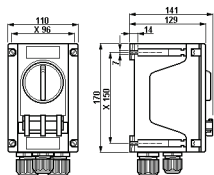
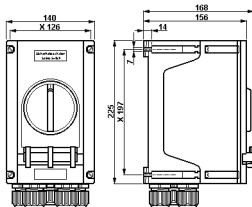


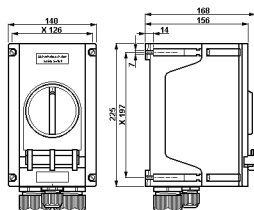
Dimensions in mm



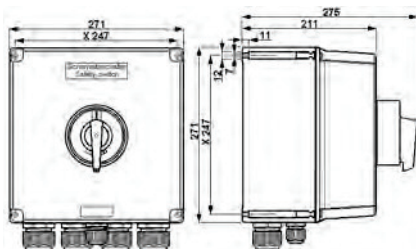
GHG 262 ... 20 A 3-pole



GHG 262 ... 20 A 6-pole



GHG 263 ... 40 A 3-pole



GHG 263 ... 40 A 6-pole

X = fixing dimensions

1 Technical data

1.1 Technical details

Marking acc. to 94/9/EC: for GHG 262	⊕ II 2 G Ex de [ia] IIC T6 ⊕ II 2 D Ex tD A21 IP 66 T 80 °C
Perm. ambient temperature: (Deviating temperatures possible with special versions)	-20° C up to +40° C (standard version)
Perm. storage temperature in original packing:	-20 °C to +40° C
Degree of protection, to EN/IEC 60529:	IP 66 (standard version)
Insulation class acc. to EN/IEC 61140:	I – with metal flange II – safety switches fulfil this requirement
Test torques:	
Cover screws:	2.5 Nm

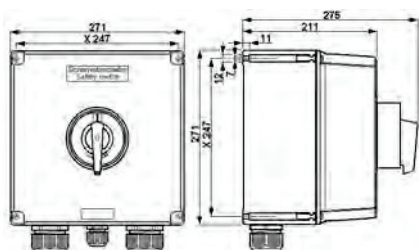
1.2 Safety switch GHG 262 .. (20 A)

EC type examination certificate:	PTB 99 ATEX 1161		
Rated voltage:	690 V, 50/60 Hz		
Rated current:	20 A		
Perm. short circuit back-up fuse:	up to U_N 400 V	up to U_N 500 V	up to U_N 690 V
	35 A/gL	35 A/gL	25 A/gL
Switching capacity AC 3:	20 A	16 A	10 A
Cable entries (standard version):	3-pole version	6-pole version	
M32 Ø 14-21 mm / M25 Ø 10-15 mm	2 x M32 + 1 x M25	4 x M32 + 1 x M25	
suitable cables and test torques of the pressure screw			
Cable entry:	M25		M32
seal 1+2 (Ø mm / Nm)	min.	10.0 / 2.3	14.0 / 3.0
		max. ⁽¹⁾⁽²⁾	13.0 / 2.6
seal 2 (Ø mm / Nm)	min.	13.5 / 1.5	17.5 / 1.5
		max. ⁽²⁾	15.0 / 2.3
Test torque for screw in thread cable entry (Nm):	3.0	5.0	
⁽¹⁾ The tests of clamping ranges and torque values were performed with metal mandrel. The clamping range can vary by using cables with different manufacturing tolerances and material properties. Please use the combination of sealing 1 + 2 for the intermediate region.			
⁽²⁾ When selecting the seal rubber, ensure that the cap nut can be tightened when carrying out any future maintenance work on the cable entry.			
Terminals:	2 x 1.5- 4.0 mm ²		
Test torque terminals:	2.5 Nm		
Weight (standard version):	3-pole version	6-pole version	
	approx. 1.48 kg	approx. 2.43 kg	

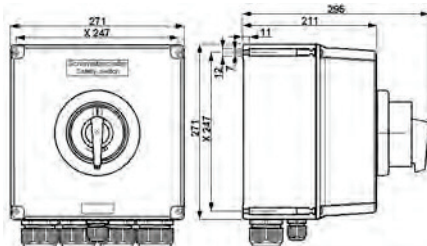
1.3 Safety switch GHG 263 .. (40 A)

