

EX - D - BUILT - IN COMPONENTS

GHG 62 flameproof encapsulation up to 63 A

If arcing or sparking electrical apparatus are used in hazardous areas, i.e. potentially explosive atmospheres, they must be protected according to EN 60079 pp by special constructional measures.

The Eaton's Crouse-Hinds Business explosion protected apparatus, such as the modules in Ex-e distributions, derives its high degree of safety through the combination of various types of protection. Thus, flameproof encapsulated components (Ex-d), for instance, are also integrated in enclosures of the type "Increased Safety" (Ex-e).

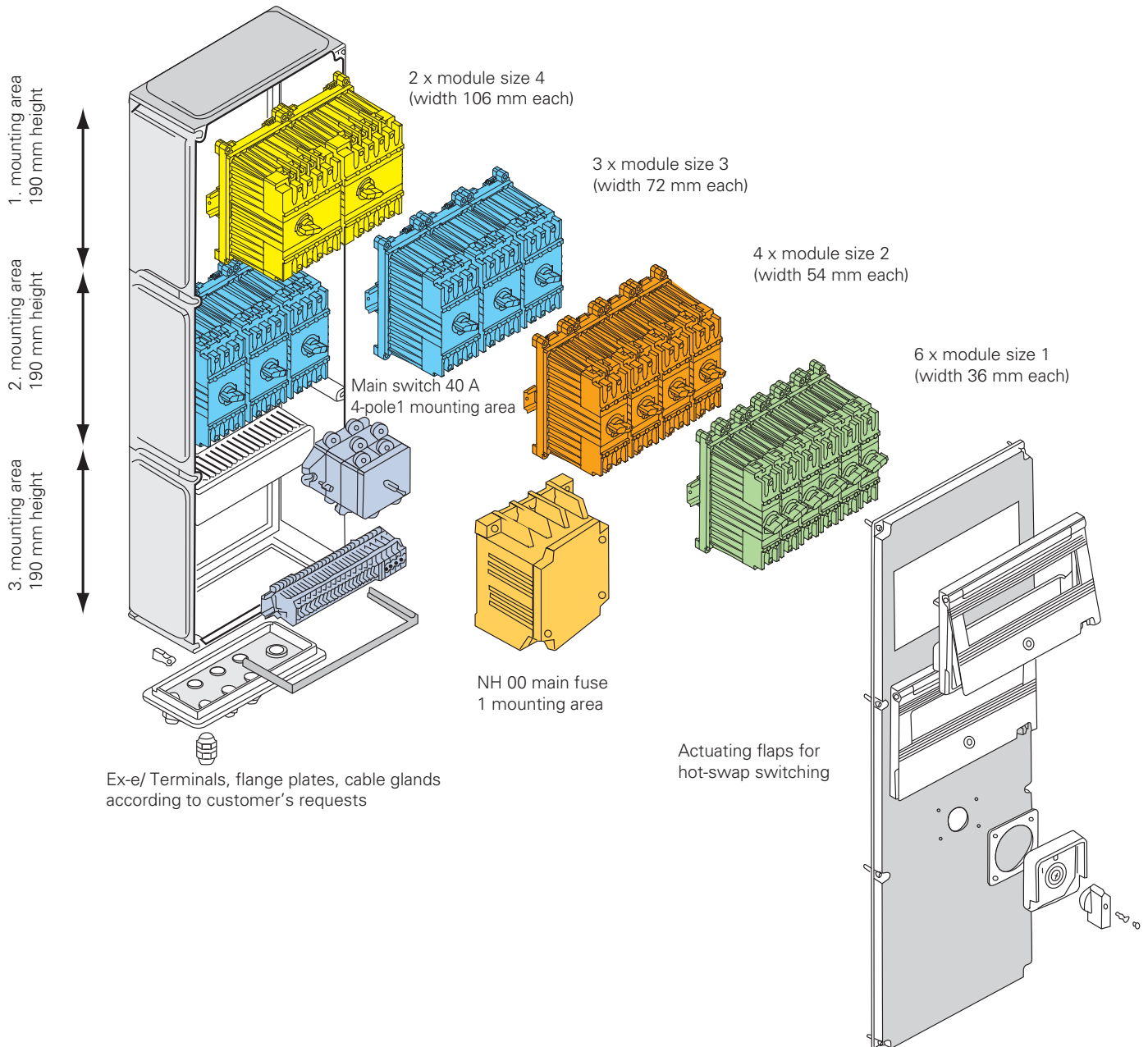
As these components are of modular design, they can be combined according to customers' requirements. Four enclosure sizes provide enough space for whatever modules are required: MCBs, RCDs, RCBOs or motor starters. Protected by a transparent flap, all modules can be conveniently monitored and operated.

The modules are inserted in the distribution by simple snap-on rail mounting. Thus, modules can be replaced or added quickly and reliably. That makes servicing and extension work simpler and faster – and thus more cost-efficient.

We've also provided for your personal safety: MCBs, RCDs, RCBOs and power circuit breakers can be equipped with a lock in the OFF position. That protects you during your work on the system against inadvertent switching on – better safe than sorry!



- **Modular design**
- **Easy to maintain**
- **Wide range of built-in components**
- **Rated current up to 63 A**
- **Wide ambient temperature range**
-45°C up to +55 °C



Individual modular distributions

Eaton's Crouse-Hinds Business explosion protected Ex-e moulded-plastic distributions can be individually assembled and equipped with various components. Enclosure modules of size 1, 2, 3 and 4 are available for combining flameproof encapsulated modules (Ex-d) according to customers' specifications.

Four enclosure sizes provide enough space for whatever modules are required: MCBs, RCDs, RCBOs or motor starters. Different module sizes can be placed side by side in one mounting space. The modules are inserted in the distribution by simple snap-on rail mounting. Thus, modules can be replaced or added quickly and reliably. Lockable actuating flaps allow easy operation without opening the enclosure.

For an easy selection of certified components two temperature information are provided:

1. Operating temperature range
This defines the max. permitted temperature range of component in the installed state. This has to be considered when configuring
2. Ambient temperature range
These temperature range defines the expected ambient temperature range for a fully planned equipment and is based on the experiences of configured devices at normal installation conditions. However, it must be observed in any case, the conditions of the type examination certificate. These temperatures are purely based on explosion protection. Mechanical and electrical function based on the installation situation (e.g. self-heating) have to be considered. **For binding function ambient temperatures please refer to the product manual.**

Ex-d Built-in components



size 4

size 3

size 2

size 1

Technical data

MCB 0.5 A up to 63 A

Marking accd. to 94/9/EC	⊕ II 2 G Ex de IIB/IIC Gb or Ex de [ia] ib 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			
Application temperature ¹⁾	-20 °C up to +55 °C (IIC)			
	-45 °C up to +55 °C (IIB)			
Operating temperature range	-20 °C up to +110 °C (IIC)			
	-45 °C up to +110 °C (IIB)			
Rated voltage	main contact	max. 440 V AC		
	aux. contact	max. 250 V AC		
Rated current	main contact	0.5 A to 63 A		
	aux. contact	max. 5 A		
Rated switching capacity 2/3 phase		10 kA		
	230 V AC (133/230 V AC) kA/cos	10/0.5		
	400 V AC (230/400 V AC) kA/cos	10/0.5		
Back-up fuse depend on rated current	up to 100 A			
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	2	3	4
No. of auxiliary contacts	2	3	4	5
Weight	0.6 kg	0.9 kg	1.2 kg	1.6 kg
Enclosure material	Polyamide			
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 have to be taken into account.
See also pages 2.6.19.



GHG 622 XXXX R0YYY

1. Contacts

Component: miniature circuit breaker (MCB): 0.5 up to 63 A

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Contact arrangement							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	—	—	—	—	—	1101	1	2101	2	3101	3	4101	4	
one additional component	x	1 NO	—	—	—	1	1102	1	2102	2	3102	3			
	x	1 NC	—	—	—	2	1103	1	2103	2	3103	3			
	x	1 C/O	—	—	—	3	2104	2					4102	4	
	x	2 NO	—	—	—	4					4118	4			
	x	1 NO + 1 C/O	—	—	—	5			3112	3					
	x	1 NO + 1 C/O	—	—	—						4114	4			
	x	—	1 C/O	—	—	8	2105	2	3113	3	4109	4	4103	4	
	x	—	—	—	12-60 V	—	9	2106	2	3105	3	4107	4		
	x	—	—	—	110 - 415 V	—	9	2107	2	3106	3	4108	4		
	x	—	—	—	—	24 V AC	10			3107	3	4104	4		
x	—	—	—	—	110 V AC	10			3108	3	4105	4			
x	—	—	—	—	230 V AC	10			3109	3	4106	4			
two additional components	x	1 NO	1 C/O	—	—	1+8							4113	4	
	x	1 C/O	1 C/O	—	—	3+8			3104	3	4110	4			
	x	1 NO	—	—	12-60 V	—	1+9		3110	3					
	x	1 C/O	—	—	12-60 V	—	2+9		3111	3					
	x	—	1 C/O	—	12-60 V	—	8+9		4111	4					
	x	—	1 C/O	—	110 - 415 V	—	8+9		4112	4					
	x	—	1 C/O	—	—	24 V AC	8+10		4115	4					
	x	—	1 C/O	—	—	110 V AC	8+10		4116	4					
x	—	1 C/O	—	—	230 V AC	8+10		4117	4						
three additional components	x	1 NC	1 C/O	—	12-60 V	—	1+8+9		4119	4					
	x	1 NC	1 C/O	—	110 - 415 V	—	1+8+9		4120	4					
	x	1 NO + 1 NC	1 C/O	—	—	24 V AC	1+8+10		4121	4					
	x	1 NO + 1 NC	1 C/O	—	—	110 V AC	1+8+10		4122	4					
	x	1 NO + 1 NC	1 C/O	—	—	230 V AC	1+8+10		4123	4					
	x	1 NO + 1 NC	1 C/O	—	—	24 V AC	1+8+10		4124	4					
	x	1 NO + 1 NC	—	—	—	230 V AC	1+8+10				4125	4			

Example: 2-pole MCB with two additional contacts (1 x aux. contact 1NO + 1 overload release 12 - 60 V)
 XXXX=3110 (module size 3) --> GHG 622 3110 R0YYY

GHG 622 XXXX ROYYY

2. Tripping current

Built-in components MCBs: order code MCB 0.5 up to 63 A - Icn = 6 kA

Tripping Current	Characteristic K			Characteristic Z			Characteristic B			Characteristic C		
	Max. Back-up fuse gL	Powerloss per pole	YYY	Max. back-up fuse gL	Powerloss per pole	YYY	Max. back-up fuse gL	Powerloss per pole	YYY	Max. back-up fuse gL	Powerloss per pole	YYY
0.5 A	not necessary	1.6 W	513	not necessary	2.5 W	581				not necessary	1.4 W	621
1 A		1.6 W	515		2.3 W	582					1.4 W	622
1.6 A		1.8 W	516		2.8 W	583					1.6 W	623
2 A		1.9 W	517		2.5 W	584					1.8 W	624
3 A	20 A	1.5 W	518	20 A	1.8 W	585			20 A	1.3 W	625	
4 A	25 A	2.0 W	519	20 A	2.4 W	586			20 A	1.8 W	626	
6 A	63 A	1.9 W	520	35 A	3.7 W	587	63 A	2.0 W	601	40 A	2.0 W	627
8 A	63 A	2.5 W	521	40 A	3.45 W	588	63 A			63 A	1.0 W	628
10 A	63 A	1.26 W	522	63 A	1.7 W	589	100 A	1.3 W	602	100 A	1.3 W	629
13 A	63 A	1.26 W	523				100 A	2.3 W	603	100 A	2.3 W	630
16 A	80 A	2.0 W	524	63 A	2.8 W	590	100 A	1.8 W	604	100 A	1.8 W	631
20 A	80 A	2.7 W	525	80 A	2.4 W	591	100 A	2.5 W	605	100 A	2.5 W	632
25 A	100 A	2.9 W	526	80 A	2.6 W	592	100 A	3.2 W	606	100 A	3.2 W	633
32 A	100 A	3.6 W	527	100 A	2.9 W	593	100 A	3.7 W	607	100 A	3.7 W	634
40 A	125 A	4.5 W	528	100 A	4.1 W	594	125 A	4.8 W	608	125 A	4.8 W	635
50 A	160 A	2.9 W	529	125 A	4.4 W	595	160 A	3.25 W	609	160 A	3.25 W	636
63 A	160 A	5.2 W	530	125 A	5.2 W	596	160 A	4.8 W	610	160 A	4.8W	637

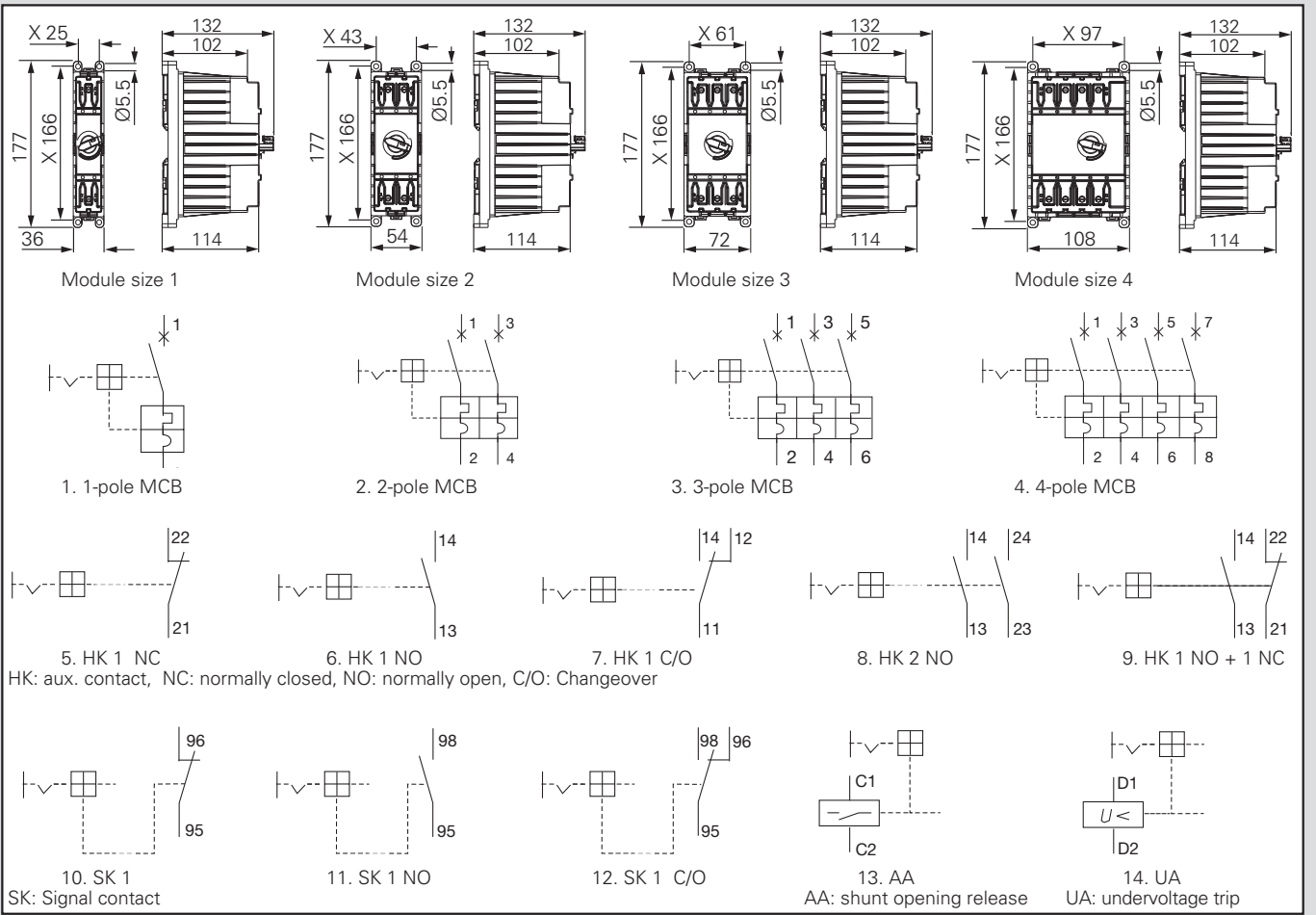
Built-in components MCBs: order code MCB 0.5 up to 63 - Icn = 10 kA

