off unit

Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC	IT
	Tap-off unit	TT - TNS - TNS	IT
			
Tap-off polarity		3L + N + PE (3)	3L + PE
E.g. fuse protection			
Rating (A)		25	
For fuses (not supplied)		NF 10 x 38, Type gG: 20 A max., Type aM: 25 A max.	
Connection		Cable clamp terminals	
Max. size (mm²)	**Flexible**	6	
	Rigid	10	
Cable gland (not supplied)		Cable clamp supplied	
Weight (kg)		0.38	
Cat. no.		**KNB25CF5** (2)	

(1) Also suitable for tap-off unit 3L + PE (N not distributed).
(2) Adaptatation for transmission bus (KNT) with remote control power socket block KNT63ZT1 not possible.

Dimensions



KNB25CF5

Cable exit
Centre line of tap-off outlets

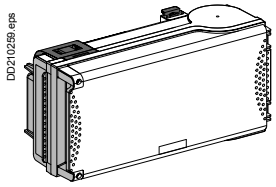
***(3)** Protruding.*

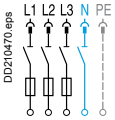
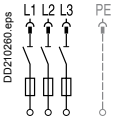
Tap-off unit IP55 with isolator for cylindrical fuses

Disconnection by opening the tap-off unit cover

Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC	IT
	Tap-off unit	TT - TNS - TNS	IT

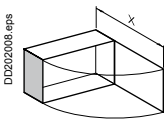


Tap-off polarity	3L + N + PE (1)	3L + PE
E.g. fuse protection		

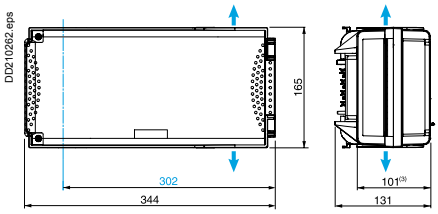
Rating (A)		50
For fuses (not supplied)		NF 14 x 51 Type gG: 50 A max. Type aM: 50 A max.
Connection		Cable clamp terminals
Max. size (mm²)	**Flexible**	16
	Rigid	16
Cable gland (2) (not supplied)		ISO 50 max.
Weight (kg)		1.50
Cat. no.		**KNB50SF4**

(1) Also suitable for tap-off unit 3L + PE (N not distributed)
(2) Maximum diameter for a multipolar cable.

Dimensions



X = 420



KNB50SF4

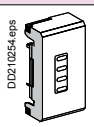
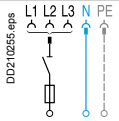
Cable exit
Centre line of tap-off outlets

***(5)** Protruding.*

Canalis KN, 40 to 160 A
Busbar trunking for low-power distribution
16 to 20 A tap-off units for BS fuses

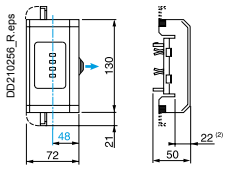
Single-phase tap-off unit with phase selection for screw-mounted fuses
Disconnection by unplugging the tap-off unit

Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC	
	Tap-off unit	TT - TNS - TNS	
			
Tap-off polarity		L + N + PE	
E.g. fuse protection			
Rating (A)		16	
For fuses (not supplied)		BS88 A1	
Connection		Cable clamp terminals	
Max. size (mm²)	**Flexible**	4	
	Rigid	6	
Cable gland (not supplied)		Cable clamp supplied	
Weight (kg)		0.16	
Cat. no.		**KNB16CG2** (1)	

(1) Adaptatation for transmission bus (KNT) with remote control power socket block KNT63ZT1 not possible.

Dimensions



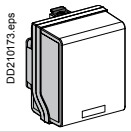
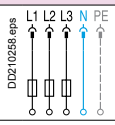
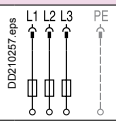
KNB16CG2

Cable exit
Centre line of tap-off outlets

***(2)** Protruding.*

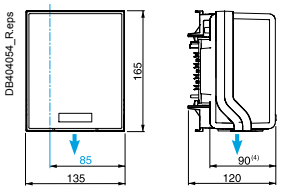
Four-pole tap-off unit for screw-mounted fuses
Disconnection by unplugging the tap-off unit

Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC	IT
	Tap-off unit	TT - TNS - TNS	IT
			
Tap-off polarity		3L + N + PE (1)	3L + PE
E.g. fuse protection			
Rating (A)		20	
For fuses (not supplied)		BS88 A1	
Connection		Cable clamp terminals	
Max. size (mm²)	**Flexible**	6	
	Rigid	10	
Cable gland (not supplied)		ISO 32 max.	
Weight (kg)		0.60	
Cat. no.		**KNB20CG5** (3)	

(1) Also suitable for tap-off unit 3L + PE (N not distributed).
(2) Maximum diameter for a multipolar cable.
(3) Adaptatation for transmission bus (KNT) with remote control power socket block KNT63ZT1 not possible.

Dimensions



KNB20CG5

Cable exit
Centre line of tap-off outlets

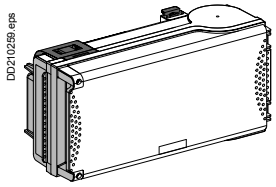
***(4)** Protruding.*

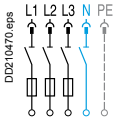
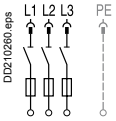
Tap-off unit with isolator for screw-mounted fuses

Disconnection by opening the tap-off unit cover

Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC	IT
	Tap-off unit	TT - TNS - TNS	IT

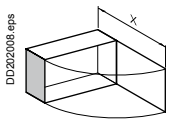


Tap-off polarity	3L + N + PE (1)	3L + PE
E.g. fuse protection		

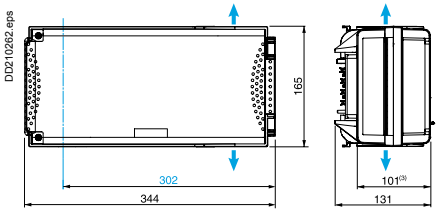
Rating (A)		32
For fuses (not supplied)		BS88 A1
Connection		Cable clamp terminals
Max. size (mm²)	**Flexible**	10
	Rigid	10
Cable gland (not supplied)		ISO 50 maxi.
Weight (kg)		1.50
Cat. no.		**KNB32SG4**

(1) Also suitable for tap-off unit 3L + PE (N not distributed).
(2) Maximum diameter for a multipolar cable.

Dimensions



X = 432.5



KNB32SG4

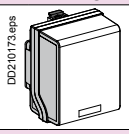
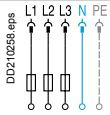
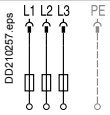
Cable exit
Centre line of tap-off outlet

***(5)** Protruding.*

Canalis KN, 40 to 160 A
Busbar trunking for low-power distribution
16 A tap-off units and 25 to 50 A tap-off units for DIN fuses

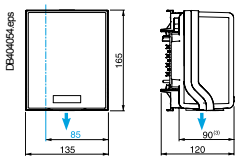
Four-pole tap-off unit for screw-type fuses
Disconnection by unplugging the tap-off unit

Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC	IT
	Tap-off unit	TT - TNS - TNS	IT
			
Tap-off polarity		3L + N + PE (1)	3L + PE
E.g. fuse protection			
Rating (A)		16	
For fuses (not supplied)		Néozed E14	
Connection		Screw terminal	
Max. size (mm²)	**Flexible**	4	
	Rigid	6	
Cable gland (not supplied)		ISO 32 max.	
Weight (kg)		0.60	
Cat. no.		**KNB16CN5** (3)	

(1) Also suitable for tap-off unit 3L + PE (N not distributed).
(2) Maximum diameter for a multipolar cable.
(3) Adaptatation for transmission bus (KNT) with remote control power socket block KNT63ZT1 not possible.

Dimensions



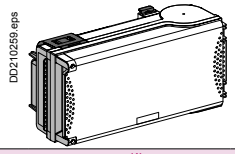
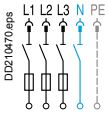
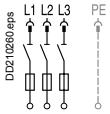
KNB16CN5

Cable exit
Centre line of tap-off outlets

(4) Protruding.

Tap-off units for screw-type fuses
Disconnection by unplugging the tap-off unit

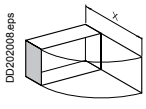
Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC	IT	
	Tap-off unit	TT - TNS - TNS	IT	
				
Tap-off polarity		3L + N + PE (1)	3L + PE	
E.g. fuse protection				
Rating (A)		25	50	50
For fuses (not supplied)		Diazed E27	Néozed E18	Diazed E33
Connection		Tunnel terminals	Tunnel terminals	Tunnel terminals
Max. size (mm²)	**Flexible**	16	16	16
	Rigid	16	16	16
Cable gland (not supplied)		ISO 50 max.	ISO 50 max.	ISO 50 max.
Weight (kg)		1.50	1.50	1.50
Cat. no.		**KNB25SD4**	**KNB50SN4**	**KNB50SD4**

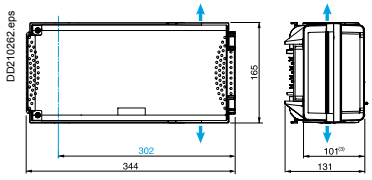
(1) Also suitable for tap-off unit 3L + PE (N not distributed).
(2) Maximum diameter for a multipolar cable.

Note: *Tap-off unit disconnection by opening the cover should be carried out only if the downstream load is de-energised.*

Dimensions



X = 432.5

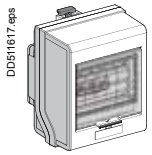


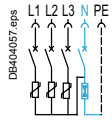
KNB●●S●4

Tap-off units equipped with a surge arrester
Disconnection by unplugging the tap-off unit

Catalogue numbers

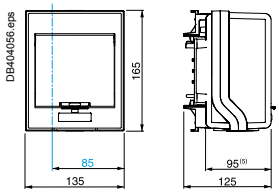
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC



Tap-off polarity		3L + N + PE (1)
Diagram		
Protection type		Type 2
Surge arrester cartridges (supplied)		Fixed
Connection		Pre-wired
Permissible short-circuit	**Isc (kA)**	6
Max. discharge current	**Imax (kA)**	10
Weight (kg)		1.3
Cat. no.		**KNBQPF**

Surge arrester installed: Quick PF10, 3P + N, cat. no. 16618 (Type 2 monoblock surge arrester, with fixed cartridges and integrated disconnection device, certified IEC 81643-1, EN 61643-11).
(1) Also suitable for tap-off unit 3L + PE (N not distributed).

Dimensions



KNBQPF

Centre line of tap-off outlets

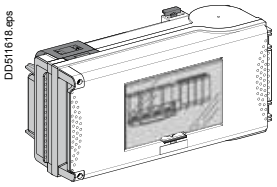
(5) *Protruding.*

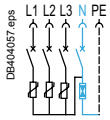
Canalis KN, 40 to 160 A
Busbar trunking for low-power distribution
Tap-off units equipped with a surge arrester

Tap-off units with isolator equipped with a surge arrester
Disconnection by opening the tap-off unit cover

Catalogue numbers

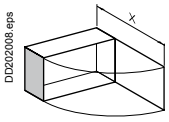
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC



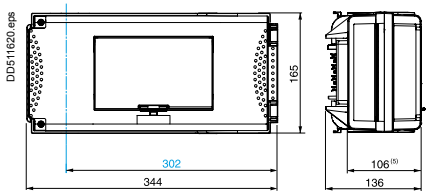
Tap-off polarity		3L + N + PE (1)
Diagram		
Protection type		Type 2
Surge arrester cartridges (supplied)		Removable
Connection		Pre-wired
Permissible short-circuit	**Isc (kA)**	25
Max. discharge current	**Imax (kA)**	40
Weight (kg)		3.40
Cat. no.		**KNBQPRD**

Surge arrester installed: Quick PRD40r, 3P + N, cat. no. 16294 (Type 2 monoblock surge arrester, with fixed cartridges and integrated disconnection device, certified IEC 81643-1, EN 61643-11).
(1) Also suitable for tap-off unit 3L + PE (N not distributed).

Dimensions



X = 432.5



KNBQPRD

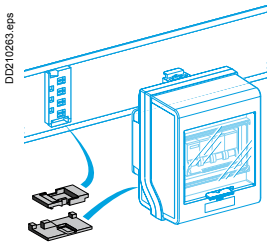
Centre line of tap-off outlets

***(5)** Protruding.*

Accessories

Catalogue numbers

For all tap-off units



Designation	Outlet/tap-off unit interlocking device			
Colour	White	Red	Yellow	Blue
Order in multiple of	10	10	10	10
Weight (kg)	0.01	0.01	0.01	0.01
Cat. no.	**KNB160ZL10**	**KNB160ZL20**	**KNB160ZL30**	**KNB160ZL40**

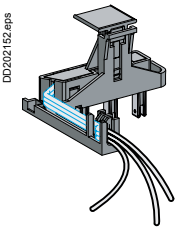
For tap-off units with modular devices

Designation	Modular blanking plate	Screw-on plate		Adhesive label (1)		
Description	Divisible set of 10 x 5	For blanking of unused openings	For adapting 65 x 85 mm power-socket bases	Set of 12 label-holders (height 24 mm)	Set of 12 labels (height 24 mm)	Set of 12 divisible labels (height 24 mm)
Weight (kg)	0.08	0.10	0.09	0.50	0.50	0.50
Cat. no.	**13940**	**13137**	**13136**	**08905**	**08903**	**08907**

(1) Self-adhevise support complete with transparent cover and paper label.

Catalogue numbers

For tap-off units (2)



Designation	Remote control power socket block
Order in multiple of	1
Weight (kg)	0.035
Cat. no.	**KNT63ZT1**

(2) KNT63ZT1 is compatible with the following tap-off units:
- Four-pole tap-off unit
- Tap-off unit with isolator
- Tap-off unit with isolator for cylindrical fuses
- Tap-off unit with isolator for screw-mounted fuses
- Tap-off units for screw-type fuses.

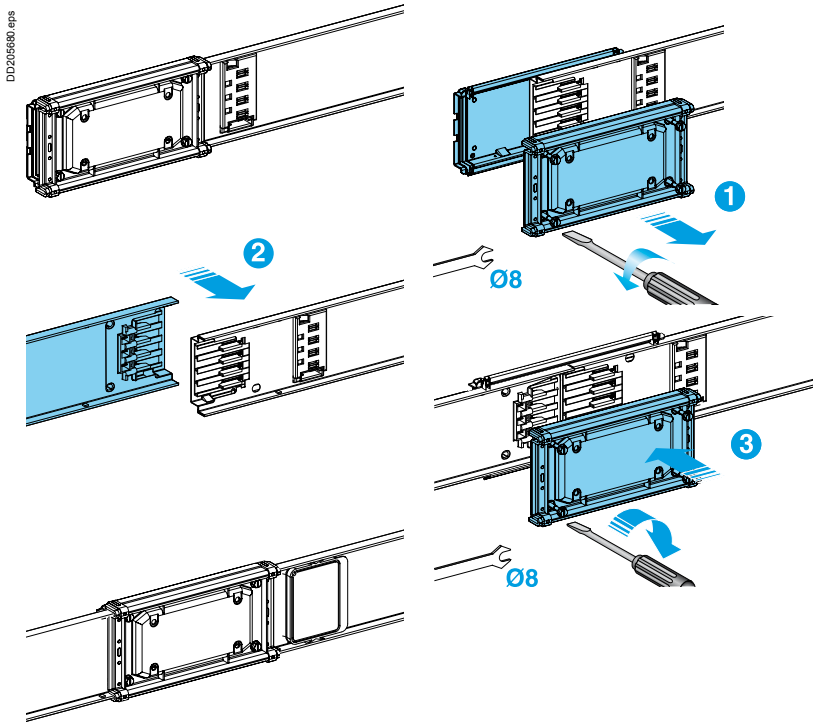
IP55
Ue = 230...500 V
RAL 9001 white

Canalis KN, 40 to 160 A

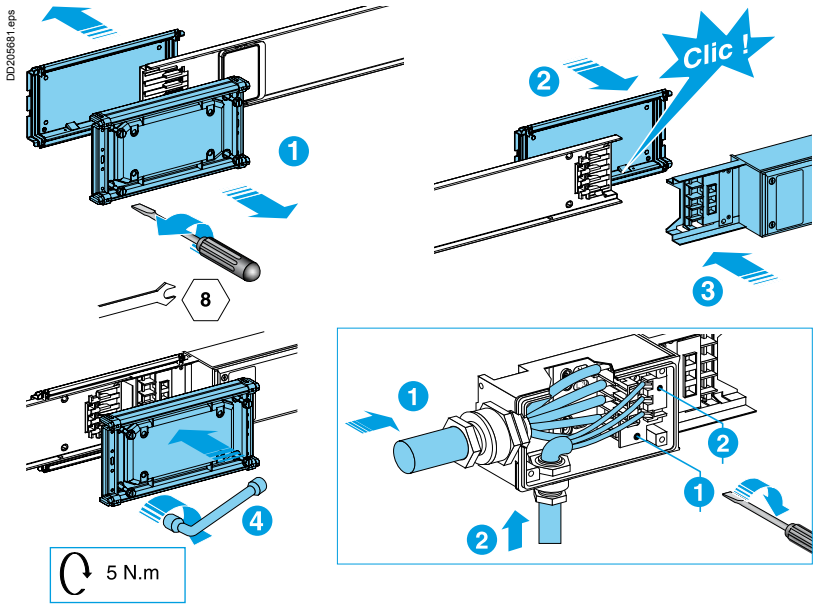
Busbar trunking for low-power distribution

Assemby of trunking components

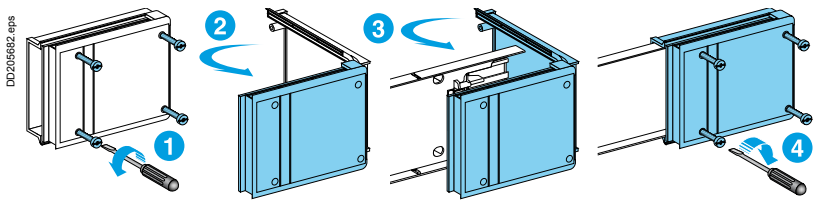
Assembling the straight lengths



Connecting the feed-unit

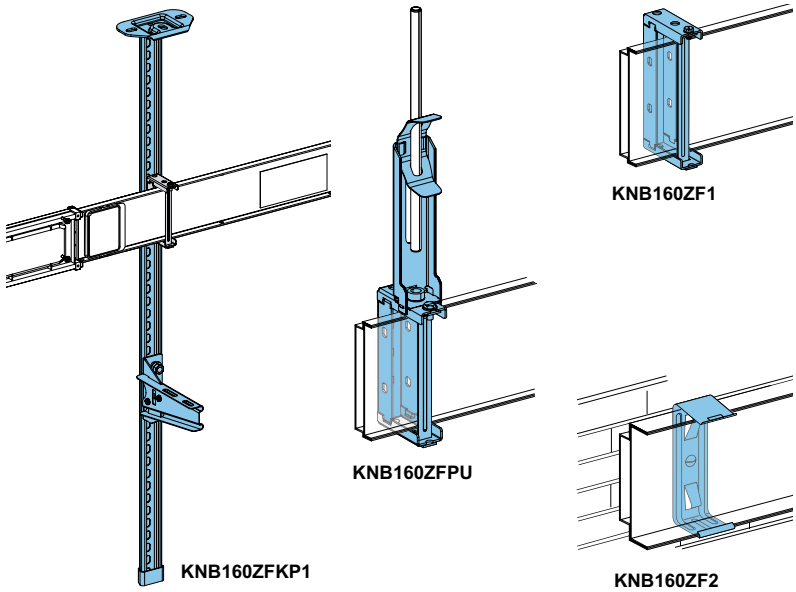


Assembling the end cover



Fixing Canalis KN in the brackets

DD205677.eps



Mounting the tap-off unit

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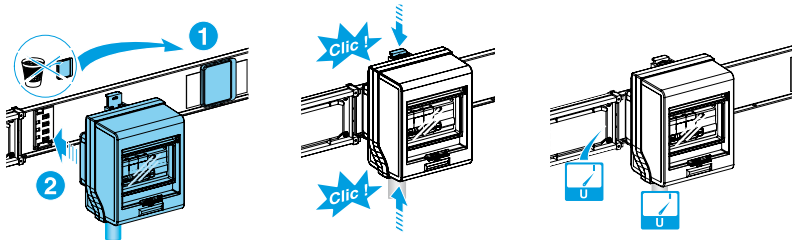
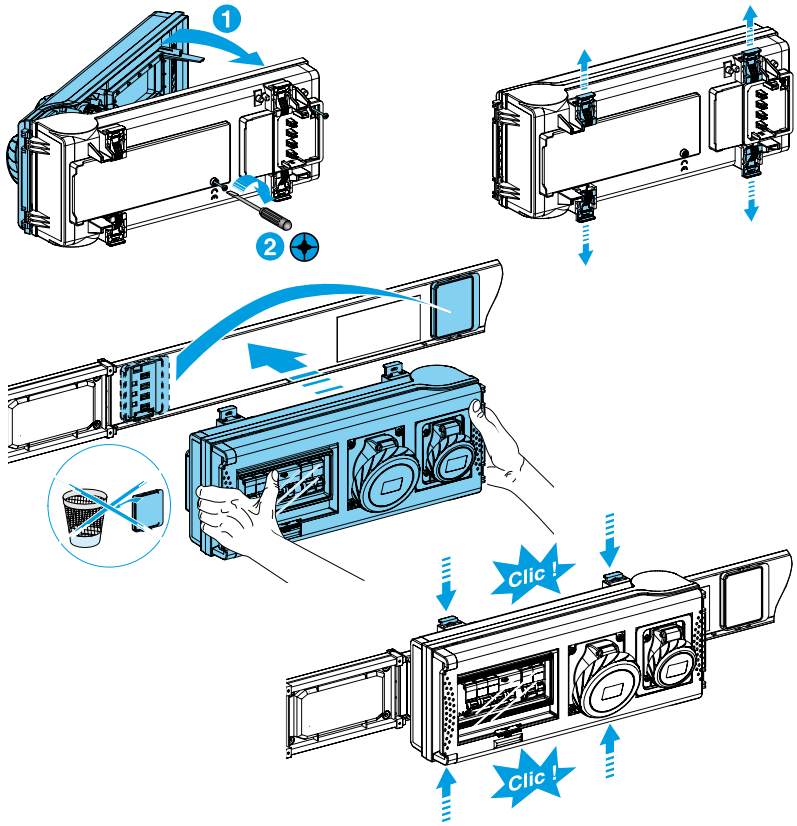


Mounting the tap-off unit with power sockets

DB404058.eps



Canalis KS

Presentation

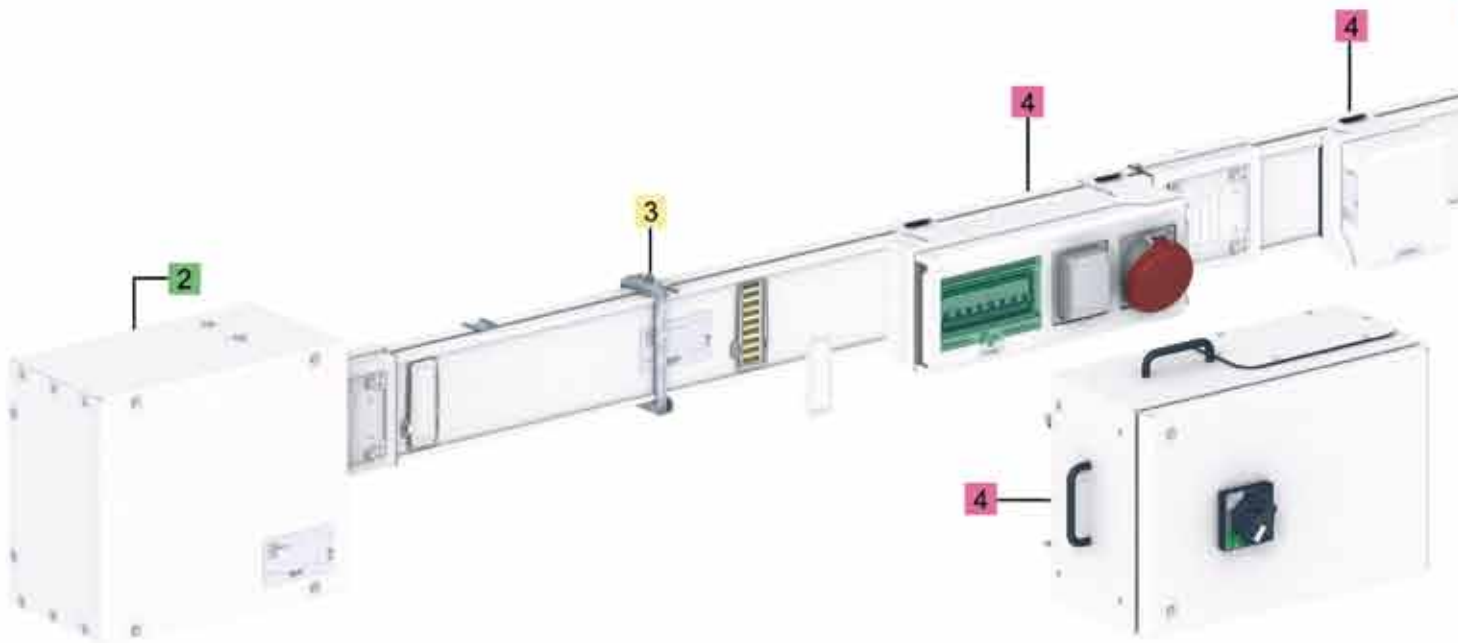
Description

Catalogue numbers - Dimensions

Canalis KS

For medium-power distribution from 100 to 1000 A

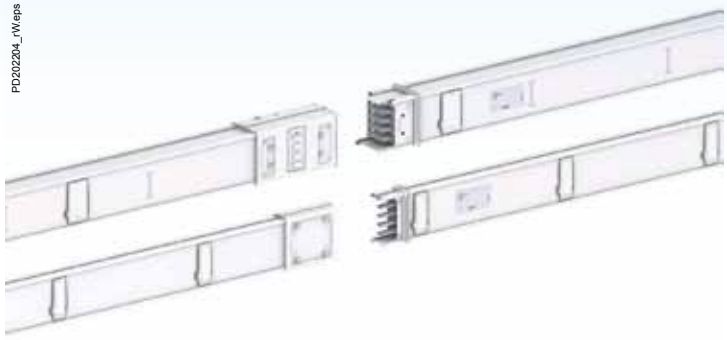
PD202208_rW2.eps



1. Run components

- Rating: 100, 160, 250, 400, 500, 630, 800, 1000 A.
- 4 live conductors.
- Length:
  - basic components: 3 and 5 metres.
  - additional lengths: 1.5 and 2 metres.

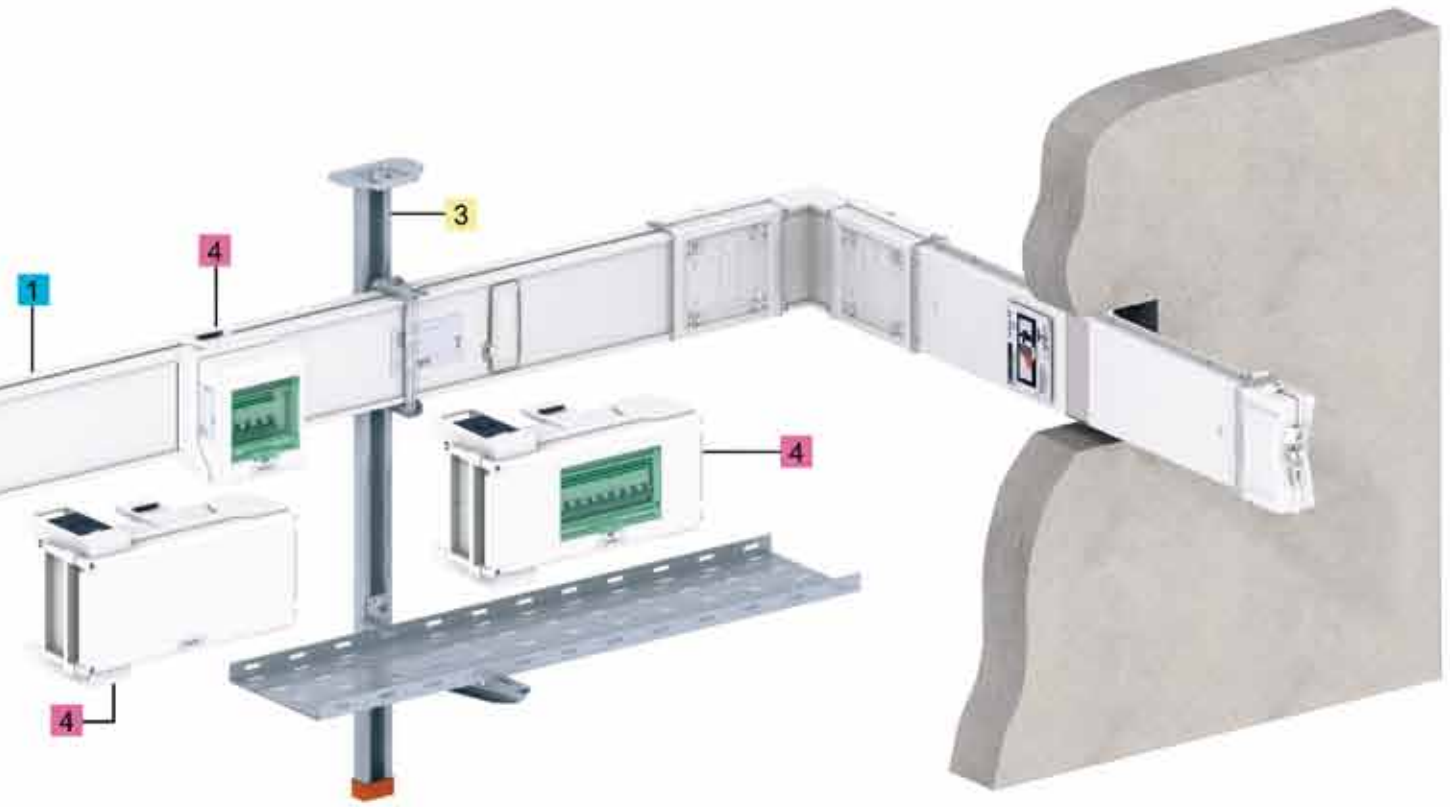
PD202204_rW.eps



2. Feed units and end covers

- The feed units delivered with end covers, receive the cables supplying one end or any other point of Canalis KS trunking.

PD202205_rW.eps



3. Fixing system

■ The fixing system ensures that Canalis KS is well secured, whatever the type of building structure.

DB403671.eps

4. Tap-off units

■ The tap-off units (with and without isolators) are used to:
□ supply loads from 25 to 400 A
□ or protect nearby loads against overloads due to lightning strikes.

■ Protection is ensured with modular or Compact NSX circuit breakers or fuses.

PD2022207_rW.eps

Canalis KS

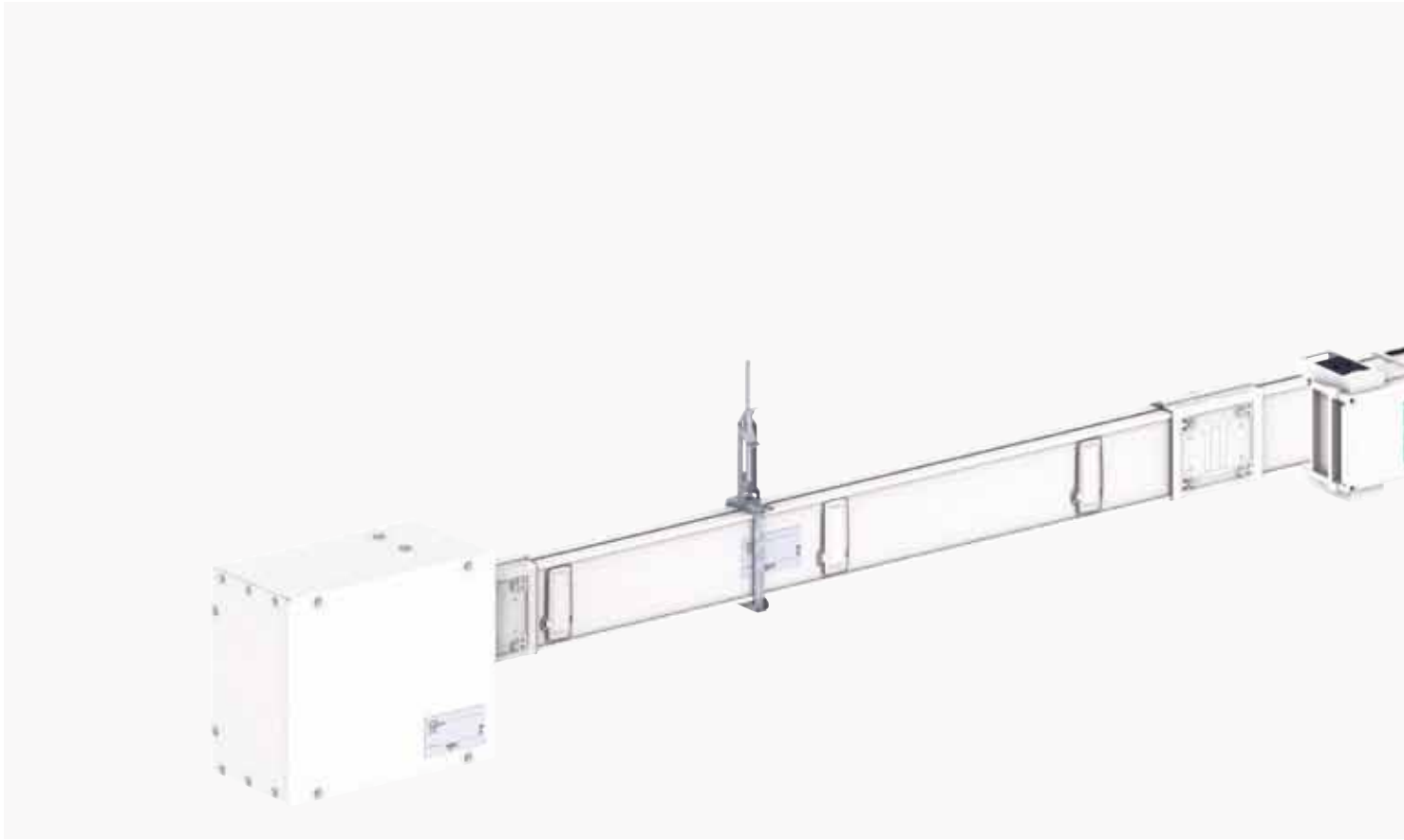
For medium-power distribution from 100 to 1000 A

No toxic emission in case of fire

All components in the KS range are **halogen free**.
In case of fire, Canalis KS does not release smoke or toxic gases.

DD202141_r.eps

<Sansserifintersection>



Excellent contact

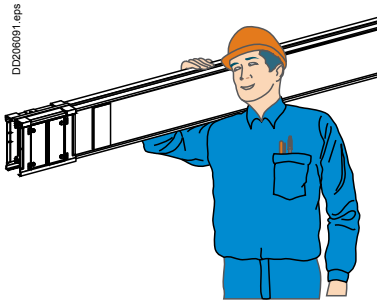
Contacts are silver-plated.
The level of performance remains the same throughout the life of the product.

PD202232W.eps

Light and easy to handle

Canalis trunking is light and easy to handle due to the use of aluminium conductors.
For equal power ratings, trunking equipped with copper conductors is 40 % heavier.
The low weight of Canalis KS simplifies installation and greatly reduces the time required. Fewer workers and resources are required, whatever the type of installation.

DD206091.eps



A high degree of protection

The high degree of protection for Canalis KS means it can be installed in all types of buildings.
- **IP55** guarantees trunking protection against splashes, and dust.
- **IK08** guarantees the strength of the trunking (resistance to shocks).
- **IPxxD** ensures totally safe working conditions for maintenance personnel.
- Canalis KS complies with **sprinkler tests**, guaranteering operation under vertically and horizontally sprayed water for 50 minutes.

DD202142_r.eps

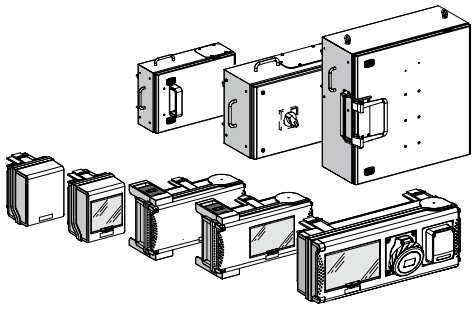
DD202144_r.eps

DD202143_r.eps

A complete range of tap-off units

- The range covers all needs from 25 to 400 A.
- Protection is possible using circuit breakers, fuses or surge arresters.
- Also available are 32 A tap-off units equipped with household and industrial power sockets.

DD202176.eps



Intelligent tap-off units

- They monitor the installation to avoid overloads and ensure continuity of service.
- They can meter the energy consumed for precise management (cost allocation for each consumer).

Canalis KS, 100 to 1000 A
Medium-power distribution

IP55
Ue = 230...690 V
RAL 9001 white

Canalis KS is designed for medium-power distribution with high tap-off densities in industrial and commercial buildings (factories, exhibition halls, supermarkets, etc.).
The range is available in eight ratings: 100, 160, 250, 400, 500, 630, 800 et 1000 A.
Canalis KS provides an IP55 degree of protection, whatever the installation method. Consequently it can be installed in virtually any type of building.
Tap-offs are implemented by tap-off units from 25 to 400 A that may be removed in complete safety under energised conditions, from 25 to 400 A.
Busbar trunking rated 100 to 400 A may be equipped with tap-off units up to 250 A.
Busbar trunking with higher ratings may be equipped with the entire range of tap-off units.
All the insulating and plastic materials are **halogen-free** and have enhanced fire-withstand capabilities.
■ incandescent wire test as per standard IEC 60695-2:
□ 960 °C for components in contact with live parts
□ 650 °C for other components.

Straight lengths

Distribution components

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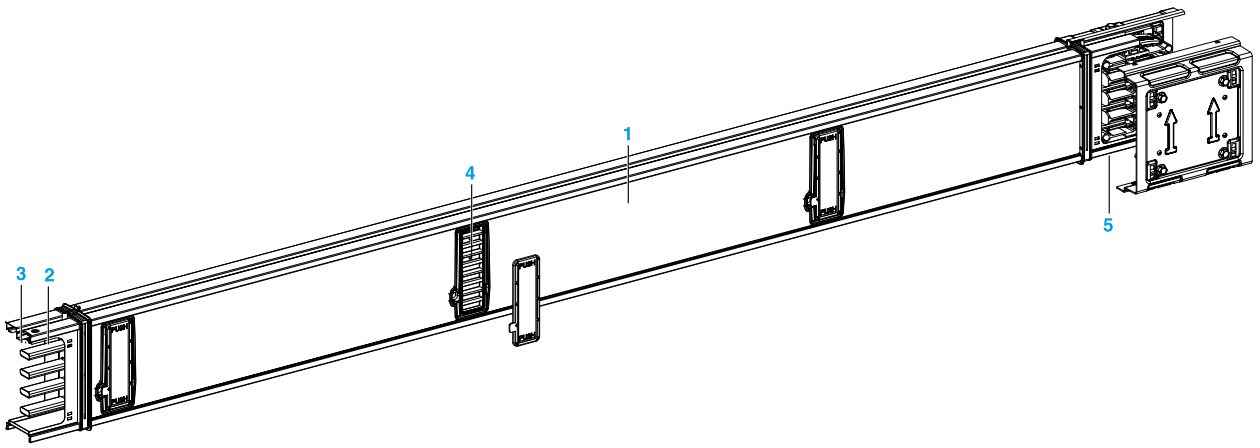


These components carry the current and supply loads up to 400 A. They constitute the basic structure of the line and are made up of:

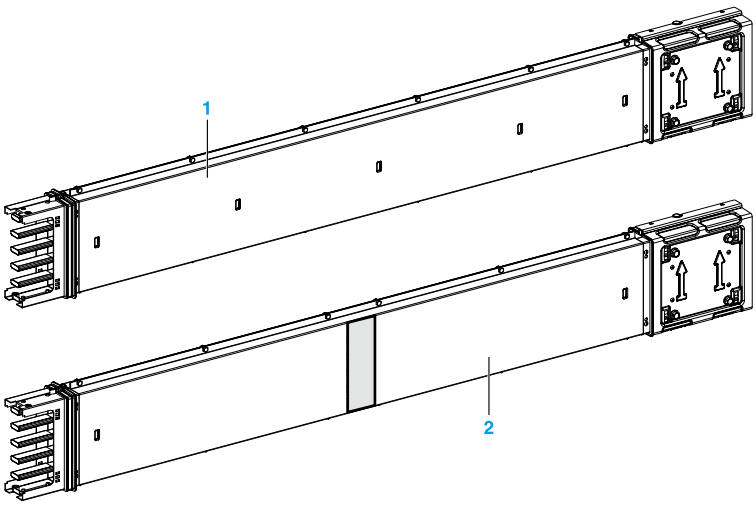
1 **a casing, crimp closed, made of hot-galvanised sheet steel,** pre-lacquered RAL 9001 white. This casing, shaped and ribbed by roller burnishing, provides excellent resistance to bending and twisting. Two sizes cover the entire range of ratings: 54 mm wide for the 100, 160, 250 and 400 A ratings and 113 mm wide for the 500, 630, 800 and 1000 A ratings, live conductors made up of four identically sized bars.
2 **silver-plated aluminium/copper bimetal laminate for the 100 and 160 A ratings**, aluminium equipped with silver-plated aluminium/copper bimetall laminate contacts electrically welded at junctions and tap-off points for the 250 and 1000 A ratings.
3 **a protective conductor (PE)** sized ⩾ 50 % with respect to the cross-section of phases. It is connected to the casing at each junction.
4 **tap-off outlets** every meter on both sides of the trunking.
5 **a mechanical and electrical jointing system:** Electrical jointing is ensured by a block with flexible grip contacts made of silver-plated copper. This block equally absorbs the difference in conductor and casing thermal expansion for each length.
For the 100 to 250 A ratings, it ensures automatic and simultaneous jointing of all live conductors and the continuity of the protective earth conductor, as well as its connection with the casing. For the 400 to 1000 A ratings, electrical jointing is ensured by a quarter-turn locking mechanism for each conductor.

Special components

1 **Custom-length run components**
Used to adjust the length of a line (e.g. between two changes in direction).
These components are made to order and do not have tap-off outlets.

2 **Fire barrier**
This type of length is used to transit a fire-proof wall (e.g. between two rooms in a building).
It has been tested in a certified laboratory and complies with standard EN 1363-1.
The laboratory report lists the following results:
□ thermal insulation: ⩾ 120 minutes,
□ resistance to flames: ⩾ 120 minutes,
□ stability: ⩾ 120 minutes.

DD205844.eps



Feed units and end covers

Used to feed a KS line by cables or directly from the busbars in a switchboard. They can be mounted at the end of a line (end feed, left or right) or in the middle (central feed).

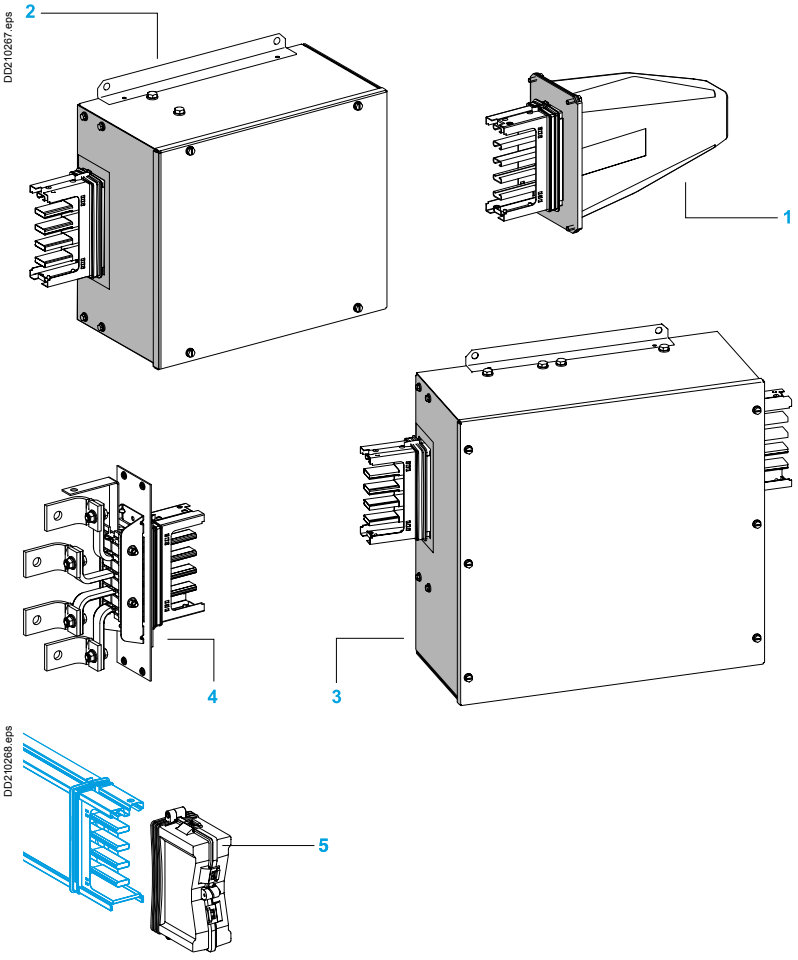
1 End feed unit for KS 100 A trunking
For KS 100 A trunking only. It can be mounted on either side of a straight length. It is equipped with a PG 29 cable gland and supplied with an end cover.

2 End feed unit for trunking up to 1000 A
For 250 to 400 A ratings. It can be mounted on either end of a straight length by inverting the initial section of the trunking.and supplied with an end cover.
For 500 to 1000 A ratings, there are right and left-hand versions.
With feed units from 400 to 1000 A, cable gland plates are in aluminium (reduction of Eddy current effects).

3 Centre feed unit
Using a single cable, it is possible to feed both the right and left-hand sections. It is mounted between two straight lengths in the line and is supplied with two end covers.

4 Flange feed unit
Equipped with splayed bars and a mounting plate for direct connection to the busbars of a switchboard. It can be mounted on either end of a component and is supplied with an end cover.

5 End cover
The end cover protects and isolates the ends of the conductors. It is mounted on the last component. Supplied with end feet unit and feed unit.



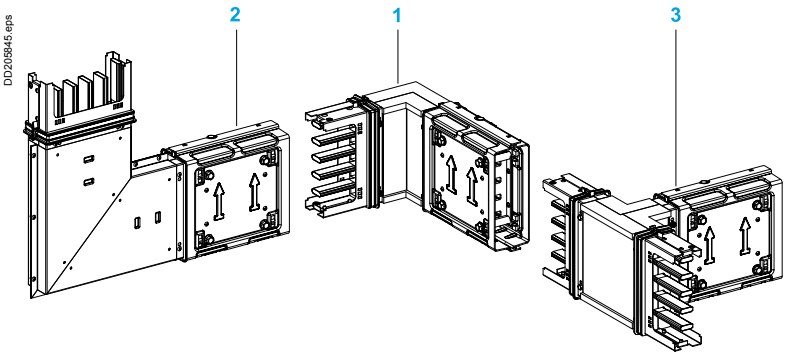
Components for changing direction

All components for changing direction are supplied with a junction block.

