



## Main

|                               |                               |
|-------------------------------|-------------------------------|
| Range of product              | Harmony XB5                   |
| Product or component type     | Head for key selector switch  |
| Device short name             | ZB5                           |
| Bezel material                | Plastic colour plated white   |
| Mounting diameter             | 0.87 in (22 mm)               |
| Head type                     | Standard                      |
| Sale per indivisible quantity | 1                             |
| Shape of signaling unit head  | Round                         |
| Type of operator              | Right to centre spring return |
| Operator profile              | Black key switch              |
| Operator position information | 3 positions +/- 45°           |
| Type of keylock               | Ronis 455                     |
| Key withdrawal position       | Left                          |

## Complementary

|                             |                                                                                                                                                                                                                                                                                                               |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAD overall width           | 1.14 in (29 mm)                                                                                                                                                                                                                                                                                               |
| CAD overall height          | 1.14 in (29 mm)                                                                                                                                                                                                                                                                                               |
| CAD overall depth           | 2.83 in (72 mm)                                                                                                                                                                                                                                                                                               |
| Net Weight                  | 0.13 lb(US) (0.057 kg)                                                                                                                                                                                                                                                                                        |
| Mechanical durability       | 1000000 cycles                                                                                                                                                                                                                                                                                                |
| Station name                | XALD 1...5 cut-outs<br>XALK 2...5 cut-outs                                                                                                                                                                                                                                                                    |
| Electrical composition code | C4 6 single and double front mounting<br>C5 5 single front mounting<br>C6 5 single and double front mounting<br>C7 4 single front mounting<br>C8 4 single and double front mounting<br>C11 3 single front mounting<br>C3 6 single front mounting<br>SF1 3 single front mounting<br>SR1 3 single rear mounting |
| Device presentation         | Basic element                                                                                                                                                                                                                                                                                                 |

## 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 IEC 60536                            |
| IP degree of protection               | IP66 IEC 60529<br>IP67                        |
| NEMA degree of protection             | NEMA 13<br>NEMA 4X                            |
| Resistance to high pressure washer    | 1015.26 psi (7000000 Pa) 131 °F (55 °C) 0.1 m |
| IK degree of protection               | IK06 IEC 50102                                |

|                        |                                                                                                                     |
|------------------------|---------------------------------------------------------------------------------------------------------------------|
| Standards              | CSA C22.2 No 14<br>EN/IEC 60947-5-1<br>EN/IEC 60947-5-4<br>EN/IEC 60947-1<br>JIS C8201-5-1<br>UL 508<br>JIS C8201-1 |
| Product certifications | RINA<br>UL Listed<br>DNV<br>GL<br>LROS (Lloyds register of shipping)<br>BV<br>CSA                                   |
| Vibration resistance   | 5 gn 2...500 Hz)IEC 60068-2-6                                                                                       |
| Shock resistance       | 30 gn 18 ms) half sine wave acceleration IEC 60068-2-27<br>50 gn 11 ms) half sine wave acceleration IEC 60068-2-27  |

## Ordering and shipping details

|                     |                    |
|---------------------|--------------------|
| Package weight(Lbs) | 2.36 oz (67.000 g) |
|---------------------|--------------------|

## Packing Units

|                  |                    |
|------------------|--------------------|
| Package 1 Height | 3.39 in (8.600 cm) |
| Package 1 width  | 1.30 in (3.300 cm) |
| Package 1 Length | 2.05 in (5.200 cm) |

## Offer Sustainability

|                            |                                                                                                                                                                                    |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope)  <a href="#">EU RoHS Declaration</a> |
| Mercury free               | Yes                                                                                                                                                                                |
| RoHS exemption information |  <a href="#">Yes</a>                                                                            |
| China RoHS Regulation      |  <a href="#">China RoHS Declaration</a>                                                         |

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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 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 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 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 Code C3

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## 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°



|          |                                                                                   |                                                                                   |                                                                                    |        |      |
|----------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------|------|
| 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   |        |