Tripping current	Characteristic K			Characteristic Z			Characteristic B			Characteristic C		
	Max. back-up fuse gL	Powerloss per pole	YYY	Max. back-up fuse gL	Powerloss per pole	YYY	Max. back-up fuse gL	Powerloss per pole	YYY	Max. back-up fuse gL	Powerloss per pole	YYY
0.5 A	not necessary	1.6 W	013							not necessary	1.4 W	121
1 A		1.6 W	015								1.4 W	122
1.6 A		1.8 W	016								1.6 W	123
2 A		1.9 W	017								1.8 W	124
3 A	20 A	1.5 W	018							20 A	1.3 W	125
4 A	25 A	2.0 W	019							20 A	1.8 W	126
6 A	63 A	1.9 W	020				63 A	2.0 W	101	40 A	2.0 W	127
8 A	63 A	2.5 W	021							63 A	1.0 W	128
10 A	63 A	1.3 W	022				100 A	1.3 W	102	100 A	1.3 W	129
13 A	63 A	1.3 W	023				100 A	2.3 W	103	100 A	2.3 W	130
16 A	80 A	2.0 W	024				100 A	1.8 W	104	100 A	1.8 W	131
20 A	80 A	2.7 W	025				100 A	2.5 W	105	100 A	2.5 W	132
25 A	100 A	2.9 W	026				100 A	3.2 W	106	100 A	3.2 W	133
32 A	100 A	3.6 W	027				100 A	3.7 W	107	100 A	3.7 W	134
40 A	125 A	4.5 W	028				125 A	4.8 W	108	125 A	4.8 W	135
50 A	160 A	2.9 W	029				160 A	3.3 W	109	160 A	3.3 W	136
63 A	160 A	5.2 W	030				160 A	4.8 W	110	160 A	4.8 W	137

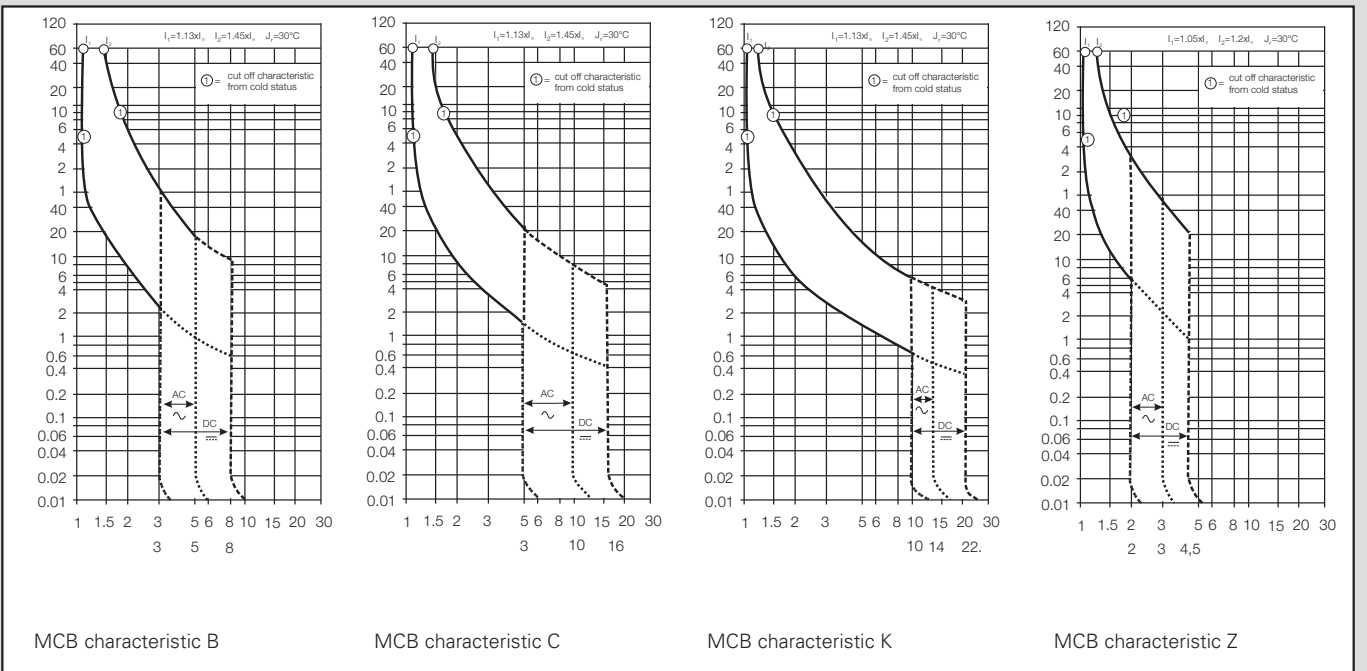
Built-in components MCBs: order code MCB 0.5 up to 63 A - Icn = 15/25 kA

Tripping current	Characteristic K			Characteristic Z			Characteristic B			Characteristic C		
	Max. Back-up fuse gL	Powerloss per pole	YYY	Max. Back-up fuse gL	Powerloss per pole	YYY	Max. Back-up fuse gL	Powerloss per pole	YYY	Max. Back-up fuse gL	Powerloss per pole	YYY
0.5 A	not necessary	1.4 W	263	not necessary	2.5 W	331				not necessary	1.4 W	371
1 A		1.4 W	265		2.3 W	332					1.4 W	372
1.6 A		1.6 W	266		2.8 W	333					1.6 W	373
2 A		1.8 W	267		2.5 W	334					1.8 W	374
3 A	25 A	1.9 W	268	25 A	1.9 W	335				25 A	1.9W	375
4 A	30 A	2.4 W	269	35 A	2.6 W	336				25 A	2.4 W	376
6 A	63 A	2.2 W	270	63 A	3.7 W	337	63 A	2.2 W	351	63 A	2.2 W	377
8 A	80 A	2.9 W	271	80 A	3.5 W	338				63 A	2.9 W	378
10 A	100 A	1.4 W	272	100 A	2.1 W	339	80 A	1.4 W	352	80 A	1.4 W	379
13 A	100 A	2.3 W	273				80 A	2.3 W	353	80 A	2.3 W	380
16 A	100 A	2.5 W	274	100 A	2.8 W	340	100 A	2.5 W	354	100 A	2.5 W	381
20 A	100 A	2.9 W	275	100 A	2.9 W	341	100 A	2.9 W	355	100 A	2.9 W	382
25 A	125 A	3.5 W	276	125 A	3.5 W	342	100 A	3.5 W	356	100 A	3.5 W	383
32 A	160 A	4.2 W	277	160 A	4.2 W	343	125 A	4.2 W	357	125 A	4.2 W	384
40 A	160 A	6.4 W	278	160 A	6.4 W	344	125 A	6.4 W	358	125 A	6.4 W	385
50 A	160A	3.0 W	279	160 A	4.4 W	345	160 A	3.0 W	359	160 A	3.0 W	386
63 A	160 A	5.6 W	280	160 A	5.2 W	346	160 A	5.6 W	360	160 A	5.6 W	387

Dimension drawing / termination diagram



Tripping characteristic



Ex-d Built-in components



Size 2



Size 3



Size 4

Technical data

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

Marking accd. to 94/9/EC	Ex 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	
Operating temperature range	-20 °C up to +110 °C (IIC)	
	-45 °C up to +110 °C (IIB)	
Application temperature ¹⁾	-20 °C up to +55 °C (IIC)	
	-45 °C up to +55 °C (IIB)	
Rated voltage	main contact	max. 440 V AC
	aux. contact	max. 250 V AC
Rated current	main contact	0.5 A up to max. 63 A
	aux. contact	max. 5 A
Rated residual operating current IDn	0.03 up to 0.5 A	
Back-up fuse depend on rated current	up to 100 A	
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
	auxiliary-/signal contact	up to 1 x 25 mm ² or 2 x 25 mm ² with cable lug GHG5101916R0001
Module size	2	4
No of main contacts	2	4
No. of auxiliary contacts	1	1
Weight	0.9 kg	1.6 kg
Enclosure material	Polyamide	
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 have to be taken into account. See also pages 2.6.19.

GHG 624 XXXX ROYYY

1. Contacts 2. Tripping current/Rated current

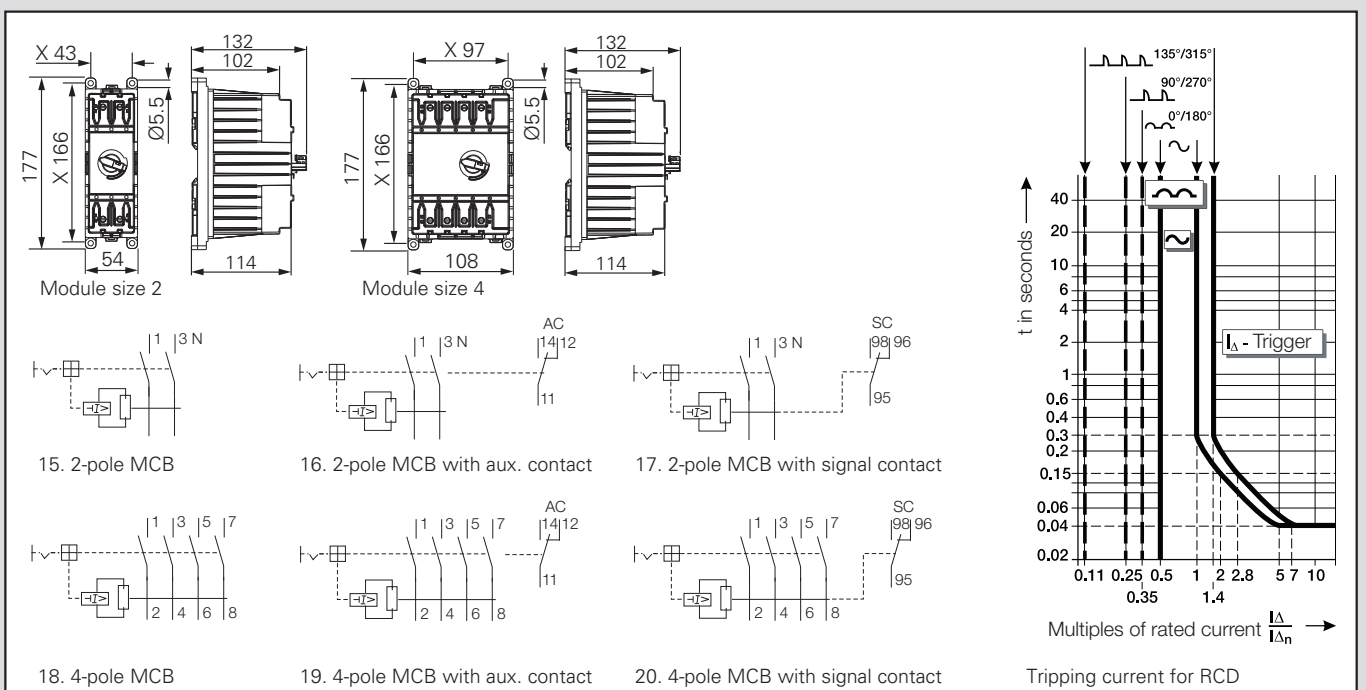
Built-in components RCDs: Order Code RCDs 25/40/63 A

1. Contact arrangement				Termination diagram	No of main contacts		No of main contacts	
Additional components	Main contact	Aux. contact	Signal contact		2 pole (XXXX)	Module size	4 pole (XXXX)	Module size
None	x	—	—	15/18	2101	2	4101	4
One	x	1 C/O	—	16/19	3101	3	4102	4
	x	—	1 C/O	17/20	3102	3	4103	4

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2. Rated residual operating current IDn	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	2.0	4.8	012	4.8	8.4	013	7.2	13.2	014
0.1 A	2.0	4.8	022	4.8	8.4	023	7.2	13.2	024
0.3 A	2.0	4.8	032	4.8	8.4	033	7.2	13.2	034
0.5 A	2.0	4.8	042	4.8	8.4	043	7.2	13.2	044

Dimension drawing / termination diagram / tripping characteristic



Ex-d Built-in components



Size 2



Size 3



Size 4

Technical data

RCBOs from 10 mA up to 0.3 A (25/40/63 A)

Marking accd. to 94/9/EC	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		
Operating temperature range	-20 °C up to +110 °C (IIC)		
	-45 °C up to +110 °C (IIB) (option)		
Application temperature ¹⁾	-20 °C up to +55 °C (IIC)		
	-45 °C up to +55 °C (IIB) (option)		
Rated voltage	main contact	max. 440 V AC	
	aux. contact	max. 250 V AC	
Rated current	main contact	max. 63 A	
	aux. contact	max. 5 A	
Rated switching capacity 2/3 phase	6 kA/10 kA (depends on MCB)		
	230 V AC (133/230 V AC) kA/cos	10/0.5	
	400 V AC (230/400 V AC) kA/cos	10/0.5	
Rated residual operating current ID _n	0.01 up to 0.3 A		
Back-up fuse depend on rated current	up to 100 A		
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	
	auxiliary-/signal contact	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	1	1	2
No. of auxiliary contacts	0	1	1
Weight	0.9 kg	1.2 kg	1.6 kg
Enclosure material	Polyamide		
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 have to be taken into account. See also pages 2.6.19.

GHG 625 XXXX ROYYY

1. Contacts

Built-in components RCBOs: Order Code

1. Contacts - I _{cn} = 6 kA											
Contact arrangement							Term. diag.	No of main contacts		No of main contacts	
Additional components	Main Contact	Aux. contact	Signal contact	N	RCBO			1 pol. (xxxx)	Module size	2 pol. (xxxx)	Module size
					DS201	DDA202+S202					
None	x	-	-	-	-	B/C/K	24			4101	4
	x	-	-	x	-	-	21	2101	2		
	x	-	-	x	B/C/K	-	21	2102	2		
One	x	-	1 C/O	x	-	-	23	3101	3		
	x	1 C/O	-	x	-	-	22	3102	3		
	x	-	1 C/O	x	B/C/K	-	23	3103	3		
	x	1 C/O	-	x	B/C/K	-	22	3104	3		
	x	1 C/O	-	-	-	B/C/K	25			4102	4
	x	-	1 C/O	-	-	B/C/K	26			4103	4
Two	x	2 C/O	-	x	B/C/K	-	25	3105	3		
	x	1 C/O	1 C/O	-	B/C/K	-	27	3106	3		

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1. Contacts - I _{cn} = 10 kA												
Contact arrangement							Term. diag.	No of main contacts		No of main contacts		
Additional components	Main Contact	Aux. contact	Signal contact	N	RCBO			1 pol. (xxxx)	Module size	2 pol. (xxxx)	Module size	
					DS201M	DS202CM						DDA202+S202 (M/P)
None	x	-	-	-	-	B/C	-	24			2121	2
	x	-	-	-	-	-	B/C/K	24			4101	4
	x	-	-	x	-	-	-	21	2101	2		
	x	-	-	x	B/C	-	-	21	2102	2		
One	x	-	1 C/O	x	-	-	-	23	3101	3		
	x	1 C/O	-	x	-	-	-	22	3102	3		
	x	-	1 C/O	x	B/C	-	-	23	3103	3		
	x	1 C/O	-	x	B/C	-	-	22	3104	3		
	x	2 W	-	x	B/C	-	-	22	3105	3		
	x	-	1 C/O	-	-	B/C	-	26			3121	3
	x	1 C/O	-	-	-	B/C	-	25			3122	3
	x	1 C/O	-	-	-	-	B/C/K	25			4102	4
	x	-	1 C/O	-	-	-	B/C/K	26			4103	4
Two	x	2 C/O	-	x	B/C	-	-	22	3105	3		

