

GHG 622 miniature circuit breaker (MCB) E-series



size 4



size 3



size 2



size 1

Technical data E-series

MCB 0.5 A up to 40 A

Marking accd. to 2014/34/EU		Ex II 2 G Ex de IIB/IIC Gb			
EC-Type Examination Certificate		BVS 09 ATEX E 145 U			
Marking accd. to IECEx		Ex de IIB/IIC Gb			
IECEx Certificate of Conformity		IECEx BVS 10.0002 U			
Functional temperature		-40 °C up to +75 °C			
Application temperature ¹⁾		-20 °C up to +50 °C (IIC) (size 1 - 4) -45 °C up to +50 °C (IIB) (size 1 and 2) -20 °C up to +50 °C (IIB) (size 3 - 4)			
Operating temperature range		-20 °C up to +110 °C (IIC) (size 1 - 4) -45 °C up to +110 °C (IIB) (size 1 and 2) -20 °C up to +110 °C (IIB) (size 3 - 4)			
Rated voltage	main contact	max. 400 V AC (+ 10 %) max. 250 V AC			
	aux. contact				
Rated current	main contact	0.5 A to 40 A max. 5 A			
	aux. contact				
Rated switching capacity 2/3 phase		10 kA			
230 V AC (133/230 V AC) kA/cos φ		10/0.5			
400 V AC (230/400 V AC) kA/cos φ		10/0.5			
Back-up fuse depend on rated current		up to 125 A gL/gG, MCCBs and MCBs also possible according technical documentation			
Connecting terminals	main contact size 1 - 4	1 x 1.5 mm ² - 1 x 16 mm ² fine wire with wire end sleeve/single wire 2 x 1.5 mm ² - 2 x 6 mm ² fine wire with wire end sleeve/single wire up to 2 x 16 mm ² with cable lug GHG9059025R0010 up to 1 x 25 mm ² or 2 x 25 mm ² with cable lug GHG5101916R0001			
	auxiliary-/signal contact	1.5 mm ² up to 2.5 mm ² fine wire with wire end sleeve/single wire			
Module size		1	2	3	4
No of main contacts		1	1/2	2/3	3/4
No. of auxiliary contacts		0	1/2	1/2	1/2
Weight		0.6 kg	0.9 kg	1.2 kg	1.6 kg
Enclosure material		Polyamide			
Component degree of protection accd. EN 60529		IP20			
Padlocking facility		in OFF position with a commercially available padlock			

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components (functional temperature) have to be taken into account (see also page 2.6.11).
The permissible effective power loss per DIN rail (or per window) is limited to 11 W at +40 °C ambient temperature around a GHG 62 panel board.



size 1



size 2



size 3



size 4

Order Code miniature circuit breaker (MCB): 0.5 up to 40 A E-series

GHG 622 XXXX R2YYY

1. Contacts

Contact arrangement						Aux. contacts	No of main contacts		No of main contacts		No of main contacts		No of main contacts	
Additional components	Main contact	Aux. contact	Signal contact	Overload release	Undervoltage release	Circuit	1-pole (XXXX)	module size	2-pole (XXXX)	module size	3-pole (XXXX)	module size	4-pole (XXXX)	module size
none	x	---	---	on request	on request	---	1101	1	2101	2	3101	3	4101	4
two	x	1 C/O	1 C/O	on request	on request	5	2108	2	3104	3	4110	4	4126*	4

* restricted availability into 2017. Contact customer centre for details

Example: 2-pole MCB with two additional contacts (1 x aux. contact C/O + 1 signal contact C/O)
 XXXX=3110 (module size 3) --> GHG 622 3104 R2YYY