1 Edgewise elbow
One model for turning right or left.

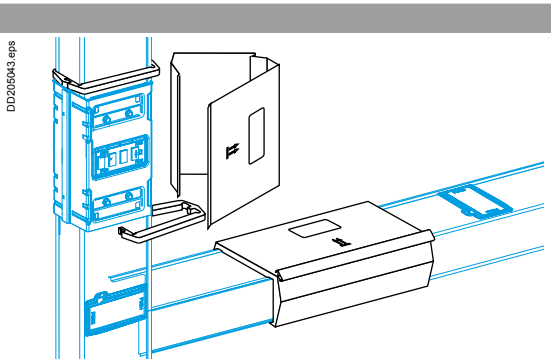
2 Flat elbows
Two models, one for turning up and the other for turning down.

3 Edgewise tee
To create branches perpendicular to the main line.



Sprinkler kit

To comply with the sprinkler tests (guaranteeing operation under vertically and horizontally sprayed water for 50 minutes), each electrical jointing system should be fitted with a reinforced protection kit (the jointing sleeve).

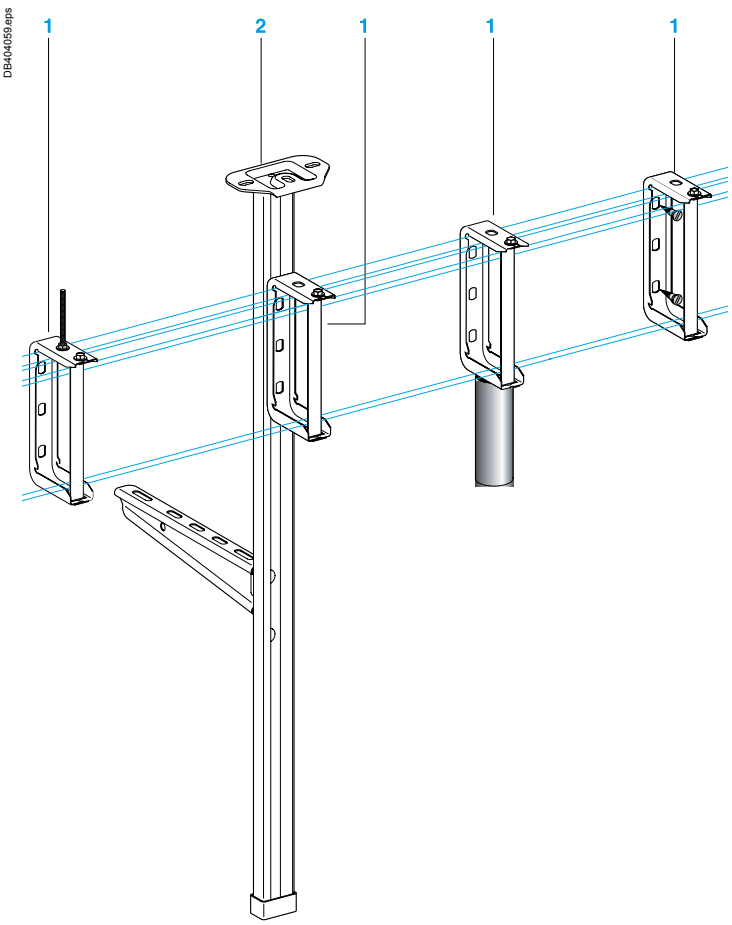


Canalis KS, 100 to 1000 A
Medium-power distribution

IP55
Ue = 230...690 V
RAL 9001 white

Fixing systems

The maximum recommended fixing distance is three metres.



1 Universal fixing bracket
For attachment of the busbar trunking to the structure of the building, either directly or via a threaded rod M8, brackets, etc.
Suspension using chains or steel cables is not advised.

2 Pendant kit
The pendant kit includes:
■ a perforated pendant used to suspend a KS line from the building structure, an IPN or the ceiling.
Length: 1 meter
Width: 80 mm
■ a cantilever arm that supports the cable tray under the KS line.
■ the mounting hardware required to secure the KS bracket and the cantilever arm to the pendant.

Two kits are available:
■ KS ratings up to 400 A: 200 mm cantilever arm
■ KS ratings from 500 A to 1000 A: 300 mm cantilever arm.
If necessary, additional cantilever arms can be ordered.

Tap-off units

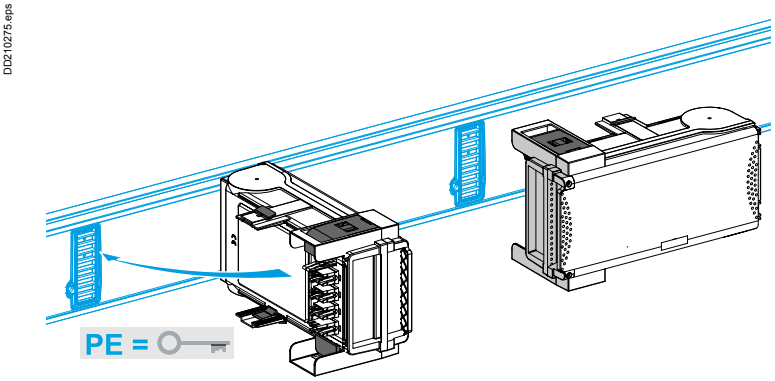
For rapid connection of loads or secondary lines, in compliance with installation standards IEC 60364 and regulations, whatever the system earthing arrangement (TT, TNS, TNC or IT).

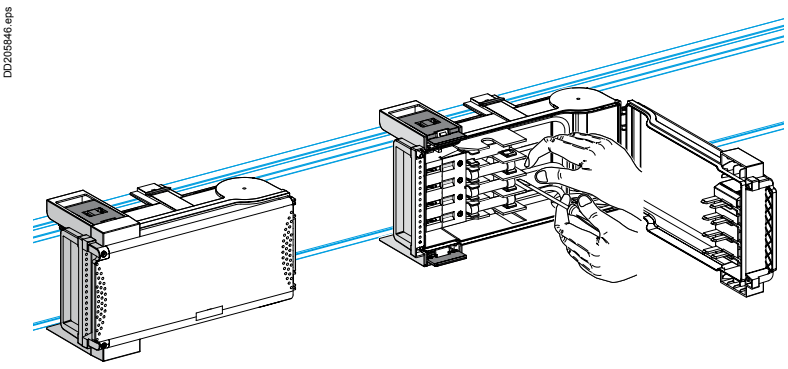
They can be handled and removed under off-load conditions with the trunking energised.

The tap-off outlets are automatically opened or closed when tap-off units are connected or removed.

With the cover open, no live parts are accessible.
The degree of protection is IPxxB (protected against access with a finger).

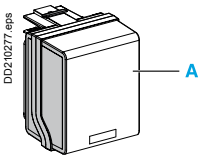
The degree of protection is IP55 as standard
(no accessories are required).

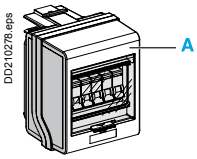


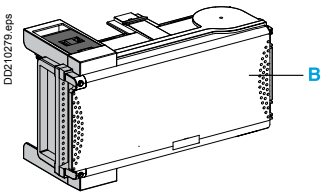


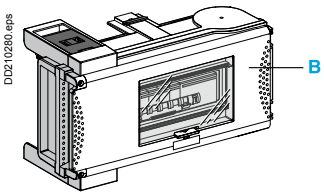
Tap-off units (A) and tap-off units with isolators (B) up to 100 A are made of plastic:

■ Colour: RAL 9001 white for the casing and the grip zones and transparent green for the cover (design based on Kaedra enclosures),The fixing mechanisms are in RAL 7016
■ Material: self-extinguishing, ***halogen free*** insulating plastic (fire resistant and very high temperature withstand).
■ Other characteristics: cable gland drilling zone, stainless steel screws and the door can be lead sealed.



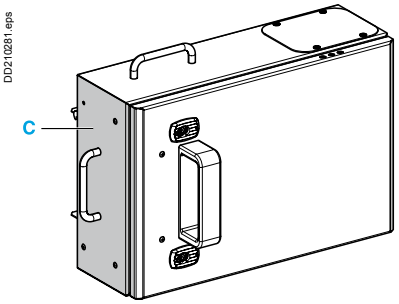






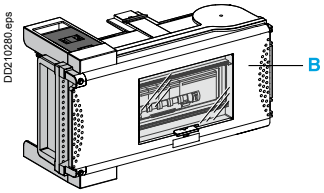
Tap-off units from 160 to 400 A are made of sheet steel (C):

■ Colour: RAL 9001 white for the casing, RAL 9005 black for the grip zones (100% polyester paint)
■ Materials: galvanised sheet steel
■ 400 A tap-off units can be only installed on straight lenghts ≥ 500 A.
■ Other characteristics:
□ Removable cover with hinges enabling opening up to 120°, vertically bevelled cover with double bends for enhanced rigidity (design based on Sarel Spatial 3D enclosures), polyurethane gaskets.
□ Equipped with cable-gland plates marked every 25 mm and designed for maximum access.



Disconnection principle

Disconnection by unplugging the tap-off unit.
The access to the electrical devices and the terminals is possible only when the tap-off unit is unplugged (i.e. not energised).
A safety device prevents connection to the trunking when the cover has been removed.



Disconnection of tap-off units with fuses and modular devices (category AC20) is obtained by opening the tap-unit cover.

Tap-off unit disconnection by opening or closing the cover should be carried out only if the downstreamload is de-energised.

For tap-units with circuit breakers, a number of safety devices prevents from:
■ Plugging and unplugging in the tap-off unit when the cover is closed
■ Closing the cover before the tap-off unit is locked onto the trunking
■ having access to the electrical equipment and the terminals when energised.
■ opening the cover in the position "ON" (tap-off units equipped with a Compact NSX or NG circuit breaker).

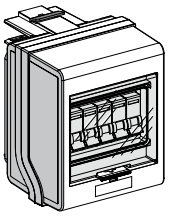
These tap-off units can be equipped with certain accessories such as circuit-opening contacts on the cover, lead seals, etc.

Tap-off units for circuit-breakers (not equipped)

Tap-off unit covers can be lead sealed to prevent circuit-breaker switching by unauthorised persons.

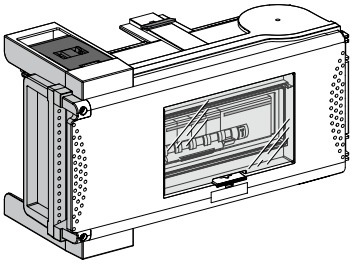
Tap-off unit for modular devices
This tap-off unit can be equipped with most modular devices (18 mm wide) of the Multi 9 type:
- rated current: 32 A
- capacity: 5 modules
- with a window in front for visual and physical access to the devices. A transparent cover seals the window.

DD210282.eps



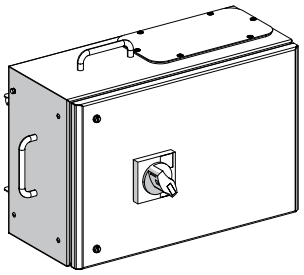
Tap-off units, with isolators, for modular devices
These tap-off units accept most modular devices of the Multi 9 type available in multiples of 18 mm wide modules. They have a window in front for visual and physical access to the devices. A transparent cover seals the window.
Two ratings are available:
- rated current 63 A for eight modules
- rated current 100 A for twelve modules (can accept C120 circuit breakers).

DD210283.eps



Tap-off units for NG type modular devices
These tap-off units are equipped with a DIN rail and upstream connections to accept modular devices available in multiples of 18 mm wide modules.
The devices are operated by rotary handles that prevent door opening with the circuit breaker in “On” position.
- rated current: 160 A
- capacity: 13 modules (accepts NG125 or NG160 devices equipped with Vigi modules).

DD210284.eps



Tap-off units, with isolators, for Compact NSX circuit breaker
These tap-off units are equipped with mounting plates and upstream connections for Compact NSX circuit breakers:
- rated current: 100 to 400 A, N, H or L versions
- fixed, front connection, rotary handle
- For Compact NSX + Vigi module, use Tap-off units for measurements and metering (see below)

400 A tap-off units can be only installed on straight lengths > 400 A.

Note: *For options such as withdrawable circuit breakers, earth-leakage protection, etc, call your Schneider Electric contact.*

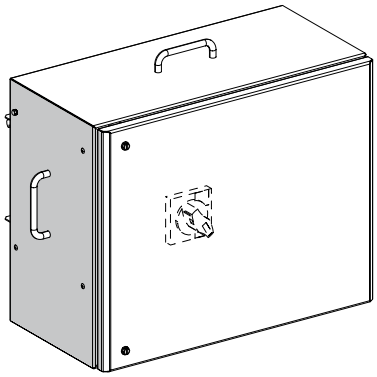
Tap-off units for measurements and metering (not equipped)

Tap-off units, with isolators, for measurements and metering
These tap-off units are used for sub-billing or monitoring of secondary lines. The values measured by the TI module of the Compact NSX are transmitted to the power-monitoring unit that forwards the information to a central unit via a bus.
(see Special measurement and metering applications)

They are equipped with:
- a mounting plate for a Compact NSX type circuit breaker with an extended rotary handle and a Compact NSX current transformer module
- a DIN rail for installation of a Powerlogic PM810, a set of terminals, etc.

Under severe operating conditions (> 40 °C ambient temperature), we recommend using a PM810 without a display.

DD210286.eps



Tap-off units for power sockets (not equipped)

Tap-off unit covers can be lead sealed to prevent circuit-breaker switching by unauthorised persons.

Canalis 32 A tap-off unit for power sockets

For the supply of portable loads equipped with household or industrial plugs in a garage, maintenance workshop, laboratory, battery charging room, etc

For installation on trunking mounted on a wall for better access.

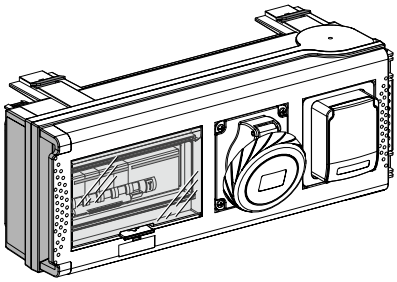
For easy access, install on trunking mounted at an appropriate height on the wall.

Flexibility, upgradeability: positioned as close as possible to the loads, extension leads are not required

Degree of protection: IP55, IK08.

Safety of persons: IPxxB, earth-leakage protection.

DD210302.eps



Rated current: 32 A

Capacity: 8 modules in multiples of 18 mm wide

Two versions are available:

■ pre-equipped with 2 PK or PratiKa power sockets

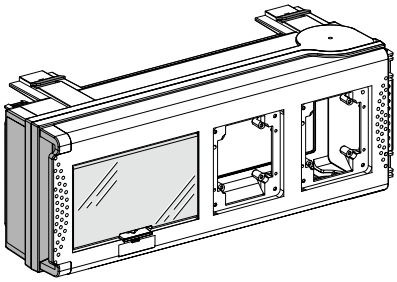
■ customisable:

□ two 90 x 100 mm openings for PK-type (screw connections) or PratiKa (fast and reliable connection without stripping) industrial or household sockets.

□ direct mounting for industrial IEC 16 A 5P or IEC 32 A 3, 4 or 5P sockets.

□ mounting on a 65 x 85 mm clip-on adapter plate for industrial IEC 16 A 3P or 5P and household 10/16 A 2P + PE sockets.

DD210459.eps

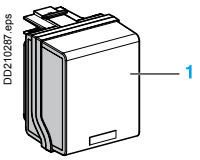


Canalis KS, 100 to 1000 A
Medium-power distribution

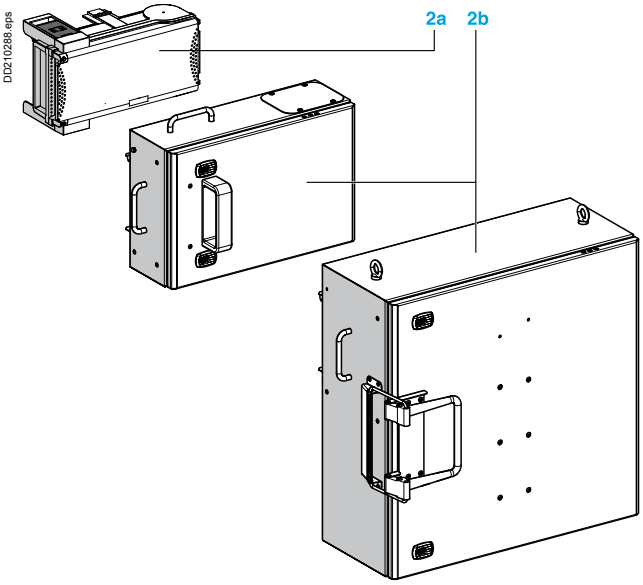
IP55
Ue = 230...690 V
RAL 9001 white

Tap-off units for fuses (not equipped)

For protection of the tap-off by fuses (not supplied).



1 Tap-off unit with fuse holders
This tap-off unit exists in three versions:
- for NF 10 x 38 fuses
- for BS type 88 A1 fuses
- for DIN type Neozed E14 fuses.

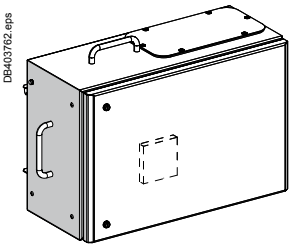


2a and 2b Tap-off units, with isolator, for fuses
There are two types of tap-off units:
Plastic tap-off units (2a) equipped with fuse holders for:
- NF 50 to 100 A cylindrical fuses
- BS 32 to 80 A screw fuses
- DIN 25 to 63 A screw fuses
- 100 A blade-type fuses.

Sheet-metal tap-off units (2b) equipped with fuse holders for 160 to 400 A blade-type fuses.

Tap-off units for switch-disconnector fuses

Sheet metal tap-off units equipped with mounting plates and upstream connection for Fupact INF switch-disconnectors with extended rotary handle:
- rated current 250 A to 400 A
- fixed, front connection.



Tap-off units (with and without isolators) equipped with a surge arrester

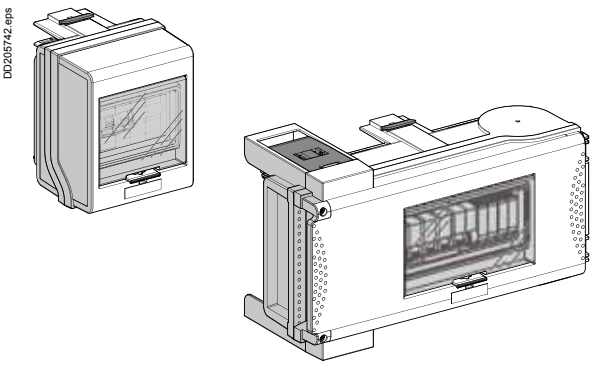
These tap-off units (with and without isolators) are pre-equipped with a modular Type 2 surge arrester, with integrated disconnection device.

2 versions of 3P + N protection are available, based on Quick PF10 or Quick PRD40r.

These units are ready for use, can be plugged directly into the busbar trunking and do not require any additional wiring.

They should be positioned at least 30 m upstream of each load to be protected.

Tap-off unit covers can be lead sealed to prevent the surge arrester being tampered with by unauthorised persons.



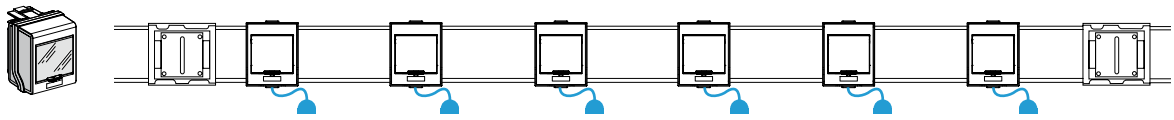
Compatibility of tap-off units and busbar trunkings

The number of tap-off units presented below corresponds to an installation on a single side of the Canalis prefabricated busbar trunking system.
This number is doubled for installations in which the tap-off units can be mounted on both sides.

Tap-off units with wander sockets

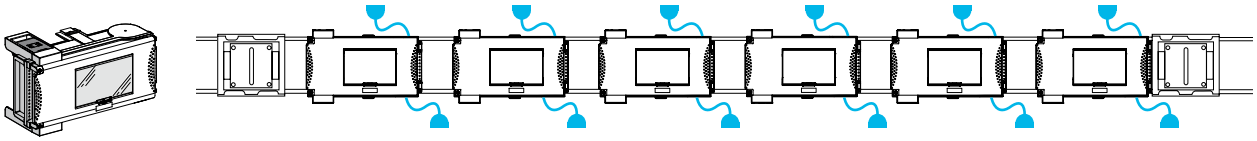
KSB32CM55 (1) — **5 modules**

DD230627.eps



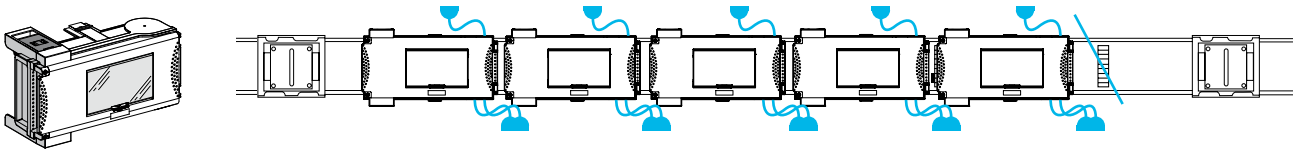
KSB63SM•8 (1) — **8 modules**

DB405627.eps



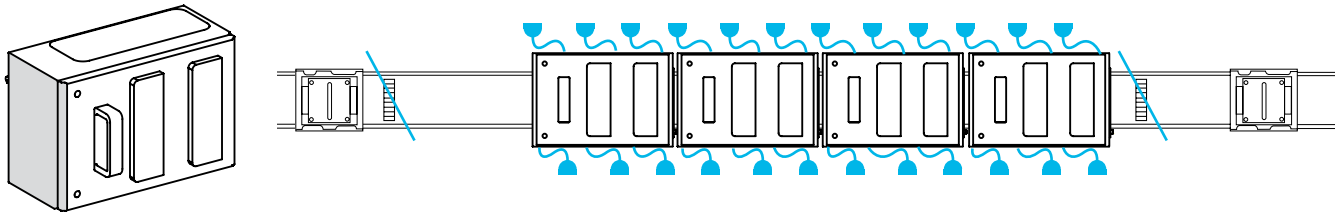
KSB100SM•12 (1) — **12 modules**

DD230629.eps



KSB160SM•24 (1) — **24 modules**

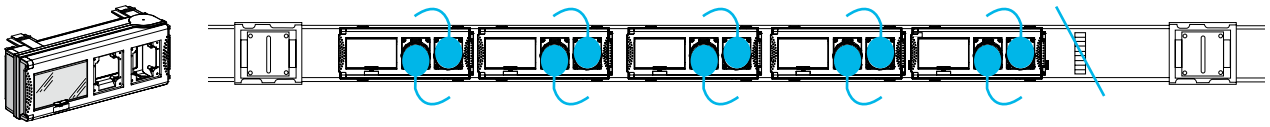
DD230630.eps



Tap-off units with panel mountings

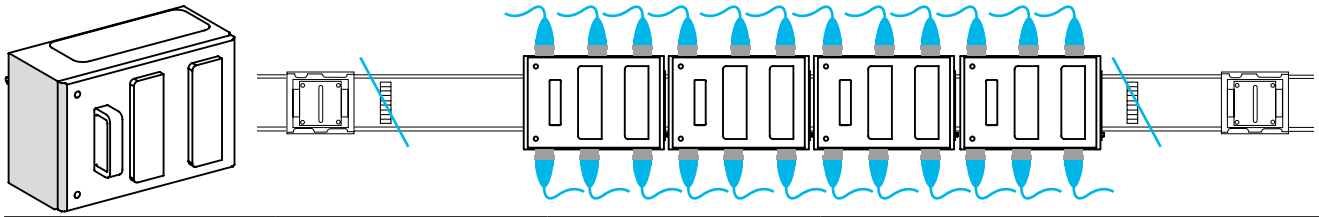
KSB32CP (1) — **8 modules**

DD230631.eps



KSB160SM•24 (1) — **24 modules**

DD230632.eps



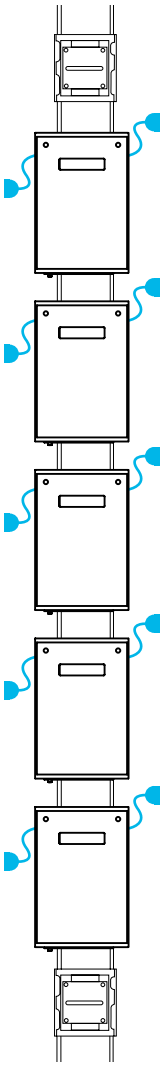
: *Outlets not usable for this type of tap-off.*

Compatibility of tap-off units and busbar trunkings

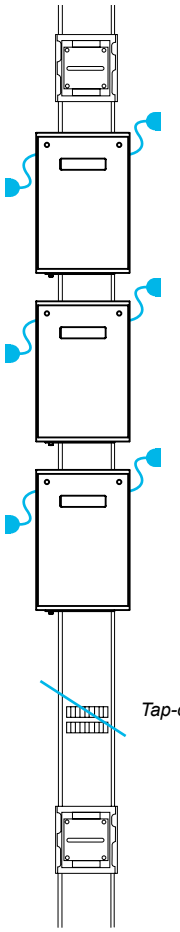
Rising mains for 2 m or 2.5 m lenght

From 100 to 400 A	From 500 to 800 A
Tap-off outlets usable for the tap-off units from 16 to 125 A	Tap-off outlets usable for the tap-off units from 16 to 400 A

DB416224.eps



DB416226R.eps



Tap-off outlet not usable for KSB400D●●●● tap-off units.

Canalis KS, 100 to 1000 A
Busbar trunking for medium-power distribution

Run components for horizontal sections

Catalogue numbers

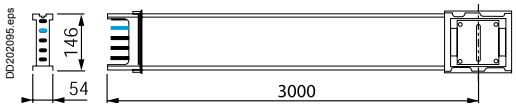
Transport lengths

Rating (A)	400	
Length Dim. B (mm)	3000	5000
Weight (kg)	18.80	30.00
Cat. no.	**KSA400ET430**	**KSA400ET450**

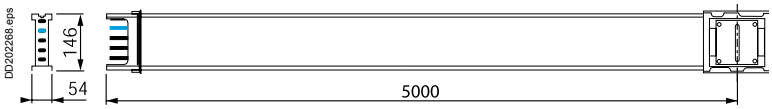
Custom-length transport lengths

Rating (A)	400
Weight (kg)	9.50
Cat. no.	**KSA400ET4A**

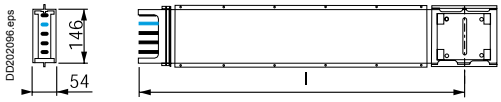
Dimensions



KSA400ET430



KSA400ET450



500 ≤ l ≤ 1995 mm

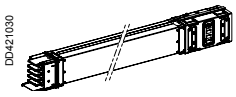
KSA400ET4A

Catalogue numbers

Transport lengths

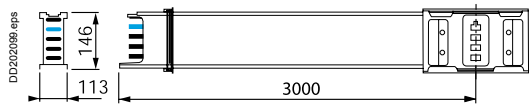
Rating (A)	500		630		800		1000	
Length (mm)	3000	5000	3000	5000	3000	5000	3000	5000
Weight (kg)	33.10	51.50	34.60	55.20	41.30	66.20	53.40	86.50
Cat. no.	**KSA500ET430**	**KSA500ET450**	**KSA630ET430**	**KSA630ET450**	**KSA800ET430**	**KSA800ET450**	**KSA1000ET430**	**KSA1000ET450**

Custom-length transport lengths

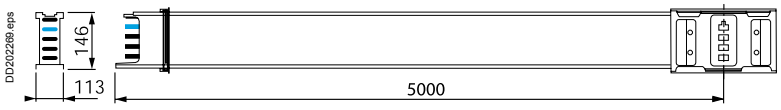


Rating (A)	500 to 630	800 to 1000
Length (mm)	500 to1995	500 to1995
Weight (kg)	17.40	23.60
Cat. no.	**KSA630ET4A**	**KSA1000ET4A**

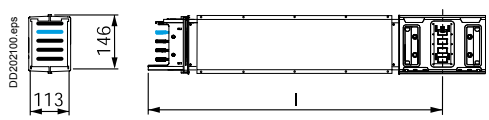
Dimensions



KSA●●●ET430



KSA●●●ET450



KSA●●●ET4A

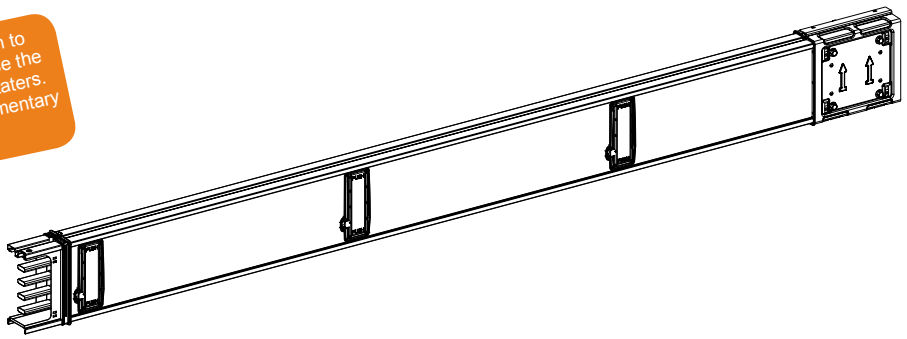
Canalis KS, 100 to 400 A
Busbar trunking for medium-power distribution

Straight lengths with tap-off outlets

Catalogue numbers

DD205743_R.eps

For connection to an old line, use the special adaptaters. See complementary products.



Standard lengths

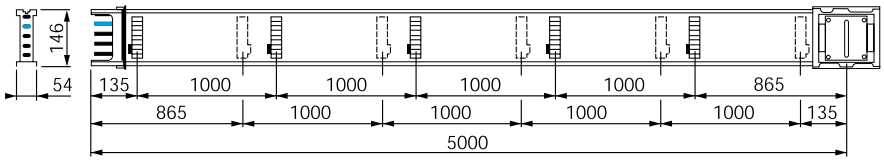
Polarity	3L + N + PE or 3L + PEN							
Rating (A)	100		160		250		400	
Length (mm)	5000	3000	5000	3000	5000	3000	5000	3000
Number of tap-off outlets	10	6	10	6	10	6	10	6
Weight (kg)	19.20	12.10	21.40	13.40	25.20	15.70	32.85	20.40
Cat. no.	**KSA100ED45010**	**KSA100ED4306**	**KSA160ED45010**	**KSA160ED4306**	**KSA250ED45010**	**KSA250ED4306**	**KSA400ED45010**	**KSA400ED4306**

Other lengths

Polarity	3L + N + PE or 3L + PEN			
Rating (A)	100 to 250		400	
Length (mm)	2000	1500	2000	1500
Number of tap-off outlets	8	6	8	6
Weight (kg)	10.85	8.55	13.90	10.85
Cat. no.	**KSA250ED4208**	**KSA250ED4156**	**KSA400ED4208**	**KSA400ED4156**

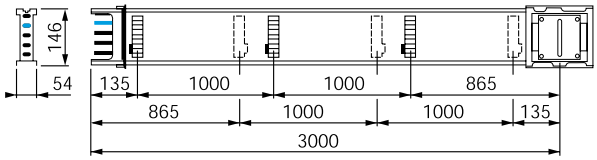
Dimensions

DD210290.eps



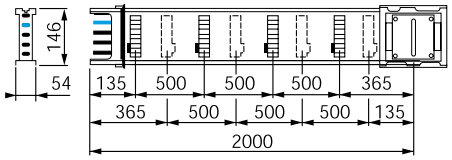
KSA ●●●ED45010

DD210291.eps



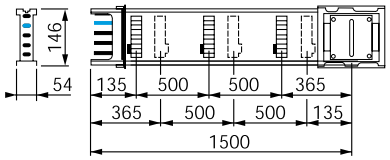
KSA ●●●ED4306

DD210292.eps



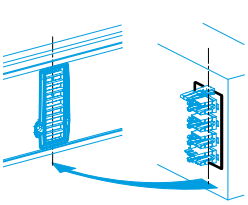
KSA●●●ED4208

DD210293.eps



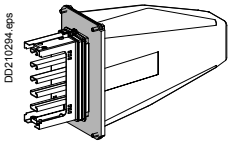
KSA●●●ED4156

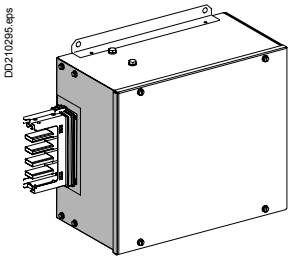
DD202179.eps



Feed units (supplied with end cover)

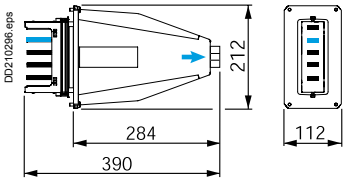
Catalogue numbers



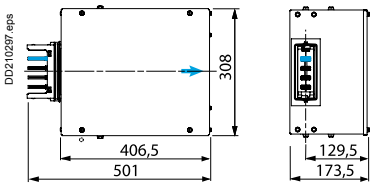


Designation	End feed unit		
Rating (A)	100	100 to 250	400
Mounting	Right or left	Right or left	Right or left
Connection	Terminals	Lugs (M10 screws)	Lugs (M10 screws)
Max. size (mm²)			
Flexible or rigid	5 x 16	240	1 x 300 or 2 x 120
Weight (kg)	1.85	7.20	8.80
Cat. no.	**KSA100AB4**	**KSA250AB4**	**KSA400AB4**

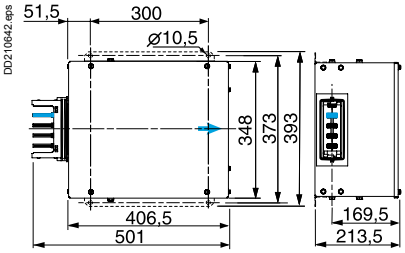
Dimensions



KSA100AB4



KSA250AB4

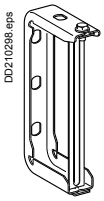


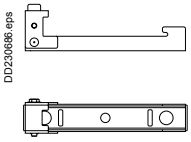
KSA400AB4

Cable exit

Fixing system

Catalogue numbers

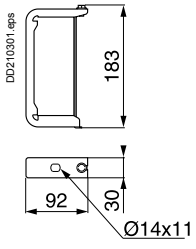




Designation	Fixing bracket (1), standard element	Fixing bracket (1), custom-made element
Rating (A)	100 to 400	
Max. load (kg)	70	
Mounting	Wall or suspended on threaded rod	Floor
Order in multiples of	10	
Weight (kg)	0.3	0.7
Cat. no.	**KSB400ZF1**(2)	**KSA80EZ5**(2)

(1) *Maximun recommended distance between fixings: 3 meters.*
(2) *Flat installation: Max. distance between fixings: 2 meters.*

Dimensions



KSB400ZF1

Canalis KS, 100 to 400 A

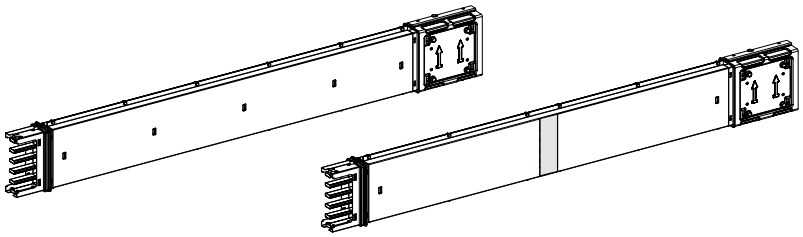
Busbar trunking for medium-power distribution

Complementary products

Special straight lengths without tap-off outlets

Catalogue numbers

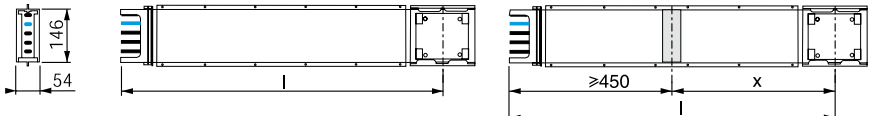
DD205744.eps



Polarity	3L + N + PE or 3L + PEN			
Rating (A)	100 to 250		400	
Length (mm)	500 to 1995	900 to 2200	500 to 1995	900 to 2200
Option	-	With fire barrier	-	With fire barrier
Weight (kg/m)	8	8.4	9.5	9.9
Cat. no.	**KSA250ET4A**	**KSA250ET4AF**	**KSA400ET4A**	**KSA400ET4AF**

Dimensions

DD210303.eps



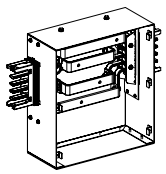
KSA●●●ET4A *KSA ●●●ET4AF*

Dim.	ET4A	ET4AF
l	500 to 1995	900 to 2200
x		450 to 1750

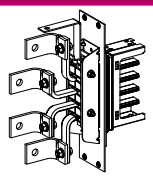
Feed units (supplied with end cover)

Catalogue numbers

DD205745.eps



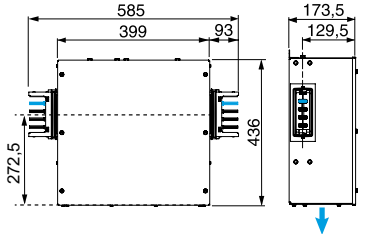
DD210306.eps



Designation		Centre feed unit		Flange feed unit	
Rating (A)		100 to 250	400	100 to 250	400
Mounting		Central	Central	Left or right	Left or right
Connection		Lugs (M10)	Lugs (M10)	Bars (M10 screws)	Bars (M10 screws)
Max. size (mm^2)	**Flexible**	240	2 x 240	-	-
	Rigid	240	2 x 240	-	-
Weight (kg)		12.90	15.50	1.70	1.90
Cat. no.		**KSA250ABT4**	**KSA400ABT4**	**KSA250AE4**	**KSA400AE4**

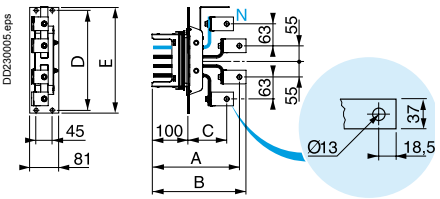
Dimensions

DB416064.eps



KSA250ABT4

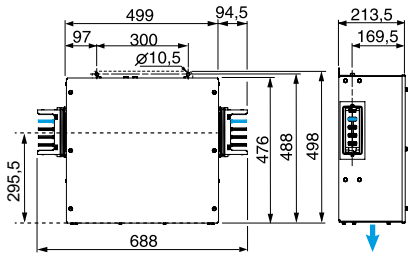
DD230005.eps



KSA●●●AE4

Dim.	100 to 250 A	400 A
A	243	261
B	261.5	279.50
C	108	117
D	278	318
E	294	334

DB416065.eps

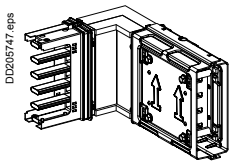


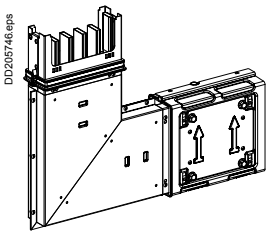
KSA400ABT4

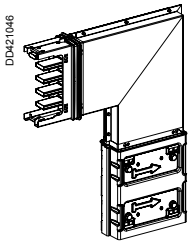
→ Cable exit

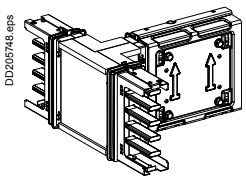
Components for changing direction

Catalogue numbers



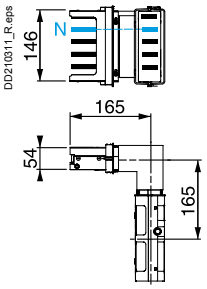




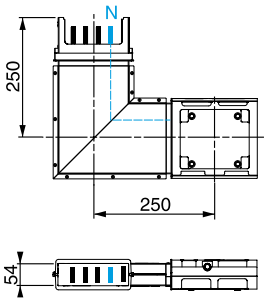


Designation	Coude						Tee	
Rating (A)	100 to 250	400	100 to 250	400	100 to 250	400	100 to 250	400
Direction (edgewise)	Right or left		Upward		Downward		Perpendicular	Perpendicular
Weight (kg)	3.15	3.80	5.00	5.60	5.00	5.60	4.30	5.20
Cat. no.	**KSA250DLC40**	**KSA400DLC40**	**KSA250DLE40**	**KSA400DLE40**	**KSA250DLF40**	**KSA400DLF40**	**KSA250DTC40**	**KSA400DTC40**

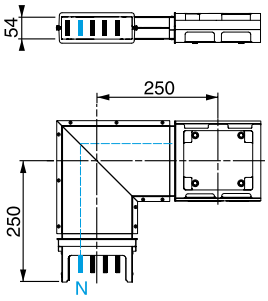
Dimensions



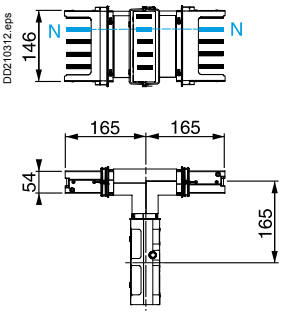
KSA●●●DLC40



KSA●●●DLE40



KSA●●●DLF40



KSA●●●DTC40

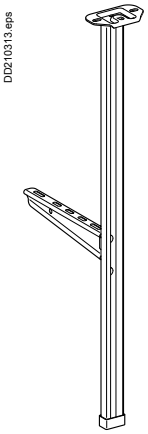
Canalis KS, 100 to 400 A

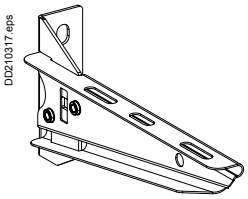
Busbar trunking for medium-power distribution

Complementary products

Fixing system

Catalogue numbers

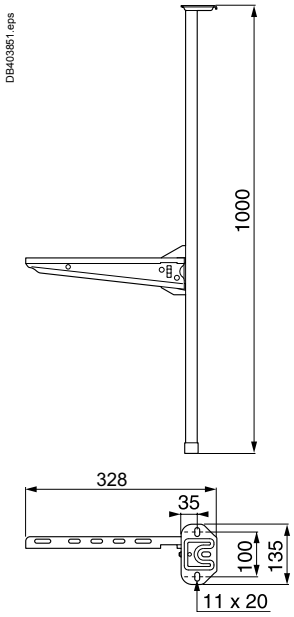




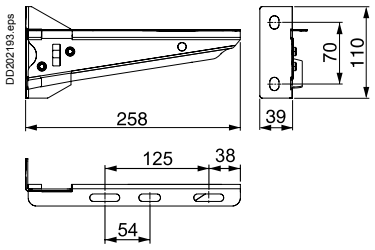
Designation	Pendant kit	Cantilever arm, 200 mm
Rating (A)	100 to 400	100 to 400
Max. load (kg)	80	220
Mounting	Under ceiling or I-beam (1)	Wall or pendant
Order in multiples of	4	4
Weight (kg)	2.70	0.60
Cat. no.	**KSB400ZFKP1**	**KFBCA81200**

(1) Maximun recommended distance between fixings: 3 meters.

Dimensions



KSB400ZFKP1

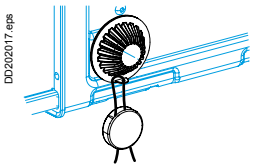


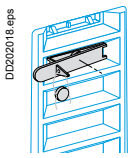
KFBCA81200

Accessories

Catalogue numbers

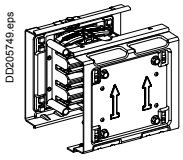
Lead sealing kit

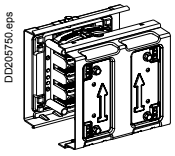


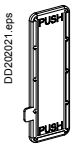


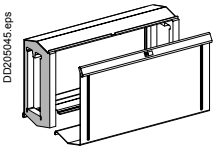
Rating (A)	All	
For	Feed unit cover and jointing screws	Tap-off outlets
Order in multiples of	20	20
Weight (kg)	0.0035	0.002
Cat. no.	**KSB1000ZP1**	**KSB1000ZP2**

Spare parts



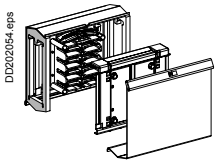


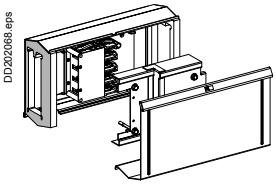




Designation	Electrical and mechanical jointing unit		IP55 blanking plate	Sprinkler proofing accessory
Rating (A)	100 to 250	400	100 to 400	100 to 400
Order in multiples of	1	1	15	1
Weight (kg)	1.60	2.00	0.015	1
Cat. no.	**KSA250ZJ4**	**KSA400ZJ4**	**KSB400ZB1**	**KSB400ZB2**

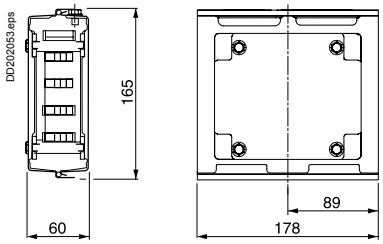
Adaptaters for connection to old KS lines



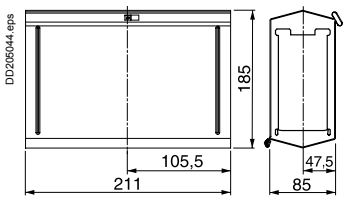


Rating (A)	100 to 250	400
Weight (kg)	1.35	2.90
Cat. no.	**KSA250FA4**	**KSA400FA4**

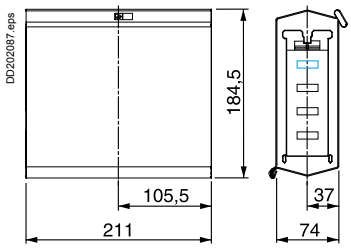
Dimensions



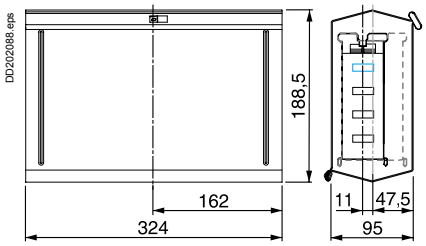
KSA●●●ZJ4



KSB400ZB2



KSA250FA4



KSA400FA4

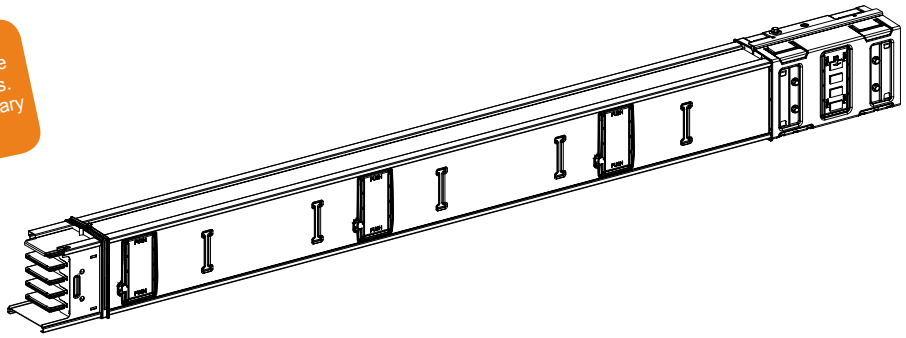
Canalis KS, 500 to 630 A
Busbar trunking for medium-power distribution

Straight lengths with tap-off outlets

Catalogue numbers

DD202022_R.eps

For connection to an old line, use the special adaptaters. See complementary products.

