

Ex-d Built-in Components GHG 62

Flameproof encapsulation up to 63 A

Safety easy to install

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 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.

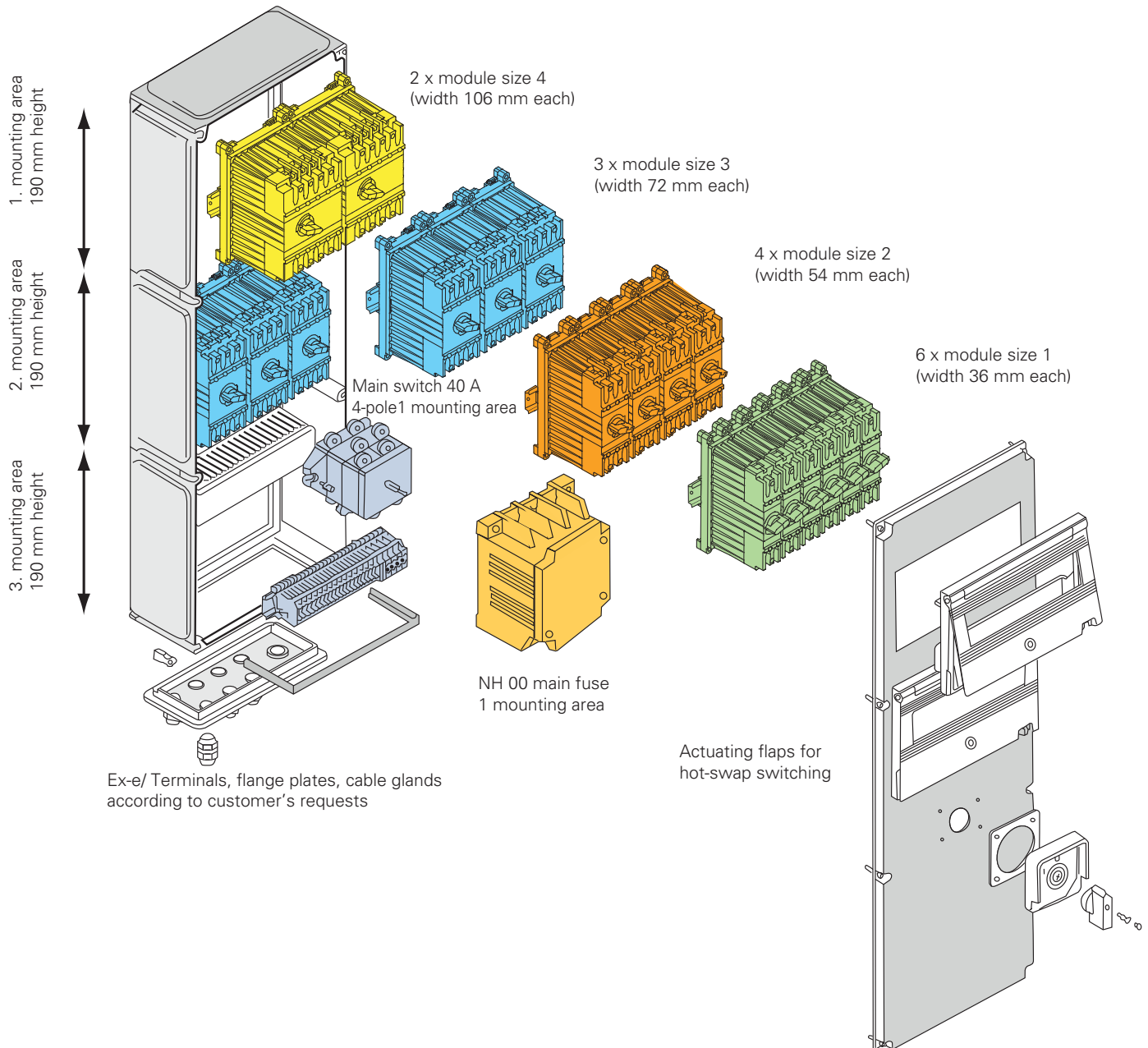
We've also provided for your personal safety: MCBs, RCDs, RCBOs and power circuit breakers can be equipped with a lock in the OFF position. That protects you during your work on the system against inadvertent switching on

– better safe than sorry!



Features

- 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 Series 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.**

GHG 622 miniature circuit breaker (MCB)



size 4



size 3



size 2



size 1

Technical data

MCB 0.5 A up to 63 A

Marking accd. to 2014/34/EU		Ex 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) (size 1 and 2)
Operating temperature range		-20 °C up to +110 °C (IIC) -45 °C up to +110 °C (IIB) (size 1 and 2)
Rated voltage	main contact	max. 400 V AC (+ 10 %)
	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 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 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 internal components have to be taken into account.
See also page 2.6.19.



size 1



size 2



size 3



size 4

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

GHG 622 XXXX R0YYY

1. Contacts

6

Contact arrangement						Circuit	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		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 gG	Powerloss per pole	YYY	Max. back-up fuse gG	Powerloss per pole	YYY	Max. back-up fuse gG	Powerloss per pole	YYY	Max. back-up fuse gG	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	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	4.8 W	637

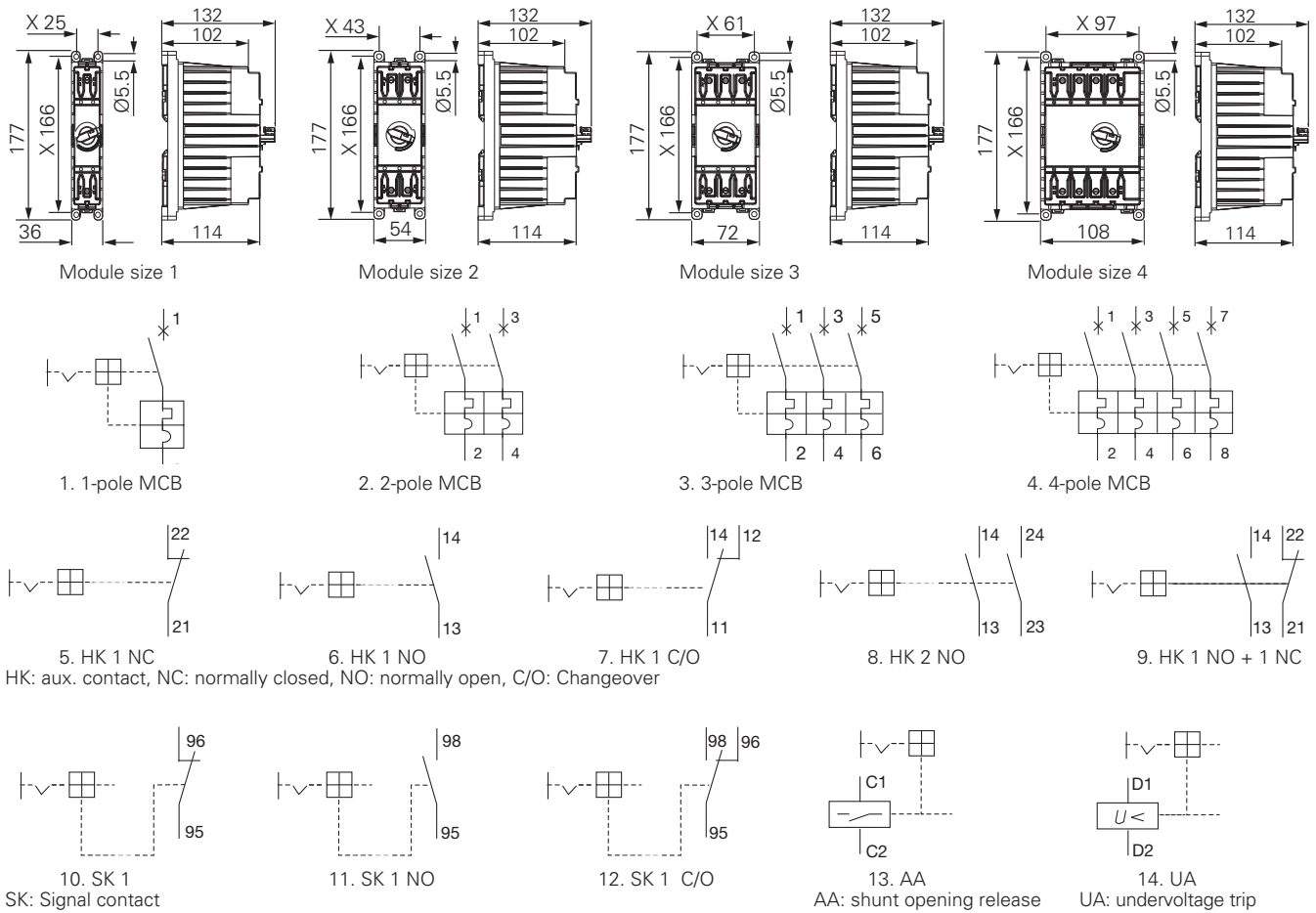
Built-in components MCBs: order code MCB 0.5 up to 63 A - Icn = 10 kA

Tripping current	Characteristic K			Characteristic Z			Characteristic B			Characteristic C		
	Max. back-up fuse gG	Powerloss per pole	YYY	Max. back-up fuse gG	Powerloss per pole	YYY	Max. back-up fuse gG	Powerloss per pole	YYY	Max. back-up fuse gG	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

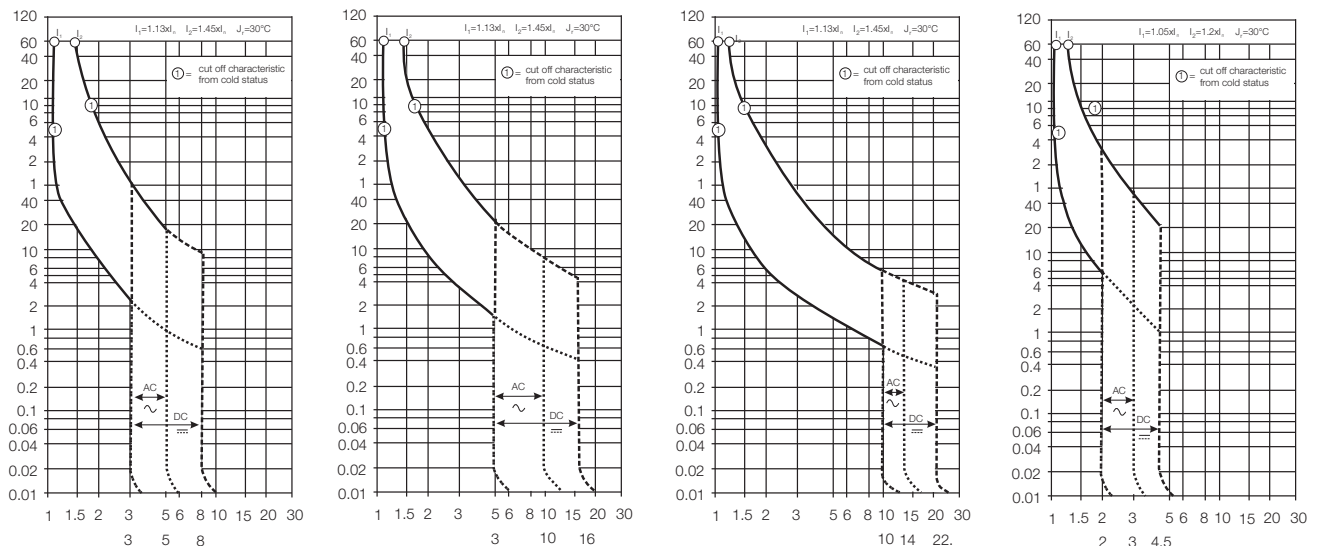
Built-in components MCBs: order code MCB 0.5 up to 63 A - Icn = 15/25 kA

Tripping current	Characteristic K			Characteristic Z			Characteristic B			Characteristic C		
	Max. Back-up fuse gG	Powerloss per pole	YYY	Max. Back-up fuse gG	Powerloss per pole	YYY	Max. Back-up fuse gG	Powerloss per pole	YYY	Max. Back-up fuse gG	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	1.9 W	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	160 A	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



GHG 624 residual current device (RCD)



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 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
Operating temperature range		-20 °C up to +110 °C (IIC) -45 °C up to +110 °C (IIB) (size 1 and 2)
Application temperature ¹⁾		-20 °C up to +55 °C (IIC) -45 °C up to +55 °C (IIB) (size 1 and 2)
Rated voltage	main contact	max. 400 V AC (+ 10 %)
	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 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 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 page 2.6.19.



