

## ZB4BD2

black selector switch head Ø22 2-position stay put



### Main

|                               |                          |
|-------------------------------|--------------------------|
| Range of product              | Harmony XB4              |
| Product or component type     | Head for 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                    |
| Type of operator              | Stay put                 |
| Operator profile              | Black standard handle    |
| Operator position information | 2 positions 90°          |

### Complementary

|                                    |  |
|------------------------------------|--|
| CAD overall width                  | 29 mm  |
| CAD overall height                 | 29 mm  |
| CAD overall depth                  | 44 mm  |
| Product weight                     | 0.04 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>C15 for 1 contacts using single blocks in front mounting<br>C3 for <= 6 contacts using single blocks in front mounting<br>C4 for <= 6 contacts using single and double 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>C5 for <= 5 contacts using single blocks in front mounting<br>C6 for <= 5 contacts using single and double blocks in front mounting |

### 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 conforming to IEC 60529<br>IP69K<br>IP69   |
| NEMA degree of protection             | NEMA 13<br>NEMA 4X  |
| IK degree of protection               | IK06 conforming to IEC 50102  |
| standards                             | EN/IEC 60947-1<br>EN/IEC 60947-5-1<br>EN/IEC 60947-5-4<br>EN/IEC 60947-5-5<br>JIS C 4520<br>UL 508<br>CSA C22.2 No 14 |
| product certifications                | BV<br>CSA<br>DNV<br>GL<br>LROS (Lloyds register of shipping)<br>RINA<br>UL listed                                     |
| vibration resistance                  | 5 gn (f = 2...500 Hz) conforming to IEC 60068-2-6   |

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shock resistance

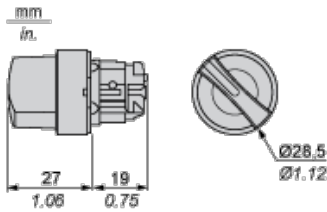
30 gn (duration = 18 ms) for half sine wave acceleration conforming to IEC 60068-2-27  
50 gn (duration = 11 ms) for half sine wave acceleration conforming to IEC 60068-2-27

### Contractual warranty

Warranty period

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<br/>(2) 40 mm min. / 1.57 in. min.<br/>(3) 30 mm min. / 1.18 in. min.<br/>(4) <math>\varnothing</math> 22.5 mm / 0.89 in. recommended (<math>\varnothing</math> 22.3 mm <math>^{+0.4}_0</math> / 0.88 in. <math>^{+0.016}_0</math>)<br/>(5) 45 mm min. / 1.78 in. min.<br/>(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 mm max.

### Installation Precautions

- ┆ Minimum thickness of circuit board: 1.6 mm / 0.06 in.
- ┆ Cut-out diameter: 22.4 mm ± 0.1 / 0.88 in. ± 0.004
- ┆ Orientation of body/fixing collar ZB4 BZ009: ± 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 Ø 2.4 mm ± 0.05 / 0.09 in. ± 0.002 for centring adapter ZBZ 01•
- ┆ 3 8 × Ø 1.2 mm / 0.05 in. holes
- ┆ 4 1 hole Ø 2.9 mm ± 0.05 / 0.11 in. ± 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 Ø 2.4 mm / 0.09 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**



**Electrical Composition Corresponding to Code C15**

1 N/O



1 N/C



1 N/O + N/C or 1 N/O + N/O or 1 N/C + N/C



**Legend**

Single contact



Double contact



Light block



Possible location



**Sequence of Contacts Fitted to 2-position Selector Switch Body**

**Position 315°**



|                 |          |        |   |   |   |
|-----------------|----------|--------|---|---|---|
| <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    |        | 1   | 1      | 1      |
| <b>Contacts</b> | N/O      |        | closed  | closed | closed |
|                 | N/C      |        | open  | open   | open   |