# *Product datasheet*
## *Characteristics*

# ZB5AJ4

## Main

| | |
|---|---|
| Range of product | Harmony XB5 |
| Product or component type | Head for selector switch |
| Device short name | ZB5 |
| Bezel material | Dark grey plastic |
| Mounting diameter | 0.87 in (22 mm) |
| Head type | Standard |
| Sale per indivisible quantity | 1 |
| Shape of signaling unit head | Round |
| Type of operator | Spring return right to left |
| Operator profile | Black long handle |
| Operator additional information | Non padlockable |
| Operator position information | 2 positions 90° |

## Complementary

| | |
|---|---|
| CAD overall width | 1.14 in (29 mm) |
| CAD overall height | 1.5 in (38 mm) |
| CAD overall depth | 1.81 in (46 mm) |
| Product weight | 0.04 lb(US) (0.02 kg) |
| Mechanical durability | 1000000 cycles |
| Station name | XALD 1...5 cut-outs<br>XALK 2...5 cut-outs |
| Electrical composition code | C15 1 contacts using single blocks in front mounting<br>C15 1 contacts using single blocks in front mounting<br>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 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 6 contacts using single blocks in front mounting |

## Environment

| | |
|---|---|
| protective treatment | TH |
| ambient air temperature for storage | -40...158 °F (-40...70 °C) |
| ambient air temperature for operation | -40...158 °F (-40...70 °C) |
| overvoltage category | Class II conforming to IEC 60536 |
| IP degree of protection | IP67 conforming to IEC 60529<br>IP69K<br>IP69 conforming to IEC 60529 |
| NEMA degree of protection | NEMA 13<br>NEMA 4X |
| resistance to high pressure washer | 1015.26 psi (7000000 Pa) at 131 °F (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 |
| product certifications | BV<br>CSA<br>DNV |

| | |
|---|---|
| | 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) half sine wave acceleration conforming to IEC 60068-2-27<br>50 gn (duration = 11 ms) half sine wave acceleration conforming to IEC 60068-2-27 |

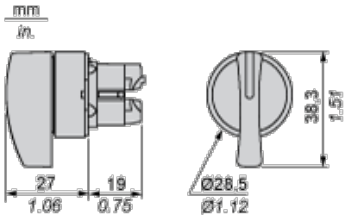
## Offer Sustainability

| | |
|---|---|
| WARNING: This product can expose you to chemicals including: | WARNING: This product can expose you to chemicals including: |
| Nickel compounds, which is known to the State of California to cause cancer, and | Nickel compounds, which is known to the State of California to cause cancer, and |
| Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects or other reproductive harm. | Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects or other reproductive harm. |
| For more information go to www.p65warnings.ca.gov | For more information go to www.p65warnings.ca.gov |

## Contractual warranty

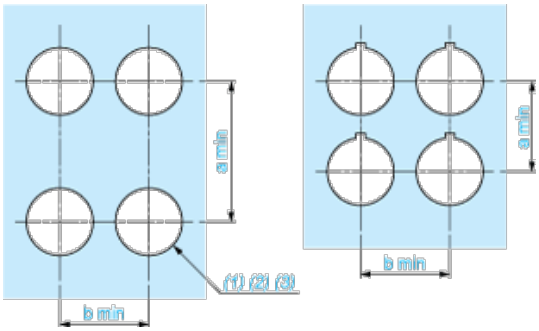
| | |
|---|---|
| Warranty period | 18 months |