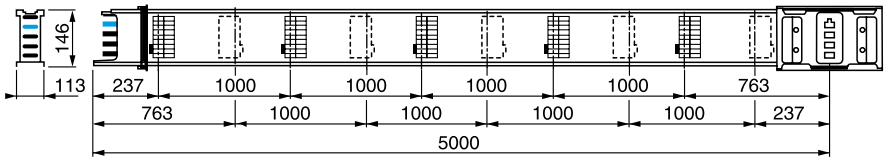


Standard lengths				
Polarity	3L + N + PE or 3L + PEN			
Rating (A)	500		630	
Length (mm)	5000	3000	5000	3000
Number of tap-off outlets	10	6	10	6
Weight (kg)	54.50	34.90	58.20	36.40
Cat. no.	**KSA500ED45010**	**KSA500ED4306**	**KSA630ED45010**	**KSA630ED4306**

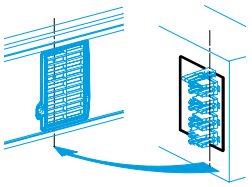
Additional lengths		
Polarity	3L + N + PE or 3L + PEN	
Rating (A)	500 to 630	
Length (mm)	2000	1500
Number of tap-off outlets	6	4
Weight (kg)	26.00	20.50
Cat. no.	**KSA630ED4206**	**KSA630ED4154**

Dimensions

DD202023.eps

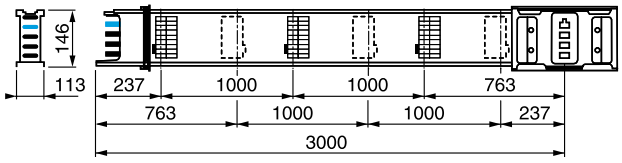


DD210638.eps



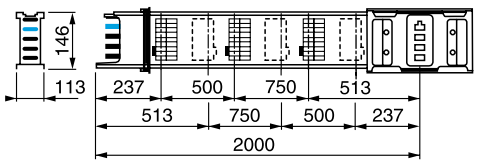
KSA ●●●ED45010

DD202024.eps



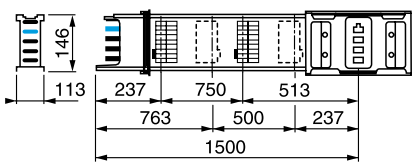
KSA ●●●ED4306

DD202025.eps



KSA630ED4206

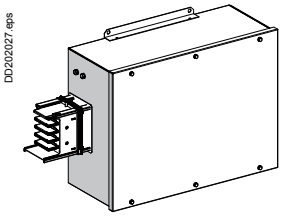
DD202026.eps



KSA630ED4154

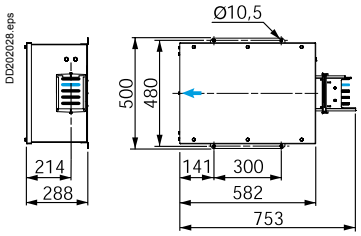
Feed units (supplied with end cover)

Catalogue numbers



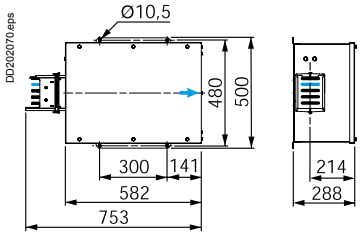
Designation	End feed unit	
Rating (A)	500 to 630	
Mounting	Right	Left
Connection	Lugs (M12 screws)	Lugs (M12 screws)
Max. size (mm²)		
Flexible or rigid	1 x 300 or 2 x 240	1 x 300 or 2 x 240
Weight (kg)	18.50	18.50
Cat. no.	**KSA630ABD4**	**KSA630ABG4**

Dimensions



KSA630ABG4

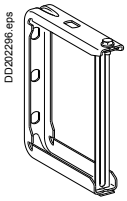
➔ Cable exit



KSA630ABD4

Fixing system

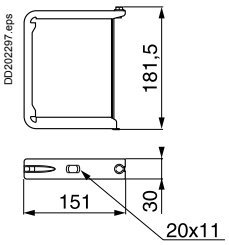
Catalogue numbers



Designation	Fixing bracket (1)
Rating (A)	500 to 1000
Max. load (kg)	135
Mounting	Wall or suspended on threaded rod
Order in multiples of	10
Weight (kg)	0.4
Cat. no.	**KSB1000ZF1**

(1) *Maximun recommended distance between fixings: 3 meters.*

Dimensions



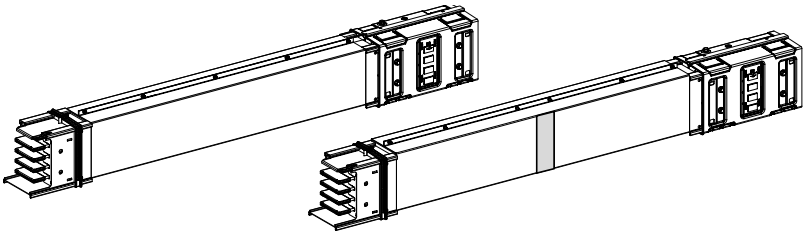
KSB1000ZF1

Canalis KS, 500 to 630 A
Busbar trunking medium-power distribution
Complementary products

Special straight lengths without tap-off outlets

Catalogue numbers

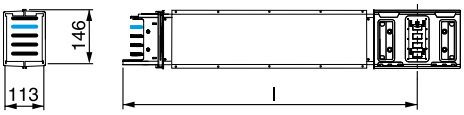
DD202047.eps



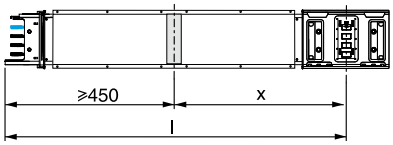
Polarity	3L + N + PE or 3L + PEN	
Rating (A)	500 to 630	
Length (mm)	500 to 1995	900 to 2340
Option	-	With fire barrier
Weight (kg/m)	17.4	18
Cat. no.	**KSA630ET4A**	**KSA630ET4AF**

Dimensions

DD202048_R.eps



KSA630ET4A



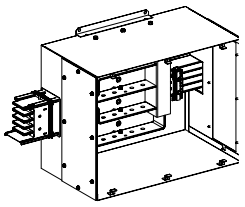
KSA630ET4AF

Dim.	ET4A	ET4AF
l	500 to 1995	900 to 2340
x		450 to 1890

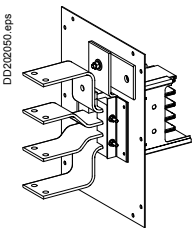
Feed units (supplied with end cover)

Catalogue numbers

DD206751.eps



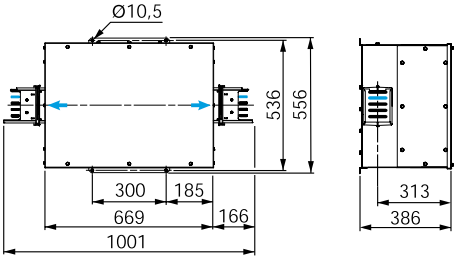
DD202050.eps



Designation		Centre feed box	Flange feed unit
Rating (A)		500 to 630	500 to 630
Mounting		Central	Left or right
Connection		Lugs (M12 screws)	Bars (2 x M10 screws)
Max. size (mm^2)	**Flexible**	3 x 240	-
	Rigid	3 x 300	-
Weight (kg)		30.50	4.70
Cat. no.		**KSA630ABT4**	**KSA630AE4**

Dimensions

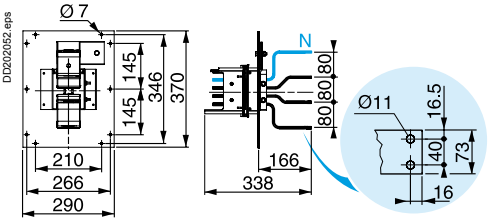
DD202051.eps



KSA630ABT4

Cable exit

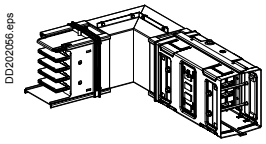
DD202052.eps

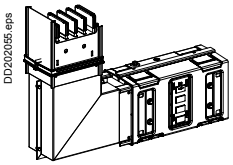


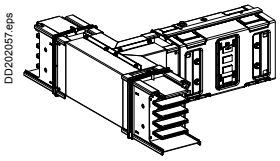
KSA630AE4

Components for changing direction

Catalogue numbers

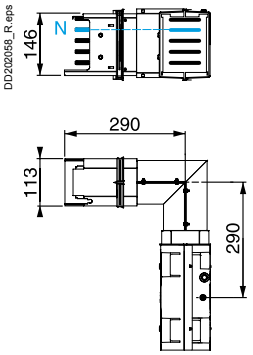




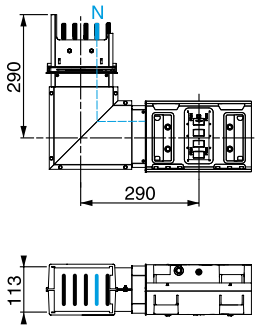


Designation	Elbow			Tee
Rating (A)	500 to 630			500 to 630
Direction (edgewise)	Right or left	Upward	Downward	Perpendicular
Weight (kg)	13.40	12.10	12.10	15.80
Cat. no.	**KSA630DLC40**	**KSA630DLE40**	**KSA630DLF40**	**KSA630DTC40**

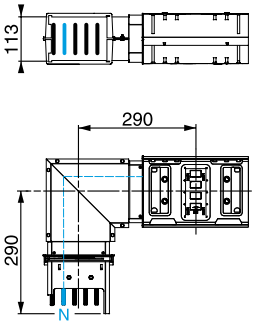
Dimensions



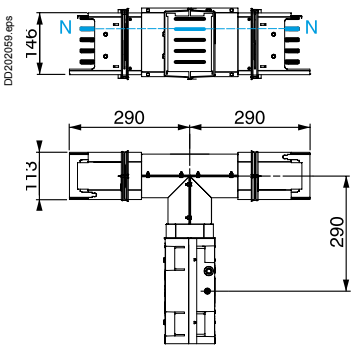
KSA630DLC40



KSA630DLE40



KSA630DLF40



KSA630DTC40

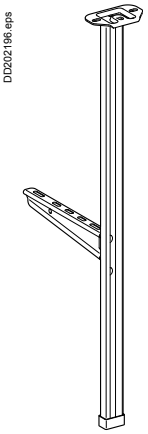
Canalis KS, 500 to 630 A

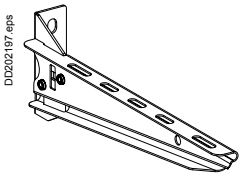
Busbar trunking medium-power distribution

Complementary products

Fixing system

Catalogue numbers

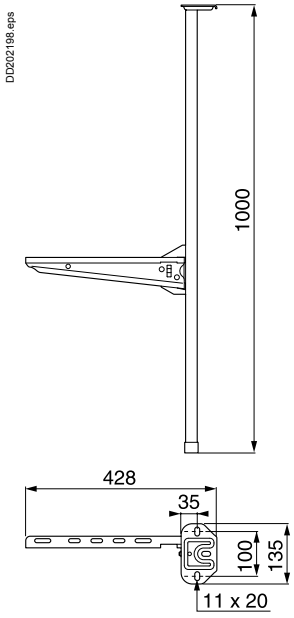




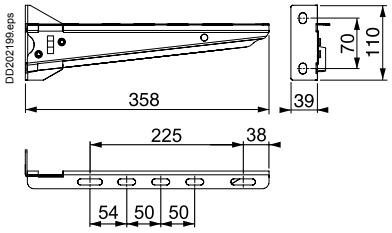
Designation	Pendant kit	Cantilever arm, 300 mm
Rating (A)	500 to 630	500 to 630
Max. load (kg)	80	200
Mounting	Under ceiling or I-beam (1)	Wall or pendant
Weight (kg)	2.80	0.60
Cat. no.	**KSB1000ZFKP1**	**KFBCA81300**

(1) Maximun recommended distance between fixings: 3 meters.

Dimensions



KSB1000ZFKP1

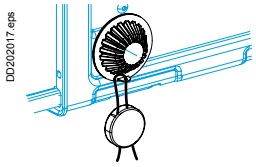


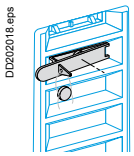
KFBCA81300

Accessories

Catalogue numbers

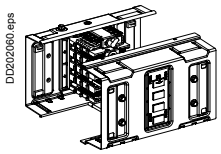
Sealing kit

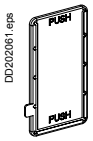


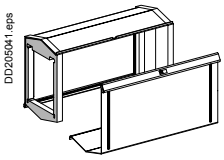


Rating (A)	All	
For	Feed unit cover and jointing screws	Tap-off outlets
Order in multiples of	20	20
Weight (kg)	0.07	0.04
Cat. no.	**KSB1000ZP1**	**KSB1000ZP2**

Spare parts

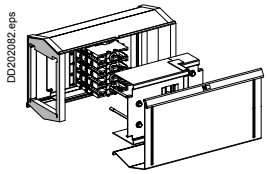






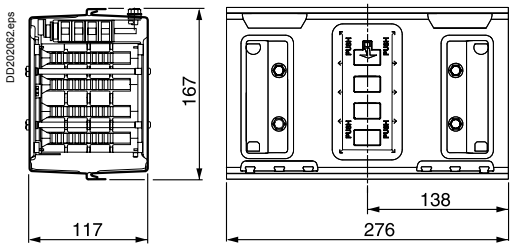
Designation	Electrical and mechanical jointing unit	IP55 outlet plug	Sprinkler proofing accessory
Rating (A)	500 to 630	500 to 1000	500 to 1000
Order in multiples of	1	15	1
Weight (kg)	3.50	0.020	1
Cat. no.	**KSA630ZJ4**	**KSB1000ZB1**	**KSB1000ZB2**

Adaptaters

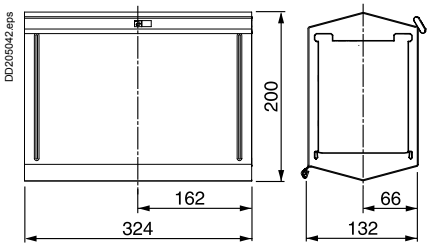


Rating (A)	500	630
For	Connection to old KS 500 A lines	Connection to old KS 630 A lines
Weight (kg)	3.65	4.00
Cat. no.	**KSA500FA4**	**KSA800FA4**

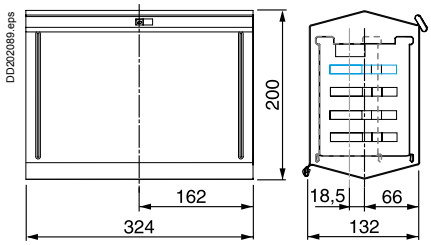
Dimensions



KSA630ZJ4



KSB1000ZB2



KSA●●●FA4

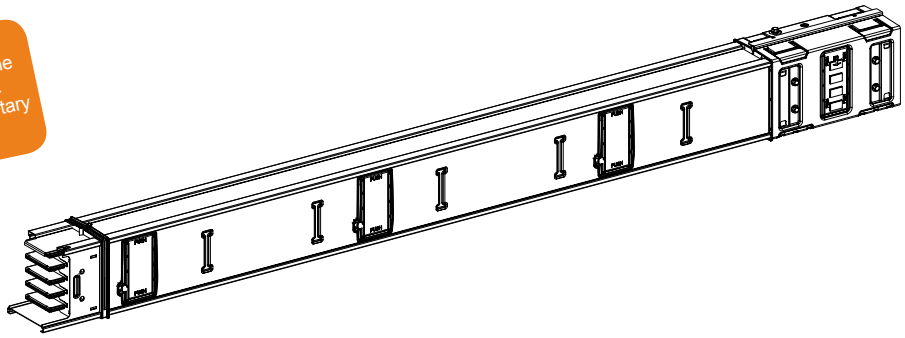
Canalis KS, 800 to 1000 A
Busbar trunking medium-power distribution

Straight lengths with tap-off outlets

Catalogue numbers

DD202022_R.eps

For connection to an old line, use the special adapters. See complementary products.

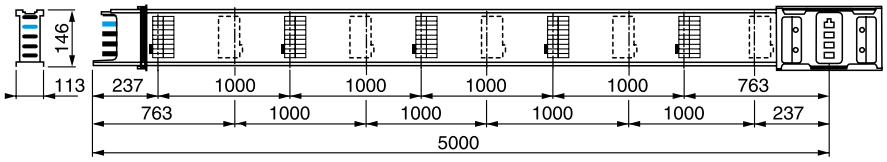


Standard lengths				
Polarity	3L + N + PE or 3L + PEN			
Rating (A)	800		1000	
Length (mm)	5000	3000	5000	3000
Number of tap-off outlets	10	6	10	6
Weight (kg)	69.20	43.10	89.50	55.20
Cat. no.	**KSA800ED45010**	**KSA800ED4306**	**KSA1000ED45010**	**KSA1000ED4306**

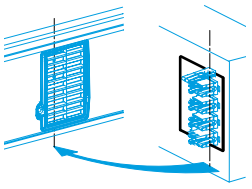
Additional lengths		
Polarity	3L + N + PE or 3L + PEN	
Rating (A)	800 to 1000	
Length (mm)	2000	1500
Number of tap-off outlets	6	4
Weight (kg)	38.50	29.90
Cat. no.	**KSA1000ED4206**	**KSA1000ED4154**

Dimensions

DD202023.eps

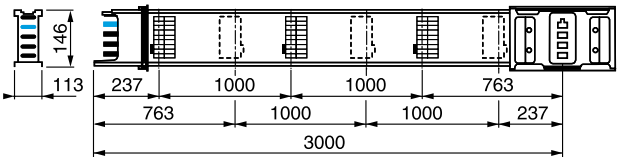


DD210638.eps



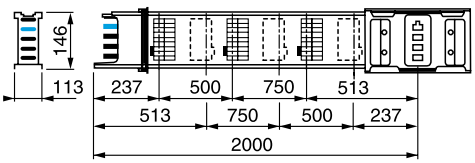
KSA ●●●ED45010

DD202024.eps



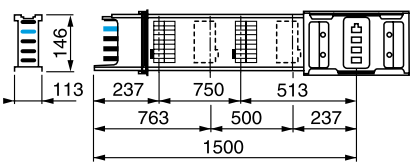
KSA ●●●ED4306

DD202025.eps



KSA1000ED4206

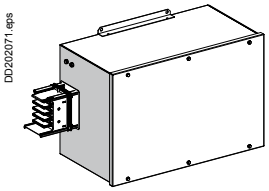
DD202026.eps

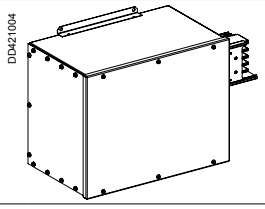


KSA1000ED4154

Feed units (supplied with end cover)

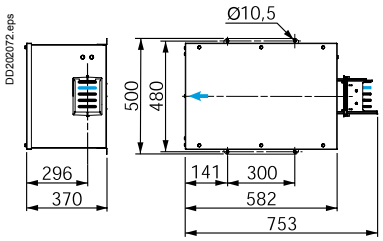
Catalogue numbers





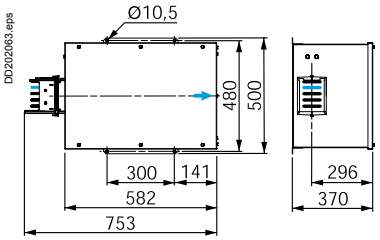
Designation		End feed box	
Rating (A)		800 to 1000	
Mounting		Right	Left
Connection		Lugs (M12 screws)	Lugs (M12 screws)
Max. size (mm^2)	**Flexible**	4 x 240	4 x 240
	or rigid	4 x 300	4 x 300
Weight (kg)		24.50	24.50
Cat. no.		**KSA1000ABD4**	**KSA1000ABG4**

Dimensions



KSA1000ABG4

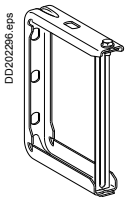
Cable exit



KSA1000ABD4

Fixing system

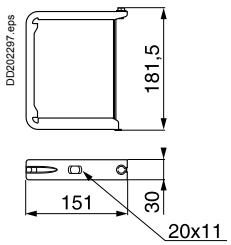
Catalogue numbers



Designation	Fixing bracket (1)
Rating (A)	500 to 1000
Max. load (kg)	135
Mounting	Wall or suspended on threaded rod
Order in multiples of	10
Weight (kg)	0.4
Cat. no.	**KSB1000ZF1**

(1) *Maximun recommended distance between fixings: 3 meters.*

Dimensions



KSB1000ZF1

Canalis KS, 800 to 1000 A

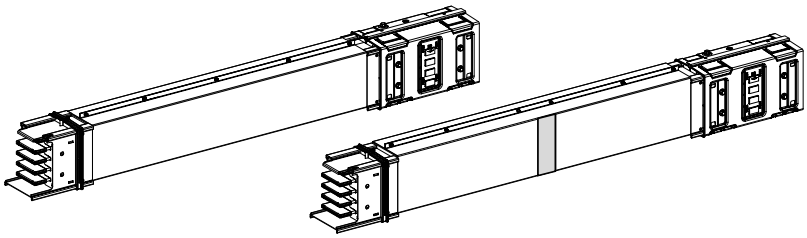
Busbar trunking medium-power distribution

Complementary products

Special straight lengths without tap-off outlets

Catalogue numbers

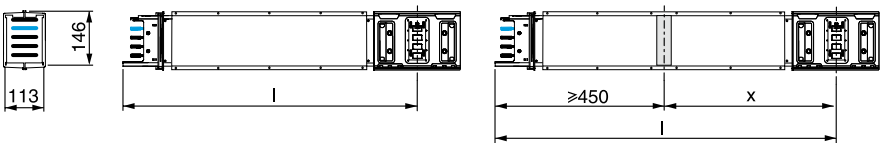
DD202047.eps



Polarity	3L + N + PE or 3L + PEN	
Rating (A)	800 to 1000	
Length (mm)	500 to 1995	900 to 2340
Option	-	With fire barrier
Weight (kg/m)	23.6	24.2
Cat. no.	**KSA1000ET4A**	**KSA1000ET4AF**

Dimensions

DD202048.eps



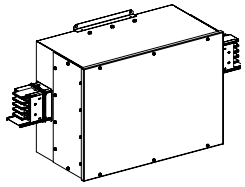
KSA1000ET4A *KSA1000ET4AF*

Dim.	ET4A	ET4AF
l	500 to 1995	900 to 2340
x		450 to 1890

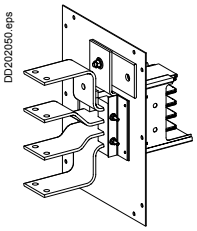
Feed units (supplied with end cover)

Catalogue numbers

DD421006



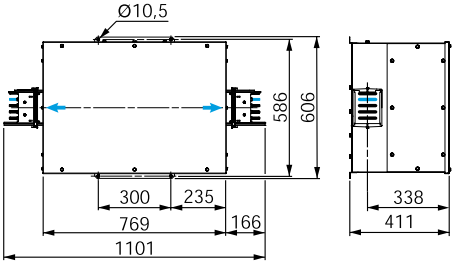
DD202050.eps



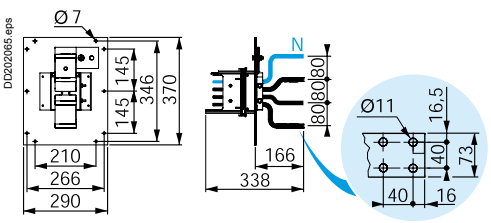
Designation		Centre feed box	Flange feed unit
Rating (A)		800 to 1000	800 to 1000
Mounting		Central	Left or right
Connection		Lugs (M12 screws)	Bars (4 x M10 screws)
Max. size (mm²)	**Flexible**	4 x 240	-
	Rigid	4 x 300	-
Weight (kg)		41.50	6.60
Cat. no.		**KSA1000ABT4**	**KSA1000AE4**

Dimensions

DD202064.eps



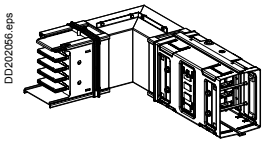
DD202065.eps

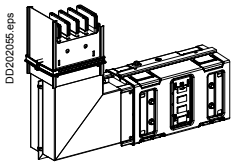


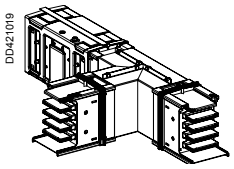
KSA1000ABT4 Cable exit *KSA1000AE4*

Components for changing direction

Catalogue numbers

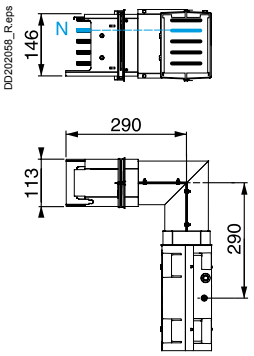




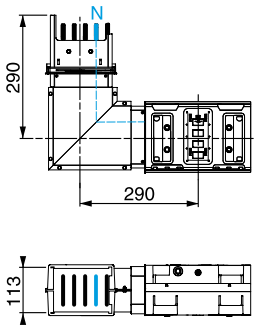


Designation	Elbow			Tee
Rating (A)	800 to 1000			800 to 1000
Direction (edgewise)	Right or left	Upward	Downward	Perpendicular
Weight (kg)	19.00	16.70	16.70	22.60
Cat. no.	**KSA1000DLC40**	**KSA1000DLE40**	**KSA1000DLF40**	**KSA1000DTC40**

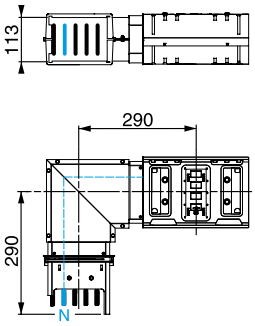
Dimensions



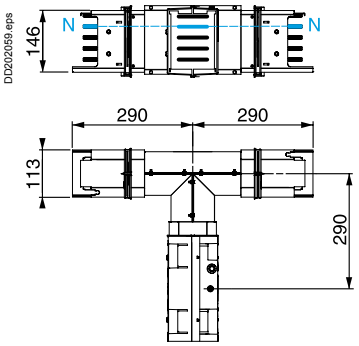
KSA1000DLC40



KSA1000DLE40



KSA1000DLF40



KSA1000DTC40

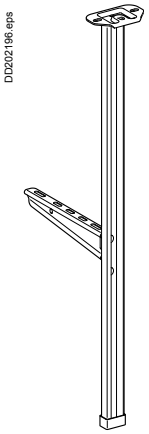
Canalis KS, 800 to 1000 A

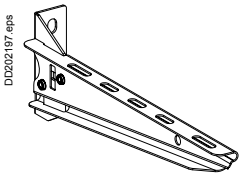
Busbar trunking medium-power distribution

Complementary products

Fixing system

Catalogue numbers

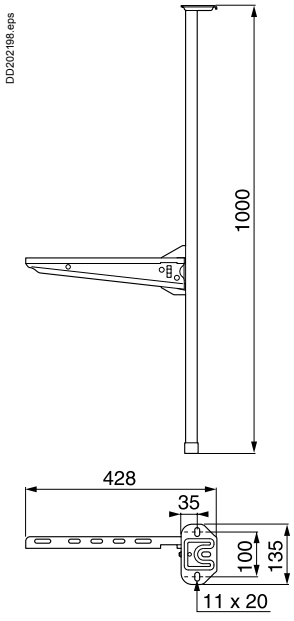




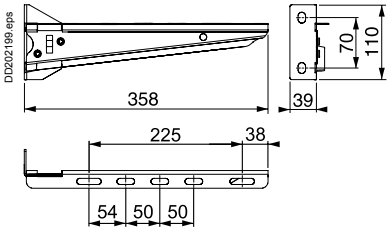
Designation	Pendant kit (1)	Cantilever arm, 300 mm
Rating (A)	800 to 1000	800 to 1000
Max. load (kg)	80	200
Mounting	Under ceiling or I-beam	Wall or pendant (1)
Order in multiple of	4	4
Weight (kg)	2.80	0.60
Cat. no.	**KSB1000ZFKP1**	**KFBCA81300**

(1) Maximun recommended distance between fixings: 3 meters.

Dimensions



KSB1000ZFKP1

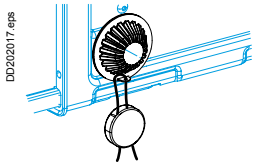


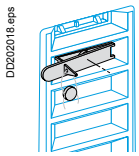
KFBCA81300

Accessories

Catalogue numbers

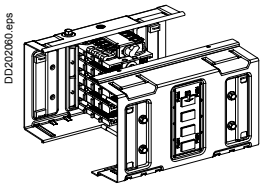
Lead sealing kit

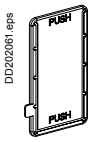


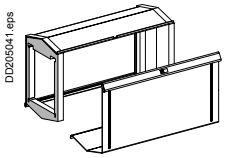


Rating (A)	All	
For	Feed unit cover and jointing screws	Tap-off outlets
Order in multiples of	20	20
Weight (kg)	0.07	0.04
Cat. no.	**KSB1000ZP1**	**KSB1000ZP2**

Spare parts

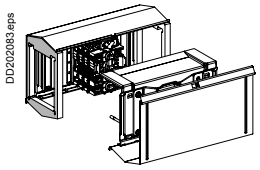






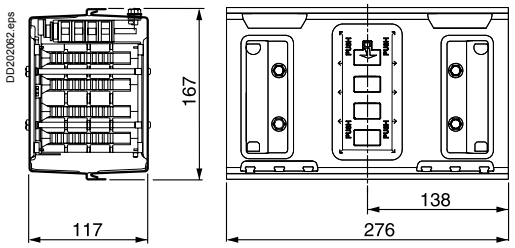
Designation	Electrical and mechanical jointing unit	IP55 outlet plug	Sprinkler proofing accessory
Rating (A)	800 to 1000	500 to 1000	500 to 1000
Order in multiples of	1	15	1
Weight (kg)	4.50	0.020	1
Cat. no.	**KSA1000ZJ4**	**KSB1000ZB1**	**KSB1000ZB2**

Adaptaters

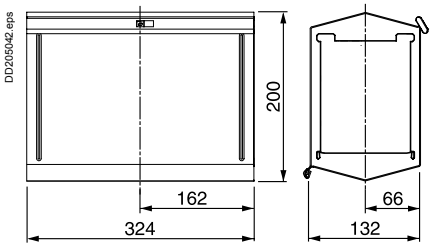


Rating (A)	800
For	Connection to old KS lines
Weight (kg)	4.00
Cat. no.	**KSA800FA4**

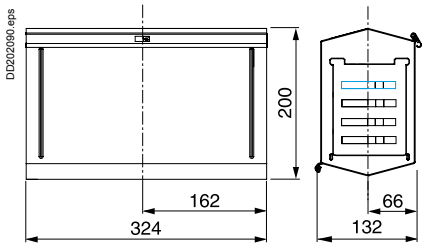
Dimensions



KSA1000ZJ4



KSB1000ZB2

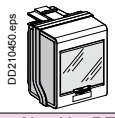
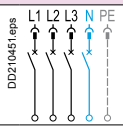


KSA800FA4

Canalis KS, 100 to 1000 A
Busbar trunking for medium-power distribution
32 to 100 A tap-off units for modular devices

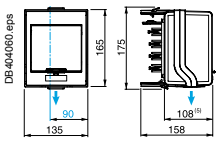
Tap-off units
Disconnection by unplugging the tap-off unit

Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (1)	
	Tap-off unit	TT - TNS - TNS - IT (1)	
			
Tap-off polarity		3L + N + PE (2)	
E.g. circuit-breaker protection			
Rating (A)		32	
Number of 18 mm modules (3) (not supplied)		5	
Connection		Pre-wired	
Max. size (mm²)	**Flexible**	6	
	Rigid	10	
Cable gland (4) (not supplied)		ISO 32 max.	
Weight (kg)		0.60	
Cat. no.		**KSB32CM55**	

(1) The neutral must be protected or not distributed (3L + PE) for the IT system.
(2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible).
(3) Supplied with blanking plate (1 x 5 divisible).
(4) Maximum diameter for a multipolar cable.

Dimensions



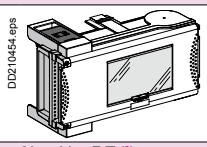
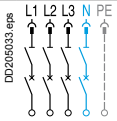
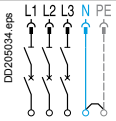
KSB32CM55

Cable exit
Centre line of tap-off outlets

(5) Protruding.

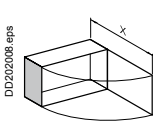
Tap-off unit with isolator
Disconnection by opening the tap-off unit cover

Catalogue numbers

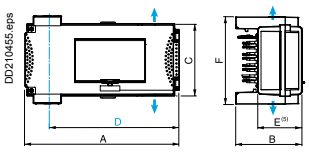
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (1)		TNC	
	Tap-off unit	TT - TNS - TNS - IT (1)		TNC	
					
Tap-off polarity		3L + N + PE (2)		3L + PEN	
E.g. circuit-breaker protection					
Rating (A)		63	100	63	100
Number of 18 mm modules (3)		8	12	8	12
Connection		Copper cable lugs		Copper cable lugs	
Max. size (mm²)	**Flexible**	16	35	16	35
	Rigid	16	35	16	35
Cable gland (4) (not supplied)		ISO 50 max.	ISO 63 max.	ISO 50 max.	ISO 63 max.
Weight (kg)		2.40	5.00	2.40	5.00
Cat. no.		**KSB63SM48**	**KSB100SM412**	**KSB63SM58**	**KSB100SM512**

(1) The neutral must be protected or not distributed (3L + PE) for the IT system..
(2) Also suitable for tap-off unit 3L + PE (N not distributed).
(3) Supplied with blanking plates: 1 x 5 divisible (8 modules) or 2 x 5 divisible (12 modules).
(4) Maximum diameter for a multipolar cable.

Dimensions



X = 432.5 (KSB63SM●8)
X = 545.5 (KSB100SM●12)



KSB63SM●8,
KSB100SM●12

Cable exit
Centre line of tap-off outlets

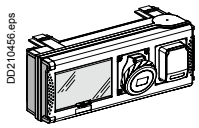
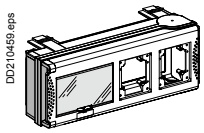
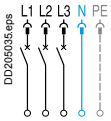
(5) Protruding.

Dim.	63 A	100 A
A	357	444
B	158	183
C	167	202
D	309	397
E	108	133
F	202	220

Tap-off units for power sockets

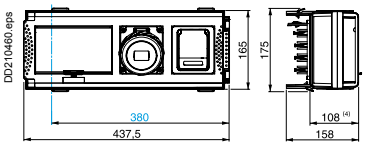
Disconnection by unplugging the tap-off unit

Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT [1]							
	Tap-off unit	TT - TNS - TNS - IT [1]							
		 DD210456.eps						 DD210459.eps	
Tap-off polarity		3L + N + PE							
E.g. circuit-breaker protection Tap-off unit wiring depends on the sockets used		 DD205035.eps L1 L2 L3 N PE							
Designation		Tap-off unit with flush-mounted power sockets							Empty tap-off unit
Calibre (A)		32							32
Number of 18 mm modules [2]		8							-
Equipment	**Quantity**	2	2	1	1	1	1	1	1	-
	Type	Household socket Schuko	Household socket NF	Household socket NF	Industrial socket	Household socket Schuko	Industrial socket	Industrial socket	Industrial socket	-
	Current (A)	10/16	10/16	10/16	16	10/16	16	16	16	-
	Voltage (V)	230	230	230	415	230	415	230	415	-
	Polarity	2P + T	2P + T	2P + T	3P + N + T	2P + T	3P + N + T	2P + T	3P + N + T	-
Weight (kg)		2.90	2.90	3.00		3.00		3.10		2.70
Cat. no.		**KSB32CP11D**	**KSB32CP11F**	**KSB32CP15F**		**KSB32CP15D**		**KSB32CP35**		**KSB32CP**

(1) The neutral must be protected or not distributed (3L + PE) for the IT system.
(2) Supplied with blanking plate (1 x 5 divisible).

Dimensions



KSB32CP●●●

Centre line of tap-off outlets

(4) Protruding.

Power sockets

Catalogue numbers

Designation	Industrial sockets Pratika							
Rated current (A)	16				32 [3]			
Rated voltage (V AC)	200-250		380-415		200-250		380-415	
Number of poles	2P + T	3P + N + T	2P + T	3P + N + T	2P + T	3P + N + T	2P + T	3P + N + T
Dimensions (W x H in mm)	65 x 85	90 x 100	65 x 85	90 x 100	90 x 100	90 x 100	90 x 100	90 x 100
Cat. no.	**PKY16F723**	**PKY16F725**	**PKY16F733**	**PKY16F735**	**PKY32F723**	**PKY32F725**	**PKY32F733**	**PKY32F735**

Designation	Household NF sockets	Household Schuko sockets	Screw-on plate	
Rated current (A)	10 to 16	10 to 16	For blanking of unused openings	For adapting 65 x 85 mm power-socket bases
Rated voltage (V AC)	250	250	-	-
Number of poles	2P + T	2P + T	-	-
Dimensions (W x H in mm)	65 x 85	65 x 85	-	-
Weight (kg)	-	-	0.10	0.09
Cat. no.	**81140**	**81141**	**13137**	**13136**

(3) The sum of currents in the 2 sockets installed on the tap-off units ⩽ 32 A.

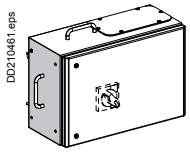
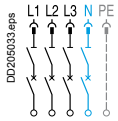
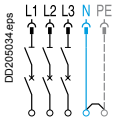
Canalis KS, 100 to 1000 A

Busbar trunking for medium-power distribution

160 to 400 A tap-off units for Compact NSX circuit breakers

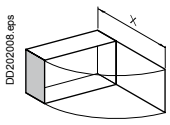
Tap-off units for Compact NSX, fixed, front-connected circuit breakers

Catalogue numbers

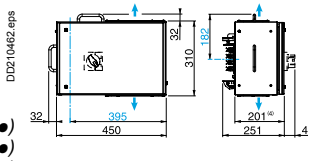
Earthing system arrangement	Busbar trunking	TT - TNS - TNC - IT (1)			TNC		
	Tap-off unit	TT - TNS - TNS - IT (1)			TNC		
							
Tap-off polarity		3L + N + PE (2)			3L + PEN		
E.g. circuit-breaker protection							
Rating (A)		160	250	400	160	250	400
Type of circuit breaker (not supplied)		NSX100 or NSX160 Curve N, H or L with Rotary handle LV429338	NSX250 Curve N, H or L with Rotary handle LV429338	NSX400 Curve N, H or L with Rotary handle LV432598	NSX100 or NSX160 Curve N, H or L with Rotary handle LV429338	NSX250 Curve N, H or L with Rotary handle LV429338	NSX400 Curve N, H or L with Rotary handle LV432598
Connection		NSX			NSX		
Max. size (mm^2)	**Flexible**	70	150	240	70	150	240
	Rigid	70	150	240	70	150	240
Cable gland (3) (not supplied)		ISO 32 max.	ISO 40 max.	ISO 50 max.	ISO 32 max.	ISO 40 max.	ISO 50 max.
Weight (kg)		9.00	12.50	18.00	9.00	12.50	18.00
Cat. no.		**KSB160DC4**	**KSB250DC4**	**KSB400DC4**	**KSB160DC5**	**KSB250DC5**	**KSB400DC5**

(1) The neutral must be protected or not distributed (3L + PE) for the IT system.
(2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible).
(3) Maximum diameter by unipolar cable.
***Note:** the cover of the tap-off unit may be opened only when the circuit breaker is in the Off position.*

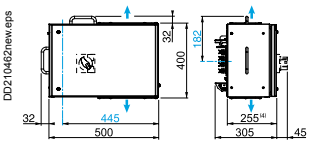
Dimensions



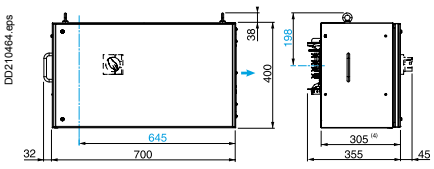
X = 625.5 (KSB160DC●)
X = 725.5 (KSB250DC●)
X = 976.5 (KSB400DC●)



KSB160DC●



KSB250DC●



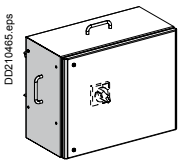
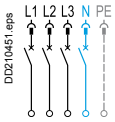
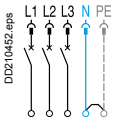
KSB400DC●

Cable exit
Centre line of tap-off outlets

(4) Protruding.

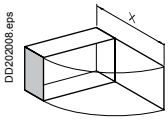
Tap-off units for measurements and metering

Catalogue numbers

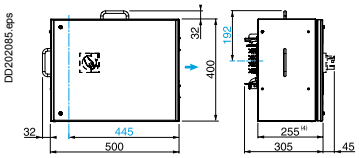
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (1)		TNC	
	Tap-off unit	TT - TNS - TNS - IT (1)		TNC	
					
Tap-off polarity		3L + N + PE (2)		3L + PEN	
E.g. circuit-breaker protection					
Rating (A)		250	400	250	400
Type of circuit breaker (not supplied)		NSX250 Type N, H or L with Rotary handle LV429338	NSX400 Type N, H or L with Rotary handle LV432598	NSX250 Type N, H or L with Rotary handle LV429338	NSX400 Type N, H or L with Rotary handle LV432598
Connection		NSX CT block		NSX CT block	
Max. size (mm^2)	**Flexible**	150	240	150	240
	Rigid	150	240	150	240
Cable gland (3) (not supplied)		ISO 40 max.	ISO 50 max.	ISO 40 max.	ISO 50 max.
Weight (kg)		13.50	19.50	13.50	19.50
Cat. no.		**KSB250DC4TRE**	**KSB400DC4TRE**	**KSB250DC5TRE**	**KSB400DC5TRE**

(1) The neutral must be protected or not distributed (3L + PE) for the IT system.
(2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible).
(3) Maximum diameter by unipolar cable.
***Note:** the cover of the tap-off unit may be opened only when the circuit breaker is in the Off position.*

Dimensions

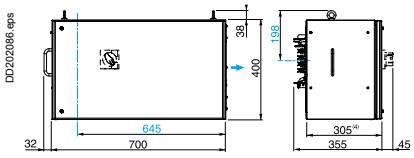


X = 726.5 (KSB250DC●TRE)
X = 976.5 (KSB400DC●TRE)



KSB250DC●TRE

Cable exit
Centre line of tap-off outlets



KSB400DC●TRE

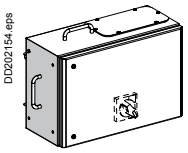
(4) Protruding.

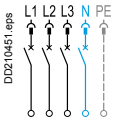
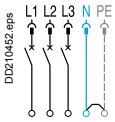
Canalis KS, 100 to 1000 A
Busbar trunking for medium-power distribution
125 to 160 A tap-off units for modular circuit breakers

Tap-off units for NG modular circuit breakers

Catalogue numbers

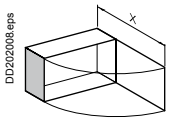
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT [1]		TNC	
	Tap-off unit	TT - TNS - TNS - IT [1]		TNC	



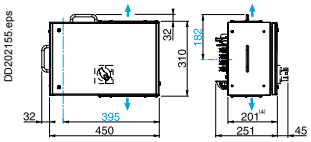
Tap-off polarity	3L + N + PE [2]		3L + PEN	
E.g. circuit-breaker protection				
Rating (A)	160	125	160	125
Type of circuit breaker (not supplied)	NG160 with rotary handle 28060	NG125 with rotary handle 19088	NG160 with rotary handle 28060	NG125 with rotary handle 19088
Connection	NG		NG	
Max. size (mm²) **Flexible**	70		70	
Rigid	70		70	
Cable gland [3] (not supplied)	ISO 32 max.		ISO 32 max.	
Weight (kg)	8.50		8.50	
Cat. no.	**KSB160SM413**		**KSB160SM513**	

(1) The neutral must be protected or not distributed (3L + PE) for the IT system.
(2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible).
(3) Maximum diameter by unipolar cable.
***Note:** the cover of the tap-off unit may be opened only when the circuit breaker is in the Off position.*

Dimensions



X = 625.5



KSB160SM●13

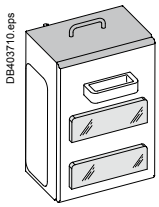
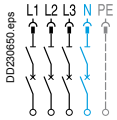
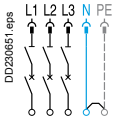
Cable exit
Centre line of tap-off outlets

***(4)** Protruding.*

Tap-off units for modular circuit breakers

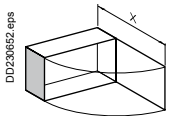
Disconnection by opening the tap-off unit door.
Tap-off units with removable basket including:
- 2 DIN rails allowing to assemble 24 modules of 18 mm each, which are accessible from the front side of the basket
- and 2 other DIN rails for additional devices, which are accessible from the bottom of the basket.

Catalogue numbers

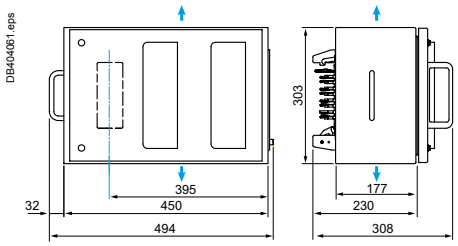
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (1)	TNC
	Tap-off unit	TT - TNS - TNS - IT (1)	TNC
			
Tap-off polarity		3L + N + PE (2)	3L + PEN
E.g. circuit-breaker protection			
Rating (A)		160	160
Number of 18 mm (3) mod. (not supplied)		24	24
Connection		Lugs	Lugs
Max. size (mm²)	**Flexible**	35	35
	Rigid	50	50
Cable gland (4) (not supplied)		ISO 50 max.	ISO 50 max.
Weight (kg)		10.69	10.69
Cat. no.		**KSB160SM424**	**KSB160SM524**

(1) The neutral must be protected or not distributed (3L + PE) for the IT earthing system.
(2) Also suitable for 3L + PE tap-off (N not distributed).
(3) Supplied with blanking plate 1 x 5 divisible (8 modules) or 2 x 5 divisible (12 modules)
(4) Max. diameter for a multipole cable.

