

Harmony™ XB4 metal and XB5/XB7 plastic 22 mm push buttons

Applications		Pilot lights		Push buttons, selector switches and pilot lights		
						
Description of the range		■ LED pilot lights		■ Push buttons ■ Emergency Stop buttons ■ Emergency switching off push buttons ■ Selector switches and key switches ■ Illuminated push buttons ■ Pilot lights		
Features	Products	Monolithic, compact, low consumption		Complete units or sub-assemblies (body + head)		Monolithic
	Bezel	Double insulated		Metal, chromium plated or black	Double insulated	
	Shape of head	Circular	Circular, square or rectangular	Circular	Circular or square	Circular
Drilling or cut-out for mounting		8 and 12 mm	16 mm	22 mm	22 and 25 mm	
Degree of protection	Conforming to IEC60529	IP 40 IP 65 with seal	IP 65	IP 66	IP 54	
Cabling		Tags for 2.8 x 0.5 mm connectors, or threaded connector	Faston® connectors Solder pins for printed circuit boards	Spring clamp terminal connections Screw clamp terminal connections Faston connectors Connector With adaptor for printed circuit board		Screw clamp terminal connection
Mounting	Panel thickness	1 to 8 mm	1 to 6 mm			
Type references		XVLA	XB6	XB4	XB5	XB7*
Pages		Please refer to the Digest		26 to 49	100 to 125	178 to 182

*Available Q1 2012

Joystick controllers			Push buttons, selector switches and pilot lights		Cam switches	
						
■ 2 or 4 direction ■ Stay put or spring return			■ Push buttons ■ Emergency Stop buttons ■ Emergency switching off push buttons ■ Selector switches and key switches ■ Illuminated push buttons ■ Pilot lights		■ Switches ■ Stepping switches ■ Reversing and changeover switches ■ Ammeter switches ■ Voltmeter switches ■ Reversing switches ■ Star-delta and reversing star-delta switches ■ Pole change switches	
Complete units or sub-assemblies (body + head with lever)			Complete units or sub-assemblies (body + head)		Complete units or sub-assemblies (body + front panel + head)	
Chromium plated metal	Double insulated, black		Chromium plated metal or double insulated		Metal, chromium plated or black Double insulated	
Circular			Hexagonal		Square	
22 mm			30 mm		16 or 22 mm: series K10 22 mm and multimounting: series K2 4 holes, 48 or 68 centers: series K30 to K150	
IP 65	IP 66	IP 65	IP 65		IP65: series K10 IP 40, IP 65 with seal: series K2 IP 40: series K30 to K150	
Screw and captive cable clamp connections			Screw and captive cable clamp connections			
1 to 6 mm			1 to 6 mm		0.5 to 6 mm (depending on model)	
XD4PA	XD2GA	XD5PA	9001K, 9001SK		K10, K2, K30, K50, K63, K115, K150	
49	Please refer to the Digest	125	Please refer to the Digest		Please refer to the Digest	

