

# SERIES 1660 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

TO 16 (4) A 250 V AC



## PRODUCT FEATURES

- ◆ Illuminated and non-illuminated pushbutton switch
- ◆ Proven jump contact switching system (double interrupting)
- ◆ Opening and closing speed independent of the actuating speed
- ◆ Product-dependent with external lamp connection

## ON REQUEST

- ◆ Other colors
- ◆ Other printing variants
- ◆ Other connection types
- ◆ Other lamp variants
- ◆ Cable assembly

|  |  |
|--|--|
| Mechanical life endurance                      | 5E4  |
| Contact resistance (new condition)             | < 100 mOhm (1 A 12 V DC)   |
| Insulation resistance (new condition)          | > 100 MOhm (500 V DC)  |
| Voltage strength at 250 V                      | 1 500 V function insulation / basic insulation<br>3 000 V reinforced insulation<br>500 V small contact distance                      |
| Proof tracking                                 | 250 PTI  |
| Insulation spacing                             | acc. to EN 61058 for reinforced or double insulation   |
| Protection type                                | IP 40  |
| Ambient temperature                            | connection side -20 °C ... +85 °C<br>actuating side -20 °C ... +55 °C  |
| Flammability                                   | UL 94 V-2  |
| Heat and fire resistance                       | 850 °C (category D)  |
| Material                                       | actuator PA / PC (product-dependent)<br>housing PA / PA glass fiber-reinforced (product-dependent)<br>connections Cu / silver-plated |
| Plug force of the terminals                    | ≤ 80 N   |
| Approval marks                                 |  |
| Suitable for appliances of protection class II |  |



ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

POWER TOOL SWITCHES

TACT AND KEY SWITCHES



SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

# SERIES 1660 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

TO 16 (4) A 250 V AC

| <br>single-pole   |     | Voltage lamp in V | Actuator color / printing | Housing color | 16 (4) A 250 V AC 1E4 | 16 (4) A 250 V AC | 12 (4) A 250 V AC 1E4 | 12 A 250 V AC 1/2 HP | 12 A 125 V AC 1/6 HP | Connection type | Connection description | Contact distance in mm | Contact material | Miscellaneous            | Stock version |
|--|-----|-------------------|---------------------------|---------------|-----------------------|-------------------|-----------------------|----------------------|----------------------|-----------------|------------------------|------------------------|------------------|--------------------------|---------------|
| <b>Normally open contact (SPNO)</b>  |     |                   |                           |               |                       |                   |                       |                      |                      |                 |                        |                        |                  |                          |               |
| 1665.3101  | 230 |                   |                           | ●             |                       |                   |                       |                      |                      |                 | 6.3 / 2 x 4.8          | ≈ 3                    | Ag               | external lamp connection |               |
| 1665.3102  | 230 |                   |                           | ●             |                       |                   |                       |                      |                      |                 | 6.3 / 2 x 4.8          | ≈ 3                    | Ag               | external lamp connection | ●             |
| <b>ON/OFF switch (SPST)</b>  |     |                   |                           |               |                       |                   |                       |                      |                      |                 |                        |                        |                  |                          |               |
| 1662.0201  |     |                   |                           | ●             |                       |                   |                       |                      |                      |                 | 6.3                    | ≈ 3                    | Ag               |                          | ●             |
| 1662.0203  |     |                   |                           | ●             |                       |                   |                       |                      |                      |                 | 6.3                    | ≈ 3                    | Ag               |                          |               |
| <b>Normally open contact (SPNO)</b>  |     |                   |                           |               |                       |                   |                       |                      |                      |                 |                        |                        |                  |                          |               |
| 1662.0101  |     |                   |                           | ●             |                       |                   |                       |                      |                      |                 | 6.3                    | ≈ 3                    | Ag               |                          | ●             |
| 1662.0102  |     |                   |                           | ●             |                       |                   |                       |                      |                      |                 | 6.3                    | ≈ 3                    | Ag               |                          |               |
| <b>Changeover switch (SPDT momentary)</b>  |     |                   |                           |               |                       |                   |                       |                      |                      |                 |                        |                        |                  |                          |               |
| 1664.0101  |     |                   |                           |               | ●                     |                   |                       |                      |                      |                 | 4.8                    | < 3                    | Ag               |                          | ●             |
| <br>double-pole |     | Voltage lamp in V | Actuator color / printing | Housing color | 16 (4) A 250 V AC 1E4 | 16 (4) A 250 V AC | 12 (4) A 250 V AC 1E4 | 12 A 250 V AC 1/2 HP | 12 A 125 V AC 1/6 HP | Connection type | Connection description | Contact distance in mm | Contact material | Miscellaneous            | Stock version |
| <b>ON/OFF switch (SPST)</b>  |     |                   |                           |               |                       |                   |                       |                      |                      |                 |                        |                        |                  |                          |               |
| 1660.0201  | 230 |                   |                           | ●             |                       |                   |                       |                      |                      |                 | 6.3                    | ≈ 3                    | Ag               |                          | ●             |
| 1660.0202  | 230 |                   |                           | ●             |                       |                   |                       |                      |                      |                 | 6.3                    | ≈ 3                    | Ag               |                          | ●             |
| 1660.0203  | 230 |                   |                           | ●             |                       |                   |                       |                      |                      |                 | 6.3                    | ≈ 3                    | Ag               |                          |               |
| 1660.3202  | 230 |                   |                           | ●             |                       |                   |                       |                      |                      |                 | 6.3 / 2 x 4.8          | ≈ 3                    | Ag               | external lamp connection | ●             |
| 1660.0222  | 110 |                   |                           |               |                       |                   |                       | ●                    |                      |                 | 6.3                    | ≈ 3                    | Ag               |                          |               |
| 1661.0201  |     |                   |                           | ●             |                       |                   |                       |                      |                      |                 | 6.3                    | ≈ 3                    | Ag               |                          | ●             |
| 1661.0220  |     |                   |                           |               | ●                     |                   | ●                     | ●                    |                      |                 | 6.3                    | ≈ 3                    | Ag               |                          |               |