Dimensions

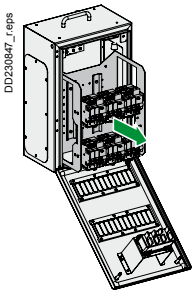


X = 650



KSB160SM424

Cable exit
Centre line of tap-off outlets



KSB160SM●24

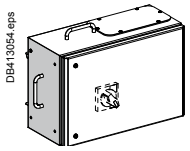
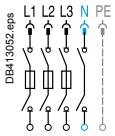
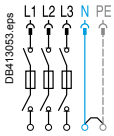
Canalis KS, 100 to 1000 A

Busbar trunking for medium-power distribution

250 to 400 A tap-off units for Fupact INF switch-disconnector fuses

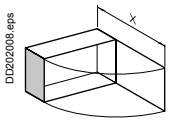
Tap-off units for Fupact INF, fixed, front-connected switch-disconnector fuses

Catalogue numbers

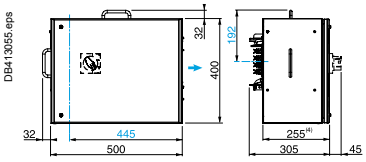
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT [1]		TNC	
	Tap-off unit	TT - TNS - TNS - IT [1]		TNC	
					
Tap-off polarity		3L + N + PE [2]		3L + PEN	
E.g. circuit-breaker protection					
Rating (A)		250	400	250	400
Type of circuit breaker (not supplied)		INFD 250 or INFB 250 with extended rotary handle	INFD 400 or INFB 400 with extended rotary handle	INFD 250 or INFB 250 with extended rotary handle	INFD 400 or INFB 400 with extended rotary handle
Connection		INF	INF	INF	INF
Max. size (mm²)	**Flexible**	70	150	70	150
	Rigid	150	240	150	240
Cable gland [3] (not supplied)		ISO 32 max.	ISO 40 max.	ISO 32 max.	ISO 40 max.
Weight (kg)		12.50	18.00	12.50	18.00
Cat. no.		**KSB250SDF4**	**KSB400SDF4**	**KSB250SDF5**	**KSB400SDF5**

(1) The neutral must be protected or not distributed (3L + PE) for the IT system.
(2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible).
(3) Maximum diameter by unipolar cable.
***Note:** the cover of the tap-off unit may be opened only when the INF is in the Off position.*

Dimensions

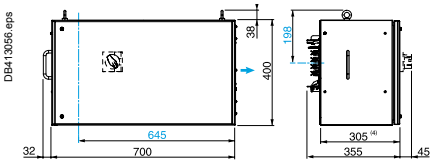


X = 726.5 (KSB250SDF●)
X = 976.5 (KSB400SDF●)



KSB250SDF●

Cable exit
Centre line of tap-off outlets

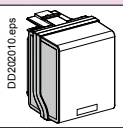
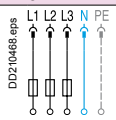


KSB400SDF●

***(4)** Protruding.*

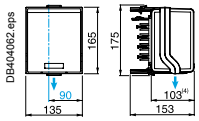
Tap-off units for cylindrical fuses
Disconnection by unplugging the tap-off unit

Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (1)	
	Tap-off unit	TT - TNS - TNS - IT (1)	
			
Tap-off polarity		3L + N + PE (2)	
E.g. fuse protection			
Rating (A)		32	
For fuses (not supplied)		NF 10 x 38 Type gG: 25 A max. Type aM: 32 A max.	
Connection		Cable clamp terminals	
Max. size (mm²)	**Flexible**	6	
	Rigid	10	
Cable gland (3) (not supplied)		ISO 32 max.	
Weight (kg)		0.60	
Cat. no.		**KSB32CF5**	

(1) The neutral must be not distributed (3L + PE) for the IT system.
(2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible only if N not distributed).
(3) Maximum diameter for a multipolar cable.

Dimensions



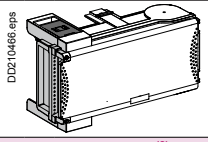
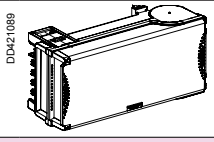
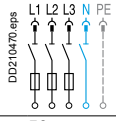
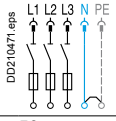
Cable exit
Centre line of tap-off outlets

KSB32CF5

(4) Protruding.

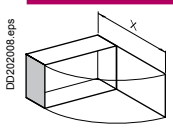
Tap-off unit with isolator for cylindrical fuses
Disconnection by opening the tap-off unit cover

Catalogue numbers

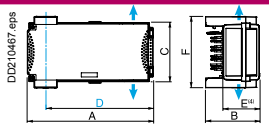
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (1)		TNC	
	Tap-off unit	TT - TNS - TNS - IT (1)		TNC	
					
Tap-off polarity		3L + N + PE (2)		3L + PEN	
E.g. fuse protection					
Rating (A)		50	100	50	100
For fuses (not supplied)		NF 14 x 51 Type gG, 50 A max. Type aM, 50 A max.	NF 22 x 58 Type gG, 100 A max. Type aM, 100 A max.	NF 14 x 51 Type gG, 50 A max. Type aM, 50 A max.	NF 22 x 58 Type gG, 100 A max. Type aM, 100 A max.
Connection		Cable clamp terminals	Copper cable lugs	Cable clamp terminals	Copper cable lugs
Max. size (mm²)	**Flexible**	25	50	25	50
	Rigid	25	50	25	50
Cable gland (3) (not supplied)		ISO 50 max.	ISO 63 max.	ISO 50 max.	ISO 63 max.
Weight (kg)		2.40	5.00	2.40	5.00
Cat. no.		**KSB50SF4**	**KSB100SF4**	**KSB50SF5**	**KSB100SF5**

(1) The neutral must be not distributed (3L + PE) for the IT system.
(2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible only if N not distributed).
(3) Maximum diameter for a multipolar cable.

Dimensions



X = 432.5 (KSB50SF●)
X = 545.5 (KSB100SF●)



KSB50SF●, KSB100SF●

Cable exit
Centre line of tap-off outlets

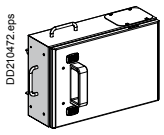
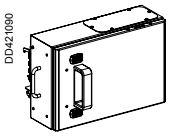
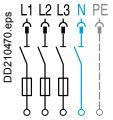
(4) Protruding.

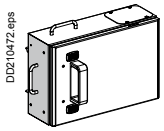
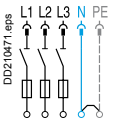
Dim.	50 A	100 A
A	356	444
B	153	178
C	167	202
D	309	397
E	103	128
F	202	220

Canalis KS, 100 to 1000 A
Busbar trunking for medium-power distribution
100 to 400 A tap-off units for NF fuses

Tap-off unit with isolator for blade-type fuses
Disconnection by opening the tap-off unit cover

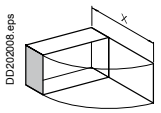
Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (1)				
	Tap-off unit	TT - TNS - TNS - IT (1)				
						
Tap-off polarity		3L + N + PE (2)				
E.g. fuse protection						
Rating (A)		100	160		250	400
For blade-type fuses (not supplied)		Size 00 Type gG, 100 A max. Type aM, 100 A max.	Size 00 Type gG, 160 A max. Type aM, 160 A max.	Size 0 Type gG, 160 A max. Type aM, 160 A max.	Size 1 Type gG, 250 A max. Type aM, 250 A max.	Size 2 Type gG, 400 A max. Type aM, 400 A max.
Connection		Copper cable lugs	Copper cable lugs	Copper cable lugs	Copper cable lugs	Copper cable lugs
Max. size (mm²)	**Flexible**	35	70	70	150	240
	Rigid	50	70	70	150	240
Cable gland (not supplied)		ISO 63 (4) max.	ISO 32 (4) max.	ISO 32 (4) max.	ISO 40 (4) max.	ISO 50 (4) max.
Weight (kg)		5.00	11.00	11.00	20.00	29.20
Cat. no.		**KSB100SE4** (5)	**KSB160SE4**	**KSB160SF4**	**KSB250SE4**	**KSB400SE4**

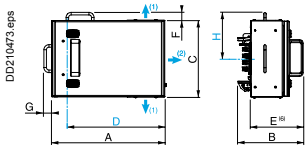
Earthing system arrangement	**Busbar trunking**	TNC				
	Tap-off unit	TNC				
						
Tap-off polarity		3L + PEN				
Ex.: protection par fusibles						
Rating (A)		100	160		250	400
For blade-type fuses (not supplied)		Size 00 Type gG, 100 A max. Type aM, 100 A max.	Size 00 Type gG, 160 A max. Type aM, 160 A max.	Size 0 Type gG, 160 A max. Type aM, 160 A max.	Size 1 Type gG, 250 A max. Type aM, 250 A max.	Size 2 Type gG, 400 A max. Type aM, 400 A max.
Connection		Copper cable lugs	Copper cable lugs	Copper cable lugs	Copper cable lugs	Copper cable lugs
Max. size (mm²)	**Flexible**	35	70	70	150	240
	Rigid	50	70	70	150	240
Cable gland (not supplied)		ISO 63 (3) max.	ISO 32 (4) max.	ISO 32 (4) max.	ISO 40 (4) max.	ISO 50 (4) max.
Weight (kg)		5.00	11.00	11.00	20.00	29.20
Cat. no.		**KSB100SE5** (5)	**KSB160SE5**	**KSB160SF5**	**KSB250SE5**	**KSB400SE5**

(1) The neutral must be not distributed (3L + PE) for the IT system.
(2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible only if N not distributed).
(3) Maximum diameter for a unipolar cable.
(4) Cable gland for multipolar cable only.
(5) For 100 A dimensions, see "Tap-off units with insulators for cylindrical fuses", page 193, cat. no. KSB100SF●.

Dimensions



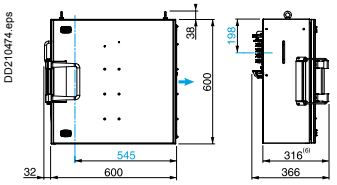
X = 577.5 (KSB160S●●)
X = 777 (KSB250SE●)
X = 855 (KSB400SE●)



KSB160S●●, KSB250SE●

(1) Cable exit of KSB160S●●
Cable exit of KSB250SE●
(2) Centre line of tap-off outlets
***(6)** Protruding.*

Dim.	160 A	250 A
A	450	600
B	257	308
C	300	400
D	395	548
E	207	258
F	032	032
G	032	032
H	182	192



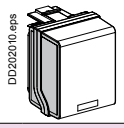
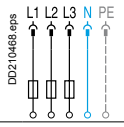
KSB400SE●

Sortie de câble
Axe des trappes de dérivation
***(6)** Protruding.*

Tap-off units for screw-type fuses

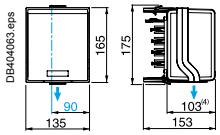
Disconnection by unplugging the tap-off unit

Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (1)	
	Tap-off unit	TT - TNS - TNS - IT (1)	
			
Tap-off polarity		3L + N + PE (2)	
E.g. fuse protection			
Rating (A)		16	
For fuses (not supplied)		Neozed E14	
Connection		Tunnel terminals	
Max. size (mm²)	**Flexible**	6	
	Rigid	10	
Cable gland (3) (not supplied)		ISO 32 max.	
Weight (kg)		0.60	
Cat. no.		**KSB16CN5**	

(1) The neutral must be not distributed (3L + PE) for the IT system.
(2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible only if N not distributed).
(3) Maximum diameter for a multipolar cable.

Dimensions

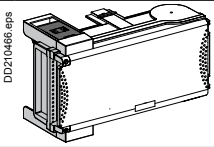
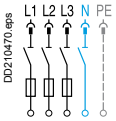
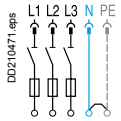


Sortie de câble
Axe des trappes de dérivation
(4) Cote de saillie.

Tap-off unit with isolator for screw-type fuses

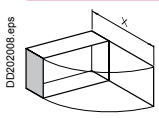
Disconnection by opening the tap-off unit cover

Catalogue numbers

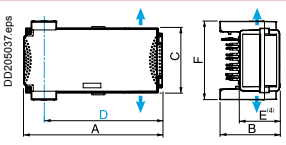
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (1)			TNC		
	Tap-off unit	TT - TNS - TNS - IT (1)			TNC		
							
Tap-off polarity		3L + N + PE (2)			3L + PEN		
E.g. fuse protection							
Rating (A)		25	50	63	25	50	63
For fuses (not supplied)		Diazed E27	Neozed E18	Diazed E33	Diazed E27	Neozed E18	Diazed E33
Connection		Tunnel terminals	Tunnel terminals	Tunnel terminals	Tunnel terminals	Tunnel terminals	Tunnel terminals
Max. size (mm²)	**Flexible**	25	25	25	25	25	25
	Rigid	25	25	25	25	25	25
Cable gland (3) (not supplied)		ISO 50 max.	ISO 50 max.	ISO 63 max.	ISO 50 max.	ISO 50 max.	ISO 63 max.
Weight (kg)		2.40	2.40	2.40	2.40	2.40	2.40
Cat. no.		**KSB25SD4**	**KSB50SN4**	**KSB63SD4**	**KSB25SD5**	**KSB50SN5**	**KSB63SD5**

(1) The neutral must be not distributed (3L + PE) for the IT system.
(2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible only if N not distributed).
(3) Maximum diameter for a multipolar cable.

Dimensions



X = 432.5 (KSB25SD●, KSB50SN●)
X = 545.5 (KSB63SD●)



KSB●●S●●

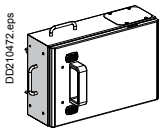
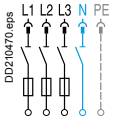
Cable exit
Centre line of tap-off outlets
(4) Protruding

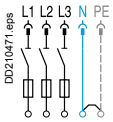
Dim.	25 and 50 A	63 A
A	356	444
B	153	178
C	167	202
D	309	397
E	103	128
F	202	220

Canalis KS, 100 to 1000 A
Busbar trunking for medium-power distribution
100 to 400 A tap-off units for DIN fuses

Tap-off unit with isolator for blade-type fuses
Disconnection by opening the tap-off unit cover

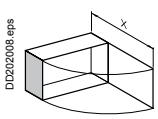
Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (1)			
	Tap-off unit	TT - TNS - TNS - IT (1)			
					
Tap-off polarity		3L + N + PE (2)			
E.g. fuse protection					
Rating (A)		100	160	250	400
For blade-type fuses (not supplied)		Size 00 Type gG, 100 A max. Type aM, 100 A max.	Size 00 Type gG, 160 A max. Type aM, 160 A max.	Size 1 Type gG, 250 A max. Type aM, 250 A max.	Size 2 Type gG, 400 A max. Type aM, 250 A max.
Connection		Copper cable lugs	Copper cable lugs	Copper cable lugs	Copper cable lugs
Max. size (mm²)	**Flexible**	35	70	150	240
	Rigid	50	70	150	240
Cable gland (not supplied)		ISO 63 (3) max.	ISO 32 (4) max.	ISO 40 (4) max.	ISO 50 (4) max.
Weight (kg)		5.00	11.00	20.00	29.20
Cat. no.		**KSB100SE4** (5)	**KSB160SE4**	**KSB250SE4**	**KSB400SE4**

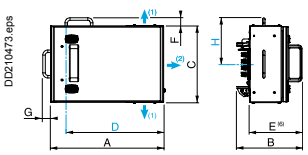
Earthing system arrangement	**Busbar trunking**	TNC			
	Tap-off unit	TNC			
Tap-off polarity		3L + PEN			
E.g. fuse protection					
Rating (A)		100	160	250	400
For blade-type fuses (not supplied)		Size 00 Type gG, 100 A max. Type aM, 100 A max.	Size 00 Type gG, 160 A max. Type aM, 160 A max.	Size 1 Type gG, 250 A max. Type aM, 250 A max.	Size 2 Type gG, 400 A max. Type aM, 250 A max.
Connection		Copper cable lugs	Copper cable lugs	Copper cable lugs	Copper cable lugs
Max. size (mm²)	**Flexible**	35	70	150	240
	Rigid	50	70	150	240
Cable gland (not supplied)		ISO 63 (3) max.	ISO 32 (4) max.	ISO 40 (4) max.	ISO 50 (4) max.
Weight (kg)		5.00	11.00	20.00	29.20
Cat. no.		**KSB100SE5** (5)	**KSB160SE5**	**KSB250SE5**	**KSB400SE5**

(1) The neutral must be not distributed (3L + PE) for the IT system.
(2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible only if N not distributed).
(3) Maximum diameter for a unipolar cable.
(4) Cable gland for multipolar cable only.
(5) For 100 A dimensions, see "Tap-off units with insulators for cylindrical fuses", page 193, cat. no. KSB100SF●.

Dimensions



X = 577.5 (KSB160S●●)
X = 777 (KSB250SE●)
X = 855 (KSB400SE●)

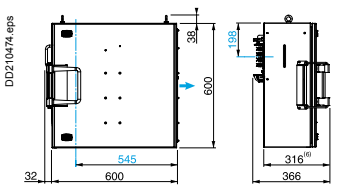


KSB160S●●, KSB250SE●

(1) Cable exit of KSB160SE●●
Cable exit of KSB250SE●
(2) Centre line of tap-off outlets

***(6)** Protruding*

Dim.	160 A	250 A
A	450	600
B	257	308
C	300	400
D	395	548
E	207	258
F	032	032
G	032	032
H	182	192



KSB400SE●

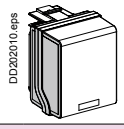
Cable exit
Centre line of tap-off outlets

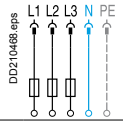
***(6)** Protruding*

Tap-off units for screw-mounted fuses
Disconnection by unplugging the tap-off unit

Catalogue numbers

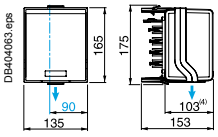
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (1)
	Tap-off unit	TT - TNS - TNS - IT (1)



Tap-off polarity		3L + N + PE (2)
E.g. fuse protection		
Rating (A)		20
For fuses (not supplied)		BS88 A1
Connection		Cable clamp terminals
Max. size (mm²)	**Flexible**	6
	Rigid	10
Cable gland (3) (not supplied)		ISO 32 max.
Weight (kg)		0.60
Cat. no.		**KSB20CG5**

(1) The neutral must be not distributed (3L + PE) for the IT system.
(2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible only if N not distributed).
(3) Maximum diameter for a multipolar cable.

Dimensions



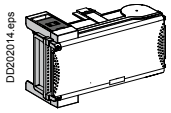
KSB20CG5

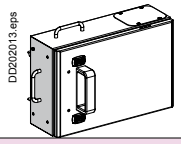
Cable exit
Centre line of tap-of outlets
***(4)** Protruding*

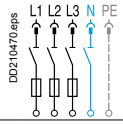
Tap-off unit with isolator for screw-mounted fuses
Disconnection by opening the tap-off unit cover

Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC - IT (1)		
	Tap-off unit	TT - TNS - TNS - IT (1)		

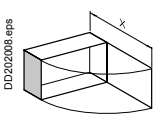




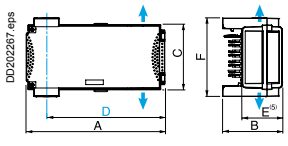
Tap-off polarity		3L + N + PE (2)		
E.g. fuse protection				
Rating (A)		32	80	160
For fuses (not supplied)		BS88 A1	BS88 A1 or A3	BS88 B1 or B2
Connection		Cable clamp terminals	Copper cable lugs	Copper cable lugs
Max. size (mm²)	**Flexible**	25	35	35
	Rigid	25	50	50
Cable gland (3) (not supplied)		ISO 50 max. (3)	ISO 63 max. (3) or ISO 20 max.(4)	ISO 25 max. (4)
Weight (kg)		2.40	5.00	11.00
Cat. no.		**KSB32SG4**	**KSB80SG4**	**KSB160SG4**

(1) The neutral must be not distributed (3L + PE) for the IT system.
(2) Also suitable for tap-off unit 3L + PE (N not distributed).
(3) Maximum diameter for a multipolar cable.
(4) Maximum diameter for a unipolar cable.

Dimensions

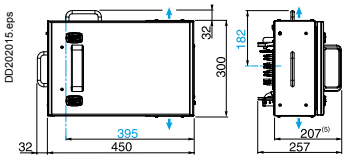


X = 432.5 (KSB32SG4)
X = 545.5 (KSB80SG4)
X = 577.5 (KSB160SG4)



KSB32SG4, KSB80SG4

Cable exit
Centre line of tap-off outlets



KSB160SG4
***(5)** Protruding*

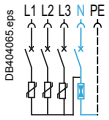
Dim.	32 A	80 A
A	356	444
B	153	178
C	167	202
D	309	397
E	103	128
F	202	220

Canalis KS - 100 to 1000 A
Busbar trunking for medium-power distribution
Tap-off units equipped with a surge arrester

Tap-off units equipped with a surge arrester
Disconnection by unplugging the tap-off unit

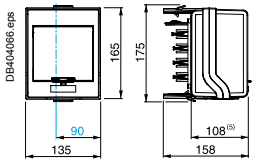
Catalogue numbers

Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC

Tap-off polarity		3L + N + PE (1)
Diagram		
Protection type		Type 2
Lightning arrester cartridges (supplied)		Fixed
Connection		Pre-wired
Permissible short-circuit	**Isc (kA)**	6
Max. discharge current	**Imax (kA)**	10
Weight (kg)		1.3
Cat. no.		**KSBQPF**

SPD (Surge Protection Device) installed: Quick PF10 SPD, 3P + N, cat. no. 16618 (Type 2 monoblock surge arrester, with fixed cartridges and integrated disconnection device, certified IEC 81643-1, EN 61643-11).
(1) Also suitable for tap-off unit 3L + PE (N not distributed).

Dimensions



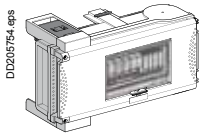
Centre line of tap-off outlets
(5) *Protruding.*

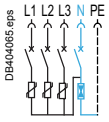
KSBQPF

Tap-off units with isolator equipped with a surge arrester
Disconnection by opening the tap-off unit cover

Catalogue numbers

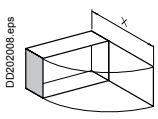
Earthing system arrangement	**Busbar trunking**	TT - TNS - TNC



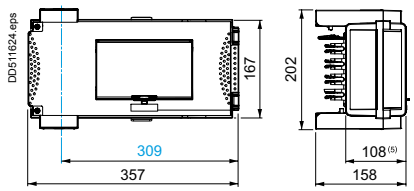
Tap-off polarity		3L + N + PE (1)
Diagram		
Protection type		Type 2
Surge arrester cartridges (supplied)		Removable
Connection		Pre-wired
Permissible short-circuit	**Isc (kA)**	25
Max. discharge current	**Imax (kA)**	40
Weight (kg)		3.40
Cat. no.		**KSBQPRD**

Surge arrester installed: Quick PRD40r surge arrester, 3P + N, cat. no. 16294 (Type 2 monoblock surge arrester, with fixed cartridges and integrated disconnection device, certified IEC 81643-1, EN 61643-11).
(1) Also suitable for tap-off unit 3L + PE (N not distributed).

Dimensions



X = 432.5



Centre line of tap-off outlets
(5) *Protruding.*

KSBQPRD

Accessories

Catalogue numbers

For all tap-off units for modular devices

Designation	Modular blanking plat	Adhesive label (1)		
Description	Divisible set of 10 x 5	Set of 12 label-holders (H = 24 mm - L = 180 mm)	Set of 12 labels-holders (H = 24 mm - L = 432 mm)	Set of 12 divisible labels-holders (H = 24 mm - L = 650 mm)
Weight (kg)	0.08	0.50	0.50	0.50
Cat. no.	**13940**	**08905**	**08903**	**08907**

(1) Self-adhevise support complete with transparent cover and paper label.

For sheet-metal tap-off units

Designation	Cover contact (break before opening)
For tap-off unit	KSB100S● to KSB400S●
Order in mulitples of	1
Weight (kg)	0.03
Cat. no.	**KSB400ZC1**

IP55
Ue = 230...690 V
RAL 9001 white

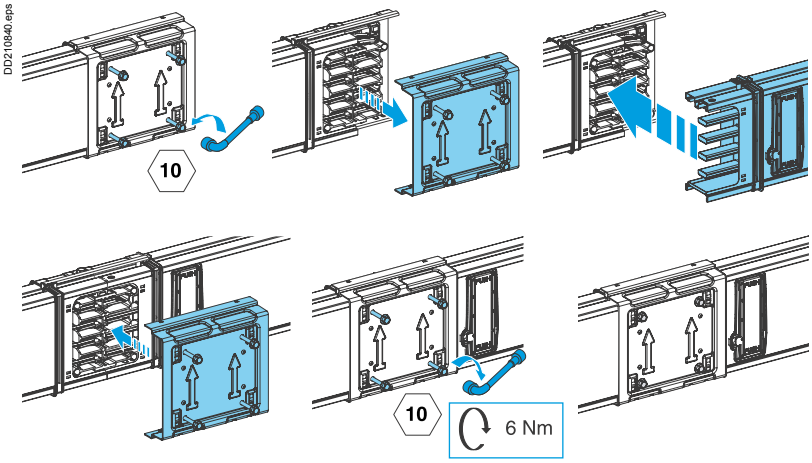
Canalis KS, 100 to 1000 A

Busbar trunking for medium power distribution

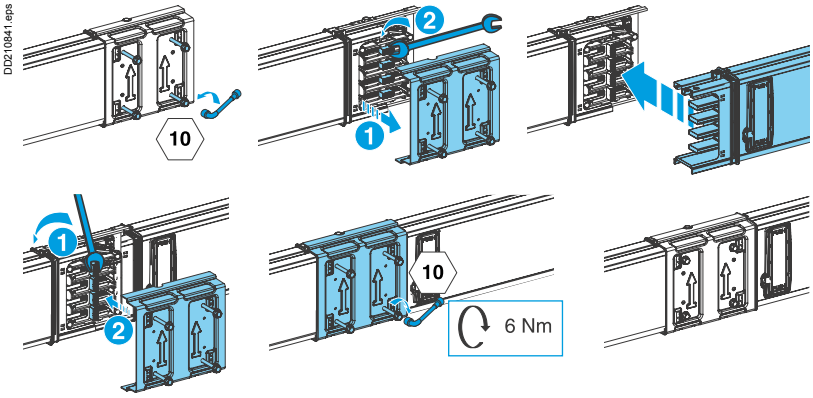
Assembly of trunking components

Assembling the straight lengths

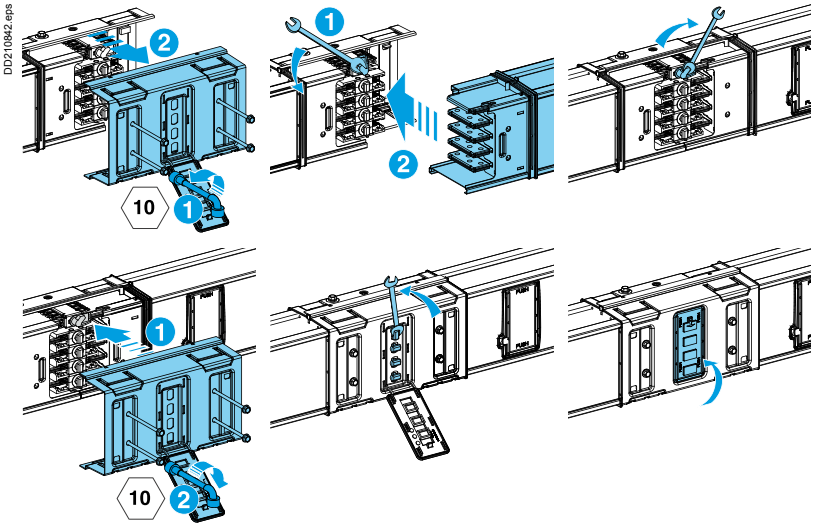
100 and 250 A



400 A



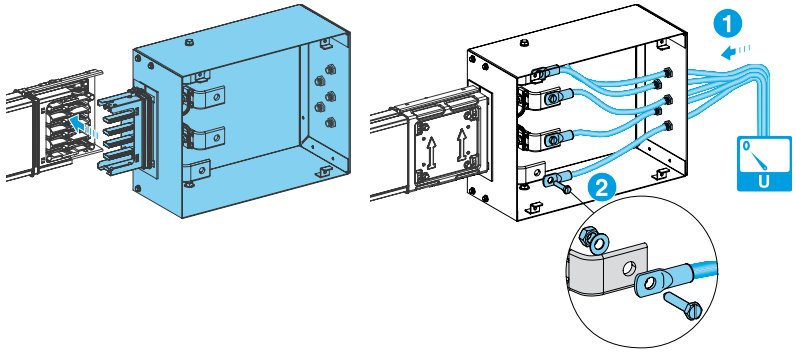
500 to 1000 A



Connecting the feed-units

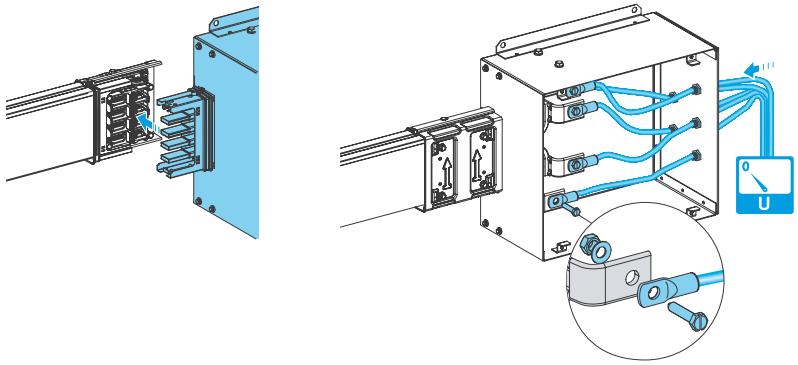
100 and 250 A

DD205685.eps



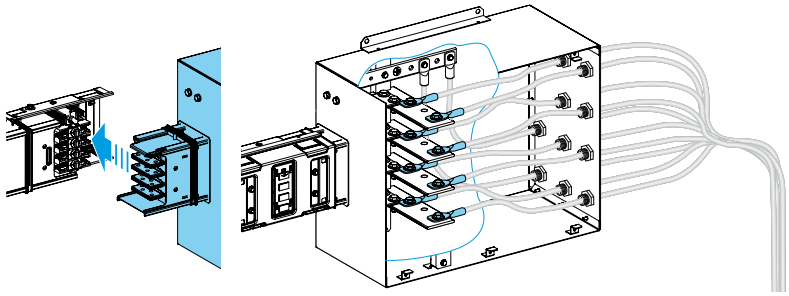
400 A

DD210844.eps



500 to 1000 A

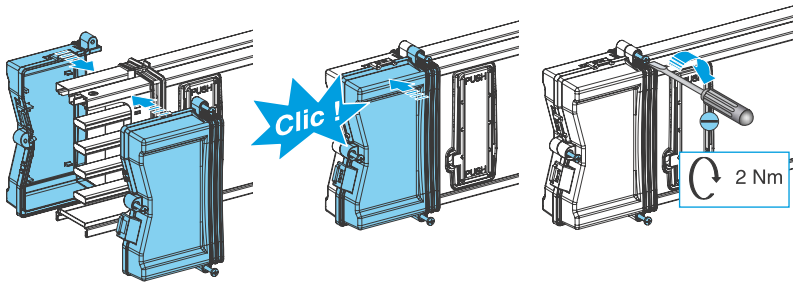
DD205686.eps



Assembling the end covers

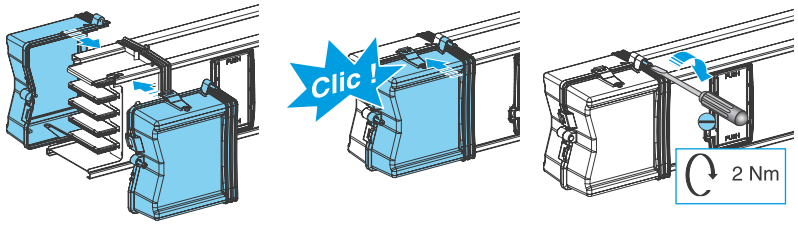
100 to 400 A

DD210846.eps



500 to 1000

DD210847.eps



IP55
Ue = 230...690 V
RAL 9001 white

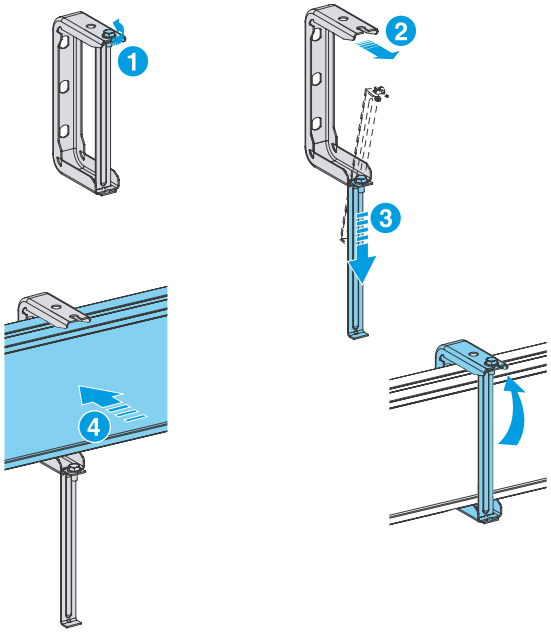
Canalis KS, 100 to 1000 A

Busbar trunking for medium power distribution

Assembly of trunking components

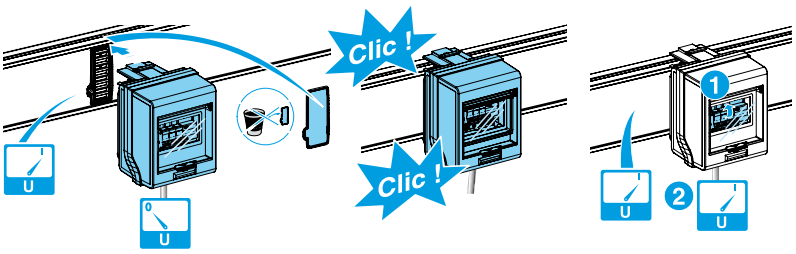
Fixing Canalis KS in the brackets

DD210848.eps



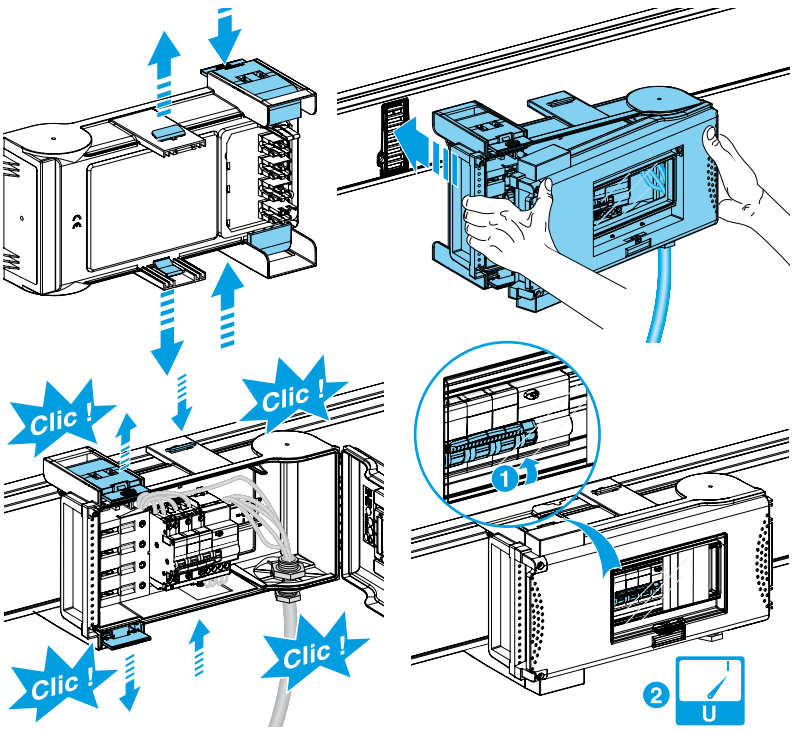
Mounting the tap-off unit

DB404068.eps



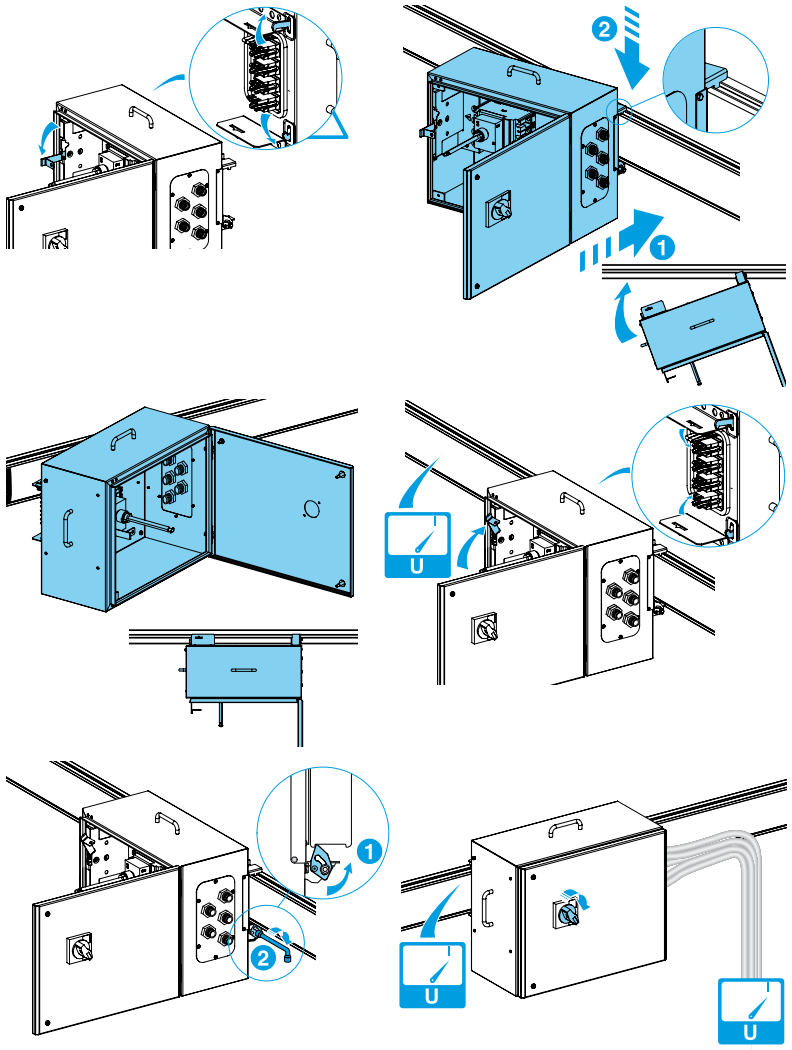
Mounting the tap-off unit with modular devices

DD205688.eps



Mounting the tap-off unit with Compact NSX circuit breaker

DD205683.eps

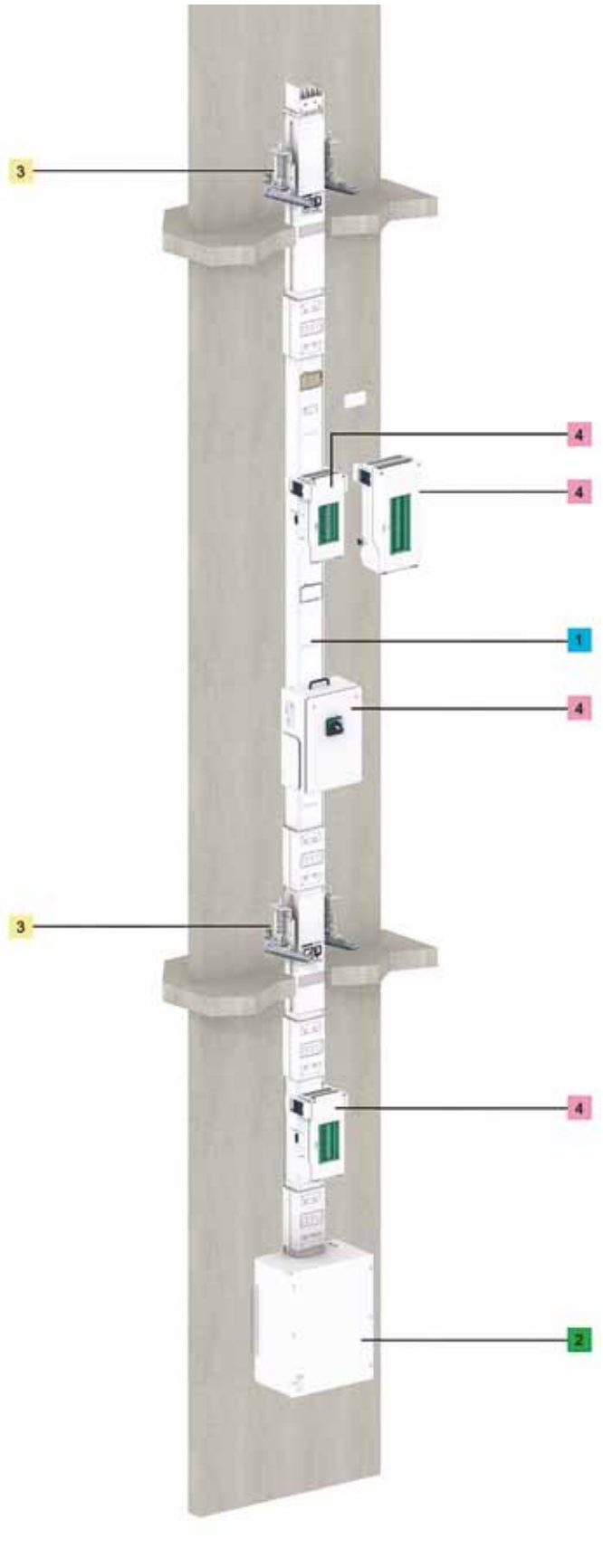


Canalis KS riser

Canalis KS rising mains

Medium-power busbar trunking for multi-storey building from 100 to 1000 A

PD202210_1W2.eps



1. Run components

■ Rating: 100, 250, 400, 500, 630, 800 and 1000 A.
■ 4 live conductors.
■ 2 types of riser components for:
□ power-distribution between floors,
□ horizontal sections.

PD202211_rW.eps

2. Feed units and end covers

■ The feed units delivered with end covers, receive the cables supplying one end or any other point of Canalis KS trunking

PD202212_rW.eps

3. Fixing system

■ The fixing system is made up of
□ bottom support,
□ floor guide,
□ floor supports for the riser.

PD202213W.eps

4. Tap-off units

■ The tap-off units (with and without isolators) are used to supply loads from 25 to 400 A.
■ Protection using modular or Compact NSX circuit breakers or fuses.

PD202214_rW.eps

Canalis KS rising mains

Medium-power busbar trunking for multi-storey building from 100 to 1000 A

<Sansalen:Fr:Intersection>

DD202210_r.eps

Dependable and reliable

Canalis KS benefits from a number of marine certifications, including Bureau Veritas (BV), Lloyd's (GL) and Norske Veritas (DNV).

No risk in case of fire

All components in the KS range are **halogen free** and contain no PVCs. In case of fire, Canalis KS releases very small quantities of smoke and no toxic gases. Due to the two-hour fire barrier, **flames cannot spread**. The trunking thus contributes to containing the fire for two hours.

A high degree of protection

Canalis KS offers an IP55 degree of protection.
Thus, it can be installed in all types of buildings and in all positions.
Even installed vertically, it retains the IP55 degree of protection without requiring any accessories.

PD202233.eps

Unmatched upgrading possibilities

Canalis KS makes it fast and easy to upgrade the installation. The tap-off units can be removed and handled under energised conditions.
What is more, a line **does not require expansion joints** since the expansion of straight lengths is absorbed automatically by the electrical junctions. This technique ensures that the tap-off outlets on all floors remain available.

Easy handling and installation

Floor-distribution components are designed to facilitate:
- **access to the straight lengths on floors** given the narrowness of lift shafts and stairways,
- **installation of the straight lengths** given the height of doors and the size of shafts and technical ducts.

Because the available space in technical ducts is limited, Canalis KS gives the advantage to use **significantly less room** compared to a centralised distribution system using cables.

Installation is made easy due to the design of the **jointing units that facilitate alignment** of the straight lengths.

PD202212_rW.eps

Maintenance free

Canalis KS enhances the continuity of service because **no maintenance is required on the line**. All sliding jointing contacts are lubricated for the life of the product.

Light and easy to handle

Canalis trunking is **light and easy to handle** due to the use of aluminium conductors.
For equal power ratings, trunking equipped with copper conductors is 40% heavier.
The low weight of Canalis KS simplifies installation and greatly reduces the time required. Fewer workers and resources are required, whatever the type of installation.

DD202146_r.eps

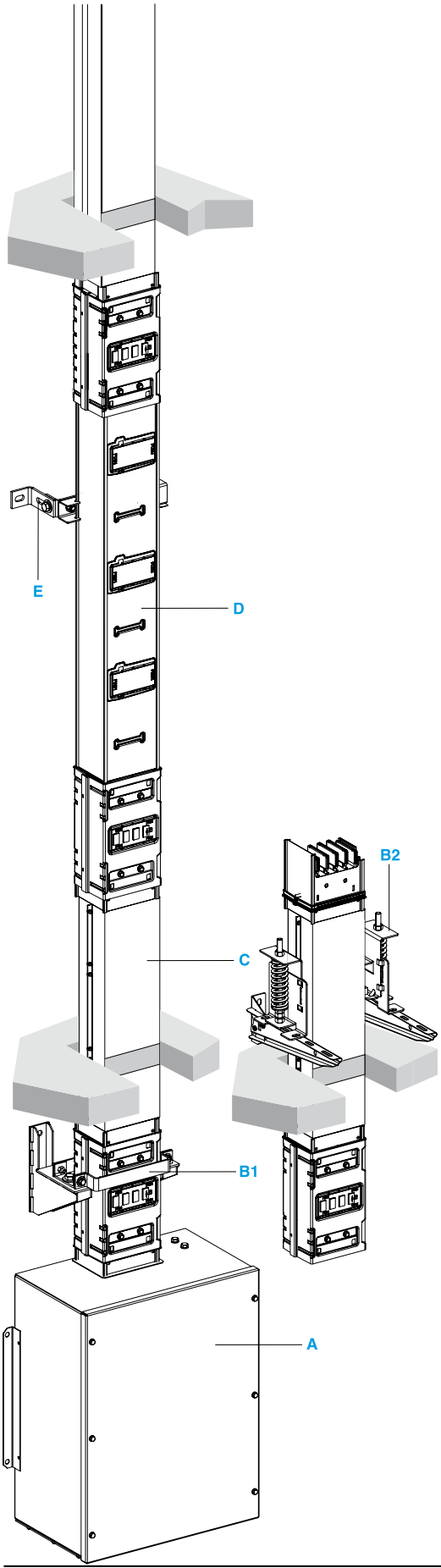
Very flexible

The floor-distribution components in the Canalis KS range offer **3 or 4 tap-off outlets per floor**, enough to have reserve outlets for future upgrades.

IP55
Ue = 230...690 V
RAL 9001 white

Canalis KS, 100 to 1000 A
Rising mains
Medium-power busbar trunking for multi-storey buildings

DD210675.eps



General

Canalis KS risers distribute power to each floor in multi-level buildings (office buildings, hotels, hospitals, car parks and ships).
In this application, Canalis KS offers its many advantages:
■ aluminium conductors, equipped with bimetal aluminium/silver-plated copper contacts at junctions and tap-off points
■ a mechanical and electrical jointing system that ensures automatic and simultaneous jointing of all live conductors and the continuity of the protective earth conductor, as well as its connection with the casing. This jointing block also absorbs the difference in conductor and casing thermal expansion for each length
■ tap-off outlets with automatic shutters.

For more detailed description, see "Canalis 100 to 1000 A for power distribution", in the "Description" chapter, page 158.

When installed vertically, the Canalis KS degree of protection is IP55.

How to build rising mains

A Use an end feed unit, type **KSA ●●●ABD4** in order the have the neutral on the right-hand side in the riser.

B Two solutions are available to support the riser.

B1 Use the **KSB ●●●ZV1** bottom support for risers. Placed at the bottom of the riser and secured to the wall, this support takes the entire weight of the rising mains. Consequently, depending on the rating, the maximum height of the rising mains is limited as indicated opposite,

Rating (A)	Max. recommended height	Max. recommended weight by support
100 and 250	40 m	680 kg
400	30 m	680 kg
500	70 m	1760 kg
630	50 m	1760 kg
800	50 m	1760 kg
1000	40 m	1760 kg

B2 Use floor supports **KSB ●●●ZV3**, only compatible with specials elements KSA●●●●ET4AF and KSA●●●ZV3. They are used to support the riser on each floor of the building, for enhanced flexibility in carrying out the various installation phases. With this support, riser sections can be installed even when the lower floors have not been completed.

Rating (A)	Max. recommended height	Recommended weight by support
All	150 m	440 kg

Above 100 m, avoid the use of fixed components (e.g. elbows) and supply power using cables wherever possible.

C Use custom-length fire barriers to block fire propagation between floors. They also provide the means to adjust to the distance between floors.

