



## Main

|                               |                                     |
|-------------------------------|-------------------------------------|
| Range of product              | Harmony XALF                        |
| Product or component type     | Head for non-illuminated pushbutton |
| Device short name             | ZB5                                 |
| Bezel material                | Plastic                             |
| Mounting diameter             | 22 mm                               |
| Sale per indivisible quantity | 1                                   |
| Shape of signaling unit head  | Round                               |
| Type of operator              | Spring return                       |
| Operator profile              | Black flush, white phone symbol     |

## Complementary

|                             |                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAD overall width           | 29 mm                                                                                                                                                                                                                                                                                                                                                                                       |
| CAD overall height          | 29 mm                                                                                                                                                                                                                                                                                                                                                                                       |
| CAD overall depth           | 28 mm                                                                                                                                                                                                                                                                                                                                                                                       |
| Product weight              | 0.018 kg                                                                                                                                                                                                                                                                                                                                                                                    |
| Mechanical durability       | 5000000 cycles                                                                                                                                                                                                                                                                                                                                                                              |
| Station name                | XALK 2...5 cut-outs<br>XALD 1...5 cut-outs                                                                                                                                                                                                                                                                                                                                                  |
| Electrical composition code | SR1 for <= 3 contacts using single blocks in rear mounting<br>SF1 for <= 3 contacts using single blocks in front mounting<br>C15 for 1 contacts using single blocks in front mounting<br>C11 for <= 3 contacts using single blocks in front mounting<br>C2 for <= 9 contacts using single and double blocks in front mounting<br>C1 for <= 9 contacts using single blocks in front mounting |

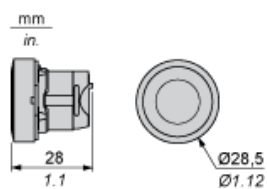
## Environment

|                                            |                                                                                                                                                                                |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protective treatment                       | TH                                                                                                                                                                             |
| Ambient air temperature for storage        | -40...70 °C                                                                                                                                                                    |
| Ambient air temperature for operation      | -25...70 °C                                                                                                                                                                    |
| Class of protection against electric shock | Class II conforming to IEC 61140                                                                                                                                               |
| IP degree of protection                    | IP54 conforming to IEC 60529                                                                                                                                                   |
| IK degree of protection                    | IK03 conforming to IEC 50102                                                                                                                                                   |
| Standards                                  | EN 81-1<br>EN/IEC 60947-1<br>EN/IEC 60947-5-1<br>EN/IEC 60947-5-4                                                                                                              |
| Shock resistance                           | 50 gn (duration = 11 ms) for half sine wave acceleration conforming to IEC 60068-2-27<br>30 gn (duration = 18 ms) for half sine wave acceleration conforming to IEC 60068-2-27 |
| Vibration resistance                       | 5 gn (f = 2...500 Hz) conforming to IEC 60068-2-6                                                                                                                              |

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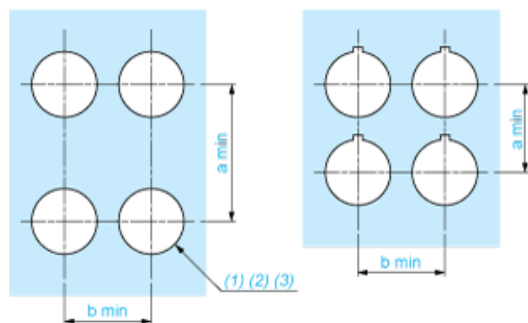
Dimensions

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

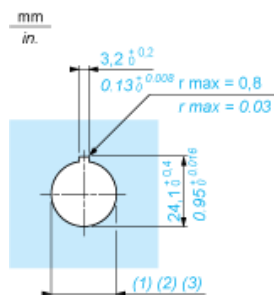
### Connection by Screw Clamp Terminals or Plug-in Connectors or on Printed Circuit Board



- (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 ( $\varnothing 22.3 \text{ }_0^{+0.4}$ ) /  $\varnothing 0.89$  in. recommended ( $\varnothing 0.88 \text{ in. }_0^{+0.016}$ )

| 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     |

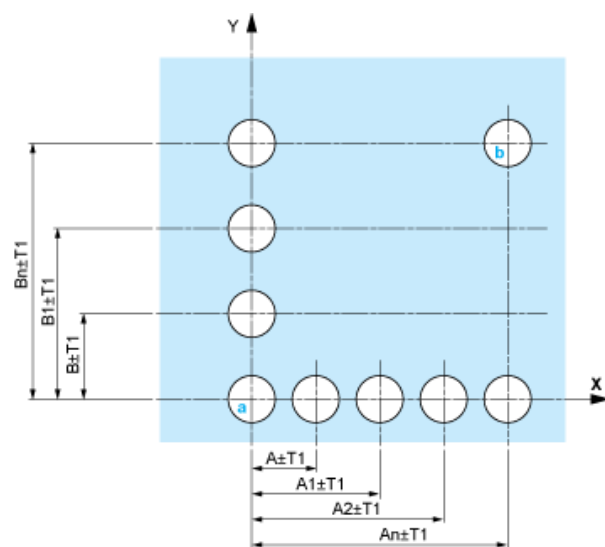
### Detail of Lug Recess



- (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)  $\varnothing 22.5$  mm recommended ( $\varnothing 22.3 \text{ }_0^{+0.4}$ ) /  $\varnothing 0.89$  in. recommended ( $\varnothing 0.88 \text{ in. }_0^{+0.016}$ )