Order Code RCDs 25/40/63 A

GHG 624 XXXX ROYYY

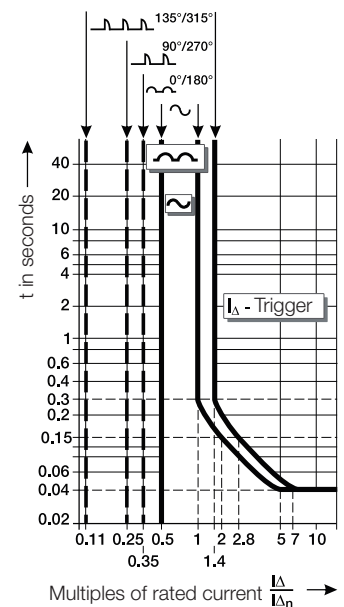
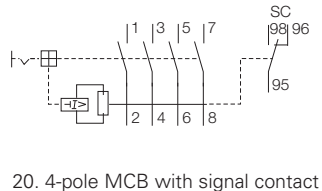
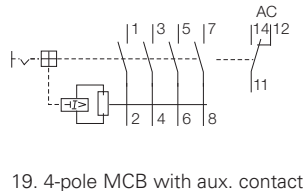
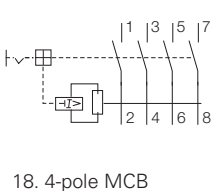
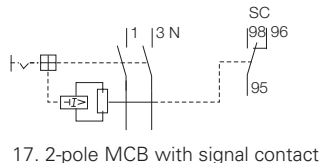
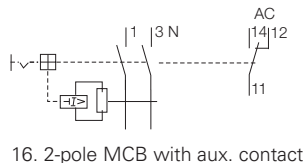
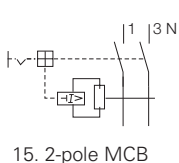
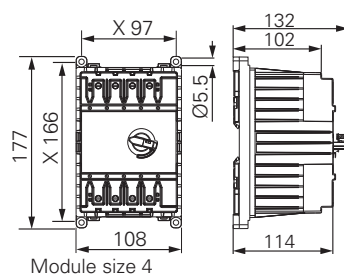
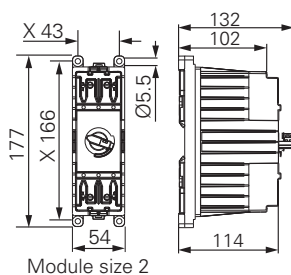
1. Contacts

2. Tripping current/Rated current

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

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



GHG 625 residual circuit breaker with overload (RCBO)



Size 2



Size 3



Size 4

Technical data

RCBOs from 10 mA up to 0.3 A (trip current 0.5 A - 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		
Operating temperature range		-20 °C up to +110 °C (IIC) -45 °C up to +110 °C (IIB) (option - size 1 and 2)		
Application temperature ¹⁾		-20 °C up to +55 °C (IIC) -45 °C up to +55 °C (IIB) (option - size 1 and 2)		
Rated voltage	main contact	max. 400 V AC (+ 10 %)		
	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 φ		10/0.5		
400 V AC (230/400 V AC) kA/cos φ		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 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	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 2.6.21.



Size 2



Size 3



Size 4

Order Code RCBOs

GHG 625 XXXX R0YYY

1. Contacts

1. Contacts - Icn = 6 kA											
Contact arrangement							Term. diag.	No of main contacts		No of main contacts	
Additional components	Main Contact	Aux. con- tact	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		

1. Contacts - Icn = 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 residual circuit breaker with overload (RCBO)



Size 2



Size 3



Size 4

GHG 625 XXXX R Z YYY

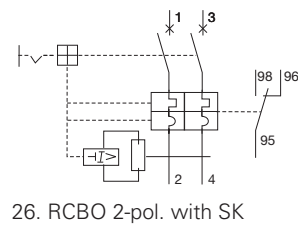
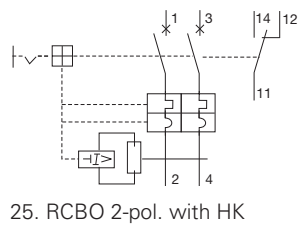
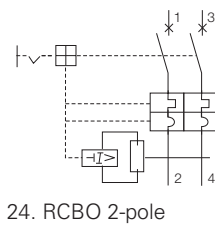
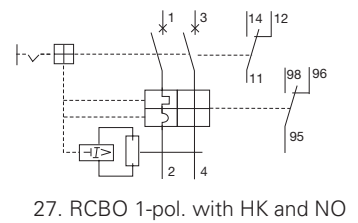
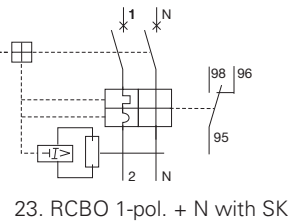
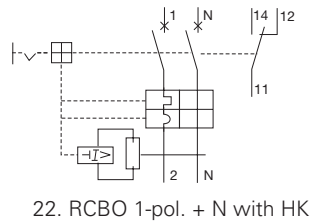
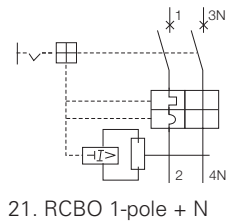
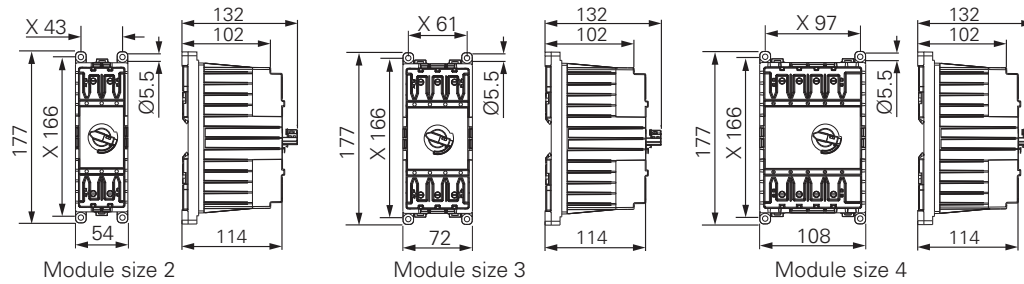
2. Rated residual operating current ID_n 3. Tripping current

6

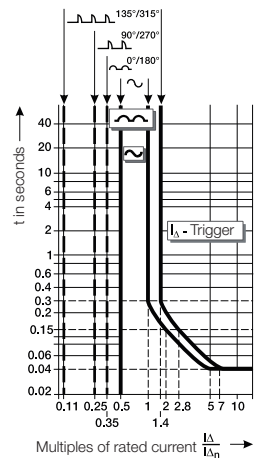
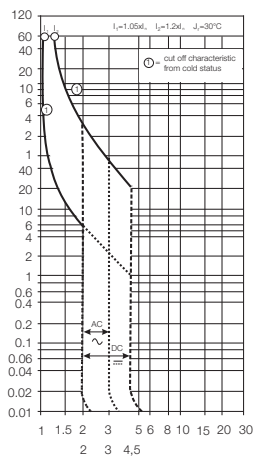
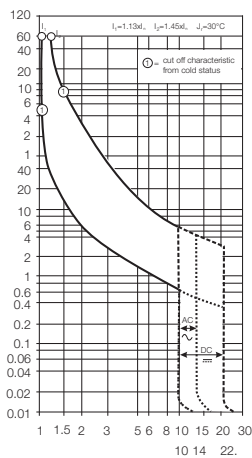
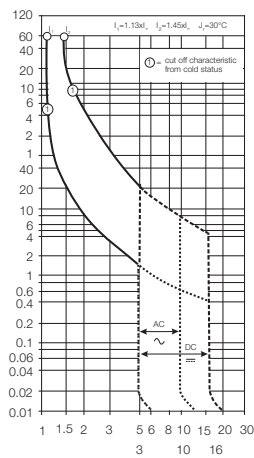
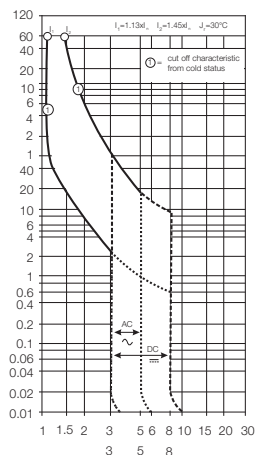
Tripping current	B-Characteristic 6 kA				C-Characteristic 6 kA				K-Characteristic 6 kA			
Type	DS201		DDA202		DS201		DDA202		DS201		DDA202	
2. Rated residual operating current IDn												
	IDn (mA)				IDn (mA)				IDn (mA)			
	10	30	300	+ABB S202	10	30	300	+ABB S202	10	30	300	+ABB S202
Z	0	1	3	-	0	1	3	-	0	1	3	-
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
8A	-	-	-	-	-	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	
Type	DS201M		DS202CM		DDA202		DDA202		DS201M		DS202CM		DDA202		DDA202		DDA202	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
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



Tripping characteristic



GHG 627 power contactor 3-pole up to 63 A / 30 kW (optional overcurrent relay) / 4-pole up to 55 A



3-pole 45 A



3-pole 45 A with thermal release

Technical data

Contactor 3 / 4 pole up to 30 kW

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				
Operating temperature range		-20 °C up to +110 °C (IIC)				
Application temperature ¹⁾		-20 °C up to +55 °C (IIC)				
Rated voltage	main contact (3-pole)	max. 690 V AC / max. 220 V DC				
	main contact (4-pole)	max. 690 V AC / max. 440 V DC				
	aux. contact	max. 690 V AC / max. 600 V DC depending on current				
Rated current	main contact	max. 63 A (3-pole) / max. 55 A (4-pole)				
	aux. contact	max. 5 A				
Size (3-pole) AC-1 current / AC-3 load		28 A / 5.5 kW	30 A / 7.5 kW	45 A / 11 kW	50 A / 15 kW	50 A / 18.5 kW 63 A / 30 kW
Rated making/breaking capacity accd. to EN 60947-4-1 AC-3 (3-pole)		U _e 400 V/ Pe 4 kW	U _e 400 V/ Pe 7.5 kW	U _e 400 V/ Pe 11 kW	U _e 400 V/ Pe 18.5 kW	U _e 400 V/ Pe 30 kW
Size (4-pole) AC-1 current		25 A	30 A	45 A	55 A	
Rated making/breaking capacity accd. to EN 60947-4-1 AC-1 (4-pole)		U _e 400 V/ Ie 25 A	U _e 400 V/ Ie 30 A	U _e 400 V/ Ie 45 A	U _e 400 V/ Ie 55 A	
Connecting terminals	main contact size	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		5				
No of main contacts		3 / 4				
No. of auxiliary contacts		2 / 4				
Weight		2.5 kg				
Enclosure material		Polyamide				

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 2.6.21.



3-pole 45 A with thermal release



3-pole 45 A

Order code power contactor 3-pole

GHG 627 51XX RYYZZ

6

1. Contactor configuration 3-pole XX

Main components	Main contact	Aux. contact	Module size	Termination diagram	3 pol. (XX)
3 pole contactor	x	2 (1NO + 1NC)	5	1	11
3 pole contactor	x	4 (2NO + 2 NC)	5	2	12
3 pole contactor + relay	x	2 (1NO + 1NC)	5	3	17

2. Relay current setting YY

Relay current setting	Ir (A)							
	no relay (2 ac ¹⁾)	no relay (4 ac ¹⁾)	4.2 - 5.7	7.6 - 10	13 - 16	20 - 24	24 - 29	35 - 40
YY	00	00	14	16	18	20	21	23

3. Nominal current & control voltage ZZ

AC-1 Current	AC-3 Power	Control Voltage	ZZ	ZZ	ZZ	ZZ	ZZ	ZZ	ZZ	ZZ
28 A	5.5 kW	24 V / 20 V to 60 V AC/DC	01	01						
30 A	7.5 kW	24 V / 20 V to 60 V AC/DC	02	02	02	02	02			
45 A	11 kW	24 V / 20 V to 60 V AC/DC	03	03	03	03	03	03		
50 A	15 kW	24 V / 20 V to 60 V AC/DC	04	04			04	04	04	
50 A	18.5 kW	24 V / 20 V to 60 V AC/DC	05	05			05	05	05	05
63 A	30 kW	24 V / 20 V to 60 V AC/DC	08							
28 A	5.5 kW	100 V to 250 V AC/DC	11	11						
30 A	7.5 kW	100 V to 250 V AC/DC	12	12	12	12	12			
45 A	11 kW	100 V to 250 V AC/DC	13	13	13	13	13	13		
50 A	15 kW	100 V to 250 V AC/DC	14	14			14	14	14	
50 A	18.5 kW	100 V to 250 V AC/DC	15	15			15	15	15	15
63 A	30 kW	100 V to 250 V AC/DC	18							
28 A	5.5 kW	250 V to 500 V AC/DC	21	21						
30 A	7.5 kW	250 V to 500 V AC/DC	22	22						
45 A	11 kW	250 V to 500 V AC/DC	23	23						
50 A	15 kW	250 V to 500 V AC/DC	24	24						
50 A	18.5 kW	250 V to 500 V AC/DC	25	25						
63 A	30 kW	250 V to 500 V AC/DC	28							

¹⁾ac = auxiliary contact**Example:** 3-Pole power contactor with relay Ir=13 - 16 A, no auxiliary contacts, 45 A / 11 kW, control voltage 250 - 500 V3-Pole contactor with relay Ir=13 - 16 A: **XX = 17**Ir=13 - 16 A, no auxiliary contacts: **YY = 18**45 A / 11 kW, control voltage 250 - 500 V: **ZZ = 13**Order No. **GHG 627 5117 R1813**

GHG 627 power contactor 4-pole up to 55 A



4-pole 45 A

order code power contactor 4-pole

6

GHG 627 51XX R00YY

1. Contactor configuration 4-pole XX

Main components	Main contact	Aux. contact	Module size	Termination diagram	4-pol. (XX)
4 pole contactor	x	2 (1NO + 1NC)	5	4	14
4 pole contactor	x	4 (2NO + 2NC)	5	5	15

2. AC-1 current / Control voltage YY

AC-1 Current	Control voltage		
	24 - 60 V AC/DC	100 - 250 V AC/DC	250 - 500 V AC/DC
	YY	YY	YY
25 A	01	11	21
30 A	02	12	22
45 A	03	13	23
55 A	04	14	24

Example: 4-Pole power contactor, 4 auxiliary contacts, 55 A / 18.5 kW, control voltage 100 - 250 V

4-Pole contactor with 4 auxiliary contacts: **XX = 15**

55 A / 18.5 kW, control voltage 100 - 250 V: **YY = 14**

Order No. **GHG 627 5115 R0014**

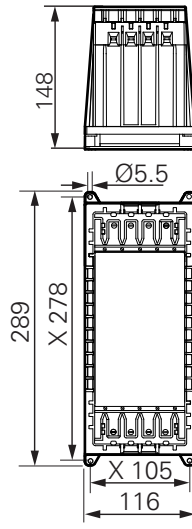
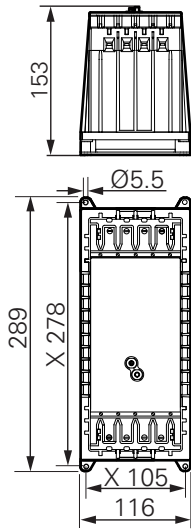


3-pole 45 A with thermal release



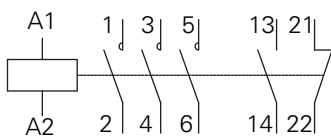
3-pole 45 A

Dimension drawing / Termination diagram

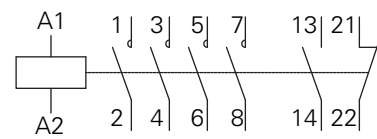


Module size 5 with relay

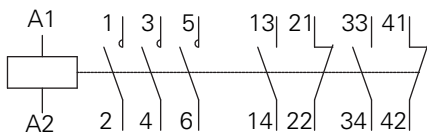
Module size 5 without relay



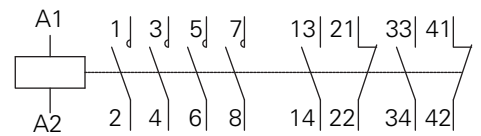
1. Power contactor 3-pole + 2 ac



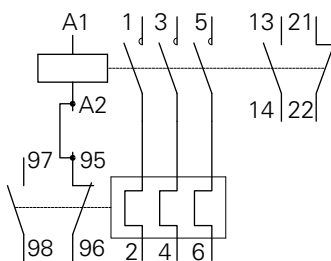
4. Power contactor 4-pole + 2 ac



2. Power contactor 3-pole + 4 ac



5. Power contactor 4-pole + 4 ac



3. Power contactor 3-pole + relay

ac = aux. contact

6.4

Ex-d Built-in Components GHG 61

Flameproof encapsulation up to 40 A

Safety easy to install

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 what-

ever 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.