GHG 625 XXXX R Z YYY

2. Rated residual operating current ID_n 3. Tripping current

Tripping current	B-Characteristic 6 kA				C-Characteristic 6 kA				K-Characteristic 6 kA								
	DS201		DDA202		DS201		DDA202		DS201		DDA202						
Type	DS201				DDA202				DS201				DDA202				
2. Rated residual operating current ID_n																	
	ID_n (mA)				ID_n (mA)				ID_n (mA)								
	10	30	300	+ABB S202	10	30	300	+ABB S202	10	30	300	+ABB S202	10	30	300	+ABB S202	
Z	0	1	3	-	0	1	3	-	0	1	3	-	0	1	3	-	
3. Tripping Current																	
0.5 A	-	-	-	-	-	-	-	621	-	-	-	-	-	-	-	-	513
1 A	-	-	-	-	-	-	-	622	-	046	046	-	-	-	-	-	515
1.6 A	-	-	-	-	-	-	-	623	-	-	-	-	-	-	-	-	516
2 A	-	-	-	-	-	024	024	624	-	047	047	-	-	-	-	-	517
3 A	-	-	-	-	-	-	-	625	-	-	-	-	-	-	-	-	518
4 A	-	-	-	-	-	025	025	626	-	048	048	-	-	-	-	-	519
6 A	-	004	004	601	-	026	026	627	-	049	049	-	-	-	-	-	520
8 A	-	-	-	-	-	027	027	628	-	050	050	-	-	-	-	-	521
10 A	005	005	005	602	028	028	028	629	-	051	051	-	-	-	-	-	522
13 A	006	006	006	603	029	029	029	630	051	052	052	-	-	-	-	-	523
16 A	007	007	007	604	030	030	030	631	052	053	053	-	-	-	-	-	524
20 A	-	008	008	605	-	031	031	632	053	054	054	-	-	-	-	-	525
25 A	-	009	009	606	-	032	032	633	-	055	055	-	-	-	-	-	526
32 A	-	010	010	607	-	033	033	634	-	056	056	-	-	-	-	-	527
40 A	-	011	011	608	-	034	034	635	-	057	057	-	-	-	-	-	528
50 A	-	-	-	609	-	-	-	636	-	-	-	-	-	-	-	-	529
63 A	-	-	-	610	-	-	-	637	-	-	-	-	-	-	-	-	530

Tripping current	B-Characteristic 10 kA								C-Characteristic 10 kA								K-Characteristic 10 kA			
	DS201M		DS202CM		DDA202		DDA202		DS201M		DS202CM		DDA202		DDA202		DDA202		DDA202	
Type	DS201M								DS202CM								DDA202			
2. Rated residual operating current ID_n																				
	ID_n (mA)								ID_n (mA)											
	10	30	300	10	30	300	+ABBS202M	+ABBS202P	10	30	300	10	30	300	+ABBS202M	+ABBS202P	+ABBS202M	+ABBS202P	+ABBS202M	+ABBS202P
z	0	1	3	0	1	3	-	-	0	1	3	0	1	3	-	-	-	-	-	-
3. Tripping Current																				
0.5 A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	121	371	013	263		
1 A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	122	372	015	265		
1.6 A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	123	373	016	266		
2 A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	124	374	017	267		
4 A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125	375	018	268		
3 A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	126	376	019	269		
6 A	-	254	254	-	004	004	101	351	-	276	276	-	026	026	127	377	020	270		
8 A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	128	378	021	271		
10 A	255	255	255	005	005	005	102	352	278	278	278	-	028	028	129	379	022	272		
13 A	-	256	256	006	006	006	103	353	-	279	279	029	029	029	130	380	023	273		
16 A	257	257	257	007	007	007	104	354	280	280	280	030	030	030	131	381	024	274		
20 A	-	258	258	-	008	008	105	355	-	281	281	-	031	031	132	382	025	275		
25 A	-	259	259	-	009	009	106	356	-	282	282	-	032	032	133	383	026	276		
32 A	-	260	260	-	010	010	107	357	-	283	283	-	033	033	134	384	027	277		
40 A	-	261	261	-	-	-	108	358	-	284	284	-	-	-	135	385	028	278		
50 A	-	-	-	-	-	-	109	359	-	-	-	-	-	-	136	386	029	279		
63 A	-	-	-	-	-	-	110	360	-	-	-	-	-	-	137	387	030	280		

Dimension drawing / Termination diagram

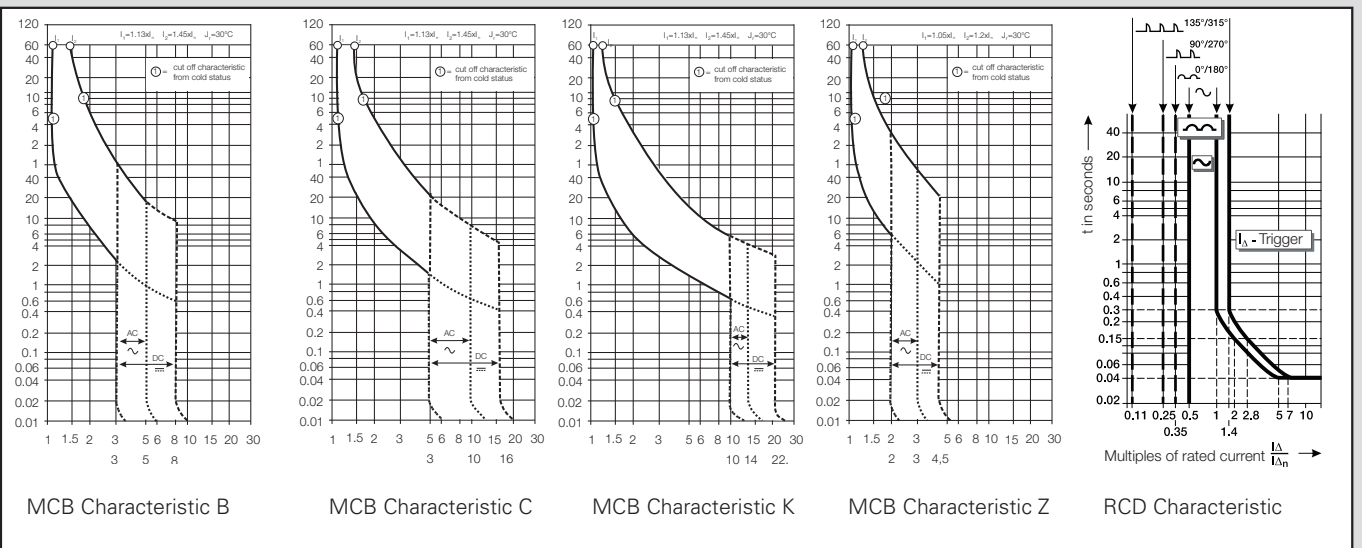
Module size 2 Module size 3 Module size 4

21. RCBO 1-pole + N 22. RCBO 1-pol. + N with HK 23. RCBO 1-pol. + N with SK 27. RCBO 1-pol. with HK and NO

24. RCBO 2-pole 25. RCBO 2-pol. with HK 26. RCBO 2-pol. with SK

6

Tripping characteristic



EX - D BUILT - IN COMPONENTS

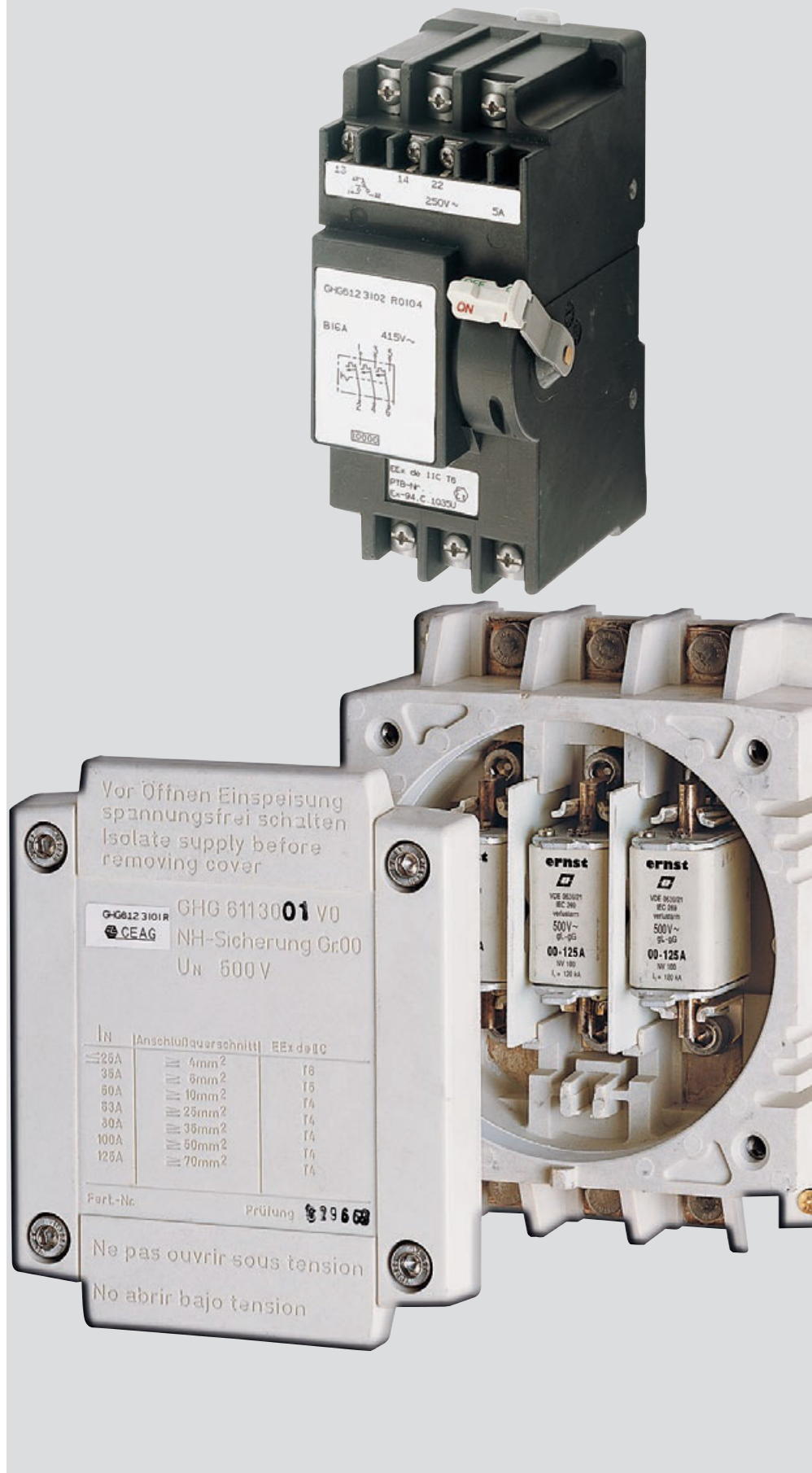
GHG 61 – flameproof encapsulation up to 40 A

If electrical apparatus is to be used in hazardous areas, i.e. potentially explosive atmospheres, where arcing or sparking can occur, it must be protected according to EN 60079 pp by special constructional measures. Eaton's Crouse-Hinds Business explosion-protected apparatus, such as the modules in Ex-e distributions, derives its high degree of safety through the combination of various types of protection. Thus, flameproof encapsulated components (Ex-d), for instance, are also integrated in enclosures of the type "Increased Safety" (Ex-e). As these components are of modular design, they can be combined according to customers' requirements. Five enclosure sizes provide enough space for whatever modules are required: MCBs, RCDs, RCBOs, contactors, motor starters, over-current trips, star-delta time relays or main switches. Protected by a transparent flap, all modules can be conveniently monitored and operated.

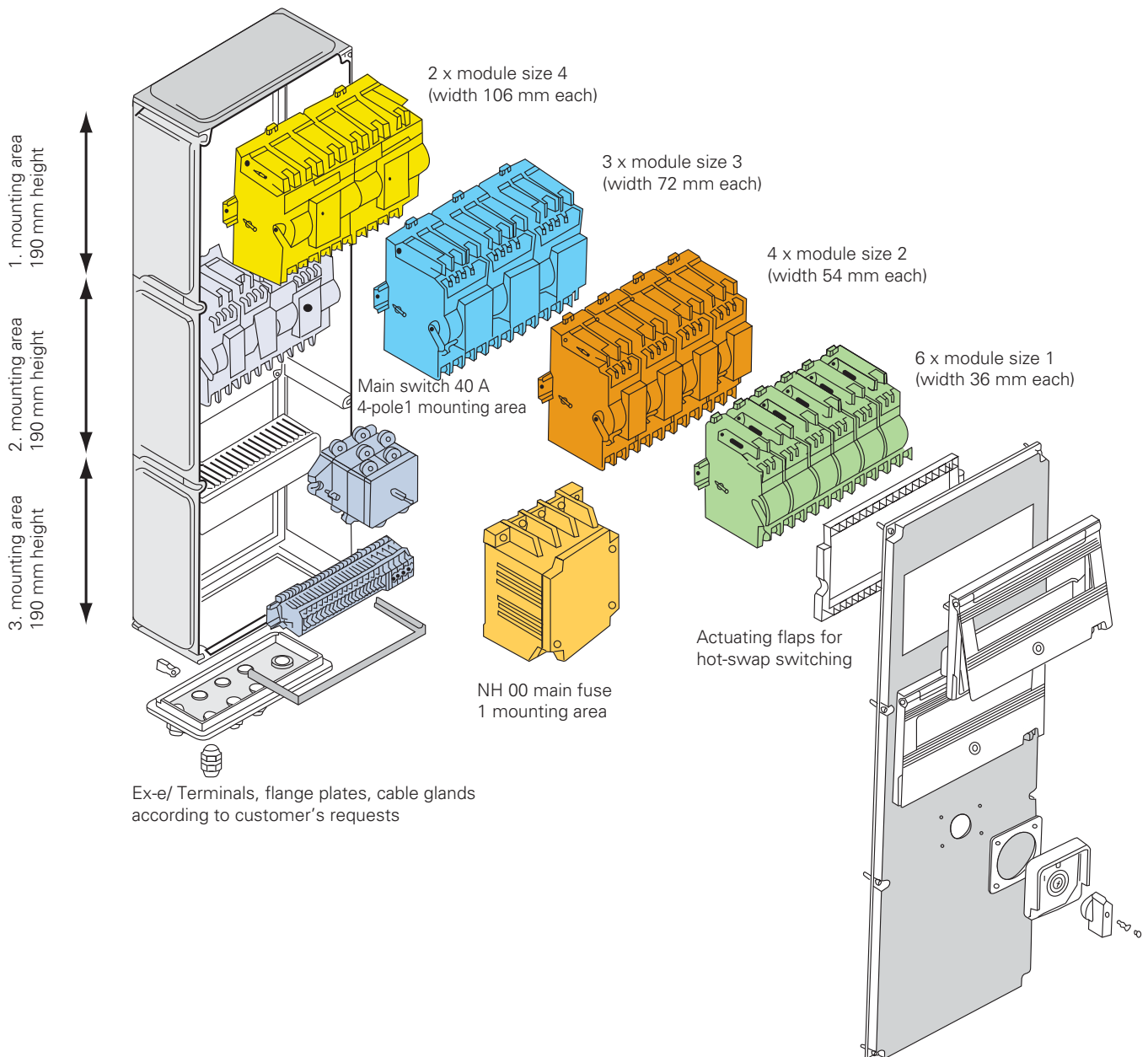
The modules are inserted in the distribution by simple snap-on rail mounting. Thus, modules can be replaced or added quickly and reliably. That makes servicing and extension work simpler and faster – and thus more cost efficient.

We've also provided for your personal safety: MCBs, RCDs, RCBOs and power circuit breakers can be equipped with a lock in the OFF position. That protects you during your work on the system against inadvertent switching on – better safe than sorry!

International certification.



- Snap-on
- Individually combinable
- Operation via actuating flap
- Optimum space utilisation with 4 enclosure sizes



Individual modular distributions

Eaton's Crouse-Hinds Business explosion protected Ex-e moulded-plastic distributions can be individually assembled and equipped with various components. Enclosure modules of size 1, 2, 3 and 4 are available for combining flameproof encapsulated modules (Ex-d) according to customers' specifications.