EC type examination certificate:	PTB 99 ATEX 1161		
Rated voltage:	690 V, 50/60 Hz		
Rated current:	40 A		
Perm. short circuit back-up fuse:	up to U_N 400 V	up to U_N 500 V	up to U_N 690 V
	80 A/gL	80 A/gL	63 A/gL
Switching capacity AC 3:	40 A	40 A	32 A
Cable entries (standard version):	3-pole version	6-pole version	
M40 Ø 19-28 mm / M25 Ø 10-15 mm	2 x M40 + 1 x M25	4 x M40 + 1 x M25	
suitable cables and test torques of the pressure screw			
Cable entry:	M25		M40
seal 1+2 (Ø mm / Nm)	min.	10.0 / 2.3	19.0 / 3.3
		max. ⁽¹⁾⁽²⁾	13.0 / 2.6
seal 2 (Ø mm / Nm)	min.	13.5 / 1.5	22.0 / 3.3
		max. ⁽²⁾	15.0 / 2.3
Test torque for screw in thread cable entry (Nm):	3.0	7.5	
⁽¹⁾ The tests of clamping ranges and torque values were performed with metal mandrel. The clamping range can vary by using cables with different manufacturing tolerances and material properties. Please use the combination of sealing 1 + 2 for the intermediate region.			
⁽²⁾ When selecting the seal rubber, ensure that the cap nut can be tightened when carrying out any future maintenance work on the cable entry.			
Terminals:	2 x 4.0- 16.0 mm ²		
Test torque terminals:	2.5 Nm		
Weight (standard version):	3-pole version	6-pole version	
	approx. 2.75 kg	approx. 6.50 kg	

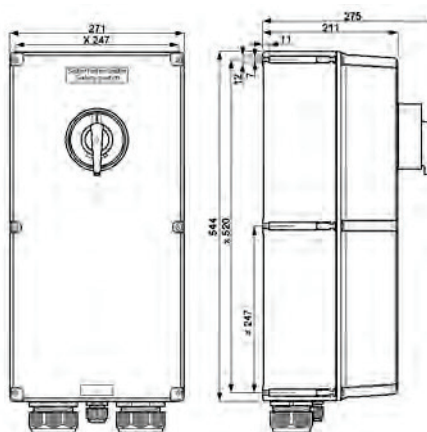
Dimensions in mm



GHG 264 ..., 80 A 3-pole



GHG 264 ..., 80 A 6-pole

GHG 265..., 125 A 3-pole
GHG 266 ..., 180 A 3-pole

X = fixing dimensions

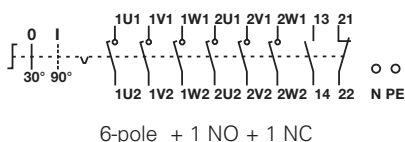
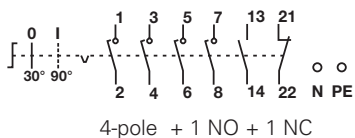
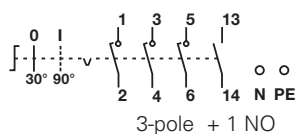
1.4 Safety switch GHG 264 .. (80 A)

EC type examination certificate:	PTB 00 ATEX 1091		
Rated voltage:	690 V, 50/60 Hz		
Rated current:	80 A		
Perm. short circuit back-up fuse:	up to U _N 400 V	up to U _N 500 V	up to U _N 690 V
	160 A/gL	160 A/gL	160 A/gL
Switching capacity AC 3:	80 A	80 A	63 A
Cable entries (standard version):	3-pole version	6-pole version	
M50 Ø 24-35 mm / M25 Ø 10-15 mm	2 x M50 + 1 x M25	4 x M50 + 1 x M25	
suitable cables and test torques of the pressure screw			
Cable entry:	M25	M50	
seal 1+2 (Ø mm / Nm)	1 2 min. max. ⁽¹⁾⁽²⁾	10.0 / 2.3 13.0 / 2.6	24.0 / 6.0 28.0 / 7.0
seal 2 (Ø mm / Nm)	2 min. max. ⁽²⁾	13.5 / 1.5 15.0 / 2.3	28.0 / 5.0 35.0 / 7.0
Test torque for screw in thread cable entry (Nm)	3.0	7.5	
⁽¹⁾ The tests of clamping ranges and torque values were performed with metal mandrel. The clamping range can vary by using cables with different manufacturing tolerances and material properties. Please use the combination of sealing 1 + 2 for the intermediate region.			
⁽²⁾ When selecting the seal rubber, ensure that the cap nut can be tightened when carrying out any future maintenance work on the cable entry.			
Terminals:	2 x 4.0- 25 mm ² (with cable lug 1 x 35 mm ²)		
Test torque terminals:	3.5 Nm		
Weight (standard version):	3-pole version	6-pole version	
	approx. 6.50 kg	approx. 9.00 kg	