GHG 622 XXXX R2YYY

2. Tripping current

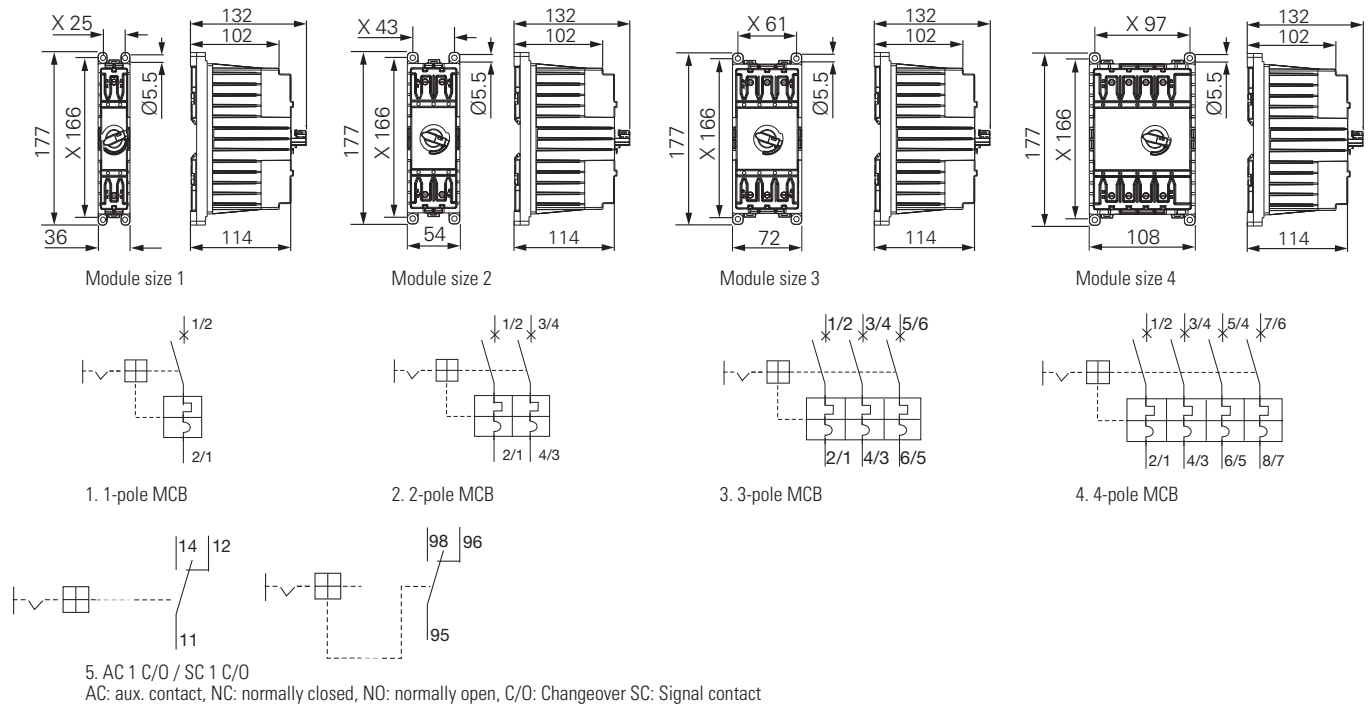
Built-in components MCBs: order code MCB 0.5 up to 40 - I_{cn} = 10 kA

Tripping current FAZ	Characteristic K		Characteristic Z		Characteristic B		Characteristic C		Characteristic D	
	Max. backup fuse gG	YYY	Max. backup fuse gG	YYY	Max. backup fuse gG	YYY	Max. backup fuse gG	YYY	Max. backup fuse gG	YYY
0.5 A	125 A	013	125 A	081	125 A		125 A	121	125 A	
1 A	125 A	015	125 A	082	125 A		125 A	122	125 A	
1.6 A	125 A	016	125 A	083	125 A		125 A	123	125 A	
2 A	125 A	017	125 A	084	125 A		125 A	124	125 A	
3 A	125 A	018	125 A	085	125 A		125 A	125	125 A	
4 A	125 A	019	125 A	086	125 A		125 A	126	125 A	
6 A	125 A	020	125 A	087	125 A	101	125 A	127	125 A	159
8 A	125 A	021	125 A	088	125 A		125 A	128	125 A	160
10 A	125 A	022	125 A	089	125 A	102	125 A	129	125 A	161
13 A	125 A	023	125 A		125 A	103	125 A	130	125 A	162
16 A	125 A	024	125 A	090	125 A	104	125 A	131	125 A	163
20 A	125 A	025	125 A	091	125 A	105	125 A	132	125 A	164
25 A	125 A	026	125 A	092	125 A	106	125 A	133	125 A	165
32 A	125 A	027	125 A	093	125 A	107	125 A	134	125 A	166
40 A	125 A	028	125 A	094	125 A	108	125 A	135	125 A	167

