

Push Buttons and Operator Interface Specifier's Guide

XB5 22 mm Double Insulated

Catalog
2005

File 9001



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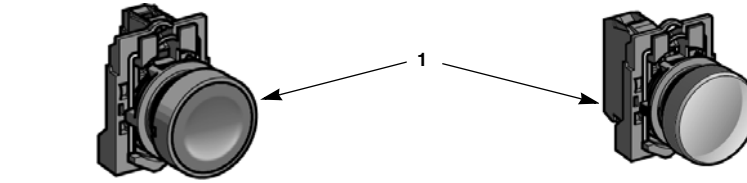
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Push Buttons & Operator Interface - XB5 22 mm Double Insulated

General Characteristics

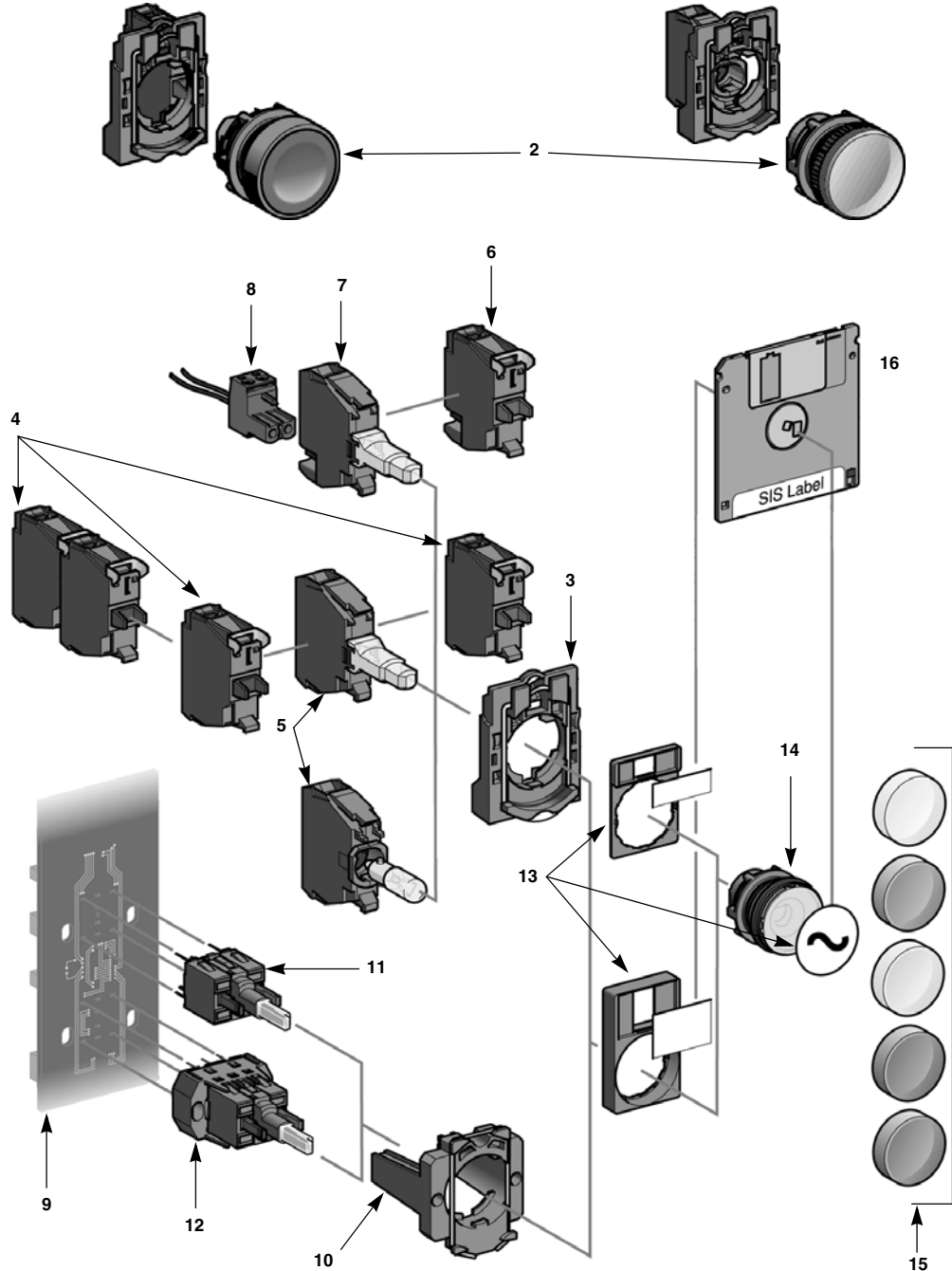
Components for User Assembly ZB5-B:

- 1 - Electrical Bodies (pre-assembled)
- 2 - Operator Heads (pre-assembled)



Component Parts and Accessories ZB:





- 3 - Mounting Collar – Standard (ZB5AZ009)
- 4 - Contact Blocks – Screw Clamp Terminal (ZBE10•, ZBE20•)
- 5 - Light Modules – Screw Clamp Terminal (ZBV•) for Protected LED and Ba9 Base Lamps
- 6 - Contact Blocks – Plug-in Connector (ZBE10•)
- 7 - Light Modules – Plug-in Connector (ZBV•) for Protected LED only
- 8 - 2 Pin Connector and Cables for Plug-in Connection Electrical Components (APE1•)
- 9 - Printed Circuit Board (PCB) Application (Typical)
- 10 - Mounting Collar – PCB Application (ZB5BZ009 + ZB4BZ079)
- 11 - Contact Blocks – PCB Application (ZBE70•, ZBE70•6)
- 12 - Light Modules – PCB Application (ZBV•7) for Protected LED only
- 13 - Legend Plates and Holders (ZBY•, ZBZ•)
- 14 - Operator Head – Round or Square (Illuminated or Non-Illuminated)
- 15 - Lenses for Pilot Lights (ZBV•) or Lenses for Illuminated Push Buttons (ZBW•)



Push Buttons & Operator Interface - XB5 22 mm Double Insulated

General Characteristics

Environment

Protective treatment standard version		"TH"
Ambient air temperature around the device	Storage	-40 to +158 °F (- 40 to +70 °C)
	Operation	-13 to +158 °F (- 25 to +70 °C) unless otherwise stated
Electric shock protection	Conforming to IEC 60536	Class II
Degree of protection	Conforming to IEC 60529	IP 65, unless otherwise stated IP 66, for booted push button heads
	Conforming to UL 50 and CSA C22.2 No. 94	Type 1, 2, 3, 4, 4X, 12, and 13, unless otherwise stated
Resistance to high pressure cleaner		1,015 psi (70 x 10 ⁵ Pa-70 bars); distance: 3.94 in (0.1 m) Temperature: 131 °F (55 °C)
Mechanical shock protection	Conforming to EN 50102	Non illuminated heads: IK 03
		Illuminated heads: IK 05
Conforming to standards		IEC 60947-1, IEC/EN 60947-5-1, IEC 60947-5-4, EN 60947-1, JIS C 4520, UL 508, CSA C22.2 No. 14
Product certifications	UL Listed, CSA Certified	Standard single contacts with screw clamp terminals: A600; Q600 Double contacts with screw clamp terminals: A600; Q600 Contacts with "Quick-Connects": A300; Q300 Light modules with screw clamp terminals JOYSTICK XD4-PA: A600; R300
	 File E164353 CCN NKCR  File LR 44087 Class 3211 03  File E164353 CCN NKCR 2	
	UL Recognized, CSA Certified	Standard single contacts for plug-in connector: A300; R300 Standard single contact for printed circuit board: B300; R300
	BV, RINA, LROS, DNV, GL (pending)	Standard single contacts and double contacts with screw clamp terminals
Terminal identification	Conforming to EN 50005 and EN 50013	

