



Type 411 83



Type 411 82



Type 411 81

### Technical data

#### Ex-control stations Type 411 81 | Type 411 82 | Type 411 83

|  |   |   |
|--|---|---|
| Marking accd. to 2014/34/EU                              | Ⓢ II 2 G Ex ed ib m IIC T6<br>Ⓢ II 2 D Ex tD A21 IP66 T80 °C  |   |
| EC-Type Examination Certificate                          | PTB 00 ATEX 3117  |   |
| IECEX Certificate of Conformity                          | IECEX BK1 04.0003   |   |
| Marking accd. to IECEx                                   | Ex e II T6, Ex e ib IIC T6, Ex ed IIC T6 or Ex ed ib IIC T6   |   |
| Permissible ambient temperature                          | -20 °C up to +40 °C<br>-55 °C up to +55 °C (option)   |   |
| Rated voltage  | 690 V AC  |   |
| Rated current  | 16 A  |   |
| Rated making-/rated breaking capacity accd. EN 60947-5-1 | Ex41<br>AC-15: $U_g$ 250 V / $I_g$ 6 A<br>$U_g$ 500 V / $I_g$ 4 A<br>DC-13: $U_g$ 24 V / $I_g$ 6 A<br>$U_g$ 110 V / $I_g$ 0.5 A | Ex23<br>AC-15: $U_g$ 230 V / $I_g$ 6 A<br>$U_g$ 500 V / $I_g$ 4 A<br>DC-13: $U_g$ 24 V / $I_g$ 2 A<br>$U_g$ 230 V / $I_g$ 0.5 A |
| Connecting terminals                                     | 2 x 2.5 mm <sup>2</sup>   |   |
| Protection class   | I   |   |
| Degree of protection accd. to EN 60529                   | IP66 (standard)   |   |
| Cable glands/Gland plates/Enclosure drilling             | 1 x M25 cable gland or 1 x M20 thread with brass flange   |   |
| Enclosure material                                       | Polyamide   |   |
| Enclosure colour   | black   |   |

#### Type 411 81

|                        |                   |
|------------------------|-------------------|
| Dimensions (L x W x H) | 85 x 85 x 77.5 mm |
| Weight (empty)         | 0.25 kg           |

#### Type 411 82

|                        |                    |
|------------------------|--------------------|
| Dimensions (L x W x H) | 125 x 85 x 77.5 mm |
| Weight (empty)         | 0.35 kg            |

#### Type 411 83

|                        |                    |
|------------------------|--------------------|
| Dimensions (L x W x H) | 165 x 85 x 77.5 mm |
| Weight (empty)         | 0.45 kg            |

#### Type 411 82 with measuring instrument AM 72

|                               |  |                        |
|-------------------------------|--|------------------------|
| Movement                      | Moving iron  | Moving coil            |
| Marking accd. to 2014/34/EU   | Ⓢ II G Ex e II   | Ⓢ II G Ex ib IIC       |
| Accuracy                      | Class 2.5  | Class 1.5              |
| Overload range                | 10-fold -25 sec.<br>25-fold - 4 sec.<br>50-fold - 1 sec. | 10-fold -5 sec.        |
| Measuring range               | n / 1A<br>0 - 25 A direct                                | 0 - 20 mA<br>4 - 20 mA |
| Inductance Li                 | -  | ≤ 0.1 mH               |
| Capacitance Ci                | -  | ≤ 0.1 nF               |
| Open circuit voltage max. Ui  | -  | 30 V                   |
| Short circuit current max. Ii | -  | 150 mA                 |
| Connecting terminals          | 2 x 1.5 - 4 mm <sup>2</sup>                              |                        |
| Weight                        | 0.70 kg  |                        |

<sup>1)</sup> Base enclosure can be rotated after wards (entry from top or down)  
 Other versions available on request