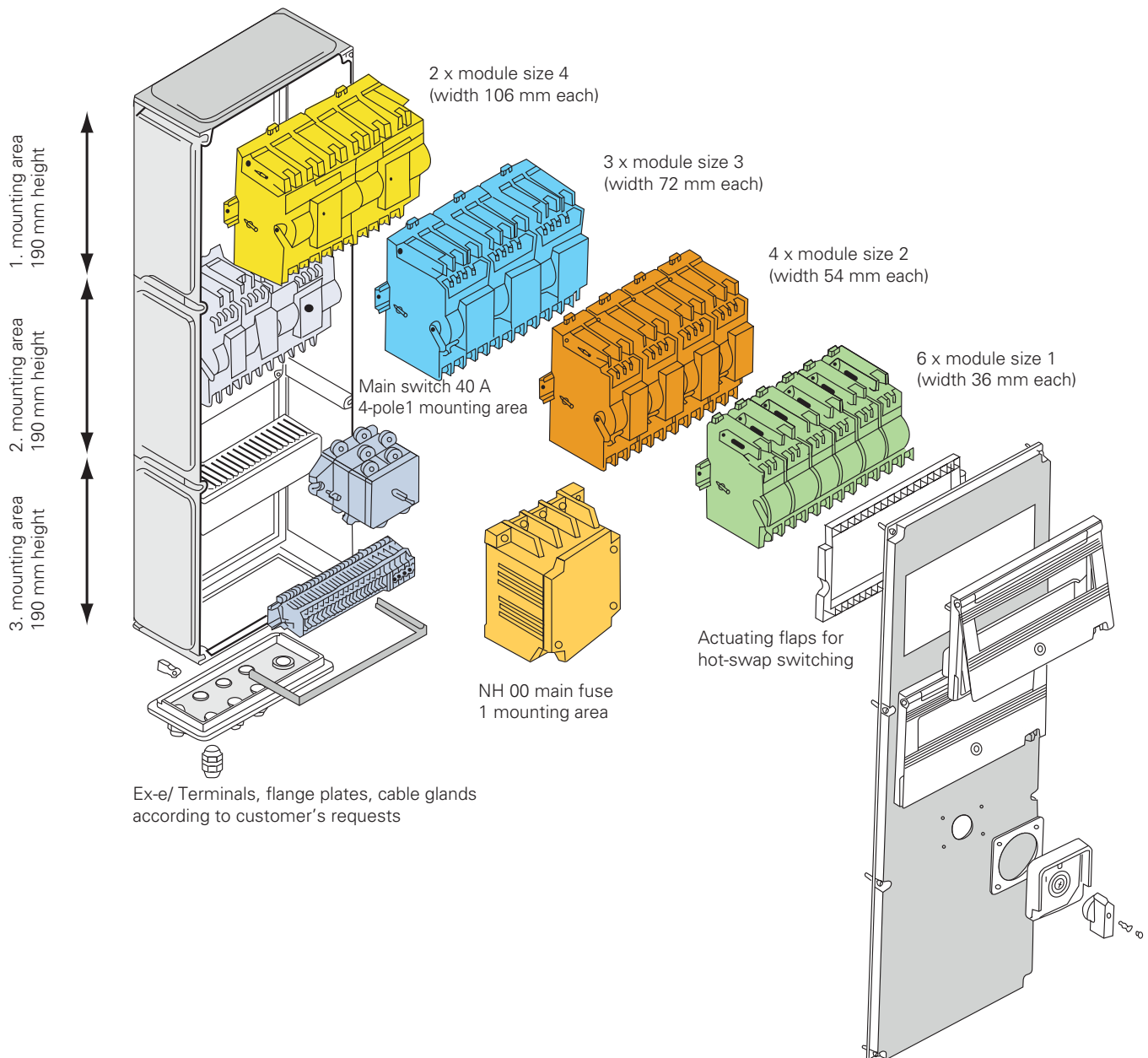
The modules are inserted in the distribution by simple snap-on rail mounting. Thus, modules can be replaced or added quickly and reliably. That makes servicing and extension work simpler and faster – and thus more cost efficient.

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!



Features

- 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:

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

GHG 612 miniature circuit breaker (MCB)



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 2014/34/EU	Ⓔ 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 aux. contact	max. 400 V AC (+ 10 %) max. 250 V AC
Rated current	main contact aux. contact	0.5 A up to 40 A 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 aux. contact	2 x 10 mm ² fine wire with wire end sleeve/single wire 2 x 2.5 mm ² fine wire with wire end sleeve/single wire
Weight	1-pole 2-pole 3-pole 4-pole	0.55 kg size 1 0.95 kg size 2 1.25 kg size 3 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 2.6.37.



Size 4 MCB-4-pole



Size 3 MCB-3-pole



Size 2 MCB-2-pole



Size 1 MCB-1-pole

Order code MCB 0.5 A up to 40 A

GHG 612 XXXX R0YYY

1. Contacts

1. Ordering Code for 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

GHG 612 miniature circuit breaker (MCB)



Size 1 MCB-1-pole



Size 2 MCB-2-pole



Size 3 MCB-3-pole



Size 4 MCB-4-pole

Order code MCB 0.5 A up to 40 A

6

GHG 612 XXXX R0YYY

2. Tripping current

2. Order code for tripping current, characteristic, max. back-up fuse, power dissipation per pole

Tripping current	Characteristic K Max. Back-up fuse gG	YYY	Characteristic Z Max. Back-up fuse gG	YYY	Characteristic B Max. Back-up fuse gG	YYY	Characteristic C Max. Back-up fuse gG	YYY
0.5 A	not necessary	013	not necessary	081			not necessary	121
0.75 A		014						
1.0 A		015		082				122
1.6 A		016		083				123
2 A		017		084				124
3 A	20 A	018	20 A	085			20 A	125
4 A	25 A	019	20 A	086			20 A	126
6 A	63 A	020	35 A	087	63 A	101	40 A	127
8 A	63 A	021	40 A	088			63 A	128
10 A	63 A	022	63 A	089	100 A	102	100 A	129
13 A					100 A	103	100 A	130
16 A	80 A	023	63 A	090	100 A	104	100 A	131
20 A	81 A	024	80 A	091	100 A	105	100 A	132
25 A	100 A	025	80 A	092	100 A	106	100 A	133
32 A	100 A	026	100 A	093	100 A	107	100 A	134
40 A	125 A	027	100 A	094	125 A	108	125 A	135

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

+ signal contact (1 C/O)

+ aux. contact (1 C/O)

16 A

K-Characteristic



Size 4 MCB-4-pole



Size 3 MCB-3-pole



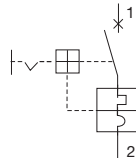
Size 2 MCB-2-pole



Size 1 MCB-1-pole

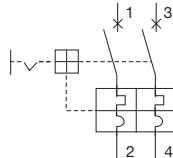
Termination diagram

①



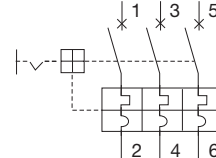
1. 1-pole MCB

②



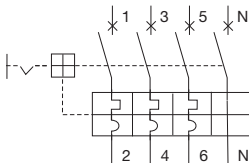
2. 2-pole MCB

③



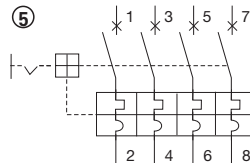
3. 3-pole MCB

④



3. 3-pole + N MCB

⑤

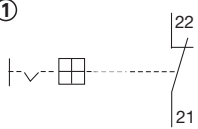


4. 4-pole MCB

6

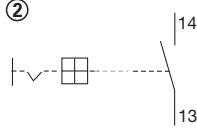
A. main contact

①



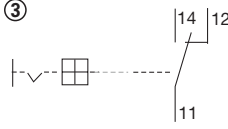
HK 1 NC

②



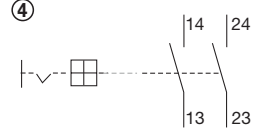
HK 1 NO

③



HK 1 C/O

④

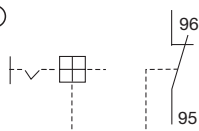


HK 2 NO

HK: aux. contact, NC: normally closed, NO: normally open, C/O: Changeover

B. Auxiliary contacts

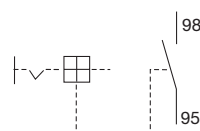
①



SK 1

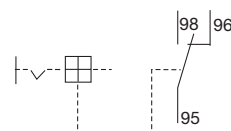
SK: Signal contact

②



SK 1 NO

③

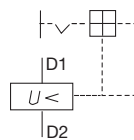
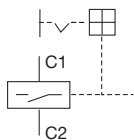


1SK 1 C/O

13. AA

14. UA

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

GHG 612 miniature circuit breaker (MCB)