Characteristics of Operators and Contact Blocks

Mechanical Characteristics			
Contact operation	N/C or N/O	Slow break	
Positive operation	Conforming to IEC/EN 60947-5-1 Appendix K	All functions incorporating a N/C contact are positive opening operation	
Operating travel (to change electrical state)	Push button	Changing N/C state: 0.06 in (1.5 mm) Changing N/O state: 0.11 in (2.6 mm) Total travel: 0.17 in (4.3 mm)	
Operating force	Push button	Changing N/C state: 0.79 lbf (3.5 N) Changing N/O state: 0.85 lbf (3.8 N)	
	Additional contact (extra to change state)	Single N/C contact: 0.45 lbf (2 N) Single N/O contact: 0.52 lbf (2.3 N) Double contact N/C: 0.76 lbf (3.4 N) Double contact N/O: 1.12 lbf (5 N) Double contact N/C + N/O: 1.03 lbf (4.6 N)	
	Emergency stop with N/C + N/O Maintained mushroom head operators Momentary mushroom head operators	Standard push-pull: 10.12 lbf (45 N) Trigger action push-pull: 11.24 lbf (50 N) Standard turn to release and key release: 8.99 lbf (40 N) Trigger action turn to release and key release: 9.89 lbf (44 N)	
Operating torque (to change electrical state)	Selector switches	N/O contact: 1.24 lb-in (0.14 N•m)	
	Additional contact (extra)	N/O contact: 0.44 lb-in (0.05 N•m)	
Mechanical durability (in operating cycles)	Push button	Momentary	5 million
		Double-headed	1 million
		Push-push to release	500,000
	Selector switches	Non-illuminated	3 million
		Illuminated	1 million
	Toggle switches		500,000
	Emergency stop push button		300,000
	Joystick		1 million
	Standard blocks		5 million
	Low power switching power blocks		500,000
Vibration resistance	Conforming to IEC 60068-2-6	Frequency (2 to 500 Hz): 5 gn	
Shock resistance	Conforming to IEC 60068-2-27	All functions except mushroom head push buttons– Half sine wave acceleration 11 ms: 50 gn Half sine wave acceleration 18 ms: 30 gn	
		Mushroom head push buttons– Half sine wave acceleration 11 ms: 10 gn	

Push Buttons & Operator Interface - XB5 22 mm Double Insulated

General Characteristics

Electrical Characteristics							
Cabling capacity	Conforming to IEC 60947-1	Screw and captive clamp terminals Min: 1 x 24 AWG (0.22 mm ²) without cable end 1 x 22 AWG (0.34 mm ²) for linking Max: 2 x 16 AWG (1.5 mm ²) with cable end 2 x 14 AWG without cable end Cross headed screw (Pozidrive type 1) slotted for flat 4 and 5.5 mm screwdriver Typical torque: 0.8 N•m (8.55 lb-in) Maximum torque: 1.2 N•m (10.7 lb-in)					
Contact material	Silver alloy (Ag/Ni)	Standard single and double blocks with screw clamp terminals Blocks for plug-in connector Standard blocks for printed circuit board connection					
	Gold flashed (Ag/Ni/Au)	Low power switching contact blocks with screw clamp terminals Low power switching contact blocks for printed circuit board connection					
Short-circuit protection	Conforming to IEC/EN 60947-5-1	Standard blocks with screw clamp terminals: 10 A (gG cartridge fuse conforming to IEC 60269-1) Blocks for plug-in connector: 4 A (gG fuse cartridge conforming to IEC 60269-1) Standard blocks for printed circuit board connection: 4 A (gG cartridge fuse conforming to IEC 60269-1)					
Rated insulation voltage	Conforming to IEC 60947-1	Standard blocks (single or double) with screw clamp terminals: Ui = 600 V, degree of pollution 3 Blocks for plug-in connector: Ui = 250 V, degree of pollution 3 Standard blocks for printed circuit board connection: Ui = 250 V, degree of pollution 3					
Rated impulse withstand voltage	Conforming to IEC 60947-1	Standard block (single or double) with screw clamp terminals: Uimp = 6 kV Blocks for plug-in connector: Uimp = 4 kV Standard blocks for printed circuit board connection: Uimp = 4 kV					
Rated operational characteristics Conforming to IEC/EN 60947-5-1	AC supply: Utilization category AC-15	Standard blocks (single or double) with screw clamp terminals: A600: Ue = 600 Vac and Ie = 1.2 A or Ue = 240 Vac and Ie = 3 A or Ue = 120 Vac and Ie = 6 A Continuous thermal current = 10 A Blocks for plug-in connector: A300: Ue = 120 Vac and Ie = 6 A or Ue = 240 Vac and Ie = 3 A Standard blocks for printed circuit board connection: B300: Ue = 120 Vac and Ie = 3 A or Ue = 240 Vac and Ie = 1.5 A					
	DC supply: Utilization category DC-13	Standard single or double blocks with screw clamp terminals: Q600: Ue = 600 Vdc and Ie = 0.1 A or Ue = 250 Vdc and Ie = 0.27 A or Ue = 125 Vdc and Ie = 0.55 A Continuous thermal current = 2.5 A Joystick XD4-PA: R300: Ue = 125 Vdc and Ie = 0.22 A or Ue = 250 Vdc and Ie = 0.1 A Blocks for plug-in connector: R300: Ue = 125 Vdc and Ie = 0.22 A or Ue = 250 Vdc and Ie = 0.1 A Standard blocks for printed circuit board connection: R300: Ue = 125 Vdc and Ie = 0.22 A or Ue = 250 Vdc and Ie = 0.1 A					
Rated operational characteristics	AC supply: Resistive load	Low power switching contact blocks with screw clamp terminals or for printed circuit board connection: Max: 24 Vac Max: 0.1 A					
Electrical durability Conforming to IEC/EN 60947-5-1 Appendix C Operating rate 3600 operating cycles/hour. Load factor: 0.5	AC supply for 1 million operating cycles, utilization category AC-15	Standard blocks for screw clamp terminals:					
		<table border="1"> <tr> <td>24 Vac</td> <td>120 Vac</td> <td>230 Vac</td> </tr> <tr> <td>4 A</td> <td>3 A</td> <td>2 A</td> </tr> </table>	24 Vac	120 Vac	230 Vac	4 A	3 A
	24 Vac	120 Vac	230 Vac				
	4 A	3 A	2 A				
DC supply for 1 million operating cycles, utilization category DC-13	Standard double blocks with screw clamp terminal or plug-in connector:						
	<table border="1"> <tr> <td>24 Vac</td> <td>120 Vac</td> <td>230 Vac</td> </tr> <tr> <td>3 A</td> <td>1.5 A</td> <td>1 A</td> </tr> </table>	24 Vac	120 Vac	230 Vac	3 A	1.5 A	1 A
24 Vac	120 Vac	230 Vac					
3 A	1.5 A	1 A					
Standard single blocks for screw clamp terminals:							
<table border="1"> <tr> <td>24 Vdc</td> <td>110 Vdc</td> </tr> <tr> <td>0.5 A</td> <td>0.2 A</td> </tr> </table>	24 Vdc	110 Vdc	0.5 A	0.2 A			
24 Vdc	110 Vdc						
0.5 A	0.2 A						
Standard double blocks with screw clamp terminal or plug-in connector:							
<table border="1"> <tr> <td>24 Vdc</td> <td>110 Vdc</td> </tr> <tr> <td>0.4 A</td> <td>0.15 A</td> </tr> </table>	24 Vdc	110 Vdc	0.4 A	0.15 A			
24 Vdc	110 Vdc						
0.4 A	0.15 A						
Electrical reliability	Failure rate Conforming to IEC 60947-5-4						
	- In clean environment	Standard blocks: - at 17 V and 5 mA, $\lambda < 10^{-8}$ - at 5 V and 1 mA, $\lambda < 10^{-6}$ Low power switching contact blocks: - at 5 V and 1 mA, $\lambda < 10^{-8}$					
	- In dusty environment	Low power switching contact blocks only: at 5 V and 1 mA, $\lambda < 10^{-6}$					

Push Buttons & Operator Interface - XB5 22 mm Double Insulated General Characteristics

