

## ZB5AG9D

selector switch head Ø22 3-position stay put Dom 8D1



### Main

|                               |                              |
|-------------------------------|------------------------------|
| Range of product              | Harmony XB5                  |
| Product or component type     | Head for key selector switch |
| Device short name             | ZB5                          |
| Bezel material                | Plastic                      |
| 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 key switch             |
| Operator position information | 3 positions +/- 45°          |
| Type of keylock               | Dom 8D1                      |
| Key withdrawal position       | Left                         |

### Complementary

|                             |  |
|-----------------------------|--|
| CAD overall width           | 29 mm  |
| CAD overall height          | 29 mm  |
| CAD overall depth           | 72 mm  |
| Product weight              | 0.057 kg   |
| Mechanical durability       | 1000000 cycles   |
| Station name                | XALD 1...5 cut-outs<br>XALK 2...5 cut-outs   |
| Electrical composition code | C11 for 3 contacts using single blocks in front mounting<br>SF1 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>SR1 for 3 contacts using single blocks in rear 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 |
| Customizable                | No   |

### Environment

|                                       |   |
|---------------------------------------|---|
| protective treatment                  | TH  |
| ambient air temperature for storage   | -40...70 °C   |
| ambient air temperature for operation | -40...70 °C   |
| overvoltage category                  | Class II 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  |
| resistance to high pressure washer    | 7000000 Pa at 55 °C, distance: 0.1 m  |
| 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>JIS C 4520<br>UL 508<br>CSA C22.2 No 14 |

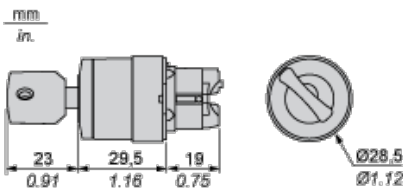
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|                        |  |
|------------------------|--|
| product certifications | BV<br>CSA<br>DNV<br>GL<br>LROS (Lloyds register of shipping)<br>RINA<br>UL listed  |
| vibration resistance   | 5 gn (f = 2...500 Hz) conforming to IEC 60068-2-6  |
| 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

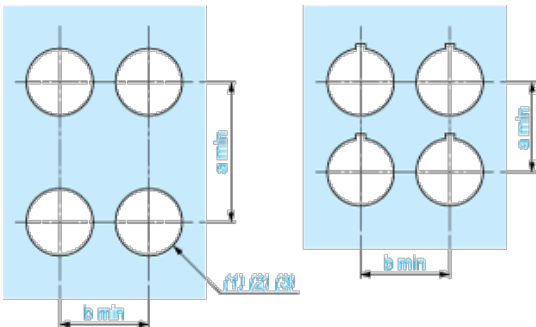
|                 |                     |
|-----------------|---------------------|
| Warranty period | 18 months 18 months |
|-----------------|---------------------|

Dimensions



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

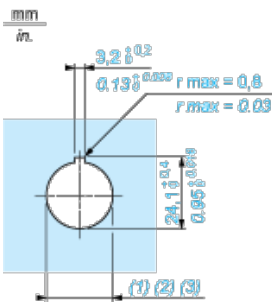
Connection by Screw Clamp Terminals or Plug-in Connectors or on Printed Circuit Board



- (1) Diameter on finished panel or support
- (2) For selector switches and Emergency stop buttons, use of an anti-rotation plate type ZB5AZ902 is recommended.
- (3)  $\varnothing 22.5$  mm recommended ( $\varnothing 22.3^{+0.4}_0$ ) /  $\varnothing 0.89$  in. recommended ( $\varnothing 0.88^{+0.016}_0$ )

| Connections                                   | a in mm | a in in. | b in mm | b in in. |
|---|---------|----------|---------|----------|
| By screw clamp terminals or plug-in connector | 40      | 1.57     | 30      | 1.18     |
| By Faston connectors                          | 45      | 1.77     | 32      | 1.26     |
| On printed circuit board                      | 30      | 1.18     | 30      | 1.18     |

Detail of Lug Recess

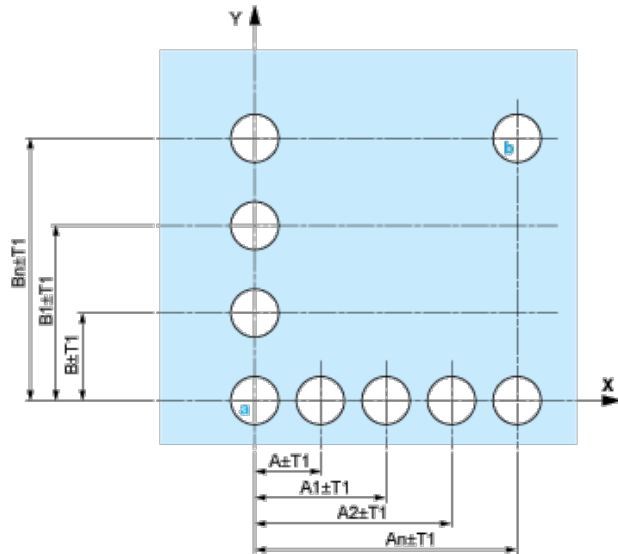


- (1) Diameter on finished panel or support

- (2) For selector switches and Emergency stop buttons, use of an anti-rotation plate type ZB5AZ902 is recommended.
- (3)  $\varnothing 22.5$  mm recommended ( $\varnothing 22.3 \text{ }^{+0.4}_0$ ) /  $\varnothing 0.89$  in. recommended ( $\varnothing 0.88 \text{ in. }^{+0.016}_0$ )