Size 1 MCB-1-pole



Size 2 MCB-2-pole



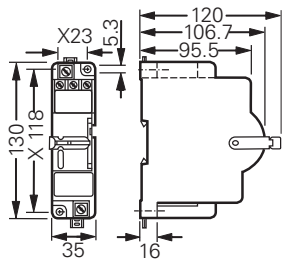
Size 3 MCB-3-pole



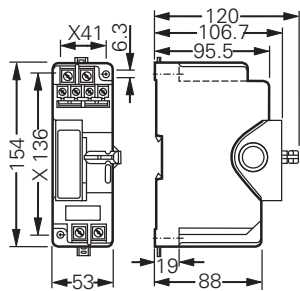
Size 4 MCB-4-pole

Dimension drawing I Termination diagram

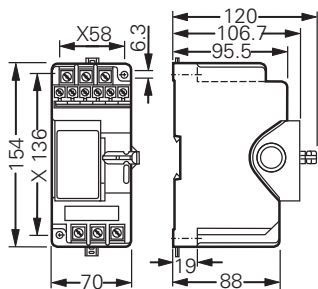
6



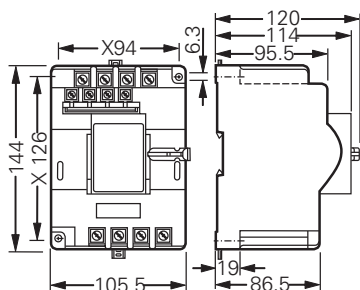
Module size 1



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



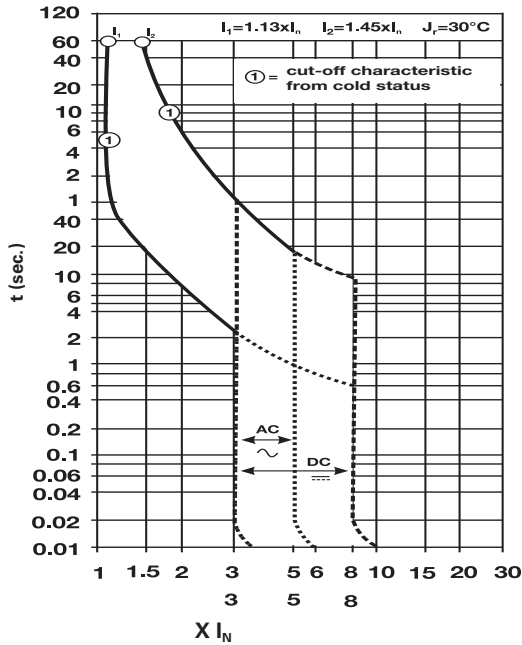
Size 2 MCB-2-pole



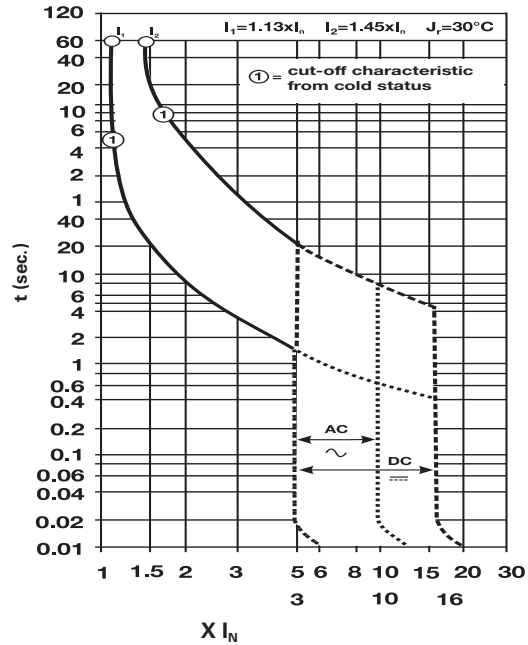
Size 1 MCB-1-pole

Tripping characteristic

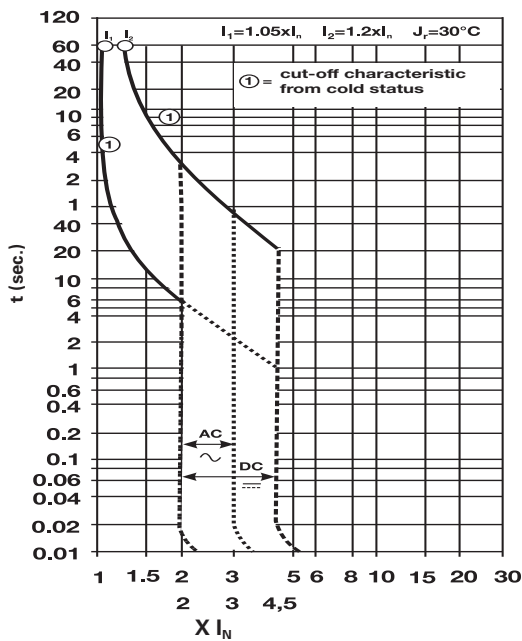
6



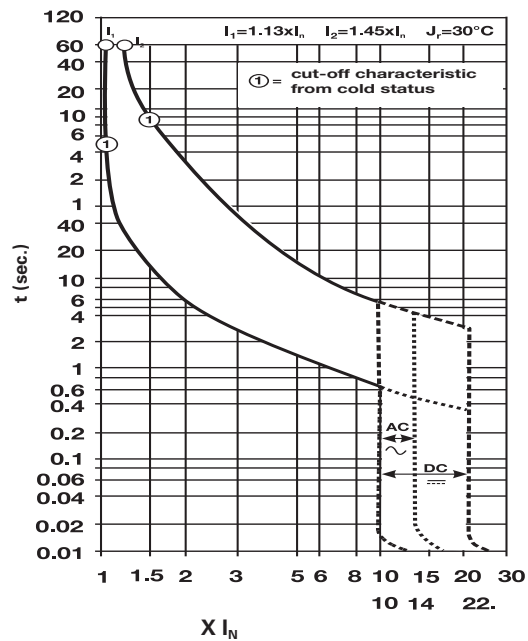
B-Characteristic



C-Characteristic



Z-Characteristic



K-Characteristic

GHG 612 residual circuit breaker with Overload (RCBO)



RCBO 2-pole

Technical data

RCBO 0.5 A up to 40 A

Marking accd. to 2014/34/EU		Ⓔ 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 (size 4 - IIC) –55 °C up to +110 °C (size 4 - IIB)
Application temperature ¹⁾		–20 °C up to +55 °C (size 4 - IIC) –55 °C up to +55 °C (size 4 - IIB)
Rated voltage	main contact	max. 400 V AC (+ 10 %)
	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 phase		10 kA (2-pole)
Back-up fuse	RCD	63 A gG
	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 2.6.37.



RCBO 2-pole

Order code RCBO 0.5 A up to 32 A

GHG 612 XXXX RYYYY

1. Contacts

2. Tripping current

1. Order code for RCBO 6 kA

Pole	Characteristic	Contacts	Termination diagram	Module size	XXXX RX
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. Order code for RCBO 10 kA

Pole	Characteristic	Contacts	Termination diagram	Module size	XXXX RX
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. Order code for tripping current and characteristic

Tripping current	Characteristic C (YYY)		Characteristic B (YYY)		Characteristic K (YYY)		Characteristic C (YY)
	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 YYY

GHG 612 **4157 R 0090**
 K-Characteristic 6 kA; with aux. contact 20 A; 30 mA; K

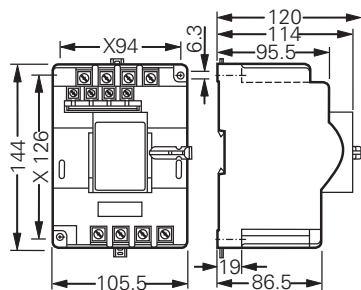
GHG 612 residual circuit breaker with Overload (RCBO)



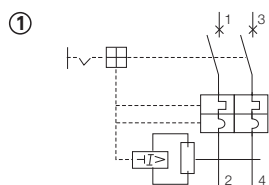
RCBO 2-pole

Dimension drawing I Termination diagram

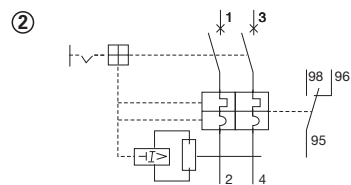
6



Module size 4



RCBO 2-pole



RCBO 2-pol. with SK 1 C/O

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 2014/34/EU	Ⓔ 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. 400 V AC (+ 10 %)
	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 gG
	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 2.6.37.

GHG 612 residual current device (RCD)



RCD 2-pole



RCD 4-pole

Order code RCD from 30 - 500 mA

6

GHG 612 XXXX RYYYY

1. Contacts

2. Tripping current

1. Order code for contacts

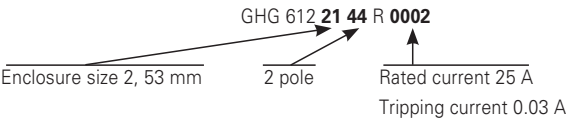
Contacts	Characteristic	Enclosure width	XXXX
2-pole	only main contact	Enclosure size 2, 53.0 mm	2144
2-pole	aux. contact (1 C/O) (F200)		2147
4-pole	only main contact	Enclosure size 4, 105.4 mm	4149
4-pole	aux. contact (1 C/O) (F200)		4150

2. Order code for 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



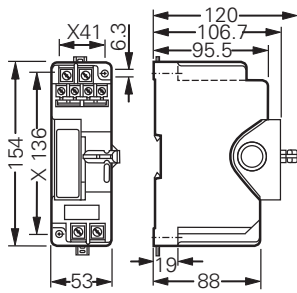


RCD 2-pole

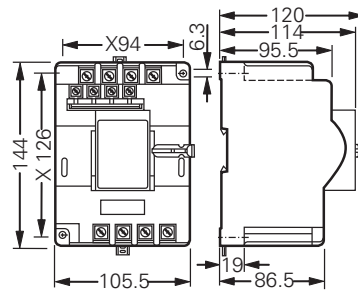


RCD 4-pole

Dimension drawing I Termination diagram

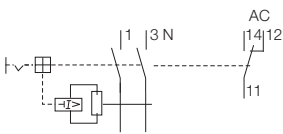


Module size 2



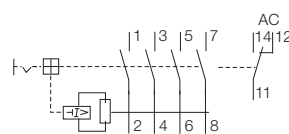
Module size 4

X = fixing dimension



2-pole + ac 1 C/O

HK = main contact
ac = aux. contact



4-pole + ac 1 C/O

GHG 610 NH 00 main fuse up to 125 A



NH-00

Technical data

NH 00 main fuse up to 125 A

Marking accd. to 2014/34/EU	Ⓔ 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	max. 100 kA, depending on fuse rating	
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 2.6.37.

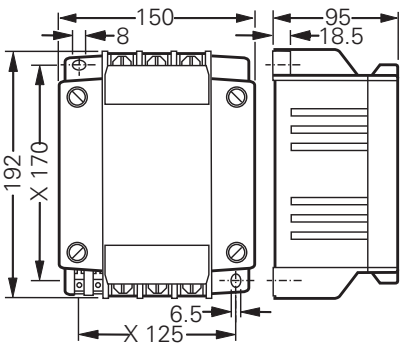


Ordering details NH 00 main fuse up to 125 A

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				

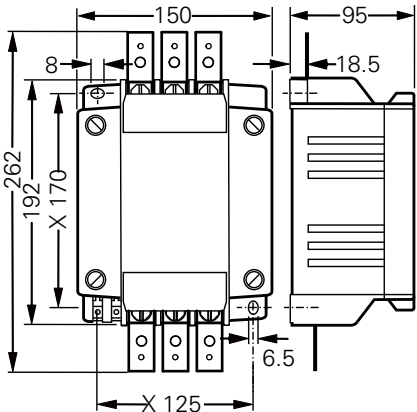
6

Dimension drawing I Termination diagram

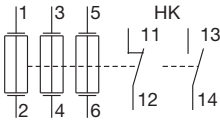


up to 100 A

X = fixing dimension



125 A



NH 00

HK = aux. contact

GHG 26 main switch / isolator 20 - 180 A



80 A 4-pole

Technical data

Main switch up to 180 A

Marking accd. to 2014/34/EU		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 _b 400 V	I _b 20 A	I _e 40 A	I _e 80 A	I _e 125 A	I _e 180 A
	U _b 500 V	I _b 16 A	I _e 40 A	I _e 80 A	I _e 125 A	I _e 150 A
	U _b 690 V	I _b 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 gG	80 A gG	160 A gG	200 A gG	250 A gG
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 2.6.21.

20 A / 40 A fits in flat and high enclosure GHG 619, 80 A / 125 A / 180 A fits in high enclosure GHG 619



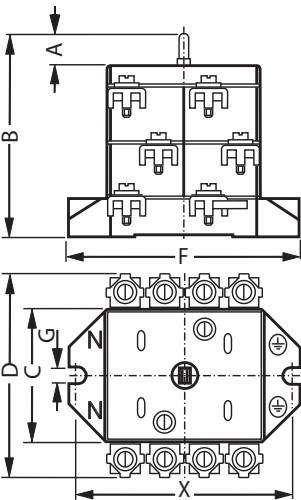
80 A 4-pole

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

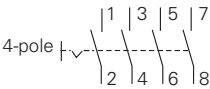
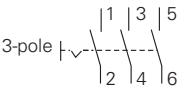
Dimension drawing I Termination diagram



Main switch

Switch

Dimensions	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

GHG 618 air-break contactor 20 A



Technical data

Air-break contactor 20 A		
Marking accd. to 2014/34/EU	II 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 aux. contact control A1-A2	max. 690 V AC max. 250 V AC 12 V up to 400 V AC, 50-60 Hz / 12 V up to 250 V/DC
Rated current	main contact aux. contact	max. 20 A 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 aux. contact control A1-A2	2 x 10 mm ² fine wire with wire end sleeve/single wire 2 x 2.5 mm ² fine wire with wire end sleeve/single wire 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 2.6.37.



20 A 3-pole

Order code Air-break contactor 20 A

GHG 618 3104 RXXXX ← Auxiliary contacts

6

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

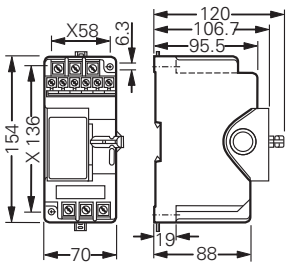
↑
Air-break contactor coil voltage 230/240 V 2 NC

GHG 618 air-break contactor 20 A



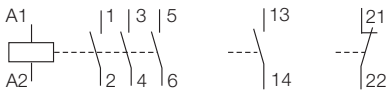
Dimension drawing I Termination diagram

6

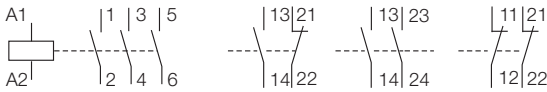


Module size 3 X = fixing dimension

3pol + 1 HSK



3pol + 2 HSK 2 Ö



ac = aux. contact

Dimensions in mm



3-pole

Technical data

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

Marking accd. to 2014/34/EU		Ex II 2 G Ex de IIC/IIB Gb / Ex 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 aux. contact	max. 20 A 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-15		U _e 230 V / I _e 4 A
Back-up fuse		20 A gG
Connecting terminals	main contact aux. contact/ control A1-A2 signal contact	2 x 10 mm ² fine wire with wire end sleeve/single wire 2 x 2.5 mm ² fine wire with wire end sleeve/single wire 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 2.6.37.