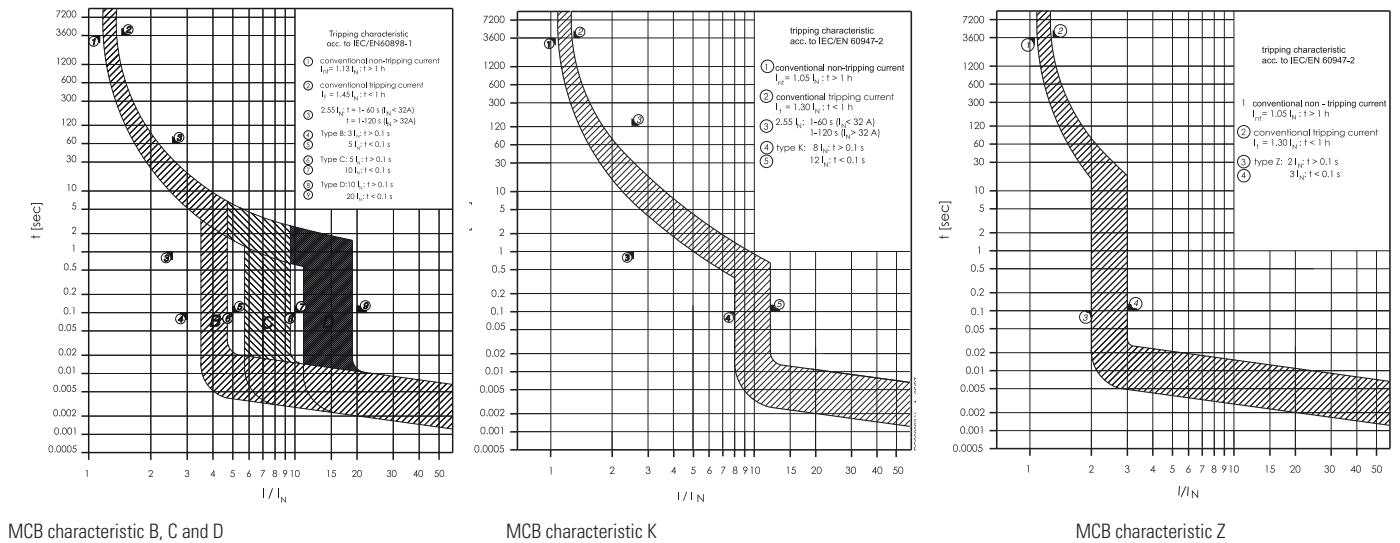
Power Loss at I_N

I _N A	Characteristic K				Characteristic Z				Characteristic B				Characteristic C				Characteristic D			
	1-pole W	2-pole W	3-pole W	4-pole W	1-pole W	2-pole W	3-pole W	4-pole W	1-pole W	2-pole W	3-pole W	4-pole W	1-pole W	2-pole W	3-pole W	4-pole W	1-pole W	2-pole W	3-pole W	4-pole W
0.5 A	1,8	3,6	5,4	7,2	3,2	6,4	9,6	12,8					1,2	2,4	3,6	4,8				
1 A	2	4	6	6	3,6	7,2	10,8	14,4					1,6	3,2	4,8	6,4				
1.6 A	1,5	3	4,5	6	2,6	5,2	7,8	10,4					1,6	3,2	4,8	6,4				
2 A	1,4	2,8	4,2	5,6	3,7	7,4	11,1	14,8					1,4	2,8	4,2	5,6				
3 A	1,4	2,8	4,2	5,6	2,4	4,8	7,2	9,6					1,2	2,4	3,6	4,8				
4 A	1,7	3,4	5,1	6,8	4	8	12	16					1,4	2,8	4,2	5,6				
6 A	2,3	4,6	6,9	9,2	2,8	5,6	8,4	11,2	1,8	3,6	5,4	7,2	1,5	3	4,5	6	1,5	3	4,5	6
8 A	2,1	4,2	6,3	8,4	3,3	6,6	9,9	13,2	2,1	4,2	6,3	8,4	2,1	4,2	6,3	8,4	1,3	2,6	3,9	5,2
10 A	1,8	3,6	5,4	7,2	3,3	6,6	9,9	13,2	1,9	3,8	5,7	7,6	1,5	3	4,5	6	1,5	3	4,5	6
13 A	2,7	5,4	8,1	10,8					2,5	5	7,5	10	2,5	5	7,5	10	1,9	3,8	5,7	7,6
16 A	3	6	9	12	3,6	7,2	10,8	14,4	2,2	4,4	6,6	8,8	2,2	4,4	6,6	8,8	2,2	4,4	6,6	8,8
20 A	4	8	12	16	4,4	8,8	13,2	17,6	3,2	6,4	9,6	12,8	3,2	6,4	9,6	12,8	2	4	6	8
25 A	2,6	5,2	7,8	10,4	3,8	7,6	11,4	15,2	3	6	9	12	3	6	9	12	2,5	5	7,5	10
32 A	3,2	6,4	9,6	12,8	3,4	6,8	10,2	13,6	3,7	7,4	11,1	14,8	3,7	7,4	11,1	14,8	3,4	6,8	10,2	13,6
40 A	4	8	12	16	4,5	9	13,5	18	3,4	6,8	10,2	13,6	3,4	6,8	10,2	13,6	3,2	6,4	9,6	12,8

Dimension drawing / termination diagram



Tripping characteristic



GHG 624 residual current device (RCD)



