

Dissipated power, Impedance and Voltage drop

Acti9 products

The following table indicates the average dissipated power per pole in W for a current equal to the rating of the device and at the operating voltage.

Rating (A)	0.5	1	1.6	2	2.5	3	4	6	6.3	10	12.5	13	16	20	25	32	40	45	50	63	80	100	125	
Circuit breakers																								
iC40, iC40F, iC40N, iC40H 1P+N (1)		2.5		2			2.9	1.4		2.2		2.9	2.9	3.3	4.3	4.4	5.7							
iC40, iC40N, iC40H 3P+N (4)								4		6.8		7.5	7.7	8.1	10.3	10	12.9							
iC40, iC40N, iC40H 3P (4)								3.9		6.9		6.9	7.2	7.2	9	8.4	10.8							
iC60N/H/L	2.3	2.3	2.6	1.9		2.2	2.4	1.3		2.3		2.3	2.4	2.4	3	2.8	3.6		4	5.6				
iC60L-MA			0.7		0.2		0.6		0.9	1.1	1.5		1.6		0.8		2							
iK60N		2.3		1.9		2.2	2.4	2.7		1.8		1.8	2.5	3	3.1	3.5	3.6		4	5.6				
DPN (1)		2.5				2.1	2.6	2.7		2.7		3.3	3.2	4.7	4.7	4.6	5.8							
C60H-DC	2.2	2.3		2.6		2.2	2.4	2.7		1.8		2.5	2.5	3	3.1	3.5	4.3		4.8	6.1				
C60PV-DC (4)		9.2		10.2		8.9				6.8		7.4	10.4	11.8	12.2									
C120										1.6			2.3	2.8	2.5	3.4	3.5		3.6	4	4.5	6	8	
NG125										1.7			2.4	2.7	2.7	3.8	3.8		4.2	4	5.6	5.2	8	
NG125L-MA							0.15		0.15	0.2	0.4		0.3		0.6		1.4		2	2.7				
RCBO																								
iCV40, iCV40N, iCV40H 1P+N (1)				2.1			3	3		2.9		3.6	4.3	5.1	7.6	7.2	10.4							
iCV40N, iCV40H 3P+N, 30 mA (4)								8.1		9.5		11	10	12	12.9	13.4	16.2							
iCV40N, iCV40H 3P+N, 300 mA (4)								8		9.4		10	10	12	12.8	13.2	15							
iSPN Vigi								1.5		1.8			3.2	3.9	4.1	5.6								
iC60N/H RCBO (2)								2		3.2			4.9	6.8	7.6	9.3	14		19.8					
iC60H2 RCBO										2.2			2.4	2.5	3.2	3.9								
iC60H RCBO PoN								1.6		2.2			2.6	2.9	4	4.1	5.1	5.2						
Arc Fault Detection Devices																								
iARC (1)															4.4									
iDPN N VigiARC, iDPN H VigiARC, iDPN ARC (1)								2.9		2.2			3.4	4.6	6.5									
iC40 ARC, iC40N ARC, iC40H ARC, iCV40N ARC, iCV40H ARC (1)								3		2.9		3.3	3.4	4.1	5.5	6.3	8.7							
ARC iC40, VigiARC iC40 (1)															1.2		3							
Integrated control circuit breakers																								
Reflex Power circuit										2			2.1		2.7		3.6			5.6				
iC60N/H Control circuit	See catalog module CA904012																							
RCCB																								
iID AC, A, A-SI													1.3		3.2		3.8			3.5	5.6	7		
iID B-SI, iID B EV															0.7		1.8			4.4	7.3			
iID K															2.7		3.6			5.6				

Note: When the enclosure's thermal balance, consider the 4P devices load is only on 3 phases.

RCBO dissipated power per pole is the sum of circuit breaker dissipated power per pole + add-on residual current device dissipated power per pole.

Example: iC60N (25 A) + Vigi iC60 (30 mA) = 3 + 1.4 = 4.4 W.

(1) Dissipated power indicated in the table is the sum of phase+neutral.

(2) iC60N/H RCBO: 1 m neutral cable included during voltage drop measurement.

(4) Dissipated power indicated in the table is the sum of all poles.

Impedance calculation:

$$Z = P / I^2$$

Z: impedance in Ohms

P: dissipated power in Watts (table values)

I: rating in Amperes

Voltage drop calculation:

$$U = P / I$$

U: voltage drop in Volts

P: dissipated power in Watts (table values)

I: rating in Amperes

Complementary technical information

Dissipated power, Impedance and Voltage drop (cont.)

Acti9 products (cont.)

The following table indicates the average dissipated power per pole in W for a current equal to the rating of the device and at the operating voltage.

