

RCCB R80M/PR8HM

Data Sheet V1.0



Our changing life style and high tech developments makes that there is need for more general safety in our systems. With the GACIA R80M/PR8HM electromagnetic type RCCB (residual current circuit breaker) is the solution for this changing lifestyle. With the RCCB you can find the right protection for your situation in any time. The design covers the range up to 100A, in type A and A[G], with a sensitivities of 30, 100 or 300mA, all of this with a breaking capacity of 10kA.



R80M Type A, A[S]
PR8HM type A[G]

R80M residual current circuit breaker

CE

CB

KEMA
EUR

RoHS

RCCB compliant to product standard IEC/EN 61008 and with the following main technical features

- Breaking capacity 10kA
- Electromagnetic (IEC/EN 61008-2-1)
- Type A, A[G], A[S]
- Sensitivity 30, 100, 300mA
- rated current up to 100A

Application benefits

- Supply possible from top and bottom
- Fork or pin type busbar connection (above and below) up to 30mm² and cable connection up to 35mm² cables.
- Terminal cover by attribute
- Locking possibility for the handle in off position by attribute.
- Family feeling in the GACIA range modular components

RCCB's R80M



Technical Data



			R80M-2	R80M-4
Type			IEC/EN 61008-1; IEC/EN 61008-2-1	
Standards			CE, CB, KEMA KEUR	
Certification			CN	
Country of origin			Compliant, No Exemption	
RoHS Compliance Status			A – A[G] – A[S]	
Electrical features	Type (wave form of the earth leakage sensed)		1p+n	3p+n
	Number of poles		25 - 40 - 63	25 - 40 - 63 - 100
	Rated current	In A	0.03 - 0.1 - 0.3	0.03 – 0,1 – 0,3
	Rated sensitivity	IΔn A	230 / 240	240 / 415
	Rated voltage	Ue V	instantaneous	
	Operating time	Type A	10ms delay	
		Type [G]	40ms delay	
		Type [S]	500 V AC	
	Insulation voltage	Ui V	III	
	Overvoltage category		2	
	Pollution degree		150 - 253	150 – 440V
	Operating voltage of circuit test	V	50 - 60	
	Rated frequency	Hz	10.000	
	Rated breaking capacity acc. to IEC/EN 61009-1	Icu A	25/40A – 500A	63/100A – 630A
	Rated residual breaking capacity IΔm according to EN 61008-1	IΔm A	6	
Mechanical features	Rated impulse withstand voltage (1.2/50) Uimp	kV	2.5 kV (50 / 60Hz, 1 min.)	
	Dielectric test voltage at ind. freq. for 1 min.	kV	Insulation group I - II, RAL 7035	
	Housing		Insulation group II, RAL 5017	
	Toggle		Insulation group II, RAL 5017	
	Test button		Green / Red window	
	Contact position indication		White window	
	Earth fault trip indication		4.000	
	Electrical life	operations	10.000	
	Mechanical life	operations	IP4X	
	Protection degree acc. to EN 60529	housing	IP2X	
		terminals	25g - 2 shocks - 13ms	
	Shock resistance acc. to IEC/EN 60068-2-27		0.1 mm or 1 g - 20 cycles at 5...150...5 Hz	
	Vibration resistance acc. to IEC/EN 60068-2-6		28 cycles with 55°C/90-96% and 25°C/95-100%	
	Environmental conditions (damp heat) acc. to IEC/EN 60068-2-30	°C/RH	-25... +70	
	Ambient temperature (with daily average ≤ +35 °C)	°C	-40... +70	
	Storage temperature	°C		

RCCB's R80M

Technical Data

				
			R80M-2	R80M-4
Installation	Type		lift / open-mouthed	
	Terminal type	bottom / top	50/35	
	Terminal size for cables	bottom / top	mm ²	
	Terminal size for FORK busbar	bottom / top	mm ²	
	Terminal size for PIN busbar	bottom / top	mm ²	
	Solid /stranded wiring		1x 4mm ² - 50mm ² 2 x 4mm ² - 16mm ² *	
	Flexible wires with or without ferrules		1x 4mm ² - 35mm ² 2 x 4mm ² - 16mm ² *	
	Tightening torque	bottom / top	2-3.5 Nm (3Nm)	
	Stripping length of the cable		12mm	
	Mounting		on DIN rail EN 60715 (35mm) by means of mounting clip	
	Mounting position		Any	
	Supply from		Top / bottom terminals	
	Dimensions (H x W x D)	mm	81 x 36 x 72	71 x 72 x 72
	Weight	kg	0,17	0,34
Packing	Packing A	QTY	6	3
		Dimensions (H x W x D)	mm	
		Weight	kg	
	Packing B (x A)	QTY	60	30
		Dimensions (H x W x D)	mm	
		Weight	kg	
	CN-code		85362010	
Combination with auxiliary elements	Auxiliary contact		NA	
	Alarm contact		NA	
	Shunt trip		NA	
	Auxiliary contact for bottom fitting		NA	
	Undervoltage release		NA	
	Overvoltage release		NA	
	Motor operating device		NA	

