# ZB5AK1213

# white illuminated selector switch head Ø22 2-position stay put



#### Main

Commercial Status	Commercialised
Range of product	Harmony XB5
Product or component type	Head for illuminated selector switch
Product compatibility	Integral LED
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	Stay put
Operator profile	White standard handle
Operator position information	2 positions 90°

#### Complementary

CAD overall width	29 mm
CAD overall height	29 mm
CAD overall depth	43 mm
Product weight	0.016 kg
Mechanical durability	500000 cycles
Station name	XALK 25 cut-outs XALD 15 cut-outs
Electrical composition code	M4 for <= 4 contacts using single and double blocks in front mounting with integral LED  MR1 for <= 2 contacts using single blocks in rear mounting with integral LED  MF1 for <= 2 contacts using single blocks in front mounting with integral LED  M10 for <= 2 contacts using single blocks in front mounting with integral LED  M6 for <= 2 contacts using single blocks in front mounting with integral LED and transformer  M3 for <= 4 contacts using single blocks in front mounting with integral LED

#### Environment

Protective treatment	TH
Ambient air temperature for storage	-4070 °C
Ambient air temperature for operation	-2570 °C
Class of protection against electric shock	Class II conforming to IEC 60536
IP degree of protection	IP69K conforming to IEC 60529
NEMA degree of protection	NEMA 4X NEMA 13
Resistance to high pressure washer	7000000 Pa at 55 °C,distance: 0.1 m
IK degree of protection	IK06 conforming to IEC 50102
Standards	EN/IEC 60947-1 EN/IEC 60947-5-1 EN/IEC 60947-5-4 EN/IEC 60947-5-5 JIS C 4520 UL 508 CSA C22.2 No 14

Product certifications	BV
	CSA
	DNV
	GL
	LROS (Lloyds register of shipping)
	RINA
	UL listed
Vibration resistance	5 gn (f = 2500 Hz) conforming to IEC 60068-2-6
Shock resistance	50 gn for 11 ms half sine wave acceleration conforming to IEC 60068-2-27 30 gn for 18 ms half sine wave acceleration conforming to IEC 60068-2-27

# Product data sheet Dimensions Drawings

# ZB5AK1213

#### **Dimensions**

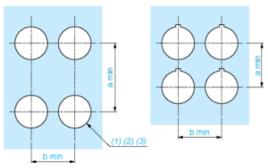




## ZB5AK1213

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

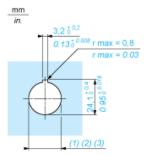
#### Connection by Screw Clamp Terminals or Plug-in Connectors or on Printed Circuit Board



- Diameter on finished panel or support
- For selector switches and Emergency stop buttons, use of an anti-rotation plate type ZB5AZ902 is recommended.  $\emptyset$ 22.5 mm recommended ( $\emptyset$ 22.3  $_0$   $^{+0.4}$ ) /  $\emptyset$ 0.89 in. recommended ( $\emptyset$ 0.88 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

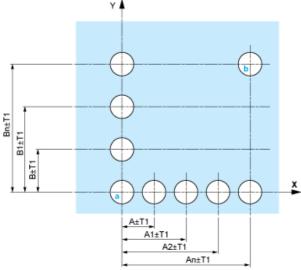
#### **Detail of Lug Recess**



- (1) Diameter on finished panel or support
- For selector switches and Emergency stop buttons, use of an anti-rotation plate type ZB5AZ902 is recommended.
- Ø22.5 mm recommended (Ø22.3  $_0$  <sup>+0.4</sup>) / Ø0.89 in. recommended (Ø0.88 in.  $_0$  <sup>+0.016</sup>)

Pushbuttons, Switches and Pilot Lights for Printed Circuit Board Connection

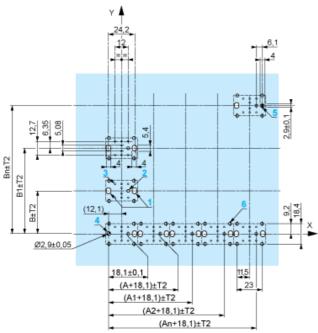
#### Panel Cut-outs (Viewed from Installer's Side)



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

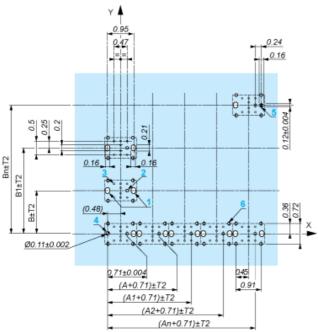
#### Printed Circuit Board Cut-outs (Viewed from Electrical Block Side)

Dimensions in mm



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

#### Dimensions in in.



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

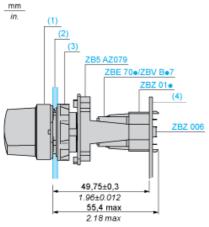
#### General Tolerances of the Panel and Printed Circuit Board

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:
  - $\circ~$  every 90 mm / 3.54 in. horizontally (X), and 120 mm / 4.72 in. vertically (Y).
  - o 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

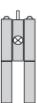
#### Mounting of Adapter (Socket) ZBZ01•

- 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 $\pm$ 0.05 / 0.09 in. $\pm$ 0.002 holes for centring adapter ZBZ01•.					

# ZB5AK1213

Electrical Composition Corresponding to Code M3



Electrical Composition Corresponding to Code M4



Electrical Composition Corresponding to Codes M6 and P2



Electrical Composition Corresponding to Codes M5, M10, MF1, MR1 and MF2



Legend

Single contact



Double contact

Light block



Possible location



# Sequence of Contacts Fitted to 2-position Selector Switch Body

### Position 315°



Push	Position	Тор		$\otimes$	
Bottom					
Location		Left	Right		
State		0	0		
Contacts	N/O		open	open	
N/C		closed	closed		

### Position 45°



Push	Position	Тор		$\otimes$	
Bottom					
Location		Left	Right		
State		1	1		
Contacts	N/O	-	closed	closed	

N/C open open