1.5 Safety switch GHG 265 .. (125 A)

EC type examination certificate:	PTB 99 ATEX 1164		
Rated voltage:	690 V, 50/60 Hz		
Rated current:	125 A		
Perm. short circuit back-up fuse:	up to U _N 400 V	up to U _N 500 V	up to U _N 690 V
	200 A/gL	200 A/gL	160 A/gL
Switching capacity AC 3:	125 A	125 A	110 A
Cable entries (standard version):	3-pole version	6-pole version	
M63 Ø 29-41 mm / M25 Ø 10-15 mm	2 x M63 + 1 x M25	-	
suitable cables and test torques of the pressure screw			
Cable entry:	M25	M63	
seal 1+2 (Ø mm / Nm)	1 2 min. max. ⁽¹⁾⁽²⁾	10.0 / 2.3 13.0 / 2.6	29.0 / 12.0 35.0 / 12.0
seal 2 (Ø mm / Nm)	2 min. max. ⁽²⁾	13.5 / 1.5 15.0 / 2.3	36.0 / 12.0 41.0 / 13.0
Test torque for screw in thread cable entry (Nm):	3.0	7.5	
⁽¹⁾ The tests of clamping ranges and torque values were performed with metal mandrel. The clamping range can vary by using cables with different manufacturing tolerances and material properties. Please use the combination of sealing 1 + 2 for the intermediate region.			
⁽²⁾ When selecting the seal rubber, ensure that the cap nut can be tightened when carrying out any future maintenance work on the cable entry.			
Terminals:	2 x 4.0- 70 mm ²	observe current load max. 1 x 120 mm ² (use cable lugs supplied with switches)	
Test torque terminals:	6.0 Nm		
Weight (standard version):	3-pole version: approx. 16.00 kg		

Contact arrangements



1.6 Safety switch GHG 266 .. (180 A)

EC type examination certificate:	PTB 99 ATEX 1164		
Rated voltage:	690 V, 50/60 Hz		
Rated current:	180 A		
Perm. short circuit back-up fuse:	up to U_N 400 V	up to U_N 500 V	up to U_N 690 V
	250 A/gL	250 A/gL	200 A/gL
Switching capacity AC 3:	180 A	150 A	125 A
Cable entries (standard version):	3-pole version	6-pole version	
M63 Ø 29-41 mm / M25 Ø 10-15 mm	2 x M63 + 1 x M25	-	
suitable cables and test torques of the pressure screw			
Cable entry:	M25	M63	
seel 1+2	1 20	min.	10.0 / 2.3
(Ø mm / Nm)		max. ⁽¹⁾⁽²⁾	13.0 / 2.6
seel 2	20	min.	13.5 / 1.5
(Ø mm / Nm)		max. ⁽²⁾	15.0 / 2.3
Test torque for screw in thread cable entry (Nm):	3.0	7.5	

⁽¹⁾ The tests of clamping ranges and torque values were performed with metal mandrel. The clamping range can vary by using cables with different manufacturing tolerances and material properties. Please use the combination of sealing 1 + 2 for the intermediate region.

⁽²⁾ When selecting the seal rubber, ensure that the cap nut can be tightened when carrying out any future maintenance work on the cable entry.