Order code 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

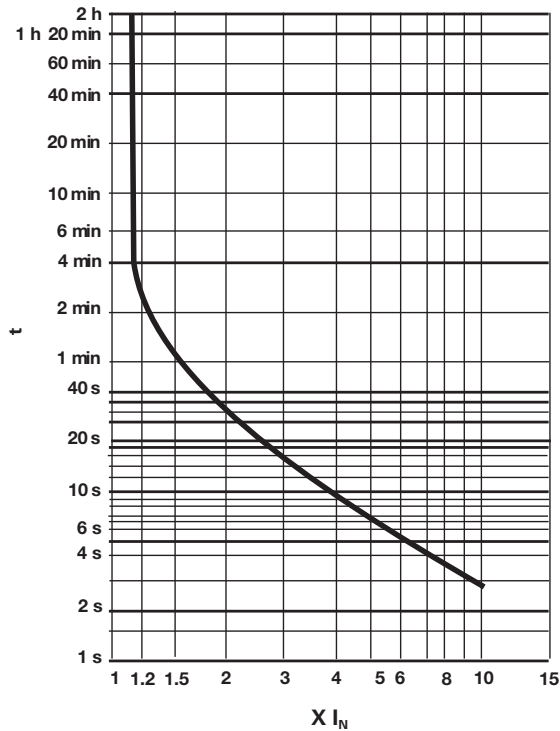
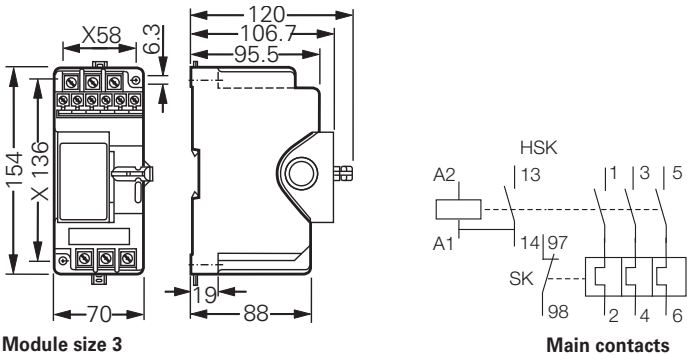
GHG 618 31 02 R 08 05

Rated current 230 V Coil voltage 230 V



3-pole

Dimension drawing I Termination diagram



ac = aux. contact
SK = signal contact

GHG 618 installation contactor 20 A up to 32 A



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	6 A
Rated making/breaking capacity accd. to EN 60947-4-1			
main contact AC-1 - U _e 230 V	P _e 4.0 kW	P _e 9.0 kW	P _e 15.2 kW
main contact AC-1 - U _e 400 V	–	P _e 16 kW	P _e 26 kW
main contact AC-3 - U _e 230 V	P _e 1.3 kW	P _e 2.2 kW	P _e 5.5 kW
main contact AC-3 - U _e 400 V	–	P _e 4.0 kW	P _e 11 kW
DC-3 1 current path U _e 60 V/230 V	–	I _e 4 A/0.2 A	I _e 5 A/0.3 A
DC-3 2 current paths U _e 60 V/230 V	–	I _e 14 A/1.0 A	I _e 16 A/1.1 A
DC-3 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 2.6.37.



20 A 2-pole

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

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



24 A 4-pole



32 A 4-pole

GHG 618 3118 RXXXX

Coil voltage / Contacts

Ordering details Type: 24 A (Module size 3) - 70 mm

Control voltage	Contacts HK (XXXX)			
AC 40 – 400 Hz/DC	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	Contacts HK (XXXX)			
AC 40 – 400 Hz/DC	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

GHG 618 31 18 R 2206
 ↑ ↑
 Installation contactor 24 A Coil voltage 230 - 240 V 2NO / 2NC

GHG 618 4109 RYYYY

Coil voltage / Contacts

Ordering details Type: 32 A (Module size 4 - 105 mm)

Control voltage	Contacts HK (XXXX)		
AC 40 – 400 Hz/DC	4 x 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 4NO + ac 1NC

HK = main contact

ac = aux. contact



32 A 4-pole

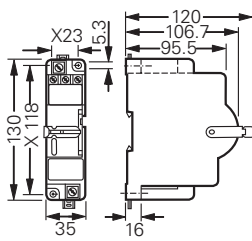


24 A 4-pole

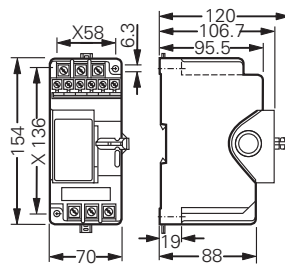


20 A 2-pole

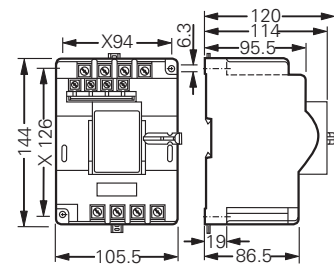
Dimension drawing I Termination diagram



Module size 0

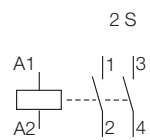


Module size 3

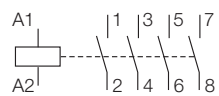


Module size 4

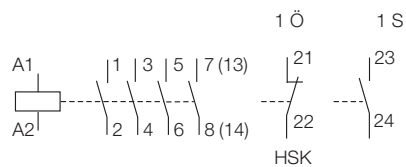
X = fixing dimension



Installation contactor 20 A



Installation contactor 24 A



Installation contactor 32 A

Ac = aux. contact

GHG 618 current impulse switch



Current impulse switch

Technical data

Current impulse switch up to 16 A

Marking accd. to 2014/34/EU	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 (+ 10 %)
	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 _e 250 V / I _e 16 A U _e 400 V / I _e 10 A
Back-up fuse	16 A gG
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 2.6.37.



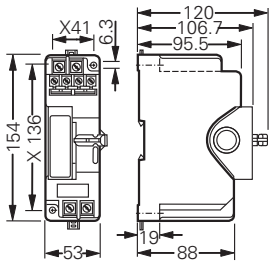
Current impulse switch

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

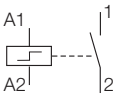
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Dimension drawing I Termination diagram

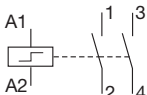


Module size 2

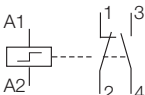
X = fixing dimension



1 NO



2 NO



1 NO + 1 NC

Termination diagram current impulse switch



Manual motor starter

Technical data

Manual motor starter 0.1 A up to 25 A

Marking accd. to 2014/34/EU	Ⓔ 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
Rated current	aux. contact	230 V/2 A 400 V/0.5 A
Rated making/breaking capacity accd. to EN 60947-4-1 AC-3	U _b 690 V / I _b 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 2.6.37.

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

Ics

gG, aM

Ics

gG, aM

Ics

gG, aM

Ics

gG, 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
12.5 ... 16.0 A					60 kA	100 A	25 kA	100 A
16.0 ... 20.0 A					55 kA	100 A	22 kA	100 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

Order code 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

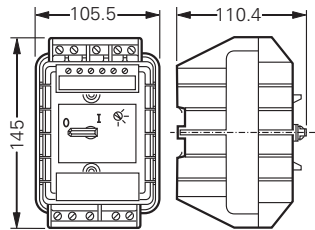
GHG 635 10 manual motor starter



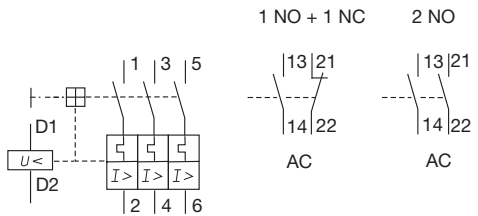
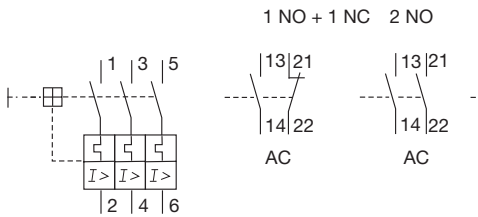
Manual motor starter

Dimension drawing I Termination diagram

6



Manual motor starter 25 A



ac = aux. contact

Dimensions in mm



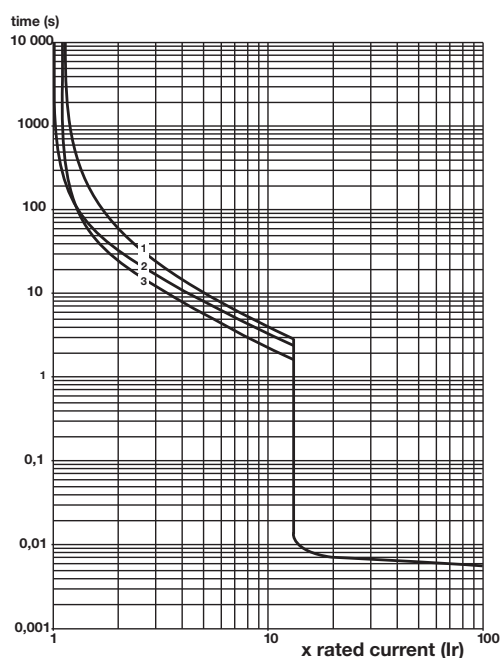
Thermal overcurrent relay

Technical data

Thermal overcurrent relay		
Marking accd. to 2014/34/EU	Ⓔ 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	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	

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 2.6.37.

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

GHG 618 thermal overcurrent relay

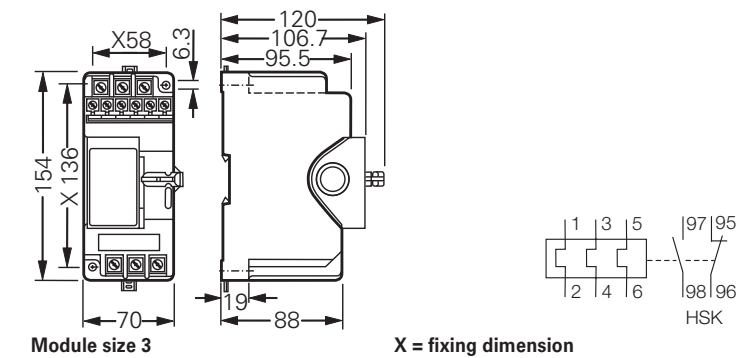


Thermal overcurrent relay

Ordering details thermal overcurrent relay

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 I Termination diagram



ac = aux. contact



Overvoltage arrester

Technical data

Overvoltage arrester	
Marking accd. to 2014/34/EU	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 2.6.37.

GHG 612 overvoltage Arrester

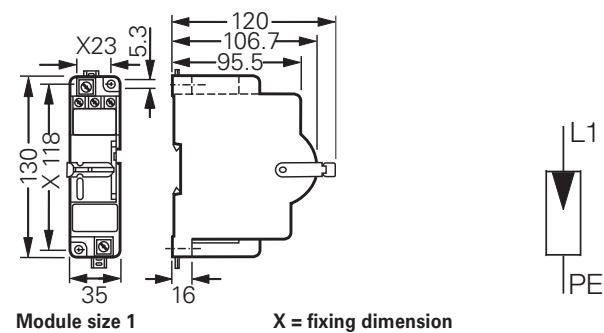


Overvoltage arrester

Ordering details overvoltage arrester

Content	Mounting width	Order No.
Type: 1-pole version, optional with tripping indication		
6 1-pole overvoltage arrester	35 mm	GHG 612 1003 R0001

Dimension drawing I Termination diagram





Star-delta timer relay

Technical data

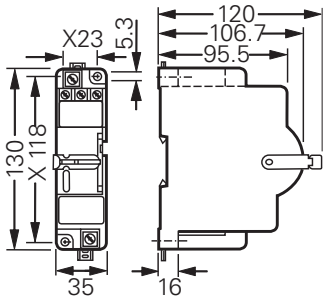
Star-delta timer relay		
Marking accd. to 2014/34/EU	II 2 G Ex de IIC/IIB Gb / I M2 Ex de I	
EC-Type Examination Certificate	PTB 98 ATEX 1087 U	
IECEX Certificate of Conformity	IECEX BKI 07.0038 U	
Marking accd. to IECEx	Ex de IIC	
Operating temperature range	-55 °C up to +55 °C	
Application temperature ¹⁾	-55 °C up to +110 °C	
Rated voltage	main contact	max. 250 V
	control A1-A2	220 V - 240 V AC
Rated continuous Ith	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 mm² fine wire with wire end sleeve/single wire
	aux. contact/ control A1-A2	2 x 2.5 mm² 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 2.6.37.

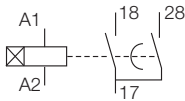
Ordering details

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

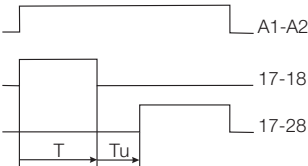
Dimension drawing I Termination diagram



Module size 1



Termination diagram Star-delta timer relay



Characteristic



Multi-function relay

Technical data

Multi-function relay

Marking accd. to 2014/34/EU	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 BK1 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. 400 V AC (+10 %)
Control voltage	24 V AC up to 400 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 2 x 10 mm ² aux. contact/ control A1-A2 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 2.6.37.

Order code 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

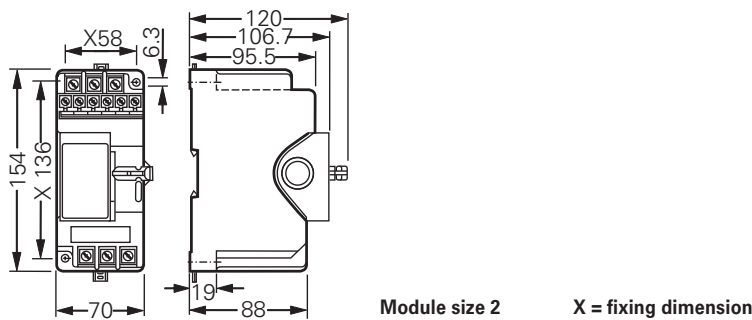
Response time/time range	YY
0.15 min - 3 min	01
3 s - 60 s	02
0.5 s - 10 s	03
0.15 s - 3 s	04
0.05 s - 1 s	05
0.5 min - 10 min	06
3 min - 60 min	07
0.15 h - 3 h	08
0.5 h - 10 h	09
3 h - 60 h	10

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

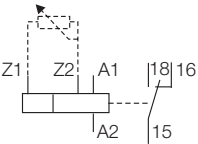


Multi-function relay

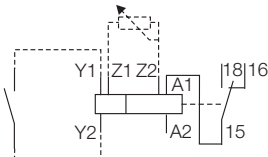
Dimension drawing I Termination diagram I Function diagram



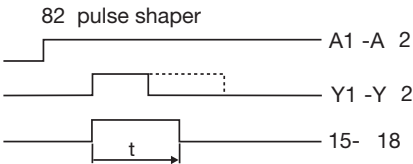
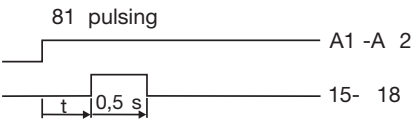
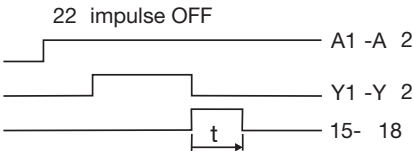
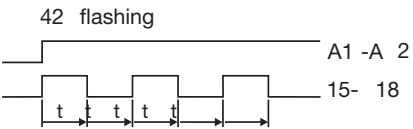
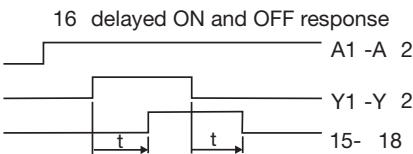
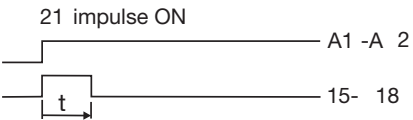
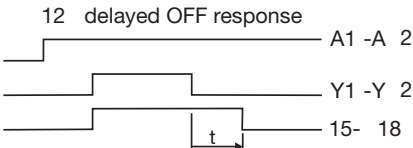
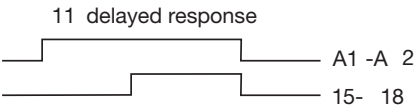
Termination diagram Multi-function relay



Contacts for function 11, 21, 42 and 81



Contacts for function 12, 16, 22 and 82



GHG410 Ex-e isolating transformer



Ex-e transformer

Technical data

Ex-e isolating transformer

Marking accd. to 2014/34/EU	Ⓔ 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 - see ordering details secondary 12 V up to 400 V - see ordering details
Frequency	50 – 60 Hz
Power consumption	100 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 2.6.37.