* Check local installation rules, this type of connection is not advised. Special add-on terminals are available.

MCB M80N

Technical Data

Performance in altitude*

Elevation [m]	2000	3000	4000	5000	6000
Rated current [A]	1 x In	0,95 x In	0,92 x In	0,90 x In	0,88 x In
Rated voltage [V]	1 x Un	0,85 x Un	0,75 x Un	0,65 x Un	0,55 x Un

* the isolator switch is designed for standard level operations, performance information on higher altitude is not available

Power loss component

In [A]	2p [W]	4p [W]
25	3,4	7,2
40	7,2	15,3
63	15	24
100	-	32

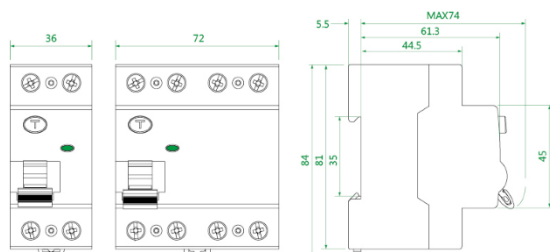
Influence of adjacent devices

Number of devices	Correction factor
1	1
2-3	0,9
4-5	0,8
6-9	0,7
≥10	0,6

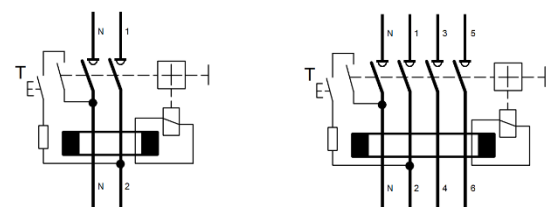
These values are provided by recommendation IEC 61439-1 and standards EN 61439-1. In order to avoid having to use these coefficients there must be good ventilation and the devices must be kept apart using the spacing element article number 2119000010 (0.5 module).

Overall dimensions

All measurements in mm



Connection diagram



Type A
1P+N

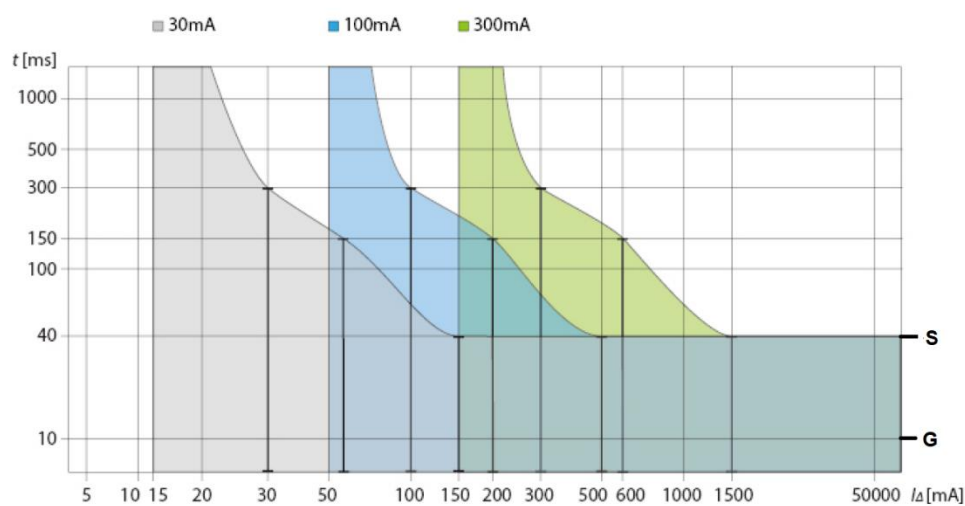
Type A
3P+N

RCCB's R80M

Technical Data

Tripping Characteristics (IEC/EN 61008)

Tripping characteristics, tripping time range and selectivity of instantaneous, surge current-proof [G] and surge current-proof – selective [S] residual current devices.