Characteristics of Light Modules

Mechanical Characteristics		
Vibration resistance	Conforming to IEC 60068-2-6	Frequency (12 to 500 Hz): 5 gn
Shock resistance	Conforming to IEC 60068-2-27	Half sine wave acceleration 11 ms: 50 gn Half sine wave acceleration 18 ms: 30 gn
Electrical Characteristics		
Cabling capacity	Conforming to IEC 60947-1	Screw and captive clamp terminals Min: 1 x 24 AWG (0.22 mm ²) without cable end 1 x 22 AWG (0.34 mm ²) for linking Max: 2 x 16 AWG (1.5 mm ²) with cable end
Rated insulation voltage	Conforming to IEC 60947-1	Direct supply pilot light modules (BA 9s bulbs): Ui = 250 V, degree of pollution 3 Pilot light modules with protected LED: Ui = 250 V, degree of pollution 3 Pilot light modules with transformer: Ui = 600 V, degree of pollution 3
Rated impulse withstand voltage	Conforming to IEC 60947-1	Direct supply pilot light modules (BA 9s bulbs): Uimp = 4 kV Pilot light modules with protected LED: Uimp = 4 kV Pilot light modules with transformer: Uimp = 6 kV

Specific Characteristics of Protected LED Light Modules Only

Voltage limits	Nominal voltage	24 V: 19.2 to 30 Vdc; 21.6 to 24.6 Vac 120 V: 102 to 132 Vac 240 V: 195 to 264 Vac
Current consumption	Applicable to all colors	24 Vac/Vdc supply blocks: 18 mA 120 Vac supply blocks: 14 mA 240 Vac supply blocks: 14 mA
Service life	At nominal voltage and at an ambient temperature of 77 °C (25 °C)	100,000 hours
Surge withstand	Conforming to IEC 61000-4-5	2/1 kV
Resistance to fast transients	Conforming to IEC 61000-4-4	2 kV
Resistance to electromagnetic fields	Conforming to IEC 61000-4-3	10 V/m
Resistance to electrostatic discharges	Conforming to IEC 61000-4-2	8/6 kV
Electromagnetic emission	Conforming to EN 55011	Class B

Specific Characteristics of Hour Counters and Annunciators

Voltage limits	Hour counter and annunciator	± 10% of nominal voltage
Current consumption	Hour counter	XB5DSB: 7 to 15 mA XB5DSG: 8 mA XB5DSM: 8 mA
	Annunciator	5 mA

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Complete Devices



XB5AA31



XB5AA4322



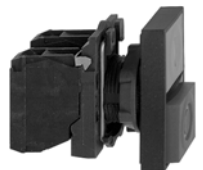
XB5AP51



XB5AA4322



XB5AC21



XB5AL845

Non-Illuminated Push Buttons, Momentary (screw clamp terminal connections)

Shape of Head	Type of Push	Type of Contact		Marking	Color of Cap	Catalog Number
		N/O	N/C			
	Flush	1	–	–	Black Green Yellow Blue	XB5AA21 (ZB5AZ101 + ZB5AA2) XB5AA31 (ZB5AZ101 + ZB5AA3) XB5AA51 (ZB5AZ101 + ZB5AA5) XB5AA61 (ZB5AZ101 + ZB5AA6)
		–	1	–	Red	XB5AA42 (ZB5AZ102 + ZB5AA4)
	Flush	1	–	"I" (white)	Green	XB5AA3311 (ZB5AZ101 + ZB5AA331)
	Flush	–	1	"O" (white)	Red	XB5AA4322 (ZB5AZ102 + ZB5AA432)
	Flush with clear silicone boot (color of pusher unobscured)	1	–	–	Black Green Yellow Blue	XB5AP21 (ZB5AZ102 + ZB5AP2) XB5AP31 (ZB5AZ101 + ZB5AP3) XB5AP51 (ZB5AZ101 + ZB5AP5) XB5AP61 (ZB5AZ101 + ZB5AP6)
		–	1	–	Red	XB5AP42 (ZB5AZ102 + ZB5AP4)
	Extended	–	1	–	Red	XB5AL42 (ZB5AZ102 + ZB5AL4)
	Mushroom head Ø 40 mm	1	–	–	Black	XB5AC21 (ZB5AZ101 + ZB5AC2)

Two Button Push Buttons, Momentary (screw clamp terminal connections)

Shape of Head	Type of Push	Type of Contact		Degree of Protection	Catalog Number
		N/O	N/C		
	One flush green push (marked "I") One extended red push (marked "O")	1	1	IP 40	XB5AL845 (ZB5AZ105 + ZB5AL8434)

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Complete Devices

Non-Illuminated Emergency Stop Mushroom Head Push Buttons, Ø 40 mm (Red) (screw clamp terminal connections)



XB5AS9445



XB5AT42



XB5AS542

Shape of Head	Type of Push	Type of Contact		Catalog Number
		N/O	N/C	
	Trigger action push-pull	1	1	XB5AT845 (ZB5AZ105 + ZB5AT84)
	Trigger action turn to release	1	1	XB5AS8445 (ZB5AZ105 + ZB5AS844)
	Trigger action Key release (No. 455)	1	1	XB5AS9445 (ZB5AZ105 + ZB5AS944)
	Push-pull	-	1	XB5AT42 (ZB5AZ102 + ZB5AT4)
	Turn to release	-	1	XB5AS542 (ZB5AZ102 + ZB5AS54)
	Key release (No. 455)	-	1	XB5AS142 (ZB5AZ102 + ZB5AS14)

Non-Illuminated Selector Switches and Key Switches (screw clamp terminal connections)



XB5AD33



XB5AJ33



XB5AG33

Shape of Head	Type of Operator	Type of Contact		Number and Type of Positions	Catalog Number
		N/O	N/C		
	Standard lever, black	1	-	2 - maintained	XB5AD21 (ZB5AZ101 + ZB5AD2)
		2	-	3 - maintained	XB5AD33 (ZB5AZ103 + ZB5AD3)
				3 - momentary to center	XB5AD53 (ZB5AZ103 + ZB5AD5)
	Extended lever, black	1	-	2 - maintained	XB5AJ21 (ZB5AZ101 + ZB5AJ2)
		2	-	3 - maintained	XB5AJ33 (ZB5AZ103 + ZB5AJ3)
				3 - momentary to center	XB5AJ53 (ZB5AZ103 + ZB5AJ5)
	Key (No. 455)	1	-	2 - maintained	XB5AG21 (ZB5AZ101 + ZB5AG2)
				2 - momentary to left	XB5AG61 (ZB5AZ101 + ZB5AG6)
		2	-	3 - maintained	XB5AG03 (ZB5AZ103 + ZB5AG0)
				3 - maintained	XB5AG33 (ZB5AZ103 + ZB5AG3)

The symbol indicates key withdrawal position(s).

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Complete Devices

Pilot Lights with Protected LED (screw clamp terminal connections)



XB5AVB1



Shape of Head	Supply Voltage	Color	Catalog Number
	24 Vac/Vdc	White	XB5AVB1 (ZB5AVB1 + ZB5AV013)
		Green	XB5AVB3 (ZB5AVB3 + ZB5AV033)
		Red	XB5AVB4 (ZB5AVB4 + ZB5AV043)
		Yellow	XB5AVB5 (ZB5AVB5 + ZB5AV053)
		Blue	XB5AVB6 (ZB5AVB6 + ZB5AV063)
	110-120 Vac	White	XB5AVG1 (ZB5AVG1 + ZB5AV013)
		Green	XB5AVG3 (ZB5AVG3 + ZB5AV033)
		Red	XB5AVG4 (ZB5AVG4 + ZB5AV043)
		Yellow	XB5AVG5 (ZB5AVG5 + ZB5AV053)
		Blue	XB5AVG6 (ZB5AVG6 + ZB5AV063)



XB5AV63

Pilot lights for BA 9s Bulb (screw clamp terminal connections)

Shape of Head	Supply Voltage	Color	Catalog Number
Direct supply, for BA 9s (incandescent, LED, neon) U ≤ 250 V, 2.4 W bulb (bulb not included)			
	≤ 250 Vac/Vdc	White	XB5AV61 (ZB5AV6 + ZB5AV01)
		Green	XB5AV63 (ZB5AV6 + ZB5AV03)
		Red	XB5AV64 (ZB5AV6 + ZB5AV04)
		Yellow	XB5AV65 (ZB5AV6 + ZB5AV05)
Transformer type with 1.2 VA, 6 V secondary. BA 9s incandescent bulb included			
	110-120 Vac 50/60 Hz	White	XB5AV31 (ZB5AV3 + ZB5AV01)
		Green	XB5AV33 (ZB5AV3 + ZB5AV03)
		Red	XB5AV34 (ZB5AV3 + ZB5AV04)
		Yellow	XB5AV35 (ZB5AV3 + ZB5AV05)