D Use standard straight lengths, 2 or 2.50 metres long. Lengths and fire barriers can be combined to provide:
Solution 1: for a distance of 2900 mm to 4300 mm between floors, three tap-off outlets with KSA●●●EV4203 straight lengths,
Solution 2: for a distance of 3400 mm to 4800 mm between floors, four tap-off outlets with KSA●●●EV4254 straight lengths,

E Use **KSB 1000ZV2** fixings to guide the riser on each floor.

Solution 1:

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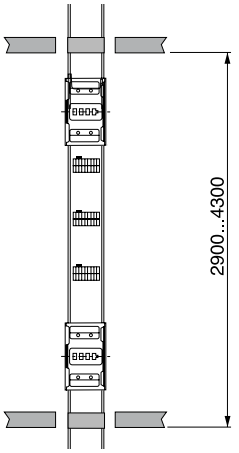
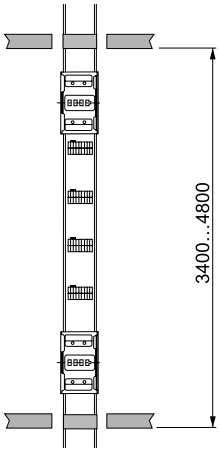


Solution 2:

DD210677.eps



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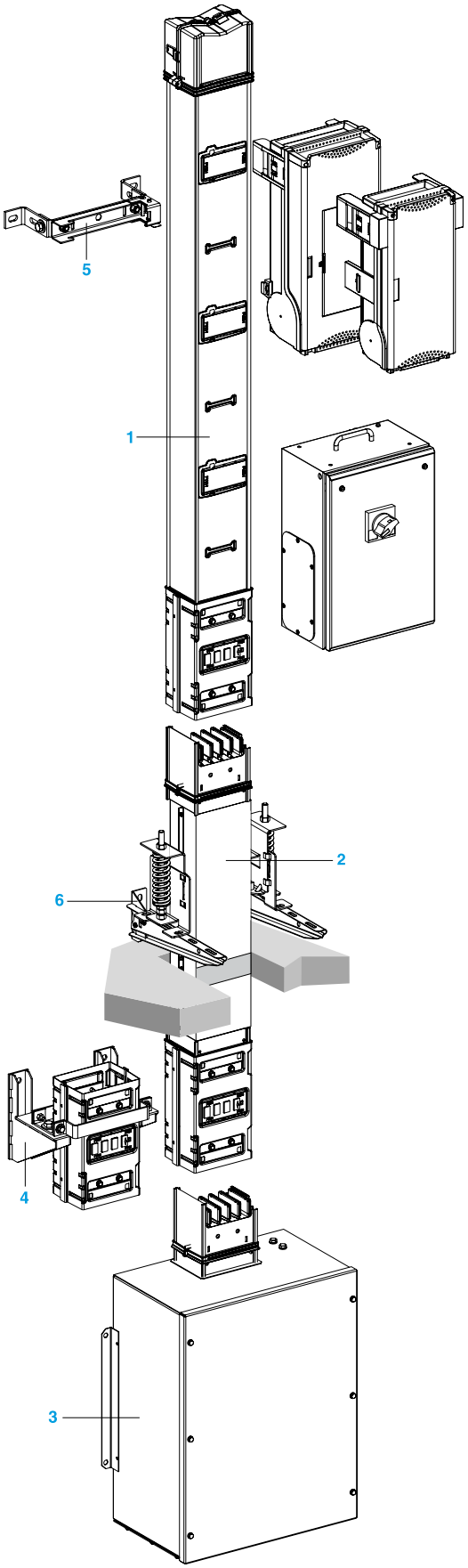


Riser components

1 Straight lengths for distribution

Specially designed for rising mains, they are available in two lengths (2 and 2.5 metres).

They have three or four tap-off outlets, all on the same side. The outlets are positioned to enable connection of up to three 160 A tap-off units for Compact NSX circuit breakers on the two-metre lengths and up to four on the 2.5-metre lengths.

2 Custom-length fire-barrier lengths

Installed at each floor level, these lengths eliminate any risk of fire propagation from one floor to another via the trunking. These fire barriers have been tested in a certified laboratory and comply with standard EN 1363-1. The laboratory report lists the following results:

- thermal insulation: ⩾ 120 minutes
- resistance to flames: ⩾ 120 minutes
- stability: ⩾ 120 minutes.

Provided in custom lengths, these barriers are used with the straight lengths to adjust to the exact height of each floor.

Feed units

Direct supply

The trunking connects directly to a switchboard via a spreader. In this configuration, the riser is supplied through a horizontal section made of lengths without tap-off outlets.

3 Supply via cables

Equipped with terminals made of tinned aluminium, this feed unit is designed for connection to copper or aluminium cables equipped with the necessary lugs.

The feed unit is also equipped with an aluminium gland plate.

The plate can be removed and is not pre-drilled.

Fixing systems

4 Bottom support

This component attaches to the first jointing unit at the base of the riser and is secured to the wall by two brackets. It supports the entire riser (see height limitations on the previous page).

Note: *the foot of the riser is a special jointing unit to which a wall bracket is installed.*

5 Guides

These guides, clipped to the riser, maintain it in the vertical position on each floor. They not block access to the tap-off outlets.

6 Floor supports

Secured to the floor or wall (via Canalis 200 mm cantilever arms), they attach to the sides of a special component (with or without fire barrier).

Tap-off units

Standard KS tap-off units are used (see Catalogue page 186).

Accessories

Sprinkler kit

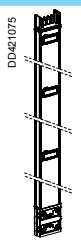
To comply with the sprinkler tests (guaranteeing operation under vertically and horizontally sprayed water for 50 minutes), each electrical jointing system should be fitted with a reinforced protection kit (the jointing sleeve).

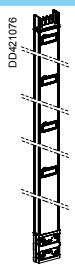
Canalis KS, 100 to 400 A
Medium-power busbar trunking for multi-storey building
Rising mains

Riser components - Distribution to floors

Catalogue numbers

Riser lengths

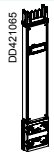




Rating (A)	100		250		400	
Length (mm)	2000	2500	2000	2500	2000	2500
Number of tap-off outlets	3	4	3	4	3	4
Weight (kg)	8.10	10.40	10.85	13.35	13.90	17.40
Cat. no.	**KSA100EV4203**	**KSA100EV4254**	**KSA250EV4203**	**KSA250EV4254**	**KSA400EV4203**	**KSA400EV4254**

Note: It is also possible to use standard 1.5 metre long straight lengths (KSA●●●ED4156).

Distribution length at foot of riser

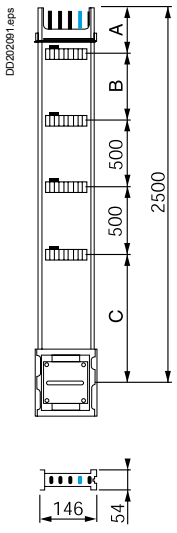


Rating (A)	100	250	400
Length (mm)	800	800	800
Number of tap-off outlets	1	1	1
Weight (kg)	5.40	5.40	5.40
Cat. no.	**KSA100ED4081**	**KSA250ED4081**	**KSA400ED4081**

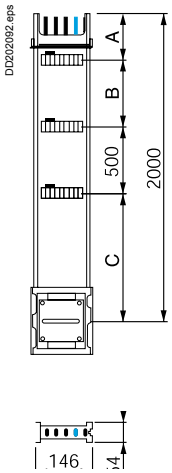
Fire barriers without tap-off outlets

Rating (A)	250	400
Length Dim. l (mm)	900 to 2200	900 to 2200
Barrier position Dim. x (mm)	450 to 1750	450 to 1750
Weight (kg/m)	8.40	9.90
Cat. no.	**KSA250ET4AF**	**KSA400ET4AF**

Dimensions

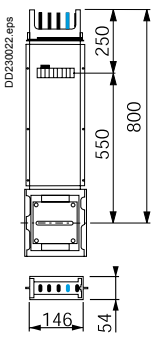


KSA●●●EV4254

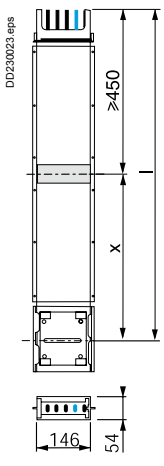


KSA●●●EV4203

Dim.	100 A / 250 A	400 A
A	135	150
B	500	485
C	865	865



KSA●●●ED4081



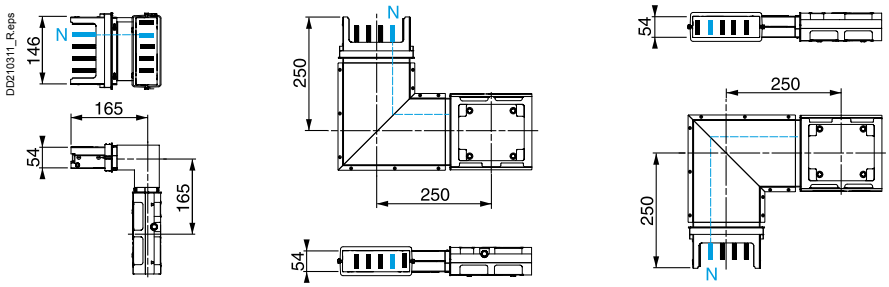
900 ≤ l ≤ 2200 mm
450 ≤ x ≤ 1750 mm
KSA●●●ET4AF

Components for changing direction - Elbow

Catalogue numbers

Rating (A)	100 to 250			400		
Direction (edgewise)	Left or right	Upward	Downward	Left or right	Upward	Downward
Weight (kg)	3.15	5.00	5.00	3.80	5.60	5.60
Cat. no.	**KSA250DLC40**	**KSA250DLE40**	**KSA250DLF40**	**KSA400DLC40**	**KSA400DLE40**	**KSA400DLF40**

Dimensions



KSA●●●DLC40 *KSA●●●DLE40* *KSA●●●DLF40*

Note: *Other changes in direction can be made on special order, please consult us.*

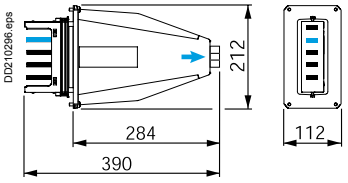
Canalis KS, 100 to 400 A
Medium-power busbar trunking for multi-storey building
Rising mains

Feed units (supplied with end cover)

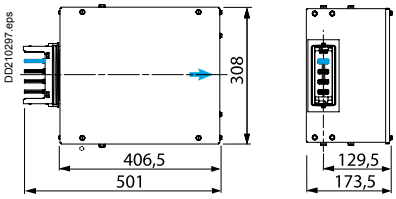
Catalogue numbers

Designation	End feed unit			Flange feed unit	
Rating (A)	100	100 to 250	400	100 to 250	400
Mounting	Right or left	Right or left	Right or left	Right or left	Right or left
Connection	Terminals	Lugs (M10 screws)	Lugs (M10 screws)	Lugs (M10 screws)	Lugs (M10 screws)
Max. size (mm²) Flexible or rigid	5 x 16	240	1 x 300 or 2 x 120	-	-
Weight (kg)	1.85	7.20	8.80	1.70	1.90
Cat. no.	**KSA100AB4**	**KSA250AB4**	**KSA400AB4**	**KSA250AE4**	**KSA400AE4**

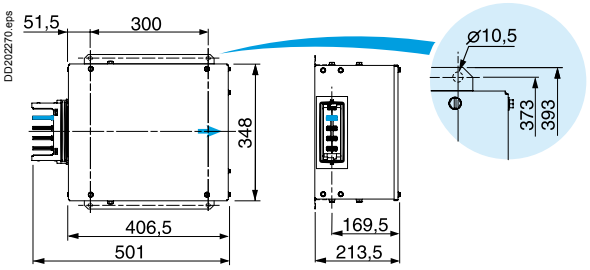
Dimensions



KSA100AB4

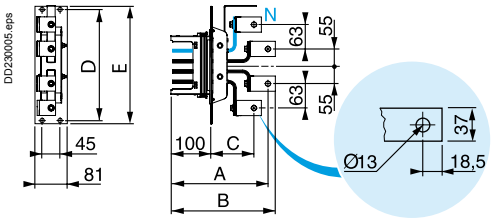


KSA250AB4



KSA400AB4

→ Sortie de câbles



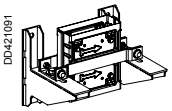
KSA●●●AE4

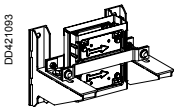
Dim.	100 to 250 A	400 A
A	243	261
B	261.5	279.5
C	108	117
D	278	318
E	294	334

Fixing systems

Catalogue numbers

Bottom support





Rating (A)	250	400
Max. permissible weight (kg)	680	680
Weight (kg)	4.50	5.00
Cat. no.	**KSB250ZV1**	**KSB400ZV1**

Floor guide, used with the bottom support (1)

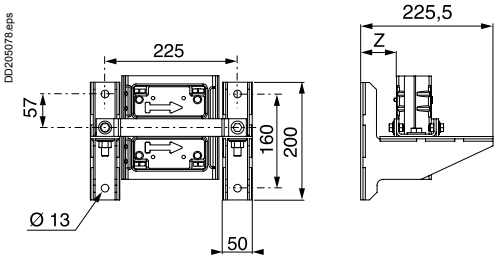
Rating (A)	All
Qty included	5
Weight (kg)	0.70
Cat. no.	**KSB1000ZV2**

Floor supports (2)

Designation	Set of 2 floor supports	Cantilever arm, 200 mm
Rating (A)	All	All
Max. permissible weight (kg)	440	220
Mounting	Floor or cantilever arm	Wall
Qty included	1	4
Weight (kg)	1.80	0.40
Cat. no.	**KSB1000ZV3**	**KFBCA81200**

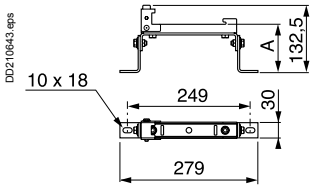
(1) *For floors higher than 3.5 metres, it is advised to use two guides per floor.*
(2) *For floors higher than 3.5 metres, it is advised to use a floor guide in addition to the support.*

Dimensions



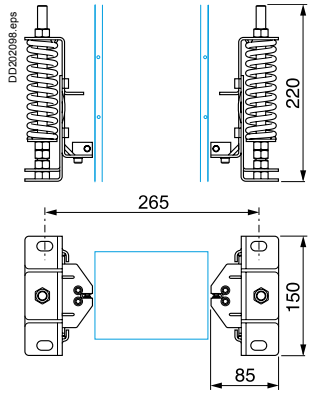
55 mm ≤ Z ≤ 105 mm

KSB●●●ZV1

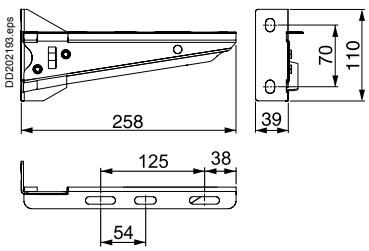


65 mm ≤ A ≤ 95 mm

KSB1000ZV2



KSB1000ZV3



KFBCA81200

Canalis KS, 100 to 400 A
Medium-power busbar trunking for multi-storey building
Rising mains

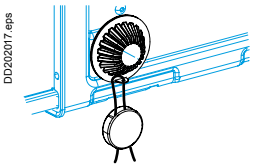
Tap-off units

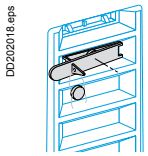
Use the standard tap-off units (page 186).

Accessories

Catalogue numbers

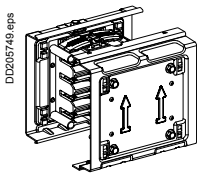
Lead sealing kit

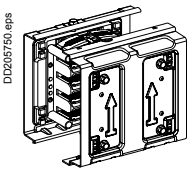


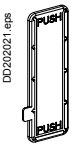


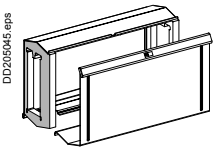
Rating (A)	All	
For	Feed unit cover and jointing screws	Tap-off outlets
Qty included	20	20
Weight (kg)	0.0035	0.002
Cat. no.	**KSB1000ZP1**	**KSB1000ZP2**

Spare parts



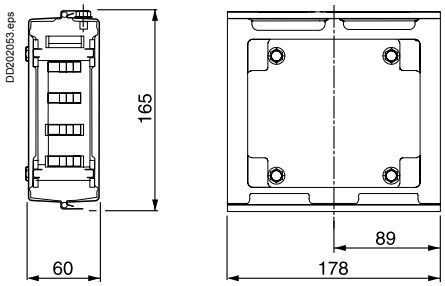




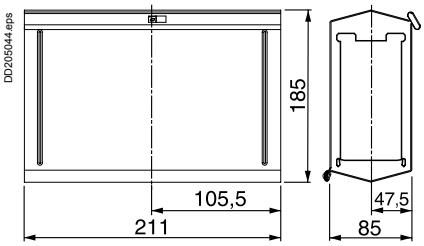


Designation	Electrical and mechanical jointing unit		IP55 outlet plug	Sprinkler proofing accessory
Rating (A)	100 to 250	400	100 to 400	100 to 400
Qty included	1	1	15	1
Weight (kg)	1.60	2.00	0.015	1
Cat. no.	**KSA250ZJ4**	**KSA400ZJ4**	**KSB400ZB1**	**KSB400ZB2**

Dimensions



KSA●●●ZJ4

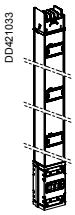


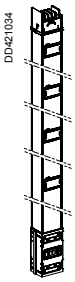
KSB400ZB2

Straight lengths with tap-off outlets - multi-strorey building

Catalogue numbers

Right lengths





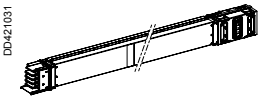
Rating (A)	500		630		800		1000	
Length (mm)	2000	2500	2000	2500	2000	2500	2000	2500
Number of tap-off outlets	3	4	3	4	3	4	3	4
Weight (kg)	25.20	30.70	25.30	30.80	30.50	37.00	38.60	47.10
Cat. no.	**KSA500EV4203**	**KSA500EV4254**	**KSA630EV4203**	**KSA630EV4254**	**KSA800EV4203**	**KSA800EV4254**	**KSA1000EV4203**	**KSA1000EV4254**

Note: it is also possible to use standard 1.5 metre long straight lengths (KSA ●●●ED4156).

Distribution length at foot of riser

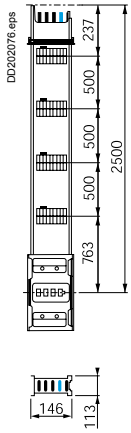
Rating (A)	500 to 630	800 to 1000
Length (mm)	800	800
Number of tap-off outlets	1	1
Weight (kg)	12.10	18.20
Cat. no.	**KSA630ED4081**	**KSA1000ED4081**

Fire barriers without tap-off outlets

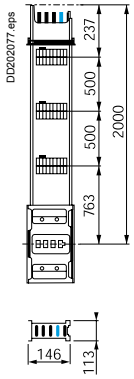


Rating (A)	500	630	800	1000
Length Dim. l (mm)	900 to 2340	900 to 2340	900 to 2340	900 to 2340
Barrier position Dim. x (mm)	450 to 1890	450 to 1890	450 to 1890	450 to 1890
Weight (kg)	16.60	18.00	19.50	24.20
Cat. no.	**KSA500ET4AF**	**KSA630ET4AF**	**KSA800ET4AF**	**KSA1000ET4AF**

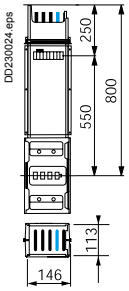
Dimensions



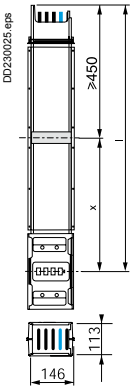
KSA●●●EV4254



KSA●●●EV4203



KSA●●●ED4081

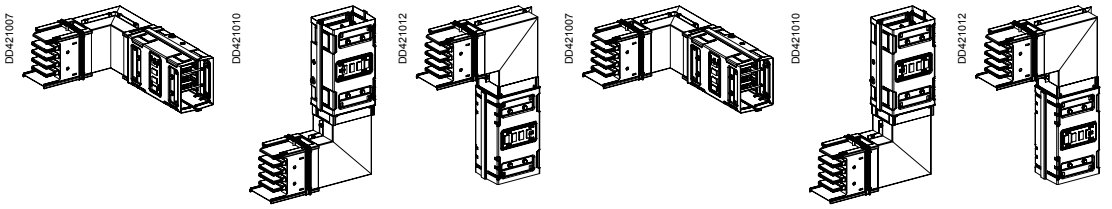


900 ≤ l ≤ 2340 mm
450 ≤ x ≤ 1890 mm
KSA●●●ET4AF

Canalis KS, 500 to 1000 A
Medium-power busbar trunking for multi-storey building
Rising mains

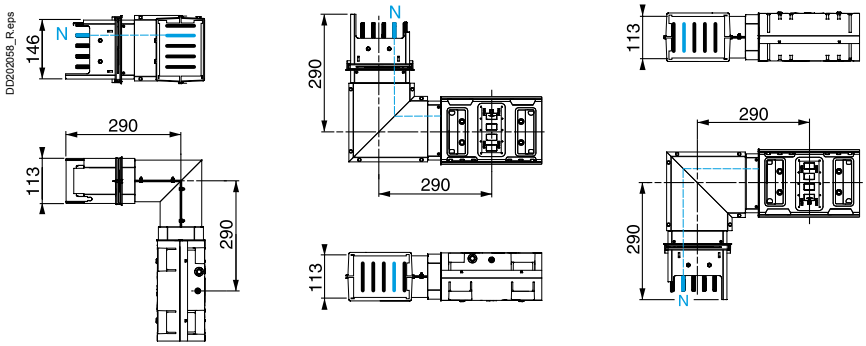
Components for changing direction - Elbow

Catalogue numbers



Rating (A)	500 to 630			800 to 1000		
Direction (edgewise)	Left or right	Upward	Downward	Left or right	Upward	Downward
Weight (kg)	13.40	12.10	12.10	19.00	16.70	16.70
Cat. no.	**KSA630DLC40**	**KSA630DLE40**	**KSA630DLF40**	**KSA1000DLC40**	**KSA1000DLE40**	**KSA1000DLF40**

Dimensions

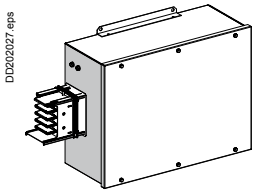


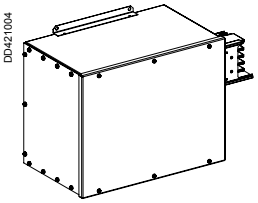
KSA●●●DLC40 *KSA●●●DLE40* *KSA●●●DLF40*

Note: *other changes in direction can be made on special order, please consult us.*

Feed units (supplied with end cover)

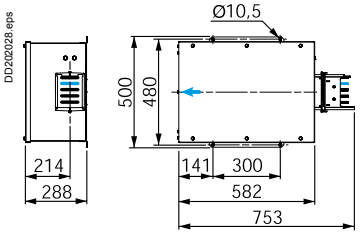
Catalogue numbers



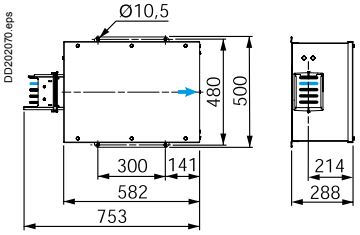


Designation		End feed unit				Flange feed unit	
Rating (A)		500 to 630		800 to 1000		500 to 630	800 to 1000
Mounting		Right	Left	Right	Left	Left or right	Left or right
Connection		Lugs (M12 screws)	Lugs (M12 screws)	Lugs (M12 screws)	Lugs (M12 screws)	Bars (2 x M10 screws)	Bars (2 x M10 screws)
Max. size (mm²)	Flexible or rigid	1 x 300 or 2 x 240	1 x 300 or 2 x 240	4 x 240 4 x 300	4 x 240 4 x 300	-	-
Weight (kg)		18.50	18.50	24.50	24.50	4.70	6.60
Cat. no.		**KSA630ABD4**	**KSA630ABG4**	**KSA1000ABD4**	**KSA1000ABG4**	**KSA630AE4**	**KSA1000AE4**

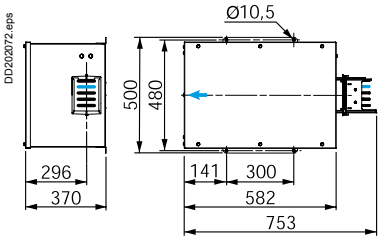
Dimensions



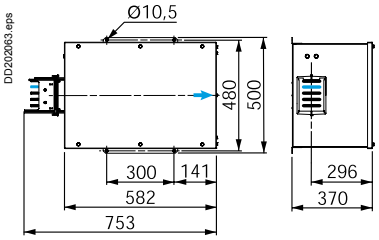
KSA630ABG4



KSA630ABD4

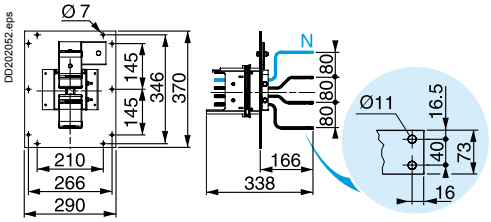


KSA1000ABG4

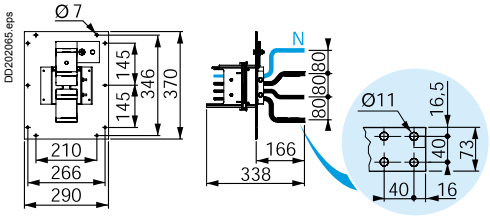


KSA1000ABD4

Cable exit



KSA630AE4



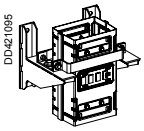
KSA1000AE4

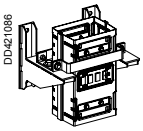
Canalis KS, 500 to 1000 A
Medium-power busbar trunking for multi-storey building
Rising mains

Fixing system

Catalogue numbers

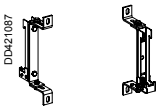
Bottom support





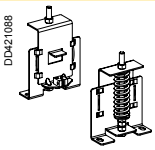
Rating (A)	500 to 630	800 to 1000
Max. permissible weight (kg)	1760	1760
Weight (kg)	7.00	7.30
Cat. no.	**KSB630ZV1**	**KSB1000ZV1**

Floor guide, used with the bottom support



Rating (A)	All
Qty included	5
Weight (kg)	0.70
Cat. no.	**KSB1000ZV2**

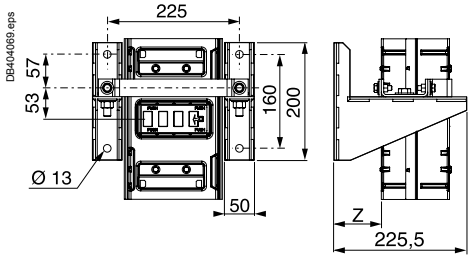
Floor support (2)



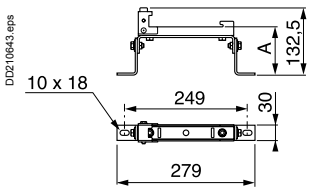
Designation	Set of 2 floor supports	Cantilever arm, 200 mm
Rating (A)	All	
Max. permissible weight (kg)	440	220
Mounting	Floor or cantilever arm	Wall
Qty included	1	4
Weight (kg)	1.80	0.40
Cat. no.	**KSB1000ZV3**	**KFBCA81200**

(1) For floors higher than 3.5 metres, it is advised to use two guides per floor.
(2) For floors higher than 3.5 metres, it is advised to use a floor guide in addition to the support.

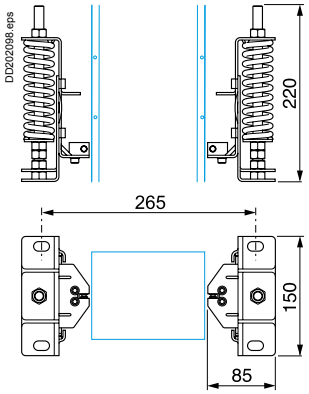
Dimensions



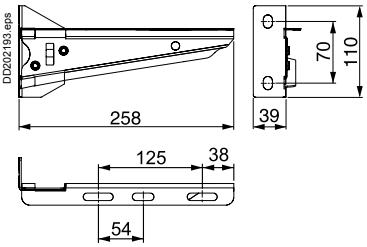
55 mm ⩽ Z ⩽ 105 mm
KSB●●●ZV1



65 mm ⩽ A ⩽ 95 mm
KSB1000ZV2



KSB1000ZV3



KFBCA81200

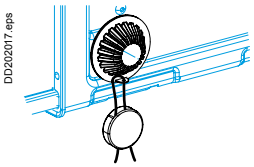
Tap-off units

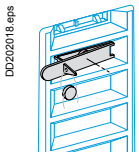
Use the standard tap-off units (page 186)

Accessories

Catalogue numbers

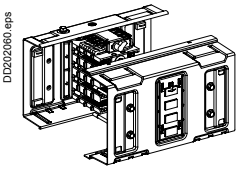
Lead sealing kit

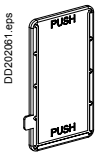


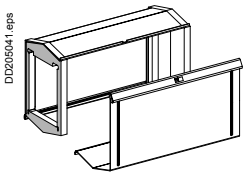


Rating (A)	All	
For	Feed unit cover and jointing screws	Tap-off outlets
Qty included	20	20
Weight (kg)	0.0035	0.002
Cat. no.	**KSB1000ZP1**	**KSB1000ZP2**

Spare parts

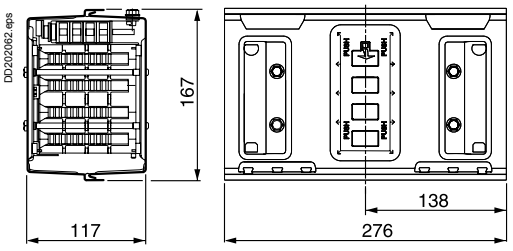




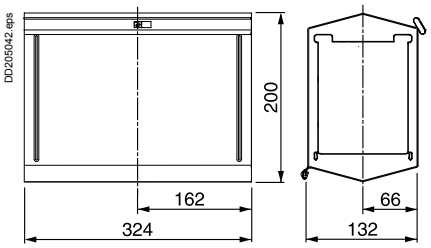


Designation	Electrical and mechanical jointing unit		IP55 outlet plug	Sprinkler proofing accessory
Rating (A)	500 to 630	800 to 1000	500 to 1000	500 to 1000
Qty included	1	1	15	1
Weight (kg)	3.50	4.50	0.020	1
Cat. no.	**KSA630ZJ4**	**KSA1000ZJ4**	**KSB1000ZB1**	**KSB1000ZB2**

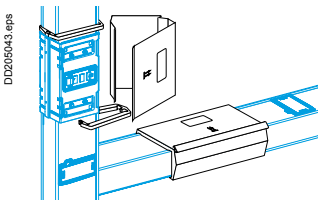
Dimensions



KSA●●●ZJ4



KSB1000ZB2



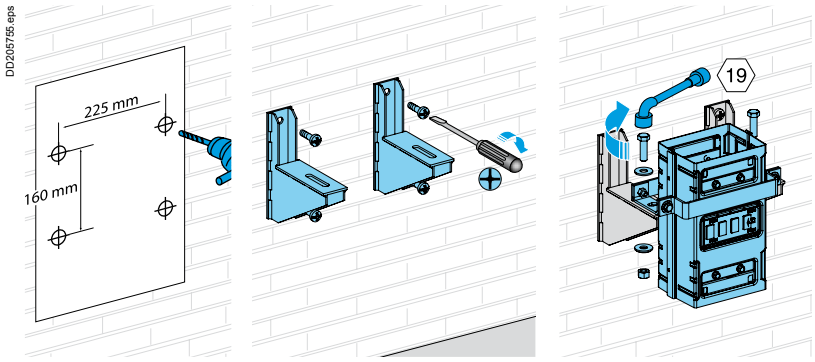
IP55
Ue = 230..0.690 V
RAL 9001 white

Canalis KS, 100 to 1000 A

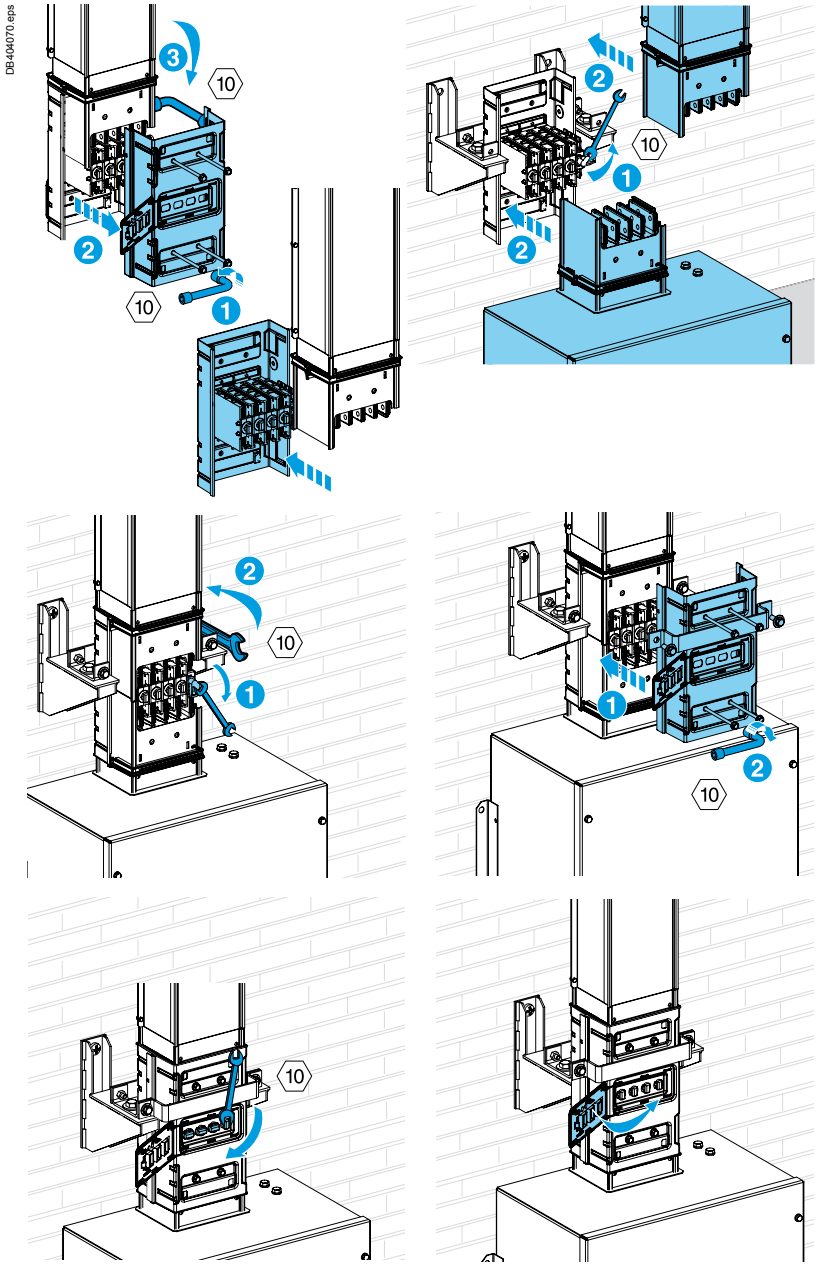
Busbar trunking for medium power distribution

Assembly of trunking components

Mounting the bottom support

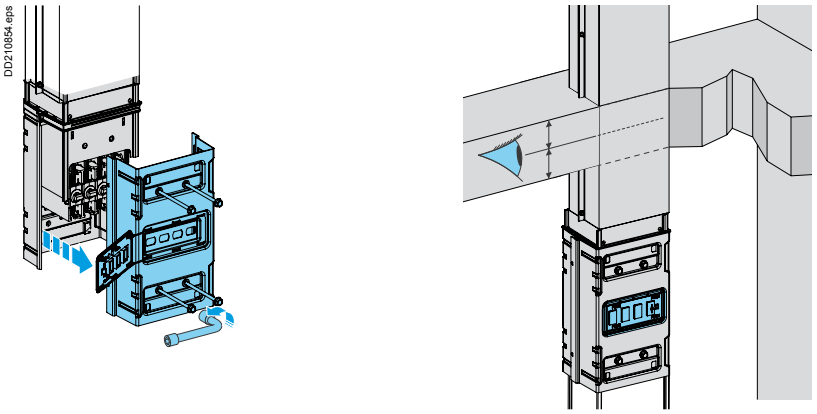


Connecting the feed-unit



Mounting the fire barrier

DD210854.eps

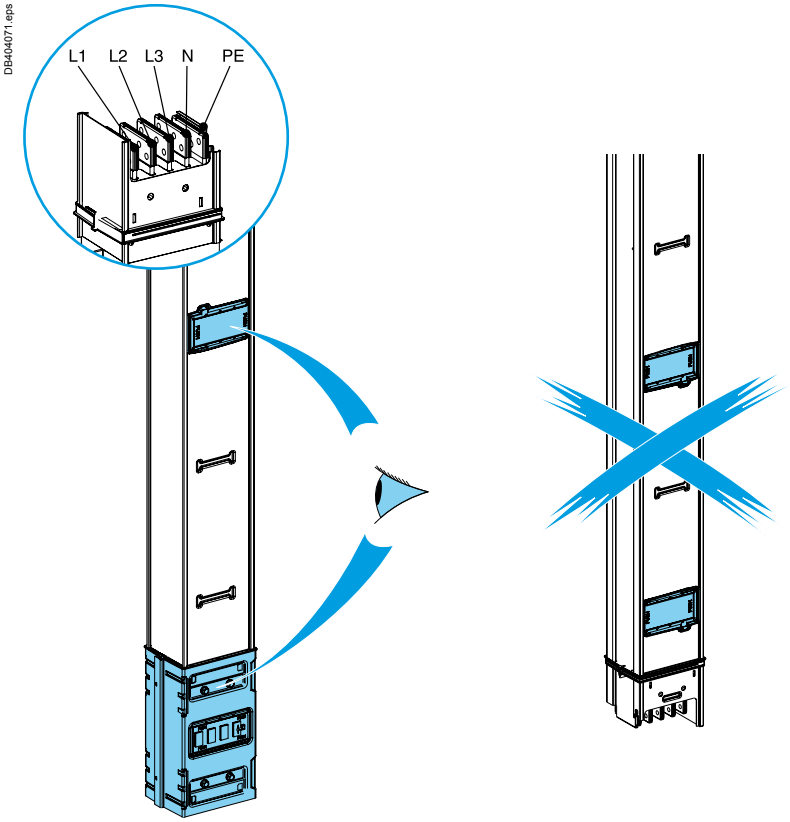


Assembling the straight lengths

For the assembling of Canalis KS risers, see page 220

Position of the tap-off outlets

DB404071.eps



Fixing Canalis KS in the brackets

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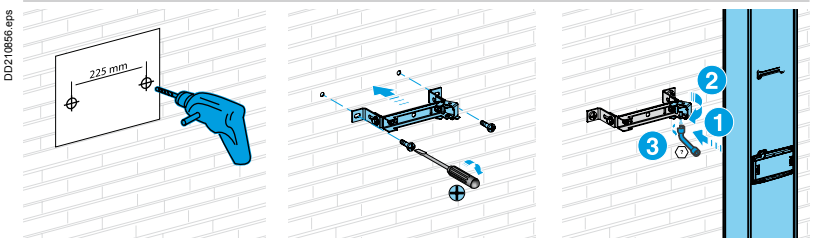


Mounting the tap-off units

For the mounting of Canalis KS tap-off units, see page 200

Canalis KT

Presentation

Canalis KTA from 800 to 4000 A
For horizontal transport and distribution

<Sandalen/Intersection>

PD202328_rW.eps

Run sections

- Rating: 800 to 4000 A.
- Transport sections:
  - fixed lengths: 2 and 4 meters
  - non-standard lengths: 0.5 and 3 meters
- Distribution sections:
  - fixed lengths: 2 and 4 meters.

PD202313_rW.eps

Interface connections

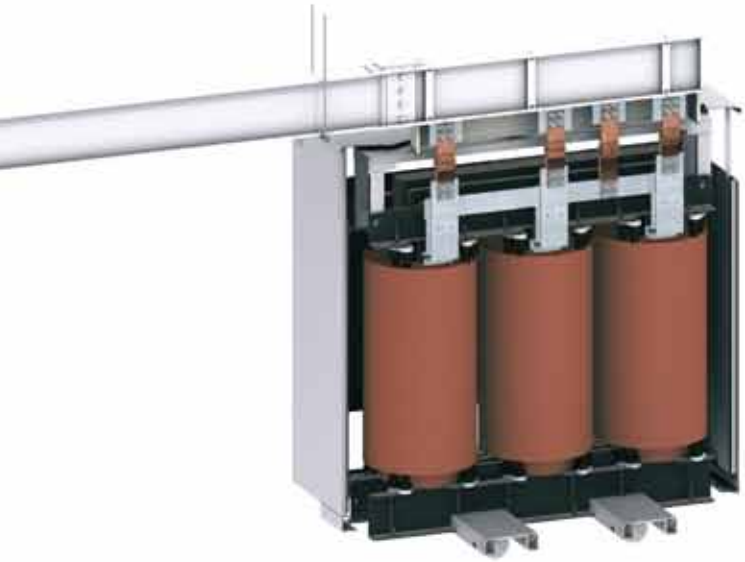
- Pre-fabricated interfaces connections can be incorporated into:
  - Prisma and Okken switchboards
  - France Transfo dry-type transformers.

PD202431_r.eps

Universal supply connections

- Supply connections allow the busbar trunking to be connected to the switchboard's busbar or to the transformer.

PD202317_rW.eps



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Change-of-direction sections

■ Change-of-direction sections adapt to all busbar trunking requirements.
■ There are both fixed and made-to-measure lengths.

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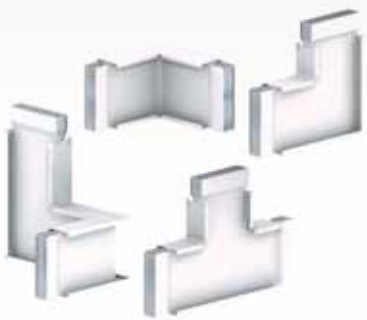


Horizontal fixing supports

■ There are two types of support for installing the busbar trunking horizontally.
■ One type of fixing: to fix the busbar trunking to its support.

PD202318_rW.eps

Tap-off units

■ Canalis KS plug-on tap-off units are compatible with the Canalis KT busbar trunking:
□ protection by 25 to 400 A fuses
□ protection by 100 to 400 A Compact NSX circuit breakers.
■ Canalis KT fixed tap-off units:
□ protection by 400 to 1250 A Compact NS and NSX circuit breakers
□ protection by 400 to 1000 A fuses.

PD202314_rW.eps

Canalis KT busbar trunking

For high power feeders and distribution from 800 to 5000 A

No toxic emission in case of fire

All components in the KT range are **halogen free** and contain **no PVCs**.
In case of fire, Canalis KT does not release smoke or toxic gases.
Canalis KT is also a **basic fire barrier**.
The trunking thus contributes to containing a fire by preventing the propagation of flames for two hours.

DD202141_r.eps

A high degree of protection

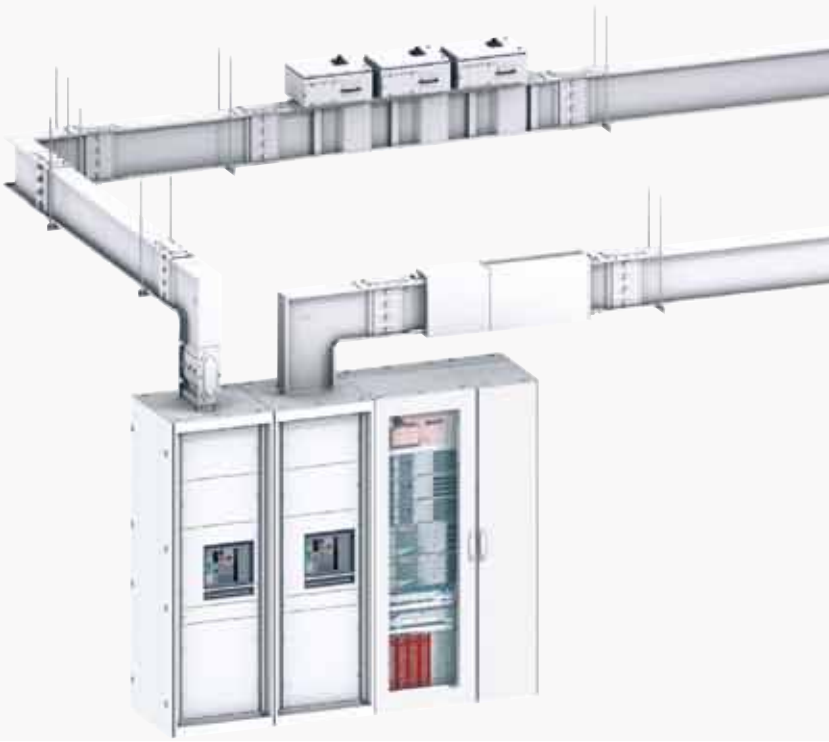
Canalis KT busbar trunking offers an **IP55** degree of protection.
It is designed to prevent the entry of water from fire protection **sprinklers**.
This high degree of protection means it can be installed in all types of buildings and in all positions.

DD202142_r.eps

Excellent contact

Excellent contact is ensured by the use of **Copral-inside** technology. The electrical contacts are made of a silver-plated aluminium/copper laminate (Copral). The initial performance level is maintained throughout the entire life of the installation.

PD202241_rW.eps



Easy installation

The equipment comes ready to install.
Easy to connect and test, the trunking solution cuts installation time in half compared to cable solutions.
In addition, the small size of Canalis KT reduces the space requirements to a minimum.

Installation.eps

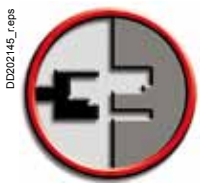
Unmatched upgrading

Canalis KT makes it fast and easy to upgrade the installation.
Tap-off units can be added or removed on live installations, without stopping operations.

Total safety

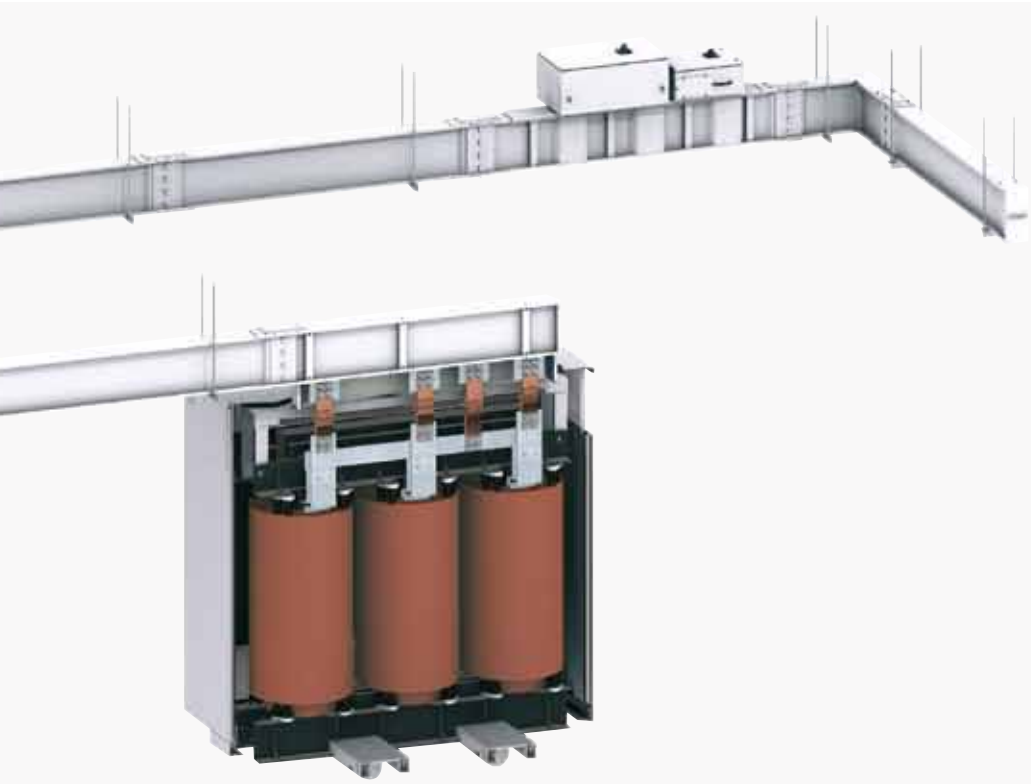
An interlocking device prevents mounting errors and makes it impossible to install or remove an energised tap-off unit.
IPxxD ensures totally safe working conditions for maintenance personnel because live parts are not accessible.