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

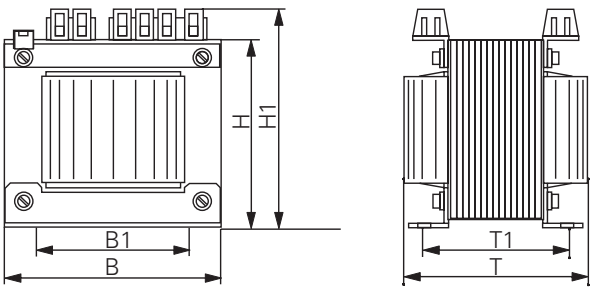
Ordering details

Type	Prim. / sec.	Max. input power	Order No.
Ex-e 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 (VA)	100	200	400	550	1200
Dimensions (mm)					
H	110	122	132	145	161
H1	126	136	148	161	181
H2	146	156	168	181	201
B	105	120	135	150	174
B1	85	90	105	12	140
T	80	102	128	150	170
T1	65	81	108	125	145

GHG 600 GRP Ex-e empty enclosures



Size 1



Size 2



Size 3



Size 4

Technical data

GRP Empty enclosures

Marking accd. to 2014/34/EU	II 2 G Ex e IIC Gb Ex de IIC T6, T5, T4 / II 2 D Ex tb IIIC Db Ex tD A21 IP66 T80 °C, T95 °C ¹⁾
EC-Type Examination Certificate	PTB 99 ATEX 3118U
IECEX Certificate of Conformity	IECEX-PTB11.0030U
Marking accd. to IECEx	Ex e IIC Gb / Ex tb IIIC Db
Operating temperature range	–20 °C up to +95 °C –55 °C up to +95 °C
Permissible ambient temperature ¹⁾	–20 °C up to +40 °C –55 °C up to +55 °C (option)
Rated voltage	690 V
Rated current	315 A
Protection class	I / II depending on the flange type and glands
Terminal cross section	up to 300 mm ²
Cable gland	acc. to customer specification, max. M63
Degree of protection accd. to EN 60529	IP66
Weight	see ordering details
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 2.6.21.

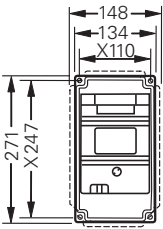
Ordering details empty enclosures plastic version

Content	Mounting width	Weight approx.	Order No. / Order code ²⁾
Size 1: 1 mounting area 106 mm			
Cover closed	106 mm	1.5 kg	GHG 600 0101 R0001
Cover cut-out with small actuating flap for GHG 61	106 mm	1.9 kg	GEH 001 01 61 ²⁾
Cover cut-out with small actuating flap for GHG 62	106 mm	1.9 kg	GEH 001 01 62 ²⁾
Size 2: 1 mounting area 213 mm			
Cover closed	213 mm	2.5 kg	GHG 600 0201 R0001
Cover cut-out with 1 actuating flap for GHG 61	213 mm	3.2 kg	GEH 002 01 61 ²⁾
Cover cut-out with 1 actuating flap for GHG 62	213 mm	3.2 kg	GEH 002 01 62 ²⁾
Cover raised for insertion of main switch = 80 A		3.3 kg	GHG 600 0301 R0001
Size 3: 2 mounting areas 213 mm			
Cover closed	2 x 213 mm	4.5 kg	GHG 600 0401 R0001
Cover cut-out with 1 actuating flap for GHG 61	2 x 213 mm	5.2 kg	GEH 003 01 61 ²⁾
Cover cut-out with 1 actuating flap for GHG 62	2 x 213 mm	5.2 kg	GEH 003 01 62 ²⁾
Cover cut-out with 2 actuating flaps for GHG 61	2 x 213 mm	5.9 kg	GEH 003 02 61 ²⁾
Cover cut-out with 2 actuating flaps for GHG 62	2 x 213 mm	5.9 kg	GEH 003 02 62 ²⁾
Cover with 1 actuating flap and main switch ≤ 40 A	1 x 213 mm	6.2 kg	GEH 003 03 ²⁾
Cover raised for insertion of main switch ≥ 80 A up to 180 A		5.5 kg	GHG 600 0501 R0001
Size 4: 3 mounting areas 213 mm			
Cover closed	3 x 213 mm	5.5 kg	GHG 600 0601 R0001
Cover cut-out with 1 actuating flap for GHG 61	3 x 213 mm	6.2 kg	GEH 004 01 61 ²⁾
Cover cut-out with 1 actuating flap for GHG 62	3 x 213 mm	6.2 kg	GEH 004 01 62 ²⁾
Cover cut-out with 2 actuating flaps for GHG 61	3 x 213 mm	6.9 kg	GEH 004 02 61 ²⁾
Cover cut-out with 2 actuating flaps for GHG 62	3 x 213 mm	6.9 kg	GEH 004 02 62 ²⁾
Cover cut-out with 3 actuating flaps for GHG 61	3 x 213 mm	7.6 kg	GEH 004 03 61 ²⁾
Cover cut-out with 3 actuating flaps for GHG 62	3 x 213 mm	7.6 kg	GEH 004 03 62 ²⁾
Cover with 2 actuating flaps and main switch ≤ 40 A	1 x 213 mm	8.1 kg	GEH 004 04 ²⁾

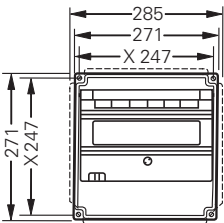
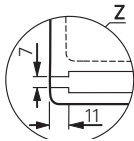
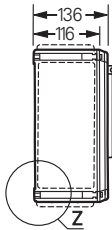
²⁾ "GEH" is an order code only



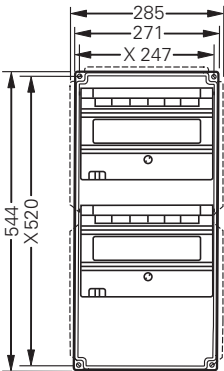
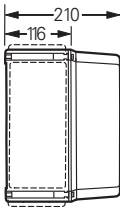
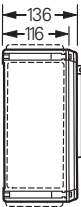
Dimension drawing



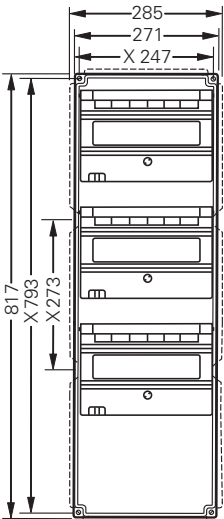
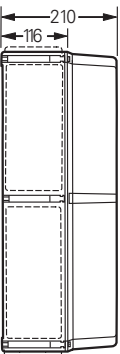
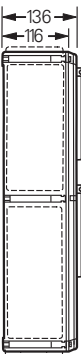
Size 1



Size 2



Size 3



Size 4



X = fixing dimension

GHG 600 Metal Ex-e empty enclosures



Size 1



Size 2



Size 3



Size 4

Technical data

Metal empty enclosure

Marking accd. to 2014/34/EU	Ⓔ II 2 G Ex e IIC Gb Ex de IIC T6, T5, T4 / Ⓔ II 2 D Ex tb IIIC Db Ex tD A21 IP66 T80 °C, T95 °C ¹⁾
EC-Type Examination Certificate	PTB 99 ATEX 3118U
IECEX Certificate of Conformity	IECEX-PTB11.0030U
Marking accd. to IECEx	Ex e IIC Gb Ex tb IIIC Db
Operating temperature range	–20 °C up to +95 °C –55 °C up to +95 °C
Permissible ambient temperature ¹⁾	–20 °C up to +40 °C –55 °C up to +55 °C (option)
Rated voltage	690 V
Rated current	315 A
Protection class	I
Terminal cross section	up to 300 mm ²
Cable gland	acc. to customer specification
Degree of protection accd. to EN 60529	IP66
Enclosure material	Stainless steel AISI 316 L / sheet steel powder coated
Enclosure colour	electro-polished / grey

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 2.6.21.

Ordering details empty enclosure stainless steel

Content	Mounting width	Weight approx.	Order code
Size 1: 1 mounting area 106 mm			
Cover closed	106 mm	3.5 kg	GEH 100 00
Cover cut-out with small actuating flap for GHG 61	106 mm	3.8 kg	GEH 100 01 61
Cover cut-out with small actuating flap for GHG 62	106 mm	3.8 kg	GEH 100 01 62
Size 2: 1 mounting area 213 mm			
Cover closed	213 mm	7.5 kg	GEH 200 00
Cover cut-out with 1 actuating flap for GHG 61	213 mm	8.1 kg	GEH 200 01 61
Cover cut-out with 1 actuating flap for GHG 62	213 mm	8.1 kg	GEH 200 01 62
Size 3: 2 mounting areas 213 mm			
Cover closed	2 x 213 mm	11.5 kg	GEH 300 00
Cover cut-out with 1 actuating flap for GHG 61	2 x 213 mm	12.1 kg	GEH 300 01 61
Cover cut-out with 1 actuating flap for GHG 62	2 x 213 mm	12.1 kg	GEH 300 01 62
Cover cut-out with 2 actuating flaps for GHG 61	2 x 213 mm	12.7 kg	GEH 300 02 61
Cover cut-out with 2 actuating flaps for GHG 62	2 x 213 mm	12.7 kg	GEH 300 02 62
Cover with 1 actuating flap and main switch ≤ 40 A	1 x 213 mm	12.9 kg	GEH 300 03
Size 4: 3 mounting areas 213 mm			
Cover closed	3 x 213 mm	16.5 kg	GEH 400 00
Cover cut-out with 1 actuating flap for GHG 61	3 x 213 mm	17.1 kg	GEH 400 01 61
Cover cut-out with 1 actuating flap for GHG 62	3 x 213 mm	17.1 kg	GEH 400 01 62
Cover cut-out with 2 actuating flaps for GHG 61	3 x 213 mm	17.7 kg	GEH 400 02 61
Cover cut-out with 2 actuating flaps for GHG 62	3 x 213 mm	17.7 kg	GEH 400 02 62
Cover cut-out with 3 actuating flaps for GHG 61	3 x 213 mm	18.4 kg	GEH 400 03 61
Cover cut-out with 3 actuating flaps for GHG 62	3 x 213 mm	18.4 kg	GEH 400 03 62
Cover with 2 actuating flaps and main switch ≤ 40 A	2 x 213 mm	18.6 kg	GEH 400 04



Size 4



Size 3

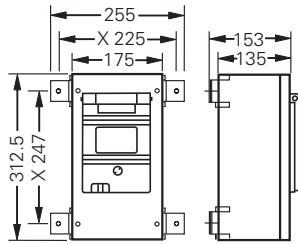


Size 2

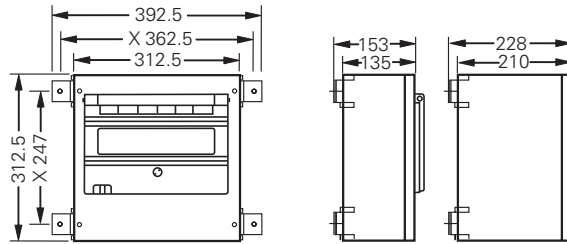


Size 1

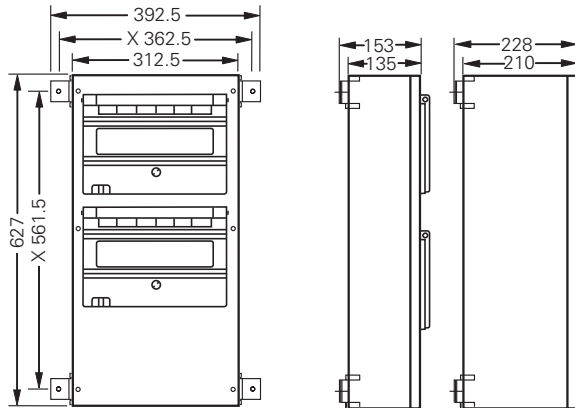
Dimension drawing



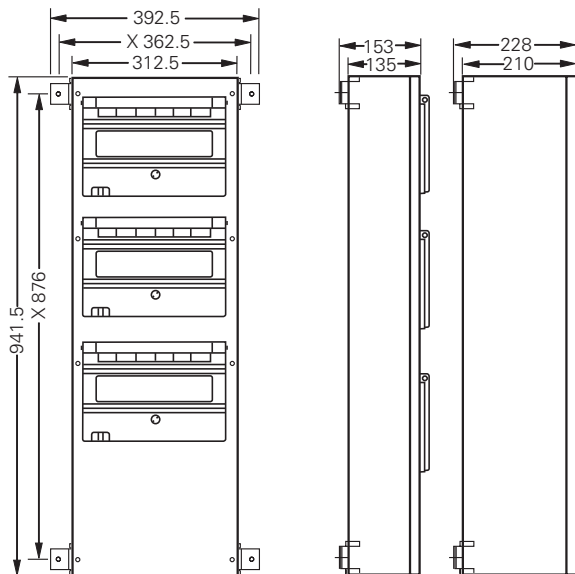
Size 1



Size 2



Size 3



Size 4

X = fixing dimension

GHG 610 Ex-e actuating flap



Size 1

Size 2

Technical data

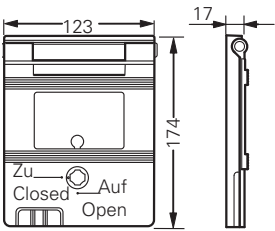
	Actuating flap
Marking accd. to 2014/34/EU	II 2 G Ex e IIC Gb / Ex tb IIIC Db IP65
EC-Type Examination Certificate	PTB 99 ATEX 3107U
Operating temperature range	-55 °C up to +60 °C
Application temperature ¹⁾	-55 °C up to +60 °C
IECEX Certificate of Conformity	IECEX-PTB11.0020U
Marking accd. to IECEx	Ex e IIC Gb Ex tb IIIC Db IP65
Degree of protection accd. to EN 60529	IP66
Weight	flap size 1 0.48 kg flap size 1 0.78 kg

