AccuSine SWP
AccuSine PCS+
and AccuSine PFV+

Catalogue 2016

Active harmonic filtering
and electronic VAR control

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Life Is On | Schneider Electric

Green Premium™

Endorsing the most 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 the most 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 the most 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.

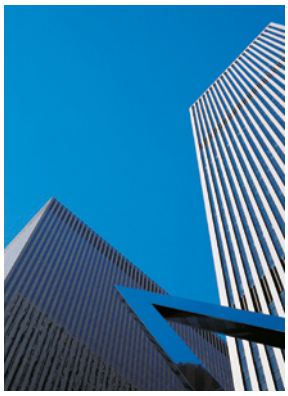
EoLI: End of Life Instructions

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.

Contents

Power quality



Power quality problems are one of the major causes of unscheduled downtime and equipment malfunction and damage. Reliability and consistency of electricity supply are critical to businesses, from industrial plants, medical facilities, data centers to office buildings. When power quality is imperfect due to disturbances such as interruptions, voltage dips or harmonic pollution, your business suffers.

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Power quality is an area of growing concern for end users due to the frequency of occurrence and financial impact of issues: 30 – 40 percent of all unscheduled downtime today is related to power quality problems. In the industry sector, for example, the cost of poor power quality can reach four percent of annual turnover and is often equivalent to the total balance payable on a facility's energy bill.

A capital investment in power factor correction and harmonic filtering equipment can result in a healthy return of investment. This return depends on the utility's demand rate structure; production quality cost related to harmonics; the cost of downtime and interruptions due to voltage fluctuations in the distribution system.

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Today, electrical installations are exposed to a great deal of power quality problems; 80 percent of these disturbances are typically generated by installed equipment. In industrial facilities, for example, such disturbances can be caused by non-linear loads like arc welders or variable speed drives, capacitor switching, or large motor starts. In commercial buildings, electronic equipment like computers, UPS, and servers may also generate additional power quality disturbances.

The other 20 percent of power quality disturbances come from the energy provider: even the most advanced transmission and distribution systems are not able to guarantee 100 percent energy availability. Even with 99.99 percent energy availability, the equivalent interruption time amounts to 52 minutes every year.

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Many people believe optimizing facility operations and achieving ideal power factor is complex and costly.

However, Schneider Electric™ helps to make realizing superior power system efficiency simple, safe, and economical.

AccuSine and AccuSine+ Products solve a wide range of power quality problems.

AccuSine PFV+ is a very simple and effective means to eliminate leading or lagging power factor, reduce voltage fluctuations, enhance equipment operating life, and improve system power capacity. AccuSine PFV+ offers many features in one package that others require multiple models to accomplish. Power Factor correction with Accusine PFV+ is worry-free and without the risk of resonance.

AccuSine SWP and AccuSine PCS+ are flexible, high performance, cost-effective solutions to stabilize electrical networks by providing harmonic mitigation and power factor correction, and load balancing in AccuSine PCS+.

AccuSine SWP, AccuSine PCS+ and AccuSine PFV+ can help you reduce CAPEX expenditures and OPEX expenses. They help you to improve:
- Harmonics
- Power factor
- Imbalance (specifically important for motor applications)
- Voltage stability (such as localized photovoltaic networks)
- Flicker

AccuSine SWP, AccuSine PCS+ and AccuSine PFV+ help reduce CO_2 emissions to help reduce climate change as well.

A complete solution, when, where, and how you want it

Schneider Electric power quality solutions include everything needed to ensure your power system is operating at its best. Our expertise ranges from power system monitoring and problem diagnosis, to engineering, installing, and supporting the precise power quality solution your facility needs to run at optimal efficiency and cost.

The quality and performance you expect

All our power quality solutions provide an excellent return on investment because they are designed and manufactured by Schneider Electric, using advanced manufacturing methods and premium materials. They are optimized to match your application needs and are engineered to provide superior performance.

Where used by Function

	Neutral Harmonics	Phase Harmonics	DPF (Cos φ) Correction	Mains Current Balancing	Voltage support via VAR injection
AccuSine SWP	■	■	■ (to 0.94)		
AccuSine PCS+		■	■ (to 1.0)	■	
AccuSine PFV+			■ (to 1.0)	■	■

Where used by application

			Industry									
	Buildings	WWT	Automotive	Steel	PetroChem	Glass	Marine	Oil & Gas	IT	PhotoVoltaic	Wind	Medium Voltage
AccuSine SWP	Office Loads											
AccuSine PCS+	All HVAC Loads	Pumps & Fans with/without backup generators	Process & Production lines	Process & heating	Process pumps	Process & heating	Propellors, pumps and fans (VSD driven)	Drilling, pumping, processing	Load harmonics on UPS			Harmonic correction for nonlinear MV loads
AccuSine PFV+			PFC in harmonic rich & flicker control for dynamic environ.	PFC in harmonic rich & flicker control for dynamic environ.	PFC in harmonic rich & dynamic environ.	PFC in harmonic rich & dynamic environ.	PF correction for dynaminc loads (LV & MV) - Improve generator-prime mover efficiencies	Dynamic PF correction to improve generator-prime mover efficiencies	Leading PF correction (for backup generators & UPS)	Voltage support via VAR injection (with or without process logic)	HVC [1] (with process logic system)	Dynamic PF correction & HVC

[1] HVC is Hybrid Var Control utilizing AccuSine PFV+ with LV or MV PF capacitor systems.

AccuSine SWP

The Schneider Electric solution for active harmonic filtering in commercial installations.

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AccuSine SWP Specifications

Technical Specifications

Standard RMS output current rating	20A, 30A, 45A, 60A, 90A, & 120A @ 380-415 VAC

Electrical System Characteristics

Nominal voltage	+10% / -15% within above voltage ratings
Nominal Frequency	50/60 Hz, +/- 4 Hz auto sensing
Number of phases	3-phase, with or without neutral
Operation with single phase loads	Yes; with neutral correction @ 3x unit rating

Technical Product Characteristics

Power electronics	IGBT
Topology	Digital harmonic FFT Digital reactive power
Efficiency	>94%
Current transformers (CT)	Primary ratings: 300A, 500A, 1000A, 1500A, 2000A and 3000A Type 1 accuracy 400 Hz rated Grounded
Quantity of CT	3
CT Position	Load sense required
Spectrum cancellation	H2 to H25, discrete; fully selectable per harmonic order (amplitude and on/off); H26-H50 - on-off total range
Control basis	Open loop
Harmonic Attenuation	⩾ 10:1, if load THDi<40%
Harmonic avoidance	Detects and discontinues resonant frequencies within 2 cycles
Parallel operation	up to 4 units of same rating
Parallel operation options	Master/slave(s)
Parallel sequence options	Load Share
Parallel redundancy	No
Parallel communications	Series communcations required
Power factor correction	PF correction to 0.94 lagging
Control response time	100 µs
Harmonic correction time	3 cycles
Reactive correction time	3 cycles
Display	Magelis HMI graphic touch screen terminal with 5 function buttons
Languages	English or French
Operator interface	Magelis HMI GTO touch panel screen
Display parameters	LED for run, stop, and current limit: Graphic display, mains voltage and current, load voltage and current, THDi - mains, THDi load, event log, harmonic spectrum - mains and load, & more

AccuSine SWP Specifications

Communications Capability	Modbus RTU & J-Bus
Remote discrete control	Remote run/stop
Discrete outputs	3 dry I/O contacts: 2x run/stop; 1x output limiting
Noise level (ISO3746)	<67 db at one meter from unit surface
Color	RAL9002

Environmental Conditions

Operating Temperature	To 40°C intermittent, recommended 25°C
Relative humidity	20-95%, noncondensing
Operating Altitude	1000m, (derate 1% per 100 m above)
Automatic rollback of output	Occurs whenever any internal temperature sensor exceeds temperature limits
Preset output limits (rms)	Programmable set limit
Storage (in original shipping container)	Temperature: -25°C to 75°C Relative humidty: 20% to 95%, noncondensing Clean, dry, and protected No conductive particles permitted
Contaminant Levels - operating (IEC 60721-3-3)	Chemical Class 3C2 Mechanical Class 3S2 No conductive particles permitted
Contaminant levels - transport and storage (IEC 60721-3-3)	Chemical Class 3C3 Mechanical Class 3S3 When stored in original shipping container No conductive particles permitted

Reference Standards

Design	CE EMC Certification IEC/EN 60950-1, EN 61000-6-4 Class A, EN 61000-4-4; -4-3;-4-4; -4-5; & -4-6
Protection (enclosure)	IP20
Standards compliance/ certification	CE Certified

Installation

Wall mount	IP20
Circuit protection	External means required. Supplied by others.
Cable entry	Bottom only
Cooling configuration	Force ventilated (internal), bottom to top

AccuSine SWP 400 VAC +15%/-20%, 50/60 HZ

Mains Rated Current	Neutral rated Current	KVAR Rating @ 400 VAC	Catalog Number [1]	Enclosure Rating	Style	Cable entry	Frame	Weight kg
20	60	13,9	PCS020Y4IP20x	IP20	Wall Mount	Bottom	12	65
30	90	20,8	PCS030Y4IP20x	IP20	Wall Mount	Bottom	12	65
45	135	31,2	PCS045Y4IP20x	IP20	Wall Mount	Bottom	13	110
60	180	41,6	PCS060Y4IP20x	IP20	Wall Mount	Bottom	13	110
90 [2]	270	62,4	PCS090Y4IP20x	IP20	Wall Mount	Bottom	13	110 [2]
120 [2]	360	83,1	PCS120Y4IP20x	IP20	Wall Mount	Bottom	13	110 [2]

[1] AccuSine SWP may be ordered as 'unitary' (stand-a-lone) or 'Parallel" (ready for paralleling units). Replace the 'x' with a 'U' or 'P' to complete the Catalog Number when ordering.