Four enclosure sizes provide enough space for whatever modules are required: MCBs, RCDs, RCBOs, contactors, over-current trips star-delta-time relays or motor starters. Different module sizes can be placed side by side in one mounting space. The modules are inserted in the distribution by simple snap-on rail mounting. Thus, modules can be replaced or added quickly and reliably. Lockable actuating flaps allow easy operation without opening the enclosure.

For an easy selection of certified components two temperature information are provided:

1. Operating temperature range

This defines the max. permitted temperature range of component in the installed state. This has to be considered when configuring

2. Ambient temperature range

These temperature range defines the expected ambient temperature range for a fully planned equipment and is based on the experiences of configured devices at normal installation conditions. However, it must be observed in any case, the conditions of the type examination certificate. These temperatures are purely based on explosion protection. Mechanical and electrical function based on the installation situation (e.g. self-heating) have to be considered. **For binding function ambient temperatures please refer to the product manual.**

Ex-d-Built-in components



Size 1 MCB-1-pole



Size 2 MCB-2-pole



Size 3 MCB-3-pole



Size 4 MCB-4-pole

Technical data

MCB 0.5 A up to 40 A

Marking accd. to 94/9/EC	Ⓔ II 2 G Ex de IIC/IIB Gb / Ⓔ I M2 Ex de I Mb	
EC-Type Examination Certificate	PTB 98 ATEX 1087 U	
IECEX Certificate of Conformity	IECEX BKI 07.0038 U	
Marking accd. to IECEX	Ex de IIC	
Operating temperature range	-55 °C up to +110 °C (size 0, 1, 2 - IIC) -20 °C up to +110 °C (size 3, 4 - IIC) -55 °C up to +110 °C (size 3, 4 - IIB)	
Application temperature ¹⁾	-20 °C up to +55 °C (size 3, 4 - IIC) -55 °C up to +55 °C (size 0, 1, 2 - IIC; size 3, 4 - IIB)	
Rated voltage	main contact	max. 440 V AC
	aux. contact	max. 250 V AC
Rated current	main contact	0.5 A up to 40 A
	aux. contact	max. 5 A
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 100 A	
Connecting terminals	main contact	2 x 10 mm ² fine wire with wire end sleeve/single wire
	aux. contact	2 x 2.5 mm ² fine wire with wire end sleeve/single wire
Weight	1-pole	0.55 kg size 1
	2-pole	0.95 kg size 2
	3-pole	1.25 kg size 3
	4-pole	1.57 kg size 4
Enclosure material	glass-fibre reinforced polyester	
Enclosure colour	black	
Options	Auxiliary-signal contact	
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 have to be taken into account.
See also pages 2.6.31.



Ex-d-Built-in components

MCB 0.5 A up to 40 A

GHG 612 XXXX R0YYY

1. Contacts

1. Contacts

Contacts	Termination diagram ¹⁾	1-pole (xxxx)	Module size ²⁾	2-pole (xxxx)	Module size ²⁾	3-pole (xxxx)	Module size ²⁾	4-pole (xxxx)	Module size ²⁾
only main contact	A1 up to A5	1141	1	2141	2	3141	3	4141	4
+ aux. contact (1 C/O)	B3	1142	1	2142	2	3142	3	4142	4
+ aux. contact (1NO+1NC)	B1, B2			3150	3				
+ aux. contact (2NO)	B4					4168	4		
+ N + aux. contact (1NO+1NC)	A4, B1, B2					4166	4		
+ (1 C/O)	C3	2148	2	3157	3	4147	4	4143	4
+ signal contact (1NC) + aux. contact (1NO)	C2 + B1					4148	4		
+ signal contact (1NO) + aux. contact (1NO)	C1 + B1					4161	4	4160	4
+ signal contact (1NC) + aux. contact (1NC)	C2 + B2					4163	4		
+ Overload release (12 - 60 V)	D	2150	2	3147	3				
+ Overload release (110 - 415 V)	D	2151	2	3146	3	4146	4		
+ undervoltage trip ³⁾	E			3148	3	4144	4		
+ signal contact (1 C/O)	C3								
+ aux. contact (1 C/O)	B3			3143	3	4164	4		
+ Overload release (110 - 415 V)	D								
+ signal contact (1 C/O)	C3			4159	4				
+ Overload release (12 - 60 V)	D								
+ aux. contact (1 C/O)	B3			3149	3				
+ Overload release (110 - 415 V)	D								
+ signal contact (1 C/O)	C3								
+ auxiliary contact (1 C/O)	B3			4165	4				
+ Overload release (12 - 60 V)	D								
+ signal contact (1 C/O)	C3								
+ aux. contact (1 C/O)	B3			4169	4				
+ undervoltage trip ³⁾	E								
+ signal contact (1 C/O)	C3					4167	4		
+ undervoltage trip ³⁾	E								
+ signal contact (1 C/O)	C3								
+ aux. contact (1 C/O)	B3					4174	4		

¹⁾ Termination diagram see page 11.21

²⁾ Module size see dimension drawing page 11.22

³⁾ undervoltage trip 12 V DC, 24 V AC/DC, 48 V AC/DC, 110 V AC/DC, 230 V AC/DC, 400 V AC on request

Ex-d-Built-in components



Ex-d-Built-in components

MCB 0.5 A up to 40 A

6

GHG 612 XXXX R0YYY

2. Tripping current

2. Tripping current, characteristic, max. back-up fuse, power dissipation per pole

Tripping current	Characteristic K		Characteristic Z		Characteristic B		Characteristic C	
	Max. Back-up fuse gL	YYY	Max. Back-up fuse gL	YYY	Max. Back-up fuse gL	YYY	Max. Back-up fuse gL	YYY
0.5 A	not necessary	013	not necessary	081			not necessary	121
0.75 A		014		082				122
1.0 A		015		083				123
1.6 A		016		084				124
2 A		017		085				125
3 A	20 A	018	20 A	086	63 A	101	20 A	126
4 A	25 A	019	20 A	087			40 A	127
6 A	63 A	020	35 A	088	100 A	102	40 A	128
8 A	63 A	021	40 A	089			63 A	129
10 A	63 A	022	63 A	090	100 A	103	100 A	130
13 A				091			100 A	131
16 A	80 A	023	63 A	092	100 A	104	100 A	132
20 A	81 A	024	80 A	093			100 A	133
25 A	100 A	025	80 A	094	100 A	105	100 A	134
32 A	100 A	026	100 A	095			100 A	135
40 A	125 A	027	100 A		125 A	106	125 A	

Back-up fuse is only required if at the installation point the max. prospective, unaffected short-circuit current will exceed the rated switching capacity.

Example

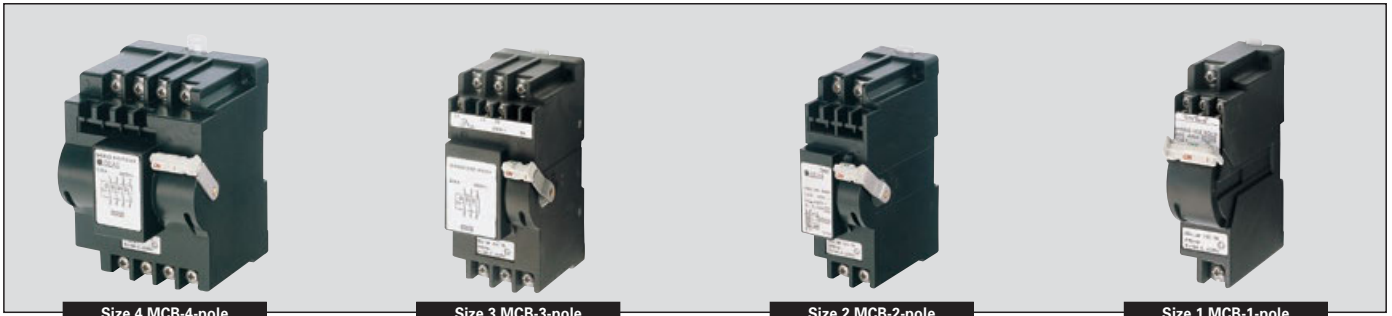
GHG 612 XXXX R 0YYY

GHG 612 **3143** R **0023**

3-pole 16 A

+ signal contact (1 C/O) K-Characteristic

+ aux. contact (1 C/O)



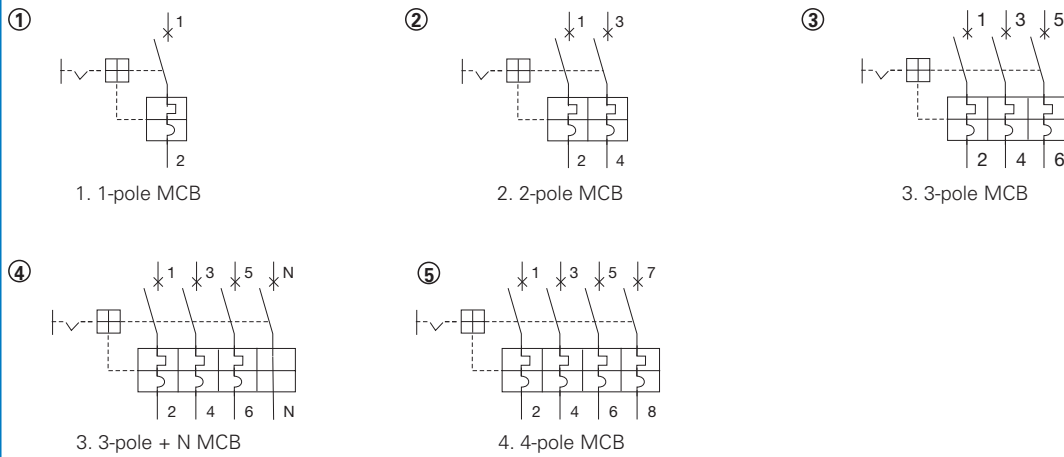
Size 4 MCB-4-pole

Size 3 MCB-3-pole

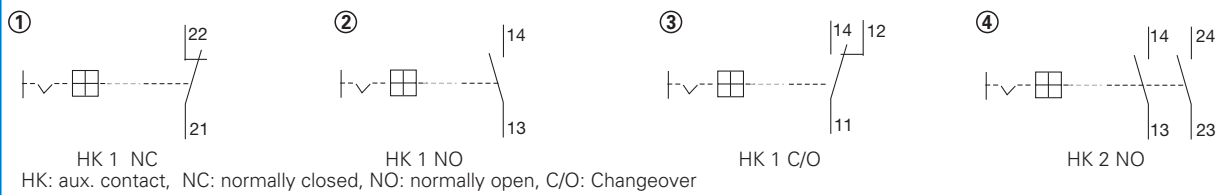
Size 2 MCB-2-pole

Size 1 MCB-1-pole

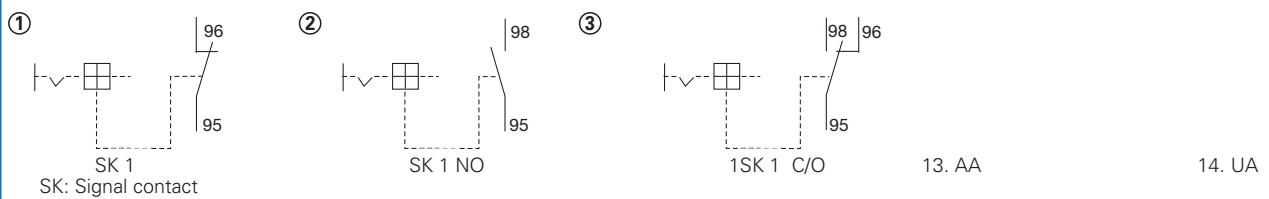
Termination diagram



A. main contact



B. Auxiliary contacts



C. Signal contacts



D. AA: shunt opening release

E. undervoltage trip

- HK = main contact
- AC = aux. contact
- SK = signal contact
- AA = shunt opening release
- UA = undervoltage trip