## Ex-moulded plastic control stations GHG 411



Type 411 81...01



Type 411 81...12



Type 411 81...18



Type 411 81...04

### 4 Ordering details Type 411 81 with 1 built-in component

| Content | Built-in components   | Weight approx. | Order No.                 |
|---------|---|----------------|---------------------------|
|         | 1 x pushbutton DRT<br>1 NO + 1 NC<br>label: "0, I, START, STOP"                               | 0.40 kg        | <b>GHG 411 8100 R0001</b> |
|         | 1 x mushroom-head pushbutton SGTE<br>1 NO + 1 NC<br>"Emergency stop"                          | 0.45 kg        | <b>GHG 411 8100 R0002</b> |
|         | 1 x mushroom-head pushbutton SGTE<br>1 NO + 1 NC<br>"Emergency stop"<br>with key unlocking    | 0.50 kg        | <b>GHG 411 8100 R0012</b> |
|         | 1 x double pushbutton DDT<br>1 NO + 1 NC<br>label: "0, I, START, STOP"                        | 0.45 kg        | <b>GHG 411 8100 R0009</b> |
|         | 1 x key-operated switch SLS<br>2 NO<br>SW 5 "engaging-engaging-engaging"<br>label: "I 0 II"   | 0.52 kg        | <b>GHG 411 8100 R0018</b> |
|         | 1 x control switch SCT<br>1 change-over<br>SW 6 "engaging-engaging"<br>label: HAND – AUTO     | 0.45 kg        | <b>GHG 411 8100 R0003</b> |
|         | label: "0 – I"  | 0.45 kg        | <b>GHG 411 8100 R0004</b> |
|         | label: "I – II"   | 0.45 kg        | <b>GHG 411 8100 R0005</b> |
|         | 1 x control switch SCT<br>2 NO<br>SW 5 "engaging-engaging-engaging"<br>label: HAND – 0 – AUTO | 0.45 kg        | <b>GHG 411 8100 R0006</b> |
|         | label: "I 0 II"   | 0.45 kg        | <b>GHG 411 8100 R0007</b> |
|         | label: "Local Remote Auto"  | 0.45 kg        | <b>GHG 411 8100 R0008</b> |



Type 411 82...18



Type 411 82...17



Type 411 82...03



Type 411 82...01

Ordering details Type 411 82 with 2 built-in components

| Content     | Built-in components  | Weight approx. | Order No.                 |
|-------------|--|----------------|---------------------------|
|             | 2 x pushbutton DRT<br>1 NO + 1 NC each<br>label: "0, I, START, STOP"   | 0.54 kg        | <b>GHG 411 8200 R0001</b> |
| X1—⊗—X2<br> | 1 x signal lamp SIL<br>20-250 V AC/DC<br>coloured lens cover: „white, red, green, yellow“<br>1 x double pushbutton DDT<br>1 NO + 1 NC<br>label: "0, I, START, STOP"                  | 0.65 kg        | <b>GHG 411 8200 R0003</b> |
|             | 1 x double pushbutton DDT<br>1 NO + 1 NC<br>label: "0, I, START, STOP"<br>1 x mushroom-head pushbutton SGT<br>1 NO + 1 NC<br>"emergency stop"  | 0.57 kg        | <b>GHG 411 8200 R0016</b> |
|             | 1 x control switch SCT<br>1 change-over<br>SW 6 "engaging-engaging"<br>label: "0 - I"<br>1 x mushroom-head pushbutton SGTE<br>1 NO + 1 NC<br>"emergency stop"                        | 0.57 kg        | <b>GHG 411 8200 R0017</b> |
| X1—⊗—X2<br> | 1 x signal lamp SIL<br>20-250 V AC/DC<br>coloured lens cover: „white, red, green, yellow“<br>1 x key-operated switch<br>2 NO<br>SW 5 "engaging-engaging-engaging"<br>label: "I 0 II" | 0.65 kg        | <b>GHG 411 8200 R0018</b> |

## Ex-moulded plastic control stations GHG 411



Type 411 83...01



Type 411 83...03



Type 411 83...23



Type 411 83...04

### 4 Ordering details Type 411 83 with 3 built-in components

| Content        | Built-in components  | Weight approx. | Order No.                 |
|----------------|--|----------------|---------------------------|
| <p>X1—⊗—X2</p> | <p>1 x signal lamp SIL<br/>20-250 V AC/DC<br/>coloured lens cover: „white, red, green, yellow“<br/>2 x pushbutton DRT<br/>1 NO + 1 NC each<br/>label: “0, I, START, STOP”</p>  | 0.76 kg        | <b>GHG 411 8300 R0001</b> |
| <p>X1—⊗—X2</p> | <p>1 x signal lamp SIL<br/>20-250 V AC/DC<br/>coloured lens cover: „white, red, green, yellow“<br/>1 x double pushbutton DDT<br/>1 NO + 1 NC<br/>label: “0, I, START, STOP”<br/>1 x mushroom-head pushbutton SGTE<br/>1 NO + 1 NC<br/>“emergency stop”</p>                         | 0.80 kg        | <b>GHG 411 8300 R0003</b> |
| <p>1—⊗—2</p>   | <p>1 x measuring instrument AM72<br/>CT connection n/1A<br/>Scale 0—100%/150%<br/>1 x control switch SCT<br/>1 NO + 1 NC<br/>SW 8 “engaging-engaging-spring return”<br/>label: “0 — I”</p>   | 0.92 kg        | <b>GHG 411 8300 R0023</b> |
| <p>X1—⊗—X2</p> | <p>1 x signal lamp SIL<br/>20-250 V AC/DC<br/>coloured lens cover: „white, red, green, yellow“<br/>1 x double pushbutton DDT<br/>1 NO + 1 NC<br/>label: “0, I, START, STOP”<br/>1 x control switch SCT<br/>1 change-over<br/>SW 6 “engaging-engaging”<br/>label: “HAND - AUTO”</p> | 0.80 kg        | <b>GHG 411 8300 R0004</b> |



