## ZB5AJ7

# black selector switch head Ø22 3-position spring return





#### Main

Range of product	Harmony XB5
Product or component type	Head for selector switch
Device short name	ZB5
Bezel material	Dark grey 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	Left to centre spring return
Operator profile	Black long handle
Operator additional information	Non padlockable
Operator position information	3 positions +/- 45°

#### Complementary

C6 5 single and double front mounting C7 4 single front mounting C8 4 single and double front mounting C11 3 single front mounting SF1 3 single front mounting SR1 3 single rear mounting		
C7 4 single front mounting		
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C6.5 single and double front mounting		
C5 5 single front mounting		
C4 6 single and double front mounting		
C3 6 single front mounting		
XALK 25 cut-outs		
XALD 15 cut-outs		
1000000 cycles		
0.04 lb(US) (0.017 kg)		
1.81 in (46 mm)		
1.50 in (38 mm)		
1.14 in (29 mm)		

#### 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 IEC 60536	
IP degree of protection	IP67 IEC 60529 IP69 IEC 60529 IP69K	
NEMA degree of protection	NEMA 13 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	

	EN/IEC 60947-1 EN/IEC 60947-5-4				
	JIS C8201-5-1 CSA C22.2 No 14				
	EN/IEC 60947-5-1				
	UL 508				
	JIS C8201-1				
Product certifications	RINA CSA				
	UL Listed				
	DNV				
	LROS (Lloyds register of shipping)				
	BV GL				
Vibration resistance	5 gn (f= 2500 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				
	50 gn (duration = 11 ms) for half sine wave acceleration conforming to IEC 60068-2-27				
Ordering and shipping details	22467 DUCUDUTTONG 22MM/DLACTICVAICA				
Category  Discount Schedule	22467 - PUSHBUTTONS,22MM(PLASTIC) NEW				
GTIN Schedule	CS2				
	03389110906042				
	4				
Nbr. of units in pkg.	1				
Nbr. of units in pkg. Package weight(Lbs)	1 lb(US) (0.45 kg)				
Nbr. of units in pkg.	· · · · · · · · · · · · · · · · · · ·				
Nbr. of units in pkg. Package weight(Lbs) Returnability Country of origin	1 lb(US) (0.45 kg) Yes				
Nbr. of units in pkg.  Package weight(Lbs)  Returnability  Country of origin  Packing Units	1 lb(US) (0.45 kg) Yes FR				
Nbr. of units in pkg. Package weight(Lbs) Returnability Country of origin  Packing Units Package 1 Height	1 lb(US) (0.45 kg) Yes FR  0.560 dm				
Nbr. of units in pkg. Package weight(Lbs) Returnability Country of origin  Packing Units Package 1 Height Package 1 width	1 lb(US) (0.45 kg) Yes FR  0.560 dm 0.340 dm				
Nbr. of units in pkg. Package weight(Lbs) Returnability Country of origin  Packing Units Package 1 Height	1 lb(US) (0.45 kg) Yes FR  0.560 dm				
Nbr. of units in pkg. Package weight(Lbs) Returnability Country of origin  Packing Units Package 1 Height Package 1 width	1 lb(US) (0.45 kg) Yes FR  0.560 dm 0.340 dm				
Nbr. of units in pkg. Package weight(Lbs) Returnability Country of origin  Packing Units Package 1 Height Package 1 width Package 1 Length	1 lb(US) (0.45 kg) Yes FR  0.560 dm 0.340 dm				
Nbr. of units in pkg. Package weight(Lbs) Returnability Country of origin  Packing Units Package 1 Height Package 1 width Package 1 Length  Offer Sustainability	1 lb(US) (0.45 kg) Yes FR  0.560 dm 0.340 dm 0.540 dm				
Nbr. of units in pkg.  Package weight(Lbs)  Returnability  Country of origin  Packing Units  Package 1 Height  Package 1 width  Package 1 Length  Offer Sustainability  Sustainable offer status  California proposition 65	1 lb(US) (0.45 kg)  Yes  FR  0.560 dm 0.340 dm 0.540 dm  Green Premium product  WARNING: This product can expose you to chemicals including: Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects				
Nbr. of units in pkg. Package weight(Lbs) Returnability Country of origin  Packing Units Package 1 Height Package 1 width Package 1 Length  Offer Sustainability Sustainable offer status	1 lb(US) (0.45 kg)  Yes  FR  0.560 dm  0.340 dm  0.540 dm  O.540 dm  Green Premium product  WARNING: This product can expose you to chemicals including: Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.go				
Nbr. of units in pkg. Package weight(Lbs) Returnability Country of origin  Packing Units Package 1 Height Package 1 width Package 1 Length  Offer Sustainability Sustainable offer status California proposition 65  REACh Regulation	1 lb(US) (0.45 kg)  Yes  FR  0.560 dm  0.340 dm  0.540 dm  Green Premium product  WARNING: This product can expose you to chemicals including: Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.go				
Nbr. of units in pkg. Package weight(Lbs) Returnability Country of origin  Packing Units Package 1 Height Package 1 width Package 1 Length  Offer Sustainability Sustainable offer status California proposition 65  REACh Regulation REACh free of SVHC EU RoHS Directive	1 lb(US) (0.45 kg)  Yes  FR  0.560 dm  0.340 dm  0.540 dm  Green Premium product  WARNING: This product can expose you to chemicals including: Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.go  REACh Declaration  Yes  Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS				
Nbr. of units in pkg. Package weight(Lbs) Returnability Country of origin  Packing Units Package 1 Height Package 1 width Package 1 Length  Offer Sustainability Sustainable offer status California proposition 65  REACh Regulation REACh free of SVHC EU RoHS Directive  Toxic heavy metal free	1 lb(US) (0.45 kg)  Yes  FR  0.560 dm  0.340 dm  0.540 dm  Green Premium product  WARNING: This product can expose you to chemicals including: Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.go  REACh Declaration  Yes  Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration				
Nbr. of units in pkg. Package weight(Lbs) Returnability Country of origin  Packing Units Package 1 Height Package 1 width Package 1 Length  Offer Sustainability Sustainable offer status California proposition 65  REACh Regulation REACh free of SVHC	1 lb(US) (0.45 kg)  Yes  FR  0.560 dm  0.340 dm  0.540 dm  Green Premium product  WARNING: This product can expose you to chemicals including: Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.go  □ REACh Declaration  Yes  Pro-active compliance (Product out of EU RoHS legal scope) □ ROHS Declaration  Yes				
Nbr. of units in pkg. Package weight(Lbs) Returnability Country of origin  Packing Units Package 1 Height Package 1 width Package 1 Length  Offer Sustainability Sustainable offer status California proposition 65  REACh Regulation REACh free of SVHC EU RoHS Directive  Toxic heavy metal free Mercury free RoHS exemption information	1 lb(US) (0.45 kg)  Yes  FR  0.560 dm  0.340 dm  0.540 dm  Green Premium product  WARNING: This product can expose you to chemicals including: Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.go  ☑ REACh Declaration  Yes  Pro-active compliance (Product out of EU RoHS legal scope) ☑ EU RoHS Declaration  Yes  Yes				
Nbr. of units in pkg. Package weight(Lbs) Returnability Country of origin  Packing Units Package 1 Height Package 1 width Package 1 Length  Offer Sustainability Sustainable offer status California proposition 65  REACh Regulation REACh free of SVHC EU RoHS Directive  Toxic heavy metal free Mercury free	1 lb(US) (0.45 kg)  Yes  FR  0.560 dm 0.340 dm 0.540 dm  O.540 dm  Green Premium product  WARNING: This product can expose you to chemicals including: Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.go  FREACh Declaration  Yes  Pro-active compliance (Product out of EU RoHS legal scope)  Pro-active compliance (Product out of EU RoHS legal scope)  Yes  Yes				