XB5AV34

Illuminated Push Buttons, Momentary, Flush (screw clamp terminal connections)



XB5AW31B5



Shape of Head	Description	Type of Contact		Supply Voltage	Color of Push	Catalog Number
		N/O	N/C			
	Protected LED	1	1	24 Vac/Vdc	White	XB5AW31B5 (ZB5AW0B15 + ZB5AW313)
					Green	XB5AW33B5 (ZB5AW0B35 + ZB5AW333)
					Red	XB5AW34B5 (ZB5AW0B45 + ZB5AW343)
					Yellow	XB5AW35B5 (ZB5AW0B55 + ZB5AW353)
					Blue	XB5AW36B5 (ZB5AW0B65 + ZB5AW363)
				110-120 Vac	White	XB5AW31G5 (ZB5AW0G15 + ZB5AW313)
					Green	XB5AW33G5 (ZB5AW0G35 + ZB5AW333)
					Red	XB5AW34G5 (ZB5AW0G45 + ZB5AW343)
					Yellow	XB5AW35G5 (ZB5AW0G55 + ZB5AW353)
					Blue	XB5AW36G5 (ZB5AW0G65 + ZB5AW363)
	Direct supply for BA 9s 2.4 W max. bulb Not included	1	1	≤ 250 Vac/Vdc	White	XB5AW3165 (ZB5AW065 + ZB5AW31)
					Green	XB5AW3365 (ZB5AW065 + ZB5AW33)
					Red	XB5AW3465 (ZB5AW065 + ZB5AW34)
					Yellow	XB5AW3565 (ZB5AW065 + ZB5AW35)
	Transformer type 1.2 VA, 6 V secondary. BA 9s incandescent bulb included	1	1	110-120 Vac 50/60 Hz	White	XB5AW3135 (ZB5AW035 + ZB5AW31)
					Green	XB5AW3335 (ZB5AW035 + ZB5AW33)
					Red	XB5AW3435 (ZB5AW035 + ZB5AW34)
					Yellow	XB5AW3535 (ZB5AW035 + ZB5AW35)
				230-240 Vac 50/60 Hz	White	XB5AW3145 (ZB5AW045 + ZB5AW31)
					Green	XB5AW3345 (ZB5AW045 + ZB5AW33)
					Red	XB5AW3445 (ZB5AW045 + ZB5AW34)
					Yellow	XB5AW3545 (ZB5AW045 + ZB5AW35)



XB5AW3465



XB5AW3335

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Non-Illuminated Operators

Non-Illuminated Operators, Momentary - Unmarked



ZB5AA0



ZB5AA5



ZB5AL3



ZB5AP1



ZB5CA2



ZB5CA5




Shape of Head	Type of Push	Color of Cap	Catalog Number
	Flush, without color cap ■	–	ZB5AA0
	Flush, with set of 6 color caps	6 colors ▲	ZB5AA9
	Flush	White	ZB5AA1
		Black	ZB5AA2
		Green	ZB5AA3
		Red	ZB5AA4
		Yellow	ZB5AA5
		Blue	ZB5AA6
		Grey	ZB5AA8
	Flush with transparent cap, for insertion of legend ●	White	ZB5AA18
		Green	ZB5AA38
		Red	ZB5AA48
		Yellow	ZB5AA58
		Blue	ZB5AA68
	Extended	White	ZB5AL1
		Black	ZB5AL2
		Green	ZB5AL3
		Red	ZB5AL4
		Yellow	ZB5AL5
		Blue	ZB5AL6
	Booted (clear) Color of cap unobscured	White	ZB5AP1
		Black	ZB5AP2
		Green	ZB5AP3
		Red	ZB5AP4
		Yellow	ZB5AP5
		Blue	ZB5AP6
	Booted (clear) for insertion of legend ● Color of cap unobscured	White	ZB5AP18
		Green	ZB5AP38
		Red	ZB5AP48
		Yellow	ZB5AP58
		Blue	ZB5AP68
	Flush Plunger (with high guard)	White	ZB5AA14
		Black	ZB5AA24
		Green	ZB5AA34
		Red	ZB5AA44
		Yellow	ZB5AA54
		Blue	ZB5AA64
	Flush	White	ZB5CA1
		Black	ZB5CA2
		Green	ZB5CA3
		Red	ZB5CA4
		Yellow	ZB5CA5
		Blue	ZB5CA6
	Extended	White	ZB5CL1
		Black	ZB5CL2
		Green	ZB5CL3
		Red	ZB5CL4
		Yellow	ZB5CL5
		Blue	ZB5CL6

- Color cap to be ordered separately, see page 100.
- ▲ Six different color caps included with head (white, black, green, red, yellow, blue).
- For legend ordering information see page 99.

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Non-Illuminated Operators




Non-Illuminated Operators, Momentary - Premarked



Shape of Head	Type of Push	Marking Text	Color	Color of Cap	Catalog Number
	Flush	I	White Black	Green White	ZB5AA331 ZB5AA131
		START	White Black	Green White	ZB5AA333 ZB5AA133
		ON	White Black	Green White	ZB5AA341 ZB5AA141
		T	White	Green	ZB5AA345
		O	White	Red Black	ZB5AA432 ZB5AA232
		STOP	White	Red Black	ZB5AA434 ZB5AA234
		OFF	White	Red Black	ZB5AA435 ZB5AA235
		UP	Black	White	ZB5AA343
		DOWN	White	Black	ZB5AA344
		↑ ■	Black White	White Black	ZB5AA334 ZB5AA335
	Extended	O	White	Red Black	ZB5AL432 ZB5AL232
		STOP	White	Red Black	ZB5AL434 ZB5AL234
		OFF	White	Red Black	ZB5AL435 ZB5AL235
	Flush	I	White	Green	ZB5CA331
		O	White	Red	ZB5CA432

■ Cap supplied not clipped-in, allowing orientation of arrow in 4 directions: ↑, ↓, ← or →.

Mushroom Heads, Momentary

Shape of Head	Diameter of Head	Color of Head	Catalog Number
	30 mm	Black	ZB5AC24
		Green	ZB5AC34
		Red	ZB5AC44
		Yellow	ZB5AC54
		Blue	ZB5AC64
	40 mm	Black	ZB5AC2
		Green	ZB5AC3
		Red	ZB5AC4
		Yellow	ZB5AC5
		Blue	ZB5AC6
	60 mm	Black	ZB5AR2
		Green	ZB5AR3
		Red	ZB5AR4
		Yellow	ZB5AR5
		Blue	ZB5AR6

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Non-Illuminated and Two Button Operators

Non-Illuminated Push-On/Push-Off Operators ■



Shape of Head	Type of Push	Color of Push	Catalog Number
	Flush	White	ZB5AH01
		Black	ZB5AH02
		Green	ZB5AH03
		Red	ZB5AH04
		Yellow	ZB5AH05
		Blue	ZB5AH06
	Extended	White	ZB5AH1
		Black	ZB5AH2
		Green	ZB5AH3
		Red	ZB5AH4
		Yellow	ZB5AH5
		Blue	ZB5AH6
	Flush	White	ZB5CH01
		Black	ZB5CH02
		Green	ZB5CH03
		Red	ZB5CH04
		Yellow	ZB5CH05
		Blue	ZB5CH06

■ Maximum of 1 row of 3 contact blocks on associated body/mounting collar sub-assembly.