Measuring instrument AM72

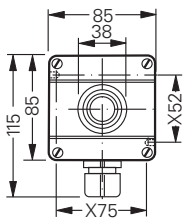
Ordering details measuring instrument AM72, Type 411 82

| Content  | Movement    | Weight  | Order No.                 |
|--|-------------|---------|---------------------------|
| <b>Version direct measurement with 1 x entry and cable gland M25</b> |             |         |                           |
| 0 - 1 / 1.5 A  | Moving iron | 0.70 kg | <b>GHG 411 8281 R0002</b> |
| 0 - 2.5 / 3.75 A   | Moving iron | 0.70 kg | <b>GHG 411 8281 R0003</b> |
| 0 - 5 / 7.5 A  | Moving iron | 0.70 kg | <b>GHG 411 8281 R0004</b> |
| 0 - 10 / 15 A  | Moving iron | 0.70 kg | <b>GHG 411 8281 R0005</b> |
| 0 - 16 / 24 A  | Moving iron | 0.70 kg | <b>GHG 411 8281 R0007</b> |
| 0 - 20 / 24 mA 0-100% / 120% (Ri =320 Ω)                             | Moving coil | 0.80 kg | <b>GHG 411 8285 R0033</b> |
| 4 - 20 / 24 mA 0-100% / 120% (Ri =320 Ω)                             | Moving coil | 0.80 kg | <b>GHG 411 8286 R0035</b> |

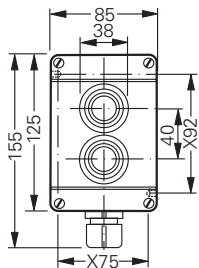
Version CT connection n/1A with 1 x entry and cable gland M25

|                  |             |         |                           |
|------------------|-------------|---------|---------------------------|
| 0 - 1 / 1.5 A    | Moving iron | 0.70 kg | <b>GHG 411 8282 R0002</b> |
| 0 - 2.5 / 3.75 A | Moving iron | 0.70 kg | <b>GHG 411 8282 R0003</b> |
| 0 - 5 / 7.5 A    | Moving iron | 0.70 kg | <b>GHG 411 8282 R0004</b> |
| 0 - 10 / 15 A    | Moving iron | 0.70 kg | <b>GHG 411 8282 R0005</b> |
| 0 - 15 / 22.5 A  | Moving iron | 0.70 kg | <b>GHG 411 8282 R0007</b> |
| 0 - 20 / 30 A    | Moving iron | 0.70 kg | <b>GHG 411 8282 R0008</b> |
| 0 - 30 / 45 A    | Moving iron | 0.70 kg | <b>GHG 411 8282 R0009</b> |
| 0 - 40 / 60 A    | Moving iron | 0.70 kg | <b>GHG 411 8282 R0010</b> |
| 0 - 50 / 75 A    | Moving iron | 0.70 kg | <b>GHG 411 8282 R0011</b> |
| 0 - 60 / 90 A    | Moving iron | 0.70 kg | <b>GHG 411 8282 R0012</b> |
| 0 - 75 / 112.5 A | Moving iron | 0.70 kg | <b>GHG 411 8282 R0013</b> |
| 0 - 100 / 150 A  | Moving iron | 0.70 kg | <b>GHG 411 8282 R0014</b> |
| 0 - 100% / 150%  | Moving iron | 0.70 kg | <b>GHG 411 8282 R0001</b> |