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

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

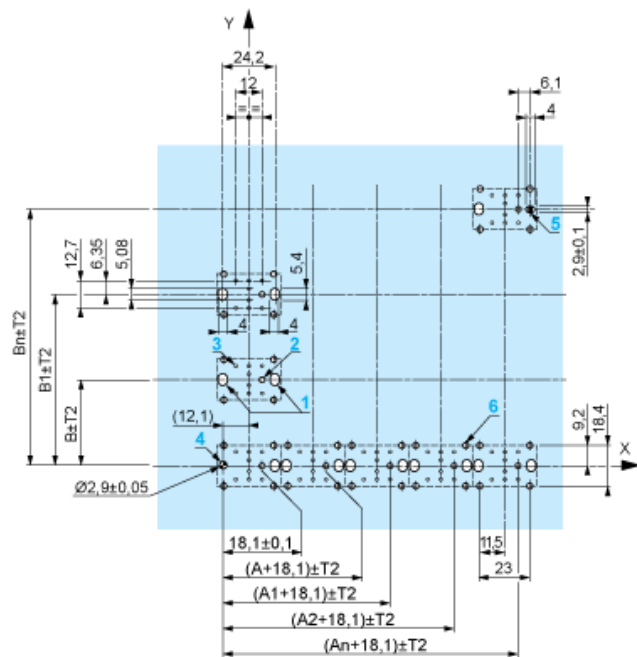


A: 30 mm min. / 1.18 in. min.

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

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

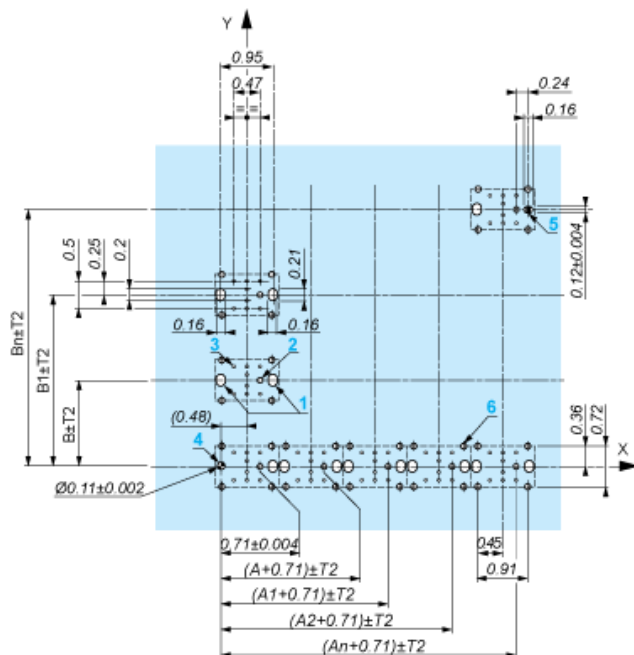
Dimensions in mm



A: 30 mm min.

B: 40 mm min.

Dimensions in in.



A: 1.18 in. min.  
B: 1.57 in. min.

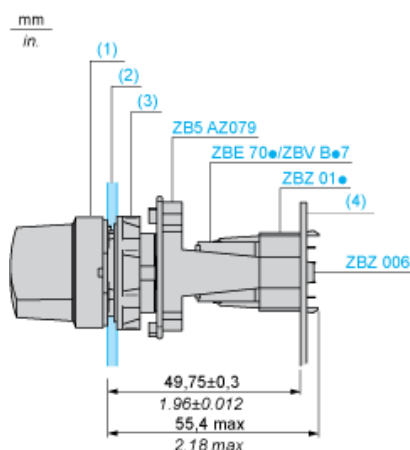
### General Tolerances of the Panel and Printed Circuit Board

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

### Installation Precautions

- Minimum thickness of circuit board: 1.6 mm / 0.06 in.
- Cut-out diameter:  $22.4 \text{ mm} \pm 0.1 / 0.88 \text{ in.} \pm 0.004$
- 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 mm  $\pm$  0.05 / 0.09 in.  $\pm$  0.002 for centring adapter ZBZ01•
- 3 8  $\times$   $\varnothing$  1.2 mm / 0.05 in. holes
- 4 1 hole  $\varnothing$  2.9 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•.

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Electrical Composition Corresponding to Code C1

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Electrical Composition Corresponding to Code C2

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

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Electrical Composition Corresponding to Code C15

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1 N/O



1 N/C



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



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Legend

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Single contact



Double contact



Light block



Possible location