Terminals:	2 x 4.0- 70 mm ²	observe current load
	max. 1 x 120 mm ² (use cable lugs supplied with switches)	
Test torque terminals:	6.0 Nm	
Weight (standard version):	3-pole version: approx. 16.50 kg	

1.7 Auxiliary contacts

Rated voltage:	690 V, 50/60 Hz		
Rated current:	20 A		
Perm. short circuit back-up fuse:	25 A/gL at 690 V		
Switching capacity:	AC 15	230 V / 8.0 A	400 V / 6.0 A
	DC 13	24V / 6.0 A	230 V / 0.4 A
Versions with gold-tipped contacts:	min.: 24 V / 3 mA; max.: 400 mA		
Terminals:	2 x 1.5- 4.0 mm ²		
Test torque terminals:	2.5 Nm		

1.8 Intrinsically safe switch circuits

Max. safe voltage U_m :	690 V _{eff}
	Safe galvanic isolation from all other circuits and earth

2 Safety instructions



The operations must be carried out by electrical suitably trained in hazardous area with knowledge of increased safty explosion protection IEC/EN 60079-14.

The safety switches GHG 262, GHG 263, GHG 264, GHG 265 and GHG 266 are not suitable for zone 0 and zone 20 hazardous areas.

The temperature class and explosion group marked on the apparatus, shall be observed.

The requirements of the IEC/EN 60079-31 regarding excessive dust deposits and temperature to be considered from the user.

To ensure adherence to the temperature class stated on the type label of the apparatus, the permissible ambient temperature, the rated terminal cross section and the self-heating of the apparatus, that is mainly due to the power dissipation, shall be taken into account (test criterion for the self-heating is an overload of 10%).

They shall be used for their intended purpose and in perfect and clean state.

Prior to being put into operation, the safety switches shall be checked in accordance with the instructions as per section 6.

Warning: The covers of the safety switches can only be removed when the switch is in the "ON" position.

The national safety rules and regulations for the prevention of accidents, as well as the safety instructions included in these operating instructions, that, like this text, are set in italics, shall be observed!

3 Conformity with standards

They have been designed, manufactured and tested according to the state of the art and to DIN EN ISO 9001:2008 and EN ISO/IEC 80079-34:2011.

The apparatus are conform to the standards specified in the EC-Declaration of conformity, enclosed separately.

4 Field of application

The safety switches are intended for use in potentially explosive atmospheres in Zones 1 and 2 as well as in Zones 21 and 22 in accordance with IEC/EN 60079-10-1 and IEC/EN 60079-10-2.

The enclosure materials used, including any external metal parts, are high quality materials that ensure a corrosion resistance and resistance to chemical substances according to the requirements for use in a "normal industrial atmosphere":

- glass-fibre reinforced polyester
- impact resistant polyamide
- special steel AISI 316 L

In case of use in an extremely aggressive atmosphere, please refer to manufacturer.

5 Application / Properties

The safety switches are designed for the safe isolation of the electrical energy at all poles while maintenance, cleaning and repair work is being carried out on equipment, machinery and drives in potentially explosive atmospheres. See technical data, page 8, for the temperature class, explosion group and permissible ambient temperature.

Due to the AC 3 motor switching capacity of the safety switches, reliable isolation (switching) is also possible during operation.

In addition to this, the safety switches are so designed, that they also switch off the drive, e.g. via the contactor that precedes the auxiliary contacts. In relation to the main contacts, this auxiliary contacts are lagging while making and leading while breaking.

Specially marked auxiliary contacts of the safety switches can be used in "intrinsically safe circuits".

The electrical limiting values that are decisive for the intrinsic safety shall be observed.

Versions with gold-tipped auxiliary contacts are suited for switching extra-low voltage circuits. Special attention shall be paid to the maximum current load (see technical data, page 10). The contact chamber of the gold-tipped version is marked with the letter "G" or colour-coded.

Due to the mechanical design of the safety switch, compulsory opening of the contacts is possible.

The safety switches fulfil the isolating properties according to IEC/EN 60947-3.

The "EMERGENCY-STOP" version conforms to the requirements of IEC/EN 60204-1.

To prevent unauthorized switching, the switches can be locked in the "OFF" position by means of 3 padlocks, see Fig. 1, P. 15, (shackle diameter of the padlocks up to 4-6 mm, preferred diameter 6 mm).

A built-in locking device prevents the opening of the enclosure in the "OFF" position.