Two Head Operators, Momentary

Shape of Head	Description	Color of Pushes	Degree of Protection	Catalog Number
No Markings				
	Two flush	Green Red	IP 40	ZB5AA8134
			IP 66	ZB5AA9134
		White Black	IP 40	ZB5AA8112
			IP 66	ZB5AA9112
	One flush One extended	Green Red	IP 40	ZB5AL8334
			IP 66	ZB5AL9334
		White Black	IP 40	ZB5AL8312
			IP 66	ZB5AL9312
Premarked				
	Two flush (marked "I") (marked "O")	Green Red	IP 40	ZB5AA8234
			IP 66	ZB5AA9234
		White Black	IP 40	ZB5AA8212
			IP 66	ZB5AA9212
	One flush (marked "I") One extended (marked "O")	Green Red	IP 40	ZB5AL8434
			IP 66	ZB5AL9434
		White Black	IP 40	ZB5AL8412
			IP 66	ZB5AL9412



Push Buttons & Operator Interface - XB5 22 mm Double Insulated Emergency Stop Operators and Yellow Contrast Plates

Mushroom Heads for Maintained Push Buttons



ZB5AS844



ZB5AS934



ZB5AT4



ZB5AS54



ZB5AS64



ZBY9330

Shape of Head	Type of Push	Diameter of Head	Color	Catalog Number
	Trigger action Push-pull ▲	40 mm	Red	ZB5AT84
	Trigger action Turn to release ▲	30 mm	Red	ZB5AS834
		40 mm	Red	ZB5AS844
	Trigger action Key release (No. 455) ▲	30 mm	Red	ZB5AS934
		40 mm	Red	ZB5AS944 ■
		60 mm	Red	ZB5AS964
	Push-pull	30 mm	Black	ZB5AT24
			Red	ZB5AT44
		40 mm	Black	ZB5AT2
			Red	ZB5AT4
		60 mm	Black	ZB5AX2
			Red	ZB5AX4
	Turn to release	30 mm	Black	ZB5AS42
			Red	ZB5AS44
		40 mm	Black	ZB5AS52
			Red	ZB5AS54
		60 mm	Yellow	ZB5AS55
			Black	ZB5AS62
	Key release (No. 455)	30 mm	Black	ZB5AS72
			Red	ZB5AS74
		40 mm	Black	ZB5AS12
			Red	ZB5AS14 ▲
		60 mm	Black	ZB5AS22
			Red	ZB5AS24

■ Other key numbers:

- key No. 421E: add the suffix 12 to the reference.
- key No. 458A: add the suffix 10 to the reference.
- key No. 520E: add the suffix 14 to the reference.
- key No. 3131A: add the suffix 20 to the reference.

Example:

The reference for a Ø 40 mm red mushroom head for a trigger action, maintained push button, with release by key No. 421E becomes: ZB5AS94412.

▲ Maximum number of contact blocks fitted to associated body: 4.

Circular Legends for Emergency Stop Mushroom Heads (yellow background)

Diameter	Text	Catalog Number
60 mm	Blank	ZBY9101
	EMERGENCY STOP	ZBY9330
90 mm	Blank	ZBY8101
	EMERGENCY STOP	ZBY8330

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Selector Switches

Non-Illuminated Selector Switches ■ ▲



Shape of Head	Type of Operator	Number and Type of Positions		Catalog Number		
	Standard lever, black For colored lever add the following code to the end of the part number: 01 - white 03 - green 04 - red 05 - yellow 06 - blue (example ZB5AD204)	2 - maintained		ZB5AD2		
		2 - momentary from right to left		ZB5AD4		
		3 - maintained		ZB5AD3		
		3 - momentary to center		ZB5AD5		
		3 - momentary from left to center		ZB5AD7		
		3 - momentary from right to center		ZB5AD8		
			Extended lever, black	2 - maintained		ZB5AJ2
				2 - momentary from right to left		ZB5AJ4
3 - maintained				ZB5AJ3		
3 - momentary to center				ZB5AJ5		
3 - momentary from left to center				ZB5AJ7		
3 - momentary from right to center				ZB5AJ8		

Non-Illuminated Key Switches ■



Shape of Head	Type of Operator	Number and Type of Positions ▲		Catalog Number ●
	Key (No. 455)	2 - maintained		ZB5AG2
				ZB5AG4
		2 - momentary from right to left		ZB5AG6
			3 - maintained	
				ZB5AG3
				ZB5AG5
				ZB5AG9
				ZB5AG09
				ZB5AG1
		3 - momentary from left to center		ZB5AG1
3 - momentary to center		ZB5AG7		
3 - momentary from right to center		ZB5AG8		
		ZB5AG08		

The symbol indicates key withdrawal position(s).

- For actuation of outside contacts only.
- ▲ See selector switch sequence charts on page 91.
- Other key numbers:
 - key No. 421E: add the suffix 12 to the reference.
 - key No. 458A: add the suffix 10 to the reference.
 - key No. 520E: add the suffix 14 to the reference.
 - key No. 3131A: add the suffix 20 to the reference.

Example:

The catalog number for a head with key No. 421E for a 2 position maintained, lockable selector switch, with key withdrawal from the left-hand position, becomes: ZB5AG212.

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Contact Blocks



ZB5AZ101



ZB5AZ102



ZBE101



ZBE102



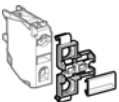
ZBE203



ZBE204



ZB5AZ009



ZBZ001

Contact Blocks (Mounting Base with Contact Blocks)

Description	Type of Contact		Catalog Number
	N/O	N/C	
Screw clamp terminal connections	1	–	ZB5AZ101
	–	1	ZB5AZ102
	2	–	ZB5AZ103
	–	2	ZB5AZ104
	1	1	ZB5AZ105
Gold-Flashed Low Power Switching (5 - 24 V, 0.1 - 100 mA) Dust Protected (IP5x per IEC 60529)	1	–	ZB5AZ1016
	–	1	ZB5AZ1026
	2	–	ZB5AZ1036
	–	2	ZB5AZ1046
	1	1	ZB5AZ1056
Quick-Connect (1 x 0.250" or 2 x 0.110")	1	–	ZB5AZ1013
	–	1	ZB5AZ1023
	2	–	ZB5AZ1033
	–	2	ZB5AZ1043
	1	1	ZB5AZ1053
Ring Tongue Compatible (# 8 stud, ≤ 5.8 mm width)	1	–	ZB5AZ1019
	–	1	ZB5AZ1029

Add-On Contact Block (with screw clamp terminal connections) ■

Description	Type of Contact		Catalog Number
	N/O	N/C	
Standard single contact blocks	1	–	ZBE101
	–	1	ZBE102
Standard double contact blocks	2	–	ZBE203
	–	2	ZBE204
	1	1	ZBE205
Special contact blocks (for low power switching and dust protected) ▲	1	–	ZBE1016
	–	1	ZBE1026

Specialty Add-On Contact Blocks

Quick-Connect (1 x 0.250" or 2 x 0.110")	1	–	ZBE1013
	–	1	ZBE1023
Ring Tongue Compatible (# 8 stud, ≤ 5.8 mm width)	1	–	ZBE1019
	–	1	ZBE1029

Body/Mounting Collar

For use with	Catalog Number
Electrical block (contact or light module)	ZB5AZ009

Clip-on Legend Holders for Electrical Blocks (Contact Blocks and Light Modules) (with screw clamp terminal connections)

Identification of an XB5A control or signalling unit	ZBZ001
--	--------

Sheet of 50 Blank Legends

Legend holder ZBZ001	ZBY001
----------------------	--------

- The contact blocks enable variable composition of body sub-assemblies and can be stacked to 3 rows, either: 3 rows of 3 single contacts or 1 row of 3 double contacts + 1 row of 3 single contacts (double contact blocks occupy 2 rows).
- ▲ Cannot stack additional contact blocks onto these blocks.

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Specialty Operators

Reset Operators



XB5AA

Shape of Head	Actuation Distance	Text	Color	Catalog Number
Flush				
Adjustable Shaft				
	0.67-4.72 in (17-120 mm)	Without	Green	XB5AA831
			Red	XB5AA841
			Blue	XB5AA861
	4.72-10.12 in (120-257 mm)	O	Red	XB5AA84101
		R	Blue	XB5AA86102
			Green	XB5AA832
Extended				
	0.67-4.72 in (17-120 mm)	O	Red	XB5AL84101
	4.72-10.12 in (120-257 mm)	O	Red	XB5AL84201

Potentiometer Operator (with Mounting Collar)



XD5PA12

Shape of Head	Description	Application	Catalog Number
	For potentiometer with shaft length 1.73 to 1.97 in (44 to 50 mm) (potentiometer not included)	For shaft Ø 0.25 in (6.35 mm)	ZB5AD922

Joystick Controllers (54 mm, Extended Operating Shaft) ■ *

Description	Operation	Action	Catalog Number
2 direction 	1 step 1 N/O contact per direction	Maintained	XD5PA12
		Momentary	XD5PA22
4 direction 	1 step 1 N/O contact per direction	Maintained	XD5PA14
		Momentary	XD5PA24

■ It is not permissible to use standard contact blocks ZBE100(single) or ZBE20* (double).