Size 2



Size 3



Size 4

Technical data E-series

Residual current circuit breakers RCD from 30 mA up to 0.5 A (25/40/63 A)

Marking accd. to 2014/34/EU	II 2 G Ex db eb IIC / Ex db eb IIB	
EC-Type Examination Certificate	BVS 09 ATEX E 145 U	
Marking accd. to IECEx	Ex de IIB/IIC Gb	
IECEx Certificate of Conformity	IECEx BVS 10.0002 U	
Functional temperature	-25 °C up to +40 °C	
Application temperature ¹⁾	-20 °C up to +55 °C (IIC) (size 3 - 4) -45 °C up to +55 °C (IIB) (size 2)	
Operating temperature range	-20 °C up to +110 °C (IIC) (size 3 - 4) -45 °C up to +110 °C (IIB) (size 2)	
Rated voltage	main contact aux. contact	max. 415 V AC (+ 10 %) max. 250 V AC
Rated current	main contact aux. contact	25 A / 40 A / 63 A max. 5 A
Rated residual operating current IDn	30 mA / 100 mA / 300 mA / 500 mA	
Back-up fuse depend on rated current	see table below	
Connecting terminals	main contact size 1 -4 auxiliary-/signal contact	1 x 1.5 mm ² - 1 x 16 mm ² fine wire with wire end sleeve/single wire 2 x 1.5 mm ² - 2 x 6 mm ² fine wire with wire end sleeve/single wire up to 2 x 16 mm ² with cable lug GHG9059025R0010 up to 1 x 25 mm ² or 2 x 25 mm ² with cable lug GHG5101916R0001 1.5 mm ² up to 2.5 mm ² fine wire with wire end sleeve/single wire
Module size	2	3 4
No of main contacts	2	2 4
No. of auxiliary contacts	0	2 c/o 2 c/o
Weight	0.9 kg	1.2 kg 1.6 kg
Enclosure material	Polyamide	
Component degree of protection accd. EN 60529	IP20	
Padlocking facility	in OFF position with a commercially available padlock	

