

# SERIES 1660 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

TO 16 (4) A 250 V AC






## PRODUCT FEATURES

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

## ON REQUEST

- ◆ Other colors
- ◆ Other printing variants
- ◆ Other terminal 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)   |
| Proof tracking                                 | 250 PTI   |
| Protection type                                | IP 40   |
| Ambient temperature                            | terminal side -20 °C ... +85 °C<br>actuating side -20 °C ... +55 °C   |
| Flammability                                   | UL 94 V-2   |
| Glow wire test temperature                     | 850 °C  |
| Material                                       | actuator: PC (product-dependent) / PA<br>housing: PA / PA glass fiber-reinforced (product-dependent)<br>terminals: Cu   |
| Plug force of the terminals                    | ≤ 80 N  |
| Approval marks                                 | ⚡ /  (product-dependent) /  /  |
| Suitable for appliances of protection class II |   |



ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

FACT 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   |     | Lighting voltage 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 | Terminal type   | Terminal description | Contact distance in mm | Contact material | Miscellaneous          | Stock version |
|--|-----|---|---|---------------|-----------------------|-------------------|-----------------------|----------------------|----------------------|---|----------------------|------------------------|------------------|------------------------|---------------|
| <b>Normally open contact (SPNO)</b>  |     |   |   |               |                       |                   |                       |                      |                      |   |                      |                        |                  |                        |               |
| 1665.3102  | 230 |    |    | ●             |                       |                   |                       |                      |                      |    | 6.3 / 2 x 4.8        | ≥ 3                    | Ag               | external lamp terminal |               |
| <b>ON / OFF switch (SPST)</b>  |     |   |   |               |                       |                   |                       |                      |                      |   |                      |                        |                  |                        |               |
| 1662.0201  |     |    |    | ●             |                       |                   |                       |                      |                      |    | 6.3                  | ≈ 3                    | Ag               |                        |               |
| <b>Normally open contact (SPNO)</b>  |     |   |   |               |                       |                   |                       |                      |                      |   |                      |                        |                  |                        |               |
| 1662.0101  |     |    |    | ●             |                       |                   |                       |                      |                      |    | 6.3                  | ≈ 3                    | Ag               |                        | ●             |
| <b>Changeover switch (SPDT momentary)</b>  |     |   |   |               |                       |                   |                       |                      |                      |   |                      |                        |                  |                        |               |
| 1664.0101  |     |  |  |               |                       |                   | ●                     |                      |                      |  | 4.8                  | < 3                    | Ag               |                        |               |
| <br>double-pole |     | Lighting voltage 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 | Terminal type   | Terminal description | Contact distance in mm | Contact material | Miscellaneous          | Stock version |
| <b>ON / OFF switch (DPST)</b>  |     |   |   |               |                       |                   |                       |                      |                      |   |                      |                        |                  |                        |               |
| 1660.0201  | 230 |  |  | ●             |                       |                   |                       |                      |                      |  | 6.3                  | ≈ 3                    | Ag               |                        | ●             |
| 1660.0202  | 230 |  |  | ●             |                       |                   |                       |                      |                      |  | 6.3                  | ≈ 3                    | Ag               |                        | ●             |
| 1660.3202  | 230 |  |  | ●             |                       |                   |                       |                      |                      |  | 6.3 / 2 x 4.8        | ≥ 3                    | Ag               | external lamp terminal |               |
| 1660.0222  | 110 |  |  |               |                       |                   |                       | ●                    |                      |  | 6.3                  | ≈ 3                    | Ag               |                        |               |
| 1661.0220  |     |  |  |               |                       | ●                 | ●                     | ●                    |                      |  | 6.3                  | ≈ 3                    | Ag               |                        |               |
| <b>Normally open contact (DPNO)</b>  |     |   |   |               |                       |                   |                       |                      |                      |   |                      |                        |                  |                        |               |
| 1661.0101  |     |  |  | ●             |                       |                   |                       |                      |                      |  | 6.3                  | ≈ 3                    | Ag               |                        | ●             |
| <b>Changeover switch (DPDT)</b>  |     |   |   |               |                       |                   |                       |                      |                      |   |                      |                        |                  |                        |               |
| 1663.0201  |     |  |  |               |                       | ●                 |                       |                      |                      |  | 4.8                  | < 3                    | Ag               |                        |               |
| <b>Changeover switch (DPDT momentary)</b>  |     |   |   |               |                       |                   |                       |                      |                      |   |                      |                        |                  |                        |               |
| 1663.0101  |     |  |  |               |                       | ●                 |                       |                      |                      |  | 4.8                  | < 3                    | Ag               |                        | ●             |

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SLIDE SWITCHES

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FACT AND KEY SWITCHES











SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

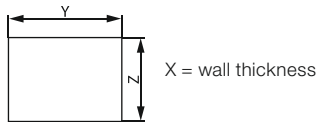
# SERIES 1660 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