| Ex-d-Built-in components |



Size 1 MCB-1-pole

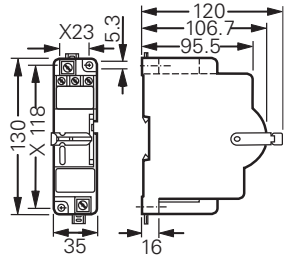
Size 2 MCB-2-pole

Size 3 MCB-3-pole

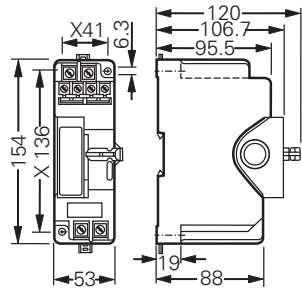
Size 4 MCB-4-pole

Dimension drawing | Termination diagram

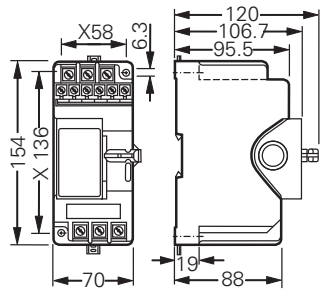
6



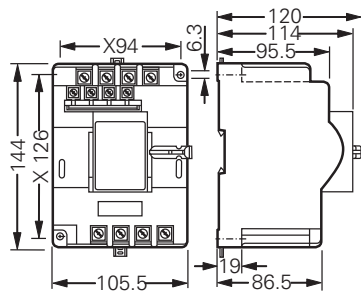
Module size 1



Module size 2



Module size 3



Module size 4

X = fixing dimension

Dimensions in mm



Size 4 MCB-4-pole



Size 3 MCB-3-pole

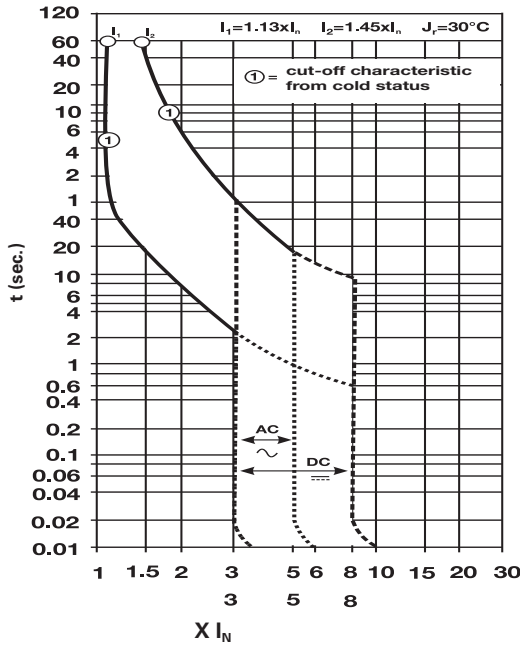


Size 2 MCB-2-pole

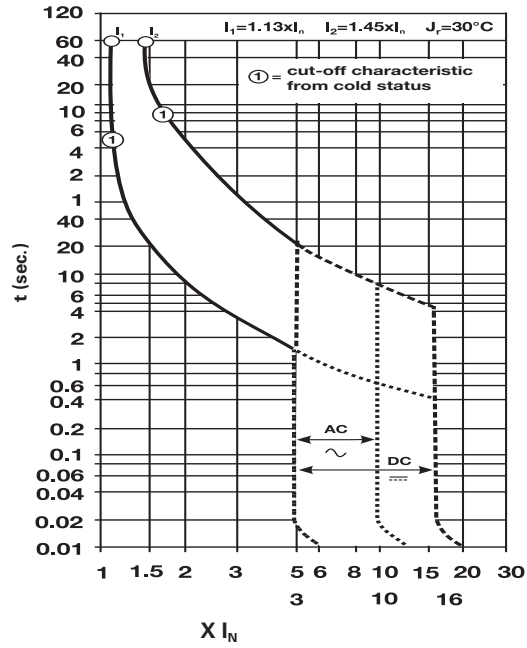


Size 1 MCB-1-pole

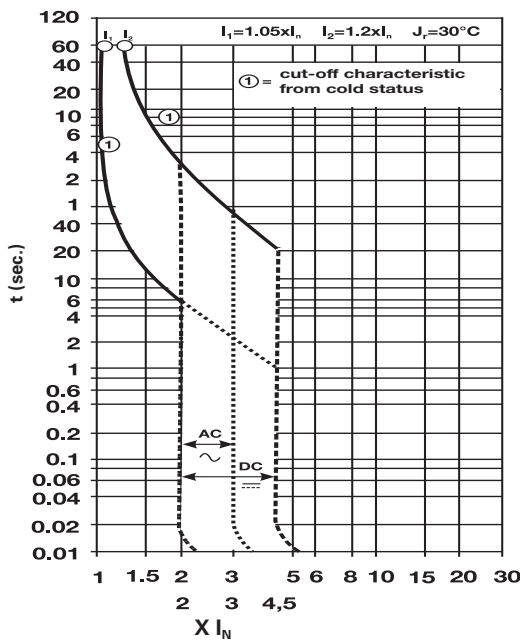
Tripping characteristic



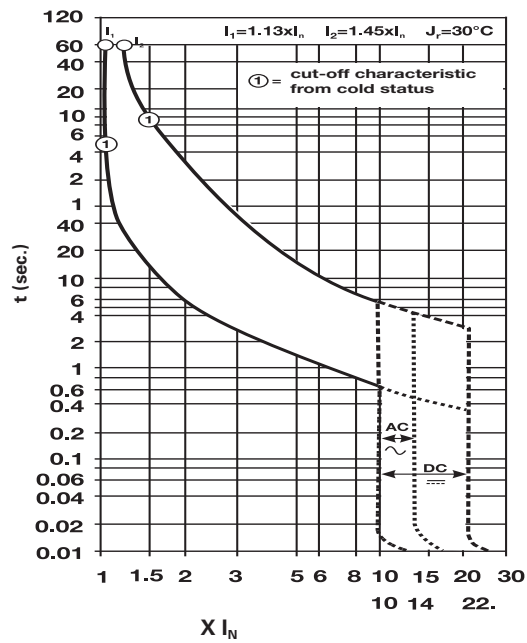
B-Characteristic



C-Characteristic



Z-Characteristic



K-Characteristic

Ex-d-Built-in components



RCBO 1-pole + N



RCBO 2-pole

Technical data

RCBO 0.5 A up to 40 A

Marking accd. to 94/9/EC	Ⓔ II 2 G Ex de IIC/IIB Gb / Ⓔ I M2 Ex de I	
EC-Type Examination Certificate	PTB 98 ATEX 1087 U	
IECEX Certificate of Conformity	IECEX BKI 07.0038 U	
Marking accd. to IECEx	Ex de IIC	
Operating temperature range	-55 °C up to +110 °C (size 0, 1, 2 - IIC) -20 °C up to +110 °C (size 3, 4 - IIC) -55 °C up to +110 °C (size 3, 4 - IIB)	
Application temperature ¹⁾	-20 °C up to +55 °C (size 3, 4 - IIC) -55 °C up to +55 °C (size 0, 1, 2 - IIC; size 3, 4 - IIB)	
Rated voltage	main contact	max. 440 V AC
	aux. contact	max. 250 V AC
Rated current	RCD	25 A; 40 A
	main contact	1.0 A up to 40 A
	aux. contact	max. 5 A
Rated switching capacity 2/3 phase	6 kA (1-pole + N) / 10 kA (2-pole)	
Back-up fuse	RCD	63 A gL
	MCB	depend on rated current up to 100 A
Connecting terminals	main contact	2 x 10 mm ² fine wire with wire end sleeve/single wire
	aux. contact	2 x 2.5 mm ² fine wire with wire end sleeve/single wire
Weight	1-pole + N	0.95 kg size 2
	2-pole	1.57 kg size 4
Enclosure material	glass-fibre reinforced polyester	
Enclosure colour	black	
Options	auxiliary-/Signal contact	
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 have to be taken into account. See also pages 2.6.31.



RCBO 2-pole



RCBO 1-pole + N

Ex-Built-in components

RCBO 0.5 A up to 32 A

GHG 612 XXXX RXYYY

1. Contacts

2. Tripping current

1. RCBO 6 kA

Pole	Characteristic	Contacts	Termination diagram	Module size	XXXX RX
1-pole + N	B, C, K (30/300 mA)		1	2 53.0 mm	2154 R 2
1-pole + N	B, C, K (30/300 mA)	signal contact (1 C/O)	2	3 70.0 mm	3170 R 2
1-pole + N	B, C, K (30/300 mA)	aux. contact (1 C/O)	3		3173 R 2
2-pole	K		4	4 105.5 mm	4156 R 0
2-pole	K	aux. contact (1 C/O)	5		4157 R 0
2-pole	K	Signal contact (1 C/O)	6		4158 R 0
2-pole	B, C				4156 R 2
2-pole	B, C	aux. contact (1 C/O)	5		4157 R 2
2-pole	B, C	Signal contact (1 C/O)	6		4158 R 2

1. RCBO 10 kA

Pole	Characteristic	Contacts	Termination diagram	Module size	XXXX RX
1-pole + N	B, C (6 - 40 A) (30/300 mA)		1	2 53.0 mm	2154 R 5
1-pole + N	B, C (6 - 40 A)	signal contact (1 C/O)	2	3 70.0 mm	3170 R 5
1-pole + N	B, C (6 - 40 A)	aux. contact (1 C/O)	3		3173 R 5
2-pole	K		4	4 105.5 mm	4156 R 5
2-pole	K	aux. contact (1 C/O)	5		4157 R 5
2-pole	K	signal contact (1 C/O)	6		4158 R 5

2. Tripping current and characteristic

Tripping current	Characteristic C (YYY)		Characteristic B (YYY)		Characteristic K (YYY)		Characteristic C (YYY) 100 mA
	30 mA	300 mA	30 mA	300 mA	30 mA	300 mA	
2 A	004	024			084	104	204
4 A	005	025			085	105	205
6 A	006	026	046	066	086	106	206
8 A	007	027	047	067	087	107	207
10 A	008	028	048	068	088	108	208
16 A	009	029	049	069	089	109	209
20 A	010	030	050	070	090	110	210
25 A	011	031	051	071	091	111	211
32 A	012	032	052	072	092	112	212
40 A			053	073	093	113	213

Example

GHG 612 XXXX R XYYY

GHG 612 **4157** R **0090**

K-Characteristic 6 kA; with aux. contact

20 A; 30 mA; K

Ex-d-Built-in components

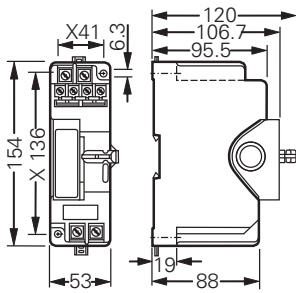


RCBO 1-pole + N



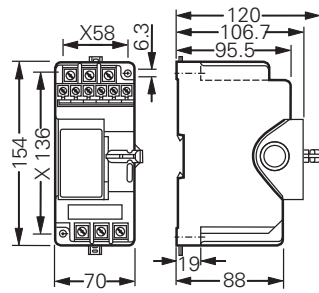
RCBO 2-pole

Dimension drawing | Termination diagram

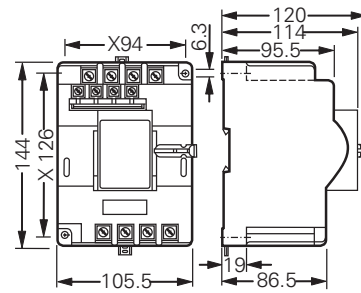


Module size 2

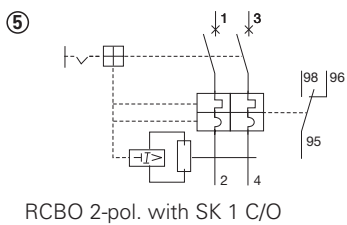
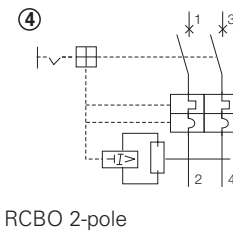
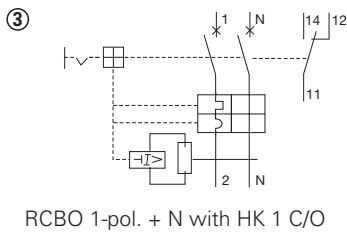
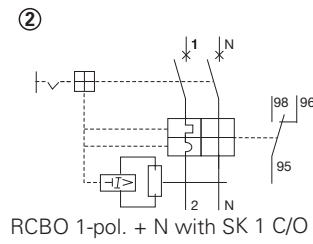
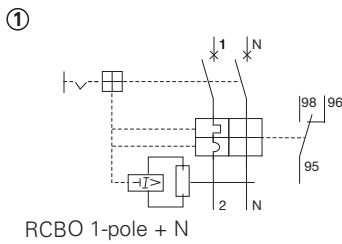
X = fixing dimension



Module size 3



Module size 4



Tripping characteristic see page 11.23

- HK = main contact
- AC = aux. contact
- SK = Signal contact



RCD-4-pole



RCD-2-pole

Technical data

RCD from 30 mA to 500 mA

Marking accd. to 94/9/EC	Ⓔ II 2 G Ex de IIC / Ⓔ I M2 Ex de I	
EC-Type Examination Certificate	PTB 98 ATEX 1087 U	
IECEX Certificate of Conformity	IECEX BKI 07.0038 U	
Marking accd. to IECEx	Ex de IIC	
Operating temperature range	-55 °C up to +110 °C (size 1, 2 - IIC) -20 °C up to +110 °C (size 3, 4 - IIC) -55 °C up to +110 °C (size 3, 4 - IIB)	
Application temperature ¹⁾	-20 °C up to +55 °C (size 3, 4 - IIC) -55 °C up to +55 °C (size 0, 1, 2 - IIC; size 3, 4 - IIB)	
Rated voltage	main contact	max. 440 V AC
	aux. contact	max. 250 V AC
Rated current	RCD	25 A; 40 A; 63 A
	aux. contact	max. 5 A
Rated switching capacity	10 kA	
Back-up fuse	RCD	63 A gL
	tipping current	30 mA up to 500 mA
Connecting terminals	main contact	2 x 10 mm ² fine wire with wire end sleeve/single wire
	aux. contact	2 x 2.5 mm ² fine wire with wire end sleeve/single wire
Weight	2-pole	0.95 kg size 2
	4-pole	1.57 kg size 4
Enclosure material	glass-fibre reinforced polyester	
Enclosure colour	black	
Options	aux. contact	
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 have to be taken into account. See also pages 2.6.31.

Ex-d-Built-in components



RCD 2-pole



RCD 4-pole

Ex-Built-in components

RCD from 30 mA

GHG 612 XXXX RYYYY

1. Contacts

2. Tripping current

1. Contacts

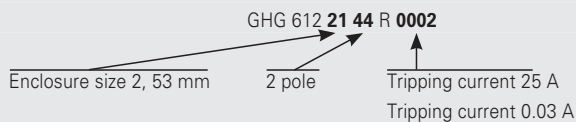
Contacts	Characteristic	Enclosure width	XXXX
2-pole	only main contact	Enclosure size 2, 53.0 mm	2144
2-pole	aux. contact (1 C/O) (F200)		2147
4-pole	only main contact	Enclosure size 4, 105.4 mm	4149
4-pole	aux. contact (1 C/O) (F200)		4150

2. Rated current and tripping current

Rated current	Tripping current	Power dissipation in W		YYYY
		2-pole	4-pole	
25 A	0.03 A	2.0	4.8	0002
40 A	0.03 A	4.8	8.4	0003
63 A	0.03 A	7.2	13.2	0004
25 A	0.1 A	2.0	4.8	0005
40 A	0.1 A	4.8	8.4	0006
63 A	0.1 A	7.2	13.2	0007
25 A	0.3 A	2.0	4.8	0008
40 A	0.3 A	4.8	8.4	0009
63 A	0.3 A	7.2	13.2	0010
25 A	0.5 A	2.0	4.8	0011
40 A	0.5 A	4.8	8.4	0012
63 A	0.5 A	7.2	13.2	0013

Example

GHG 612 XXXX RYYYY



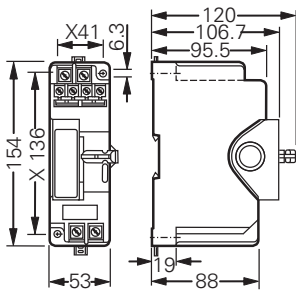


RCD 2-pole

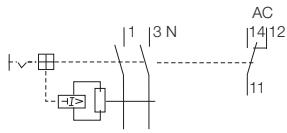


RCD 4-pole

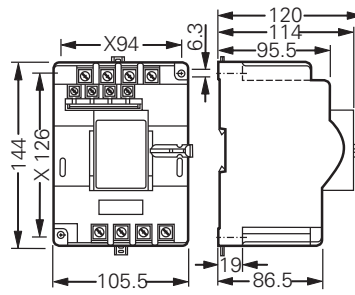
Dimension drawing | Termination diagram



Module size 2

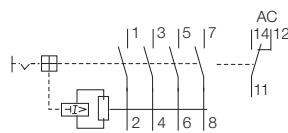


2-pole + AC 1 C/O



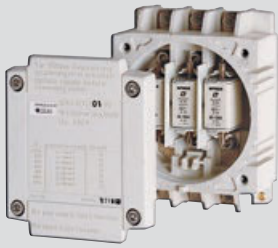
Module size 4

X = fixing dimension



4-pole + AC 1 C/O

HK = main contact
AC = aux. contact



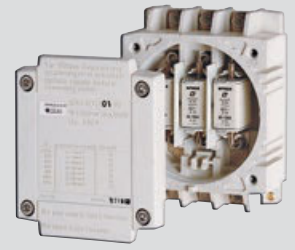
NH-00

Technical data

NH 00 main fuse up to 125 A

Marking accd. to 94/9/EC	⊕ II 2 G Ex de IIC / ⊕ I M2 Ex de I	
EC-Type Examination Certificate	PTB 99 ATEX 1066 U	
IECEX Certificate of Conformity	IECEX BKI 07.0035 U	
Marking accd. to IECEX	Ex de IIC	
Operating temperature range	-20 °C up to +90 °C	
Application temperature ¹⁾	-20 °C up to +55 °C	
Rated voltage		690 V
	aux. contact	max. 250 V AC
Rated current		2 A up to 125 A
	aux. contact	max. 5 A
Rated switching capacity	100 kA	
Connecting terminals	up to 95 mm ²	
Connecting terminals signal contact	2 x 2.5 mm ² fine wire	
Min. cross section	up to 25 A	4 mm ²
	up to 35 A	6 mm ²
	up to 50 A	10 mm ²
	up to 63 A	25 mm ²
	up to 100 A	50 mm ²
	up to 125 A	70 mm ²
Weight	approx. 3.5 kg (without fuse)	
Enclosure material	glass-fibre reinforced polyester	
Enclosure colour	white	
Options	aux. contact	

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account. See also pages 2.6.31.



