# **ZB5AG0820**



#### Main

Range of product	Harmony XB5
Product or component type	Head for key selector switch
Device short name	ZB5
Bezel material	Plastic
Mounting diameter	0.87 in (22 mm)
Head type	Standard
Sale per indivisible quantity	1
Shape of signaling unit head	Round
Type of operator	Spring return right to centre
Operator profile	Black key switch
Operator position information	3 positions +/- 45°
Type of keylock	Ronis 3131A
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)				
Product weight	0.13 lb(US) (0.057 kg)				
Mechanical durability	1000000 cycles				
Station name	XALD 15 cut-outs XALK 25 cut-outs				
Electrical composition code	C11 for 3 contacts using single blocks in front mounting SF1 for 3 contacts using single blocks in front mounting C7 for 4 contacts using single blocks in front mounting C8 for 4 contacts using single and double blocks in front mounting SR1 for 3 contacts using single blocks in rear mounting C4 6 contacts using single and double blocks in front mounting C5 for 5 contacts using single blocks in front mounting C6 for 5 contacts using single and double blocks in front mounting C3 6 contacts using single blocks in front mounting				
Customizable	No				

### **Environment**

protective treatment	TH	
ambient air temperature for storage	-40158 °F (-4070 °C)	
ambient air temperature for operation	-40158 °F (-4070 °C)	
overvoltage category	Class II conforming to IEC 60536	
IP degree of protection	IP67 IP66 conforming to IEC 60529 IP69K IP69	
NEMA degree of protection	NEMA 13 NEMA 4X	
resistance to high pressure washer	1015.26 psi (7000000 Pa) at 131 °F (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 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	30 gn (duration = 18 ms) half sine wave acceleration conforming to IEC 60068-2-27 50 gn (duration = 11 ms) half sine wave acceleration conforming to IEC 60068-2-27

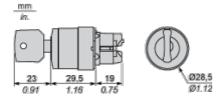
### **Offer Sustainability**

WARNING: This product can expose you to chemicals including:	WARNING: This product can expose you to chemicals including:				
Nickel compounds, which is known to the State of California to cause cancer, and	Nickel compounds, which is known to the State of California to cause cancer, and				
Di-isodecyl phthalate (DIDP), which is known to the StateDi-isodecyl phthalate (DIDP), which is known to the State of California to cause birth of California to cause birth defects or other reproductive defects or other reproductive harm.					
For more information go to www.p65warnings.ca.gov	For more information go to www.p65warnings.ca.gov				

### Contractual warranty

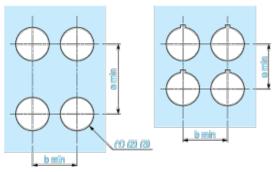
Warranty period	18 months
-----------------	-----------

### **Dimensions**



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

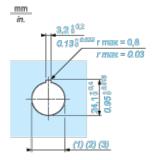
Connection by Screw Clamp Terminals or Plug-in Connectors or on Printed Circuit Board



- (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) Ø22.5 mm recommended (Ø22.3  $_{0}^{+0.4}$ ) / Ø0.89 in. recommended (Ø0.88 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

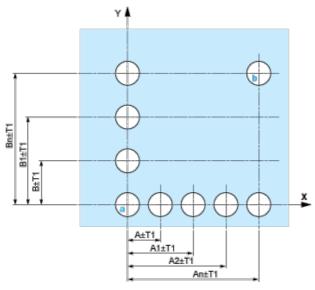
#### **Detail of Lug Recess**



- (1) Diameter on finished panel or support
- (2) For selector switches and Emergency stop buttons, use of an anti-rotation plate type ZB5AZ902 is recommended.
- (3) Ø22.5 mm recommended (Ø22.3  $_{0}^{+0.4}$ ) / Ø0.89 in. recommended (Ø0.88 in.  $_{0}^{+0.016}$ )

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

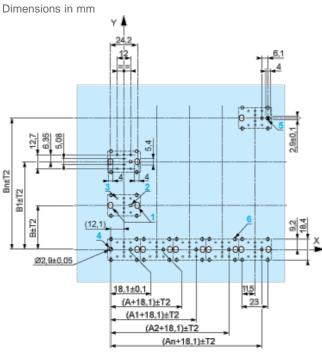
# Panel Cut-outs (Viewed from Installer's Side)



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

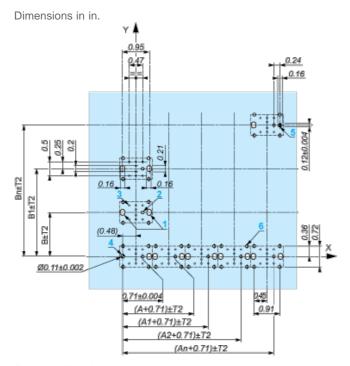
**B:** 40 mm min. / 1.57 in. min.

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



**A:** 30 mm min.

**B**: 40 mm min.



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

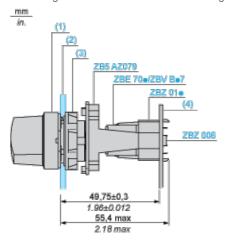
#### **General Tolerances of the Panel and Printed Circuit Board**

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:
  - 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
- 1 2 1 hole Ø 2.4 mm  $\pm$  0.05 / 0.09 in.  $\pm$  0.002 for centring adapter ZBZ01 •
- $13.8 \times \emptyset 1.2 \text{ mm} / 0.05 \text{ in. holes}$
- 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 ± 0.05 / 0.09 in. ± 0.002 holes for centring adapter ZBZ01•.





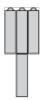
# **Electrical Composition Corresponding to Code C5**



## **Electrical Composition Corresponding to Code C6**



# **Electrical Composition Corresponding to Code C7**



# **Electrical Composition Corresponding to Code C8**



# **Electrical Composition Corresponding to Code C3**



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



# Legend

Single contact



Double contact



Light block



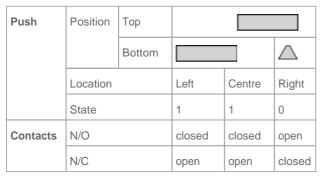
Possible location



# **Sequence of Contacts Fitted to 3-position Selector Switch Body**

# Position 315°





### Position 0°



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

### Position 45°



Push	Position	Тор			
		Bottom	$\triangle$		
	Location		Left	Centre	Right
	State		0	1	1
Contacts	N/O		open	closed	closed
	N/C		closed	open	open