Ordering details

Content	Mounting width	Weight approx.	Order No.
Size 1: 1 mounting area 106 mm for GHG 61, lockable	123 mm	0.48 kg	GHG 610 1954 R0003
Size 1: 1 mounting area 106 mm for GHG 61 + 62, lockable	123 mm	0.48 kg	GHG 610 1954 R0013
Size 2: 1 mounting area 213 mm for GHG 61, lockable	245 mm	0.78 kg	GHG 610 1954 R0001
Size 2: 1 mounting area 213 mm for GHG 61 + 62, lockable	245 mm	0.78 kg	GHG 610 1954 R0011

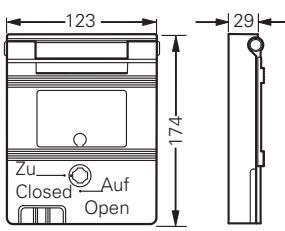
Dimension drawing

for GHG 61

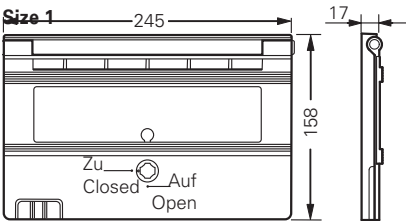


Size 1

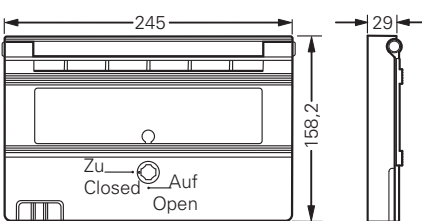
for GHG 61 + 62



Size 1

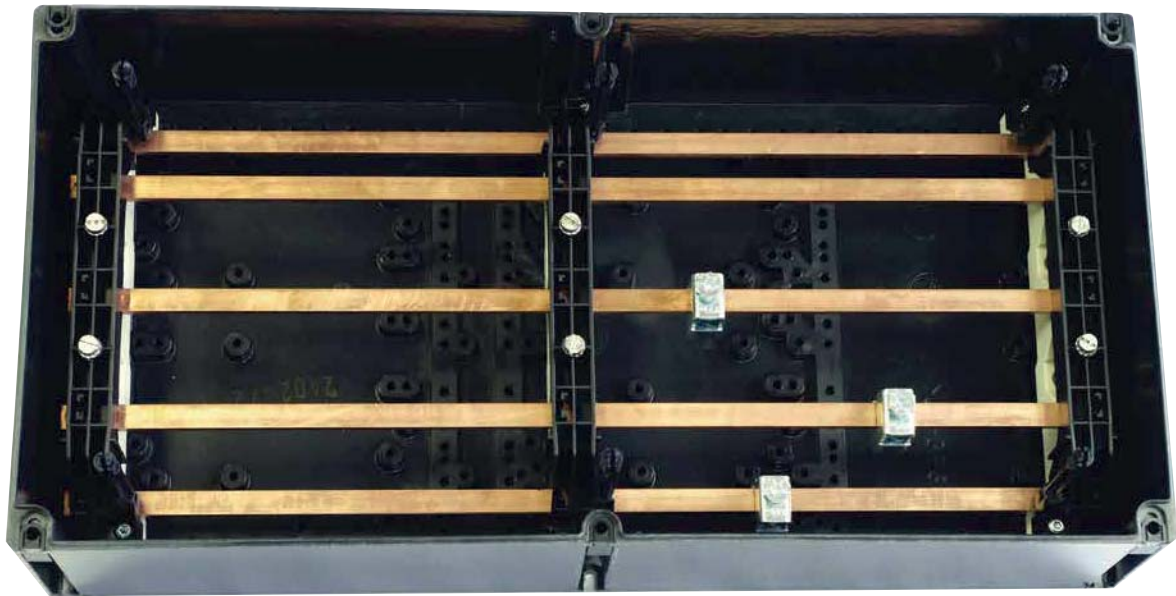


Size 2



Size 2

Dimensions in mm

**Bus-bar system GHG 758:**

The bus-bar system GHG 758 for 250 A and 315 A in Ex-e technology is a fast and economic assembly system for efficient distribution of electrical energy for zone 1.

Robust design

Thanks to the high ambient temperature range of -55 to + 55 ° C, this mounting system is ideal for applications under extreme conditions. Due to the use of high quality materials, this device has a high short-circuit rating and long durability.

Easy and economically to install

Fast and economic assembly using undrilled clamp technology for the connection cables

- For use in areas with extreme ambient conditions
- High short-circuit rating and long durability
- Greater length of usable bus-bar rail (up to 6300 mm)
- Optional with removable plastic cover
- Fast and economic assembly

GHG 758 bus-bar

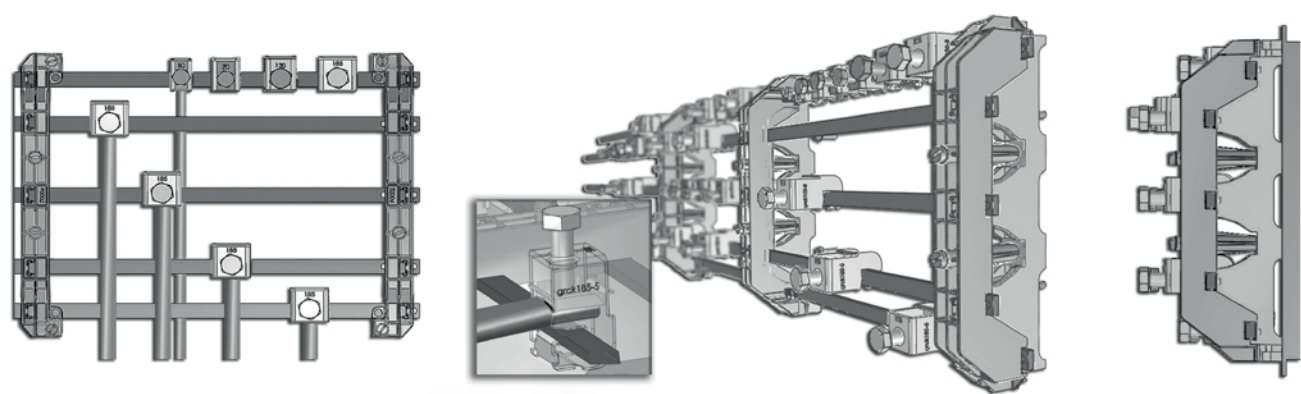


Bus bar in plastic encl.

Technical data

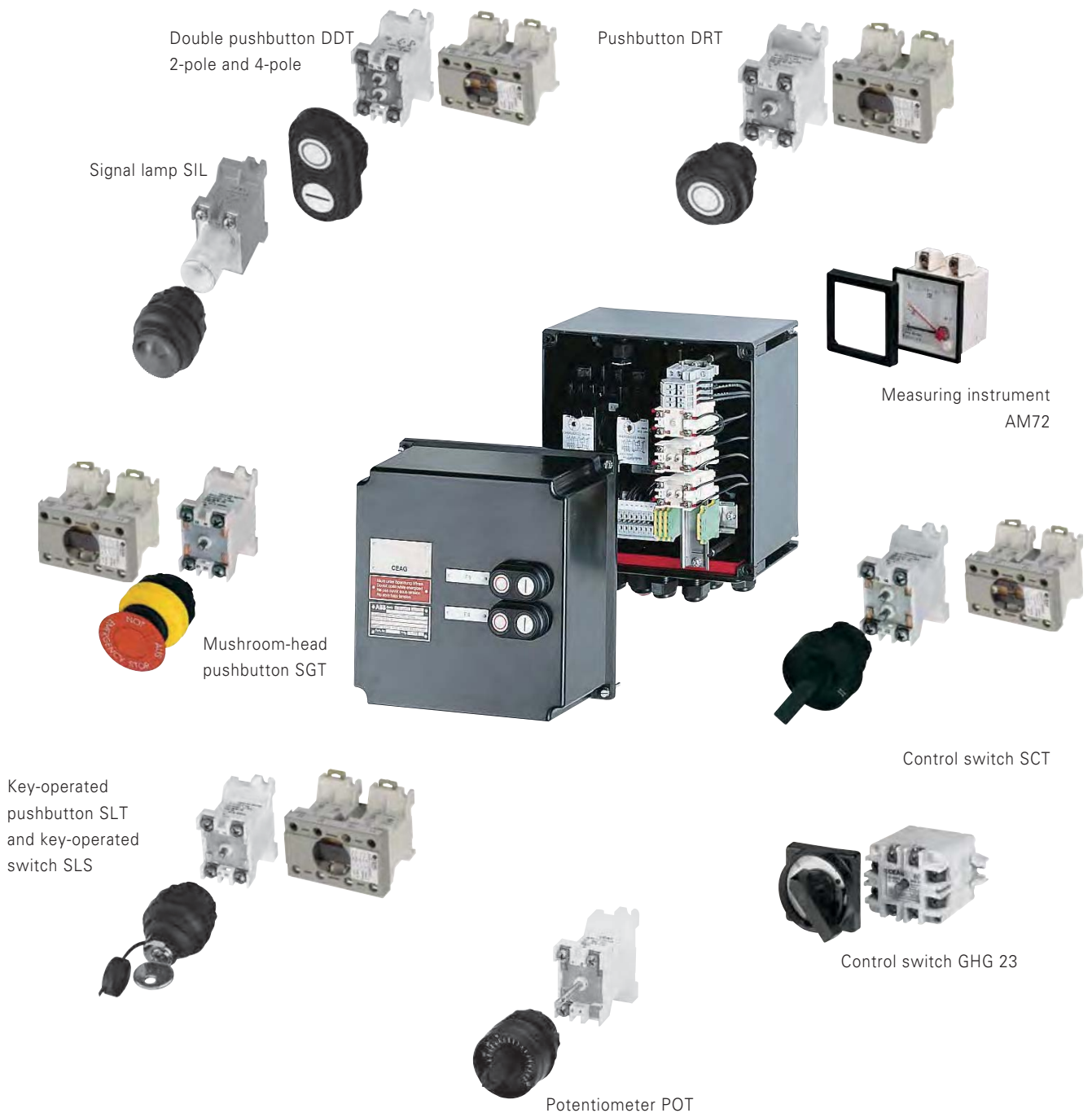
	Bus-bar system
Marking accd. to 2014/34/EU	Ⓜ II 2 G Ex e IIC Gb Ⓜ II 2 G Ex eb IIC
EC-Type Examination Certificate	BVS 11 ATEX E 068 U
IECEX Certificate of Conformity	IECEX BVS11.0048U
Marking accd. to IECEx	Ex e IIC Gb
Permissible ambient temperature	-55 °C up to +55 °C
Rated voltage	690 V
Terminal cross section	1.5 mm² up to 185 mm²
Maximum length	6300 mm
250 A for plastic enclosures	
Rated current	250 A
Rated short-time current	4 kA, other values on request
Rated short-circuit current	35 kA
315 A for metallic enclosures	
Rated current	315 A
Rated short-time current	9 kA, other values on request
Rated short-circuit current	47 kA

Drawings



Customised enclosure, covered by Type Examination Certificates, can be individually combined from CEAG's numerous built-in components. For the selection of control units and components, please see page 2.4.54 to 2.4.80.

Furthermore control units for panel mounting are available for use in certified enclosures or switchboards. Detailed information you will find on pages 2.4.82 - 2.4.112.



GHG 41 pushbutton



Technical data

Ex-pushbutton DRT and double pushbutton DDT	
Marking accd. to 2014/34/EU	II 2 G Ex de e IIC/IIB Gb / I M2 Ex d e I Mb
EC-Type Examination Certificate	IBEx U14 ATEX 1030 U
IECEX Certificate of Conformity	IECEX-IBE14.0005U
Marking accd. to IECEx	Ex d e IIC/IIB Gb Ex d e I Mb
Operating temperature range	-45 °C up to +80 °C (IIC) -60 °C up to +80 °C (IIB)
Application temperature ¹⁾	-45 °C up to +55 °C (option: IIC) -60 °C up to +55 °C (option: IIB)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making/breaking capacity accd. EN 60947-5-1	AC-1: U _e 400 V / I _e 16 A AC-15: U _e 250 V / I _e 6 A
Degree of protection accd. to EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure material	grey
Gasket material	Neoprene (standard), Silikon or Viton on request
2-pole version	
Connecting terminals	2 x 2.5 mm ²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg
4-pole version ²⁾	
Connecting terminals	4 x 2.5 mm ²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.5 kg

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 2.6.21.