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SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

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TO 16 (4) A 250 V AC

| <br>double-pole |     | Voltage lamp in V   | Actuator color / printing   | Housing color   | 16 (4) A 250 V AC 1E4 | 16 (4) A 250 V AC | 12 (4) A 250 V AC 1E4 | 12 A 250 V AC 1/2 HP | 12 A 125 V AC 1/6 HP | Connection type   | Connection description | Contact distance in mm | Contact material | Miscellaneous | Stock version |
|--|-----|---|---|---|-----------------------|-------------------|-----------------------|----------------------|----------------------|---|------------------------|------------------------|------------------|---------------|---------------|
| <b>Normally open contact (SPNO)</b>  |     |   |   |   |                       |                   |                       |                      |                      |   |                        |                        |                  |               |               |
| 1661.0101  |     |   |    |  | ●                     |                   |                       |                      |                      |    | 6.3                    | ≥ 3                    | Ag               |               | ●             |
| <b>Switch (SPDT)</b>   |     |   |   |   |                       |                   |                       |                      |                      |   |                        |                        |                  |               |               |
| 1663.0201  |     |   |    |  |                       |                   | ●                     |                      |                      |    | 4.8                    | < 3                    | Ag               |               | ●             |
| <b>Changeover switch (SPDT momentary)</b>  |     |   |   |   |                       |                   |                       |                      |                      |   |                        |                        |                  |               |               |
| 1663.0101  |     |   |    |  |                       |                   | ●                     |                      |                      |    | 4.8                    | < 3                    | Ag               |               | ●             |
| <b>Lamp</b>  |     |   |   |   |                       |                   |                       |                      |                      |   |                        |                        |                  |               |               |
| <b>Lamp</b>  |     |   |   |   |                       |                   |                       |                      |                      |   |                        |                        |                  |               |               |
| 1667.0101  | 230 |  |  |   |                       |                   |                       |                      |                      |  | 6.3                    |                        |                  |               | ●             |
| 1667.0102  | 230 |  |  |   |                       |                   |                       |                      |                      |  | 6.3                    |                        |                  |               | ●             |
| 1667.0104  | 230 |  |  |   |                       |                   |                       |                      |                      |  | 6.3                    |                        |                  |               | ●             |

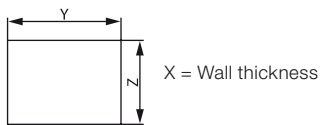
ROCKERS SWITCHES  
 PUSHBUTTON SWITCHES  
 TOGGLE SWITCHES  
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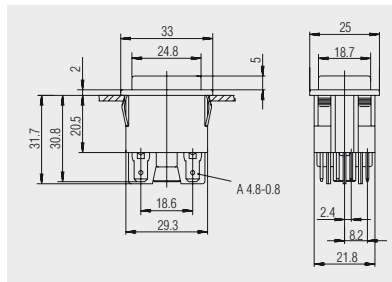
TO 16 (4) A 250 V AC



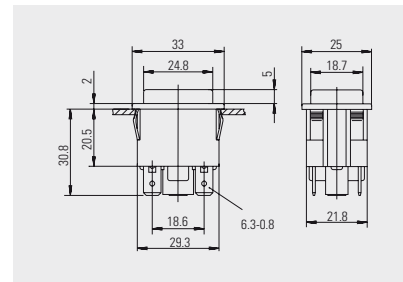
Basic types 1660, 1661, 1662, 1663 and 1665  
double-pole  
illuminated / non-illuminated



