



⚠ Discontinued

## Main

|                               |                              |
|-------------------------------|------------------------------|
| Range of product              | Harmony XB4                  |
| Product or component type     | Head for key selector switch |
| Device short name             | ZB4                          |
| Bezel material                | Black metal                  |
| Mounting diameter             | 22 mm                        |
| Sale per indivisible quantity | 1                            |
| Shape of signaling unit head  | Round                        |
| Return                        | Left 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       | Right                        |

## Complementary

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAD overall width                  | 29 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CAD overall height                 | 29 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CAD overall depth                  | 72 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Net 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        | C3 for <6 contacts using single 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>C7 for <4 contacts using single blocks in front mounting<br>C8 for <4 contacts using single and double blocks in front mounting<br>C11 for <3 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               | IP66 conforming to IEC 60529<br>IP67<br>IP69<br>IP69K                                                                                                                          |
| NEMA degree of protection             | NEMA 13<br>NEMA 4X                                                                                                                                                             |
| Standards                             | EN/IEC 60947-5-4<br>EN/IEC 60947-5-1<br>GB 14048.5<br>EN/IEC 60947-5-5<br>EN/IEC 60947-1<br>UL 508<br>CSA C22.2 No 14                                                          |
| Product certifications                | UL listed<br>RINA<br>LROS (Lloyds register of shipping)<br>GL<br>DNV<br>CSA<br>BV                                                                                              |
| 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 |

### Packing Units

|                  |          |
|------------------|----------|
| Package 1 Weight | 0.069 kg |
| Package 1 Height | 0.880 dm |
| Package 1 width  | 0.340 dm |
| Package 1 Length | 0.540 dm |

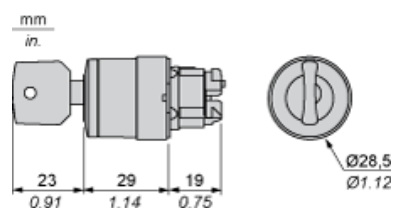
### Contractual warranty

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

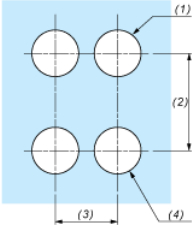
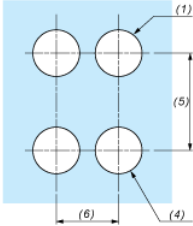
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Dimensions

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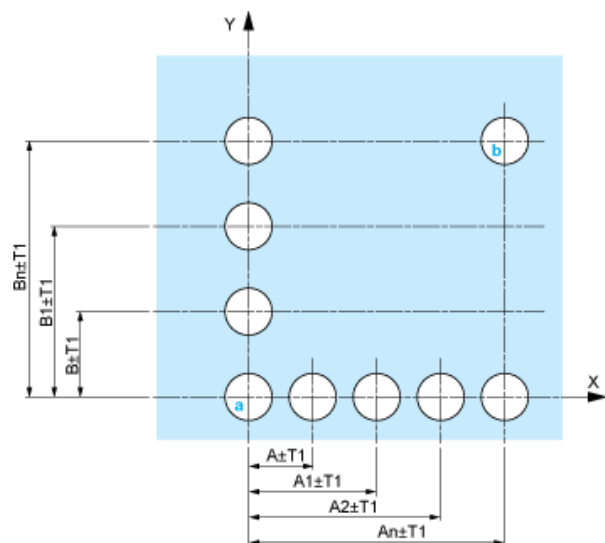


Panel Cut-out for Pushbuttons, Switches and Pilot Lights (Finished Holes, Ready for Installation)

| Connection by Screw Clamp Terminals or Plug-in Connectors or on Printed Circuit Board                                                                                                                                                                                                                                                                                                                                           | Connection by Faston Connectors                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                |  |
| <div><div>(1)</div><div>Diameter on finished panel or support</div><div>(2)</div><div>40 mm min. / 1.57 in. min.</div><div>(3)</div><div>30 mm min. / 1.18 in. min.</div><div>(4)</div><div>Ø 22.5 mm / 0.89 in. recommended (Ø 22.3 mm <sub>0</sub><sup>+0.4</sup> / 0.88 in. <sub>0</sub><sup>+0.016</sup>)</div><div>(5)</div><div>45 mm min. / 1.78 in. min.</div><div>(6)</div><div>32 mm min. / 1.26 in. min.</div></div> |                                                                                   |