[2] 90 and 120 Amp models consist of two identical enclosures of the size shown for each. The weight is twice that shown.

AccuSine PCS+

The Schneider Electric solution for active harmonic filtering in industrial installations.

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Model 6 MCC (UL and CSA approved)

PD405100.eps

Okken / Blokset (IEC61439 certified)

AccuSine PCS+ Specifications

Technical Specifications

Standard RMS output current ratings	60A, 120A, 200A, 300A @ 208 - 240 VAC 60A, 120A, 200A, 300A @ 380 - 480 VAC 47A, 94A, 157A, 235A @ 480 - 600 VAC 40A, 80A, 133A , 200A @ 600 - 690 VAC

Electrical System Characteristics

Nominal voltage	208-240 V AC, + 10% / -10% 380-480 V AC; + 10% / -15% 480-600 V AC; + 10% / -15% 600-690 V AC; + 10% / -15%
Nominal Frequency	50/60 Hz, ±3 Hz auto sensing
Number of phases	3-phase, with or without neutral (no neutral cancellation)

Technical Product Characteristics

Topology	Digital harmonic FFT Digital reactive power
Efficiency	to 480 VAC >97%; to 690 VAC >95%
Current transformers (CT)	Any ratio with 1 or 5 ampere secondary Type 1 accuracy 50/60 or 400 Hz rated (Instrument rated or better) Grounded Can be shared with other devices
CT VA loading	40 mΩ
Quantity of CT	2 or 3 for 3-phase loads 3 required for 4-wire with neutral connected loads
Spectrum cancellation	2nd to 51st, discrete; fully selectable per harmonic order (amplitude and on/off)
Control basis	Closed loop for new installations Open loop (compatible with AccuSine PCS for retrofit applications)
CT Position	Closed Loop Control: Source sense (at mains) CT or Load sense CT for single unit Open Loop Control: Load sense CT or source sense CT for single unit
Harmonic Attenuation	Closed Loop: <3% THD(i); max 20:1 THD(i) reduction with load harmonic current above 50% of AccuSine PCS+ rating Open Loop: <5% TDD Requires 3% or higher inductive impedance per nonlinear load
Harmonic Operational Features	% THDi set point % THDv set point
Harmonic avoidance	Output at specific harmonic order turned off if resonance or lack of impedance detected; or manually turned off
Parallel operation	Up to 10 units per set of CT (to 51st order), any size combination Backward compatibility with AccuSine PCS operated in parallel. Contact your SE sales office for applications if more than 10 units required
Parallel operation options	Master/Master (masters receive mains CT) Master/Slave Multi-Master/multi-slave Same as AccuSine PCS for retrofits
Parallel sequence options	Cascade: Lead/lag with unit rotation: one unit operates to full capacity before next unit turns on; timed rotation. Load Share: All operating units function at the same ouput percentage.
Parallel redundancy	Any unit with CT connections will automatically become master if the controling master is taken offline. Automatic increase in ouput of all units to make up capacity of any offline unit.
Parallel HMI control	Any unit permits viewing and changing parameter settings of complete system or any other unit in parallel system
Parallel communications	Proprietary COM Bus between operating units
Power factor correction	Optimized PF correction, leading (capacitive) or lagging (inductive) power factor (Cos ø) to target
Control response time	25 µs
Harmonic correction time	2 cycles
Reactive correction time	1/4 cycle
Display	144 mm QVGA TFT 64k-color touchscreen
Operator interface	Magelis HMI STU touch panel screen
Display parameters	100's: includes THDi, THDv, oscilloscope for viewing many selected parameters, phasor diagrams, load power, measured currents for Ih, Is, If, I neg seq, PF (Cos f), injected currents for Ih, I reactive, I neg seq, etc.
Communications Capability	Modbus RTU, Modbus TCP/IP
Discrete input/outputs	4 input and 4 output dry contacts; assignable
Noise level (ISO3746)	< 70 db at one meter from unit surface
Earthing (Grounding) systems	Suitable for most earthing (grounding) systems; IT switch on EMC filter for IT earthing (ground), high resistance earthing (ground) or corner earthed (grounded) systems

AccuSine PCS+ Specifications

Environmental Conditions	
Operating Temperature	60A, 120A, & 200A: IP00 (UL Type Open) & IP20 (UL Type N1 wall mount): 0°C to 45°C; All others: 0°C to 40°C; Derate 2% per °C up to 50°C
Relative humidity	0-95%, noncondensing
Seismic rating	Complies with IBC and ASCE7 (Requires top anchorage for all floor standing models.)
Operating Altitude	1000m, (derate 1% per 100 m above)
Ambient temperature safety	Automatic temperature roll back based upon any device OT. Absolute shutdown if air inlet temperature reaches 51 °C
Preset output limits (rms)	Programmable set limit due to altitude or ambient temperature - becomes fixed output limit
Storage (in original shipping container)	Temperature: -20 °C to 60 °C Relative humidty: to 95 %, noncondensing Clean, dry, and protected No conductive particles permitted
"Contaminant Levels - operating (IEC 60721-3-3)"	Chemical Class 3C2 Mechanical Class 3S2 No conductive particles permitted
"Contaminant levels - transport and storage (IEC 60721-3-3)"	Chemical Class 3C3 Mechanical Class 3S3 When stored in original shipping container No conductive particles permitted
Reference Standards	
Design	CE EMC Certification IEC/EN 60439-1, EN 61000-6-4 Class A, EN 61000-6-2
Protection (enclosure)	IP00, IP20, IP31, IP54, UL Type 1, UL Type 2, UL Type 12, UL Type Open
Standards compliance/ certification	cULus (UL508 , CSA 22.2 No. 14) CE Certified, ABS, + other local standards
Installation	
Wall mount	IP00 (UL Type open) and IP20 (UL Type 1) configurations
Free Standing	IP31, IP54, UL Type 1, UL Type 2, & UL Type 12
Circuit protection	IP00 and IP20 - external means required. Supplied by others. Free standing enclosures - Incoming circuit breaker or fused disconnect with mechanical door interlock
AIC Rating	to 240 VAC - 200 kA cULus; 150kA IEC to 415 VAC - 200 kA cULus; 125 kA IEC to 480 VAC - 200 kA cULus; 75 kA IEC to 600 VAC - 100 kA cULus; 20 kA IEC to 690 VAC - No cULus; 100 kA IEC
Cable entry	Wall mount: UL Type open, IP00, UL Type 1, and IP20 - bottom only Free standing: top and bottom entry through gland plates
PCBA protection	Conformal coating on all PCBAs Polution Degree 2
Cooling configuration	Separate air plenums for heat sink section and PCBA section. Heat sink plenum input from bottom with exhaust out top. All components in heat sink plenum rated IP54 or better => no filtering required PCBA air supply must be clean and dry (filtering may be required). No conductive particles permitted.
Service provisions	
HMI (Magelis STU)	Plain language output (no cryptic codes). Languages: English, French, Spanish, Portuguese, and Chinese USB Port for upload of new software and download of operational records
Service port	USB port: commission, program, or diagnostics via a laptop computer when power is on or off; laptop provides power to control board when no unit power is present
Commissioning	On-board step-by-step process; CT automatic sizing, phase rotation, and polarity; external transformer ratio and phase shift; heat test, and more

Typical applications

Oil and gas

- Oil and gas platforms.
- Port cranes.
- Steel.
- Water/Wastewater.
- HVAC.