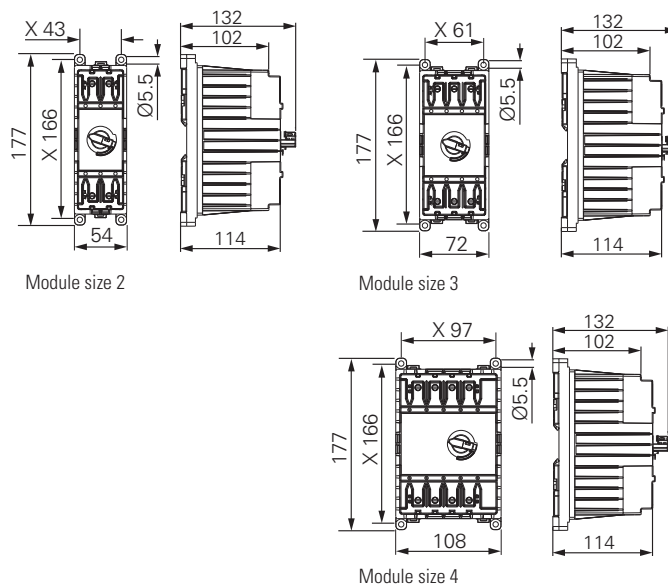
¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components (functional temperature) have to be taken into account (see also page 2.6.11).
The permissible effective power loss per DIN rail (or per window) is limited to 11 W at +40 °C ambient temperature around a GHG 62 panel board.

FRCmM (xEffect)

Max. back-up fuse

I _n	Short circuit	Overload
25 A	63 A gG/gI	25 A gG/gI
	FAZ 25 A char. B/C	FAZ 25 A char. B/C
40 A	63 A gG/gI	40 A gG/gI
	FAZ 40 A char. B/C	FAZ 40 A char. B/C
63 A	63 A gG/gI	63 A gG/gI
	FAZ 40 A char. B/C	FAZ 40 A char. B/C

