

## ZB4BG712

selector switch head Ø22 3-position spring return  
Ronis 421E



### Main

|                               |                              |
|-------------------------------|------------------------------|
| Range of product              | Harmony XB4                  |
| Product or component type     | Head for key selector switch |
| Device short name             | ZB4                          |
| Bezel material                | Chromium plated metal        |
| Mounting diameter             | 22 mm                        |
| Head type                     | Standard                     |
| Sale per indivisible quantity | 1                            |
| Shape of signaling unit head  | Round                        |
| Return                        | To centre                    |
| Operator profile              | Black key switch             |
| Type of operator              | Spring return                |
| Operator position information | 3 positions +/- 45°          |
| Type of keylock               | Ronis 421E                   |
| Key withdrawal position       | Center                       |

### Complementary

|                                    |   |
|------------------------------------|---|
| CAD overall width                  | 29 mm   |
| CAD overall height                 | 29 mm   |
| CAD overall depth                  | 72 mm   |
| Product weight                     | 0.098 kg  |
| Resistance to high pressure washer | 7000000 Pa at 55 °C, distance: 0.1 m  |
| Mechanical durability              | 1000000 cycles  |
| Electrical composition code        | C11 for 3 contacts using single blocks in front mounting<br>C7 for 4 contacts using single blocks in front mounting<br>C8 for 4 contacts using single and double blocks in front mounting<br>C4 for 6 contacts using single and double blocks in front mounting<br>C5 for 5 contacts using single blocks in front mounting<br>C6 for 5 contacts using single and double blocks in front mounting<br>C3 for 6 contacts using single blocks in front mounting |
| Device presentation                | Basic element   |

### Environment

|                                       |   |
|---------------------------------------|---|
| protective treatment                  | TH  |
| ambient air temperature for storage   | -40...70 °C   |
| ambient air temperature for operation | -40...70 °C   |
| overvoltage category                  | Class I conforming to IEC 60536   |
| IP degree of protection               | IP67<br>IP66 conforming to IEC 60529<br>IP69K<br>IP69   |
| NEMA degree of protection             | NEMA 13<br>NEMA 4X  |
| standards                             | EN/IEC 60947-1<br>EN/IEC 60947-5-1<br>EN/IEC 60947-5-4<br>EN/IEC 60947-5-5<br>UL 508<br>GB 14048.5<br>CSA C22.2 No 14 |
| product certifications                | BV<br>CSA<br>DNV  |

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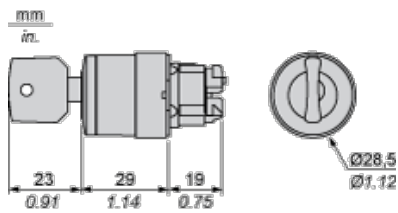
GL  
 LROS (Lloyds register of shipping)  
 RINA  
 UL listed

|                      |  |
|----------------------|--|
| vibration resistance | 5 gn (f = 2...500 Hz) conforming to IEC 60068-2-6  |
| shock resistance     | 30 gn (duration = 18 ms) for half sine wave acceleration conforming to IEC 60068-2-27<br>50 gn (duration = 11 ms) for half sine wave acceleration conforming to IEC 60068-2-27 |

### Contractual warranty

|                 |                     |
|-----------------|---------------------|
| Warranty period | 18 months 18 months |
|-----------------|---------------------|

### Dimensions



### Panel Cut-out for Pushbuttons, Switches and Pilot Lights (Finished Holes, Ready for Installation)

| Connection by Screw Clamp Terminals or Plug-in Connectors or on Printed Circuit Board   | Connection by Faston Connectors |
|---|---------------------------------|
|   |                                 |
| <p>(1) Diameter on finished panel or support</p> <p>(2) 40 mm min. / 1.57 in. min.</p> <p>(3) 30 mm min. / 1.18 in. min.</p> <p>(4) <math>\varnothing 22.5 \text{ mm} / 0.89 \text{ in.}</math> recommended (<math>\varnothing 22.3 \text{ mm}_0^{+0.4} / 0.88 \text{ in.}_0^{+0.016}</math>)</p> <p>(5) 45 mm min. / 1.78 in. min.</p> <p>(6) 32 mm min. / 1.26 in. min.</p> |                                 |

### Pushbuttons, Switches and Pilot Lights for Printed Circuit Board Connection

#### Panel Cut-outs (Viewed from Installer's Side)



A: 30 mm min. / 1.18 in. min.