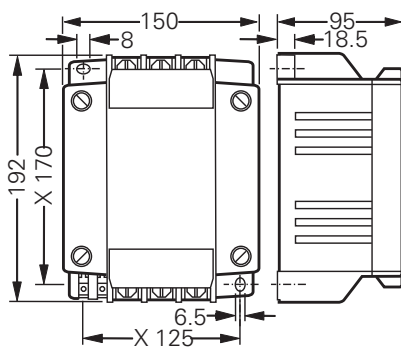
NH-00

Ordering details NH 00 main fuse up to 125 A

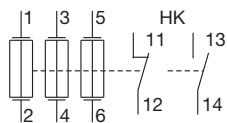
Content	Rated current	Mounting width	Order Unit	Order No.
Without signal contact				
Empty enclosure 3-pole	2 A - 100 A	150 mm	2	GHG 610 1940 R0001
Empty enclosure 3-pole	2 A - 125 A	150 mm	2	GHG 610 1940 R0002
With signal contact (1 NC)				
Empty enclosure 3-pole	2 A - 125 A	150 mm	2	GHG 610 1940 R0006

Delivery with fuses on request

Dimension drawing | Termination diagram



X = fixing dimension



NH 00

HK = aux. contact



80 A 3-pole

Technical data

Main switch up to 180 A

Marking accd. to 94/9/EC		Ex II 2 G Ex de IIC Gb / Ex de IIB Gb				
EC-Type Examination Certificate						
	switch 20 A	BVS 14 ATEX E 076 U				
	switch 40 A	BVS 14 ATEX E 085 U				
	switch 80 A	BVS 12 ATEX E 127 U				
	switch 125 A up to 180 A	PTB 99 ATEX 1062 U				
IECEX Certificate of Conformity						
	switch 20 A	BVS 14.0047 U				
	switch 40 A	BVS 14.0055 U				
	switch 80 A	IECEX BVS 12.0083 U				
	switch 125 A up to 180 A	IECEX BKI 07.0003 U				
Marking accd. to IECEx		Ex de (ia/ib) IIC				
		20 A	40 A	80 A	125 A	180 A
Operating temperature range (IIB)		-55 °C up to +80 °C	-55 °C up to +90 °C	-55 °C up to +80 °C	-	-
	(IIC)	-40 °C up to +80 °C	-40 °C up to +90 °C	-20 °C up to +80 °C	-20 °C up to +80 °C	-20 °C up to +80 °C
Application temperature ¹⁾	(IIB)	-55 °C up to +80 °C	-55 °C up to +55 °C	-55 °C up to +55 °C	-	-
	(IIC)	-40 °C up to +55 °C	-40 °C up to +55 °C	-20 °C up to +55 °C	-20 °C up to +55 °C	-20 °C up to +55 °C
Rated voltage		690 V				
Type of switch		20 A	40 A	80 A	125 A	180 A
Rated current		20 A	40 A	80 A	125 A	180 A
Rated making/breaking capacity accd. EN 60947-5-1 AC-3	U _e 400 V	I _e 20 A	I _e 40 A	I _e 80 A	I _e 125 A	I _e 180 A
	U _e 500 V	I _e 16 A	I _e 40 A	I _e 80 A	I _e 125 A	I _e 150 A
	U _e 690 V	I _e 10 A	I _e 32 A	I _e 63 A	I _e 110 A	I _e 125 A
Back-up fuse up to 500 V		35 A gL	80 A gL	160 A gL	200 A gL	250 A gL
Connecting terminals	switch 20 A	2 x 1.5 up to 4 mm ²				
	switch 40 A	2 x 4 up to 16 mm ²				
	switch 80 A	2 x 4 up to 25 mm ² , with cable lug 1 x 35 mm ²				
	switch 125 A	2 x 4 up to 70 mm ² , with cable lug 1 x 120 mm ²				
	switch 180 A	2 x 4 up to 70 mm ² , with cable lug 1 x 120 mm ²				
Weight		1.0 kg	1.2 kg	3.68 kg	6.3 kg	6.5 kg
Enclosure material		glass-fibre reinforced polyester				
Enclosure colour		white				

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account. See also pages 2.6.19.



80 A 3-pole

Ordering details main switch up to 180 A

Content	Rated current	Order No.
Type 3-pole		
3-pole	20 A	GHG 260 1004 R0005
3-pole	40 A	GHG 260 1005 R0005
3-pole	80 A	GHG 260 1006 R0003
3-pole	125 A	GHG 260 1007 R0003
3-pole	180 A	GHG 260 1008 R0003
Type 4-pole		
4-pole	20 A	GHG 260 1004 R0006
4-pole	40 A	GHG 260 1005 R0006
4-pole	80 A	GHG 260 1006 R0004
4-pole	125 A	GHG 260 1007 R0004
4-pole	180 A	GHG 260 1008 R0004

6

Dimension drawing | Termination diagram

Main switch

3pol

4pol

Dimensions	Switch			
	20 A	40 A	80 A	125 A/180 A
A	45	23	32	9
B	110	110	169	173
C	50	73	130	145
D	70.4	118	167	194
X	72	114	140	170
F	80	126	160	192
G	5.5	6.2	9	9

Dimensions in mm



20 A 3-pole

Technical data

Air-break contactor 20 A

Marking accd. to 94/9/EC	Ⓔ I 2 G Ex de IIC/IIB Gb / Ⓔ I M 2 Ex de I	
EC-Type Examination Certificate	PTB 98 ATEX 1087 U	
IECEX Certificate of Conformity	IECEX BKI 07.0038 U	
Marking accd. to IECEx	Ex de IIC	
Operating temperature range	-20 °C up to +110 °C IIC -55 °C up to +110 °C IIB	
Application temperature ¹⁾	-20 °C up to +55 °C IIC -55 °C up to +55 °C IIB	
Rated voltage	main contact	max. 690 V AC
	aux. contact	max. 250 V AC
	control A1-A2	12 V up to 400 V AC, 50-60 Hz / 12 V up to 250 V/DC
Rated current	main contact	max. 20 A
	aux. contact	max. 6 A
Rated making/breaking capacity accd. to EN 60947-4-1 AC-3	U _e 230 V / P _e 2.2 KW	
	U _e 400 V / P _e 4 KW	
	U _e 690 V / P _e 4 KW	
Rated making/breaking capacity aux. contact accd. to EN 60947-4-1 AC-11	U _e 230 V / I _e 4 A	
Connecting terminals	main contact	2 x 10 mm ² fine wire with wire end sleeve/single wire
	aux. contact	2 x 2.5 mm ² fine wire with wire end sleeve/single wire
	control A1-A2	2 x 2.5 mm ² fine wire with wire end sleeve/single wire
Weight	1.26 kg size 3	
Enclosure material	glass-fibre reinforced polyester	
Enclosure colour	black	
Options	aux. contact	

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account. See also pages 2.6.31.



20 A 3-pole

Ex-d-Built-in components

Air-break contactor 20 A

GHG 618 3104 RXXXX ← Auxiliary contacts

One auxiliary contact for mounting width 70 mm

Control voltage A1-A2	Auxiliary contacts (XXXX)	
	1 NO	1 NC
24 V AC	0101	0201
42 V AC	0102	0202
48 V AC	0103	0203
110 V AC	0104	0204
230 V AC	0105	0205
230 / 240 V AC	0106	0206
380 / 400 V AC	0107	0207
400 V AC	0110	0210
12 V DC	0131	0231
24 V DC	0132	0232
42 V DC	0133	0233
48 V DC	0134	0234
60 V DC	0135	0235
110 V DC	0136	0236
220 V DC	0137	0237

GHG 618 3105 RXXXX ← Auxiliary contacts

Two auxiliary contacts for mounting width 70 mm

Control voltage A1-A2	Auxiliary contacts (XXXX)		
	1 NO / 1 NC	2 NC	2 NO
24 V AC	0101	0201	0301
42 V AC	0102	0202	0302
48 V AC	0103	0203	0303
110 V AC	0104	0204	0304
230 V AC	0105	0205	0305
230 / 240 V AC	0106	0206	0306
380 / 400 V AC	0107	0207	0307
440 V AC	0108	0208	0308
24 V DC	0111	0211	0311
12 V DC	0112	0212	0312
48 V DC	0114	0214	0314
60 V DC	0115	0215	0315
110 V DC	0116	0216	0316
220 V DC	0117	0217	0317

Example

GHG 618 3105 RXXXX

GHG 618 3105 R **0206**



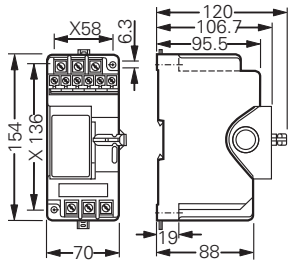
Air-break contactor coil voltage 230/240 V 2 NC

Ex-d-Built-in components



20 A 3-pole

Dimension drawing | Termination diagram

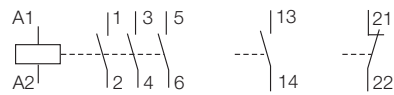


Module size 3

X = fixing dimension

3pol + 1 HSK

1 S 1 Ö

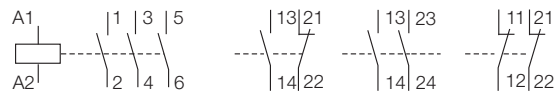


3pol + 2 HSK

1 S + 1 Ö

2 S

2 Ö



AC = aux. contact



3-pole

Technical data

Motor starter for direct on-line starting with thermal release 4 kW

Marking accd. to 94/9/EC		Ⓔ II 2 G Ex de IIC/IIB Gb / Ⓔ I M2 Ex de I
EC-Type Examination Certificate		PTB 98 ATEX 1087 U
IECEX Certificate of Conformity		IECEX BKI 07.0038 U
Marking accd. to IECEx		Ex de IIC
Operating temperature range		-20 °C up to +110 °C IIC -55 °C up to +110 °C IIB
Application temperature ¹⁾		-20 °C up to +55 °C IIC -55 °C up to +55 °C IIB
Rated voltage	main contact	max. 690 V AC / 50-60 Hz
Control voltage		12 V up to 400 V AC / 12 V up to 230 V DC
Rated current	main contact	max. 20 A
	aux. contact	max. 6 A
Rated making/breaking capacity		U _e 230 V / P _e 2.2 KW
accd. to EN 60947-4-1 AC3		U _e 400 V / P _e 4 KW
		U _e 690 V / P _e 4 KW
Rated making/breaking capacity aux. contact		U _e 230 V / I _e 4 A
accd. to EN 60947-4-1 AC-15		
Back-up fuse		20 A gL
Connecting terminals	main contact	2 x 10 mm ² fine wire with wire end sleeve/single wire
	aux. contact/ control A1-A2	2 x 2.5 mm ² fine wire with wire end sleeve/single wire
	signal contact	2 x 2.5 mm ² fine wire with wire end sleeve/single wire
Weight		1.72 kg size 3
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black
Options		aux. contact

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account. See also pages 2.6.31.

| Ex-d-Built-in components |



3-pole

Ex-d-Built-in components

Motor starter for direct on-line starting with thermal release 4 kW

6

GHG 618 3102 RXXYY

1. Rated current

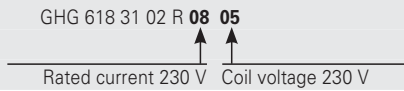
2. Coil voltage

Ordering details Type: 3-pole

1. Rated current	XX	2. Control voltage A1-A2	YY
Module size 3 (70 mm)			
0.11 A - 0.16 A	01	110 V AC	04
0.16 A - 0.23 A	02	230 V AC	05
0.23 A - 0.36 A	03	240 V AC	06
0.36 A - 0.54 A	04	120 V AC	07
0.54 A - 0.80 A	05	400 V AC	08
0.8 A - 1.20 A	06	440 V AC	09
1.2 A - 1.8 A	07	380 / 400 V AC	10
1.8 A - 2.6 A	08	24 V DC	32
2.6 A - 3.7 A	09	48 V DC	34
3.7 A - 5.5 A	10	110 V DC	36
5.5 A - 8.0 A	11		
8.0 A - 11.5 A	12		

Example

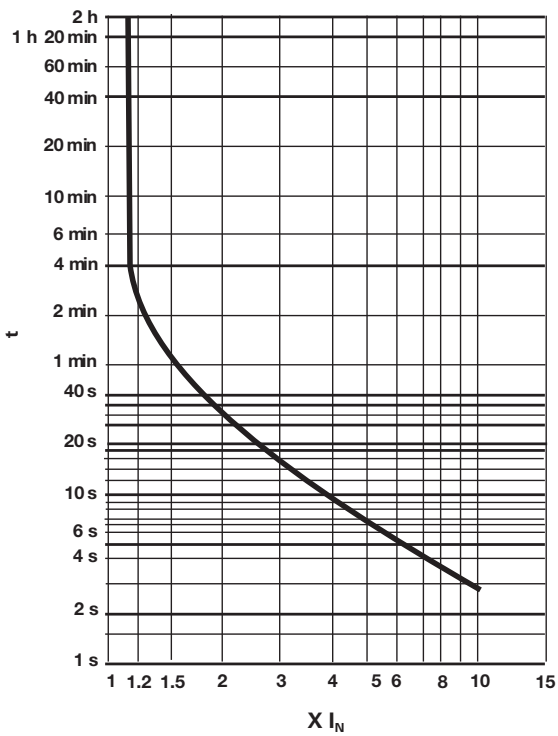
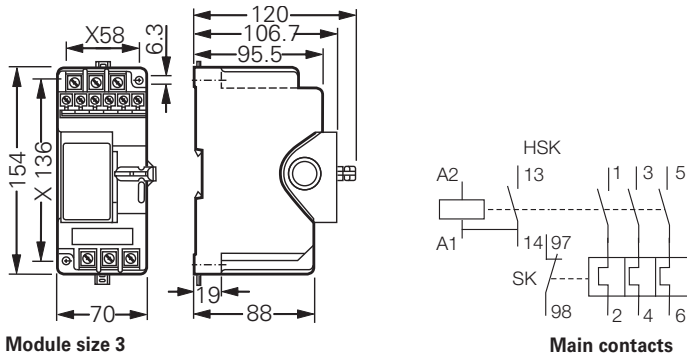
GHG 618 3102 RXXYY





3-pole

Dimension drawing | Termination diagram



AC = aux. contact
SK = signal contact

Ex-d-Built-in components



20 A 2-pole



24 A 4-pole



32 A 4-pole

Technical data

Installation contactor 20 A up to 32 A

Marking accd. to 94/9/EC	Ⓔ II 2 G Ex de IIC/IIB Gb / Ⓔ I M2 Ex de I		
EC-Type Examination Certificate	PTB 98 ATEX 1087 U		
IECEX Certificate of Conformity	IECEX BKI 07.0038 U		
Marking accd. to IECEX	Ex de IIC		
Operating temperature range	-55 °C up to +110 °C (size 1, 2 - IIC) -20 °C up to +110 °C (size 3, 4 - IIC) -55 °C up to +110 °C (size 3, 4 - IIB)		
Application temperature ¹⁾	-20 °C up to +55 °C (size 3, 4 - IIC) -55 °C up to +55 °C (size 0, 1, 2 - IIC; size 3, 4 - IIB)		
Contactor	20 A	24 A	32 A
Rated voltage			
main contact	max. 250 V	440 V	440 V
aux. contact		440 V	440 V
Control voltage A1-A2	24 V up to 400 V AC 50-60 Hz		
Rated current			
main contact NC	20 A	24 A	32 A
main contact NO	20 A	24 A	32 A
aux. contact			6 A
Rated making/breaking capacity accd. to EN 60947-4-1			
main contact AC1 - U _e 230 V	P _e 4.0 kW	P _e 9.0 kW	P _e 15.2 kW
main contact AC1 - U _e 400 V	-	P _e 16 kW	P _e 26 kW
main contact AC3 - U _e 230 V	P _e 1.3 kW	P _e 2.2 kW	P _e 5.5 kW
main contact AC3 - U _e 400 V	-	P _e 4.0 kW	P _e 11 kW
DC3 1 current path U _e 60 V/230 V	-	I _e 4 A/0.2 A	I _e 5 A/0.3 A
DC3 2 current paths U _e 60 V/230 V	-	I _e 14 A/1.0 A	I _e 16 A/1.1 A
DC3 3 current paths U _e 60 V/230 V	-	I _e 24 A/4.0 A	I _e 34 A/4.5 A
aux. contact up to U _e 230 V	-		I _e 4 A
aux. contact up to U _e 400 V	-	I _e 3 A	I _e 3 A
Back-up fuse	20 A gL	35 A gL	63 A gL
Connecting terminals			
main contact	2 x 10 mm ² fine wire with wire end sleeve/single wire		
aux. contact/Control A1-A2	2 x 2.5 mm ² fine wire with wire end sleeve/single wire		
Weight	0.55 kg size 0	1.2 kg size 3	1.65 kg size 4
Enclosure material	glass-fibre reinforced polyester		
Enclosure colour	black		
Options	aux. contact		

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account. See also pages 2.6.31.