Dimension drawing





Order Code RCDs 25/40/63 A E-series

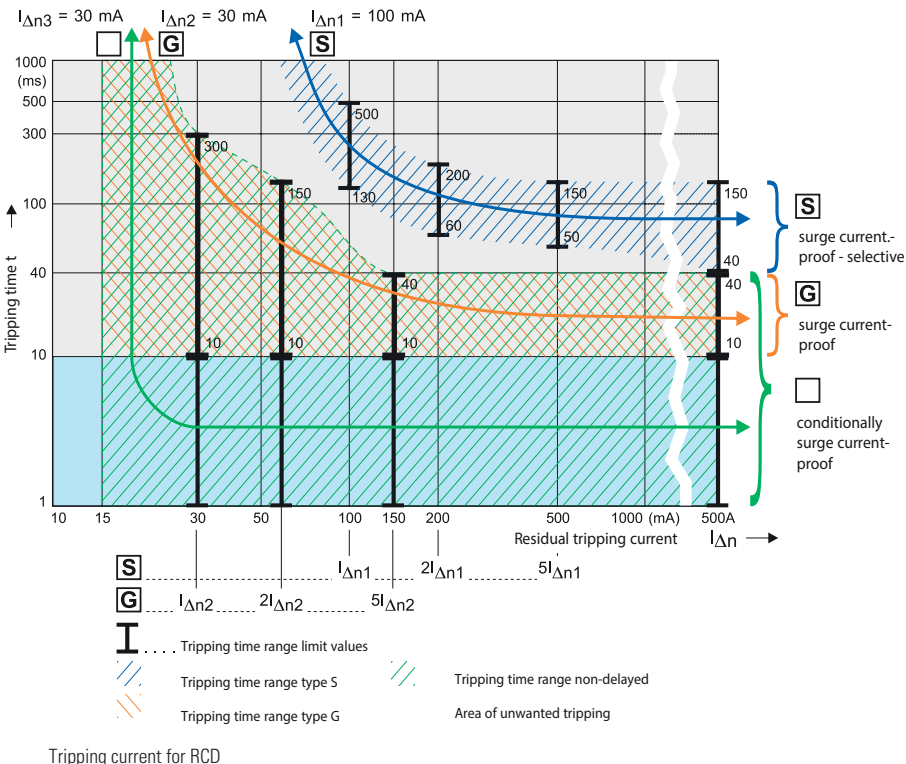
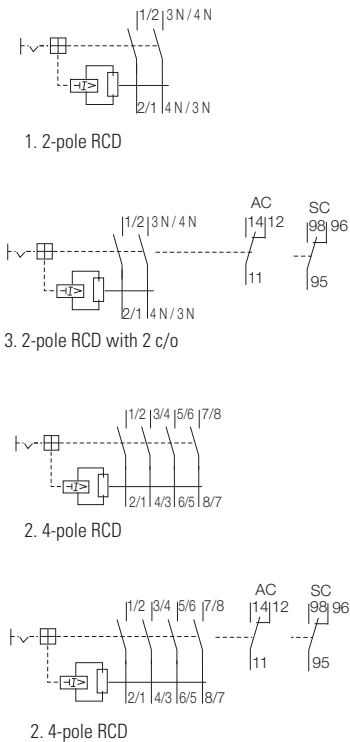
GHG 624 XXXX R1YYY

1. Contacts 2. Tripping current/Rated current

1. Contact arrangement					No of main contacts		No of main contacts	
Additional components	Main contact	Aux. contact	Signal contact	Termination diagram	2-pole (XXXX)	Module size	4-pole (XXXX)	Module size
None	x	---	---	1/2	2101	2	4101	4
Two	x	1 C/O	1 C/O	3/4	3103	3	4105	4

2. Rated residual operating current IDn FRC mM Typ A	Rated current 25 A			Rated current 40 A			Rated current 63 A		
	Power dissipation in W			Power dissipation in W			Power dissipation in W		
	2 pole	4 pole	YYY	2 pole	4 pole	YYY	2 pole	4 pole	YYY
0.03 A	2	3,1	012	7,8	13,1	013	9.7	10.5	014
0.1 A	1,3	2,8	022	5,5	8,8	023	7.2	n/a	024 (2p only)
0.3 A	1,3	2,8	032	5,5	8,8	033	n/a	10.5	034 (4p only)
0.5 A	1,3	2,8	042	5,5	8,8	043	7.2	10.5	044

Termination diagram / tripping characteristic



GHG 625 residual circuit breaker with overload (RCBO) E-series



Size 2



Size 3

Technical data type E-series

RCBOs from 10 mA up to 0.3 A (trip current 0.5 A - 32 A)