## 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



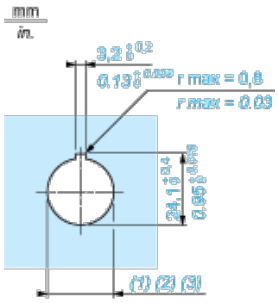

**(1)** Diameter on finished panel or support

**(2)** For selector switches and Emergency stop buttons, use of an anti-rotation plate type ZB5AZ902 is recommended.

**(3)** Ø22.5 mm recommended (Ø22.3 $_{0}^{+0.4}$) / Ø0.89 in. recommended (Ø0.88 in. $_{0}^{+0.016}$)

| 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



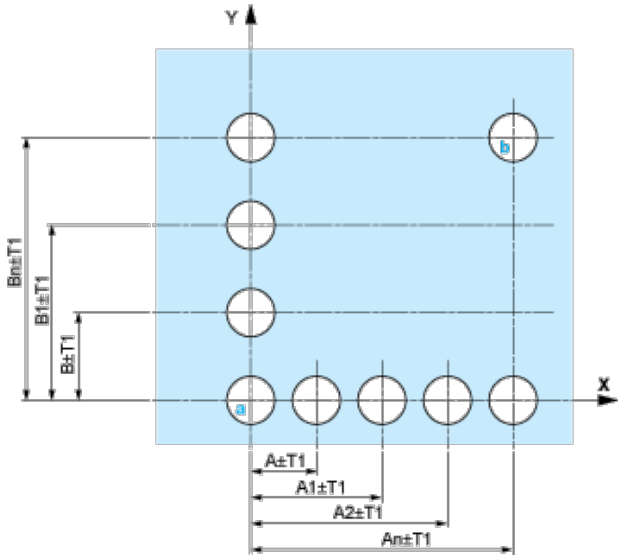

**(1)** Diameter on finished panel or support

**(2)** For selector switches and Emergency stop buttons, use of an anti-rotation plate type ZB5AZ902 is recommended.

**(3)** Ø22.5 mm recommended (Ø22.3 $_{0}^{+0.4}$) / Ø0.89 in. recommended (Ø0.88 in. $_{0}^{+0.016}$)

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

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

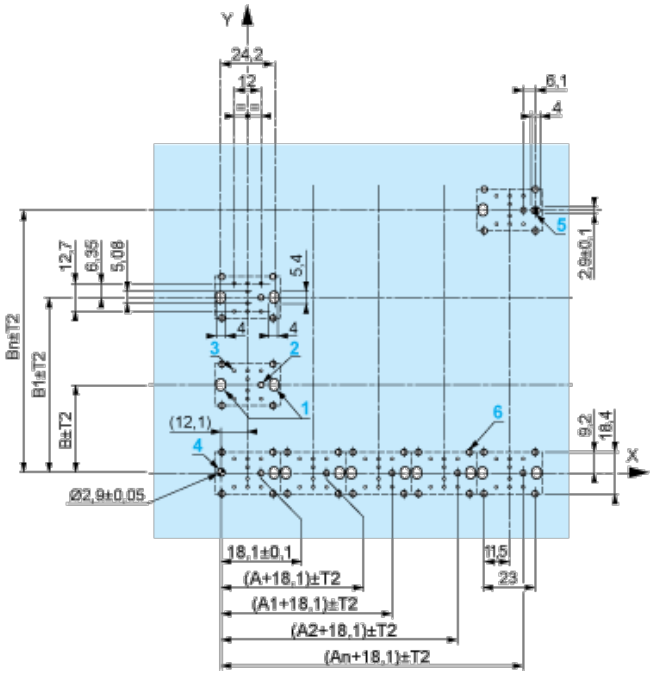



**A:** 30 mm min. / 1.18 in. min.

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

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

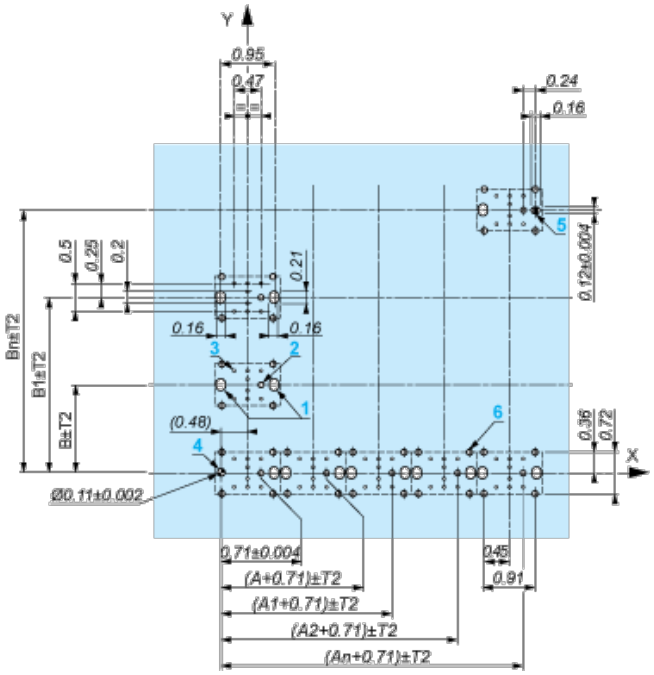
Dimensions in mm




**A:** 30 mm min.

**B:** 40 mm min.

Dimensions in in.




**A:** 1.18 in. min.

**B:** 1.57 in. min.

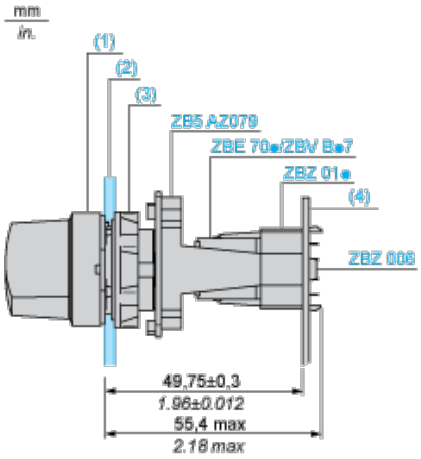
### General Tolerances of the Panel and Printed Circuit Board

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 ZB5AZ009: ± 2°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•

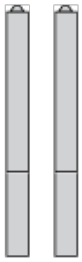
- **1** 2 elongated holes for ZBZ006 screw access
- **2** 1 hole Ø 2.4 mm ± 0.05 / 0.09 in. ± 0.002 for centring adapter ZBZ01•
- **3** 8 × Ø 1.2 mm / 0.05 in. holes