Water

Cement

HVAC

- Automotive.
- Process plants. Pulp and paper.
- Wind and solar farms.
- Lifts (ski or building).
- Marine vessels…

Building

Wind turbines

Selection Table

AccuSine PCS+ 208-240 V, 50/60 Hz

Rated current	KVAR Rating @ Voltage	Catalog Number	Enclosure Rating	Style	Cable entry	Frame	Weight kg
60	21.6 @ 208 24.9 @ 240	PCSP060D2IP00	IP00 (chassis)	Wall Mount	Bottom	1	88
		PCSP060D2N2	UL Type 2	Floor Standing	Top or Bottom	2	277
		PCSP060D2IP31	IP31				
		PCSP060D2N12	UL Type 12				291
		PCSP060D2IP54	IP54				
120	43.2 @ 208 49.9 @ 240	PCSP120D2IP00	IP00 (chassis)	Wall Mount	Bottom	3	113
		PCSP120D2N2	UL Type 2	Floor Standing	Top or Bottom	4	279
		PCSP120D2IP31	IP31				
		PCSP120D2N12	UL Type 12				293
		PCSP120D2IP54	IP54				
200	72.1 @ 208 83.1 @ 240	PCSP200D2IP00	IP00 (chassis)	Wall Mount	Bottom	5	171
		PCSP200D2N1	UL Type N1	Floor Standing	Top or Bottom	11	363
		PCSP200D2N2	UL Type 2			6	384
		PCSP200D2IP31	IP31				
		PCSP200D2N12	UL Type 12				402
		PCSP200D2IP54	IP54				
300	108.1 @ 208 124.7 @ 240	PCSP300D2IP00	IP00 (chassis)	Wall Mount	Bottom	7	210
		PCSP300D2N1	UL Type N1	Floor Standing	Top or Bottom	11	402
		PCSP300D2N2	UL Type 2			8	422
		PCSP300D2IP31	IP31				
		PCSP300D2N12	UL Type 12				436
		PCSP300D2IP54	IP54				

Note:
60A IP20/UL Type 1 configuration requires ordering two items: PCSP060D2IP00 and PCSPWMKIT60A; adds 232 mm to IP00 length and 8.7 kg.
120A IP20/UL Type 1 configuration requires ordering two items: PCSP120D2IP00 and PCSPWMKIT120A; adds 232 mm to IP00 length and 9.3 kg.
200A IP20/UL Type 1 configuration requires ordering two items: PCSP200D2IP00 and PCSPWMKIT300A; adds 273 mm to IP00 length and 8.6 kg.
300A IP20/UL Type 1 configuration requires ordering two items: PCSP300D2IP00 and PCSPWMKIT300A; adds 273 mm to IP00 length and 8.6 kg.

AccuSine PCS+ 380-480 V, 50/60 Hz

Rated current	KVAR Rating @ Voltage	Catalog Number	Enclosure Rating	Style	Cable entry	Frame	Weight kg
60	39.5 @ 380 41.6 @ 400 43.1 @ 415 49.9 @ 480	PCSP060D5IP00	IP00 (chassis)	Wall Mount	Bottom	1	88
		PCSP060D5N2	UL Type 2	Floor Standing	Top or Bottom	2	277
		PCSP060D5IP31	IP31				
		PCSP060D5N12	UL Type 12				291
		PCSP060D5IP54	IP54				
120	79.0 @ 380 83.1 @ 400 86.3 @ 415 99.8 @ 480	PCSP120D5IP00	IP00 (chassis)	Wall Mount	Bottom	3	113
		PCSP120D5N2	UL Type 2	Floor Standing	Top or Bottom	4	279
		PCSP120D5IP31	IP31				
		PCSP120D5N12	UL Type 12				293
		PCSP120D5IP54	IP54				
200	131.6 @ 380 138.6 @ 400 143.8 @ 415 166.3 @ 480	PCSP200D5IP00	IP00 (chassis)	Wall Mount	Bottom	5	171
		PCSP200D5N1	UL Type N1	Floor Standing	Top or Bottom	11	363
		PCSP200D5N2	UL Type 2			6	384
		PCSP200D5IP31	IP31				
		PCSP200D5N12	UL Type 12				402
		PCSP200D5IP54	IP54				
300	197.5 @ 380 207.8 @ 400 215.6 @ 415 249.4 @ 480	PCSP300D5IP00	IP00 (chassis)	Wall Mount	Bottom	7	210
		PCSP300D5N1	UL Type N1	Floor Standing	Top or Bottom	11	402
		PCSP300D5N2	UL Type 2			8	422
		PCSP300D5IP31	IP31				
		PCSP300D5N12	UL Type 12				436
		PCSP300D5IP54	IP54				

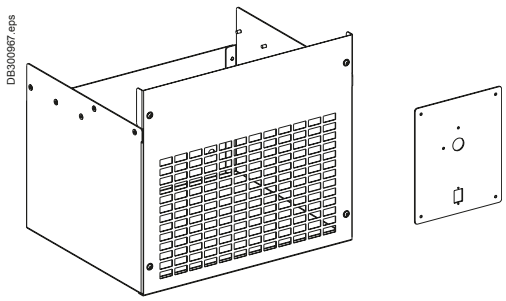
Note:
60 A IP20/UL Type 1 configuration requires ordering two items: PCSP060D5IP00 and PCSPWMKIT60A; adds 232 mm to IP00 length and 8.7 kg.
120 A IP20/UL Type 1 configuration requires ordering two items: PCSP120D5IP00 and PCSPWMKIT120A; adds 232 mm to IP00 length and 9.3 kg.
200 A IP20/UL Type 1 configuration requires ordering two items: PCSP200D5IP00 and PCSPWMKIT200A; adds 273 mm to IP00 length and 8.6 kg.
300 A IP20/UL Type 1 configuration requires ordering two items: PCSP300D5IP00 and PCSPWMKIT300A; adds 273 mm to IP00 length and 8.6 kg.

AccuSine PCS+ 480-600 V, 50/60 Hz

Rated current	KVAR Rating @ Voltage	Catalog Number	Enclosure Rating	Style	Cable entry	Frame	Weight kg
47	48.8 @ 600	PCSP047D6N2	UL Type 2	Floor Standing	Top or Bottom	9	461
		PCSP047D6IP31	IP31				
		PCSP047D6N12	UL Type 12				461
		PCSP047D6IP54	IP54				
94	97.7 @ 600	PCSP094D6N2	UL Type 2	Floor Standing	Top or Bottom	9	498
		PCSP094D6IP31	IP31				
		PCSP094D6N12	UL Type 12				498
		PCSP094D6IP54	IP54				
157	163.2 @ 600	PCSP157D6N2	UL Type 2	Floor Standing	Top or Bottom	10	653
		PCSP157D6IP31	IP31				
		PCSP157D6N12	UL Type 12				653
		PCSP157D6IP54	IP54				
235	244.2 @ 600	PCSP235D6N2	UL Type 2	Floor Standing	Top or Bottom	10	757
		PCSP235D6IP31	IP31				
		PCSP235D6N12	UL Type 12				757
		PCSP235D6IP54	IP54				

AccuSine PCS+ 600-690 V, 50/60 Hz

Rated current	KVAR Rating @ Voltage	Catalog Number	Enclosure Rating	Style	Cable entry	Frame	Weight kg
40	47.8 @ 690	PCSP040D7N2	UL Type 2	Floor Standing	Top or Bottom	9	483
		PCSP040D7IP31	IP31				
		PCSP040D7N12	UL Type 12				483
		PCSP040D7IP54	IP54				
80	95.6 @ 690	PCSP080D7N2	UL Type 2	Floor Standing	Top or Bottom	9	533
		PCSP080D7IP31	IP31				
		PCSP080D7N12	UL Type 12				533
		PCSP080D7IP54	IP54				
133	159.0 @ 690	PCSP133D7N2	UL Type 2	Floor Standing	Top or Bottom	10	709
		PCSP133D7IP31	IP31				
		PCSP133D7N12	UL Type 12				709
		PCSP133D7IP54	IP54				
200	239.0 @ 690	PCSP200D7N2	UL Type 2	Floor Standing	Top or Bottom	10	827
		PCSP200D7IP31	IP31				
		PCSP200D7N12	UL Type 12				827
		PCSP200D7IP54	IP54				



AccuSine+ Wall Mount Conversion Kit

- Converts IP00 (UL Type Open) to IP20 (UL Type 1) wall mounted enclosed assemblies.
- Includes HMI mounting plate and cable entry enclosure for mounting on the bottom of the IP00 assemblies.

	Assembled dimensions - IP20				IP20 assembly	Cable entry enclosure
Wall mount kit reference	Unit rating (A)	Height	Width	Depth	Weight (kg)	Weight (kg)
PCSPWMKIT60A	60	1530	421	349	97.3	8.7
PCSPWMKIT120A	120	1730	421	384	122.0	9.3
PCSPWMKIT300A	200	1642	575	435	180.0	8.6
PCSPWMKIT300A	300	1882	575	435	218.6	8.6

The Schneider Electric solution for electronic reactive current compensation for specific and high performance solutions.