Marking accd. to 2014/34/EU	II 2 G Ex db eb IIC / Ex db eb IIB	
EC-Type Examination Certificate	BVS 09 ATEX E 145 U	
Marking accd. to IECEx	Ex de IIB/IIC Gb	
IECEx Certificate of Conformity	IECEx BVS 10.0002 U	
Functional temperature	-25 °C up to +40 °C	
Application temperature ¹⁾	-20 °C up to +55 °C (IIC) (size 2 and 3) -45 °C up to +55 °C (IIB) (option - size 2)	
Operating temperature range	-20 °C up to +110 °C (IIC) (size 2 and 3) -45 °C up to +110 °C (IIB) (option - size 2)	
Rated voltage	main contact aux. contact	max. 240 V AC (+ 10 %) max. 250 V AC
Rated current	main contact aux. contact	max. 32 A max. 5 A
Rated switching capacity 2 phase		10 kA
	230 V AC (133/230 V AC) kA/cos φ	10/0.5
	400 V AC (230/400 V AC) kA/cos φ	10/0.5
Rated residual operating current ID _n	10 mA, 30 mA, 300 mA	
Back-up fuse depend on rated current	up to 100 A gL, MCCBs and MCBs also possible according technical documentation	
Connecting terminals	main contact size 1 - 4	1 x 1.5 mm ² - 1 x 16 mm ² fine wire with wire end sleeve/single wire 2 x 1.5 mm ² - 2 x 6 mm ² fine wire with wire end sleeve/single wire up to 2 x 16 mm ² with cable lug GHG9059025R0010 up to 1 x 25 mm ² or 2 x 25 mm ² with cable lug GHG5101916R0001
	auxiliary-/signal contact	1.5 mm ² up to 2.5 mm ² fine wire with wire end sleeve/single wire
Module size	2	3
No of main contacts	2	2
No. of auxiliary contacts	0	1 c/o 2 c/o
Weight	0.9 kg	1.2 kg
Enclosure material	Polyamide	
Component degree of protection accd. EN 60529	IP20	
Padlocking facility	in OFF position with a commercially available padlock	

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components (functional temperature) have to be taken into account (see also page 2.6.11).
The permissible effective power loss per DIN rail (or per window) is limited to 11 W at +40 °C ambient temperature around a GHG 62 panel board.



Size 2



Size 3

Order Code RCBOs E-series

GHG 625 XXXX RZYYY

1. Contacts (XXXX)

2. $I_{DN}(Z)$

3. Tripping current (YYY)

1. Contacts - $I_{cn} = 10 \text{ kA}$

Contact arrangement					Term. diag.	No of main contacts	
Additional components	Main Contact	Aux. contact	Signal contact	RCBO FRBmM Typ A		1-pol. (xxxx)	Module size
None	1+N	-	-	B/C	1	2103	2
Two	1+N	1 C/O	1 C/O	B/C	2/3	3108	3

2. Rated residual operating current $I_{Dn} (Z)$

Type	B-Characteristic 10 kA FRBmM Typ A				C-Characteristic 10 kA FRBmM Typ A			
Rated residual operating current I_{Dn}	10	30	100	300	10	30	100	300
Z	0	1	2	3	0	1	2	3

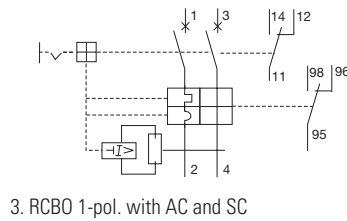
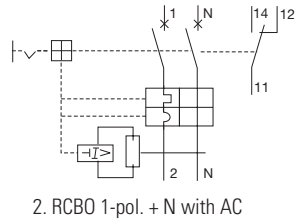
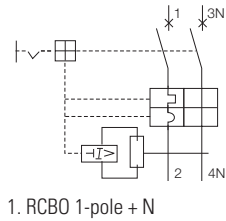
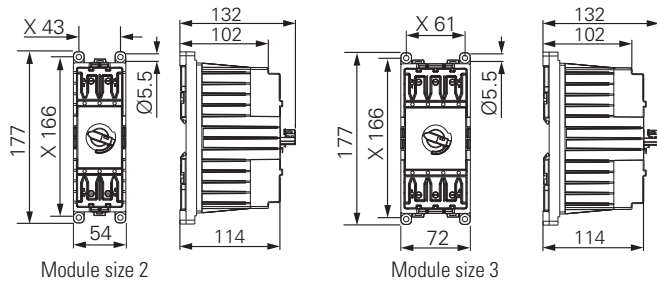
3. Tripping current (YYY)