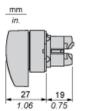
18 months

Warranty

# Product data sheet Dimensions Drawings

## ZB5AJ7

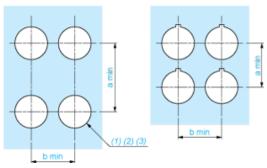
#### **Dimensions**





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

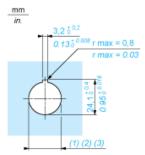
#### Connection by Screw Clamp Terminals or Plug-in Connectors or on Printed Circuit Board



- 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

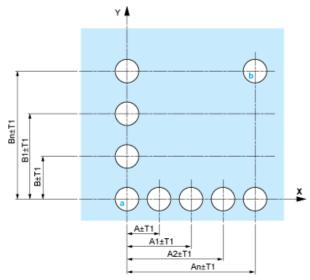
#### **Detail of Lug Recess**



- (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

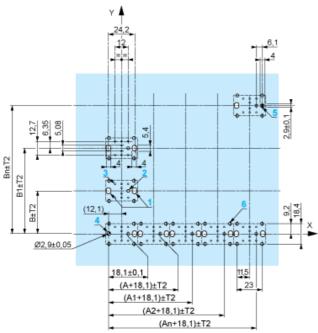
#### Panel Cut-outs (Viewed from Installer's Side)



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

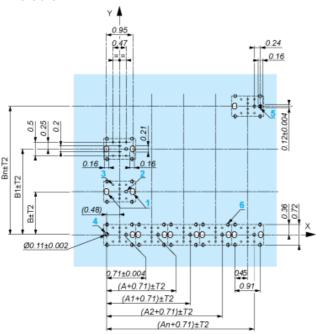
#### Printed Circuit Board Cut-outs (Viewed from Electrical Block Side)

#### Dimensions in mm



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

#### Dimensions in in.



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

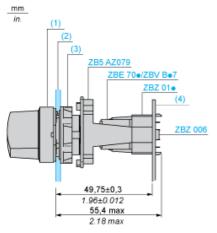
#### General Tolerances of the Panel and Printed Circuit Board

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:
  - o 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  $\pm$  0.05 / 0.09 in.  $\pm$  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•.

## ZB5AJ7

Electrical Composition Corresponding to Code C3
Electrical Composition Corresponding to Code C4
Electrical Composition Corresponding to Code C5
Electrical Composition Corresponding to Code C6
Electrical Composition Corresponding to Code C7



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



#### Electrical Composition Corresponding to Code C15

1 N/O



1 N/C



1 N/O + N/C or 1 N/O + N/O or 1 N/C + N/C



#### Legend

Single contact



Double contact



Light block



Possible location



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

#### Position 315°



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

#### Position 0°



Push	Position	Тор			
Bottom	Δ	Δ	Δ		
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			,		
Location		Left	Centre	Right	
State		0	1	1	
Contacts	N/O		open	closed	closed
N/C		closed	open	open	