DD202145_r.eps



Tools and assistance, by your side

Our staff and tools are available to help you in choosing and installing Canalis KT busbar trunking. Our specialists and our production and distribution centres guarantee fast service and quality.



A large range of tap-off units

Tap-off units of the Canalis KS range are totally compatible with those of the Canalis KT range:
- they cover all your needs:
  - Canalis KS tap-off units: 25 A to 400 A
  - Canalis KT tap-off units: 400 A to 1250 A
- protection is possible using circuit breakers or fuses.

Intelligent tap-off units

- They monitor the installation to avoid overloads and ensure continuity of service.
- They can meter the energy consumed for precise management of your electrical distribution system (cost allocation for each consumer)

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Technical specifications

Technical specifications

Canalis KDP, 20 A

Cable with prefabricated tap-offs for lighting distribution

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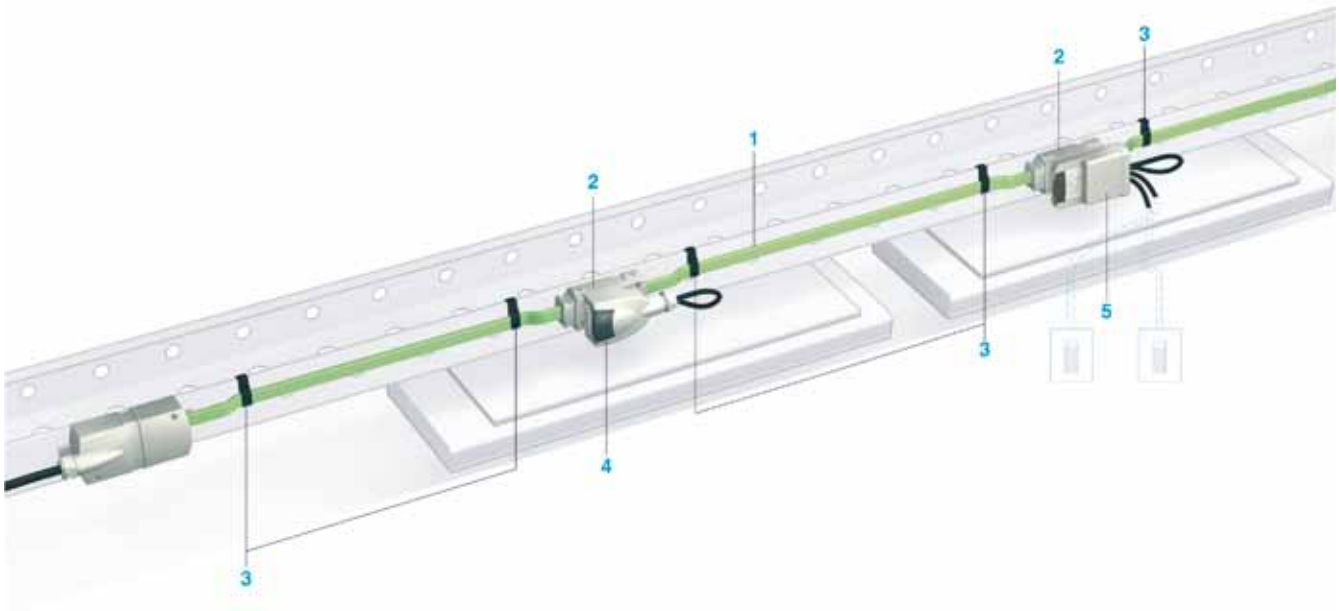


Complies with standards IEC 61439-6 and EN 61439-6.
Complies with standard IEC 60502-1 for the cable (double insulation, 1000 V).
Complies with sprinkler tests, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Degree of protection: IP55.
Number of live conductors: 2 or 4.
Rated insulation voltage: 690 V.
Rated current (Inc): 20 A.

Fire resistance
- Materials resistant to abnormal heat (glow-wire test as per IEC 60695-2).
- Class C2 for the halogen free version.

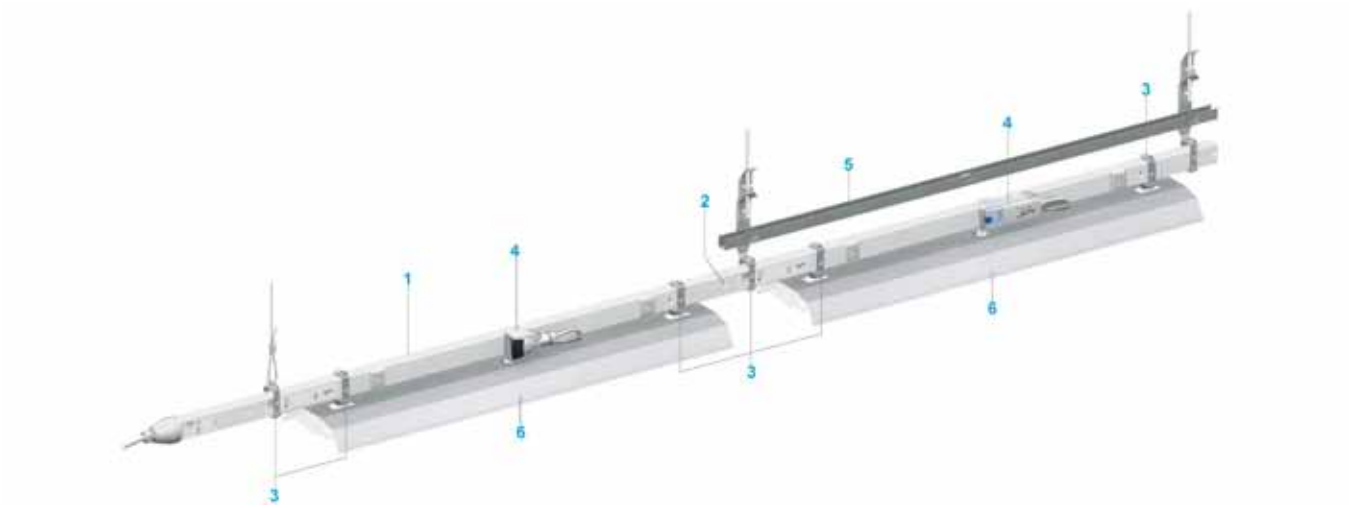
All plastic components are halogen free.

Straight lengths constitute the basic structure of the line and are made up of:
- a ribbon cable (1) with three or five 2.5 mm^2 conductors made of tinned copper. Conductor insulation and sheathing are made of cross-linked polyethylene (XLPE)
- tap-off outlets (2), factory fitted at regular intervals. Compliant with standard IEC 61439-6, they can supply luminaires under live conditions using KBA and KBB tap-off units.

Other line components:
- the fixing system (3) used to attach the line to the sides of cable trays, metal structures or directly to concrete slabs
- 10 A tap-off units (4), pre-wired or not, with phase selection, or 16 A tap-off units with or without fuses, used to supply luminaires under live conditions
- a range of prefabricated tap-off units for local control of luminaires for single and double-circuit switching, two-way switching and impulse switches.

Busbar trunking for lighting distribution

PD202338R.eps



Complies with standards IEC 61439-6 and EN 61439-6.
Complies with sprinkler tests, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Degree of protection: IP55.
Number of live conductors: 2 or 4.
Rated insulation voltage: 690 02 A.
Rated current (Inc): 25 and 40 A.

Fire resistance
- Resistant to flame propagation in compliance with standard IEC 60332 - part 3.
- Materials resistant to abnormal heat (glow-wire test as per IEC 60695-2).

All plastic components are halogen free.

Straight lengths constitute the basic structure of the line and are made up of:
- a carrier casing (1), crimp closed, made of hot-galvanised sheet steel, pre-lacquered RAL 9003 white. This casing also serves as the protective earth conductor (PE)
- a ribbon cable with two or four insulated conductors made of copper, 2.5 mm^2 for 25 A and 6 mm^2 for 40 A
- tap-off outlets every 0.5, 1 or 1.5 metre, on both sides of the trunking
- an additional twisted cable (2 x 0.75 mm^2, remote-control circuit) on request DALI compatible.
- an electrical jointing unit ensuring automatic and simultaneous connection of all live conductors. The contacts are clamp + spring type and exert no forces on the plastic parts. The jointing unit is maintenance free
- a mechanical jointing unit ensuring rigid assembly of two components.

The continuity of the protection conductor is ensured automatically. Proper tightening at the end of the assembly operation is ensured by a captive screw with a notched base (2). The two components are instantly assembled. Electrical and mechanical jointing is carried out simultaneously.

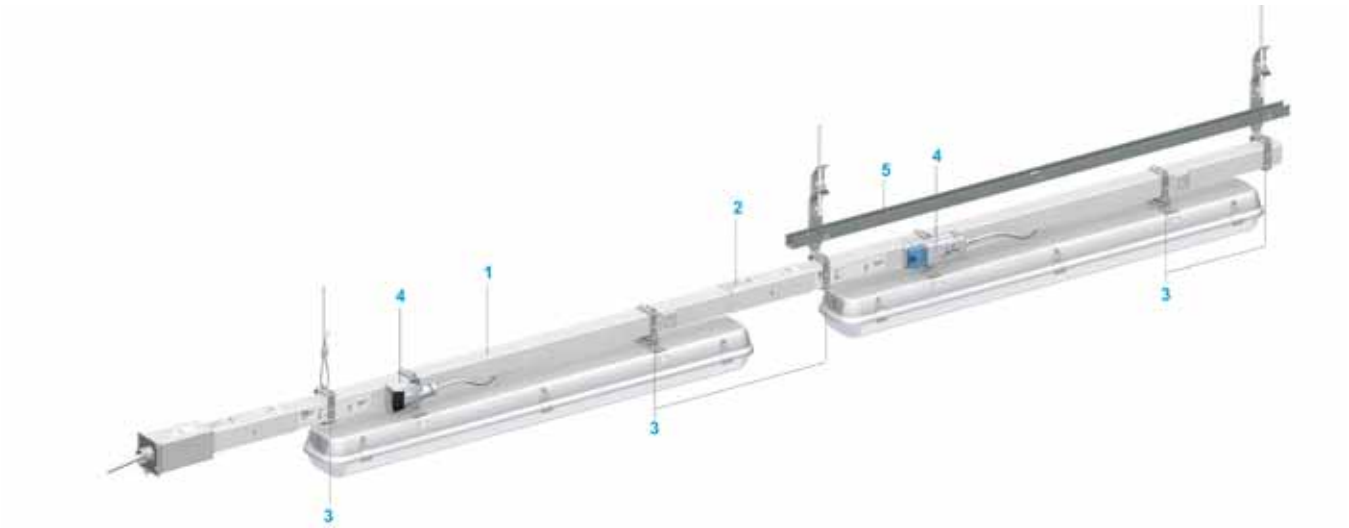
Other line components:
- the fixing system (3) for supporting of both trunking and luminaires, with final automatic locking around the trunking.

The maximum distance between two fixing points is three metres.
The luminaires can be installed at any point on the line (including the jointing units),
- 10 A tap-off units (4), pre-wired or not, with phase selection, or 16 A tap-off units with or without fuses, used to supply luminaires under live conditions
- the cable-support system (5) for running adjacent circuits such as telephone lines, emergency lighting, etc.
- flexible lengths to change direction or avoid obstacles.

Canalis KBB, 25 and 40 A

Busbar trunking for lighting distribution

PD202337R.eps



Complies with standards IEC 61439-6 and EN 61439-6.

Complies with sprinkler tests, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Degree of protection: IP55.
Number of live conductors: 2 or 4, 2 + 2, 2 + 4 or 4 + 4.
Rated insulation voltage: 690 V.
Rated current (Inc): 25 and 40 A.

Fire resistance

- Resistant to flame propagation in compliance with standard IEC 60332 - part 3.
- Materials resistant to abnormal heat (glow-wire test as per IEC 60695-2).

All plastic components are halogen free.

Straight lengths constitute the basic structure of the line and are made up of:

- a carrier casing (1), crimp closed, made of hot-galvanised sheet steel, pre-lacquered RAL 9003 white. This casing also serves as the protective earth conductor (PE)
- one or two ribbon cables with two or four insulated conductors made of copper, 2.5 mm^2 for 25 A and 6 mm^2 for 40 A
- tap-off outlets every 0.5 or 1 metre, on both sides of the trunking
- an additional twisted cable (2 x 0.75 mm^2, remote-control circuit) on request DALI compatible
- an electrical jointing unit ensuring automatic and simultaneous connection of all live conductors. The contacts are clamp + spring type and exert no forces on the plastic parts. The jointing unit is maintenance free
- a mechanical jointing unit ensuring rigid assembly of two components.

The continuity of the protection conductor is ensured automatically. Proper tightening at the end of the assembly operation is ensured by a captive screw with a notched base.
The two components are instantly assembled.
Electrical and mechanical jointing is carried out simultaneously (2).

Other line components:

- the fixing system (3) for supporting of both trunking and luminaires, with final automatic locking around the trunking.

The maximum distance between two fixing points is five metres.
The luminaires can be installed at any point on the line (including the jointing units).

- 10 A tap-off units (4), pre-wired or not, with phase selection, or 16 A tap-off units with or without fuses, used to supply luminaires under live conditions
- the cable-support system (5) for running adjacent circuits such as telephone lines, emergency lighting, etc.
- flexible lengths to change direction or avoid obstacles.

Busbar trunking for low power distribution

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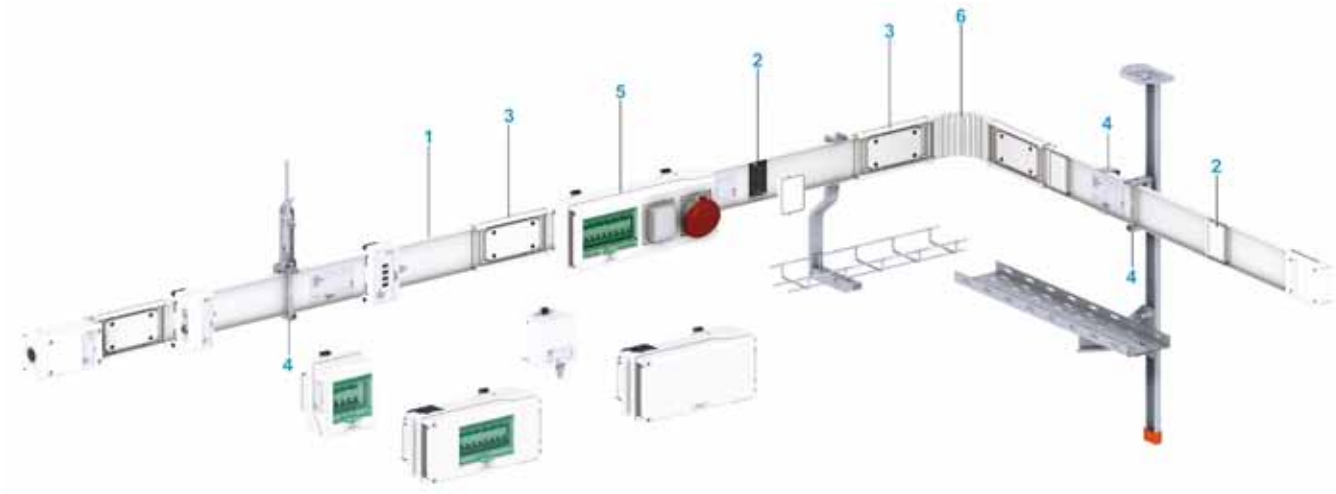

Complies with standards IEC 61439-6 and EN 61439-6.
Complies with sprinkler tests, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Degree of protection: IP55.
Number of live conductors: 4.
Rated insulation voltage: 500 V.
Rated current (Inc): 40 A, 63 A, 100 A and 160 A.

Fire resistance
- Resistant to flame propagation in compliance with standard IEC 60332 - part 3.
- Materials resistant to abnormal heat (glow-wire test as per IEC 60695-2).

All plastic components are halogen free.

Straight lengths constitute the basic structure of the line and are made up of:
- an enclosure (1), made of sheet steel, galvanised and painted RAL 9001, serving as the protective conductor (PE)
- four aluminium conductors supported along their entire length by an insulator. All electrical contacts are made of silver-plated copper
- three additional copper conductors (3 x 2.5 mm^2, remote-control circuit) on request DALI compatible.
- tap-off outlets every 0.5 or 1 metre, on one side of the trunking. The tap-off outlets (2) are equipped with automatic shutters that avoid accidental contact with live parts
- a eletrical jointing unit (3) with flexible contacts for the electrical junction between two components. These contacts are designed to adapt to the difference in expansion between the conductors and the enclosure
- an mechanical jointing unit (3) for the mechanical junction between two components with four captive screws that also ensure the continuity of the protective conductor. The jointing unit is maintenance free.

Other line components:
- the fixing brackets (4) designed for suspension or fixing to a wall every 3 metres (unless otherwise specified)
- the tap-off units (5) with the following characteristics:
  - the contact of the protective conductor ensures automatic opening of the shutters and feeds the tap-off unit
  - when the tap-off unit is plugged in, the earthing contact connects first, followed by the phases
  - there is no access to live parts when the cover of the tap-off unit is open (no finger access, IPxxB)
  - tap-off units can be equipped with fuses or modular device,
  - trunking and tap-off units can be equipped with colour-coded interlocking devices to restrict connection to certain tap-off units
- flexible lengths (6) to change direction or avoid obstacles.

Canalis KS, 100 to 1000 A

Busbar trunking for medium-power distribution

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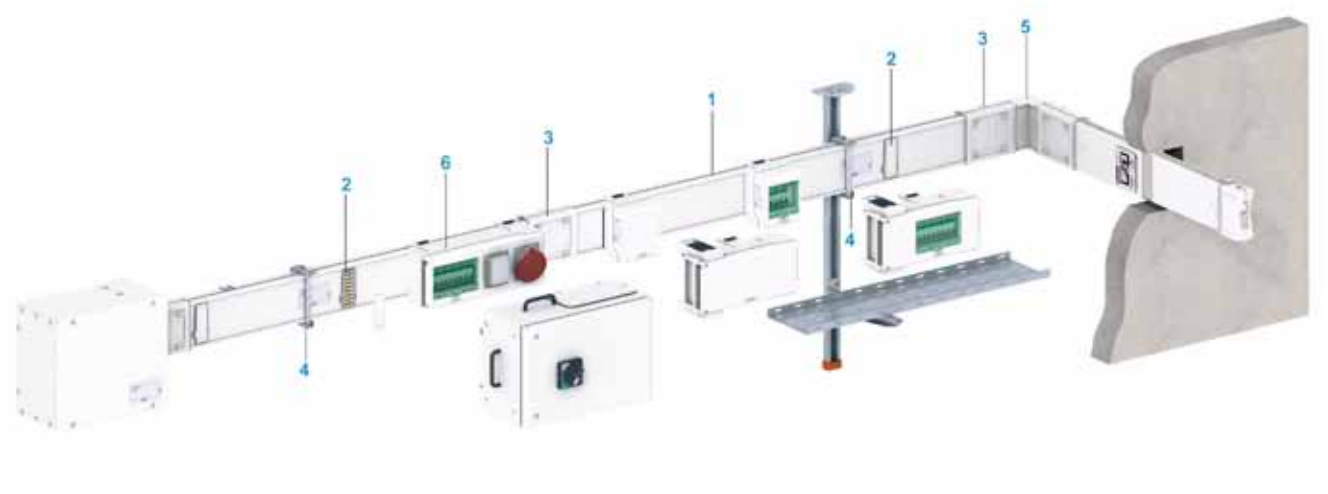

Complies with standards IEC 61439-6 and EN 61439-6.
Complies with sprinkler tests, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Degree of protection: IP55.
Number of live conductors: 4.
Rated insulation voltage: 690 V.
Rated current (Inc): 100 A, 160 A, 250 A, 400 A, 500 A, 630 A, 800 A and 1000 A.
The cross-sectional area of the protective conductor is at least 50 % that of the phases.

Fire resistance
■ Fire barriers as per standard ISO 834 (DIN 4102-part 9) for passages through partitions.
■ Resistant to flame propagation in compliance with standard IEC 60332 - part 3.
■ Materials resistant to abnormal heat (glow-wire test as per IEC 60695-2).

All plastic components are halogen free.
■ The enclosure (1), made of sheet steel, galvanised and pre-lacquered RAL 9001 white.
■ The four aluminium conductors are mounted on fibreglass reinforced polyester insulators. All electrical contacts are made of silver-plated copper.
■ The straight lengths have a tap-off unit (2) every metre on both sides.
The tap-off outlets are equipped with automatic shutters that avoid accidental contact with live parts. The protective conductor is electrically connected to the enclosure at each jointing unit,
■ Electrical contact between two components is ensured by flexible contacts designed to adapt to the difference in expansion between the conductors and the enclosure. It is possible to check visually that the electrical contact is effective.
The mechanical junction between two components is ensured by four captive screws. The jointing unit (3) is maintenance free.
■ The rigidity of the straight lengths is sufficient that fixing points (4) are required only every three metres (excepting special conditions).
■ Special components (5) are available to change direction or avoid obstacles.
■ The tap-off units (6) have the following characteristics:
□ connection and disconnection are possible only with the cover open
□ the contact of the protective conductor ensures automatic opening of the shutters and feeds the tap-off unit
□ there is no access to live parts when the cover of the tap-off unit is open (no finger access, IPxxB)
□ when the tap-off unit is plugged in, the earthing contact connects first, followed by the phases
□ it is not possible to close the cover before the tap-off unit is mechanically locked on the trunking
□ tap-off units can be equipped with fuses, modular devices or moulded case circuit breakers.

Rising mains for power distribution in buildings with more than one floor

PD202341_rW.eps

Complies with standards IEC 61439-6 and EN 61439-6.
Complies with sprinkler tests, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Degree of protection: IP55.
Number of live conductors: 4.
Rated insulation voltage: 690 V.
Rated current (Inc): 100 A, 250 A, 400 A, 500 A, 630 A, 800 A and 1000 A.
The cross-sectional area of the protective conductor is at least 50 % that of the phases.

Fire resistance
■ Fire barriers as per standard ISO 834 (EN 1363-1, EN 1366-3) for passages through partitions (slabs for exemple).
■ Resistant to flame propagation in compliance with standard IEC 60332 - part 3.
■ Materials resistant to abnormal heat (glow-wire test as per IEC 60695-2).

All plastic components are halogen free.
■ The enclosure (1), made of sheet steel, galvanised and pre-lacquered RAL 9001 white.
■ The four aluminium conductors are mounted on fibreglass reinforced polyester insulators. All electrical contacts are made of silver-plated copper.
■ The straight lengths have a tap-off unit (2) every 0.5 metre on one side. There are four tap-off units per floor for floor heights between 3.5 and 4.8 metres, or three tap-off units per floor for floor heights less than 3.5 metres. The tap-off outlets are equipped with automatic shutters that avoid accidental contact with live parts.
The protective conductor is electrically connected to the enclosure at each jointing unit.
■ Electrical contact between two components is ensured by flexible contacts designed to adapt to the difference in expansion between the conductors and the enclosure. It is possible to check visually that the electrical contact is effective.
The mechanical junction between two components is ensured by four captive screws.
The jointing unit (3) is maintenance free.
■ A fire barrier (4) can be installed when the riser passes through a slab to avoid any risk of fire propagation from one floor to another via Canalis KS trunking.
Two-hour fire resistance (A120) is provided in compliance with standard ISO834.
■ Special components (5) are available to change direction or avoid obstacles.
■ The riser can be maintained by a special bottom support (6) or a spring-based fixing device on each floor of the building (depending on the height of the building).
■ The tap-off units (7) have the following characteristics:
□ connection and disconnection are possible only with the cover open
□ the contact of the protective conductor ensures automatic opening of the shutters and feeds the tap-off unit
□ there is no access to live parts when the cover of the tap-off unit is open (no finger access, IPxxB)
□ when the tap-off unit is plugged in, the earthing contact connects first, followed by the phases
□ it is not possible to close the cover before the tap-off unit is mechanically locked on the trunking
□ tap-off units can be equipped with modular devices or moulded case circuit breakers.

Maintenance

Maintenance recommendations for your installation

Maintenance of Canalis lighting systems

Maintenance of Canalis KDP, KBA and KBB trunking components

KBA and KBB are similar in design and consequently have the same maintenance requirements.

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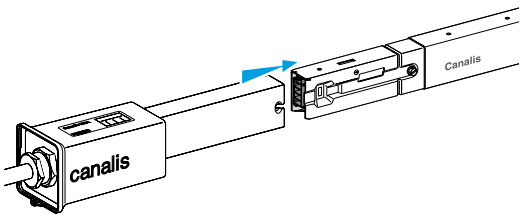

Feed units
They are equipped with anti-shear tunnel terminals for copper cables up to 10 mm^2. As for all screw-type connections, it is advised to check tightness one year after installation and then at longer intervals.
For KBA and KBB trunking, the feed units are jointed to the first run component of the line (see next paragraph). This connection is maintenance free.

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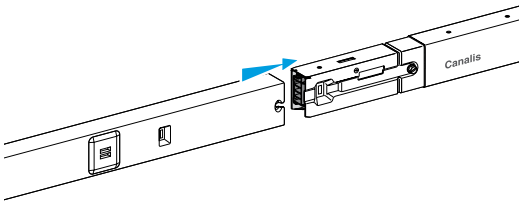

Run components
For Canalis KDP, the run components are one-piece lengths drawn from a 192-metre reel. No joints are required.

For Canalis KBA and KBB, run components are interconnected by electrical jointing units ensuring automatic and simultaneous connection of all live conductors.
The contacts are clamp + spring type and exert no forces on the plastic parts.
The electrical contacts of the jointing unit and the conductors are made of copper.
Components can be dismantled and reused.

Run components for all types of busbar trunking are maintenance free.

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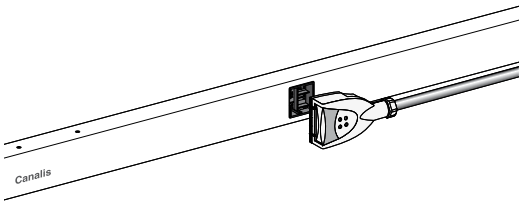

Tap-off units
They are the clamp type, made of bronze with tinned beryllium to ensure optimum mechanical rigidity and contact quality. The contacts do not press or apply any forces on the plastic parts. They connect to the active line conductors at the tap-off outlets.
The conductors are made of tinned copper.
These components are maintenance free.

For Canalis KBA and KBB, circuits supplied by the 16 A tap-off units are connected via tunnel terminals. As for all screw-type connections, it is advised to check tightness one year after installation and then run checks at longer intervals.

Maintenance on power-distribution lines

Maintenance of Canalis KN trunking components

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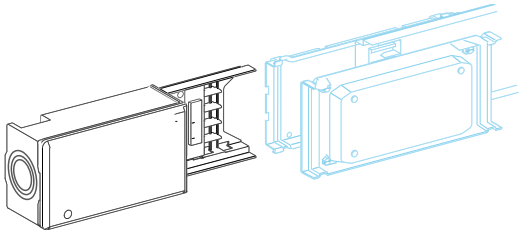

Feed units
They are equipped with junction blocks for copper cable up to 16 mm² for 63 A and for lugs (M8) for 100 A units. As for all screw-type connections, it is advised to check tightness one year after installation and then run checks at longer intervals.
The feed units are jointed to the first run component of the line (see next paragraph). This connection is maintenance free

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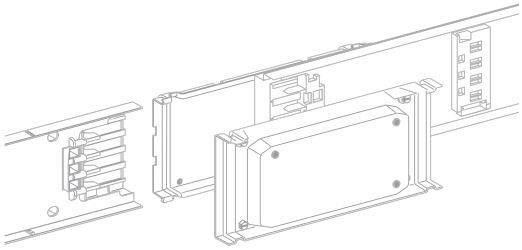

Run components
They are interconnected by electrical jointing units ensuring automatic and simultaneous connection of all live conductors.
The contacts are clamp + spring type and exert no forces on the plastic parts.
The electrical contacts of the jointing unit and the conductors are silver-plated copper.
This type of sliding connection is maintenance free.

Components can be dismantled and reused.

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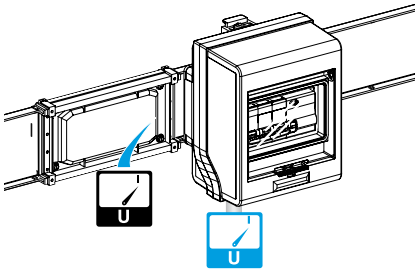

Tap-off units
Trunking contacts are flexible, made of silver-plated clamps providing optimum contact quality. The contacts do not press or apply any forces on the plastic parts.
They connect to the live line conductors at the tap-off outlets. Conductors are made of silver-plated copper at the point of contact.
These components are maintenance free.

The connections for outgoing cables are made to terminals or using lugs.
As for all screw-type connections, it is advised to check tightness one year after installation and then run checks at longer intervals.

Maintenance of Canalis KS trunking components

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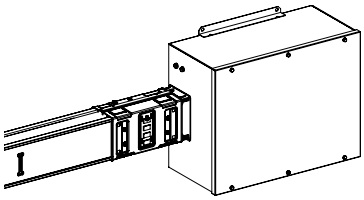

Feed units
They are equipped with terminals up to 100 A and lug connectors for higher ratings.
As for all screw-type connections, it is advised to check tightness one year after installation and then run checks at longer intervals.
The feed units are jointed to the first run component of the line (see next paragraph). This connection is maintenance free

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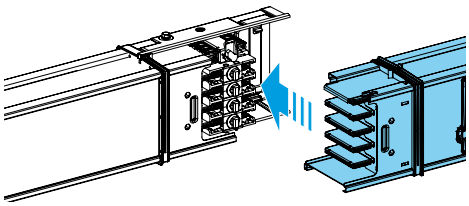

Run components
They are interconnected by electrical jointing units ensuring automatic and simultaneous connection of all live conductors.
The contacts are clamp + spring type and exert no forces on the plastic parts.
The electrical contacts of the jointing unit for the conductors are silver-plated copper.
This type of sliding connection is maintenance free.

Components can be dismantled and reused.

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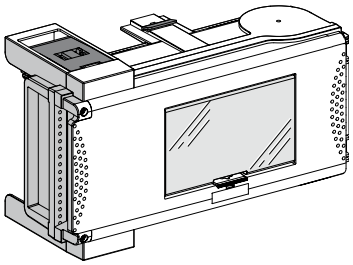


Tap-off units
Trunking contacts are flexible, made of silver-plated clamps providing optimum contact quality. The contacts do not press or apply any forces on the plastic parts.
They connect to the live line conductors at the tap-off outlets. Conductors are made of silver-plated copper at the point of contact.
These components are maintenance free.

The connections for outgoing cables are made to terminals or using lugs.
As for all screw-type connections, it is advised to check tightness one year after installation and then run checks at longer intervals.

Maintenance recommendations for your installation

Other recommendations

Maintenance of devices

For all devices installed in Canalis tap-off units, follow the manufacturer's instructions (as for installation in a switchboard).

Visual check

Cleaning
It is advised to check annually that trunking is clean and to remove any dust, water, oil or other conducting substances or objects from sensitive zones such as junctions, tap-off outlets and tap-off units.

External appearance
Check the external appearance of the trunking to detect:
- signs of shocks, in which case it is necessary to check the degree of protection to avoid any risk of insulation faults
- anomalies, i.e. incorrect implementation of the trunking (incorrect supports, etc.)
- traces of corrosion (in particular on supports).

Reuse after exposure to water

If a Canalis line is exposed to water during installation, it is necessary to measure the insulation resistance of the line by isolating the supply and the loads.
- If R < 0.69 MΩ, the installation must not be energised:
  - cut the line in two by removing the jointing unit in the middle
  - locate the faulty zone
  - remove all jointing covers and dry the parts using compressed air
  - continue until the insulation resistance is greater than 0.69 MΩ
  - the system can then be energised.

Contents

Recommendations for special applications

Direct current

Determining the DC current value

Thermal effect

Rule

The total power dissipated as heat must remain constant in the duct:

Pac = Pdc

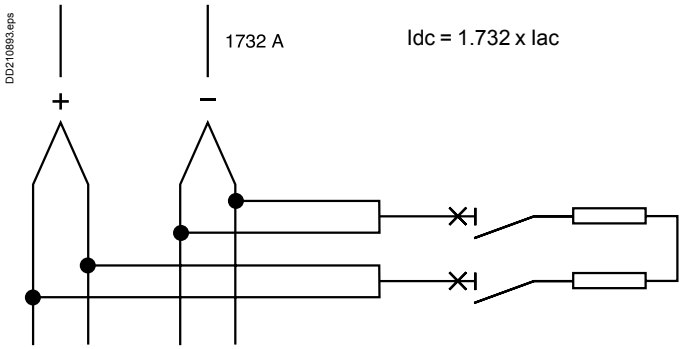
Where:

- the power dissipated as heat: **Pac** = 3 x R x Iac² with:
  - R = resistance of a conductor
  - Iac = conductor rms current
- the dissipated power for 4 conductors: **Pdc** = 4 x R x Idc² with:
  - Idc = direct current.

Selection table

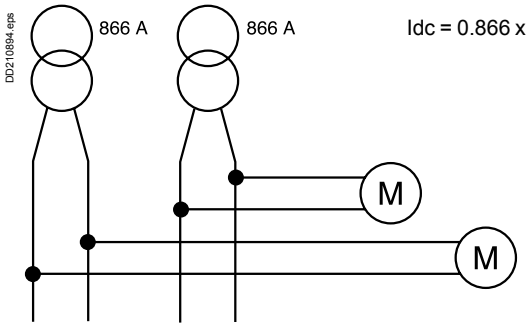
- 1 source.

Case of 2 conductors in parallel for the **+** and 2 conductor in parallel for the **–** (only 1 circuit in the busbar trunking):



- 2 sources.

Case of 1 conductor for the **+** and 1 conductor for the **–** (2 circuits possible in the same busbar trunking):



Rating (A)	1 source	2 sources
100	173	87
160	277	139
250	433	217
400	693	346
500	866	433
630	1091	546
800	1386	693
1000	1732	866

Protection

With DC, there is no zero crossing point of the voltage and current to facilitate arc extinction in the protective device.
The arcing time is longer and the energy that has to be absorbed is higher than for AC.
The voltage of the DC arc must rise to the source voltage very quickly in order to "put out" the short-circuit current.
"Shortened" electrical equation: U network = R x Isc + Uarc where:

- Isc = U network - Uarc / R
- Isc = 0 when Uarc = U network.

Use with specific switchgear

A quick rise in arcing voltage can be achieved by using series fuses, one fuse on the **+** and one fuse on the **–** of each circuit.
For some current rating and fuse characteristics, the placing of two fuses in series on each polarity may be specified (highly inductive circuit).
In some cases, two fuses must be placed in parallel for each polarity.

Frequencies
400 Hz

KS busbar trunking derating at 400 Hz

Values at 35 °C.
Application of a derating coefficient at 400 Hz combined with that for temperature derating.

Busbar trunking derating at 400 Hz								
	KSA100	**KSA160**	**KSA250**	**KSA400**	**KSA500**	**KSA630**	**KSA800**	**KSA1000**
In (A)	92	146	221	342	403	514	621	745
Coefficient K at 400 Hz	0.92	0.91	0.88	0.85	0.81	0.82	0.78	0.74

Voltage drop

3-phase voltage drop, in millivolts per metre and per amp 400 Hz with load spread over the run.
For a concentration of load at the end of a run (transport), the voltage drops are double those shown in the table below.

Voltage drop when frequency is 400 Hz in millivolts per meter and per ampere								
	KSA100	**KSA160**	**KSA250**	**KSA400**	**KSA500**	**KSA630**	**KSA800**	**KSA1000**
Cos Φ = 1.0	0.992	0.641	0.550	0.388	0.225	0.226	0.201	0.160
Cos Φ = 0.9	0.975	0.627	0.546	0.388	0.223	0.225	0.200	0.159
Cos Φ = 0.8	0.968	0.622	0.545	0.387	0.222	0.224	0.200	0.159

Conductor characteristics

Conductor impedance at 400 Hz								
	KSA100	**KSA160**	**KSA250**	**KSA400**	**KSA500**	**KSA630**	**KSA800**	**KSA1000**
Average ohmic resistance of phase and neutral conductors at **In Rb1ph (mΩ/m)**	1.564	0.687	0.320	0.249	0.120	0.118	0.113	0.110
Average resistance at **In Xph (mΩ/m)**	1.203	1.207	1.264	0.942	0.535	0.551	0.506	0.405

Fire resistance

As required by standards, busbar trunking complies with:
1 - material resistance to abnormal temperatures
2 - flame propagation resistance
3 - fire barrier function when going through a partition wall
4 - conservation of all circuits for 1h30 in an insulating sheath.

Definition of tests

1 - Insulating material resistance test to abnormal temperatures

Objective
To check a material will not be suspected as being the origin of a secondary fire outbreak.

As defined in standards § 9.2 IEC 61439-6 and IEC 60695-2-10 and 2-13.

Method
Application of an incandescent wire for 30 seconds on the insulating materials in contact with live parts.

Result criteria
The specimen is considered to have passed the incandescent wire test if:
■ if there is no visible flame and no sustained incandescence
■ the specimen's flames and incandescence go out within 30 seconds of the incandescent wire being removed.

2 - Flame propagation resistance test

Objective
To check a busbar trunking will not create secondary fire outbreaks.

As defined in standards § 9.101 IEC 61439-6 and IEC 60332 part 3.

Method
■ Application of a flame for 40 minutes on a straight length of busbar trunking whose centre is located 2.5 metres from the edge of the burner.

Result criteria
The specimen is considered to have passed the test if:
■ combustion does not occur
■ the maximum extent of the burned part (external and internal) of the busbar trunking does not go beyond 2.5 metres above the lower edge of the burner.

Fire resistance

3 - Fire barrier test through a partition wall

Objective
To check a busbar trunking will not propagate a fire from one room to another by crossing a fire barrier wall for 60, 120, 180, or 240 minutes.

As defined in standard EN 1366-3; EN 1363-1; ISO 834; DIN 4102 part 9.

Method
The fire barrier busbar trunking section to be tested is placed in an oven which executes a standardised temperature-time curve.

Result criteria
The specimen is considered to have passed the test if:
- there are no flames behind the fire barrier
- there is no smoke or gas behind the fire barrier (not requested by the standard; can appear as a remark in the test report)
- the temperature rise of the casing behind the fire barrier does not exceed 180 °C.

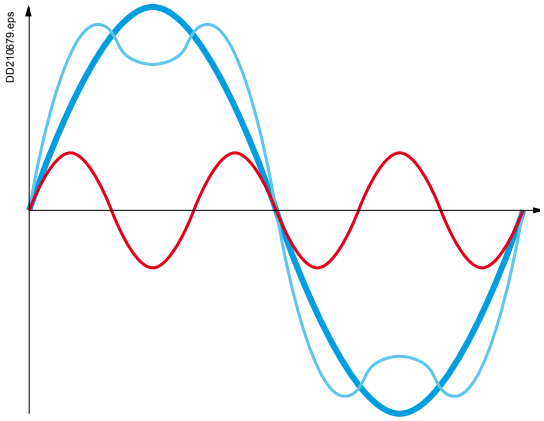
Harmonic currents

Origin of harmonic currents

Harmonic currents are caused by non-linear loads connected to distribution systems, i.e. by loads that draw current with a waveform different that that of the voltage that supplies them.

The most common non-linear loads are equipment including rectifiers, fluorescent lighting and computer hardware.

In installations with a distributed neutral, non-linear loads may cause significant overloads in the neutral conductor due to the presence of third-order harmonics.



Harmonic order
The order is the ratio between the harmonic frequency **fn** and the fundamental frequency (generally the power frequency, 50 or 60 Hz):
n = fn / f1

By definition, the fundamental **f1** is order 1 (H1).

Third-order harmonics (H3) have a frequency of 150 Hz (when f1 = 50 Hz).

Estimating THD (total harmonic distortion)

The presence of third-order harmonics depends on the applications involved.
It is necessary to carry out an in-depth study on each non-linear load to determine the level of H3:
ih3 (%) = 100 x i3 / i1
- i3 = rms current of H3
- i1 = rms current of the fundamental

Assuming that H3 is preponderant among harmonics, the THD is close to the value of H3 (ih3 (%)).

There are two decisive factors:
- the types of connected devices:
  - disturbing loads: fluorescent lighting, computer hardware, rectifiers, arc furnaces, etc.
  - non-disturbing loads: heating, motors, pumps, etc.
- the ratio between the two types of disturbing loads.

Workshops
Mix of disturbing loads (computers, UPSs, fluorescent lighting) and non-disturbing loads (motors, pumps, heating).

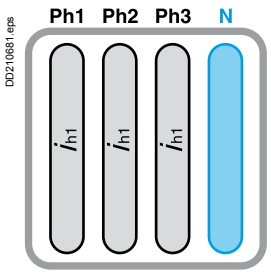
Low probability of harmonics
THD ⩽ 15 %.

Offices
Numerous disturbing loads (computers, UPSs, fluorescent lighting).

High probability of harmonics
15 % < THD ⩽ 33 %.

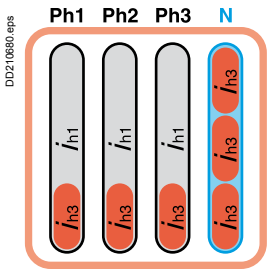
Harmonic currents

Effects of harmonics on Canalis busbar trunking



Fundamental frequency: ih1 (50 Hz)

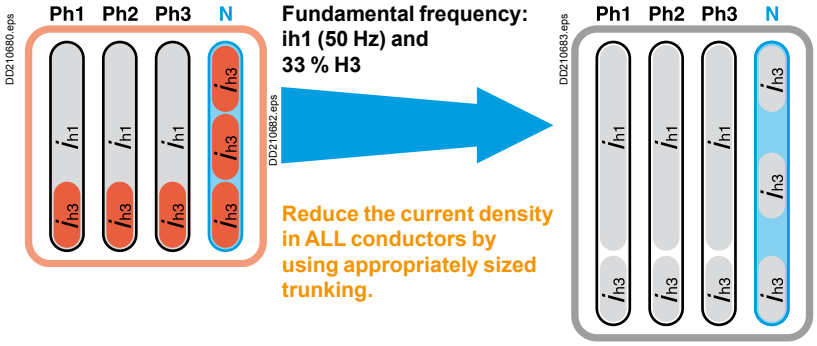
No current in the neutral.
The conductors are correctly sized.



Fundamental frequency: ih1 (50 Hz) and 33 % of H3

Abnormal temperature rise in the conductors caused by current at a higher frequency in the phases (skin effect) and current in the neutral caused by summing of the H3 harmonics.

The only effective solution



Busbar-trunking selection

THD ⩽ 15 %	15 % < THD ⩽ 33 %	THD > 33 %	Busbar trunking	Rating (A)
25	20	16	**KBA / KBB**	25
40	32	25	**KBA / KBB**	40
			KN	40
63	50	40	**KN**	63
100	80	63	**KN**	100
			KS	100
160	125	100	**KS**	160
250	200	160	**KS**	250
400	315	250	**KS**	400
500	400	315	**KS**	500
630	500	400	**KS**	630
800	630	500	**KS**	800
1000	800	630	**KS**	1000

Example: *for a total rms current of **376 A**, (estimation based on power drawn by loads, including harmonics), the operational current is **400 A**.*
*THD is estimated at 30 %. The appropriate trunking is **KS500 A**.*

For more information on harmonics

See the Cahier Technique publications on the Schneider Electric web site:
www.schneider-electric.com

How Canalis compensate for thermal expansion

Foreword

Prefabricated electrical trunking components expand and contract due to:
- changes in ambient temperature (e.g. summer and winter)
- current flowing in the conductors (e.g. 0 to In).

For example, consider a 30 metre long 800 A Canalis KS line equipped with ten 160 A tap-off units and installed under the roof of a building where the ambient temperature varies by more than 30 °C between summer and winter:
- just the change in the ambient temperature results in an expansion of 20 mm for the conductors and the 10 mm for the casing
- at a constant ambient temperature, the temperature rise in the conductors every morning when the installation is started (increase in current from 0 to In = 800 A) results in an expansion of 55 mm for the conductors and 7 mm for the casing.

The lengths of the sheet steel (1) and the aluminium conductors (2) therefore vary as a function of the changes in temperature and their specific thermal expansion coefficients.

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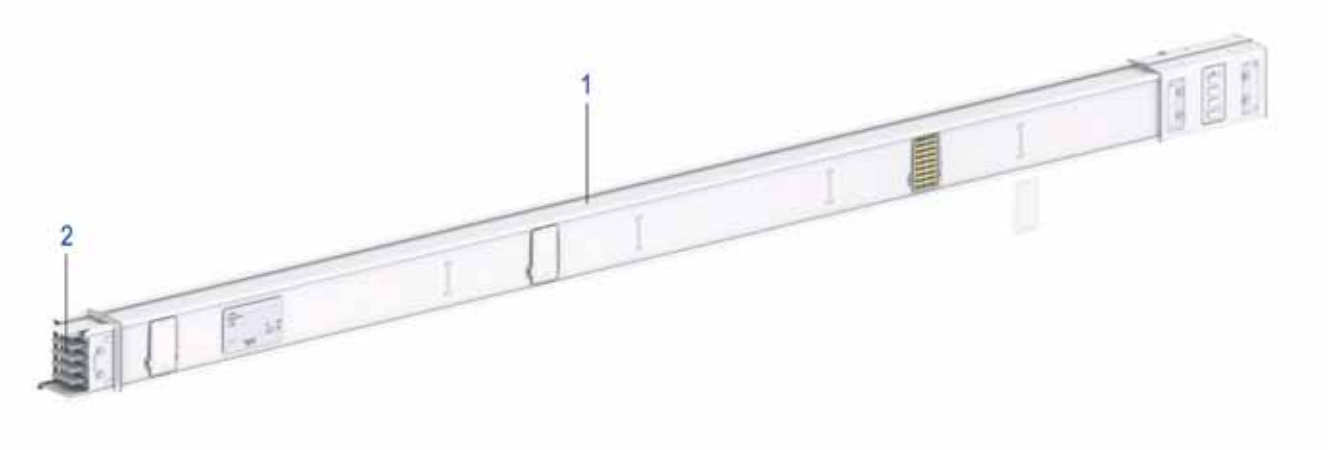

For this reason, Canalis components are designed so that these phenomena do not affect their installation or operation.

How Canalis trunking components effectively compensate for the effects of conductor thermal expansion.

Inside a trunking section, the conductors are fixed (1) at a single point in the casing and, due to the change in temperature, expand (➡) on either side of that point. The zones affected by expansion and considered critical from the electrical standpoint are the jointing system (2) and tap-off outlets (3).