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Model 6 MCC (UL and CSA approved)

PD405100.eps

Okken / Blokset (IEC61439 certified)

AccuSine PFV+ Specifications

Technical Specifications

Standard RMS output current ratings	60A, 120A, 200A, 300A @ 208 - 240 VAC 60A, 120A, 200A, 300A @ 380 - 480 VAC 47A, 94A, 157A, 235A @ 480 - 600 VAC 40A, 80A, 133A , 200A @ 600 - 690 VAC

Electrical System Characteristics

Nominal voltage	208-240 VAC, +10%/-10% 380-480 VAC; +10%/-15% 480-600 VAC; +10%/-15% 600-690 VAC; +10%/-15%
Nominal Frequency	50/60 Hz, ±3 % auto sensing
Number of phases	3-phase, with or without neutral
Operation with single phase loads	Yes; no effect on neutral current

Technical Product Characteristics

Power electronics	IGBT; 3 level inverter
Topology	Digital 1/4 cycle response
Losses	At 480 V AC < 3 %; at 690 V AC < 5 %
Efficiency	to 480 VAC >97%; to 690 VAC >95%
Current transformers (CT)	Any ratio with 1 or 5 ampere secondary Type 1 accuracy 50/60 or 400 Hz rated (Instrument rated or better) Grounded Can be shared with other devices
Quantity of CT	2 or 3 for 3-phase loads 3 required for 4-wire with neutral connected loads
CT VA loading	40 mΩ
Control basis	Closed loop (for new installations) Open loop (compatible for retrofit applications)
CT Position	Closed Loop Control: Source sense (at mains) CT or Load sense CT for single unit Open Loop Control: Load sense CT or source sense CT for single unit
Parallel operation	Up to 10 units per set of CT any size combination. Backward compatibility with AccuSine PFV operated in parallel. Contact your SE sales office for applications of more than 10 units
Parallel operation options	Master/Master (masters receive mains CT) Master/Slave Multi-Master/multi-slave Same as AccuSine PCS for retrofits
Parallel sequence options	Cascade: Lead/lag with unit rotation: one unit operates to full capacity before next unit turns on; timed rotation Load Share: All operating units function at the same ouput percentage
Parallel redundancy	Any unit with CT connections will automatically become master if the controling master is taken offline. Automatic increase in ouput of all units to make up capacity of any offline unit.
Parallel HMI control	Any unit permits viewing and changing parameter settings of complete system or any other unit in parallel system.
Power factor correction	Optimized PF correction, leading (capacitive) or lagging (inductive) power factor (Cos ø) to target
Mains current balancing	Negative sequence current injected to balance fundamental current on the mains due to load imbalance (inherently corrects displacement PF (Cos φ)).
Voltage support (Volt-VAR mode)	Mains voltage support via VAR injection: Maintain defined set point voltage by injecting leading VARs to raise voltage and lagging VARs to lower voltage; includes speed of adjustment.
Control response time	25 µs
Reactive correction time	1/4 cycle
Display	145 mm QVGA TFT 7-color touchscreen
Operators	Magelis HMI STU touch panel screen
Display parameters	100's: includes oscilloscope for viewing many selected parameters, phasor diagrams, load power, measured currents for Is, If, I neg seq, PF (Cos φ), injected currents for I reactive, I neg seq, etc.
Communications Capability	Modbus RTU, Modbus TCP/IP
Discrete input/outputs	4 input and 4 output dry contacts; assignable
Noise level (ISO3746)	< 75 db at one meter from unit surface
Color	RAL7035 Enclosure; RAL7022 Plinth (floor standing units)
Earthing (Grounding) systems	Suitable for most earthing (grounding) systems; IT switch on EMC filter for IT earthing (ground), high resistance earthing (ground) or corner earthed (grounded) systems

AccuSine PFV+ Specifications

Environmental Conditions

Operating Temperature	60A, 120A, & 200A: IP00 (UL Type Open) & IP20 (UL Type N1 wall mount): 0°C to 45°C; All others: 0°C to 40°C; Derate 2% per °C up to 50°C
Relative humidity	0-95 %, noncondensing
Seismic rating	complies with IBC and ASCE7 (Requires top anchorage for all floor standing models).
Operating Altitude	1000m, (derate 1% per 100 m above)
Ambient temperature safety	Automatic temperature roll back based upon any device OT. Absolute shutdown if air inlet temperature reaches 51 °C
Preset output limits (rms)	Programmable set limit due to altitude or ambient temperature - becomes fixed output limit
Storage (in original shipping container)	Temperature: -20 °C to 60 °C Relative humidty: to 95 %, noncondensing Clean, dry, and protected No conductive particlas permitted
"Contaminant Levels - operating (IEC 60721-3-3)"	Chemical Class 3C2 Mechanical Class 3S2 No condutive particals permitted
"Contaminant levels - transport and storage (IEC 60721-3-3)"	Chemical Class 3C3 Mechanical Class 3S3 when stored in original shipping container No conducitve particals permitted

Reference Standards

Design	CE EMC Certification IEC/EN 60439-1, EN 61000-6-4 Class A, EN 61000-6-2
Protection (enclosure)	IP31, IP54, UL Type 1, UL Type 2, & UL Type 12
Standards compliance/ certification	cULus (UL508 , CSA 22.2 No. 14) CE Certified, ABS, other local standards

Installation

Wall mount	IP00 (UL Type Open) and IP20 (UL Type 1) configurations
Free Standing	IP31, IP54, UL Type 2, & UL Type 12
Circuit protection	IP00 and IP20 - external means required. Supplied by others. Free standing enclosures - Incoming circuit breaker or fused disconnect with mechanical door interlock
AIC Rating (applies to input circuit breaker ratings for free standing model enclosures)	to 240 VAC - 200 kA cULus; 150kA IEC to 415 VAC - 200 kA cULus; 125 kA IEC to 480 VAC - 200 kA cULus; 75 kA IEC to 600 VAC - 100 kA cULus; 20 kA IEC to 690 VAC - No cULus; 100 kA IEC
Cable entry	Wall mount: UL Type open, IP00, UL Type 1, and IP20 - bottom only Free standing: top and bottom entry through gland plates
PCBA protection	Conformal coating on all PCBAs
Cooling configuration	Separate air plenums for heat sink section and PCBA section: Heat sink plenum input from bottom with exhaust out top. All components in heat sink plenum rated IP54 or better => no filtering required PCBA air supply must be clean and dry (filtering may be required) No conductive particles permitted

Service provisions

HMI (Magelis STU)	Plain language output (no cryptic codes). Languages: English, French, Spanish, Portuguese, and Chinese USB Port for upload of new software and download of operational records
Service port	USB port: commission, program, or diagnostics via a laptop computer when power is on or off; laptop provides power to control board when no unit power is present
Commissioning	On-board step-by-step process; CT automatic sizing, phase rotation, and polarity; external transformer ratio and phase shift; heat test, and more

Typical applications


Oil and gas


Water


Cement


HVAC


Building


Wind turbines

- Oil and gas platforms.
- Port cranes.
- Steel.
- Water/Wastewater.
- HVAC.
- Automotive.
- Process plants. Pulp and paper.
- Wind and solar farms.
- Lifts (ski or building).
- Marine vessels…

Selection Table

AccuSine PFV+ 208-240 V, 50/60 Hz

Rated Current	KVAR Rating @ Voltage	Catalog Number	Enclosure Rating	Style	Cable entry	Frame	Weight kg
60	21.6 @ 208 24.9 @ 240	EVCP060D2IP00	IP00 (chassis)	Wall Mount	Bottom	1	88
		EVCP060D2N2	UL Type 2	Floor Standing	Top or Bottom	2	277
		EVCP060D2IP31	IP31				
		EVCP060D2N12	UL Type 12				291
		EVCP060D2IP54	IP54				
120	43.2 @ 208 49.9 @ 240	EVCP120D2IP00	IP00 (chassis)	Wall Mount	Bottom	3	113
		EVCP120D2N2	UL Type 2	Floor Standing	Top or Bottom	4	279
		EVCP120D2IP31	IP31				
		EVCP120D2N12	UL Type 12				293
		EVCP120D2IP54	IP54				
200	72.1 @ 208 83.1 @ 240	EVCP200D2IP00	IP00 (chassis)	Wall Mount	Bottom	5	171
		EVCP200D2N1	UL Type N1	Floor Standing	Top or Bottom	11	363
		EVCP200D2N2	UL Type 2			6	384
		EVCP200D2IP31	IP31				
		EVCP200D2N12	UL Type 12				402
		EVCP200D2IP54	IP54				
300	108.1 @ 208 124.7 @ 240	EVCP300D2IP00	IP00 (chassis)	Wall Mount	Bottom	7	210
		EVCP300D2N1	UL Type N1	Floor Standing	Top or Bottom	11	402
		EVCP300D2N2	UL Type 2			8	422
		EVCP300D2IP31	IP31				
		EVCP300D2N12	UL Type 12				436
		EVCP300D2IP54	IP54				

Note:
60A IP20/UL Type 1 configuration requires ordering two items: EVCP060D2IP00 and PCSPWMKIT60A; adds 232 mm to length and 8.7 kg.
120A IP20/UL Type 1 configuration requires ordering two items: EVCP120D2IP00 and PCSPWMKIT120A; adds 232 mm to length and 9.3 kg.
200A IP20/UL Type 1 configuration requires ordering two items: EVCP200D2IP00 and PCSPWMKIT300A; adds 273 mm to length and 8.6 kg.
300A IP20/UL Type 1 configuration requires ordering two items: EVCP300D2IP00 and PCSPWMKIT300A; adds 273 mm to length and 8.6 kg.