Harmony™ XB4 metal

22 mm push buttons

Push buttons, switches and pilot lights

Environment			
Protective treatment standard version			"TH" treatment
Ambient air temperature around the device	Storage	°C	- 40 to + 70
	Operation	°C	- 25 to + 70: LED and neon bulb versions - 25 to + 55: incandescent bulb version
Electric shock protection	Conforming to IEC 61140		Class I
Degree of protection	Conforming to IEC 60529		IP 66 IP 69 K (Selector switches and multiple-headed push buttons)
	Conforming to NEMA		NEMA type 4X and 13, unless otherwise stated
Resistance to high pressure washer		Pa	70 x 10 ⁵ (70 bar); distance: 0.1 m Temperature: 55°C
Mechanical shock protection	Conforming to IEC 50102		Non-illuminated heads: IK 03 Illuminated heads: IK 05 Selector switch heads: IK 06
Conforming to standards			EN/IEC 60947-1, EN/IEC 60947-5-1, EN/IEC 60947-5-4, EN/IEC 60947-5-5, EN/IEC 60204-1 and EN/ISO 13850:2006 (Emergency stop trigger action and mechanical latching push buttons, see page 36063/2), IEC 60364-5-53 (Emergency switching off mechanical latching push buttons, see page 36063/3) JIS C4520, UL 508, CSA C22-2 no. 14
Product certifications	UL Listed, CSA		Standard single contacts with screw clamp and spring terminals: A600; Q600 Double contacts with screw clamp terminals: A600; Q600 Light blocks with screw clamp terminals Joystick controllers XD4PA/ZD4PA: A600; R300 Special contact blocks: □ ZBE201: A300; Q300 □ ZBE202: A600; Q600 Single contacts for high power switching: □ ZBE501 and ZBE 502: A300; P300
	UL Recognized, CSA		Standard single contacts for plug-in connector: A300; R300 Standard contacts for printed circuit board: B300; R300
	BV, RINA, LROS, DNV, GL		Standard single contacts and double contacts with screw clamp or spring terminals:
Terminal referencing	Conforming to EN 50005 and EN 50013		
Specifications of contact or combined contact and signaling functions (see page 24)			
Mechanical specifications			
Contact operation	N/C or N/O		Slow break
Positive operation	Conforming to EN/IEC 60947-5-1 appendix K		All functions incorporating a N/C contact have positive opening operation
Operating travel (to change the electrical state)	Push button	mm	Changing N/C state: 1.5 Changing N/O state: 2.6 Total travel: 4.3
Operating force	Push button	N	Changing N/C state: 3.5 Changing N/O state: 3.8
	Additional contact only (extra to change state)	N	Single N/C contact: 2 Single N/O contact: 2.3
		N	Double N/C contact: 3.4 Double N/O contact: 5 Double contact N/C + N/O: 4.6
	Emergency stop or Emergency switching off with N/C + N/O	N	Standard push-pull: 45 Trigger action push-pull: 50
		N	Standard turn to release and key release: 40 Trigger action turn to release and key release, "trigger action": 44

Harmony™ XB4 metal

22 mm push buttons

Mushroom head push buttons, spring return

Assembly of other products using body/contact assemblies, see page 50; accessories, see page 64



XB4BC21



ZB4BC24



ZB4BC2



ZB4BR2



ZB4BR216



ZB4BW443

Mushroom head push buttons (1) (2)

Screw clamp terminal connections (Schneider Electric anti-retightening system)

Shape of head	Type of push	Type of contact		Push Dia. (mm)	Color	Reference	Weight kg
		N/O	N/C				

Complete units

	Mushroom head	1	—	40	Black	XB4BC21 (ZB4BZ101 + ZB4BC2)	0.122
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Heads only

	Mushroom head			30	Black	ZB4BC24	0.075
					Green	ZB4BC34	0.075
					Red	ZB4BC44	0.075
					Yellow	ZB4BC54	0.075
					Blue	ZB4BC64	0.075
				40	Black	ZB4BC2	0.074
					Green	ZB4BC3	0.074
					Red	ZB4BC4	0.074
					Yellow	ZB4BC5	0.074
					Blue	ZB4BC6	0.074
				60	Black	ZB4BR2	0.093
					Green	ZB4BR3	0.093
					Red	ZB4BR4	0.093
					Yellow	ZB4BR5	0.093
					Blue	ZB4BR6	0.093
				60 (3)	Black	ZB4BR216	0.054
				Hemispherical	Green	ZB4BR316	0.054
					Red	ZB4BR416	0.054
					Yellow	ZB4BR516	0.054
					Blue	ZB4BR616	0.054

Illuminated mushroom head push buttons (1) (2)

Integral LED

Shape of head	Type of push	Push Dia. (mm)	Color	Reference	Weight kg
	Mushroom head	40	White	ZB4BW413	0.051
			Green	ZB4BW433	0.051
			Red	ZB4BW443	0.051
			Orange	ZB4BW453	0.051
			Blue	ZB4BW463	0.051

Protected
LED

Heads with black metal bezel

To order, add a figure 7 to the references selected above.

Example: **ZB4BC24** becomes **ZB4BC247**.

(1) These push buttons and heads cannot be used for an Emergency Stop function.

Therefore, it is recommended that a legend with a black or white background is used.

(2) Recommended maximum number of contacts constituting the body (mounting collar + contact) associated with the head, see page 24.

(3) Ergonomic product used in two-handed control applications. Recommended maximum number of contacts constituting the body (mounting collar + contact) associated with the head: 6.

(4) Only for use with bodies comprised of a light block with integral LED.

Note: For contact block and mounting collar ordering information, see pages 50, 52, 53 and 54.

For light module ordering information, see pages 51, 52 and 53.