Wiring options

1 phase	3 phase – 4 wire	3 phase – 3 wire (bridge)*
Type A R80M 1p+n	Type A R80M 3p+n	Type A R80M 3p+n

* If there is no neutral, the RCCB will be connected normally but a bridge (article no. 2305181002) will need to be added across terminals N/3, as shown, will cause a voltage drop which leaves the test circuit at a suitable normal operation range.

RCCB's R80M

Order codes



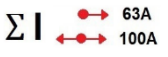
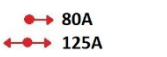

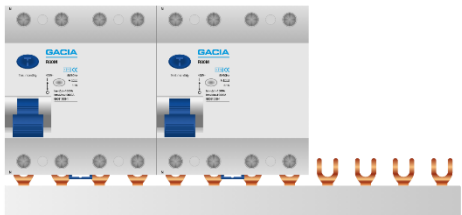
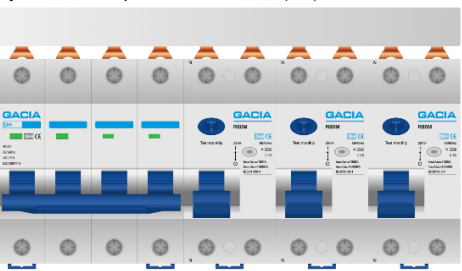
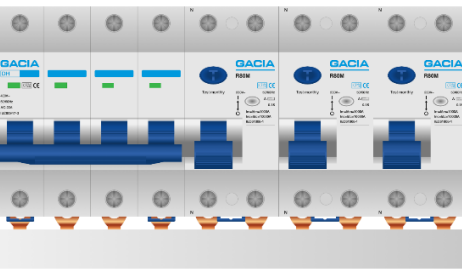

							
		1P+N			3P+N		
IΔn	Inom	A	A[G]	A[S]	A	A[G]	A[S]
30mA	25 A	5105200025	-	-	5105400025	-	-
	40 A	5105200040	-	-	5105400040	-	-
	63 A	5105200063	5105200563		5105400063	5105400563	
100mA	63 A	5105202063	-	-	5105402063	-	-
300mA	63 A	5105201063	5105201563	5105201163	5105401063	5105401563	5105401163
	100 A	-	-	-	5105401099	-	-
Terminal cover	Yellow	5102290010			5102490010		
							

* Other types are available through special order

RCCB's R80M

Order codes for connective rail


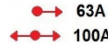





Supplied by SEP EUROPE ®

	R80M-2	R80M-4	10mm ² (closed end - non cuttable)		16mm ² (cut to size with end- caps)	
			ΣI 		ΣI 	
Busbar / connective rail type			PIN	FORK	PIN	FORK
2 pole (phase neutral) N1-N1-N1...		-	2305102004	2305112004	-	-
		-	2305102006	2305112006	2306020006	2306120006
		-	2305102008	2305112008	2306020008	2306120008
		-	2305102010	2305112010	2306020010	2306120010
		-	2305102012	2305112012	2306020012	2306120012
		-	2305102014	2305112014	2306020014	2306120014
		-	2305102016	2305112016	2306020016	2306120016
		-	2305102018	2305112018	2306020018	2306120018
		-	-	-	2306020020	2306120020
		-	-	-	2306020022	2306120022
		-	-	-	2306020024	2306120024
		-	-	-	2306160200	2306161200
		-	-	-	-	-
3N pole (3 phase neutral) N1-N2-N3...		-	2305105012	2305115012	2306050012	2306150012
		-	2305105018	2305115018	2306050018	2306150018
		-	-	-	2306050024	2306150024
		-	-	-	2306160500	2306161500
4 pole (3 phase neutral) N123-N123...		2	2305104008	2305114008	2306040008	2306140008
		3	2305104012	2305114012	2306040012	2306140012
		4	2305104016	2305114016	2306040016	2306140016
		5	-	-	2306040020	2306140020
		6	-	-	2306040024	2306140024
		14	-	-	2306160400	2306161400
Top Combi-rail N123-N1-N2-N3-(N1)		3	2305195310	2305195010	-	-
		4	2305195312	2305195012	-	-
Bottom Combi-rail N123-N1-N2-N3-(N1)		3	2305195110	2305195210	-	-
		4	2305195112	2305195212	-	-