AccuSine PFV+ 380-480 V, 50/60 Hz

Rated Current	KVAR Rating @ Voltage	Catalog Number	Enclosure Rating	Style	Cable entry	Frame	Weight kg
60	39.5 @ 380 41.6 @ 400 43.1 @ 415 49.9 @ 480	EVCP060D5IP00	IP00 (chassis)	Wall Mount	Bottom	1	88
		EVCP060D5N2	UL Type 2	Floor Standing	Top or Bottom	2	277
		EVCP060D5IP31	IP31				
		EVCP060D5N12	UL Type 12				291
		EVCP060D5IP54	IP54				
120	79.0 @ 380 83.1 @ 400 86.3 @ 415 99.8 @ 480	EVCP120D5IP00	IP00 (chassis)	Wall Mount	Bottom	3	113
		EVCP120D5N2	UL Type 2	Floor Standing	Top or Bottom	4	279
		EVCP120D5IP31	IP31				
		EVCP120D5N12	UL Type 12				293
		EVCP120D5IP54	IP54				
200	131.6 @ 380 138.6 @ 400 143.8 @ 415 166.3 @ 480	EVCP200D5IP00	IP00 (chassis)	Wall Mount	Bottom	5	171
		EVCP200D5N1	UL Type N1	Floor Standing	Top or Bottom	11	363
		EVCP200D5N2	UL Type 2			6	384
		EVCP200D5IP31	IP31				
		EVCP200D5N12	UL Type 12				402
		EVCP200D5IP54	IP54				
300	197.5 @ 380 207.8 @ 400 215.6 @ 415 249.4 @ 480	EVCP300D5IP00	IP00 (chassis)	Wall Mount	Bottom	7	210
		EVCP300D5N1	UL Type N1	Floor Standing	Top or Bottom	11	402
		EVCP300D5N2	UL Type 2			8	422
		EVCP300D5IP31	IP31				
		EVCP300D5N12	UL Type 12				436
		EVCP300D5IP54	IP54				

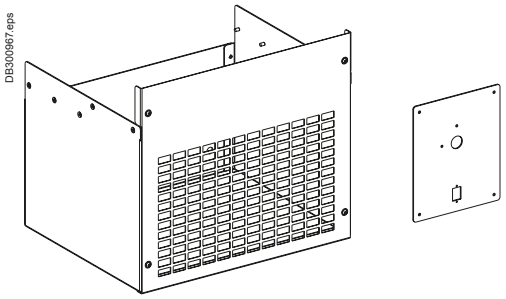
Note:
60A IP20/UL Type 1 configuration requires ordering two items: EVCP060D5IP00 and PCSPWMKIT60A; adds 232 mm to length and 8.7 kg.
120A IP20/UL Type 1 configuration requires ordering two items: PCSP120D5IP00 and PCSPWMKIT120A; adds 232 mm to length and 9.3 kg.
200A IP20/UL Type 1 configuration requires ordering two items: EVCP200D5IP00 and PCSPWMKIT300A; adds 273 mm to length and 8.6 kg.
300A IP20/UL Type 1 configuration requires ordering two items: PCSP300D5IP00 and PCSPWMKIT300A; adds 273 mm to length and 8.6 kg.

AccuSine PFV+ 480-600 V, 50/60 Hz

Rated Current	KVAR Rating @ Voltage	Catalog Number	Enclosure Rating	Style	Cable entry	Frame	Weight kg
47	48.8 @ 600	EVCP047D6N2	UL Type 2	Floor Standing	Top or Bottom		461
		EVCP047D6IP31	IP31				
		EVCP047D6N12	UL Type 12				461
		EVCP047D6IP54	IP54				
94	97.7 @ 600	EVCP094D6N2	UL Type 2	Floor Standing	Top or Bottom		498
		EVCP094D6IP31	IP31				
		EVCP094D6N12	UL Type 12				498
		EVCP094D6IP54	IP54				
157	163.2 @ 600	EVCP157D6N2	UL Type 2	Floor Standing	Top or Bottom		653
		EVCP157D6IP31	IP31				
		EVCP157D6N12	UL Type 12				653
		EVCP157D6IP54	IP54				
235	244.2 @ 600	EVCP235D6N2	UL Type 2	Floor Standing	Top or Bottom		757
		EVCP235D6IP31	IP31				
		EVCP235D6N12	UL Type 12				757
		EVCP235D6IP54	IP54				

AccuSine PFV+ 600-690 V, 50/60 Hz

Rated Current	KVAR Rating @ Voltage	Catalog Number	Enclosure Rating	Style	Cable entry	Frame	Weight kg
40	47.8 @ 690	EVCP040D7N2	UL Type 2	Floor Standing	Top or Bottom	9	483
		EVCP040D7IP31	IP31				
		EVCP040D7N12	UL Type 12				483
		EVCP040D7IP54	IP54				
80	95.6 @ 690	EVCP080D7N2	UL Type 2	Floor Standing	Top or Bottom	9	533
		EVCP080D7IP31	IP31				
		EVCP080D7N12	UL Type 12				533
		EVCP080D7IP54	IP54				
133	159.0 @ 690	EVCP133D7N2	UL Type 2	Floor Standing	Top or Bottom	10	709
		EVCP133D7IP31	IP31				
		EVCP133D7N12	UL Type 12				709
		EVCP133D7IP54	IP54				
200	239.0 @ 690	EVCP200D7N2	UL Type 2	Floor Standing	Top or Bottom	10	827
		EVCP200D7IP31	IP31				
		EVCP200D7N12	UL Type 12				827
		EVCP200D7IP54	IP54				



AccuSine+ Wall Mount Conversion Kit

- Converts IP00 (UL Type Open) to IP20 (UL Type 1) wall mounted enclosed assemblies.
- Includes HMI mounting plate and cable entry enclosure for mounting on the bottom of the IP00 assemblies.

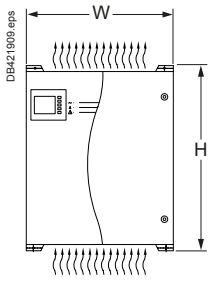
	Assembled dimensions - IP20				IP20 assembly	Cable entry enclosure
Wall mount kit reference	Unit rating (A)	Height	Width	Depth	Weight (kg)	Weight (kg)
PCSPWMKIT60A	60	1530	421	349	97.3	8.7
PCSPWMKIT120A	120	1730	421	384	122.0	9.3
PCSPWMKIT300A	200	1642	575	435	180.0	8.6
PCSPWMKIT300A	300	1882	575	435	218.6	8.6

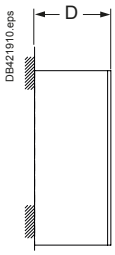
Unit dimensions and installation guidelines for AccuSine SWP

Frame size figure	Exterior dimensions		
	Height mm	Width mm	Depth mm
12	680	540	280
13 (90A and 120A ratings require two enclosures)	780	590	325

Frame size 12

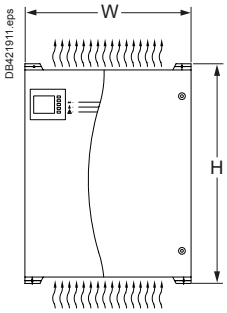
IP20 400 VAC

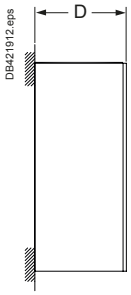




Frame size 13

IP20 400 VAC



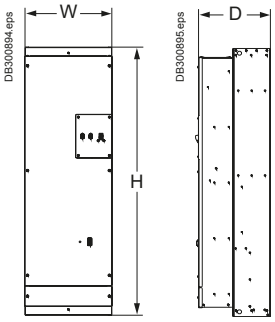


Note:
Dimensions are subject to change without notice.
Obtain current mechanical drawings at www.schneider-electric.com.

Unit dimensions and installation guidelines for AccuSine PCS+, and AccuSine PFV+

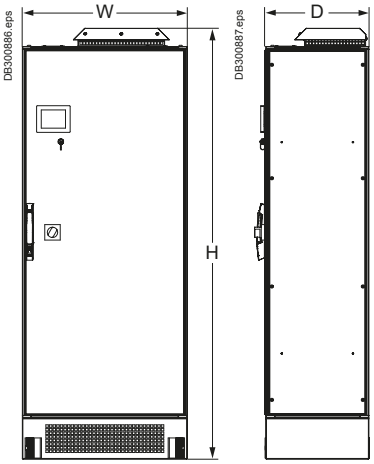
Frame size figure	Exterior dimensions		
	Height mm	Width mm	Depth mm
1	1300	421	349
2	2100	800	500
3	1400	421	384
4	2100	800	500
5	1323	582	438
6	2100	900	600
7	1560	582	438
8	2100	900	600
9	2100	1300	500
10	2100	1400	600
11	2000	800	600

Frame size 1

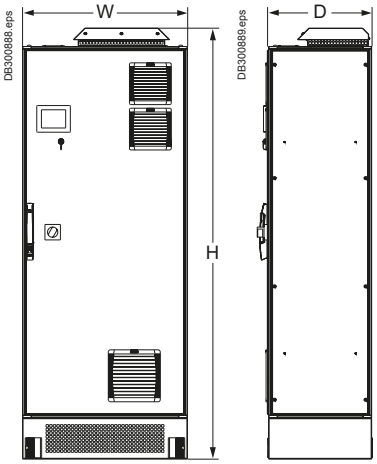


Frame size 2

IP31



IP54



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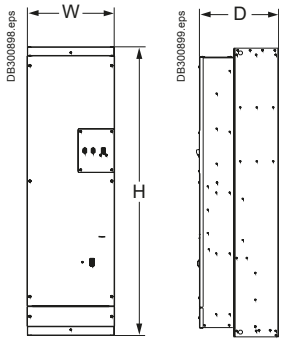

