



Mini-control switch

## Technical data

| Mini-control switch Type 418 8190                        |                                                                                                                                                                                               |                                                                                                                                                                                               |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                          | Complete certificate <sup>1)</sup>                                                                                                                                                            | Component certificate                                                                                                                                                                         |
| Marking accd. to 94/9/EC                                 | Ⓔ II 2 G Ex de IIC T6                                                                                                                                                                         | Ⓔ II 2 G Ex de IIC/IIB Gb<br>Ⓔ I M2 Ex de I Mb                                                                                                                                                |
| EC-Type Examination Certificate                          | PTB 99 ATEX 1034                                                                                                                                                                              | IBExU 14 ATEX 1030 U                                                                                                                                                                          |
| IECEX Certificate of Conformity                          |                                                                                                                                                                                               | IECEX IBExU 14.0005 U                                                                                                                                                                         |
| Marking accd. to IECEx                                   |                                                                                                                                                                                               | Ex de IIC/IIB Gb<br>Ex de I Mb                                                                                                                                                                |
| Operating temperature range                              | -55°C up to + 80 °C                                                                                                                                                                           | -45 °C up to +80 °C (IIC)<br>-60 °C up to +80 °C (IIB)                                                                                                                                        |
| Permissible ambient temperature                          | -55 °C up to + 50 °C                                                                                                                                                                          |                                                                                                                                                                                               |
| Application temperature <sup>2)</sup>                    |                                                                                                                                                                                               | -45 °C up to +55 °C (IIC)<br>-60 °C up to +55 °C (IIB)                                                                                                                                        |
| Rated voltage                                            | 400 V AC                                                                                                                                                                                      | 500 V AC                                                                                                                                                                                      |
| Rated current                                            | 16 A                                                                                                                                                                                          | 16 A                                                                                                                                                                                          |
| Rated current with gold contact points                   | 0.4 A                                                                                                                                                                                         | 0.4 A                                                                                                                                                                                         |
| Rated making-/rated breaking capacity accd. EN 60947-5-1 | AC-15: U <sub>o</sub> 250 V / I <sub>o</sub> 6 A<br>U <sub>o</sub> 400 V / I <sub>o</sub> 4 A<br>DC-13: U <sub>o</sub> 24 V / I <sub>o</sub> 6 A<br>U <sub>o</sub> 220 V / I <sub>o</sub> 1 A | AC-15: U <sub>o</sub> 250 V / I <sub>o</sub> 6 A<br>U <sub>o</sub> 500 V / I <sub>o</sub> 4 A<br>DC-13: U <sub>o</sub> 24 V / I <sub>o</sub> 6 A<br>U <sub>o</sub> 220 V / I <sub>o</sub> 1 A |
| Connecting terminals                                     | 2 x 2.5 mm <sup>2</sup>                                                                                                                                                                       | 2 x 2.5 mm <sup>2</sup>                                                                                                                                                                       |
| Degree of protection accd. to EN 60529                   | IP66 <sup>1)</sup>                                                                                                                                                                            | IP00                                                                                                                                                                                          |
| Dimensions (L x W x H)                                   | approx. 150 x 38 x 67 mm                                                                                                                                                                      | approx. 101 x 38 x 57 mm                                                                                                                                                                      |
| Weight                                                   | 0.25 kg                                                                                                                                                                                       | 0.20kg                                                                                                                                                                                        |
| Cable gland                                              | M25x1.5 for cable Ø 6- 15 mm                                                                                                                                                                  | –                                                                                                                                                                                             |
| Type of mounting                                         | Ø 30.3 mm fixing hole                                                                                                                                                                         | Ø 30.3 mm fixing hole                                                                                                                                                                         |
| Enclosure colour                                         | grey                                                                                                                                                                                          | grey                                                                                                                                                                                          |
| Gasket material                                          | Neoprene (standard), Fluoric Silicone or Viton on request                                                                                                                                     |                                                                                                                                                                                               |

<sup>1)</sup> with protective cover IP66

<sup>2)</sup> 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 2.4.34/35.