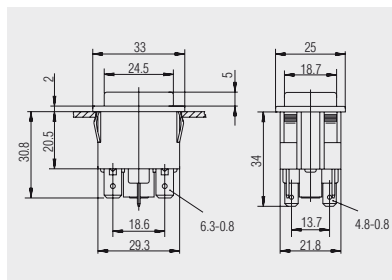
| X            | Y                    | Z                    |
|--------------|----------------------|----------------------|
| 0.75 ... 1.0 | 30 <sup>+0.1</sup>   | 22.2 <sup>+0.2</sup> |
| 1.0 ... 1.5  | 30.2 <sup>+0.1</sup> | 22.2 <sup>+0.2</sup> |
| 1.5 ... 3.0  | 30.4 <sup>+0.1</sup> | 22.2 <sup>+0.2</sup> |



Quick-connect terminal 4.8



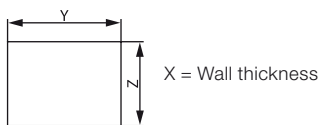
Quick-connect terminal 6.3



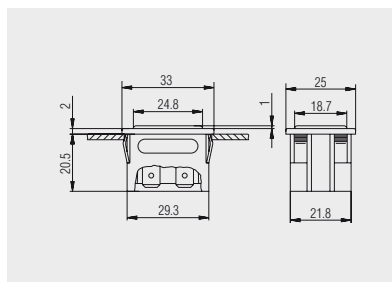
Quick-connect terminal 6.3 / 2 x 4.8  
with external lamp connection



Basic type 1667  
Lamp



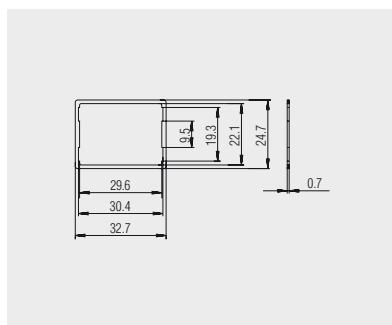
| X            | Y                    | Z                    |
|--------------|----------------------|----------------------|
| 0.75 ... 1.0 | 30 <sup>+0.1</sup>   | 22.2 <sup>+0.2</sup> |
| 1.0 ... 1.5  | 30.2 <sup>+0.1</sup> | 22.2 <sup>+0.2</sup> |
| 1.5 ... 3.0  | 30.4 <sup>+0.1</sup> | 22.2 <sup>+0.2</sup> |



Quick-connect terminal 6.3



Gasket  
340.040.011



Gasket of EPDM black for sealing  
between switch and appliance for  
increased dust and water protection

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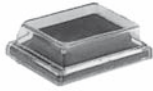
SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

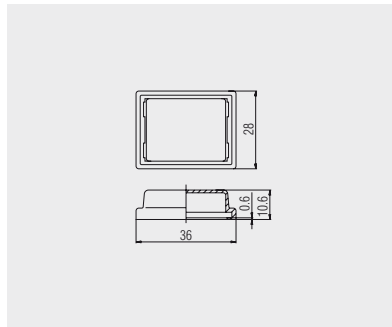
SENSORS

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TO 16 (4) A 250 V AC



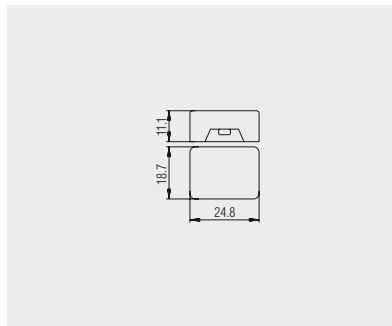
Protection cap  
203.201.011



Transparent PVC-protection cap for switches of the basic types 1660, 1662, 1663, 1664, 1665 and 1667. Serves as dust and water protection of the actuation side.



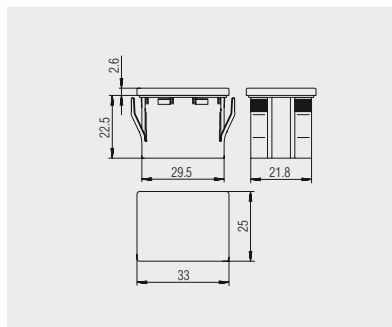
Window  
203.107.011 - orange  
203.107.031 - green



Transparent window for assembly by customer. Switches and lamps without mounted cap are available on request.



Dummy piece  
203.028.013



Dummy piece for size of basic type 1667 of PA with housing and cover in black and with mounted gasket (340.040.011) for dust and water protection

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