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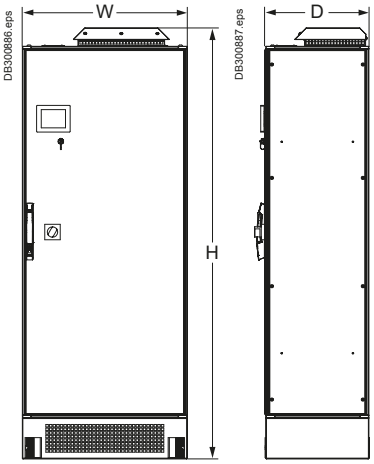

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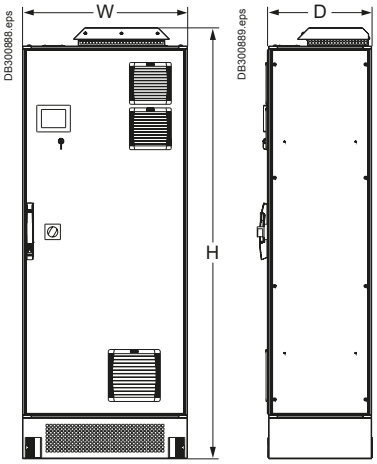
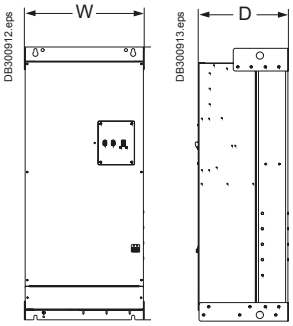


Note:
Dimensions are subject to change without notice.
Obtain current mechanical drawings at www.schneider-electric.com.

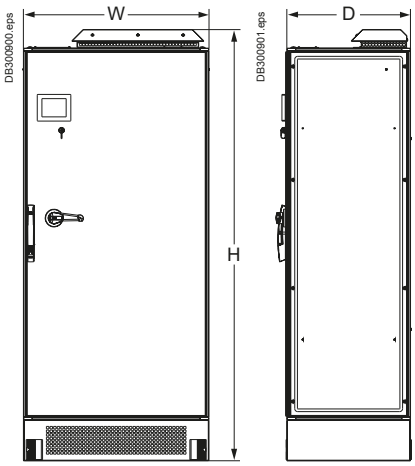
Unit dimensions and installation guidelines for AccuSine PCS+, and AccuSine PFV+

Frame size 5

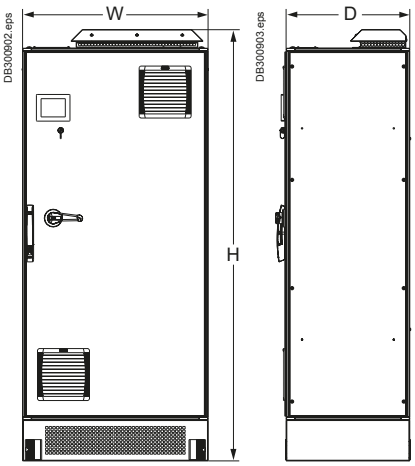


Frame size 6

IP31



IP54



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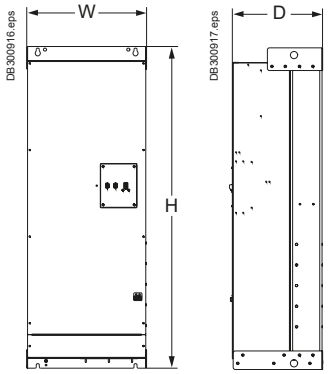
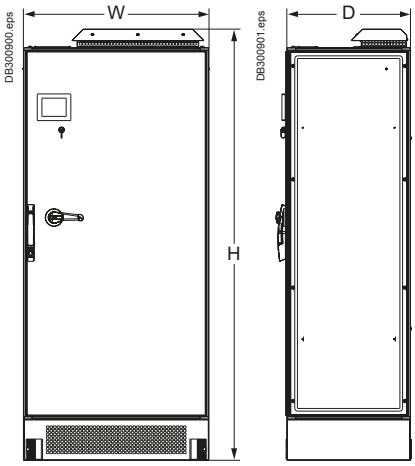


Frame size 8

IP31



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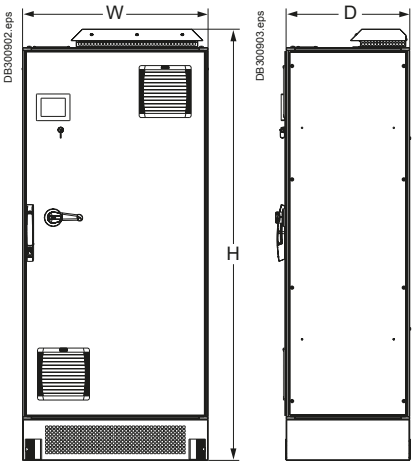

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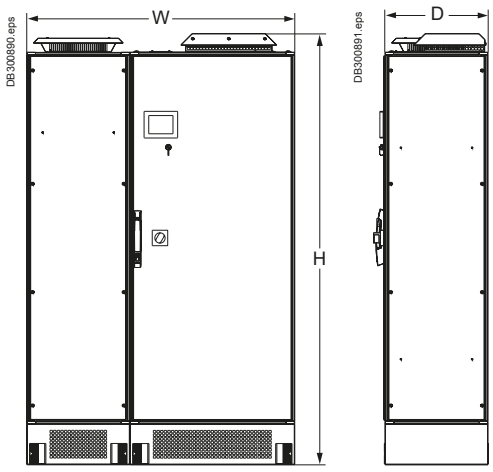

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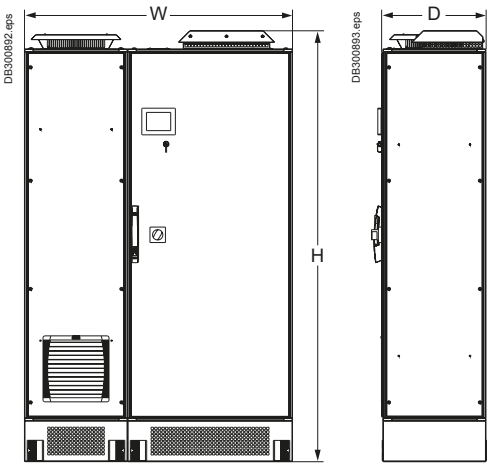
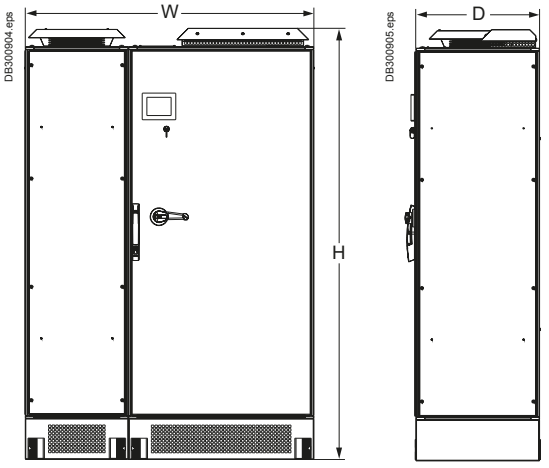


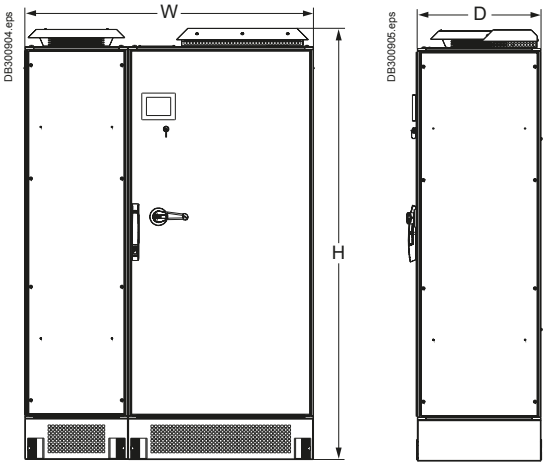
Unit dimensions and installation guidelines for AccuSine PCS+, and AccuSine PFV+