The data according to sections 3 and 4 shall be taken into account during use.

Applications other than those described are not permissible without a written declaration of consent from Messrs. COOPER CROUSE-HINDS GmbH.

During operation the instructions stated in section 7 of the operating instructions shall be observed.

The sole responsibility with respect to the suitability and proper use of the control switches according to the basic requirements of these instructions (see technical data) lies with the operator.

6 Installation

The relevant national regulations and the generally recognized rules of engineering apply for the installation and operation. (IEC/EN 60079-14)

The improper installation and operation of safety switches may result in the invalidation of the guarantee.

6.1 Mounting

The safety switches can be mounted without opening the enclosure.

When being mounted directly onto the wall, the safety switches shall rest evenly only at the fastening points provided for them. The chosen screw shall match the fastening hole (see dimensional drawing) and they shall not damage the hole (e.g. use of a washer).

The safety switches GHG 262, GHG 263 and GHG 264 shall be fixed diagonally with a minimum of 2 screws. The safety switches GHG 265 and GHG 266 shall be fixed with a minimum of 4 screws.

If the screws are overtightened, the apparatus may be damaged.

The safety switches GHG 262 and 263 (3-pole only), are suited for plug-in mounting on CEAG apparatus holders, sizes 2 and 3, whereby they are pushed into the guide groove from the top of the apparatus holder (see Fig. 2, page 2 and Fig. 3).

The safety switches GHG 263 (6-pole), GHG 264, GHG 265 and GHG 266 are suited for mounting on CEAG apparatus holders size 3 by means of self-cutting screws (see Fig. 4, page 2).

See the respective mounting instructions.

6.2 Opening the device/ Electrical connection

The electrical connection of the apparatus may only be carried out by skilled staff. (IEC/EN 60079-14)

Before opening the apparatus, ensure that it has been isolated from the voltage supply, or take appropriate protective measures.

Before opening, set the switch to the "ON" position.

The properly bared conductors of cables shall be connected with due regard to the respective regulations.

To maintain the explosion protection, conductors shall be connected with special care.

The insulation shall reach up to the terminal. The conductor itself shall not be damaged.

The minimum and maximum conductor cross sections that can be connected shall be observed (see technical data).

If desired, the safety switch GHG 264 (80 A) can be connected using 35 mm² cable lugs (DIN 46 234 / 8-35).

The switches of the types GHG 265 (125 A) and GHG 266 (180 A) may only be connected with cables lugs, sizes 50 mm² (DIN 46 234 8-50) and 70 mm² (DIN 46 234 / 8-70) or 95 mm² (DIN 46 234 / 10-95) and 120 mm² (DIN 46 234 / 10-120) or 25 mm² (DIN 46 234 / 8-25) and 35 mm² (DIN 46 234 / 5-35), that are included in the scope of delivery.

Attention: The cable lugs should be crimped onto the cable in a workmanlike manner.

It is to be ensured that the required min. air gaps are kept (at 690 V > 12 mm).

In the case of mixed Ex-e / Ex-i installations, the required minimum clearances shall be maintained (see, for example IEC/EN 60 079-11).

When apparatus is open, (isolate voltage supply), it is necessary to ensure that no voltage is carried over into the connected intrinsically safe circuits.

All screws and/or nuts of connection terminals, including those not in use, shall be tightened down securely.

Excessive tightening may affect or damage the connection.

The terminals are designed for the direct connection of conductors with copper wires.

If multi- or fine-wire connection cables are used, the wire ends shall be handled acc. to the applicable national and international regulations (e.g. use of multicore cable ends).

The position of the connection terminals is shown in the wiring diagrams on the switch base and on page 10 of these operating instructions.

To ensure that the safety switch closes correctly, switching at the switch shaft of the switch insert is not permitted when the apparatus is open.

If, to facilitate the feeding of conductors into the enclosure, the switch insert is removed from the enclosure base, it shall be put back correctly before the electrical connection is made.

When fitting the apparatus cover, care shall be taken to ensure that the switch shaft of the switch insert engages correctly in the carrier hole of the switch handle (pay attention to the correct position of the switch handle).