RCCB's R80M

Order codes for connective rail



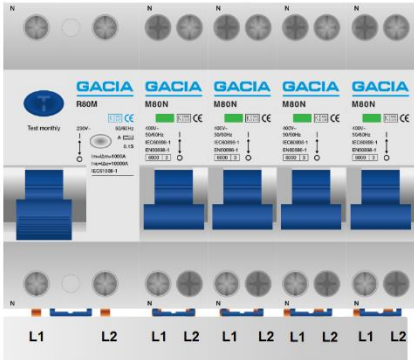
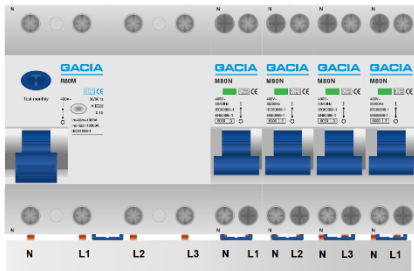

Supplied by SEP EUROPE®

	<div>R80M-2</div> <div></div>	10mm² (closed end - non cuttable)	16mm² (cut to size with end- caps)			
		<div>ΣI</div> <div></div>	<div>ΣI</div> <div></div>			
Busbar / connective rail type		PIN	FORK	PIN	FORK	
1 phase – neutral bar (35.6mm)	<div></div>	2	2305171902	2305181902	-	-
		3	2305171903	2305181903	-	-
		4	2305171904	2305181904	-	-
		5	2305171905	2305181905	-	-
		6	2305171906	2305181906	2306019206	2306119206
		9	-	-	2306019209	2306119209
		12	-	-	2306019212	2306119212
		27	-	-	2306160121	2306161121
1 phase – phase bar (35.6mm)	<div></div>	2	2305171002	2305181002	-	-
		3	2305171003	2305181003	-	-
		4	2305171004	2305181004	-	-
		5	2305171005	2305181005	-	-
		6	2305171006	2305181006	2306010206	2306110206
		9	-	-	2306010209	2306110209
		12	-	-	2306010212	2306110212
		27	-	-	2306160120	2306161120
<div></div>	BRIDGE connector for 3 phase systems without neutral.	2305181002		-		
<div></div>	Open mouth covers for busbar PIN/FORK	2115900010				

RCCB R80M

Order codes for connective rail

Supplied by SEP EUROPE ®


		<p>10mm² (closed end - non cuttable)</p> <p>ΣI </p>
<p>Busbar / connective rail type</p> <p>Bottom Combi-rail (L1-L2) R80M – M80N</p> 	<p>No. devices</p> <p>1x 2p + 2x 2P (18mm)</p> <p>1x 2p + 3x 2P (18mm)</p> <p>1x 2p + 4x 2P (18mm)</p> <p>1x 2p + 5x 2P (18mm)</p>	<p>2305192006</p> <p>2305192008</p> <p>2305192010</p> <p>2305192012</p>
<p>Bottom Combi-rail (N-L1-L2-L3-N1-N2-N3-N1) R80M – M80N</p> 	<p>1x 4p + 4x 2P (18mm)</p>	<p>2305194012</p>
	<p>Open mouth covers for busbar PIN 9/18</p>	<p>2115900015</p>


* pictures are indicative – other combinations are possible


RCCB R80M

Order codes accessories

Supplied by SEP EUROPE ®

Add-on terminals Reference image	Wire size	PIN		FORK	
		Grey	Blue	Grey	Blue
	1x50mm2 solid/stranded 1x35mm2 flexible	2115900060	2115900120	2115900090	2115900150
	2x25mm2 solid/stranded 2x16mm2 flexible	2115900070	2115900130	2115900100	2115900160
	3x16mm2 solid/stranded 3x10mm2 flexible	2115900080	2115900140	2115900110	2115900170

Marker – spacer Reference image	Description	Code
	Component Spacer 0,5mm	2119000010

Lockout Reference image	Description	Code
	Lockout set - complete	2115909099
	Locking devices adaptor	2115909015
	Locking device screw adaptor	2115909010
	Padlock with 2 identical keys	2115909020
	Warning tag (English)	2115909030

GACIA Europe ®

Imp. Schotman Elektro B.V.

www.gacia.nl

www.schotmanelektro.eu

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. Schotman Elektro B.V. does not accept any responsibility whatsoever for potential errors or possible lack of information in this document

Copyright© 2024 Schotman Elektro B.V., All rights reserved