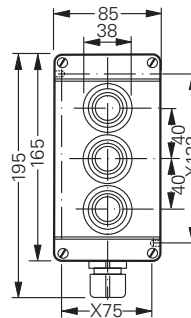
Dimension drawing



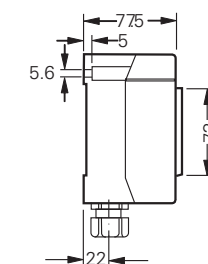
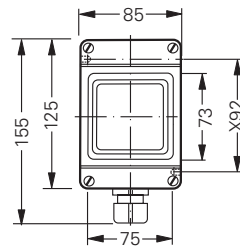
Type 411 81



Type 411 82



Type 411 83



Measuring instrument AM 72

X = fixing dimension

## Accessories for Ex-control stations

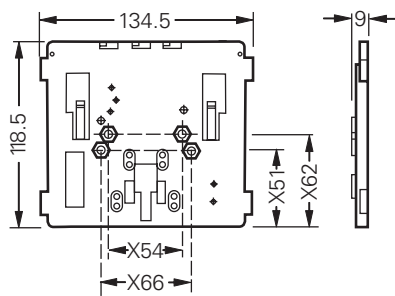


### 4 Accessories

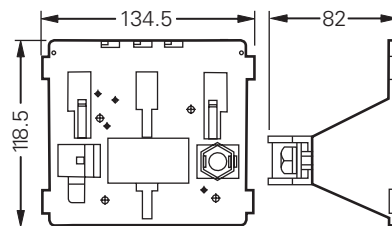
| Type   | Application           | Fixing method         | OU | Order No.                 |
|--|-----------------------|-----------------------|----|---------------------------|
| <b>Mounting plate for type 411 81</b>  |                       |                       |    |                           |
| Size 1   | Wall mounting         | screwless mounting    | 1  | <b>GHG 610 1953 R0101</b> |
| Size 1   | Pipe clamp            | screwless mounting    | 1  | <b>GHG 610 1953 R0102</b> |
| Size 1   | Trellis-work mounting | screwless mounting    | 1  | <b>GHG 610 1953 R0103</b> |
| Size 4   | Wall mounting         | snap-on <sup>1)</sup> | 1  | <b>GHG 610 1953 R0126</b> |
| Size 4   | Trellis-work mounting | snap-on <sup>1)</sup> | 1  | <b>GHG 610 1953 R0126</b> |
| Size 4   | Pipe clamp            | snap-on <sup>1)</sup> | 1  | <b>GHG 610 1953 R0130</b> |
| <b>Mounting plate for type 411 82 and 411 83</b>                                   |                       |                       |    |                           |
| Size 2   | Wall mounting         | screwless mounting    | 1  | <b>GHG 610 1953 R0104</b> |
| Size 2   | Pipe clamp            | screwless mounting    | 1  | <b>GHG 610 1953 R0105</b> |
| Size 2   | Trellis-work mounting | screwless mounting    | 1  | <b>GHG 610 1953 R0106</b> |
| Size 4   | Wall mounting         | snap-on <sup>1)</sup> | 1  | <b>GHG 610 1953 R0126</b> |
| Size 4   | Trellis-work mounting | snap-on <sup>1)</sup> | 1  | <b>GHG 610 1953 R0126</b> |
| Size 4   | Pipe clamp            | snap-on <sup>1)</sup> | 1  | <b>GHG 610 1953 R0130</b> |
| Plug-in fastener for CEAG modules with 5.5 mm and 11 mm mounting size per 4 pieces |                       |                       | 10 | <b>GHG 610 1953 R0041</b> |

<sup>1)</sup> snap-on with snap-on mounting 5.5 mm

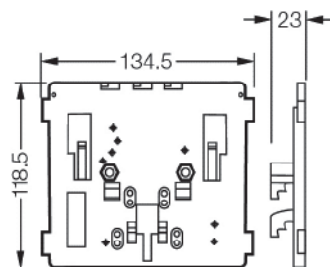
### Dimension drawing



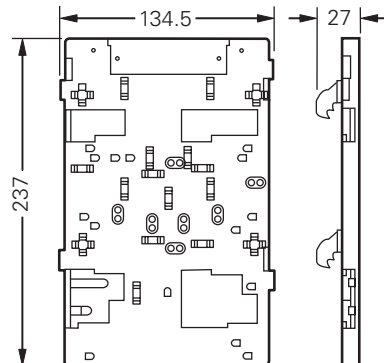
Size 1 wall mounting



Size 1 pipe mounting



Size 1 trellis-work mounting



Size 4 wall mounting

X = fixing dimension