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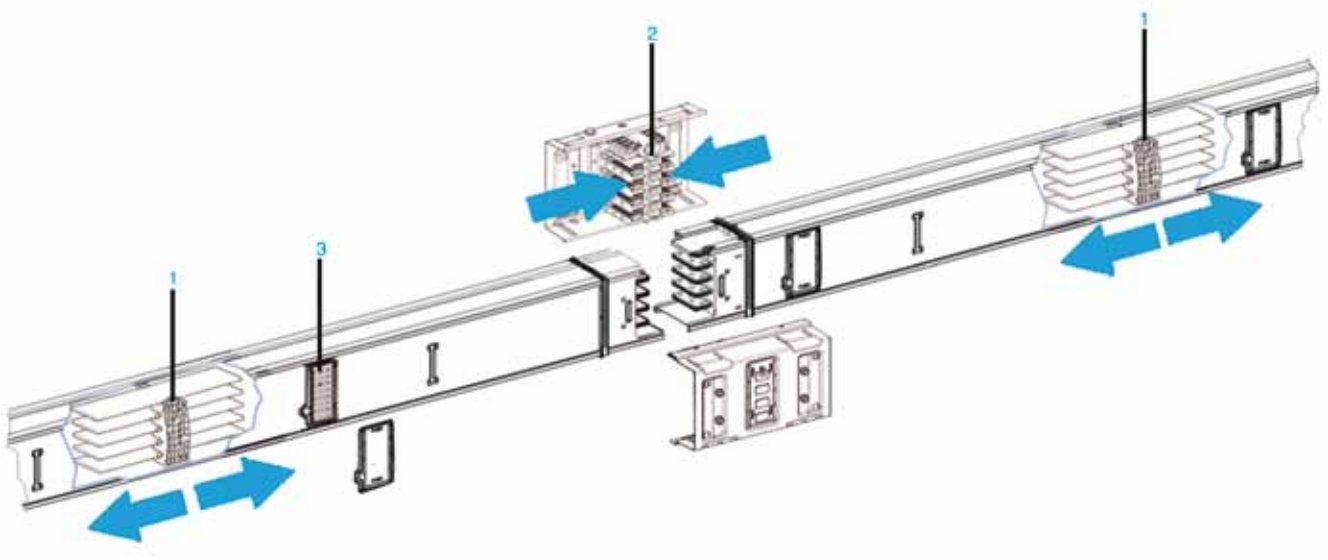

How Canalis compensate for thermal expansion

■ The Canalis jointing system mechanically and electrically connects components (e.g. two straight lengths), but allows for the expansion and contraction of the conductors (4).
The system is made up of springs (1) and an area of sliding contacts (2) that allow conductor movement ( ) while maintaining outstanding electrical contact.
Contact quality is ensured by two parts made of silver-plated copper (3). Sufficient pressure between the two parts for good contact is maintained by the springs.
This system is used at each end of the straight lengths, every three metres.

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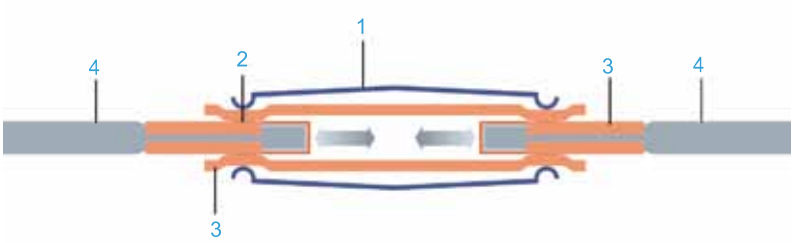

■ At the tap-offs, conductor expansion is compensated for by a contact zone (4) made of silver-plated copper on which the clamps of the tap-off unit can slide.

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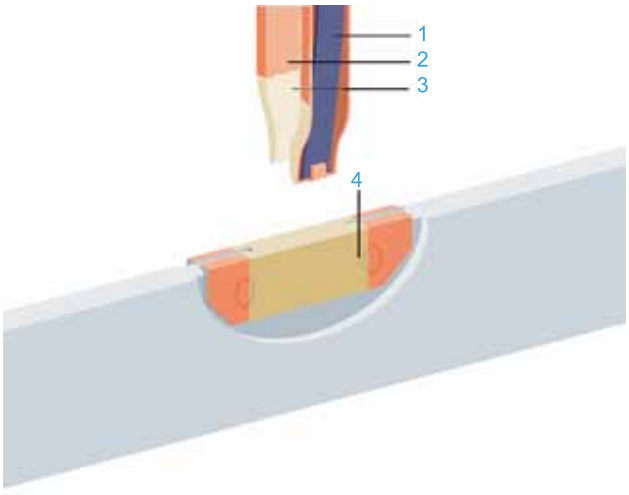

1 Spring of clamps.
2 Copper area.
3 Silver plated copper.

Conclusion: at both the jointing system and the tap-off outlets, sliding contacts can handle the expansion of the conductors.
These maintenance-free silver-plated contacts are guaranteed for life.

Only the expansion of the sheet steel must be taken into account for Canalis installation, however the problem is minor because both trials and calculations show that expansion is only approximately 1 mm for every three-metre length under extreme operating conditions.

Few precautionary measures used to compensate for the effects of thermal expansion in the casing, depending on how the line is installed.

Horizontal line

For a trunking line made up exclusively of straight lengths, as noted above, the effects of thermal expansion are not significant (only 1 mm for 3 m).
To avoid all risk of problems, Canalis trunking supports allow movement of the casing, i.e. no fixed points.

For a fixed point caused by a blocked elbow, for example, the casings compensate their expansion by slight lateral movement (0.7 mm maximum) on either side of the longitudinal axis. This movement has no impact on the contact quality of the jointing system or on the IP.

Conclusion: the only precautionary measure is to prevent distortion by avoiding having a number of fixed points on a single line.

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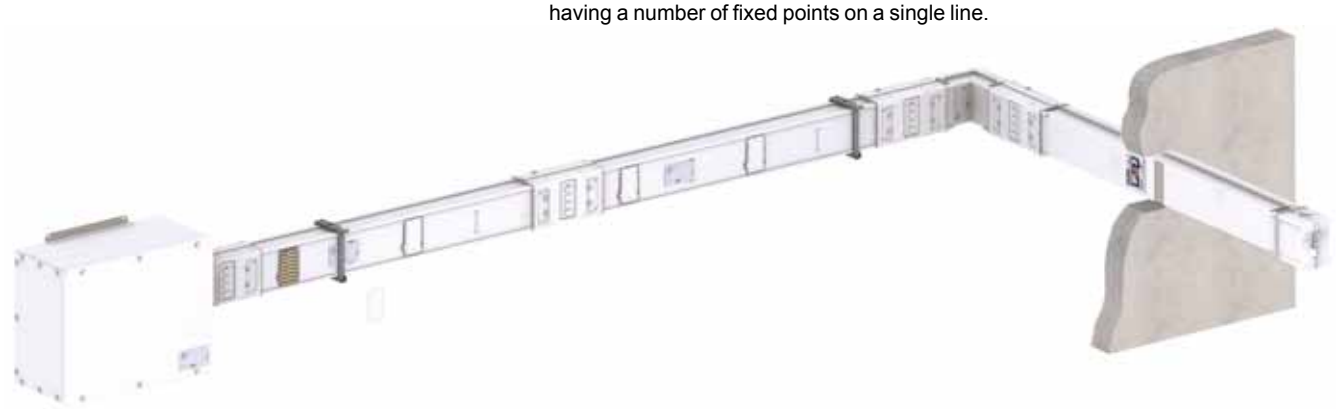

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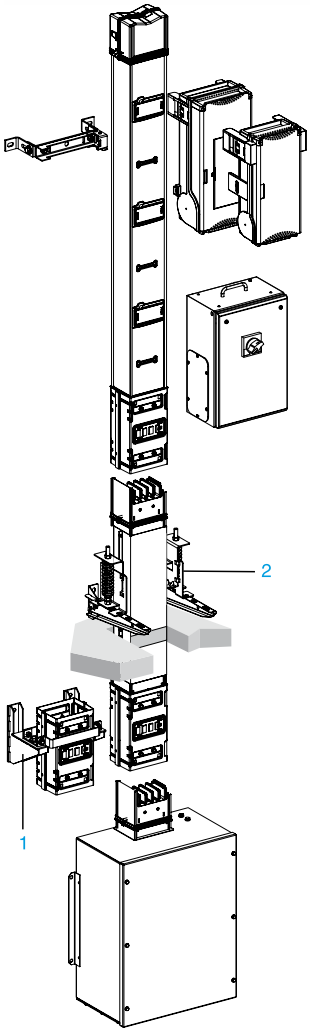

Vertical line (rising mains)

The effects of thermal expansion depend on the different installation methods.

Rising mains with just one bottom support (1)
With a bottom support attached to the wall, the riser expands upwards. At each floor, the sheet steel slides naturally through the floor.
The only precautionary measure is to avoid creating any other fixed points.

Rising mains with spring-based fixing devices (2)
For rising mains with spring-based fixing devices only, the riser expands both upwards and downwards. At each floor, the casing sides naturally through the fire barriers.

Rising mains with more than one bottom support (1)
More than one bottom support should not be used on a single riser to avoid creating a number of fixed points that block thermal expansion of the casing, in which case a component in the line may break.
If more than one bottom support is necessary, it is advised to break the riser into a number of sections, interconnected by cables and feed boxes, to allow thermal expansion (see section “above on Rising mains with just one bottom support”).

Installation of rising mains does not require any particular precautionary measures. All the above solutions have been simulated by calculations and tested in a laboratory. Schneider Electric guarantees that they will maintain the safety and reliability of your installation.

Sprinkler test certification

What is a sprinkler?

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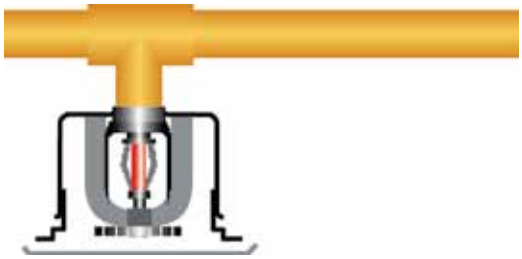

A sprinkler is a sprinkling device blanked off by a heat-sensitive component. It is designed to deliver water when the temperature to which it is subjected exceeds its calibration value.

The main aim of the installation is to lower the temperature in the accident area by wetting the ignited and adjacent materials by spraying water in the form of fine droplets.
The transformation of these droplets into water vapour captures a lot of energy from the fire and extinguishes it quickly. Moreover, this increased volume prevents air from flowing to the heart of the fire.

When a fire develops, ambient temperature rises to reach the calibration value. Water then leaves the sprinkler opening and strikes a deflector that projects it onto the fire in a certain form. Ground coverage ranges between 9 and 12 m² according to mounting height.

A sprinkler delivers between 60 and 120 l/min according to the hazard class.

On nuisance tripping lasting a few minutes, some hundreds of litres of water are released. IPx5 approval as per standard
IEC 60529 does not guarantee non ingress of water in the busbar trunking in these conditions, as the water volumes, test duration and projection distance vary (nozzle 22.5 mm in diameter, at a distance of 2.5-3 m, with a water volume of 12.5l/min for 1min/m² for at least 3 min).

To provide you with all necessary safety guarantees, Schneider Electric has chosen to go further still than the IP55 test by subjecting its busbar trunking to an extremely severe “sprinkler” test.

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Canalis KBA supplying luminaires nearby sprinklers.

Sprinkler test procedure

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Canalis KS and sprinkler.

Chronology

In view of the absence of reference standard for sprinkler tests, we have chosen to apply the following procedure:

- insulation resistance test (1000 V)
- dielectric properties test (2.5 kV, 5 s: IEC 61439-1 & 2)
- water projection
- 5 min break
- insulation resistance test (1000 V)
- dielectric properties test (2.5 kV, 5 s: IEC 61439-1 & 2).

Water projection,

2 configurations, with or without energisation:

- horizontally installed busbar trunking:
  - 15 min water projection with sprinkler type K-Wert 115, NF ¾, 7.5 bar, 314 L/min
  - 35 min water projection with sprinkler type K-Wert 115, NF ¾, 1 bar, 115 L/min
- vertically installed busbar trunking:
  - 15 min water projection with sprinkler type K-Wert 80, NF ½, 7.5 bar, 314 L/min
  - 35 min water projection with sprinkler type K-Wert 80, NF ½, 1 bar, 80 L/min.

Mounting position

The distance between the sprinkler head and the busbar trunking is 500 mm.

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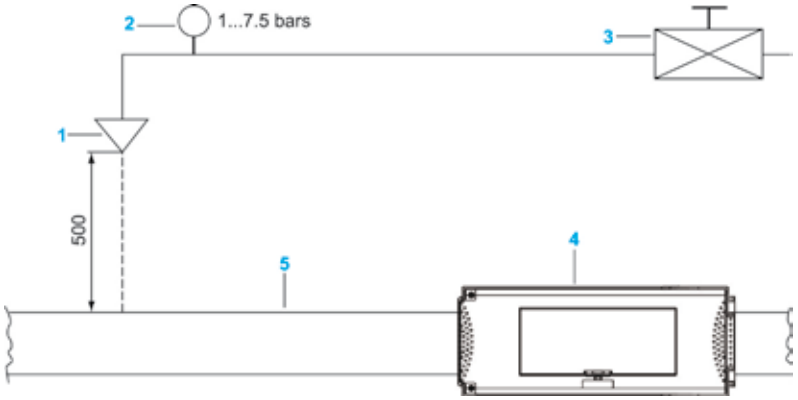

1 Sprinkler
2 Pressure gauge
3 Closing valve
4 Tap-off unit.
5 Busbar trunking

Test configuration

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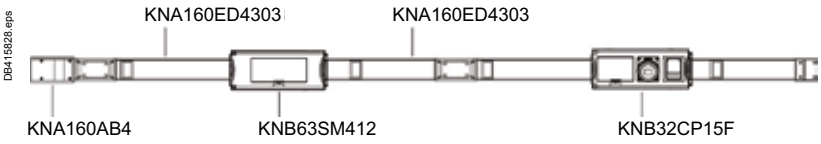


Test results

Busbar trunkings KDP, KBA, KBB, KN and KS have undergone the sprinkler test. This test, if successful, proves that our busbar trunkings can operate during and immediately after sprinkling of a line by a sprinkler for a period of 50 min.

Trunking protection
Overload protection

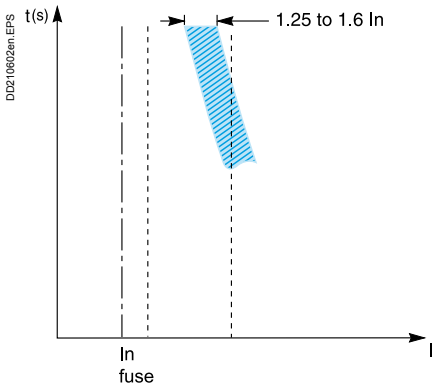
Selection of busbar trunking with respect to protective device ratings

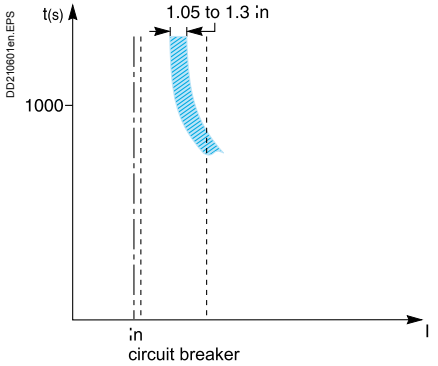
The busbar trunking rating can be optimised when the trunking is protected by circuit breakers rather than fuses.

To take into account busbar trunking thermal overload protection, the various protection switchgear technologies and the currents under overload conditions must be considered.

The sizing characteristics for the choice of busbar trunking and overload protection are:

- In trunking = load current x f_1 x k_2
- f_1: temperature coefficient
- k_2: derating factor linked to the type of switchgear:
  - fuse: k_2 = 1.1
  - circuit breaker: k_2 = 1.





Example:

For a load current = 400 A with an ambient temperature of 35 °C:

- fuse protection:

In trunking = load current x f_1 x k_2 = 400 x 1 x 1.1 = 440 A
The recommended trunking is KSA500 (In trunking = 500 A).

- circuit breaker protection:

In trunking = load current x f_1 x k_2 = 400 x 1 x 1 = 400 A
The recommended trunking is KSA400 (In trunking = 400 A).

Due to their design, circuit breaker thermal settings are more precise.

Explanations

- *Calibration of thermal asymptotes:*
  - *distribution fuses are calibrated to trip for overloads of between **1.25 and 1.6 times** their rated current*
  - *circuit breakers are calibrated to trip for overloads of between **1.05 and 1.3** (1.2 for circuit breakers with electronic protection) times ther current setting.*

Thermal-setting precision

■ The fuse is assigned a fixed rating. A change in the current to be protected requires fuse replacement. **The difference between 2 fuse ratings is approximately 25%.**
Standard ratings are given according to the series of characteristic numbers of the “Renard” series.

For example: 40 - 50 - 63 - 80 - 100 - 125 - 160 - 200 - etc.

■ **the circuit breaker offers a setting precision of:**
□ **5 %** for circuit breakers equipped with conventional **thermal-magnetic t**rip units,
□ **3 %** for circuit breakers equipped with **electronic** trip units.

For example, a circuit breaker with a nominal rating of 100 A can easily be set to values of Ir = 100 A, 95 A, 90 A, 85 A, 80 A.

Example:
a circuit breaker with a nominal rating of 100 A set to 90 A will be used to protect KSA100 busbar trunking (In trunking = 100 A) which is used for an ambient temperature of 50 °C.

Extensive setting range of circuit breakers equipped with electronic trip units

Circuit breakers equipped with electronic trip units offer an extended range of settings:
■ thermal protection Ir adjustable from 0.4 In to In
■ short-circuit protection from 2 Ir to 10 Ir.

Example:
a 250 A circuit breaker (NSX250N equipped with an STR22SE) can easily be set up for:
- thermal protection from 100 to 250 A
- short-circuit protection from 200 to 2500 A.

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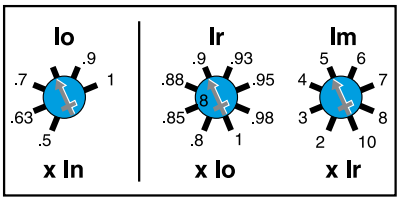

Example of setting possibilities.

Advantages:
■ This ensures a high degree of flexibility with respect to:
□ modifications (flexibility), extensions (upgradeability): protective devices can be easily adapted to the application requiring protection and to the system earthing arrangement used (protection of life and property)
□ maintenance: use of this type of device considerably reduces maintenance component stocks.

Trunking protection
Short-circuit protection

Trunking characteristics

Busbar trunking systems must meet all rules stipulated in standards IEC 61439-1 and 61439-2.

■ With respect to short-circuits, BTS sizing is determined by the following characteristics:

□ **rated peak withstand current Ipk (kÂ):**
this characteristic expresses the instantaneous electrodynamic withstand limits of the busbar trunking. The peak current value is often the most restrictive instantaneous characteristic for the protective device

□ **maximum rms short-time withstand current Icw (kArms/...s):**
this characteristic expresses the permissible temperature-rise limit of conductors over a given period of time (0.1 to 1 s)

□ **thermal stress in A^2s:**
this characteristic expresses the instantaneous thermal stress withstand of the BTS. Normally, if the short-circuit generates fault conditions that are compatible with the first two characteristics, this constraint is “automatically satisfied”.

Circuit breaker characteristics

A circuit breaker must meet the requirements of product construction standards (IEC 60947-2, etc.) and installation standards (IEC 60364 or applicable country standards), i.e. its breaking capacity Icu(1) must be greater than short-circuit current Isc at the point where it is installed.

(1) installation standard IEC 60364 and the construction standards specify that the breaking capacity of a circuit breaker is:
- the ultimate breaking capacity, Icu, if it is not coordinated with an upstream protective device
- the breaking capacity enhanced by cascading, if there is coordination with the upstream protective device.

Characteristics of the circuit-breaker/ trunking combination

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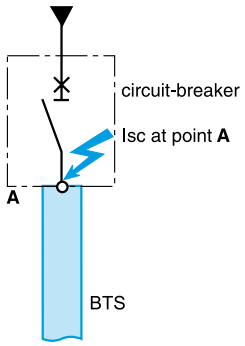

When the busbar trunking is directely protected, selection of the protective device must take into account the following requirements:
■ circuit breaker Icu ⩾ prospective Isc at **point A**
■ BTS I peak ⩾ limited or asymmetrical prospective Isc at **point A**
■ BTS thermal withstand at Icw ⩾ thermal stress passing through the BTS.

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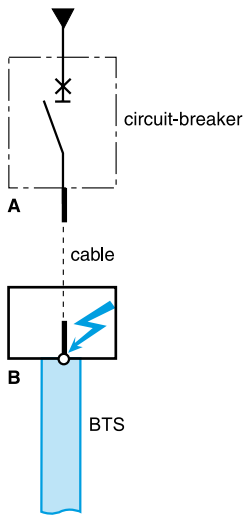


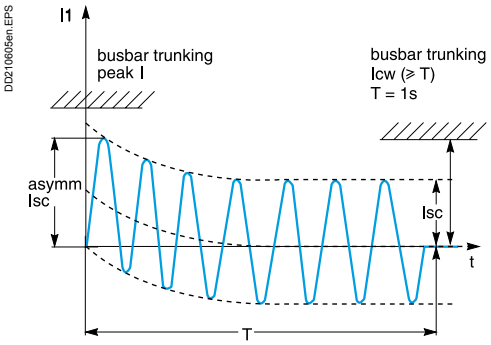
When the busbar trunking is protected downstream of a cable, selection of the protective device must take into account the following requirements:
■ circuit-breaker Icu ⩾ prospective Isc at **point A**
■ BTS I peak ⩾ limited or asymmetrical prospective Isc at **point B**
■ BTS thermal withstand at Icw ⩾ thermal stress passing through the BTS.

Circuit breaker/trunking coordination

Non-limiting or time-delayed circuit breakers

Either non-limiting (instantaneous or time-delayed) or time-delayed limiting circuit breakers can be used. They are mainly air-type power (= 800 A) circuit breakers.
This type of circuit breaker is used to implement time discrimination and is often combined with KT type trunking.

■ The busbar trunking must be capable of withstanding the peak fault current to which it may be subjected as well as the thermal stress during any time delay:



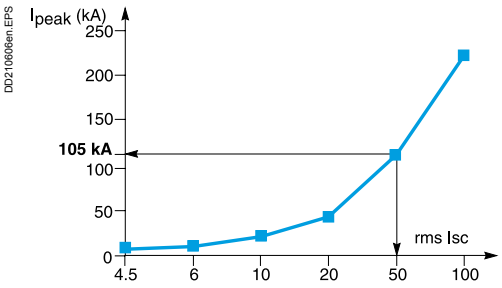
Current value of the 1st. peak as a function of rms Isc.

□ the permissible peak current, I peak, of the BTS must be greater than the peak value of the prospective asymmetrical short-circuit current at point A.
The value of the asymmetrical short-circuit current is obtained from the value of the symmetrical short-circuit current, Isc, multiplied by a standardised asymmetry factor (k).
The value of the first short-circuit asymmetry peak in the transient state is taken into account.

Standardised table for asymmetrical short-circuit calculations

Isc: prospective symmetrical short-circuit	Asymmetry factor k
kA (rms value)	k
4.5 ⩽ I ⩽ 6	1.5
6 < I ⩽ 10	1.7
10 < I ⩽ 20	2.0
20 < I ⩽ 50	2.1
50 < I	2.2

For example, for a circuit with a prospective short-circuit current of 50 kA rms, the first peak reaches 105 kA (50 kA x 2.1). See the figure opposite.



Transient and steady states of a short-time short-circuit.

□ the short-time withstand current Icw of the BTS must be greater than the current Isc flowing through the installation for the duration of the short-circuit, (duration T = total breaking time, including the time delay if applicable).

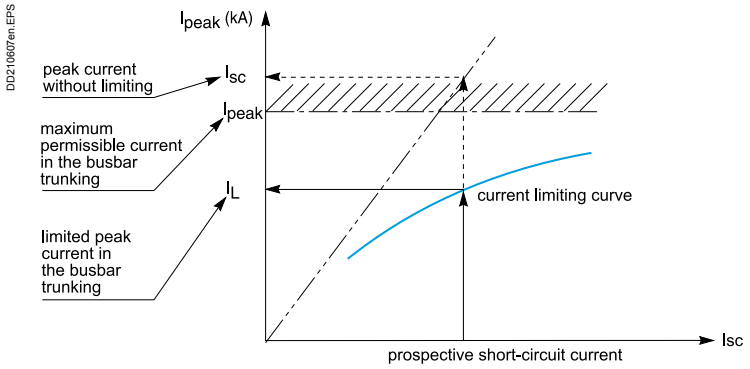
If one of these criteria is not satisfied, the rating of the busbar trunking to be used must be increased.

Circuit breaker/trunking coordination

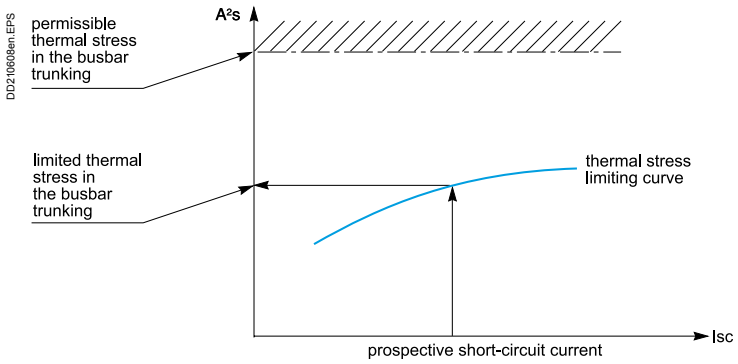
Limiting circuit breakers

This mainly concerns protection of BTSs by moulded-case circuit breakers (⩽ 1600 A).
This type of circuit breaker is used for energy discrimination and is therefore often combined with Canalis KN and KS trunking.

■ In this case, the BTS must withstand the peak current limited by the protective device and the corresponding thermal stress.
□ The current limited (I peak) by the circuit breaker must be less than the peak current permitted in the BTS.
□ The thermal stress limited by the circuit breaker must be less than the thermal stress permitted in the BTS.



Checking the BTS withstand capacity in terms of peak current.



Checking the BTS withstand capacity in terms of thermal stress.

BTS protection by Compact NSX limiting circuit breakers

Limiting capacity

The circuit breakers in the Compact NSX range are limiting circuit breakers with a high current-limiting capacity.
A circuit breaker's limiting capacity is its ability to let only a limited current I_L, lower than the prospective asymmetrical peak short-circuit current Isc through in the event of a short-circuit.
The consequence is a considerable reduction in electrodynamic and thermal stresses in the protected installation.

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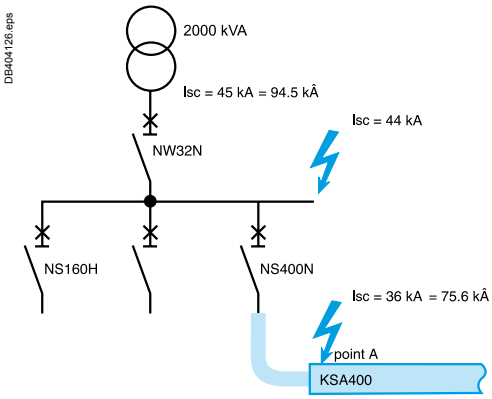

Example of a mid-sized installation (> 1000 kVA)
The diagram opposite shows the protection provided by an NSX400N limiting circuit breaker for KSA400 trunking.

■ Without taking into account the circuit breaker's limiting capacity:
□ the prospective Isc at point A would be 75.6 kÂ
□ KSA800 trunking would be required (Ipeak = 78.7 kÂ > 75.6 kÂ at point A).

■ Taking into account the limiting capacity of the Compact NSX400N:
□ the value of Ipeak limited by the circuit breaker is 30 kÂ < 49.2 kÂ of the KSA400 trunking
□ the value of the limited thermal stress is $1.6 \times 10^6 < 354 \times 10^6$ of the KSA400 trunking.

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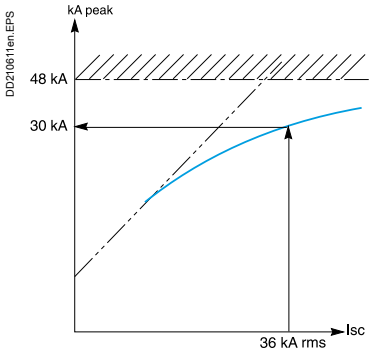

Current limiting

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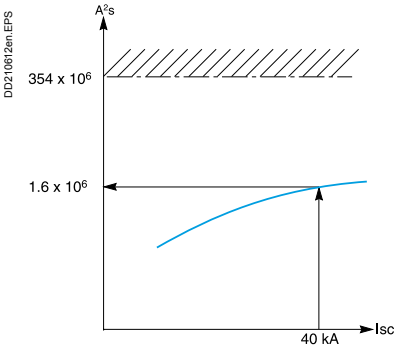


Energy limiting

Thanks to the high limiting capacity of Compact NSX400N circuit breakers, KSA400 busbar trunking can be used for prospective Isc values up to 50 kA (105 kÂ) at point A.

Selection guides

The selection guides below can be used to determine the circuit breaker required to fully protect the trunking depending on the prospective short-circuit current of the installation.

Example: *in an installation with a prospective Isc of 15 kA, the circuit breaker required to protect 25 A KBB trunking is a iC60H (the rating depends on the rated current of the circuit).*

In bold, the most appropriate device to the rating of the busbar trunking

Selection guide for 230 / 240 V

Isc max (kA rms) KDP20	**10 kA**	**15 kA**	**20 kA**
Circuit breaker	iC60N10/16/20 iC60N10/16/20 NG125N10/16/20	iC60H10/16/20 iC60H10/16/20	iC60L10/16/20 iC60L10/16/20

Isc max (kA rms) KBA25	**10 kA**	**15 kA**	**20 kA**	**25 kA**
Circuit breaker	iC60N10/…/25 iC60N10/…/25 NG125N10/…/25	iC60H10/…/25 iC60H10/…/25	iC60L10/…/25 iC60L10/…/25	iC60L10/…/25 iC60L10/…/25

Isc max (kA rms) KBB25	**10 kA**	**15 kA**	**20 kA**	**25 kA**
Circuit breaker	iC60N10/…/25 iC60N10/…/25 NG125N10/…/25	iC60H10/…/25 iC60H10/…/25	iC60L10/…/25 iC60L10/…/25	iC60L10/…/25 iC60L10/…/25

Isc max (kA rms) KBA40	**10 kA**	**15 kA**	**20 kA**	**25 kA**	**50 kA**
Circuit breaker	iC60N10/…/40 iC60N10/…/40	iC60H10/…/40 iC60H10/…/40	iC60L40 iC60L40 NG125N10/…/40	iC60L10/…/25 iC60L10/…/25	NG125L10/…/40

Isc max (kA rms) KBB40	**10 kA**	**15 kA**	**20 kA**	**25 kA**	**50 kA**
Circuit breaker	iC60N10/…/40 iC60N10/…/40	iC60H10/…/40 iC60H10/…/40	iC60L40 iC60L40 NG125N10/…/40	iC60L10/…/25 iC60L10/…/25	NG125L10/…/40

Selection guide for 380 / 415 V

KDP / KBA / KBB trunking

Isc max (kA rms) KDP20	**10 kA**	**15 kA**	**20 kA**
Circuit breaker	iC60N10/16/20 iC60N10/16/20 NG125N10/16/20	iC60H10/16/20 iC60H10/16/20	iC60L10/16/20 iC60L10/16/20

Isc max (kA rms) KBA25	**10 kA**	**15 kA**	**20 kA**	**25 kA**
Circuit breaker	**iC60N10/…/25** **iC60N10/…/25** NG125N10/…/25	**iC60H10/…/25** **iC60H10/…/25**	**iC60L10/…/25** **iC60L10/…/25**	**iC60L10/…/25** **iC60L10/…/25**

Isc max (kA rms) KBB25	**10 kA**	**15 kA**	**20 kA**	**25 kA**
Circuit breaker	**iC60N10/…/25** **iC60N10/…/25** NG125N10/…/25	**iC60H10/…/25** **iC60H10/…/25**	**iC60L10/…/25** **iC60L10/…/25**	**iC60L10/…/25** **iC60L10/…/25**

Isc max (kA rms) KBA40	**10 kA**	**15 kA**	**20 kA**	**25 kA**	**36 kA**	**50 kA**
Circuit breaker	**iC60N10/…/40** **iC60N10/…/40**	**iC60H10/…/40** **iC60H10/…/40**	**iC60L40** **iC60L40** NG125N10/…/40	**iC60L10/…/25** **iC60L10/…/25**	**NG125H10/…/40**	**NG125L10/…/40**

Isc max (kA rms) KBB40	**10 kA**	**15 kA**	**20 kA**	**25 kA**	**36 kA**	**50 kA**
Circuit breaker	**iC60N10/…/40** **iC60N10/…/40**	**iC60H10/…/40** **iC60H10/…/40**	**iC60L40** **iC60L40** NG125N10/…/40	**iC60L10/…/25** **iC60L10/…/25**	**NG125H10/…/40**	**NG125L10/…/40**

Selection guide for 380 / 415 V (cont.)

KNA trunking

Isc max (kA rms) KNA40	10 kA	15 kA	25 kA		
Circuit breaker	**iC60N40**	**iC60H40**	**iC60L40**		
	iC60N40	**iC60H40**	**iC60L40**		
	NG125N10/…/40				
			NSX100B/F/N/H/S/L 40		

Isc max (kA rms) KNA63	10 kA	15 kA	25 kA	36 kA	50 kA
Circuit breaker	**iC60N63**	**iC60H63**	**iC60H63**		
	iC60N63	**iC60H63**	**iC60H63**		
	C120N	C120H			
			NG125N 63	NG125H 63	NG125L 63
			NSX100B/F/N/H/S/L		

Isc max (kA rms) KNA100	10 kA	15 kA	20 kA	25 kA
Circuit breaker	C120N	C120H		
				NG125N100
			NSX100B/F/N/H/S/L	**NSX100B/F/N/H/S/L**
			NSX160B/F/N/H/S/L	NSX160B/F/N/H/S/L

Isc max (kA rms) KNA160	10 kA	15 kA	20 kA	25 kA	36 kA	50 kA
Circuit breaker	NG125N 125	NG125N 125	NG125N 125	NG125N 125		
				NSX100B/F/N/H/S/L	NSX100B/F/N/H/S/L	NSX100B/F/N/H/S/L
				NSX160B/F/N/H/S/L	**NSX160B/F/N/H/S/L**	**NSX160B/F/N/H/S/L**
				NSX250B/F/N/H/S/L	NSX250B/F/N/H/S/L	NSX250B/F/N/H/S/L

KSA trunking

Isc max (kA rms) KSA100	25 kA
Circuit breaker	**NG125N100**
	NSX100B/F/N/H/S/L

Isc max (kA rms) KSA160	25 kA	36 kA	50 kA	70 kA	90 KA
Circuit breaker	NSX100B/F/N/H/S/L	NSX100/F/N/H/S/L	NSX100N/H/S/L	NSX100H/S/L	NSX100S/L
	NSX160B/F/N/H/S/L	**NSX160/F/N/H/S/L**	**NSX160N/H/S/L**	**NSX160H/S/L**	
	NSX250B/F/N/H/S/L	NSX250/F/N/H/S/L	NSX250N/H/S/L		

Isc max (kA rms) KSA250	25 kA	36 kA	50 kA	70 kA	100 kA	150 kA
Circuit breaker	NSX160B/F/N/H/S/L	NSX160F/N/H/S/L	NSX160N/H/S/L	NSX160H/S/L	NSX160S/L	NSX160L
	NSX250B/F/N/H/S/L	**NSX250F/N/H/S/L**	**NSX250N/H/S/L**	**NSX250H/S/L**	**NSX250S/L**	**NSX250L**
	NSX400F/N/H/S/L	NSX400F/N/H/S/L	NSX400N/H/S/L			

Isc max (kA rms) KSA400	25 kA	36 kA	50 kA	70 kA	100 kA	150 kA
Circuit breaker	NSX250B/F/N/H/S/L	NSX250F/N/H/S/L	NSX250N/H/S/L	NSX250H/S/L	NSX250S/L	NSX250L
	NSX400F/N/H/S/L	**NSX400F/N/H/S/L**	**NSX400N/H/S/L**	**NSX400H/S/L**	**NSX400S/L**	**NSX400L**
	NSX630F/N/H/S/L	NSX630F/N/H/S/L	NSX630N/H/S/L	NSX630H/S/L	NSX630S/L	NSX630L
	NS630b N/H/L/LB	NS630b L/LB	NS630b L/LB	NS630b LB		

Isc max (kA rms) KSA500	25 kA	36 kA	50 kA	70 kA	100 kA	150 kA
Circuit breaker	NSX400F	NSX400F	NSX400N	NSX400H	NSX400S	NSX400L
	NSX630F	**NSX630F**	**NSX630N**	**NSX630H**	**NSX630S**	**NSX630L**
	NS630b N	NS630b N	NS630b L/LB	NS630b LB	NS630b LB	

Isc max (kA rms) KSA630	32 kA	36 kA	50 kA	70 kA	100 kA	150 kA
Circuit breaker	NSX400F	NSX400F	NSX400N	NSX400H	NSX400S	NSX400L
	NSX630F	**NSX630F**	**NSX630N**	**NSX630H**	**NSX630S**	**NSX630L**
	NS630b N	NS630b L	NS630b L	NS630b L	NS630b L	NS630b LB
	NS800 N	NS800 L	NS800 L	NS800 L	NS800 L	NS800 LB
	NT06H1	NT06L1	NT06L1	NT06L1	NT06L1	
	NT08H1	NT08L1	NT08L1	NT08L1	NT08L1	

Isc max (kA rms) KSA800	36 kA	50 kA	70 kA	100 kA	150 kA
Circuit breaker	NSX630F	NSX630N	NSX630H	NSX630S	NSX630L
	NS630b N	NS630b L	NS630b L	NS630b L	NS630b L
	NS800 N	**NS800 L**	**NS800 L**	**NS800 L**	**NS800 L**
	NS1000 N	NS1000 L	NS1000 L	NS1000 L	NS1000 L
	NT06H1	NT06L1	NT06L1	NT06L1	NT06L1
	NT08H1	**NT08L1**	**NT08L1**	**NT08L1**	**NT08L1**
	NT10H1	NT10L1	NT10L1	NT10L1	NT10L1

Isc max (kA rms) KSA1000	36 kA	50 kA	70 kA	100 kA	150 kA
Circuit breaker	NS800 N	NS800 L	NS800 L	NS800 L	NS800 L
	NS1000 N	**NS1000 L**	**NS1000 L**	**NS1000 L**	**NS1000 L**
	NS1250 N				
	NT08H1	NT08L1	NT08L1	NT08L1	NT08L1
	NT10H1	**NT10L1**	**NT10L1**	**NT10L1**	**NT10L1**
	NT12H1				

Selection guide

Selection guide for 660 / 690 V

KSA trunking

Isc max (kA rms) KSA100	10 kA	15 kA	20 kA	75 kA
Circuit breaker	**NSX100N**/H/S/L NSX160N/H/S/L NSX250N/H/S/L	**NSX100S/L** NSX160S/L NSX250S/L	**NSX100L**	
				NS100L

Isc max (kA rms) KSA160	10 kA	15 kA	20 kA	75 kA
Circuit breaker	NSX100N/H/S/L **NSX160N/H/S/L** NSX250N/H/S/L	NSX100S/L **NSX160S/L** NSX250S/L	NSX100L **NSX160L** NSX250L	
				NS100L

Isc max (kA rms) KSA250	10 kA	15 kA	20 kA	35 kA	75 kA
Circuit breaker	NSX160N/H/S/L **NSX250N/H/S/L** NSX400F/N/H/S/L	NSX160S/L **NSX250S/L** NSX400H/S/L	NSX160L **NSX250L** NSX400S/L	NSX400L	
					NS400L

Isc max (kA rms) KSA400	10 kA	15 kA	20 kA	35 kA	75 kA
Circuit breaker	NSX250N/H/S/L **NSX400F/N/H/S/L** NSX630F/N/H/S/L	NSX250S/L	NSX250L **NSX400H/S/L** NSX630H/S/L	**NSX400L** NSX630L	
			NS630b N		**NS400L** NS630b LB

Isc max (kA rms) KSA500	10 kA	20 kA	25 kA	35 kA	75 kA
Circuit breaker	NSX400F/N/H/S/L **NSX630F/N/H/S/L**	NSX400H/S/L **NSX630H/S/L**		NSX400L **NSX630L**	
			NS630b N NS800 N		NS400 L **NS630b LB** NS800 LB

Isc max (kA rms) KSA630	10 kA	15 kA	20 kA	30 kA	35 kA	75 kA
Circuit breaker	NSX400F/N/H/S/L **NSX630F/N/H/S/L**	NSX400H/S/L **NSX630H/S/L**	NSX400S/L **NSX630S/L**		NSX400L **NSX630L**	
				NS630b N NS800 N	NS630b H NS800 H	NS400 L **NS630b LB** NS800 LB

Isc max (kA rms) KSA800	10 kA	15 kA	20 kA	30 kA	35 kA	75 kA
Circuit breaker	**NSX630F/N/H/S/L**	**NSX630H/S/L**	**NSX630S/L**			
				NS630b N NS800 N NS1000 N	**NS630b H** NS800 H NS1000 H	**NS630b LB** NS800 LB

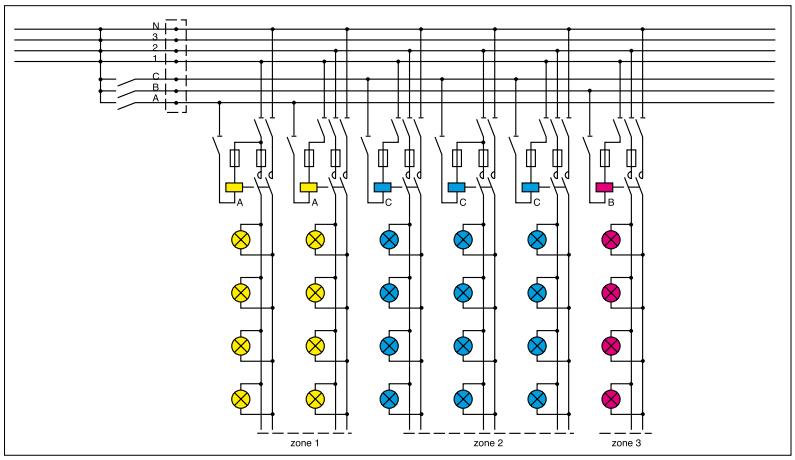
Isc max (kA rms) KSA1000	30 kA	35 kA	75 kA
Circuit breaker	NS800 N **NS1000 N** NS1250 N	NS800 H **NS1000 H** NS1250 H	NS800 LB
		NT08H1/H2 NT10H1/H2 NT12H1/H2	
		NW08N1 **NW10N1** NW12N1	

Lighting control with Canalis KNT

With Canalis KNT, lighting control systems can provide a high degree of flexibility in the creation and modification of lighting zones and levels:
■ use of KNT trunking equipped with 4 conductors for power circuits and 3 conductors for remote control.

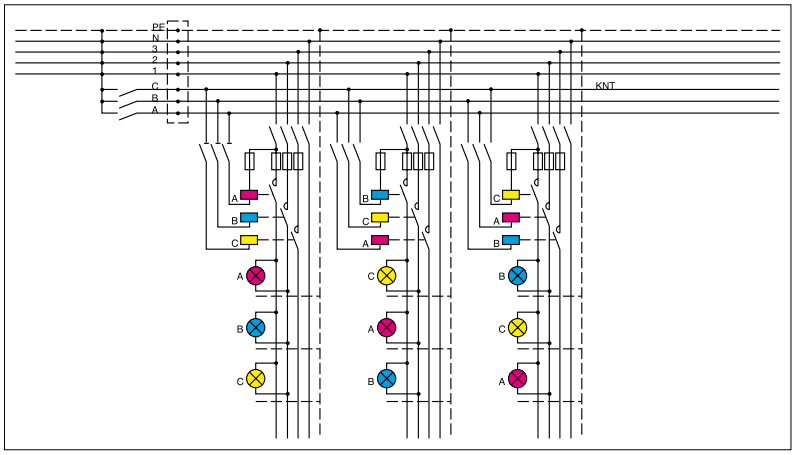
1st application: 3-zone lighting.
Each KNT tap-off unit is equipped with a remote-controlled modular contactor.

DD202288.eps



2nd application: gradual lighting with 3 illuminance levels.
Each KNT tap-off unit is equipped with 3 remote-controlled modular contactors.