* For legend plates see page 52.



XB5DS*

Hour Counters ▲

Characteristics	Supply Voltage	Catalog Number
Indication 0-9999.9	12-24 Vdc or Vac, 50/60 Hz	XB5DSB
	120 Vac, 60 Hz	XB5DSG
	230-240 Vac, 50 Hz	XB5DSM



XB5KS*

Buzzer ▲

Characteristics	Supply Voltage	Catalog Number
80 db buzzer, continuous or intermittent (IP 40 NEMA 1)	12-24 Vdc or Vac, 50/60 Hz	XB5KSB
	120 Vac, 60 Hz	XB5KSG
	230-240 Vac, 50 Hz	XB5KSM

▲ UR Pending



ZB5AD28

Two Position Toggle Switch

Shape of Head	Color	Type of Positions	Catalog Number
	Black	Maintained	ZB5AD28
		Momentary	ZB5AD48

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Pilot Lights and Light Modules



ZB5AV053



ZB5AV01



ZB5CV063



ZB5AV6





ZB5AV3



ZB5AV**

Pilot Light Heads


Shape of Head	For Use with Body Comprising Light Source Type	Color of Lens	Catalog Number
	Protected LED only	White	ZB5AV013
		Green	ZB5AV033
		Red	ZB5AV043
		Yellow	ZB5AV053
		Blue	ZB5AV063
	Protected LED only Fresnel lens	White	ZB5AV013S
		Green	ZB5AV033S
		Red	ZB5AV043S
		Yellow	ZB5AV053S
		Blue	ZB5AV063S
	For BA 9s incandescent bulb, neon or LED only	White	ZB5AV01
		Green	ZB5AV03
Red		ZB5AV04	
Yellow		ZB5AV05	
Blue		ZB5AV06	
Clear		ZB5AV07	
	Protected LED only	White	ZB5CV013
		Green	ZB5CV033
		Red	ZB5CV043
		Yellow	ZB5CV053
		Blue	ZB5CV063

Complete Bodies (Mounting Collar + Light Module for BA 9s Incandescent Bulb, Neon or LED)

Description	Light Source	Supply Voltage	Catalog Number
Screw clamp terminal connections ▼			
Direct supply	BA 9s bulb 2.4 W max. Not included ■	≤ 250 Vac or Vdc	ZB5AV6
Transformer type 1.2 VA, 6 V secondary	BA 9s incandescent bulb included	110-120 Vac, 50/60 Hz	ZB5AV3
		230-240 Vac, 50/60 Hz	ZB5AV4
		400-50 Hz	ZB5AV5
		440-480 Vac, 60 Hz	ZB5AV8
		550-600 Vac, 60 Hz	ZB5AV9

■ Bulb can be ordered separately, see page 101, or add voltage (24, 120) for bulb supplied.

Complete Bodies (Mounting Collar + Light Module with Protected LED)

Light Source	Supply Voltage	Color of Light Source	Catalog Number
Screw clamp terminal connections ▼			
	24 Vac or Vdc	White	ZB5AVB1
		Green	ZB5AVB3
		Red	ZB5AVB4
		Yellow	ZB5AVB5
		Blue	ZB5AVB6
		110-120 Vac	White
Green	ZB5AVG3		
Red	ZB5AVG4		
Yellow	ZB5AVG5		
Blue	ZB5AVG6		

▼ For "Quick-Connect" version, add 3 to the end of the part number (Example: ZB5AV63) (1 x 0.250" or 2 x 0.110").

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Illuminated Operators

Heads for Momentary Illuminated Push Buttons



ZB5AW313



ZB5AW363



ZB5AW143



ZB5CW113





ZB5AW33

Shape of Head	Type of Push	Color	Catalog Number
Only use with protected LED light modules			
	Flush	White	ZB5AW313
		Green	ZB5AW333
		Red	ZB5AW343
		Yellow	ZB5AW353
		Blue	ZB5AW363
	Flush with clear boot	White	ZB5AW513
		Green	ZB5AW533
		Red	ZB5AW543
		Yellow	ZB5AW553
		Blue	ZB5AW563
	Flush for insertion of legend (lens supplied (not installed))	White	ZB5AA18
		Green	ZB5AA38
		Red	ZB5AA48
		Yellow	ZB5AA58
		Blue	ZB5AA68
	Extended	White	ZB5AW113
		Green	ZB5AW133
		Red	ZB5AW143
		Yellow	ZB5AW153
		Blue	ZB5AW163
	Mushroom (40 mm)	Green	ZB5AW433
		Red	ZB5AW443
		Yellow	ZB5AW453
		Blue	ZB5AW463
		Clear	ZB5AW473
	Flush for insertion of legend	White	ZB5CW313
		Green	ZB5CW333
		Red	ZB5CW343
		Yellow	ZB5CW353
		Blue	ZB5CW363
	Extended	White	ZB5CW113
		Green	ZB5CW133
		Red	ZB5CW143
		Yellow	ZB5CW153
		Blue	ZB5CW163
Only use with light modules for a BA 9s incandescent bulb, neon or LED			
	Flush	White	ZB5AW31
		Green	ZB5AW33
		Red	ZB5AW34
		Yellow	ZB5AW35
		Blue	ZB5AW36
		Clear	ZB5AW37
	Extended	White	ZB5AW11
		Green	ZB5AW13
		Red	ZB5AW14
		Yellow	ZB5AW15
		Blue	ZB5AW16
		Clear	ZB5AW17



Push Buttons & Operator Interface - XB5 22 mm Double Insulated Illuminated Operators

Two Button with Pilot Light, Momentary (IP 40) ■ ▲

Shape of Head	Description	Color of Pushes	Color of Pilot Light	Catalog Number
Only use with protected LED light modules (protected LED determines pilot light color)				
	1 flush 1 central pilot light 1 flush	Black	Clear	ZB5AW812743
		Red		
		Green		
		Red	Clear	ZB5AW813743
		White		
Black	Clear	ZB5AW811723		
	1 flush 1 central pilot light 1 extended	Black	Clear	ZB5AW832743
		Red		
		Green		
		Red	Clear	ZB5AW833743
		White		
Black	Clear	ZB5AW831723		



ZB5AW833743

Shape of Head	Description	Color of Pushes	Color of Pilot Light	Catalog Number
Only use with protected LED light modules (protected LED determines pilot light color) - premarked				
	1 flush (marked "I") 1 central pilot light 1 flush (marked "O")	Black	Clear	ZB5AW822743
		Red		
		Green		
		Red	Clear	ZB5AW823743
		White		
Black	Clear	ZB5AW821723		
	1 flush (marked "I") 1 central pilot light 1 extended (marked "O")	Black	Clear	ZB5AW842743
		Red		
		Green		
		Red	Clear	ZB5AW843743
		White		
Black	Clear	ZB5AW841723		




ZB5AW823743



ZB5AW843743



Heads for Maintained Illuminated Push Buttons

Shape of Head	Type of Push	Color	Catalog Number
Only use with protected LED light modules			
	Turn to Release Mushroom (40 mm)	Green	ZB5AW733
		Red	ZB5AW743
		Yellow	ZB5AW753
		Blue	ZB5AW763
		Clear	ZB5AW773



ZB5AW753

Illuminated "Push-on/Push-off" Operators ●

Shape of Head	Type of Push	Color of Lens	Catalog Number
Only use with protected LED light modules			
	Flush	White	ZB5AH013
		Green	ZB5AH033
		Red	ZB5AH043
		Yellow	ZB5AH053
		Blue	ZB5AH063
	Extended	White	ZB5AH13
		Green	ZB5AH33
		Red	ZB5AH43
		Yellow	ZB5AH53
		Blue	ZB5AH63

- For IP 66 degree of protection, install clear sealing boot ZBW008, see page 102.
- ▲ Color of centrally positioned pilot light determined by the color of the LED incorporated in the body sub-assembly.
- Maximum of 1 row of 2 contact blocks on associated body/mounting collar sub-assembly.