## Ex-control and signal units for panel mounting



Mini-control switch

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### Ordering code for component (Code 2) Code A - B - C - D - E

| A           | B   | C | D | E |
|-------------|-----|---|---|---|
| GHG 418 819 | - R | - | - | - |

| Code | Component           | Code        |
|------|---------------------|-------------|
| A    | Mini-control switch | GHG 418 819 |

| Code | Contact material | Code |
|------|------------------|------|
| B    | silver           | 0    |
|      | gold             | 1    |

| Code | Switching system               | Code |
|------|--------------------------------|------|
| C    | spring – engaging – spring     | 4    |
|      | engaging – engaging – engaging | 5    |
|      | engaging – engaging            | 6    |
|      | spring – engaging – engaging   | 7    |
|      | engaging – engaging – spring   | 8    |

| Code | Contacts | Code |
|------|----------|------|
| D    |          | 0    |
|      |          | 1    |
|      |          | 2    |
|      |          | 3    |
|      |          | 5    |
|      |          | 7    |

| Code | Inscription (label) | Code  | Inscription (label) | Code              |
|------|---------------------|-------|---------------------|-------------------|
| E    | 0                   | I     | 01                  | HAND 0 AUTO       |
|      | I                   | II    | 02                  | AUF AUS ZU        |
|      | STOP                | START | 03                  | HAND AUS AUTO     |
|      | HAND                | AUTO  | 04                  | 0 I II            |
|      | SENKEN              | HEBEN | 05                  | AUS AUTO EIN      |
|      | REMOTE              | LOCAL | 06                  | AUS HAND AUTO     |
|      | I 0 II              |       | 07                  | ÖRTLICH AUS FERN  |
|      | AUS BETRIEB EIN     |       | 08                  | START NORMAL STOP |
|      | AUS 0 EIN           |       | 09                  | OFF 0 ON          |
|      | AUF 0 AB            |       | 10                  | HAND OFF AUTO     |
|      | STOP 0 START        |       | 14                  | 0 IN START        |



Mini-control switch

**Example for ordering code (Code 2)**

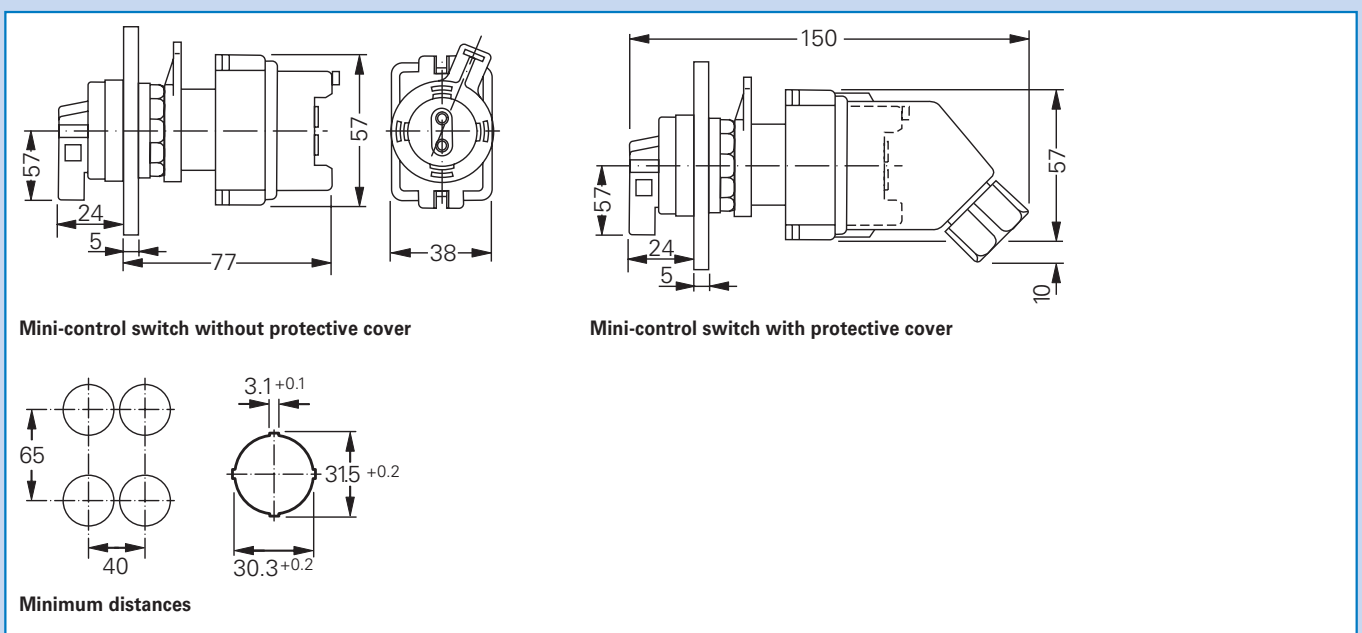
| Switching system                                                           | Code | Circuit | Code | Label- | Order No.          |            |          |          |           |
|----------------------------------------------------------------------------|------|---------|------|--------|--------------------|------------|----------|----------|-----------|
|                                                                            |      |         |      |        | A                  | B          | C        | D        | E         |
| <b>Control switch with silver contact points, without protective cover</b> |      |         |      |        |                    |            |          |          |           |
| <b>Switch can be locked in all positions</b>                               |      |         |      |        |                    |            |          |          |           |
|                                                                            | 6    |         | 0    | I II   | <b>GHG 418 819</b> | <b>0 R</b> | <b>6</b> | <b>0</b> | <b>02</b> |
|                                                                            | 6    |         | 2    | 0 I    | <b>GHG 418 819</b> | <b>0 R</b> | <b>6</b> | <b>2</b> | <b>01</b> |
|                                                                            | 6    |         | 1    | I II   | <b>GHG 418 819</b> | <b>0 R</b> | <b>6</b> | <b>1</b> | <b>02</b> |
|                                                                            | 5    |         | 3    | I 0 II | <b>GHG 418 819</b> | <b>0 R</b> | <b>5</b> | <b>3</b> | <b>07</b> |
|                                                                            | 5    |         | 5    | I 0 II | <b>GHG 418 819</b> | <b>0 R</b> | <b>5</b> | <b>5</b> | <b>07</b> |
|                                                                            | 8    |         | 7    | 0 I    | <b>GHG 418 819</b> | <b>0 R</b> | <b>8</b> | <b>7</b> | <b>01</b> |