²⁾ The 4-pole pushbutton needs two mounting areas of a 2-pole pushbutton. The actuator will be in the middle of the two mounting areas. For detailed information see page 2.4.54 - 2.4.80.



Technical data

Ex-key-operated pushbutton SLT

Marking accd. to 2014/34/EU	Ex II 2 G Ex de e IIC/IIB Gb / Ex I M2 Ex de I Mb
EC-Type Examination Certificate	IBEx U14 ATEX 1030 U
IECEX Certificate of Conformity	IECEX-IBE14.0005U
Marking accd. to IECEx	Ex de IIC/IIB Gb Ex de I Mb
Operating temperature range	-45 °C up to +80 °C (IIC) -60 °C up to +80 °C (IIB)
Application temperature ¹⁾	-45 °C up to +55 °C (Option: IIC) -60 °C up to +55 °C (Option: IIB)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making/breaking capacity accd. EN 60947-5-1	AC-1: U _b 400 V / I _b 16 A AC-15: U _b 250 V / I _b 6 A
Degree of protection accd. to EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure colour	grey
Gasket material	Neoprene (standard), Silikon or Viton on request
Latch point	CEAG 1 (others on request)

2-pole version

Connecting terminals	2 x 2.5 mm ²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg

4-pole version ²⁾

Connecting terminals	4 x 2.5 mm ²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

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 2.6.21.

²⁾ The 4-pole pushbutton needs two mounting areas of a 2-pole pushbutton. The actuator will be in the middle of the two mounting areas.
For detailed information see page 2.4.54 - 2.4.80.

GHG 41 key operated switch



Technical data

Ex-Built-in components for individual control stations, key-operated switch SLS	
Marking accd. to 2014/34/EU	II 2 G Ex de e IIC/IIB Gb / I M2 Ex d e I Mb
EC-Type Examination Certificate	IBEx U14 ATEX 1030 U
IECEX Certificate of Conformity	IECEX-IBE14.0005U
Marking accd. to IECEx	Ex d e IIC/IIB Gb Ex d e I Mb
Operating temperature range ¹⁾	–45 °C up to +80 °C (IIC) –60 °C up to +80 °C (IIB)
Application temperature ¹⁾	–45 °C up to +55 °C (option: IIC) –60 °C up to +55 °C (option: IIB)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making/breaking capacity accd. EN 60947-5-1	AC-1: U _e 400 V / I _e 16 A AC-15: U _e 250 V / I _e 6 A
Switching system	engaging – engaging – engaging
Degree of protection accd. to EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure colour	grey
Latch point	CEAG 1 (others on request)
2-pole version	
Connecting terminals	2 x 2.5 mm ²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg
4-pole version ²⁾	
Connecting terminals	4 x 2.5 mm ²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

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 2.6.21.

²⁾ The 4-pole pushbutton needs two mounting areas of a 2-pole pushbutton. The actuator will be in the middle of the two mounting areas. For detailed information see page 2.4.54 - 2.4.80..



SGT 1 x 4-pole



SGT 1 x 2-pole



SGTE 1 x 4-pole



SGTE 1 x 2-pole

Technical data

Ex-mushroom-head pushbutton (Emergency Stop „SGTE“ and normal version „SGT“)

Marking accd. to 2014/34/EU	Ex II 2 G Ex de e IIC/IIB Gb / Ex I M2 Ex de I Mb
EC-Type Examination Certificate	IBEx U14 ATEX 1030 U
IECEx Certificate of Conformity	IECEx-IBEx14.0005U
Marking accd. to IECEx	Ex de IIC/IIB Gb Ex de I Mb
Operating temperature range	-45 °C up to +80 °C (IIC) -60 °C up to +80 °C (IIB)
Application temperature ¹⁾	-45 °C up to +55 °C (option: IIC) -60 °C up to +55 °C (option: IIB)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making/breaking capacity accd. EN 60947-5-1	AC-1: U _b 400 V / I _b 16 A AC-15: U _b 250 V / I _b 6 A
Degree of protection accd. to EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure colour	grey
Gasket material	Neoprene (standard), Silikon or Viton on request

2-pole version

Connecting terminals	2 x 2.5 mm ²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg

4-pole version ²⁾

Connecting terminals	4 x 2.5 mm ²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

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 2.6.21.

²⁾ The 4-pole pushbutton needs two mounting areas of a 2-pole pushbutton. The actuator will be in the middle of the two mounting areas. For detailed information see page 2.4.54 - 2.4.80.

GHG 41 mini-control switch / potentiometer



SCT 1 x 2-pole



SCT 1 x 4-pole



Potentiometer

Technical data

Ex-Mini-control switch SCT

Marking accd. to 2014/34/EU	II 2 G Ex de e IIC/IIB Gb / I M2 Ex de I Mb
EC-Type Examination Certificate	IBEx U14 ATEX 1030 U
IECEx Certificate of Conformity	IECEx-IBE14.0005U
Marking accd. to IECEx	Ex de IIC/IIB Gb / Ex de I Mb
Operating temperature range	–45 °C up to +80 °C (IIC) / –60 °C up to +80 °C (IIB)
Application temperature ¹⁾	–45 °C up to +55 °C (option: IIC) / –60 °C up to +55 °C (option: IIB)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making/breaking capacity accd. EN 60947-5-1	AC-1: U _e 400 V / I _e 16 A AC-15: U _e 250 V / I _e 6 A
Degree of protection accd. to EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure colour	grey

2-pole version

Connecting terminals	2 x 2.5 mm ²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg

4-pole version ²⁾

Connecting terminals	4 x 2.5 mm ²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

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 2.6.21.

²⁾ The 4-pole pushbutton needs two mounting areas of a 2-pole pushbutton. The actuator will be in the middle of the two mounting areas.
For detailed information see page 2.4.54 - 2.4.80..

Technical data

Ex-Potentiometer POT

Marking accd. to 2014/34/EU	II 2 G Ex de e IIC/IIB Gb / I M2 Ex de I Mb
EC-Type Examination Certificate	IBEx U14 ATEX 1030 U
IECEx Certificate of Conformity	IECEx-IBE14.0005U
Marking accd. to IECEx	Ex de IIC/IIB Gb / Ex de I Mb
Operating temperature range ¹⁾	–45 °C up to +80 °C (IIC) / –60 °C up to +80 °C (IIB)
Application temperature ¹⁾	–45 °C up to +55 °C (option: IIC) / –60 °C up to +55 °C (option: IIB)
Rated voltage	up to 250 V
Power consumption (VA)	max. 1 W
Resistance range	100 – 10.000 Ω
Tolerance	± 20 %
Connecting terminals	2 x 2.5 mm ²
Degree of protection accd. to EN 60529	IP66
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	DIN rail mounting
Enclosure colour	grey
Angle of rotation	270°
Scale	0 - 100 %

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 2.6.21.

For detailed information see page 9.52 – 9.74.



Ex 29



Ex 23



Signal lamp

Technical data

Ex-signal lamp SIL

Marking accd. to 2014/34/EU	II 2 G Ex d e IIC/IIB Gb / II 2 G Ex d ia IIC/IIB Gb
EC-Type Examination Certificate	IBExU 12 ATEX 1047 U
Application temperature	-20 °C up to +40 °C
IECEx Certificate of Conformity	IECEx-IBE13.0031U
Marking accd. to IECEx	Ex d e IIC/IIB Gb Ex d ia IIC/IIB Gb
Operating temperature range	-45 °C up to +68 °C (IIC) -60 °C up to +68 °C (IIB)
Application temperature ¹⁾	-45 °C up to +60 °C (IIC) -60 °C up to +60 °C (IIB)
Rated voltage (Ex ed IIC) (Ex d ia IIC/IIB) (Ex d e IIC/IIB)	20 V up to 254 V AC/DC 10 V up to 30 V DC 12 V up to 24 V AC/DC
Rated current	20 V to 254 V 10 V up to 30 V Ex d ia IIC 12 V up to 24 V
	approx. 4 - 15 mA max. 25 mA max. 24 mA
Maximum for Ex ia	Ui = 30 V DC, li = 100 mA, Pi = 750 mW
Connecting terminals	2 x 2.5 mm ²
Degree of protection accd. to EN 60529	IP66
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	DIN rail mounting
Enclosure colour	grey / yellow

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 2.6.21.
For detailed information see page 2.4.54 - 2.4.80.

Technical data

Ex-Built-in components for individual control stations control switch Ex 23 and Ex 29

	Ex 23	Ex 29
Marking accd. to 2014/34/EU	II 2 G Ex d e IIC / I M 2 Ex d e I	
EC-Type Examination Certificate	BVS 13 ATEX E 107 U	PTB 98 ATEX 1118 U
Application temperature ¹⁾	-45 °C up to +55 °C (IIC) -60 °C up to +55 °C (IIB)	-20 °C up to +40 °C -55 °C up to +55 °C (option)
IECEx Certificate of Conformity	IECEx-IBNS13.0108U	
Rated voltage	up to 500 V	up to 500 V
Rated current	10 A	16 A ¹⁾
Rated current gold contacts		0.4 A
Rated making/breaking capacity accd. EN 60947-5-1	AC-15: U _e 230 V / I _e 6 A DC-13: U _e 24 V / I _e 2 A	U _e 400 V / I _e 4 A U _e 230 V / I _e 0.5 A
Connecting terminals	2 x 0.5 - 2.5 mm ²	2 x 0.5 - 2.5 mm ² or 1 x 1.0 - 6.0 mm ²
Weight	1 tier: 2 tier: 3 tier:	approx. 0.2 kg approx. 0.35 kg approx. 0.25 kg approx. 0.40 kg approx. 0.55 kg
Type of mounting	DIN rail mounting	
Enclosure colour	grey	black

¹⁾ Terminal cross section for 12 A: 2.5 mm²

For detailed information see page 2.4.54 - 2.4.80.

GHG 41 amp-meter



AM 45



AM 72

Technical data

Ex-measuring instrument AM 45/AM 72

	Moving iron	Moving coil
6 Marking accd. to 2014/34/EU	II 2 G Ex e IIC / I M 2 Ex e I	II 2 G Ex ib IIC / I M 2 Ex ib I
EC-Type Examination Certificate	PTB 99 ATEX 2032 U	
Permissible ambient temperature	-20 °C up to +40 °C -55 °C up to +55 °C (option)	
Rated voltage	up to 420 V (AM 45) up to 750 V (AM 72)	
Power consumption		max. 0.31 A
Overload range	10-fold - 25 sec. 25-fold - 4 sec. 50-fold - 1 sec. indicated 1 : 1.5	10-fold - 5 sec.
Measuring range	max. 0 - 25 A direct / n / 1A	0/4 - 20 mA
Inductance Li		≤ 0.1 mH
Capacitance Ci		≤ 0.1 nF
Winding specification of moving coil		26.5 windings
Internal resistance		2.5 Ω ±30 %
Open circuit voltage max. Ui		30 V
Connecting terminals max. li		150 mA
Accuracy	Class 2.5	Class 1.5
Circuit	Moving iron	Moving coil
Connecting terminals	2 x 0.5 - 2.5 mm ² fine-/multi-wire	1 x 4 mm ² solid-wire
Degree of protection accd. to EN 60529	IP65	
Display size	50 x 45 mm (AM 45) 72 x 72 mm (AM 72)	
Weight	0.35 kg	
Type of mounting	DIN rail mounting	
Enclosure material	grey	

For detailed information see page 2.4.54 - 2.4.80.



The all-rounder GHG 66

IIC applications
-20 °C up to +55 °C
IP 65

IIC

The compact series GHG 64

IIB+H₂ applications
up to -55 °C
up to +55 °C
IP 65/IP 66

IIB+H₂



The basic version EJB

IIB applications
-20 °C up to +55 °C
IP 65

IIB



Safety can also be flexible

In our comprehensive product range you can find enclosure solutions in metal for a wide variety of applications. CEAG distributions with approvals for use in Zones 1, 21, 2 and 22 can be used for the implementation of applications in individual enclosures as well as in comprehensive complete distributions.

According to customer requirements, the flameproof enclosures can be designed for either direct cable entry or conduit connection or with a built-on Ex-e connection box with the so-called "indirect" cable entry option. When engineering complex distributions, the supply of individual flameproof enclosures via a bus bar system is possible. Depending on the respective product family or application, versions are available for the explosion groups IIB, IIB +H₂ and IIC. A complete range of CEAG Ex-d distributions is available for the gas explosion groups IIB, IIB +H₂ and IIC. The products can, of course, also be used for gas group IIA.

Provided that the power dissipation and the space requirements are taken into account, all standard industrial switchgear that gives off arcs or sparks during operation can be built into these flameproof enclosures.

In case of distributions for explosion group IIC (enclosure series GHG 66), wiring between flameproof enclosures is carried out in the factory, whereby it is standard to use enclosures in the type of protection "Increased Safety" (Ex-e enclosures). The use of Ex-e enclosures is also standard for connection by the customer.

In case of distributions for explosion groups IIB and IIB+ H₂ (enclosure series GHG 64), enclosures are wired in the factory directly using flameproof cable entries between the Ex-d enclosures or indirectly using Ex-e enclosures. Connection by the customer is either carried out directly using Ex-d cable entries or indirectly using Ex-e enclosures.

Our EJB enclosure series for explosion group IIB are connected to each other using direct cable entries. The use of Ex-d cable entries or Ex-d conduits is standard for connection by the customer.

Thanks to the optimal geometry of the enclosures and the well-thought-out modular system, with the GHG 64 enclosure series you can fulfil both simple and complex tasks in an optimal way and create space-saving and safe solutions to suit your individual applications.