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Illuminated Selector Switches

Illuminated Selector Switches, Standard Lever



ZB5AK1213



ZB5AK1463

Shape of Head	Number and Type of Positions	Color of Lever	Catalog Number
Only for use with protected LED light modules			
	2 - maintained 	White Green Red Yellow Blue	ZB5AK1213 ZB5AK1233 ZB5AK1243 ZB5AK1253 ZB5AK1263
	2 - momentary from right to left 	White Green Red Yellow Blue	ZB5AK1413 ZB5AK1433 ZB5AK1443 ZB5AK1453 ZB5AK1463
	3 - maintained 	White Green Red Yellow Blue	ZB5AK1313 ZB5AK1333 ZB5AK1343 ZB5AK1353 ZB5AK1363
	3 - momentary to center 	White Green Red Yellow Blue	ZB5AK1513 ZB5AK1533 ZB5AK1543 ZB5AK1553 ZB5AK1563
	3 - momentary from right to center 	White Green Red Yellow Blue	ZB5AK1813 ZB5AK1833 ZB5AK1843 ZB5AK1853 ZB5AK1863
	3 - momentary from left to center 	White Green Red Yellow Blue	ZB5AK1713 ZB5AK1733 ZB5AK1743 ZB5AK1753 ZB5AK1763



Selector Switch Sequence (using contact block assemblies, page 86; or complete bodies, page 92)

2 Position Selector Switch		
		Contact block guide
O	X	1 N.O. (left or right)
X	O	1 N.C. (left or right)
O	X	1 N.O. and 1 N.C.
X	O	

3 Position Selector Switch			
			Contact block guide
X	O	O	1 N.O. (left)
O	X	O	2 N.C. wired in SERIES, (left and right)
O	O	X	1 N.O. (right)
X	X	O	1 N.C. (right)
O	X	X	1 N.C. (left)
X	O	X	2 N.O. wired in PARALLEL, (left and right)

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Light Module Assemblies

Complete Bodies (Mounting Collar + Single Contact Block + Light Module with Protected LED)

Light Source	Supply Voltage	Type of Contact ■		Color	Catalog Number
		N/O	N/C		
Screw clamp terminal connections					
Protected LED 	24 Vac or Vdc	1	-	White	ZB5AW0B11
				Green	ZB5AW0B31
				Red	ZB5AW0B41
				Yellow	ZB5AW0B51
				Blue	ZB5AW0B61
		-	1	White	ZB5AW0B12
				Green	ZB5AW0B32
				Red	ZB5AW0B42
				Yellow	ZB5AW0B52
				Blue	ZB5AW0B62
		2	-	White	ZB5AW0B13
				Green	ZB5AW0B33
				Red	ZB5AW0B43
				Yellow	ZB5AW0B53
				Blue	ZB5AW0B63
		1	1	White	ZB5AW0B15
Green	ZB5AW0B35				
Red	ZB5AW0B45				
Yellow	ZB5AW0B55				
Blue	ZB5AW0B65				
Protected LED 	110-120 Vac	1	-	White	ZB5AW0G11
				Green	ZB5AW0G31
				Red	ZB5AW0G41
				Yellow	ZB5AW0G51
				Blue	ZB5AW0G61
		-	1	White	ZB5AW0G12
				Green	ZB5AW0G32
				Red	ZB5AW0G42
				Yellow	ZB5AW0G52
				Blue	ZB5AW0G62
		2	-	White	ZB5AW0G13
				Green	ZB5AW0G33
				Red	ZB5AW0G43
				Yellow	ZB5AW0G53
				Blue	ZB5AW0G63
		1	1	White	ZB5AW0G15
Green	ZB5AW0G35				
Red	ZB5AW0G45				
Yellow	ZB5AW0G55				
Blue	ZB5AW0G65				



ZB5AW0**1

■ Can be fitted with additional contact blocks, see below.

Contact Block and Light Module (with screw clamp terminal connections) ▲

Supply	Light Source	Supply Voltage	Type of Contact ▲		Color of Light Source	Catalog Number
			N/O	N/C		
Screw clamp terminal connections						
Direct supply	BA 9s 2.4 W max. bulb Not included ●	≤ 250 Vac or Vdc	1	-	-	ZB5AW061
			-	1	-	ZB5AW062
			2	-	-	ZB5AW063
			1	1	-	ZB5AW065
			1	-	-	ZB5AW031
Transformer type 1.2 VA, 6 V secondary	BA 9s incandescent bulb included	110-120 Vac 50/60 Hz	1	-	-	ZB5AW031
			1	1	-	ZB5AW035
		230-240 Vac 50/60 Hz	1	-	-	ZB5AW041
			1	1	-	ZB5AW045
		400 Vac 50 Hz	1	-	-	ZB5AW051
			1	1	-	ZB5AW055



ZB5AW065



ZB5AW035

▲ Can be fitted with additional contact blocks, page 93.

● Bulb can be ordered separately, page 101, or add voltage (24, 120) for bulb supplied.

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Light Module Assemblies

Light Modules (with screw clamp terminal connections) ▼



ZBVB•



ZBE101



ZBE102

Description	Supply Voltage	Color of Light Source	Catalog Number
Protected LED Protected LED	24 Vac or Vdc	White	ZBVB1
		Green	ZBVB3
		Red	ZBVB4
		Yellow	ZBVB5
		Blue	ZBVB6
		110-120 Vac	White
Green	ZBVG3		
Red	ZBVG4		
Yellow	ZBVG5		
Blue	ZBVG6		
230-240 Vac	White		ZBVM1
	Green	ZBVM3	
	Red	ZBVM4	
	Yellow	ZBVM5	
	Blue	ZBVM6	
	Direct supply for BA 9s 2.4 W max. bulb Not included ■	≤ 250 Vac or Vdc	–

■ Bulb can be ordered separately, see page 101, or add voltage (24, 120) for bulb supplied.

Add-On Contact Block (with screw clamp terminal connections) ▲ *



ZBE203



ZBE204

Description	Type of Contact		Catalog Number
	N/O	N/C	
Standard single contact blocks	1	–	ZBE101
	–	1	ZBE102
Standard double contact blocks	2	–	ZBE203
	–	2	ZBE204
	1	1	ZBE205
Special contact blocks (for low power switching and dust protected) ●	1	–	ZBE1016
	–	1	ZBE1026

Body/Mounting Collar

For use with	Catalog Number
Electrical block (contact or light module)	ZB5AZ009

Clip-on Legend Holders for Electrical Blocks (Contact Blocks and Light Modules)

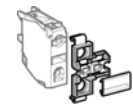
(with screw clamp terminal connections)



ZB5AZ009

Identification of an XB5A control or signalling unit	ZBZ001
--	--------

Sheet of 50 Blank Legends



ZBZ001

Legend holder ZBZ001	ZBY001
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- ▲ The contact blocks enable variable composition of body sub-assemblies and can be stacked to 3 rows, either: 3 rows of 3 single contacts or 1 row of 3 double contacts + 1 row of 3 single contacts (double contact blocks occupy 2 rows).
- Cannot stack additional contact blocks onto these blocks.
- ▼ For "Quick-Connect" options see page 88.
- * For "Quick-Connect" options see page 86.

