

## ZB5AG05

Key switch selector head, Harmony XB5, plastic, black, 22mm, key 455, 3 positions, spring return from right to center, withdrawal left and center



### Main

|                               |                               |
|-------------------------------|-------------------------------|
| Range of product              | Harmony XB5                   |
| Product or component type     | Head for key selector switch  |
| Device short name             | ZB5                           |
| Bezel material                | Dark grey plastic             |
| Mounting diameter             | 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               | Key 455                       |
| Key withdrawal position       | Left and center               |

### Complementary

|                             |   |
|-----------------------------|---|
| CAD overall width           | 29 mm   |
| CAD overall height          | 29 mm   |
| CAD overall depth           | 72 mm   |
| Mechanical durability       | 1000000 cycles  |
| Station name                | XALD 1...5 cut-outs<br>XALK 2...5 cut-outs  |
| Electrical composition code | 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<br>C3 for <6 contacts using single blocks in front mounting<br>SF1 for <3 contacts using single blocks in front mounting<br>SR1 for <3 contacts using single blocks in rear 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 II 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                                    |
| Resistance to high pressure washer    | 7000000 Pa at 55 °C, distance : 0.1 m                 |

|                         |  |
|-------------------------|--|
| IK degree of protection | IK06 conforming to IEC 50102   |
| Standards               | UL 508<br>CSA C22.2 No 14<br>EN/IEC 60947-1<br>EN/IEC 60947-5-1<br>JIS C8201-5-1<br>EN/IEC 60947-5-4<br>JIS C8201-1  |
| Product certifications  | BV[RETURN]GL[RETURN]CSA[RETURN]LR0S (Lloyds register of shipping)[RETURN]UL listed[RETURN]DNV  |
| 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

|                              |        |
|------------------------------|--------|
| Unit Type of Package 1       | PCE    |
| Number of Units in Package 1 | 1      |
| Package 1 Height             | 8.8 cm |
| Package 1 Width              | 3.4 cm |
| Package 1 Length             | 5.4 cm |
| Package 1 Weight             | 50.0 g |

### Offer Sustainability

|                            |   |
|----------------------------|---|
| Sustainable offer status   | Green Premium product   |
| REACH Regulation           |  <a href="#">REACH Declaration</a>   |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope)  |
| Mercury free               | Yes   |
| China RoHS Regulation      |  <a href="#">China RoHS Declaration</a>  |
| RoHS exemption information |  <a href="#">Yes</a>   |
| Environmental Disclosure   |  <a href="#">Product Environmental Profile</a>   |
| Circularity Profile        |  <a href="#">End Of Life Information</a>   |
| California proposition 65  | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |

### Contractual warranty

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



(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  $\varnothing 2.4 \text{ mm} \pm 0.05 / 0.09 \text{ in.} \pm 0.002$  for centring adapter ZBZ01•
- 3  $8 \times \varnothing 1.2 \text{ mm} / 0.05 \text{ in.}$  holes
- 4 1 hole  $\varnothing 2.9 \text{ mm} \pm 0.05 / 0.11 \text{ in.} \pm 0.002$ , 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  $\varnothing 2.4 \text{ mm} / 0.09 \text{ in.}$  for clipping in adapter ZBZ01•

Dimensions An + 18.1 relate to the  $\varnothing 2.4 \text{ mm} \pm 0.05 / 0.09 \text{ in.} \pm 0.002$  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

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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   |        |