20 A 2-pole

Ex-d-Built-in components

Installation contactor 20 A (Module size 0 - 35 mm)

Ordering details

Control voltage A1 - A2		Contacts	Order No.
50 Hz	60 Hz		
24 V	27 ... 28 V	2 NO	GHG 618 0001 R0010
24 V	27 ... 28 V	2 NC	GHG 618 0001 R0011
24 V	27 ... 28 V	1 NO / 1 NC	GHG 618 0001 R0012
42 V	48 V	2 NO	GHG 618 0001 R0007
42 V	48 V	2 NC	GHG 618 0001 R0008
42 V	48 V	1 NO / 1 NC	GHG 618 0001 R0009
110 V	125 ... 127 V	2 NO	GHG 618 0001 R0004
110 V	125 ... 127 V	2 NC	GHG 618 0001 R0005
110 V	125 ... 127 V	1 NO / 1 NC	GHG 618 0001 R0006
230 V	255 V	2 NO	GHG 618 0001 R0001
230 V	255 V	2 NC	GHG 618 0001 R0002
230 V	255 V	1 NO / 1 NC	GHG 618 0001 R0003
231 ... 244 V	240 V	2 NO	GHG 618 0001 R0016
231 ... 244 V	240 V	2 NC	GHG 618 0001 R0017
231 ... 244 V	240 V	1 NO / 1 NC	GHG 618 0001 R0018
400 V		2 NO	GHG 618 0001 R0013
400 V		2 NC	GHG 618 0001 R0014
400 V		1 NO / 1 NC	GHG 618 0001 R0015

Ex-d-Built-in components



24 A 4-pole/3-pole + HS

Ex-d-Built-in components

Installation contactor 24 A (Module size 3 - 70 mm)

6

GHG 618 3118 RXXXX

Coil voltage / Contacts

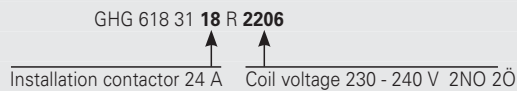
Ordering details

Control voltage AC 40 – 400 Hz/DC	Contacts (XXXX)			
	1 NO / 3 NC	2 NO / 2 NC	3 NO / 1 NC	4 NO
24 V	1301	2201	3101	4001
42 V	1302	2202	3102	4002
48 V	1303	2203	3103	4003
110 ... 120 V	1304	2204	3104	4004
230 ... 240 V	1306	2206	3106	4006
400 ... 415 V	1307	2207	3107	4007

Control voltage AC 40 – 400 Hz/DC	Contacts (XXXX)		
	1 NO / 2 NC + 1 AC	2 NO / 1 NC + 1 AC	3 NO + 1 AC
12 V	1309	2209	3109
24 V	1311	2211	3111
110 ... 120 V	1314	2214	3114
230 ... 240 V	1316	2216	3116
400 ... 415 V	1317	2217	3117

Example

GHG 618 3118 RXXXX





32 A 4-pole

Ex-d-Built-in components

Installation contactor 32 A (Module size 4 - 105 mm)

GHG 618 4109 RYYYY

Coil voltage / Contacts

Coil voltage and contacts

Coil voltage AC 40 – 400 Hz/DC	Contacts (YYYY)		
	4 NO	4 x NO + 1NC (AC)	4 x NO + 1NO (AC)
24 V	4001	4011	4101
48 V	4003	4013	4103
110 V	4004	4014	4104
240 V	4005	4015	4105
230 V	4006	4016	4106
400 V	4007	4017	4107
415 V	4008	4018	4108

Example

GHG 618 41 09 RYYYY

GHG 618 41 **09 R 4015**

Installation contactor 32 A Coil voltage 240 V 1NC

HK = main contact

AC = aux. contact

Ex-d-Built-in components



20 A 2-pole



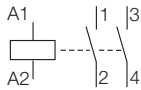
24 A 4-pole



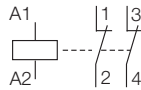
32 A 4-pole

Termination diagram

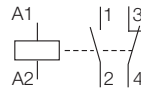
2 S



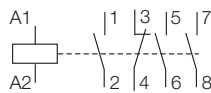
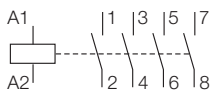
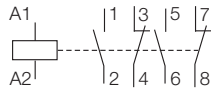
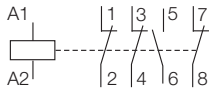
2 Ö



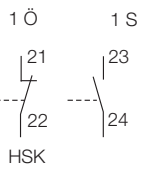
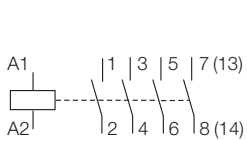
1 S + 1 Ö



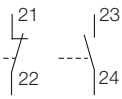
Installation contactor 20 A



Installation contactor 24 A



1 S



Installation contactor 32 A

AC = aux. contact



32 A 4-pole

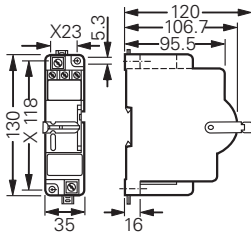


24 A 4-pole

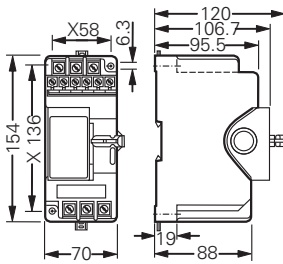


20 A 2-pole

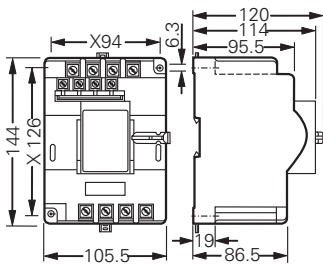
Dimension drawing



Module size 0



Module size 3



Module size 4

X = fixing dimension



Current impulse switch

Technical data

Current impulse switch up to 16 A

Marking accd. to 94/9/EC	⊕ II 2 G Ex de IIC/IIB Gb / ⊕ I M2 Ex de I	
EC-Type Examination Certificate	PTB 98 ATEX 1087 U	
IECEX Certificate of Conformity	IECEX BKI 07.0038 U	
Marking accd. to IECEX	Ex de IIC	
Operating temperature range	-55 °C up to +55 °C	
Application temperature ¹⁾	-55 °C up to +110 °C	
Rated voltage	main contact	400 V AC
	control A1-A2	230 V AC
Rated current	main contact	16 A
Rated making/breaking capacity accd. to EN 60947-4-1 AC-3	U _o 250 V / I _o 16 A	
	U _o 400 V / I _o 10 A	
Back-up fuse	16 A gL	
Connecting terminals	main contact	2 x 10 mm ² fine wire with wire end sleeve/single wire
	control contact	2 x 2.5 mm ² fine wire with wire end sleeve/single wire
Weight	0.95 kg size 2	
Enclosure material	glass-fibre reinforced polyester	
Enclosure colour	black	

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account. See also pages 2.6.31.



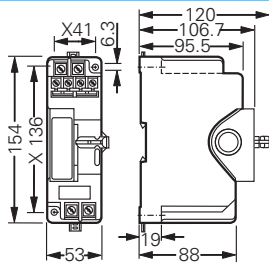
Current impulse switch

Ordering details

Rated current	Contact	Coil voltage	Mounting width	Order No.
16 A	1 NO	230 V AC	53 mm	GHG 618 0002 R0004
16 A	2 NO	230 V AC	53 mm	GHG 618 0002 R0008
16 A	1 NO + 1 NC	230 V AC	53 mm	GHG 618 0002 R0012

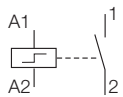
6

Dimension drawing | Termination diagram

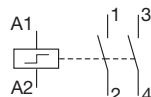


Module size 2

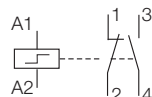
X = fixing dimension



1 NO



2 NO



1 NO + 1 NC

Termination diagram Current impulse switch

Dimensions in mm



Manual motor starter

Technical data

Manual motor starter 0.1 A up to 25 A

Marking accd. to 94/9/EC	⊕ II 2 G Ex de IIC / ⊕ I M2 Ex de I	
EC-Type Examination Certificate	PTB 99 ATEX 1007 U	
IECEX Certificate of Conformity	IECEX BKI 07.0038 U	
Marking accd. to IECEX	Ex de IIC	
Operating temperature range	-20 °C up to +95 °C	
Application temperature ¹⁾	-20 °C up to +55 °C (IIC)	
Rated voltage	main contact	690 V AC, 50/60 Hz, 440 V DC
	aux. contact	110 V; 230 V; 400 V; 500 V 50/60 Hz
Rated current	main contact	25 A
	aux. contact	230 V/2 A 400 V/0.5 A
Rated making/breaking capacity accd. to EN 60947-4-1 AC-3	U _e 690 V / I _e 25 A	
Thermal tripping characteristic	T II	
Tripping time at 6x I _e	≥ 5 sec.	
Back-up fuse	main contact	see table
	aux. contact	not required
Connecting terminals	main contact	2 x max. 10 mm ²
	aux. contact	2 x 0.75 - 4 mm ²
Dimensions (L x W x H)	Mounting width 106 mm	
Weight	1.3 kg	
Enclosure material	glass-fibre reinforced polyester	
Enclosure colour	black	
Mounting	35 mm top hat rail (DIN-rail)	
Options	aux. contact	

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account. See also pages 2.6.31.

Short-circuit protection up to 100 kA and maximum backup fuse

Setting range	230 V AC		400 V AC		500 V AC		690 V AC	
	I _{cs}	gL, aM	I _{cs}	gL, aM	I _{cs}	gL, aM	I _{cs}	gL, aM
0.1 ... 0.16 A	short-circuit proof no back-up fuse required, up to I _{cc} = 100 kA							
1.0 ... 1.6 A								
1.6 ... 2.5 A							40 kA	25 A
2.5 ... 4.0 A					60 kA	35/40 A	10 kA	40 A
4.0 ... 6.3 A					40 kA	50 A	7 kA	40 A
6.3 ... 9.0 A					30 kA	80 A	5 kA	50 A
9.0 ... 12.5 A			75 kA	80 A	27 kA	80 A	4.5 kA	50 A
12.5 ... 16.0 A			60 kA	100 A	25 kA	100 A	4.0 kA	50 A
16.0 ... 20.0 A			55 kA	100 A	22 kA	100 A	3.5 kA	50 A
20.0 ... 25.0 A	50 kA	125 A	50 kA	125 A	20 kA	125 A	3.0 kA	50 A



Manual motor starter

Ex-d-Built-in components

Manual motor starter 0.1 A up to 25 A

GHG 635 XXXX RYYYY

1. Auxiliary contacts

2. Setting range

Ordering details

Setting range	Undervoltage trip (UT)	Auxiliary contacts XXXX			Setting range YYYYY
		without AC	1NO / 1NC AC	2NO AC	
0.10 – 0.16 A	–	1031	1032	1033	0001
0.16 – 0.25 A	–	1031	1032	1033	0002
0.25 – 0.40 A	–	1031	1032	1033	0003
0.40 – 0.63 A	–	1031	1032	1033	0004
0.63 – 1.00 A	–	1031	1032	1033	0005
1.00 – 1.60 A	–	1031	1032	1033	0006
1.60 – 2.50 A	–	1031	1032	1033	0007
2.50 – 4.00 A	–	1031	1032	1033	0008
4.00 – 6.30 A	–	1031	1032	1033	0009
6.30 – 9.00 A	–	1031	1032	1033	0010
9.00 – 12.50 A	–	1031	1032	1033	0011
12.50 – 16.00 A	–	1031	1032	1033	0012
16.00 – 20.00 A	–	1031	1032	1033	0013
20.00 – 25.00 A	–	1031	1032	1033	0014
0.10 – 0.16 A	230 V	1031	1032	1033	0101
0.16 – 0.25 A	230 V	1031	1032	1033	0102
0.25 – 0.40 A	230 V	1031	1032	1033	0103
0.40 – 0.63 A	230 V	1031	1032	1033	0104
0.63 – 1.00 A	230 V	1031	1032	1033	0105
1.00 – 1.60 A	230 V	1031	1032	1033	0106
1.60 – 2.50 A	230 V	1031	1032	1033	0107
2.50 – 4.00 A	230 V	1031	1032	1033	0108
4.00 – 6.30 A	230 V	1031	1032	1033	0109
6.30 – 9.00 A	230 V	1031	1032	1033	0110
9.00 – 12.50 A	230 V	1031	1032	1033	0111
16.00 – 20.00 A	230 V	1031	1032	1033	0112
20.00 – 25.00 A	230 V	1031	1032	1033	0113
0.10 – 0.16 A	400 V	1031	1032	1033	0201
0.16 – 0.25 A	400 V	1031	1032	1033	0202
0.25 – 0.40 A	400 V	1031	1032	1033	0203
2.50 – 4.00 A	400 V	1031	1032	1033	0208
4.00 – 6.30 A	400 V	1031	1032	1033	0209
6.30 – 9.00 A	400 V	1031	1032	1033	0210
9.00 – 12.50 A	400 V	1031	1032	1033	0211
16.00 – 20.00 A	400 V	1031	1032	1033	0212
20.00 – 25.00 A	400 V	1031	1032	1033	0213

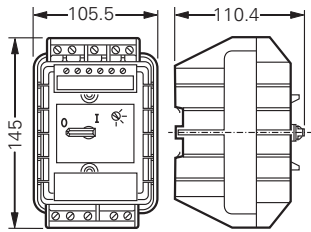
AC = aux. contact



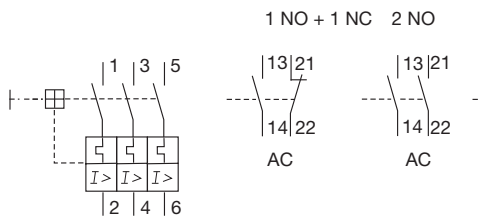
Manual motor starter

Dimension drawing | Termination diagram

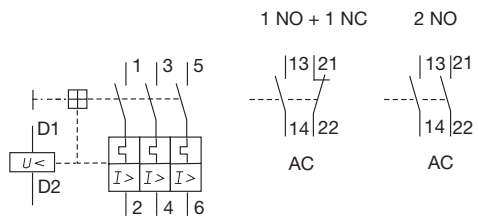
6



Manual motor starter 25 A



without undervoltage trip



with undervoltage trip

AC = aux. contact



Thermal overcurrent relay

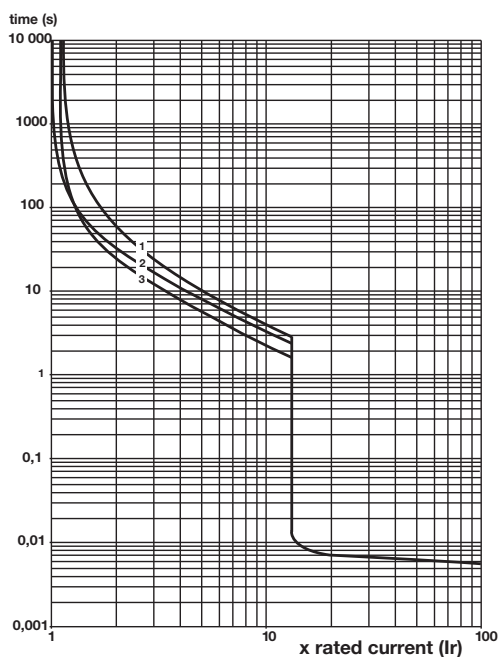
Technical data

Thermal overcurrent relay

Marking accd. to 94/9/EC		Ⓔ II 2 G Ex de IIC/IIB GB / Ⓔ I M2 Ex ed I
EC-Type Examination Certificate		PTB 98 ATEX 1087 U
IECEX Certificate of Conformity		IECEX BKI 07.0038 U
Marking accd. to IECEx		Ex de IIC
Operating temperature range		-20 °C up to +110 °C IIC -55 °C up to +110 °C IIB
Application temperature ¹⁾		-20 °C up to +55 °C IIC -55 °C up to +55 °C IIB
Rated voltage	main contact	690 V AC, 50/60 Hz
Tripping current	main contact	Thermal tripping with phase failure function, 0.1 - 16 A manual reset
Rated voltage	aux. contact	275 V AC
Rated current	aux. contact	6 A
Connecting terminals	main contact	2 x 10 mm ² fine wire with wire end sleeve/single wire
	aux. contact	2 x 2.5 mm ² fine wire with wire end sleeve/single wire
Dimensions (L x W x H)		Mounting width 70 mm
Weight		1.1 kg size 3
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black
Options		aux. contact

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account.
See also pages 2.6.31.

