

# Product data sheet

Specifications



## black selector switch head 22mm 3-position spring return

ZB4BD87

### Main

Range of product	Harmony XB4
Product or component type	Head for selector switch
Device short name	ZB4
Bezel material	Black metal
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 standard handle
Operator position information	3 positions +/- 45°

### Complementary

CAD overall width	29 mm
CAD overall height	29 mm
CAD overall depth	44 mm
Product weight	0.04 kg
Resistance to high pressure washer	7000000 Pa at 55 °C, distance : 0.1 m
Mechanical durability	1000000 cycles
Electrical composition code	C3 for <6 contacts using single blocks in front mounting C4 for <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 C7 for <4 contacts using single blocks in front mounting C8 for <4 contacts using single and double blocks in front mounting C11 for <3 contacts using single blocks in front 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 I conforming to IEC 60536

<b>IP degree of protection</b>	IP67 conforming to IEC 60529 IP69 IP69K
<b>Enclosure Type</b>	UL type 4X/13
<b>IK degree of protection</b>	IK06 conforming to IEC 50102
<b>Standards</b>	UL 508 JIS C8201-5-1 CSA C22.2 No 14 IEC 60947-5-1 IEC 60947-1 IEC 60947-5-4 IEC 60947-5-5 JIS C8201-1
<b>Product certifications</b>	CSA DNV BV LROS (Lloyds register of shipping) UL listed
<b>Vibration resistance</b>	5 gn (f= 2...500 Hz) conforming to IEC 60068-2-6
<b>Shock resistance</b>	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

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	3.4 cm
<b>Package 1 Width</b>	4.5 cm
<b>Package 1 Length</b>	5.2 cm
<b>Package 1 Weight</b>	45 g
<b>Unit Type of Package 2</b>	BB1
<b>Number of Units in Package 2</b>	5
<b>Package 2 Height</b>	5.2 cm
<b>Package 2 Width</b>	3.4 cm
<b>Package 2 Length</b>	26.5 cm
<b>Package 2 Weight</b>	225 g
<b>Unit Type of Package 3</b>	S03
<b>Number of Units in Package 3</b>	250
<b>Package 3 Height</b>	30 cm
<b>Package 3 Width</b>	30 cm
<b>Package 3 Length</b>	40 cm
<b>Package 3 Weight</b>	11.987 kg

## Contractual warranty

<b>Warranty (in months)</b>	18
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## Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)



### Environmental footprint

Total lifecycle Carbon footprint	0.4 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	0.3 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	0 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	0 kg CO2 eq.
Carbon footprint of the end-of-life phase [C1 to C4]	0.1 kg CO2 eq.

## Use Better



### Materials and Substances

Average percentage of recycled plastic content	66 %
Average percentage of recycled metal content	21 %
Packaging made with recycled cardboard	Yes
Packaging without single use plastic	Yes
EU RoHS Directive	<a href="#">Compliant</a>
REACH Regulation	<a href="#">Free of Substances of Very High Concern above the threshold</a>
California proposition 65	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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>

## Use Longer



### Lifetime extension

Repair	No
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## Use Again



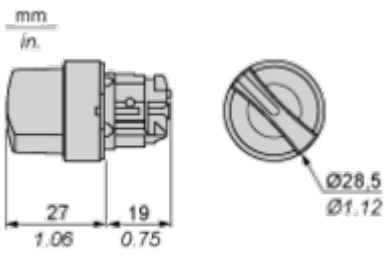
### Repack and remanufacture

End of life manual availability	<a href="#">End of Life Information</a>
Take-back	No

Dimensions Drawings

Dimensions

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Mounting and Clearance

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	Connection by Faston Connectors
	
<p>(1) Diameter on finished panel or support                  (2) 40 mm min. / 1.57 in. min.                  (3) 30 mm min. / 1.18 in. min.                  (4) <math>\varnothing 22.5 \text{ mm} / 0.89 \text{ in. recommended } (\varnothing 22.3 \text{ mm}_0^{+0.4} / 0.88 \text{ in.}_0^{+0.016})</math>                  (5) 45 mm min. / 1.78 in. min.                  (6) 32 mm min. / 1.26 in. min.</p>	





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 ZB4 BZ009: ± 2° 30' (excluding cut-outs marked **a** and **b**).
- Tightening torque of screws ZBZ 006: 0.6 N.m (5.3 lbf.in) max.
- Allow for one ZB4 BZ079 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 (ZB4 BD\*, ZB4 BJ\*, ZB4 BG\*).

The fixing centers marked **a** and **b** are diagonally opposed and must align with those marked **4** and **5**.



- (1) Panel
- (2) Printed circuit board

**Mounting of Adapter (Socket) ZBZ 01•**

- 1 2 elongated holes for ZBZ 006 screw access
- 2 1 hole  $\varnothing 2.4 \text{ mm} \pm 0.05 / 0.09 \text{ in.} \pm 0.002$  for centring adapter ZBZ 01•
- 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 ZBZ 01•

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 ZBZ 01•.

Technical Description

Electrical Composition Corresponding to Code C3

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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 Codes C9, C11, SF1 and SR1



**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

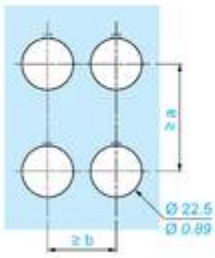
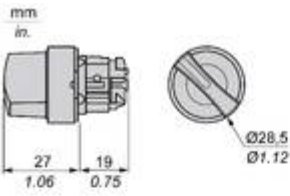
Position 45°



<b>Push</b>	Position	Top			
		Bottom			
	Location		Left	Centre	Right
	State		0	1	1
<b>Contacts</b>	N/O		open	closed	closed
	N/C		closed	open	open

Technical Illustration

Dimensions



		a (mm)	a (in.)	b (mm)	b (in.)
		40	1.57	30	1.18
ZBE.....	ZBV.....				
		45	1.77	32	1.26
ZBE.....3	ZBV.....3				
		40	1.57	30	1.18
ZBE.....4	ZBV.....4				
		50	1.97	30	1.18
ZBE.....5	ZBV.....5				
		40	1.57	30	1.18
ZBE.....9	ZBV.....9				
		40	1.57	30	1.18
ZBRT...	ZBRV1				