6.3 Cable entries (KLE); blanking plugs; screw plugs

Generally, only certified cable entries, screw plugs and blanking plugs may be used.

Flexible cables shall be used with trumpet-shaped cable glands or other suitable entries with additional pull-relief.

When using cable entries with a lower IP protection than that which applies to the device (see page 8 + 9), the IP protection of the complete unit is reduced.

Intrinsically safe circuits shall be fed through cable entries that are colour-coded (light blue).

The relevant mounting directives applicable to the cable entries fitted shall be observed.

In order to ensure the minimum degree of protection, any unused entry holes shall be sealed with certified blanking plugs or screw plugs.

When fitting cable entries, care has to be taken that the sealing inserts are suitable for the cable diameter. In the case of sealing inserts that are cut out, it is necessary to ensure that the insert is properly adapted to the cable diameter.

In order to ensure the required minimum degree of protection, the cable entries shall be tightened down securely.

Overtightening can impair the degree of protection.

Warning: When tightening the cap nut of the metal cable entry (e.g. type ADL/ADE), a suitable tool shall be used to safeguard the gland against twisting.

Any unused cable entries shall be sealed with the blanking plug certified for these cable entries.

6.4 Plastic*-metal flanges, metal plates and external earth connection

If flange plates have to be dismantled, (e.g. to drill entry holes), when replacing the plates, in order to maintain the minimum degree of protection, it is necessary to ensure that the flange plate and the fixing clamp fit correctly.

PE conductors fed from outside shall be connected to the PE terminal provided on the flange.

In case an external earth connection is mounted on the plastic enclosure, it should be connected with a max. 25mm² wire.

This earth connection is inserted through a M6 drill in the inner wall of the enclosure (see fig. 5, page 2).

Warning: Metal flanges, metal plates and metal glands shall be incorporated in the potential equalization.

* not yet certified for category II D

6.5 Closing apparatus

Any foreign matter shall be removed from the apparatus.

The switch handle on the cover of the switch is to be set to the "ON" position.

When fitting the apparatus cover, care shall be taken to ensure that the switch shaft of the switch insert engages correctly in the carrier hole of the switch handle.

To ensure the required minimum degree of protection, the cover screws shall be tightened down.

Overtightening may impair the degree of protection.

6.6 Putting into operation

Before putting the apparatus into operation, the tests specified in the individual national regulations shall be performed.

In addition to this, before being put into operation, the correct functioning of the apparatus and installation of the apparatus shall be checked in accordance with these operating instructions and other applicable regulations.

The improper operation of safety switches may result in the invalidation of the guarantee.

7 Maintenance / Servicing

The valid national regulations for the servicing / maintenance of electrical apparatus for use in potentially explosive atmospheres shall be observed (e.g. IEC/EN 60079-17).

Prior to opening the enclosure, it is necessary to ensure that the voltage supply has been isolated or to take suitable protective measures.

Safety switches with auxiliary contacts in the gold-tipped auxiliary contact edition should be activated occasionally depending on service conditions.

The necessary intervals between servicing depend upon the specific application and shall be stipulated by the operator according to the respective operating conditions.

During servicing, special attention shall be given to checking the parts on which the explosion protection depends (e.g. intactness of the flameproof components, the enclosure, the seals and cable entries).

If, in the course of servicing, it is ascertained, that repairs are necessary, section 8 of these operating instructions shall be observed.

8 Repairs / Overhaul / Modifications

Only original Cooper Crouse-Hinds parts shall be used for carrying out repairs.

In the event of damage to the flameproof encapsulation, replacement of these components is mandatory. In case of doubt, the respective apparatus shall be sent to COOPER CROUSE-HINDS GmbH for repair.

Repairs that affect the explosion protection may only be carried out by COOPER CROUSE-HINDS GmbH or by a qualified electrician in compliance with the respective national regulations (e.g. IEC/EN 60079-19).

Apparatus modifications or design changes are not permitted; excepted from this is the fitting of additional cable entries within the scope of the apparatus approvals.

9 Disposal / Recycling

The respective valid national regulations for waste disposal shall be observed when disposing of apparatus.

To facilitate the recycling of individual parts, parts made of moulded plastic shall bear the marking for the type of plastic used.

The product range is subject to changes and additions.