Tripping characteristic



Mean tripping time at 20 °C in relationship to the multiple rated current

- 1 3-pole load at cold condition
- 2 2-pole load at cold condition
- 3 3-pole load at warm condition

Ex-d-Built-in components



Thermal overcurrent relay

Ex-d-Built-in components

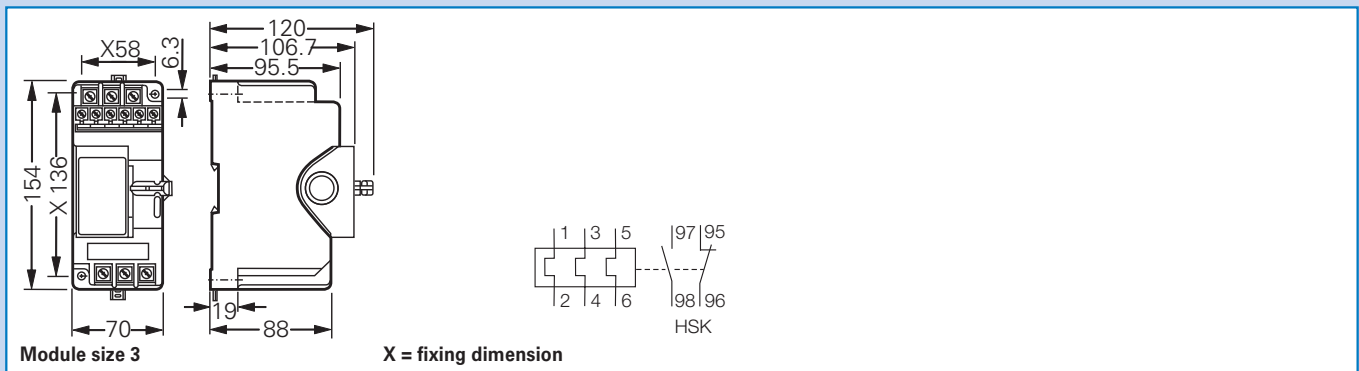
Thermal overcurrent relay

6

Ordering details

Tripping current	Order No.
0.1 A - 0.16 A	GHG 618 3103 R0012
0.16 A - 0.23 A	GHG 618 3103 R0001
0.23 A - 0.36 A	GHG 618 3103 R0002
0.36 A - 0.54 A	GHG 618 3103 R0003
0.54 A - 0.8 A	GHG 618 3103 R0004
0.8 A - 1.2 A	GHG 618 3103 R0005
1.2 A - 1.8 A	GHG 618 3103 R0006
1.8 A - 2.6 A	GHG 618 3103 R0007
2.6 A - 3.7 A	GHG 618 3103 R0008
3.7 A - 5.5 A	GHG 618 3103 R0009
5.5 A - 8.0 A	GHG 618 3103 R0010
8.0 A - 11.5 A	GHG 618 3103 R0011

Dimension drawing | Termination diagram



Dimensions in mm



Overvoltage arrester

Technical data

Overvoltage arrester

Marking accd. to 94/9/EC	Ⓔ II 2 G Ex de IIC/IIB Gb / Ⓔ I M2 Ex de I
EC-Type Examination Certificate	PTB 98 ATEX 1087 U
IECEX Certificate of Conformity	IECEX BKI 07.0038 U
Marking accd. to IECEX	Ex de IIC
Operating temperature range	-55 °C up to +55 °C
Application temperature ¹⁾	-55 °C up to +110 °C
Rated voltage U_n	275 V
Rated discharge surge current I_n	20 kA
Rated forward surge current I_{max}	< 40 kA
Response time t_A	≤ 25 ns
Voltage protection level residual voltage U_p	1.25 KV
Short-circuit protection at max. back-up fuse	25 kA eff
Back-up fuse	125 A (gG / gL or 63 A MCB with B/C-Characteristic)
Connecting terminals	2 x 10 mm ² fine wire with wire end sleeve/single wire
Dimensions (L x W x H)	mounting width 35 mm
Weight	0.52 kg size 1
Enclosure material	glass-fibre reinforced polyester
Enclosure colour	black
Options	tripping indication in inspection window

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account. See also pages 2.6.31.

| Ex-d-Built-in components |

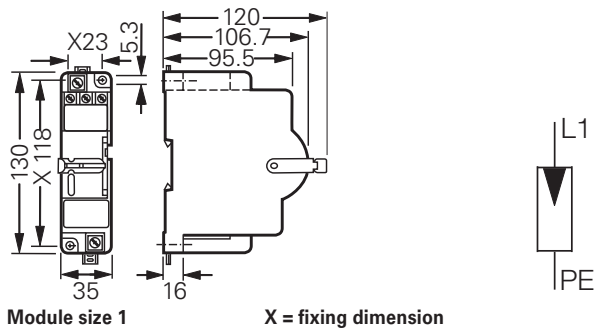


Overvoltage arrester

Ordering details

Content	Mounting width	Order No.
Type: 1-pole version, optional with tripping indication		
1-pole overvoltage arrester	35 mm	GHG 612 1003 R0001

Dimension drawing | Termination diagram



Dimensions in mm



Star-delta timer relay

6

Technical data

Star-delta timer relay

Marking accd. to 94/9/EC	Ⓔ II 2 G Ex de IIC/IIB Gb / Ⓔ I M2 Ex de I	
EC-Type Examination Certificate	PTB 98 ATEX 1087 U	
IECEX Certificate of Conformity	IECEX BKI 07.0038 U	
Marking accd. to IECEx	Ex de IIC	
Operating temperature range	-55 °C up to +55 °C	
Application temperature ¹⁾	-55 °C up to +110 °C	
Rated voltage	main contact	max. 250 V
	control A1-A2	220 V - 240 V AC
Rated continuous I _{th}	3 A	
Power dissipation per pole	2 W	
Rated switching capacity AC-15	230 V/3 A	
Tripping time	1.5 s up to 30 s continuously externally adjustable	
Connecting terminals	main contact	2 x 10 mm ² fine wire with wire end sleeve/single wire
	aux. contact/ control A1-A2	2 x 2.5 mm ² fine wire with wire end sleeve/single wire
Dimensions (L x W x H)	Mounting width 35 mm	
Weight	0.53 kg size 0	
Enclosure material	glass-fibre reinforced polyester	
Enclosure colour	black	
Options	aux. contact	

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account. See also pages 2.6.31.

Ordering details

Content	Rated current	Response time	Mounting width	Order No.
Type: 1-pole Equipped with 1 C/O				
1-pole	3 A	1.5 s - 30 s	35 mm	GHG 618 1102 R 0001

Dimension drawing | Termination diagram

Module size 1

Termination diagram Star-delta timer relay

Characteristic

Dimensions in mm

Ex-d-Built-in components



Multi-function relay

Technical data

Multi-function relay

Marking accd. to 94/9/EC	Ⓔ II 2 G Ex de IIC/IIB Gb / Ⓔ I M2 Ex de I
EC-Type Examination Certificate	PTB 98 ATEX 1087 U
IECEX Certificate of Conformity	IECEX BKI 07.0038 U
Marking accd. to IECEx	Ex de IIC
Operating temperature range	-20 °C up to +110 °C (IIC) -55 °C up to +110 °C (IIB)
Application temperature ¹⁾	-20 °C up to +60 °C (IIC) -55 °C up to +60 °C (IIB)
Rated voltage	max. 440 V AC
Control voltage	24 V AC up to 440 V AC or 24 V DC up to 240 V DC
Rated current	6 A
Power dissipation per pole	2 W
Rated switching capacity AC-11	440 V/3 A
Rated switching capacity DC-22	24 V / 1 A; 60 V / 0.35 A; 220 V / 0.20 A
Connecting terminals	main contact aux. contact/ control A1-A2
	2 x 10 mm ² 2 x 2.5 mm ²
Dimensions (L x W x H)	Mounting width 70 mm
Weight	1.26 kg, size 3
Enclosure material	glass-fibre reinforced polyester
Enclosure colour	black
Options	Control

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account. See also pages 2.6.31.

Ex-Built-in components

Multi-function relay

GHG 618 2910 RXXYY

1. Control function

2. Response time/time range

1. Control function

Control function	XX
delayed response	11
delayed OFF response	12
delayed ON and OFF response	16
impulse ON	21
impulse OFF	22
flashing	42
pulsing	81
pulse shaper	82

2. Response time/time range

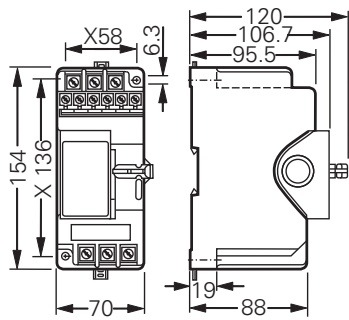
Response time/time range	YY
0.15 min - 3 min	01
3 s - 60 s	02
0.5 s - 10 s	03
0.15 s - 3 s	04
0.05 s - 1 s	05
0.5 min - 10 min	06
3 min - 60 min	07
0.15 h - 3 h	08
0.5 h - 10 h	09
3 h - 60 h	10

Note: The time setting within the time ranges is performed via potentiometer 10 kΩ (GHG 410 1901 R 0194) to be connected externally.



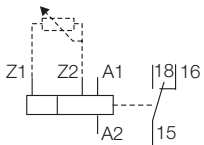
Multi-function relay

Dimension drawing | Termination diagram | Function diagram

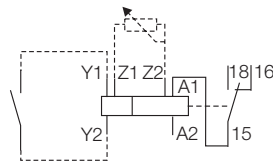


Module size 2 X = fixing dimension

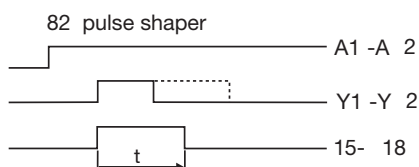
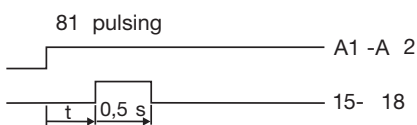
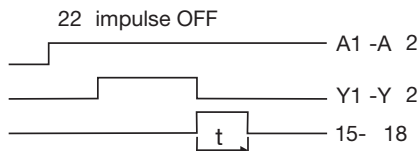
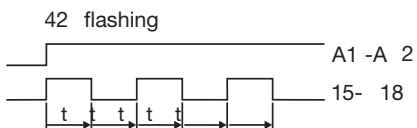
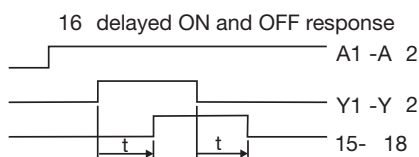
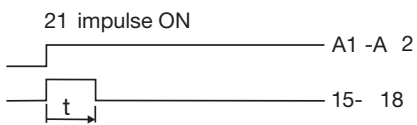
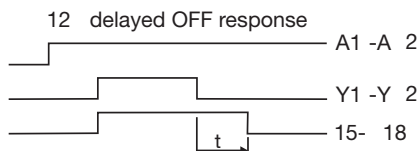
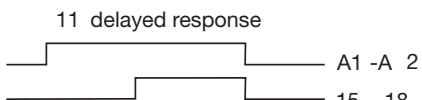
Termination diagram Multi-function relay



Contacts for function 11, 21, 42 and 81



Contacts for function 12, 16, 22 and 82



Ex-e safety and isolating transformer



Ex-e transformer

Technical data

Ex-e safety and isolating transformer

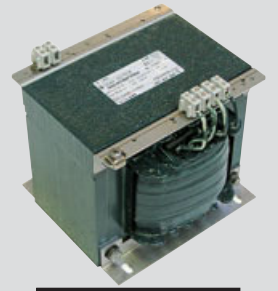
Marking accd. to 94/9/EC	II 2 G Ex e IIC Gb	
EC-Type Examination Certificate	BVS 11 ATEX E 195 U	
Application temperature	-55 °C up to +40 °C ¹⁾	
IECEX Certificate of Conformity	IECEX BVS 11.0087U	
Marking accd. to IECEx	Ex e IIC Gb	
Operating temperature range	-55 °C up to +130 °C	
Application temperature ¹⁾	-55 °C up to +55 °C	
Rated voltage	primary	110 V up to 690 V
	secondary	12 V up to 400 V
Frequency	50 – 60 Hz	
Power consumption	63 VA up to 1200 VA	
Short-circuit voltage	4.2 %	
Duty type	S1	
Thermal class	E	
Back-up fuse	max. 1.5 x of secondary rated current	
Connecting terminals	2.5 – 16 mm ² , option direct wire connections	
Protection class	I	
Degree of protection accd. to EN 60529	²⁾	

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account. See also pages 2.6.31.

²⁾ The transformer may only be mounted in a certified enclosure with minimum degree of protection IP54.

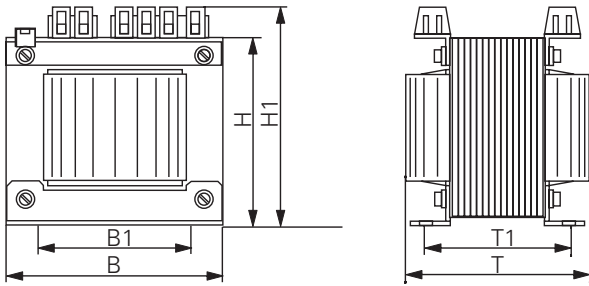
Ordering details

Type	Prim. / sec.	Max. input power	Order No.
Ex-e safety and isolating transformer			
Ex-e transformer	110 V / 24 V	100 VA	GHG 410 1992 R0001
Ex-e transformer	220 V / 24 V	100 VA	GHG 410 1992 R0002
Ex-e transformer	230 V / 24 V	100 VA	GHG 410 1992 R0003
Ex-e transformer	230 V / 48 V	100 VA	GHG 410 1992 R0004
Ex-e transformer	400 V / 24 V	100 VA	GHG 410 1992 R0005
Ex-e transformer	500 V / 24 V	100 VA	GHG 410 1992 R0006
Ex-e transformer	230 V / 230 V	100 VA	GHG 410 1992 R0007
Ex-e transformer	400 V / 230 V	100 VA	GHG 410 1992 R0008
Ex-e transformer	500 V / 120 V	100 VA	GHG 410 1992 R0009
Ex-e transformer	230 V / 24 V	200 VA	GHG 410 1992 R0010
Ex-e transformer	400 V / 24 V	200 VA	GHG 410 1992 R0011
Ex-e transformer	400 V / 230 V	200 VA	GHG 410 1992 R0012
Ex-e transformer	230 V / 24 V	400 VA	GHG 410 1992 R0013
Ex-e transformer	400 V / 24 V	400 VA	GHG 410 1992 R0014
Ex-e transformer	400 V / 230 V	400 VA	GHG 410 1992 R0015
Ex-e transformer	230 V / 24 V	550 VA	GHG 410 1992 R0016
Ex-e transformer	400 V / 24 V	550 VA	GHG 410 1992 R0017
Ex-e transformer	400 V / 230 V	550 VA	GHG 410 1992 R0018
Ex-e transformer	230 V / 24 V	1200 VA	GHG 410 1992 R0019
Ex-e transformer	400 V / 24 V	1200 VA	GHG 410 1992 R0020
Ex-e transformer	400 V / 230 V	1200 VA	GHG 410 1992 R0021



Ex-e transformer

Dimension drawing



Ex-e transformer

Power	63	100	200	400	550	1200
Dimensions (mm)						
H	92	110	122	132	145	161
H1	108	126	136	148	161	181
H2	121	146	156	168	181	201
B	84	105	120	135	150	174
B1	64	85	90	105	12	140
T	85	80	102	128	150	170
T1	69	65	81	108	125	145