- **4** 1 hole Ø 2.9 mm ± 0.05 / 0.11 in. ± 0.002, for aligning the printed circuit board (with cut-out marked **a**)

- **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 ZBZ01•

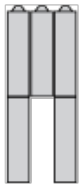
Dimensions An + 18.1 relate to the Ø 2.4 mm ± 0.05 / 0.09 in. ± 0.002 holes for centring adapter ZBZ01•.

## Electrical Composition Corresponding to Code C3

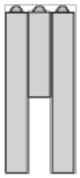
## Electrical Composition Corresponding to Code C4



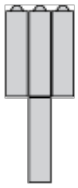
## Electrical Composition Corresponding to Code C5



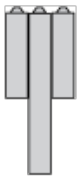
## Electrical Composition Corresponding to Code C6



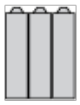
## Electrical Composition Corresponding to Code C7



## Electrical Composition Corresponding to Code C8

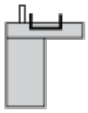


## Electrical Composition Corresponding to Codes C9, C11, SF1 and SR1



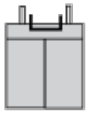
## Electrical Composition Corresponding to Code C15

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°**

315°

| | | | | | |
|---|---|---|---|---|---|
| **Push** | Position | Top | | | |
| | | Bottom | | | |
| | Location | | Left | Centre | Right |
| | State | | 0 | 0 | 0 |
| **Contacts** | N/O | | open | open | open |
| | N/C | | closed | closed | closed |

**Position 45°**


| | | | | | |
|---|---|---|---|---|---|
| **Push** | Position | Top | | | |
| | | Bottom | | | |
| | Location | | Left | Centre | Right |
| | State | | 1 | 1 | 1 |
| **Contacts** | N/O | | closed | closed | closed |
| | N/C | | open | open | open |

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