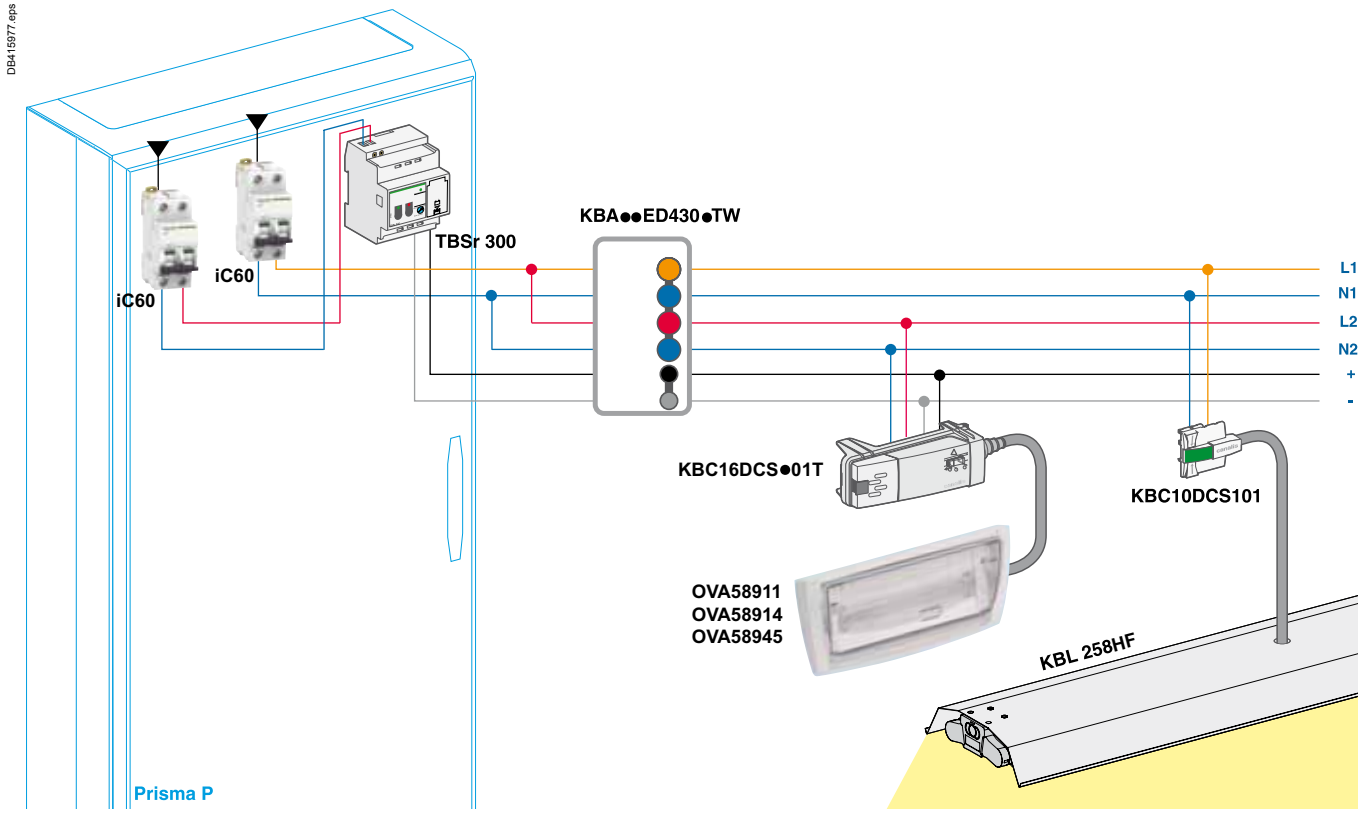
DD202289.eps



Self-contained emergency lighting units

Emergency lighting and lighting in a workshop or warehouse

Use of KBA trunking

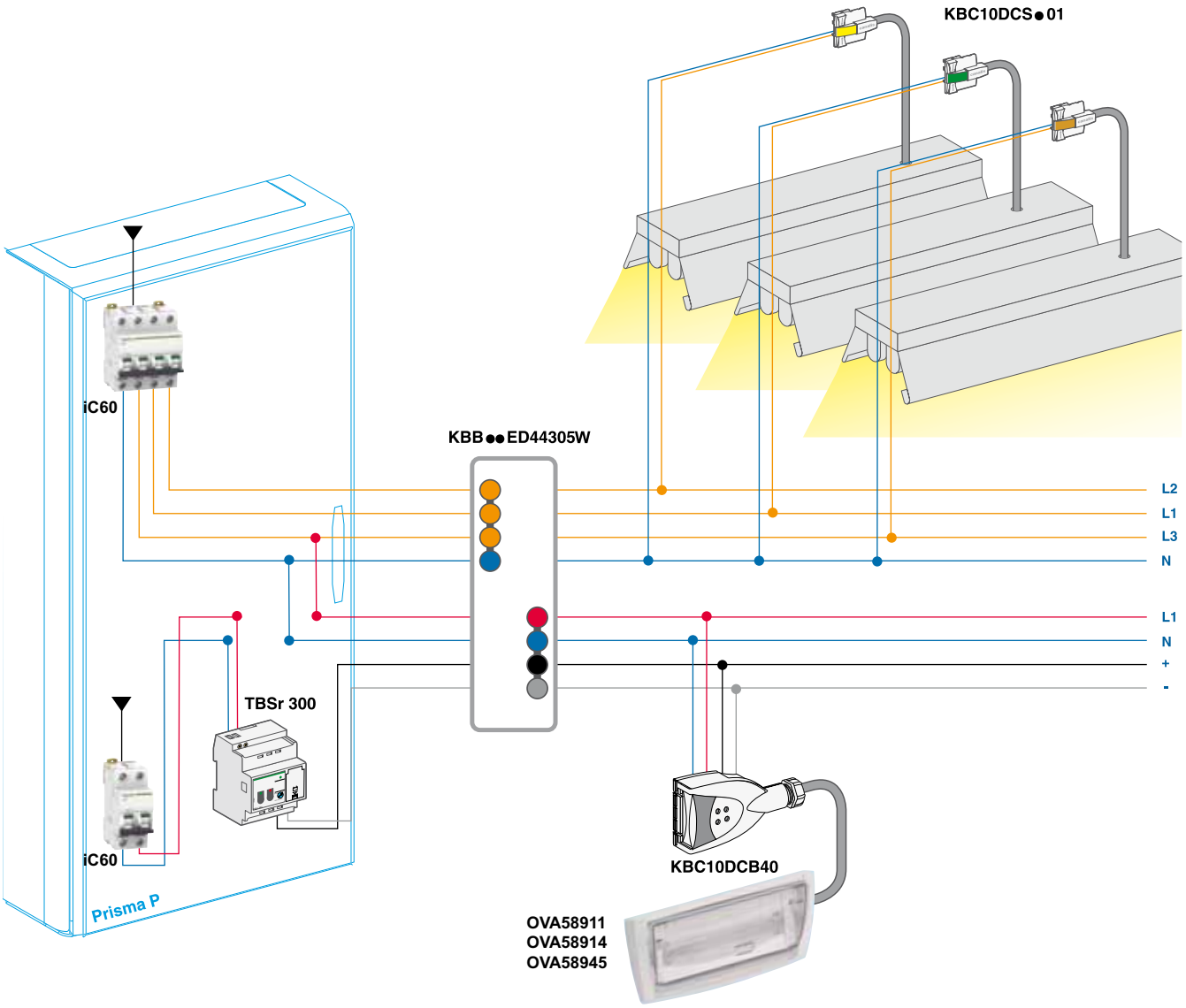


Canalis KBA, equipped with option T (1 twisted pair), provides 6 conductors + the PE via the sheetmetal.
This makes it possible to implement single-phase lighting circuits for the supply and control of self-contained emergency lighting units in the same trunking.

Emergency lighting and lighting in an underground carpark

Use of KBB trunking

DB415978.eps

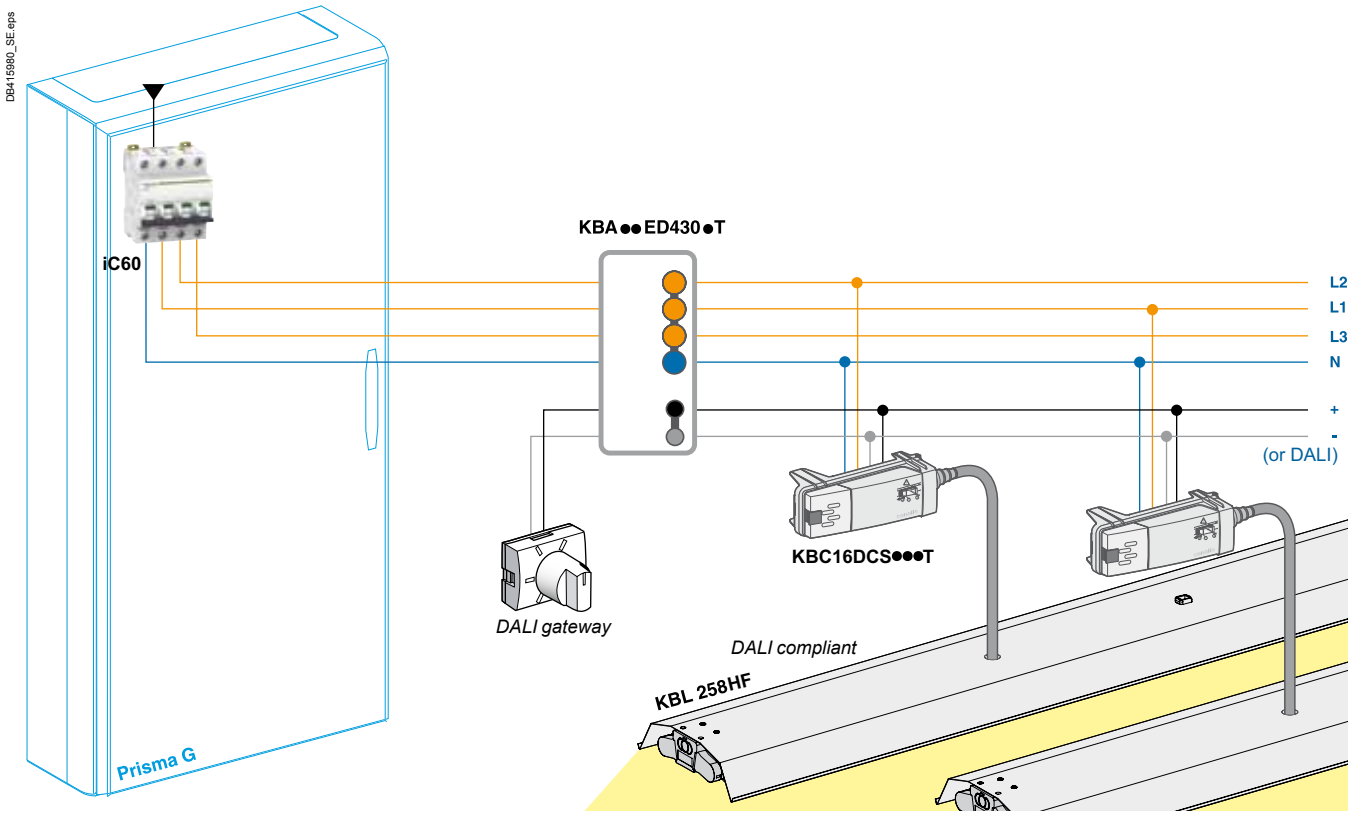


Canalis KBB has 2 separate circuits made up of 2 or 4 live conductors. This makes it possible to easily implement classical three-phase lighting via one circuit and supply and control self-contained emergency lighting units via the other circuit.

Lighting with dimming control

Lighting with DALI control and emergency lighting in a laboratory

Use of KBA trunking

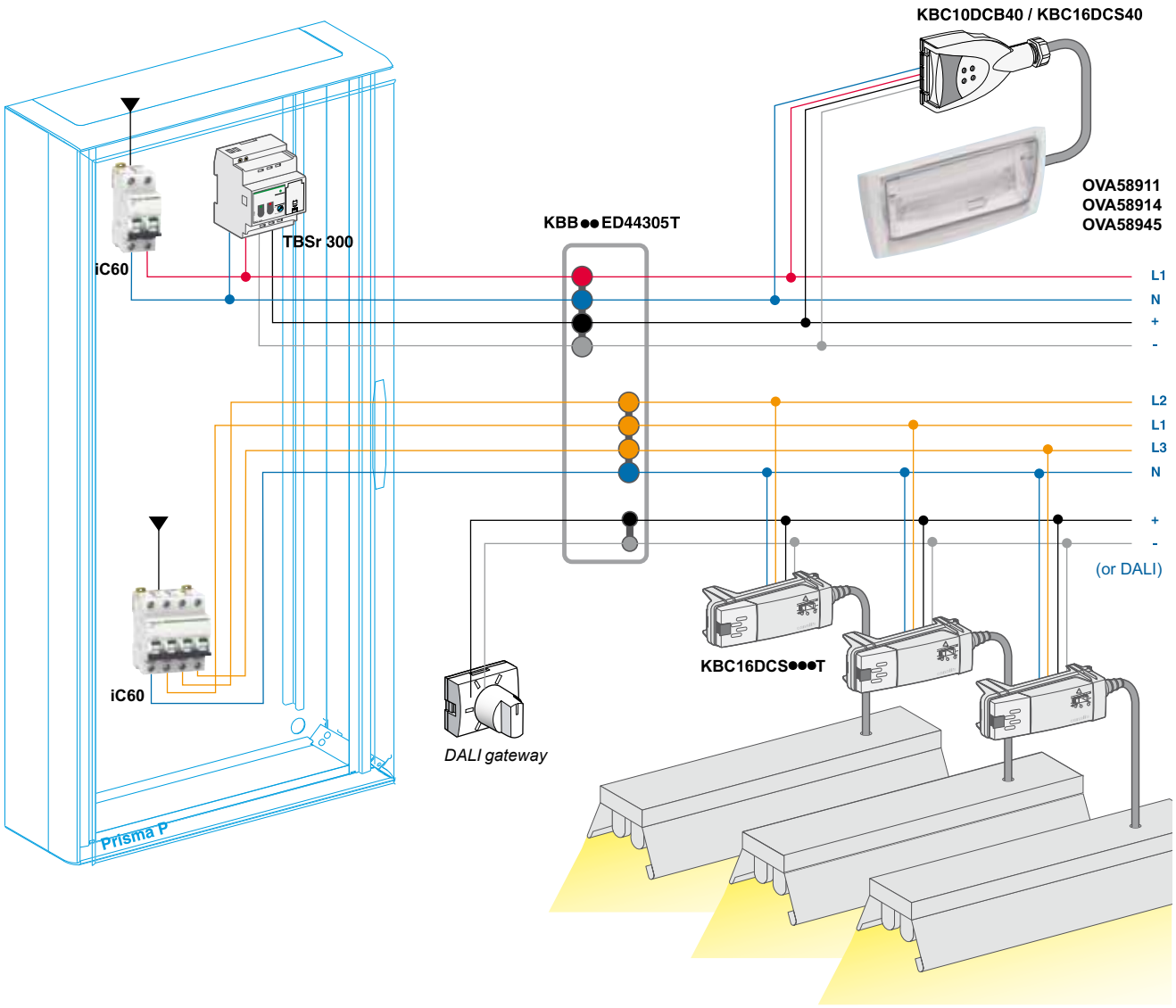


The additional twisted pair provided by Canalis KBA option T carries the signal 0 – 10 V or DALI (D+/D-). Light fixtures equipped with electronic ballasts are supplied by connectors KBC16DCS●●●T.

Lighting with DALI control and emergency lighting in a large store or warehouse

Use of KBB trunking

DB415981-SE.eps



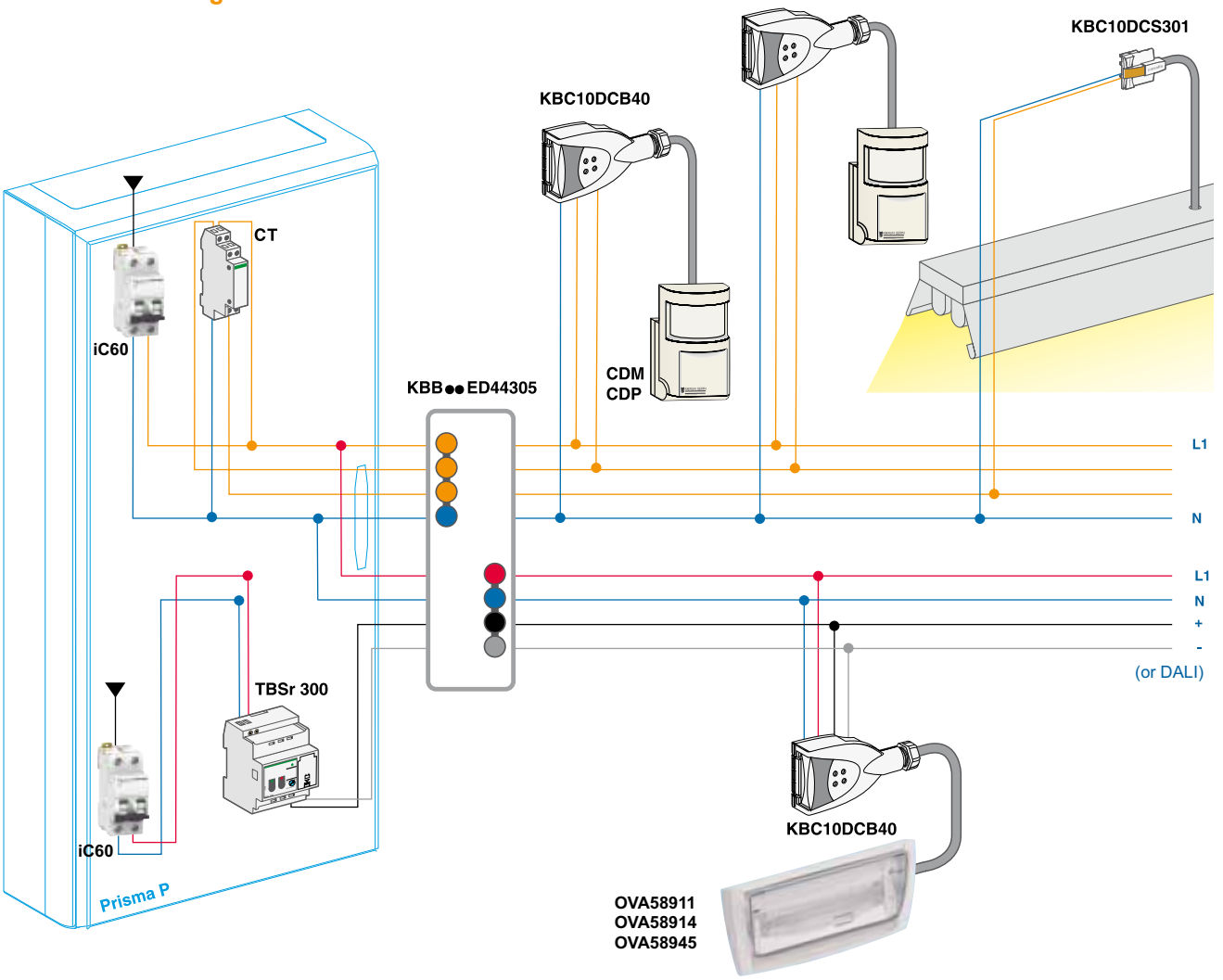
Canalis KBB is equipped with 2 circuits of 4 conductors + T option.
One circuit is used for light fixture monitored by DALI ballast.
The second circuit is used for emergency lighting.

Lighting controlled by proximity sensors

Lighting controlled by proximity sensors and emergency lighting in a logistics centre or warehouse

Use of KBB trunking

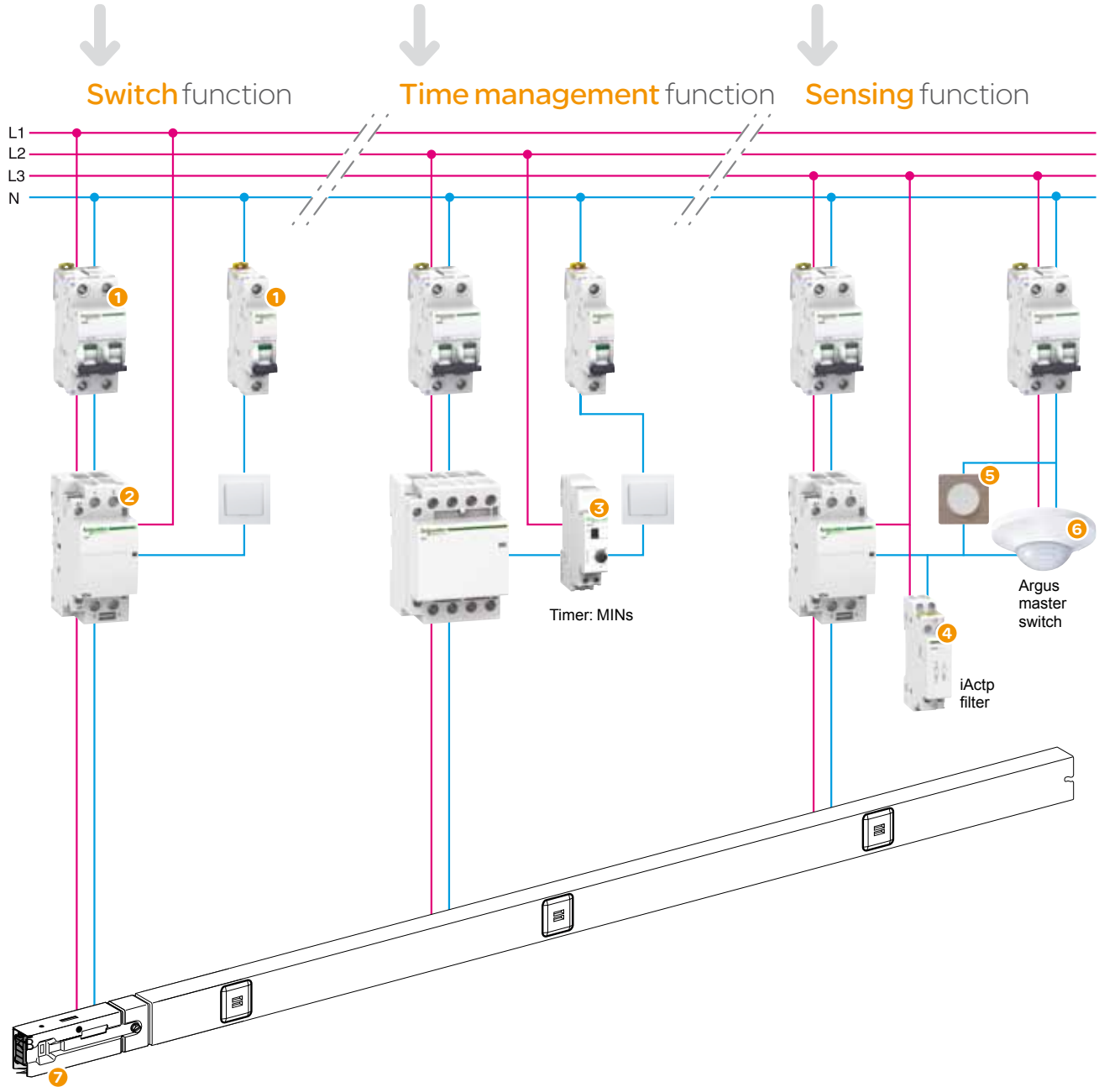
DB415983.eps



Canalis KBB makes it possible to control a single-phase lighting circuit by a proximity sensor. The associated relays are located in the floor switchboard.
Canalis KBB trunking with 2 circuits can be used for combined installations with self-contained emergency lighting units.

Lighting management solution incorporating the main functions

Standard mode



1. ***Protection:*** *2P iC60N and 1P iC60N circuit-breakers*
2. ***Contactor:*** *1-ph iCT*
3. ***Timer:*** *MINs*
4. ***Auxiliary:*** *iACTp interference filter*
5. ***Pushbutton:*** *Odace type*
6. ***Movement sensor:*** *Argus*
7. ***Canalis:*** *KBB type*

The first level of the iBusway for lighting management solution incorporates the main lighting management functions.
A distinction is made between lighting management functions linked to Canalis and those in an enclosure. Canalis offers a wide choice of connectors dedicated to switching on and off: two-way switches, 1-pole and 2-pole one-way switches and timers. Combined with a simpler terminal power supply connector, these functions are remotely located in the electrical switchboard.
NB: The main control switch controls all the distribution circuits simultaneously. This configuration applies to the switch, time management/timer and sensing functions. These functions can be combined according to the application.

Learn more about Canalis lighting management solution online

Loads monitored by a power meter in tap-off units

DB405620.eps

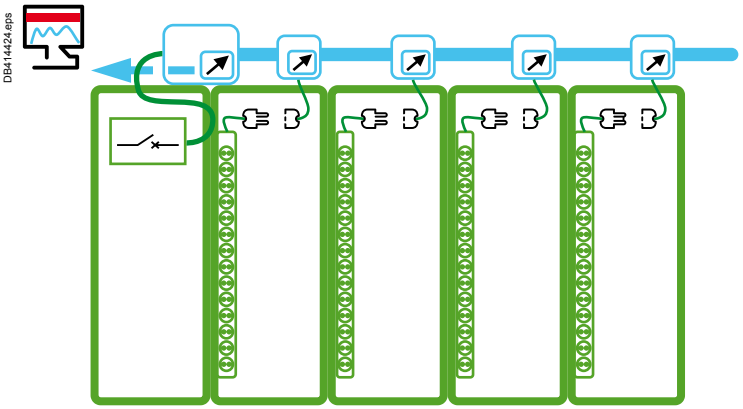
DB405625.eps

DB405543.eps

Compact NSX circuit-breakers can be fitted with Micrologic power meter.

Line capacity is managed in real time.
Information is available on the monitoring system.

DB414424.eps

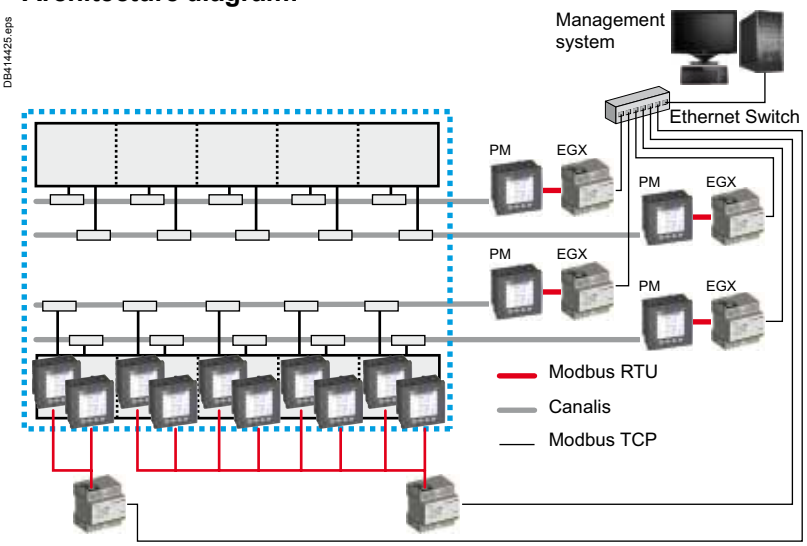


Functions available:

- Protection of Canalis lines by Compact NSX circuit-breakers (100 A, 160 A, 250 A or 400 A rating).
- Protection of loads by circuit-breakers from the Acti 9 range (single-phase or 3-phase 16 A, 32 A or 63 A) with or without differential protection (30 mA).
- Feed units are equipped with front panel-mounted sockets or wander sockets (IEC 309).
- For loads, measures power rate, phase balancing, THD, power factor, voltage, current, active and reactive power and consumption.

Architecture diagram:

DB414425.eps



Contents

Catalogue numbers

Replacement table former/new catalogue numbers

Former cat. numbers	New cat. numbers
KBA	
KBA25AA4	KBA25ABG4
KBA25EA203	KBA25ED2303
KBA25EA203T	KBA25ED2303T
KBA25EA203TW	KBA25ED2303TW
KBA25EA203W	KBA25ED2303W
KBA25EA402	KBA25ED4202
KBA25EA403	KBA25ED4303
KBA25EA403T	KBA25ED4303T
KBA25EA403TW	KBA25ED4303TW
KBA25EA403W	KBA25ED4303W
KBA25EB203	KBA25ED2302
KBA25EB403	KBA25ED4302
KBA25EL203	KBA25ED2305
KBA25EL203T	KBA25ED2305T
KBA25EL403	KBA25ED4305
KBA25EL403T	KBA25ED4305T
KBA25ES203	KBA25ED2300
KBA25ES403	KBA25ED4300
KBA40AA4	KBA40ABG4
KBA40AA4S1	Cancelled
KBA40AA4T	KBA40ABG4T
KBA40AA4TW	KBA40ABG4TW
KBA40AA4W	KBA40ABG4W
KBA40BT4	KBA40ABT4
KBA40BT4W	KBA40ABT4W
KBA40EA203	KBA40ED2303
KBA40EA203T	KBA40ED2303T
KBA40EA203TW	KBA40ED2303TW
KBA40EA203W	KBA40ED2303W
KBA40EA403	KBA40ED4303
KBA40EA403T	KBA40ED4303T
KBA40EA403TW	KBA40ED4303TW
KBA40EA403W	KBA40ED4303W
KBA40EF400	KBA40DF405
KBA40EF400T	KBA40DF405T
KBA40EF400TW	KBA40DF405TW
KBA40EF400W	KBA40DF405W
KBA40EF402	KBA40DF420
KBA40EF402T	KBA40DF420T
KBA40EF402TW	KBA40DF420TW
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KBA40EL202T	KBA40ED2203T
KBA40EL203	KBA40ED2305
KBA40EL203T	KBA40ED2305T
KBA40EL402	KBA40ED4203
KBA40EL402T	KBA40ED4203T
KBA40EL402TW	KBA40ED4203TW
KBA40EL402W	KBA40ED4203W
KBA40EL403	KBA40ED4305
KBA40EL403T	KBA40ED4305T
KBA40EV002	KBA40EDA20
KBA40EV002W	KBA40EDA20W
KBA40FA2	KBA40AF
KBA40SL4	KBA40ABD4
KBA40SL4T	KBA40ABD4T
KBA40SL4TW	KBA40ABD4TW
KBA40SL4W	KBA40ABD4W
KBA40ZA1	Cancelled
KBA40ZA2	Cancelled
KBA40ZA3	Cancelled
KBA40ZFPU	KBA40ZFPU
KBA40ZG1	Cancelled
KBA40ZSU	KBA40ZFSU
KBA40ZU	KBA40ZFU
KBA40ZU2	KBA40ZFU2
KBA40ZU2W	KBA40ZFU2W
KBA40ZUW	KBA40ZFUW
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KBB25EA223	KBB25ED22305
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KBB25EA443W	KBB25ED44305W
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KBB40AA44TW	KBB40ABG44TW
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KBB40AA4T	KBB40ABG4T
KBB40AA4TW	KBB40ABG4TW
KBB40AA4W	KBB40ABG4W
KBB40BT44W	KBB40ABT44W
KBB40BT4W	KBB40ABT4W
KBB40EA202	KBB40ED2202

Replacement table former/new catalogue numbers (cont.)

Former cat. numbers	New cat. numbers
KBB (cont.)	
KBB40EA202T	KBB40ED2202T
KBB40EA202TW	KBB40ED2202TW
KBB40EA202W	KBB40ED2202W
KBB40EA203	KBB40ED2303
KBB40EA203T	KBB40ED2303T
KBB40EA203TW	KBB40ED2303TW
KBB40EA203W	KBB40ED2303W
KBB40EA222	KBB40ED22203
KBB40EA222T	KBB40ED22203T
KBB40EA222TW	KBB40ED22203TW
KBB40EA222W	KBB40ED22203W
KBB40EA223	KBB40ED22305
KBB40EA223T	KBB40ED22305T
KBB40EA223TW	KBB40ED22305TW
KBB40EA223W	KBB40ED22305W
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KBB40EA402TW	KBB40ED4202TW
KBB40EA402W	KBB40ED4202W
KBB40EA403	KBB40ED4303
KBB40EA403T	KBB40ED4303T
KBB40EA403TW	KBB40ED4303TW
KBB40EA403W	KBB40ED4303W
KBB40EA422W	KBB40ED42203W
KBB40EA423	KBB40ED42305
KBB40EA423W	KBB40ED42305W
KBB40EA442	KBB40ED44203
KBB40EA442T	KBB40ED44203T
KBB40EA442TW	KBB40ED44203TW
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KBB40EF440TW	KBB40DF4405TW
KBB40EF440W	KBB40DF4405W
KBB40EF442	KBB40DF4420
KBB40EF442T	KBB40DF4420T
KBB40EF442TW	KBB40DF4420TW
KBB40EF442W	KBB40DF4420W
KBB40EV002W	KBB40EDA20W
KBB40SL4	KBB40ABD4
KBB40SL44E	KBB40ABD44E
KBB40SL44T	KBB40ABD44T
KBB40SL44TW	KBB40ABD44TW
KBB40SL4E	KBB40ABD4E
KBB40SL4T	KBB40ABD4T
KBB40SL4TW	KBB40ABD4TW
KBB40SL4W	KBB40ABD4W
KBB40YA4	KBB40ZJ4
KBB40YA44	KBB40ZJ44
KBB40YA44T	KBB40ZJ44T
KBB40YA44TW	KBB40ZJ44TW
KBB40YA44W	KBB40ZJ44W
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KBB40ZC5	KBB40ZFC5
KBB40ZC6	KBB40ZFC6
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KBB40ZFPU	KBB40ZFPU
KBB40ZGU	KBB40ZFGU
KBB40ZMP	KBB40ZFMP
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KBB40ZSU	KBB40ZFSU
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KBB40ZUW	KBB40ZFUW
KBC	
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KBC10CB40	KBC10DCB40
KBC10CC211	KBC10DCC211
KBC10CC21Z	KBC10DCC21Z
KBC10CS101	KBC10DCS101
KBC10CS201	KBC10DCS201
KBC10CS301	KBC10DCS301
KBC10DA20	KBC10DDA20
KBC10DA21Z	KBC10DDA21Z
KBC10MT20	KBC10DMT20
KBC10SA21Z	KBC10DSA21Z
KBC10VV20	KBC10DVV20
KBC10VV21Z	KBC10DVV21Z
KBC16AZ01	KBC16ZT1
KBC16AZ1	KBC16ZL10
KBC16AZ2	KBC16ZL20
KBC16CB21	KBC16DCB21
KBC16CB216	KBC16DCB216
KBC16CB22	KBC16DCB22

Replacement table former/new catalogue numbers (cont.)

Former cat. numbers	New cat. numbers
KBC (cont.)	
KBC16CB226	KBC16DCB226
KBC16CB40	KBC16DCB40
KBC16CF21	KBC16DCF21
KBC16CF216	KBC16DCF216
KBC16CF22	KBC16DCF22
KBC16CF226	KBC16DCF226
KBC16CF40	KBC16DCF40
KBC16CP1	KBC16DCP1
KBC16CP2	KBC16DCP2
KBC16ZB	KBC16ZB1
KBC16ZC	KBC16ZC1
KBZ	
KBZ30VP01	KBZ30ZVP01
KBZ31FC010	KBZ31EFC010
KBZ31FC030	KBZ31EFC030
KBZ31FC050	KBZ31EFC050
KBZ31FM020	KBZ31EFM020
KBZ31FM030	KBZ31EFM030
KBZ31FM040	KBZ31EFM040
KBZ31FM050	KBZ31EFM050
KBZ31FM070	KBZ31EFM070
KBZ31FM090	KBZ31EFM090
KBZ31MC010	KBZ31EMC010
KBZ32BA12	KBZ32DBA12
KBZ32BA15	KBZ32DBA15
KBZ32PFR2	KBZ32APFR2
KBZ32PMR2	KBZ32APMR2
KDP	
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KDP20EB2024	KDP20ED224150
KDP20EB2024X	KDP20ED224150
KDP20EB2192	KDP20ED2192150
KDP20EB2192X	KDP20ED2192150
KDP20EB4024	KDP20ED424150
KDP20EB4024X	KDP20ED424150
KDP20EB4192	KDP20ED4192150
KDP20EE2024	KDP20ED224300
KDP20EE4024	KDP20ED424300
KDP20EE4192	KDP20ED4192300
KDPZ10	KDPZF10
KDPZ11	KDPZF11
KDPZ12	KDPZF12
KDPZ13	KDPZF13
KDPZ14	KDPZF14
KDPZ20	KDPZF20
KDPZ21	KDPZF21
KDPZ30	KDPZF30
KDPZ31	KDPZF31

Former cat. numbers	New cat. numbers
KFB	
KFBEI600	KFBEVDI
KFBSB600	KFBSVDI
KNA	
KNA01CD2	KNB16CM2
KNA01CD2H	KNB16CM2H
KNA01CD5	KNB16CN5
KNA01CF2	KNB16CF2
KNA01CG2	KNB16CG2
KNA01CP11	KNB32CP11F
KNA01CP12D	KNB32CP11D
KNA01CP16	KNB32CP
KNA01CP21	KNB32CP11F
KNA02CG5	KNB20CG5
KNA02CM54	KNB32CM55
KNA02CX54	KNB32CM55
KNA02SD4	KNB25SD4
KNA03AZ10	KNB160ZL10
KNA03AZ20	KNB160ZL20
KNA03AZ30	KNB160ZL30
KNA03AZ40	KNB160ZL40
KNA03SF4	KNB50SF4
KNA03SG4	KNB32SG4
KNA03SJ4	KNB50SN4
KNA03SM416	KNB63SM412
KNA03SM42X7	KNB63SM412
KNA03SM47	KNB63SM48
KNA03SX416	KNB63SM412
KNA03SX47	KNB63SM48
KNA04EA430	KNA40ED4303
KNA04ED430	KNA40ED4306
KNA06AB4	KNA63AB4
KNA06BT4	KNA63ABT4
KNA06EA430	KNA63ED4303
KNA06ED420	KNA63ED4204
KNA06EF4	KNA63DF410
KNA06LF4	KNA63DL4
KNA06YA4	KNA63ZJ4
KNA10AB4	KNA100AB4
KNA10EA430	KNA100ED4303
KNA10ED420	KNA100ED4204
KNA10ED430	KNA100ED4306
KNA10EF4	KNA100DF410
KNA10LF4	KNA100DL4
KNA10YA4	KNA100ZJ4
KNA10ZA1	KNB160ZF1
KNA10ZA2	KNB160ZF2
KNA10ZG20	KNB160ZFG100
KNA100DF430	KNA100EDF430

Replacement table former/new catalogue numbers (cont.)

Former cat. numbers	New cat. numbers
KNE	
KNE01YC10	KNE01YC10
KNE01YC11	KNE01YC11
KNE02CF5	KNB25CF5
KNE02YC12	KNE02YC12
KNE02YC13	KNE02YC13
KNE03YC14	KNE03YC14
KNE03YC15	KNE03YC15
KNE03YC16	KNE03YC17
KNE03YC2X7	KNE03YC2X8
KNE06EF4	KNA63DF410
KNE06LF4	KNA63DL4
KNE06YB1	KNE06YB2
KNE10EF4	KNA100DF410
KNE10LF4	KNA100DL4
KNE10YA1	KNE10YA1
KNE10YA2	KNE10YA2
KNE10YB1	KNE10YB1
KNT	
KNT02CM54	KNB32CM55
KNT02CX54	KNB32CM55
KNT03AZ01	KNT63ZT1
KNT04EA430	KNT40ED4303
KNT04ED430	KNT40ED4306
KNT06AB4	KNT63AB4
KNT06BT4	KNT63ABT4
KNT06EA430	KNT63ED4303
KNT06ED420	KNT63ED4204
KNT06ED430	KNT63ED4306
KNT06EF4	KNT63DF410
KNT06LF4	KNT63DL4
KNT06YA4	KNT63ZJ4
KNT10AB4	KNT100AB4
KNT10BT4	KNT100ABT4
KNT10EA430	KNT100ED4303
KNT10ED420	KNT100ED4204
KNT10ED430	KNT100ED4306
KNT10EF4	KNT100DF410
KNT10LF4	KNT100DL4
KNT10YA4	KNT100ZJ4
KSA	
KSA02CF5	KSB32CF5
KSA02DA50010	KSB32CM55
KSA05AZ1	Cancelled
KSA05DA40010	KSB63SM48
KSA05DA50010	KSB63SM58
KSA05SF41	KSB50SF4
KSA05SF5	KSB50SF5
KSA10AB451	KSA100AB4

Former cat. numbers	New cat. numbers
KSA10DB40030	KSB100SM412
KSA10DB50030	KSB100SM512
KSA10EA430	KSA100ED4306
KSA10EA450	KSA100ED45010
KSA10SF41	KSB100SF4
KSA10SF5	KSB100SF5
KSA12AZ1	Cancelled
KSA12AZ2	Cancelled
KSA12AZ40	KSA12AZ40
KSA12HD502	KSB125HD5
KSA12SF41	KSB100SF4 KSB160SF4
KSA12SF5	KSB100SF5 KSB160SF5
KSA12SV4	KSB100SV4 KSB160SV4
KSA12SV5	KSB100SV5 KSB160SV5
KSA16AZ1	Cancelled
KSA16AZ40	KSB160ZC1
KSA16DB411	KSB160DC4
KSA16DB412	KSB160DB412
KSA16DB511	KSB160DC5
KSA16DB512	KSB160DB512
KSA16EA430	KSA160ED4306
KSA16EA450	KSA160ED45010
KSA16SF3	KSB160SF4
KSA16SF41	KSB160SF4
KSA16SF5	KSB160SF5
KSA25AB42	KSA250AB4
KSA25BT42	KSA250ABT4
KSA25DB411	KSB250DC4
KSA25DB412	KSB400DB412
KSA25DB511	KSB250DC5
KSA25DB512	KSB400DB512
KSA25EB430	KSA250ED4306
KSA25EB450	KSA250ED45010
KSA25ED415	KSA250ED4156
KSA25ED420	KSA250ED4208
KSA25EF4A	KSA250ET4AF
KSA25ER4	KSA250AE4
KSA25ES4A	KSA250ET4A
KSA25EZ1	KSB400ZF1
KSA25LC40	KSA250DLC40
KSA25LP41	KSA250DLE40
KSA25LP42	KSA250DLF40
KSA25SF3	KSB250SE4
KSA25SF41	KSB250SE4
KSA25SF5	KSB250SE5

Replacement table former/new catalogue numbers (cont.)

Former cat. numbers	New cat. numbers
KSA (cont.)	
KSA25TC40	KSA250DTC40
KSA25XC40	KSA250DXC40
KSA40AZ1	Cancelled
KSA40DB411	KSB400DC4
KSA40DB412	KSB400DB412
KSA40DB511	KSB400DC5
KSA40DB512	KSB400DB512
KSA40ED430	KSA400ED4306
KSA40ED450	KSA400ED45010
KSA40SF3	KSB400SE4
KSA40SF41	KSB400SE4
KSA40SF5	KSB400SE5
KSA50AB452	KSA400AB4
KSA50AB452	KSA630ABD4
KSA50AB462	KSA400AB4
KSA50AB462	KSA630ABG4
KSA50BT402	KSA630ABT4
KSA50ED415	KSA400ED4156
KSA50ED415	KSA630ED4154
KSA50ED420	KSA400ED4208
KSA50ED420	KSA630ED4206
KSA50ED430	KSA500ED4306
KSA50ED450	KSA500ED45010
KSA50EF4A	KSA500ET4AF
KSA50ER4	KSA630AE4
KSA50ES4A	KSA630ET4A
KSA50LC40	KSA630DLC40
KSA50LP41	KSA630DLE40
KSA50LP42	KSA630DLF40
KSA50TC40	KSA630DTC40
KSA50XC40	KSA630DXC40
KSA63ED430	KSA630ED4306
KSA63ED450	KSA630ED45010
KSA63SF41	KSB630SE4
KSA63SF5	KSB630SE5
KSA80EF4A	KSA800ET4AF
KSA80ER4	KSA1000AE4
KSA80ES4A	KSA1000ET4A
KSA80EZ3	KSB1000ZF1
KSA80LC40	KSA1000DLC40
KSA80LP41	KSA1000DLE40
KSA80LP42	KSA1000DLF40
KSA80TC40	KSA1000DTC40
KSA80XC40	KSA1000DXC40
KSB	
KSB25FA3	KSA400AF1
KSB25YA4	KSB25YA4
KSB50FA2	KSA800AF1
KSB50YA4	KSB50YA4
KSB80FA2	KSA1000AF1
KSB80YA4	KSB80YA4
KSE	
KSE02CD5	KSB16CN5
KSE02CF5	KSB32CF5
KSE02CG5	KSB20CG5
KSE02SD41	KSB25SD4
KSE02SD5	KSB25SD5
KSE03SG41	KSB32SG4
KSE05DA4	KSB63SM48
KSE05DA5	KSB63SM58
KSE05SD41	KSB50SN4
KSE05SD5	KSB50SN5
KSE05SF41	KSB50SF4
KSE05SF5	KSB50SF5
KSE06SD41	KSB63SD4
KSE06SD5	KSB63SD5
KSE08SG41	KSB80SG4
KSE10DA4	KSB100SM412
KSE10DA5	KSB100SM512
KSE10SD41	KSB100SE4
KSE10SD5	KSB100SE5
KSE10SF41	KSB100SF4
KSE10SF5	KSB100SF5
KSE16DB411	KSB160DC4
KSE16DB511	KSB160DC5
KSE16SD3	KSB160SE4
KSE16SD41	KSB160S E4
KSE16SD5	KSB160SE5
KSE16SF3	KSB160SF4
KSE16SF41	KSB160SF4
KSE16SF5	KSB160SF5
KSE16SG41	KSB160SG4
KSE25DB411	KSB250DC4
KSE25DB511	KSB250DC5
KSE25SF3	KSB250SE4
KSE25SF41	KSB250SE4
KSE25SF5	KSB250SE5
KSE25YA2	KSE25YA2
KSE25YA3	KSE25YA3
KSE40DB411	KSB400DC4
KSE40DB511	KSB400DC5
KSE40SF3	KSB400SE4
KSE40SF41	KSB400SE4
KSE40SF5	KSB400SE5
KSE80YA2	KSE80YA2

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Tertiary

Offices


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Name	Lighting and low voltage			Medium voltage		High voltage	Country
	KDP	KBA	KBB	KN	KS	KT	
Air France (headquarters)	■				■		France
Allianz					■	■	Germany
Axa		■			■		France
Chamber of Commerce	■					■	Luxembourg
Commerz Bank			■		■		Germany
Lexel	■			■	■		Sweden
Telefónica	■					■	Spain
Trade Center		■				■	Spain
RDC tower					■	■	Tunisia
Turning Torso					■		Sweden
Vodafone	■			■			New Zealand

Internet Data Centers


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Banco Commercial Português					■	■	Portugal
Colt				■		■	France
Digiplex				■	■		Sweden
IBM		■		■	■	■	Spain, Italy
MCI-Worldcom		■		■	■	■	Italy, United Kingdom

Hotels and restaurants


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Hyatt						■	Tunisia
Mc Donald's	■						France
Radisson SAS Stansted Airport						■	United Kingdom
Soldeo Andorra Hotel					■	■	Spain

Hospitals


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Children Clinic					■	■	Sweden
Brussels University Hospital	■						Belgium
Derby Hospital					■	■	United Kingdom
Oran Hospital				■		■	Algeria
St Joseph Hospital					■		France
Stockholm Hospital					■		Sweden
Val de Grâce Hospital					■		France
Michalon Hospital					■	■	France
Manussia Hospital					■		Egypt

Supermarkets and hypermarkets


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Alcampo		■		■		■	Spain
Auchan	■	■	■	■	■	■	World
B&Q			■	■	■		United Kingdom
Carrefour	■	■	■	■	■	■	World
Coop		■		■	■		Italy
Fnac		■				■	Spain, France
Ikea	■	■		■	■	■	China, Spain, France, Sweden
Mark & Spencer		■					Belgium, Spain, United Kingdom
Toys'R Us					■		Spain

Industry

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Name	Lighting and low voltage			Medium voltage		High voltage	Country
	KDP	KBA	KBB	KN	KS	KT	
Car industry							
BMW		■	■	■	■		Italy
Citroën	■	■	■	■	■	■	China, Spain
Daewo					■		South Korea
Dacia		■	■	■	■	■	Romania
Iveco		■		■	■	■	Spain, Italy
Peugeot			■	■	■	■	China, Spain
Nissan		■	■	■	■	■	Spain
Renault		■	■	■	■	■	Spain, France, Czech Republic
Seat							Spain
Valéo		■			■	■	China, France, Italy, Poland
Volkswagen			■	■	■		Spain, Germany
Other industries							
Aerospace industry							
Airbus		■			■	■	Italy
Food-processing industry							
Coca-Cola		■				■	Spain, Italy, Belgium
Danone		■			■	■	World
Pasquier				■	■		France
Livestock production farms and greenhouses							
Favier henhouse	■	■					France
Greenhouse			■				Netherlands
Ceramic industry							
Esmalglas ceramic		■	■	■	■	■	Spain
Electricity							
Legrand		■					France, Turkey
Watch-making							
Rolex		■			■	■	Switzerland
Microelectronics							
Intel		■	■	■	■		Irelande
ST Micro-électronique		■		■	■	■	France
Lead industry and water treatment							
Grundfos					■		China
Industrial technology							
Bosch		■			■		China
Telephony							
Phillips					■		Netherlands
Nokia		■			■		Sweden
Textile industry							
Louis Vuitton		■		■	■		Spain
Delta		■		■			Israel

Canalis worldwide

Infrastructures

Name	Lighting and low voltage			Medium voltage		High voltage	Country
	KDP	KBA	KBB	KN	KS	KT	
Airports							
Paris airport		■	■	■	■	■	France
Cairo airport					■		Egypt
Heathrow airport				■	■	■	United Kingdom
Hong-Kong airport						■	China
Landvetter airport					■		Sweden
Arlanda		■			■	■	Sweden
Satelite Barajas						■	Spain
Marine							
Chantier de l'Atlantique					■	■	France
Meyerwerft					■	■	Germany
Undergrounds							
Guanghzou underground		■					China
London underground			■				United Kingdom
Madrid underground		■				■	Spain
Singapore underground						■	Singapore
Other infrastructures							
Alexandria library					■	■	Egypt
Centre international d'exposition de Suzhou		■			■		China
CERN					■	■	Switzerland
Stade de France					■	■	France

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Notes

Notes

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