B: 40 mm min. / 1.57 in. min.

**Printed Circuit Board Cut-outs (Viewed from Electrical Block Side)**

Dimensions in mm



A: 30 mm min.

B: 40 mm min.

Dimensions in in.



A: 1.18 in. min.

B: 1.57 in. min.

### General Tolerances of the Panel and Printed Circuit Board

The cumulative tolerance must not exceed 0.3 mm / 0.012 in:  $T1 + T2 = 0.3 \text{ mm max.}$

### Installation Precautions

- ┆ Minimum thickness of circuit board: 1.6 mm / 0.06 in.
- ┆ Cut-out diameter: 22.4 mm  $\pm$  0.1 / 0.88 in.  $\pm$  0.004
- ┆ Orientation of body/fixing collar ZB4 BZ009:  $\pm$  2°30' (excluding cut-outs marked **a** and **b**).
- ┆ Tightening torque of screws ZBZ 006: 0.6 N.m (5.3 lbf.in) max.
- ┆ Allow for one ZB4 BZ079 fixing collar/pillar and its fixing screws:
  - ┆ every 90 mm / 3.54 in. horizontally (X), and 120 mm / 4.72 in. vertically (Y).
  - ┆ with each selector switch head (ZB4 BD\*, ZB4 BJ\*, ZB4 BG\*).

The fixing centers marked **a** and **b** are diagonally opposed and must align with those marked 4 and 5.

$\frac{\text{mm}}{\text{in.}}$



(1) Panel

(2) Printed circuit board

### Mounting of Adapter (Socket) ZBZ 01\*

- ┆ 1 2 elongated holes for ZBZ 006 screw access
- ┆ 2 1 hole  $\text{Ø} 2.4 \text{ mm} \pm 0.05 / 0.09 \text{ in.} \pm 0.002$  for centring adapter ZBZ 01\*
- ┆ 3 8  $\times \text{Ø} 1.2 \text{ mm} / 0.05 \text{ in.}$  holes
- ┆ 4 1 hole  $\text{Ø} 2.9 \text{ mm} \pm 0.05 / 0.11 \text{ in.} \pm 0.002$ , for aligning the printed circuit board (with cut-out marked **a**)
- ┆ 5 1 elongated hole for aligning the printed circuit board (with cut-out marked **b**)
- ┆ 6 4 holes  $\text{Ø} 2.4 \text{ mm} / 0.09 \text{ in.}$  for clipping in adapter ZBZ 01\*

### Electrical Composition Corresponding to Code C3



### Electrical Composition Corresponding to Code C4



### Electrical Composition Corresponding to Code C5



### Electrical Composition Corresponding to Code C6



### Electrical Composition Corresponding to Code C7



### Electrical Composition Corresponding to Code C8





## Electrical Composition Corresponding to Codes C9, C11, SF1 and SR1



### Legend

Single contact



Double contact



Light block



Possible location



## Sequence of Contacts Fitted to 3-position Selector Switch Body

### Position 315°



|                 |          |        |        |        |       |
|-----------------|----------|--------|--------|--------|-------|
| <b>Push</b>     | Position | Top    |        |        |       |
|                 |          | Bottom |        |        |       |
|                 | Location |        | Left   | Centre | Right |
|                 | State    |        | 1      | 1      | 0     |
| <b>Contacts</b> | N/O      | closed | closed | open   |       |
|                 | N/C      | open   | open   | closed |       |

### Position 0°



|             |          |        |  |  |  |
|-------------|----------|--------|--|--|--|
| <b>Push</b> | Position | Top    |  |  |  |
|             |          | Bottom |  |  |  |

|                 |          |        |        |        |
|-----------------|----------|--------|--------|--------|
|                 | Location | Left   | Centre | Right  |
|                 | State    | 0      | 0      | 0      |
| <b>Contacts</b> | N/O      | open   | open   | open   |
|                 | N/C      | closed | closed | closed |

**Position 45°**



|                 |          |        |        |        |  |
|-----------------|----------|--------|--------|--------|--|
| <b>Push</b>     | Position | Top    |        |        |  |
|                 |          | Bottom |        |        |  |
|                 | Location | Left   | Centre | Right  |  |
|                 | State    | 0      | 1      | 1      |  |
| <b>Contacts</b> | N/O      | open   | closed | closed |  |
|                 | N/C      | closed | open   | open   |  |