**Accessories**

| Type                          | OU | Order No.                 |
|-------------------------------|----|---------------------------|
| Protective cover to meet IP66 | 5  | <b>GHG 410 1939 R0002</b> |

Please pay attention that only order units (OU) according to the ordering details can be delivered.

**Dimension drawing**



Dimensions in mm



Control switch GHG 249

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Technical data

Control switch GHG 249

|                                                          |                                                                                                                                                                                                |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Marking accd. to 94/9/EC                                 | Ⓜ II 2 G Ex de IIC/IIB Gb<br>Ⓜ II G Ex de ib [ia/ib] IIC/IIB Gb                                                                                                                                |
| EC-Type Examination Certificate                          | BVS 14 ATEX E 076 U <sup>1)</sup>                                                                                                                                                              |
| Operating temperature range                              | -45 °C up to +80 °C (IIC)<br>-55 °C up to +80 °C (IIB)                                                                                                                                         |
| Application temperature <sup>2)</sup>                    | -45 °C up to +80 °C (IIC)<br>-55 °C up to +80 °C (IIB)                                                                                                                                         |
| IECEX Certificate of Conformity                          | IECEX BVS 14.0047 U                                                                                                                                                                            |
| Marking accd. to IECEx                                   | Ex de IIC Gb<br>Ex de IIB Gb                                                                                                                                                                   |
| Rated voltage                                            | up to 690 V AC                                                                                                                                                                                 |
| Rated current                                            | up to 20 A                                                                                                                                                                                     |
| Rated current with gold contact points                   | up to 0.4 A                                                                                                                                                                                    |
| Rated making-/rated breaking capacity accd. EN 60947-5-1 | AC-3: U <sub>e</sub> 230 V / I <sub>e</sub> 8 A<br>U <sub>e</sub> 400 V / I <sub>e</sub> 6 A<br>AC-11: U <sub>e</sub> 24 V / I <sub>e</sub> 6 A<br>U <sub>e</sub> 230 V / I <sub>e</sub> 0.4 A |
| Connecting terminals                                     | 2 x 2.5 mm <sup>2</sup> flexibel, 6 mm <sup>2</sup> starr                                                                                                                                      |
| Weight                                                   | 0.55 kg                                                                                                                                                                                        |
| Type of mounting                                         | Ø 30.3 mm fixing hole                                                                                                                                                                          |
| Enclosure colour                                         | grey                                                                                                                                                                                           |

<sup>1)</sup> Must be installed in a certified enclosure

<sup>2)</sup> 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 2.4.34/35.