TO 16 (4) A 250 V AC

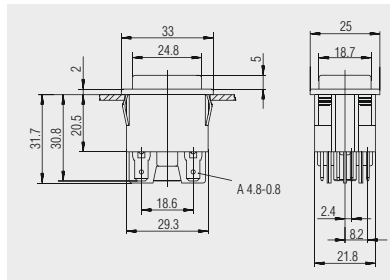
| <br>Lamp | Lighting voltage in V | Actuator color / printing   | Housing color   | 16 (4) A 250 V AC 1E4 | 16 (4) A 250 V AC | 12 (4) A 250 V AC 1E4 | 12 A 250 V AC 1/2 HP | 12 A 125 V AC 1/6 HP | Terminal type   | Terminal description | Contact distance in mm | Contact material | Miscellaneous | Stock version |
|---|-----------------------|---|---|-----------------------|-------------------|-----------------------|----------------------|----------------------|---|----------------------|------------------------|------------------|---------------|---------------|
| <b>Lamp</b>   |                       |   |   |                       |                   |                       |                      |                      |   |                      |                        |                  |               |               |
| <b>1667.0101</b>  | 230                   |  |  |                       |                   |                       |                      |                      |  | 6.3                  |                        |                  |               |               |
| <b>1667.0102</b>  | 230                   |  |  |                       |                   |                       |                      |                      |  | 6.3                  |                        |                  |               |               |
| <b>1667.0104</b>  | 230                   |  |  |                       |                   |                       |                      |                      |  | 6.3                  |                        |                  |               |               |



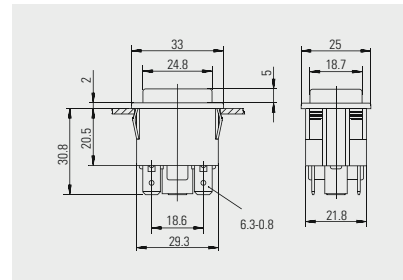
Basic types 1660, 1661 and 1663  
double-pole  
illuminated / non-illuminated



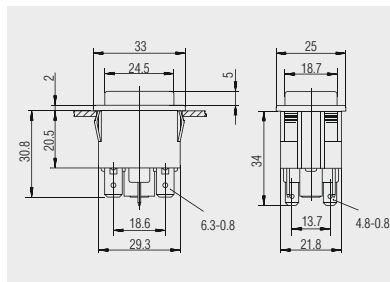
| X            | Y                    | Z                    |
|--------------|----------------------|----------------------|
| 0.75 ... 1.0 | 30 <sup>+0.1</sup>   | 22.2 <sup>+0.2</sup> |
| 1.0 ... 1.5  | 30.2 <sup>+0.1</sup> | 22.2 <sup>+0.2</sup> |
| 1.5 ... 3.0  | 30.4 <sup>+0.1</sup> | 22.2 <sup>+0.2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



Quick-connect terminal  
4.8 x 0.8



Quick-connect terminal  
6.3 x 0.8



Quick-connect terminal  
6.3 x 0.8 / 2 x 4.8 x 0.8  
with external lamp terminal

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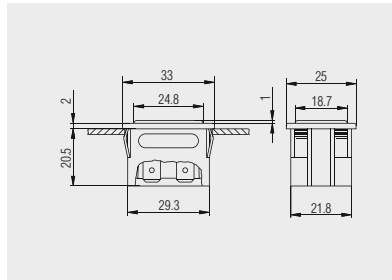
SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

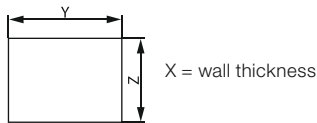
SENSORS



Basic type 1667  
lamp



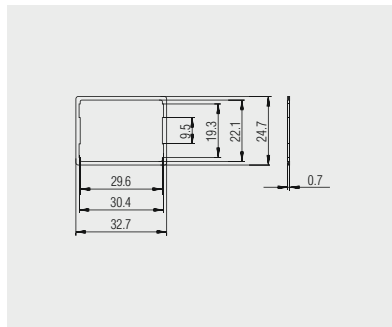
Quick-connect terminal  
6.3 x 0.8



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



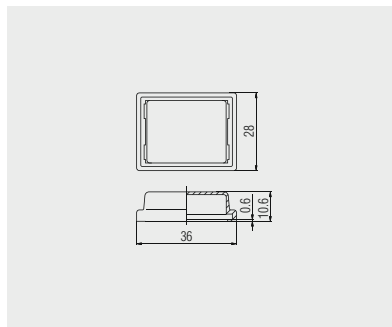
Gasket  
340.040.011



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



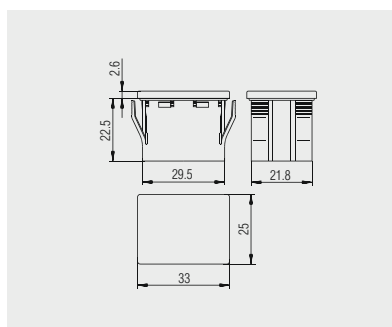
Protection cap  
203.201.011



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.



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.