2 A	-	-	-	-	274	274	274	274
4 A	-	-	-	-	275	275	275	275
6 A	254	254	254	254	276	276	276	276
10 A	255	255	255	255	278	278	278	278
13 A	256	256	256	256	279	279	279	279
16 A	257	257	257	257	280	280	280	280
20 A	-	258	258	258	-	281	281	281
25 A	-	259	259	259	-	282	282	282
32 A	-	260	260	260	-	283	283	283

Power loss at I_N - B & C characteristics, 10 through 300 mA I_{Dn}

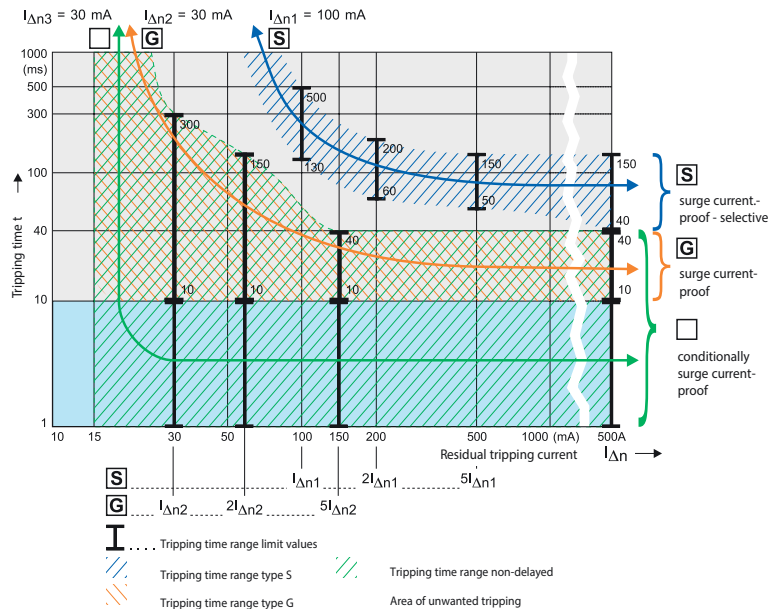
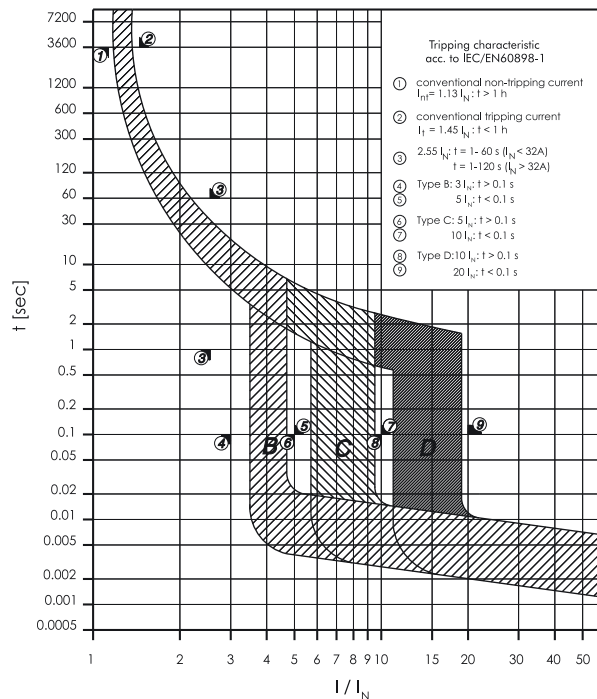
$I_N (A)$	P (W)
2 A	1.4
4 A	1.5
6 A	1.7
10 A	2.3
13 A	3.4
16 A	3.6
20 A	5.4
25 A	5.0
32 A	6.1

Dimension drawing / Termination diagram



AC = Aux. contact
SC = Signalling contact

Tripping characteristic



MCB characteristic B / C

RCD Characteristic