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

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

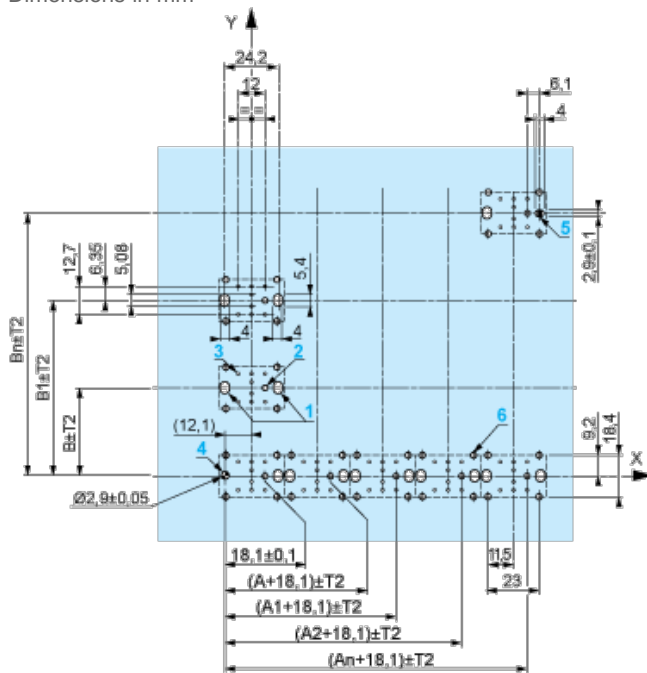


A: 30 mm min. / 1.18 in. min.

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

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

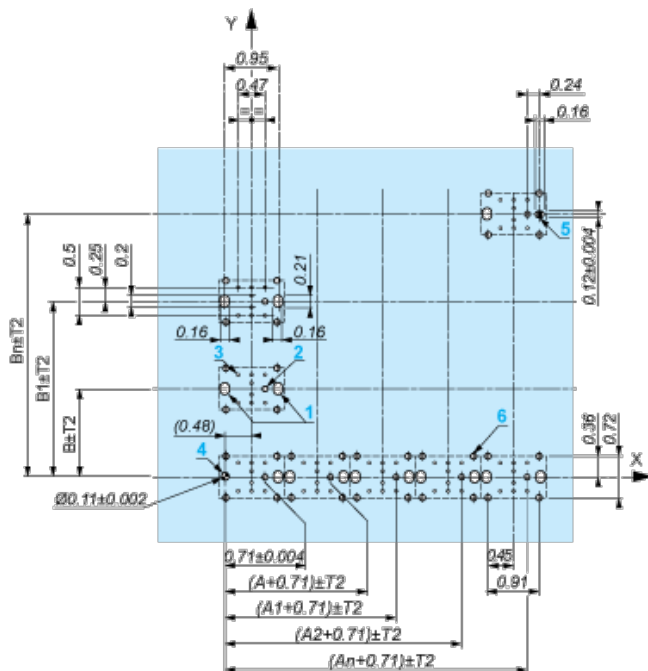
Dimensions in mm



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 ZB5AZ009:  $\pm 2^\circ 30'$  (excluding cut-outs marked **a** and **b**).
- | Tightening torque of screws ZBZ006: 0.6 N.m (5.3 lbf.in) max.
- | Allow for one ZB5AZ079 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 (ZB5AD•, ZB5AJ•, ZB5AG•).

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



- (1) Head ZB5AD•
- (2) Panel
- (2) Nut
- (4) Printed circuit board

### Mounting of Adapter (Socket) ZBZ01•

- | 1 2 elongated holes for ZBZ006 screw access
- | 2 1 hole  $\varnothing 2.4 \text{ mm} \pm 0.05$  / 0.09 in.  $\pm 0.002$  for centring adapter ZBZ01•
- | 3 8  $\times \varnothing 1.2 \text{ mm}$  / 0.05 in. holes
- | 4 1 hole  $\varnothing 2.9 \text{ mm} \pm 0.05$  / 0.11 in.  $\pm 0.002$ , for aligning the printed circuit board (with cut-out marked **a**)

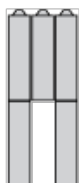
- 5 1 elongated hole for aligning the printed circuit board (with cut-out marked **b**)
- 6 4 holes  $\varnothing$  2.4 mm / 0.09 in. for clipping in adapter ZBZ01•

Dimensions An + 18.1 relate to the  $\varnothing$  2.4 mm  $\pm$  0.05 / 0.09 in.  $\pm$  0.002 holes for centring adapter ZBZ01•.

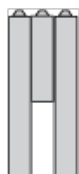
### Electrical Composition Corresponding to Code C4



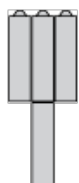
### Electrical Composition Corresponding to Code C5



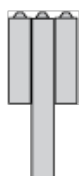
### Electrical Composition Corresponding to Code C6



### Electrical Composition Corresponding to Code C7



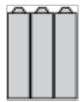
### Electrical Composition Corresponding to Code C8



### Electrical Composition Corresponding to Code C3



### 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°



|          |          |        |        |        |        |
|----------|----------|--------|--------|--------|--------|
| Push     | Position | Top    |        |        |        |
|          |          | Bottom |        |        |        |
|          | Location |        | Left   | Centre | Right  |
|          | State    |        | 1      | 1      | 0      |
| Contacts | 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   |