Frame size 10

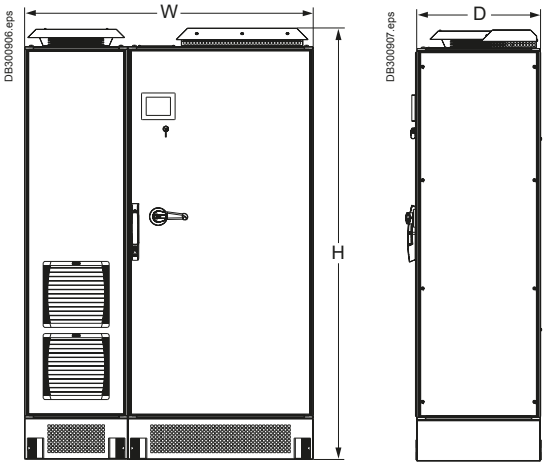
IP31 600 V AC



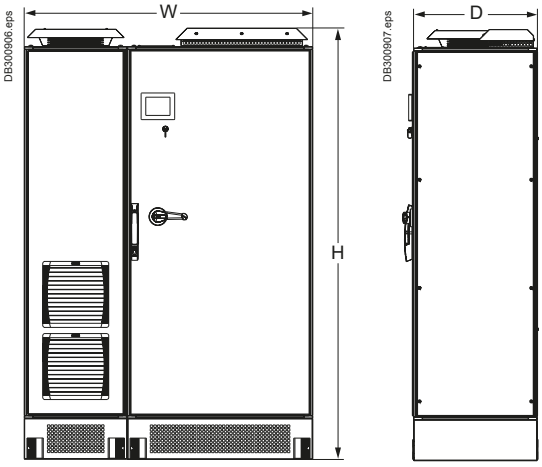
IP31 690 V AC



IP54 600 V AC

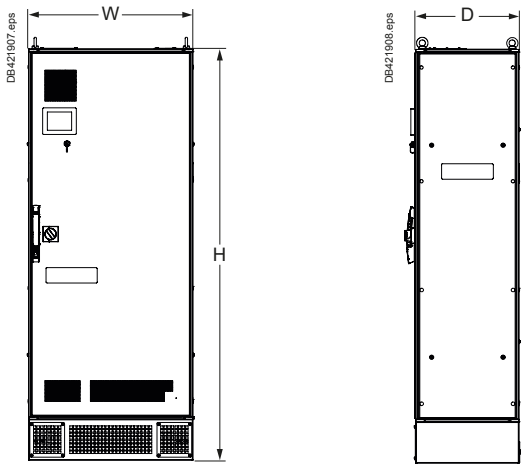


IP54 690 V AC



Frame size 11

UL Type 1 (IP20) 240-480 VAC



Split Core Design

E93779.eps CE_logo.eps

Meets
IEC 60044-1
Standards

RoHS.eps

Specifications

Construction
Directional silicon steel is used for the flexible core. Secondary windings are of copper. Unit is encapsulated in silicone rubber which protects against moisture. dirt. oil and corona.

Insulation Level		0.72 KV. BIL 10 KV Full Wave
Frequency		50-400 Hz
Thermal Factor		1.25 at 30 °C.. 1.0 at 55 °C
Operating Temp Range		-45 °C to +55 °C
Altitude .		Up to 4000 Meters
Accuracy (Primary rating)	200 thru 300	4 %
	400 thru 500	3 %
	600 thru 800	2 %
	1000 thru 6000	1 %
Secondary Leads		3.65 m with spade connectors
Color		Transformer (red) - Leads (yellow)
Remains flexible from -45° to +200 °C		

PCSCTFC-round-open.eps

Twisting motion opens to CT diameter of round CT and smaller distance of rectangular CT.

Round Split Core Design

Reference Number by secondary current		Maximum load (Amps)	Inside diameter (ID) mm - A	Burden Capacity (Ω)		Weight (kg)
5 Amps	1 Amp			5 Amp	1 Amp	
PCSPCTFCL50054	PCSPCTFCL50014	500	101.6	0.120	2.0	1.6
PCSPCTFCL100054	PCSPCTFCL100014	1000	101.6	0.200	10.0	1.6
PCSPCTFCL150054		1500	101.6	0.375	15.0	1.6
PCSPCTFCL160054		1600	101.6	0.375	15.0	1.6
PCSPCTFCL50056	PCSPCTFCL50016	500	152.4	0.120	2.0	1.9
PCSPCTFCL100056	PCSPCTFCL100016	1000	152.4	0.200	10.0	1.9
PCSPCTFCL120056		1200	152.4	0.200	15.0	1.9
PCSPCTFCL150056	PCSPCTFCL150016	1500	152.4	0.375	15.0	1.9
PCSPCTFCL200056	PCSPCTFCL200016	2000	152.4	1.000	18.0	1.9
PCSPCTFCL250056		2500	152.4	1.400	20.0	1.9
PCSPCTFCL300056		3000	152.4	1.800	20.0	1.9
PCSPCTFCL200058	PCSPCTFCL200018	2000	203.2	1.000	18.0	2.5
PCSPCTFCL250058	PCSPCTFCL250018	2500	203.2	1.400	20.0	2.5
PCSPCTFCL400058		4000	203.2	1.800	20.0	2.5
PCSPCTFCL500058		5000	203.2	1.800	20.0	2.5
PCSPCTFCL2500511	PCSPCTFCL2500111	2500	279.4	1.400	20.0	3.4

Note: Open split-core with a twisting motion only.

PCSCTFC-rec-open.eps

Rectangular Split Core Design

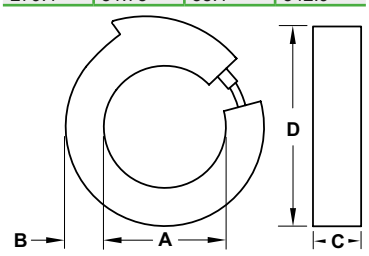
Reference Number by secondary current		Maximum load (Amps)	Inside diameter (ID) mm		Burden Capacity (Ω)		Weight (kg)
5 Amps	1 Amp		A	B	5 Amp	1 Amp	
PCSPCTFCL5005R	PCSPCTFCL5001R	500	69.8	168.2	0.12	2.0	1.9
PCSPCTFCL10005R	PCSPCTFCL10001R	1000	69.8	168.2	0.2	10.0	1.9
PCSPCTFCL12005R	PCSPCTFCL12001R	1200	69.8	168.2	0.2	15.0	1.9
PCSPCTFCL15005R	PCSPCTFCL15001R	1500	69.8	168.2	0.375	15.0	1.9
PCSPCTFCL16005R	PCSPCTFCL16001R	1600	69.8	168.2	0.375	15.0	1.9
PCSPCTFCL20005R		2000	69.8	168.2	1	18.0	1.9
PCSPCTFCL30005R		3000	69.8	168.2	1.8	20.0	1.9
PCSPCTFCL25005R411	PCSPCTFCL25001R411	2500	101.6	279.4	1.4	20.0	2.8
PCSPCTFCL30005R411		3000	101.6	279.4	1.8	20.0	2.8
PCSPCTFCL40005R411		4000	101.6	279.4	1.8	20.0	2.8
PCSPCTFCL50005R411		5000	101.6	279.4	1.8	20.0	2.8

Dimensions

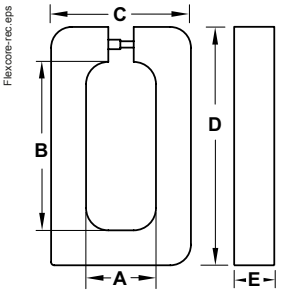
ID A	Dimensions in mm B	C	D
101.6	31.75	38.1	165.1
152.4	31.75	38.1	215.9
203.2	31.75	38.1	266.7
279.4	31.75	38.1	342.9

ID A	B	Dimensions in mm C	D	E
69.8	168.2	139.7	238	38.1
101.6	279.4	165.1	339.7	38.1

Flexcore-round.eps



Flexcore-rec.eps



Round Solid Core design

Specifications

Frequency	50-400 Hz
Class	0.6 kV, 10 kV BIL Full Wave
Flexible Leads	UL1015, 105 °C; CSA approved; 16 AWG (1.31 mm²), 609.6 mm
Weight	Approximately 0.68 kg
Accuracy	1 %

E93779.eps

Logo_SA.eps

LR89403

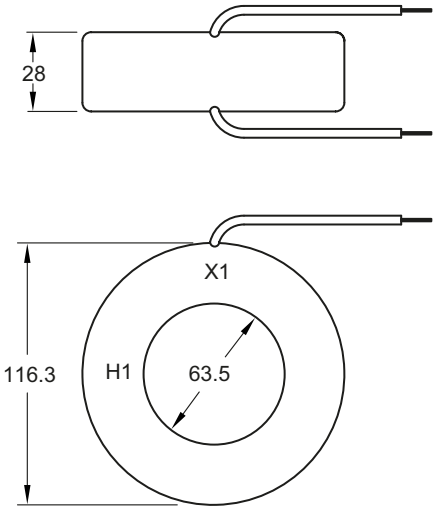
Round Solid Core Design

Reference Number by secondary current		Maximum load (Amps)	Burden Capacity (Ω)	
5 Amps	1 Amp		5 Amp	1 Amp
	PCSPCT7RL2011	200	0.5	5.0
PCSPCT7RL3015	PCSPCT7RL3011	300	0.5	5.0
PCSPCT7RL4015	PCSPCT7RL4011	400	0.6	7.5
PCSPCT7RL5015	PCSPCT7RL5011	500	1.0	10.0
PCSPCT7RL6015	PCSPCT7RL6011	600	1.2	12.5
PCSPCT7RL7515	PCSPCT7RL7511	750	1.2	12.5
PCSPCT7RL8015	PCSPCT7RL8011	800	1.4	20.0
PCSPCT7RL1025	PCSPCT7RL1021	1000	1.4	25.0
PCSPCT7RL1225	PCSPCT7RL1221	1200	1.4	15.0
PCSPCT7RL1525	PCSPCT7RL1521	1500	1.6	20.0
PCSPCT7RL1625	PCSPCT7RL1621	1600	2.0	25.0

PCSCT7RL.eps

Dimensions (mm)

7rl-dim.eps



Auxiliary and Summing Transformers

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LR89403

Description

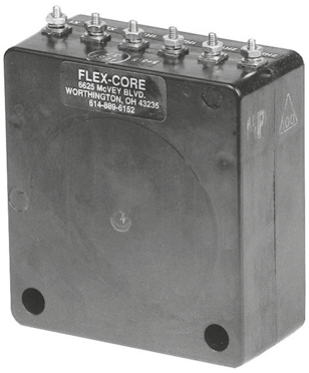
- The Reference 'PCSCT190X…' is an auxiliary transformer for use in the secondary of mains current transformers to change the ratio.
- The Reference 'PCSCT190XSUM…' is a summing transformer for use when three or five current transformers need to be totalized.