Control switch GHG 249

**Ordering code for component (Code 2) Code A - B - C - D**

| A   | B | C | D <sup>1)</sup> |
|-----|---|---|-----------------|
| 249 | - | - | -               |

| Code | Component              | Code |
|------|------------------------|------|
| A    | Control switch GHG 249 | 249  |

| Code | Switching system               | Code |
|------|--------------------------------|------|
| B    | spring – engaging – spring     | 4    |
|      | engaging – engaging – engaging | 5    |
|      | engaging – engaging            | 6    |
|      | spring – engaging – engaging   | 7    |
|      | engaging – engaging – spring   | 8    |

| Code | Contacts | Code |
|------|----------|------|
| C    |          | 019  |
|      |          | 033  |
|      |          | 024  |
|      |          | 021  |
|      |          | 049  |
|      |          | 037  |
|      |          | 039  |
|      |          | 038  |

| Code | Inscription (label) | Code    | Inscription (label) | Code    |        |        |    |
|------|---------------------|---------|---------------------|---------|--------|--------|----|
| D    | 0                   | I       | 0                   | I       | 18     |        |    |
|      | I                   | II      | 02                  | AUS     | AUTO   | EIN    | 19 |
|      | STOP                | START   | 03                  | AUS     | HAND   | AUTO   | 20 |
|      | HAND                | AUTO    | 04                  | ÖRTLICH | AUS    | FERN   | 21 |
|      | SENKEN              | HEBEN   | 05                  | START   | NORMAL | STOP   | 22 |
|      | REMOTE              | LOCAL   | 06                  | OFF     | 0      | ON     | 23 |
|      | I                   | 0       | II                  | HAND    | OFF    | AUTO   | 24 |
|      | AUS                 | BETRIEB | EIN                 | 0       | IN     | START  | 25 |
|      | AUS                 | 0       | EIN                 | MAN     |        | AUTO   | 26 |
|      | AUF                 | 0       | AB                  | START   |        | STOP   | 27 |
|      | Entriegelt          | 0       | Verriegelt          | HEBEN   |        | SENKEN | 28 |
|      | OUT                 | OF      | HAND                | OFF     |        | ON     | 29 |
|      | LOCAL               | REMOTE  | AUTO                | AUS     |        | EIN    | 30 |
|      | STOP                | 0       | START               | HAND    |        | AUTO   | 31 |
|      | HAND                | 0       | AUTO                | ON      |        | OFF    | 32 |
|      | AUF                 | AUS     | ZU                  |         | II     | III    | 33 |

<sup>1)</sup> The code will represent only a selected part of configuration.

## Ex-control and signal units for panel mounting

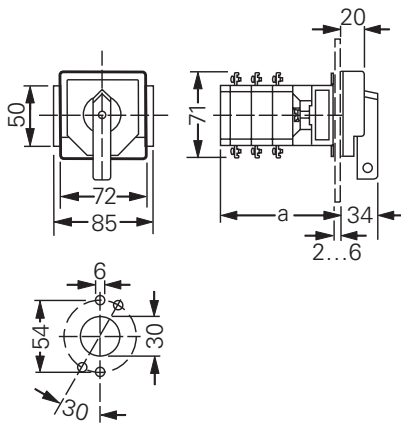


Control switch GHG 249

### 4 Example for ordering code (Code 2)

| Content | Switching system | Code | Contact | Code | Label            | Code | Order code                 |
|---------|------------------|------|---------|------|------------------|------|----------------------------|
| A       |                  | B    |         | C    |                  | D    |                            |
| GHG 249 |                  | 6    |         | 019  | 0 - I            | 01   | <b>GHG 249 0004 R 0056</b> |
| GHG 249 |                  | 6    |         | 037  | STOP - 0 - START | 14   | <b>GHG 249 0004 R 0039</b> |
| GHG 249 |                  | 6    |         | 033  | I - II           | 02   | <b>GHG 249 0004 R 0084</b> |

### Dimension drawing



**Control switch with**

|                       |             |       |
|-----------------------|-------------|-------|
| 1 switch compartment  | dimension a | 63 mm |
| 2 switch compartments |             | 81 mm |
| 3 switch compartments |             | 99 mm |