Rating (A)	0.5	1	1.6	2	2.5	3	4	6	6.3	10	12.5	13	16	20	25	32	40	45	50	63	80	100	125	
Add-on residual current devices																								
Vigi iC40 (1)															3.3		4.7							
Vigi DPN															1.4		2.1							
Vigi iC60 10 mA															3									
30 mA															1.4		1.5				2.3			
100 mA															1.1						2.3			
300 mA															1.3		0.9				2.3			
500 mA															1.1		0.9				2.3			
1000 mA																					2.3			
Vigi C120																								3.6
Vigi NG125																								4
Residual current device reclosers																								
REDs, REDtest															1.5		2.7				3.1			
Contactors																								
iCT/iCT+ Power circuit														0.6	0.9	1.4		3.5			7		9	
Control circuit	See catalog module CA904007																							
Impulse relays																								
iTL/iTL+ Power circuit														0.6			1.5							
Control circuit	See catalog module CA904008																							
Push-buttons																								
iPB															0.6									
Selector switches																								
iSSW															0.8									
iCMA/iCMB/iCMC/ iCMDV/iCMV									0.4															
Load-shedders																								
DSE1, CDS, CDS _c																1.8						3		
Switch-disconnectors																								
iSW																	0.6				1.8		4.7	6.4
iSW-NA																	0.7				1.8		3	5
C60NA-DC (4)																					12.6			
SW60-DC (4)																					12.6			
C120NA-DC (4)																							8	
NG125NA																					2	2.7	4	7
Remote controls																								
RCA, ARA	See catalog module CA904010 and CA904011																							
Indication auxiliaries																								
iOF, iSD, iOF/SD+OF	See catalog module CA908028																							
Tripping auxiliaries																								
iMN, iMNs, iMNx, iMX+OF, iMX, iMSU	See catalog module CA908029																							

Note: When the enclosure's thermal balance, consider the 4P devices load is only on 3 phases.

(1) Dissipated power indicated in the table is the sum of phase+neutral.

(4) Dissipated power indicated in the table is the sum of all poles.

Impedance calculation:

$$Z = P / I^2$$

Z: impedance in Ohms

P: dissipated power in Watts (table values)

I: rating in Amperes

Voltage drop calculation:

$$U = P / I$$

U: voltage drop in Volts

P: dissipated power in Watts (table values)

I: rating in Amperes

Dissipated power, Impedance and Voltage drop (cont.)

Multi 9 products

The following table indicates the average dissipated power per pole in W for a current equal to the rating of the device and at the operating voltage.

Rating (A)	0.5	1	1.6	2	2.5	3	4	5	6	6.3	8	10	12.5	13	15	16	20	25	30	32	40	45	50	63	80	100	125	
Circuit breakers																												
C60BP, C60BPR, C60SP	2.6	1.3	1.7		1.9	2	2.2	1.2		1.7	1.9		2.4	2.3	2.6	2.2	3.4		2.8	3.6	3.9	4.8	4.8					
C60N, C60H, C60L, C60CTRL		1.3	1.7		1.9	2		1.2			1.9		2.4		2.6	2.2	2.7		3.2			4.8	4.3					
N40N (1)		2.5	1.9		2.1	2.6		2.7			2.7				3.2	4.7	4.7		4.6	5.8								
RCBO																												
N40 Vigi (1)								4.1			3.2				3.9	4.4	4.5			6.4								
RCCB																												
GFP UL1053																	1.4			3.6			4.4			18		
RCCB ID																	1.4			3.6			4.4					
RCCB-ID 125 A																											7	
Add-on residual current devices																												
Vigi N40																					2.1							
Vigi C60																	2.8			1.6			3					
Indication auxiliaries																												
OF, SD, OF+SD/OF	C60, ID: see catalog module CM908010																											
Tripping auxiliaries																												
MN, MNs, MNx, MX+OF, MX, MSU	C60, ID: see catalog module CM908010																											

Note: When the enclosure's thermal balance, consider the 4P devices load is only on 3 phases.

RCBO dissipated power per pole is the sum of circuit breaker dissipated power per pole + add-on residual current device dissipated power per pole.

Example: C60N (25 A) + Vigi C60 (25 A) = 2.7 + 2.8 = 5.5 W.

(1) Dissipated power indicated in the table is the sum of phase+neutral.

Impedance calculation:

$$Z = P / I^2$$

Z: impedance in Ohms

P: dissipated power in Watts (table values)

I: rating in Amperes

Voltage drop calculation:

$$U = P / I$$

U: voltage drop in Volts

P: dissipated power in Watts (table values)

I: rating in Amperes

Dissipated power, Impedance and Voltage drop (cont.)



Indice	Date	Modification	Name
2.7	21/02/2022	Remove ARC iC40/50A value, remove Acti9 relays products and add C60BP/45A value	I. Flaubert
2.6	25/08/2021	Add 2A rating page 1 and change C120 values	I. Flaubert
2.5	24/02/2021	Add -DC products page 4, AFDD products page 2 and reorganize tables	I. Flaubert
2.4	27/03/2019	Change ICT/iCT+ values	I. Flaubert
2.3	13/06/2018	Change Acti9 iCV40/iCV40N/H and Vigi iC40 values	Sonovision
2.2	1/06/2018	Add Acti9 iC40/iC40N, iCV40/iCV40N/H and Vigi iC40 values	Sonovision
2.1	10/04/2018	Add Acti9 RCBO values page 2	Sonovision
2.0	03/04/2017	New charte	Sonovision
1.5	14/11/2016	Added value for iC60N/H/L, 1.6 A and iK60 13 A page 2 - Added C60H-DC values for 5 - 15-30 A	Sonovision
1.4	16/09/2016	Changed "See module 92605" page 3, replace by CM908010 or CM908011	Sonovision
1.3	21/05/2015	Added RED, REDs, REDtest page 3	Sonovision
1.2	5/06/2014	Changed all tables	Sedoc
1.1	22/10/2013	Changed NG125 values page 3	Sedoc
1.0	4/09/2012	Creation	Sedoc