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

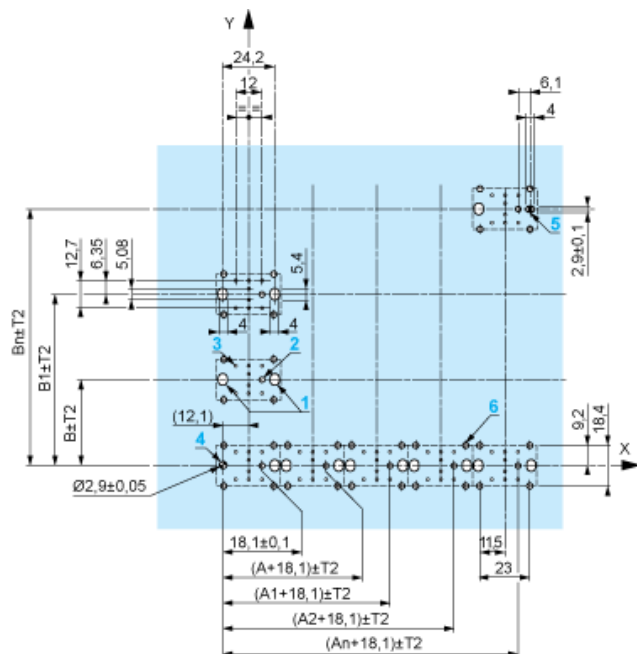
### Panel Cut-outs (Viewed from Installer's Side)



- A: 30 mm min. / 1.18 in. min.  
B: 40 mm min. / 1.57 in. min.

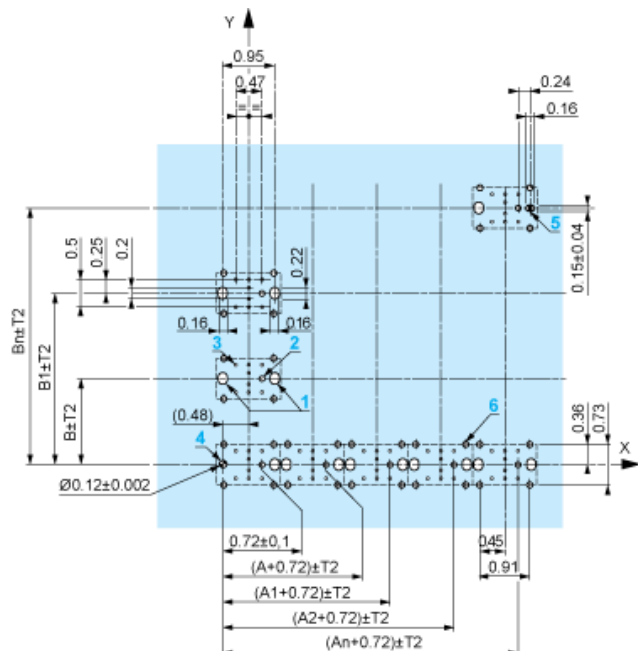
### Printed Circuit Board Cut-outs (Viewed from Electrical Block Side)

Dimensions in mm



- A: 30 mm min.  
B: 40 mm min.

Dimensions in in.



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

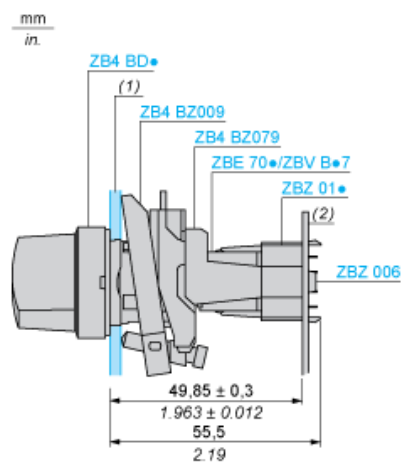
## General Tolerances of the Panel and Printed Circuit Board

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 ZB4 BZ009:  $\pm 2^\circ 30'$  (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.



(1) Panel  
(2) Printed circuit board

### Mounting of Adapter (Socket) ZBZ 01•

- 1 2 elongated holes for ZBZ 006 screw access
- 2 1 hole  $\varnothing$  2.4 mm  $\pm$  0.05 / 0.09 in.  $\pm$  0.002 for centring adapter ZBZ 01•
- 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 ZBZ 01•

Dimensions An + 18.1 relate to the  $\varnothing$  2.4 mm  $\pm$  0.05 / 0.09 in.  $\pm$  0.002 holes for centring adapter ZBZ 01•.

Electrical Composition Corresponding to Code C3



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Electrical Composition Corresponding to Code C4

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Electrical Composition Corresponding to Code C5



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Electrical Composition Corresponding to Code C6

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Electrical Composition Corresponding to Code C7

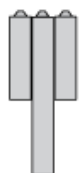
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Electrical Composition Corresponding to Code C8

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



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Legend

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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°



|          |          |        |                                                                                      |                                                                                       |                                                                                       |
|----------|----------|--------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 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    |        | 0                                                                                   | 1                                                                                     | 1      |
| Contacts | N/O      |        | open                                                                                | closed                                                                                | closed |
|          | N/C      |        | closed                                                                              | open                                                                                  | open   |

ZB4BG1127 is replaced by the following product range:



## Harmony XB4

Ø 22 mm modular metal pushbuttons, switches, and pilot lights

The modular range of Ø 22 mm metal control and signaling units combines simplicity of installation, efficiency, modern design, flexibility, and robustness, high level of customization to meet most industrial applications

Reason for Substitution: End of life | Substitution date: 20 November 2020