Specifications

Frequency	50-400 Hz
Thermal Factor	1.33 at 30 °C, 1.0 at 55 °C
Secondary Terminals	Brass Studs No. 8-32
Weight	Approximately 1.8 kg
Insulation Class	0.6 kV, 10 kV BIL Full Wave

Note: Since these units are used in the secondary of another current transformer, they do not have a voltage rating. They are given a 2500 Volt - 60 Hz Hi Pot test. They are designed to be used on circuits not to exceed 600 volts-to-ground or between windings.

Flex-core.eps

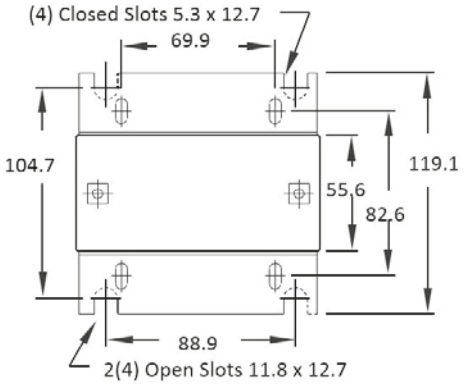


Auxiliary Transformers		
Reference number	**Current ratio**	**Burden capacity (Ω)**
PCSPCT190X1000	5:1	0.5
PCSPCT190X10005	1:5	0.5
PCSPCT190X5000	5:5	0.5
Summing Transformers [1]		
Reference number	**Current ratio**	**Burden capacity (Ω)**
PCSPCT190XSUM3	5+5+5:5	0.3
PCSPCT190XSUM5	5+5+5+5+5:5	0.3

[1] All current transformers to be totlaized must have same ratio.

Dimensions (mm)

DE53841.eps



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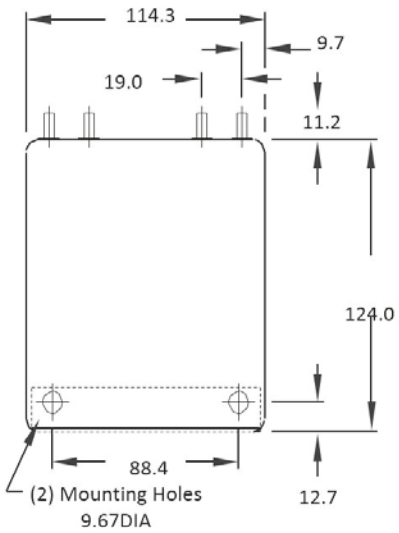


Shorting Terminal Switch and Parallel Connection Cables

Specifications

Rating	600 V AC, 30 A
Thermal Rating	to 55°C
Humidity	to 95%
Class 1E qualified per IEEE 323-1974	
This device is not CE Certified	

UL and cUL logos

LR19766

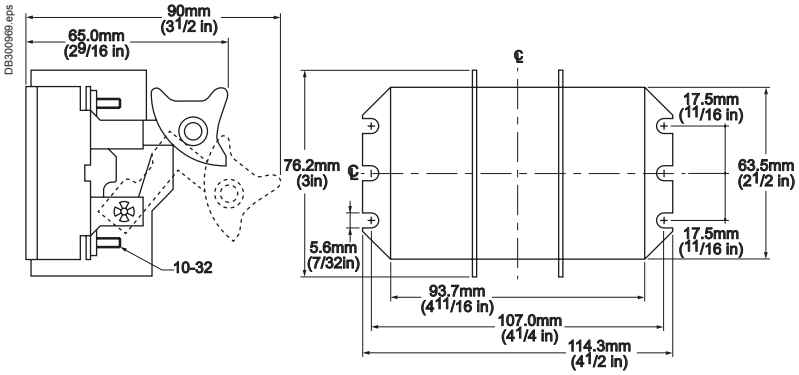
RoHS

Shorting Terminal Switch

Reference number	Description
PCSPNHA38255	CT shorting switch 6 terminals dpst

PCSPNHA3825

Dimensions



- Torque wire terminals to 0.565 nm.
- Torque mounting screws to 2.26 nm.

Parallel Connection Cables

- Parallel connection cables - CAT5E type.
- Required to interconnect all units operating in parallel - requires N-1 cables, where N is the quantity of units operating in parallel.

Reference	Desription	Length (m)
PCSPNHA38244	Paralleling cable CAT5E 3 m	3
PCSPNHA38245	Paralleling cable CAT5E 4.5 m	4.5
PCSPNHA38246	Paralleling cable CAT5E 6 m	6
PCSPNHA38247	Paralleling cable CAT5E 7.5 m	7.5
PCSPNHA38248	Paralleling cable CAT5E 9 m	9
PCSPNHA38249	Paralleling cable CAT5E 12 m	12
PCSPNHA38250	Paralleling cable CAT5E 15 m	15
PCSPNHA38251	Paralleling cable CAT5E 18 m	18
PCSPNHA38252	Paralleling cable CAT5E 22 m	22
PCSPNHA38253	Paralleling cable CAT5E 30 m	30

Human Machine Interface (HMI)

AccuSine+ products include a full color HMI with a Graphical User Interface.
Direct control, programming, and monitoring are possible without a PC or the internet.

PB503017.eps

Touch screen

Direct control of AccuSine+ units is possible by using the touch screen.

Display

A graphical display is used for different functions:
- access and set up of operating parameters
- measurement data
- operation status (warnings, fault messages).

Menus are accessible for easy navigation.

Configuration parameters

List of selectable parameters:
- 3- or 4-wire configuration
- harmonics or reactive energy compensation (separately or in combination)
- current transformer ratio
- power factor target
- number of units in parallel
- communication parameters.

Measurements

A complete set of measurement data is accessible:
- line-to-line r.m.s. voltages
- total r.m.s load currents (on three phases)
- active filter output r.m.s currents (on three phases)
- harmonic r.m.s load and line currents
- voltage and current distortions (THDu and THDi)
- reactive r.m.s load current
- active filter reactive r.m.s output current
- heatsink temperature (in deg. C).

Alarms and Fault display

Detailed alarms and fault messages are displayed for easy trouble shooting:
- supply voltage or frequency outside of normal operating range
- current limitation
- overtemperature
- controller fault
- communication fault.

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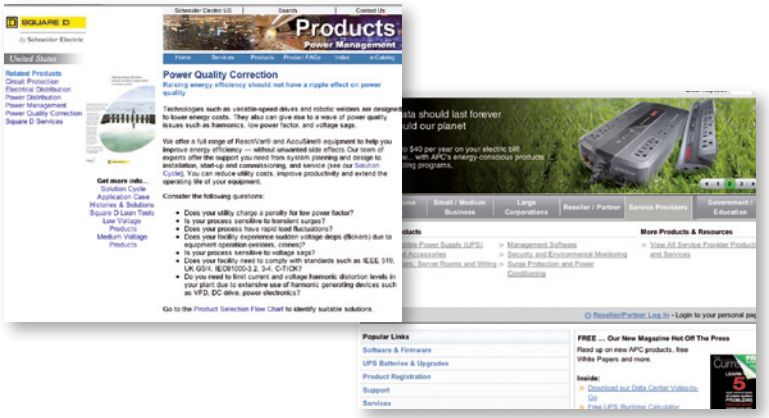

Technical reference guides

Harmonic mitigation - Solution Handbook	SLTED109014EN
Harmonic disturbances in networks and their treatment	Technical guide n° 152
The singularities of the third harmonic	Technical guide n° 202
Harmonic detection & filtering	Expert guide n° 4
Electrical installation guide	Expert guide n° 6
AccuSine+ installation and user manuals	

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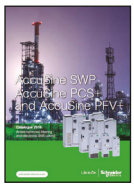

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Relevant documents

Relevant documents published by Schneider Electric

- Electrical Installation Guide.
- Expert Guide n°4: "Harmonic
- Expert Guide n°6: "Power Factor Correction and Harmonic Filtering Guide"Menus are accessible for easy navigation.
- Technical Guide 152: "Harmonic disturbances in networks, and their treatment".
- White paper: controlling the impact of Power Factor and Harmonics on Energy Efficiency.

Relevant websites

- http://www.schneider-electric.com
- http://engineering.electrical-equipment.org/
- http://www.electrical-installation.org

Relevant standards

- IEC 60831 - Shunt power capacitors of the self healing for a.c. systems up to 1000V
- IEC 61642 - Application of filters and shunt capacitors for industrial a.c. networks affected by harmonics
- IEC 61921 - Power capacitors-low voltage power factor correction capacitor banks

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