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Light Module Assemblies, Contact Blocks, Plug-In Connector Type

Contact Blocks (Mounting Base with Contact Blocks)



ZB5AZ1014

Description	Type of Contact		Catalog Number
	N/O	N/C	
Plug-in connector	1	–	ZB5AZ1014
	–	1	ZB5AZ1024
	2	–	ZB5AZ1034
	–	2	ZB5AZ1044
	1	1	ZB5AZ1054
	1	2	ZB5AZ1414



ZB5AZ1024


Contact Blocks for Plug-in Connector

Description	Type of Contacts		Catalog Number
	N/O	N/C	
Standard contact blocks	1	–	ZBE1014
	–	1	ZBE1024



ZBE1014

Light Modules for Plug-in Connector

Description	Supply Voltage	Color of Light Source	Catalog Number
Protected LED 	24 Vac or Vdc	White	ZBVB14
		Green	ZBVB34
		Red	ZBVB44
		Yellow	ZBVB54
		Blue	ZBVB64
	110-120 Vac	White	ZBVG14
		Green	ZBVG34
		Red	ZBVG44
		Yellow	ZBVG54
		Blue	ZBVG64
	230-240 Vac	White	ZBVM14
		Green	ZBVM34
Red		ZBVM44	
Yellow		ZBVM54	
		Blue	ZBVM64

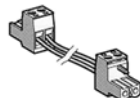


ZBE1024



ZBVB*4

Connecting Cables and Connector



APE1C2250

Description	Number of Connector	Wire c.s.a	Length	Catalog Number
Connecting cable with 2-pin connector 0.20 in (5.08 mm)	1	#18 AWG (0.75 mm ²)	19.69 in (500 mm)	APE1C2150
	2	#18 AWG (0.75 mm ²)	19.69 in (500 mm)	APE1C2250
Self-stripping connector	–	#18 AWG (0.75 mm ²)	–	APE1PAD21



APE1PAD21

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Printed Circuit Board (PCB) Components

Contact Blocks for Printed Circuit Board (PCB) Connection ■



ZBE701



ZBE702

Description	Type of Contacts		Catalog Number
	N/O	N/C	
Standard contact blocks	1	–	ZBE701
	–	1	ZBE702
Special contact blocks (for low power switching and dust protected)	1	–	ZBE7016
	–	1	ZBE7026

Protected LED Light Modules for Printed Circuit Board (PCB) Connection ■



ZBVB-7

Description	Supply Voltage	Color of Light Source	Catalog Number
Protected LED Protected LED (For heads with protected LED, see page 88.)	24 Vac or Vdc	White	ZBVB17
		Green	ZBVB37
		Red	ZBVB47
		Yellow	ZBVB57
		Blue	ZBVB67



ZB5AZ009

Adaptor (socket) for Printed Circuit Board (PCB)

For use with	Catalog Number
Electrical block (contact or light module)	ZBZ010



ZB5AZ079

Body/Mounting Collar

For use with	Catalog Number
Electrical block (contact or light module)	ZB5AZ009

Accessories Specifically for Printed Circuit Boards (PCB) Connection



ZBZ010

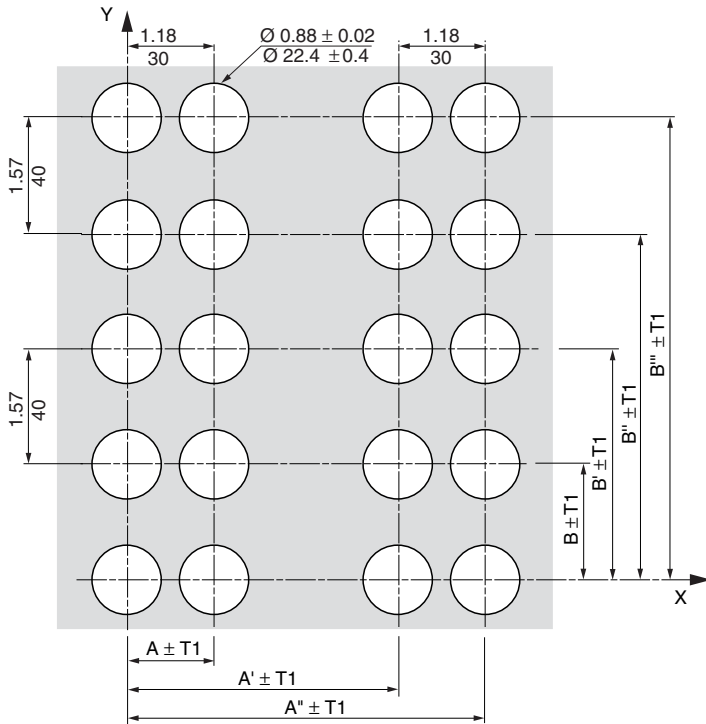
Description	Application	Catalog Number
Pillar	Printed circuit board support	ZB5AZ079
Mounting screw for printed circuit board	Pillar (ZB5AZ079)	ZBZ006

■ For detail of support drilling and printed circuit board, see page 96. Must be used in conjunction with ZBZ010 adaptor (socket).

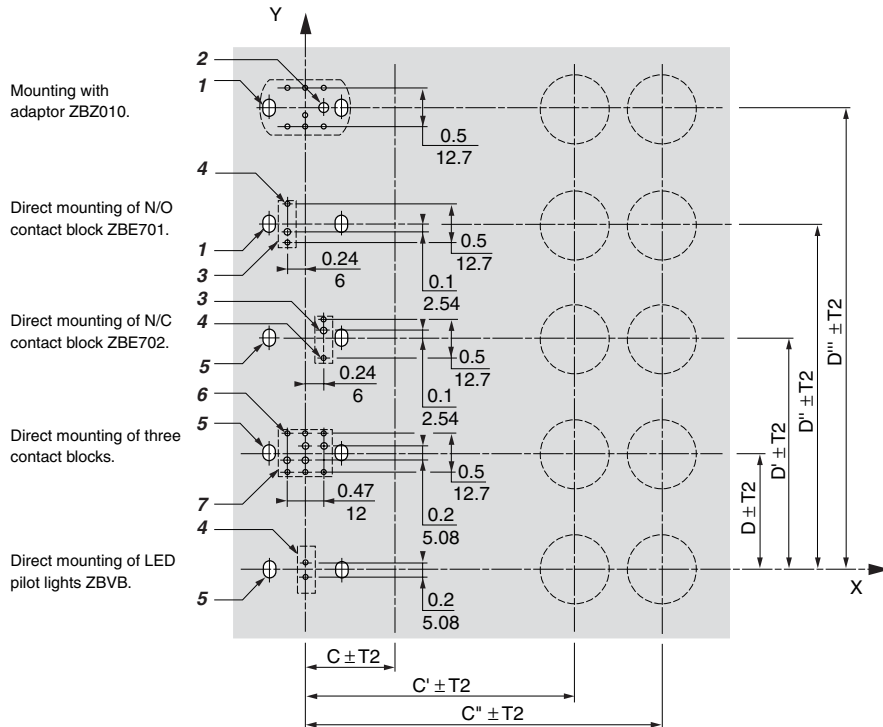
Push Buttons & Operator Interface - XB5 22 mm Double Insulated Printed Circuit Board (PCB) Components

Connecting Control Units to Printed Circuit Boards (PCB)

Panel drilling



Printed Circuit Board Drillings (viewed from electrical block side)



General Tolerances of the Panel and Printed Circuit Board

The cumulative tolerance must not exceed 0.02 inch (0.5 mm): $T1 + T2 = 0.02$ inch (0.5 mm) maximum.

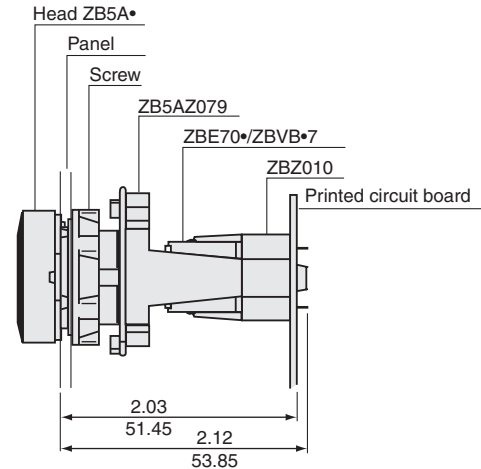
Related to horizontal direction X / Related to vertical direction Y

Dimensions: A on panel / Dimensions: B on panel

C on printed circuit board / D on printed circuit board

Installation Precautions:

1. Minimum circuit board thickness: 0.063 in (1.6 mm)
2. Cut-out diameter: 0.88 in \pm 0.004 (22.4 mm \pm 0.1)
3. Orientation of body/mounting collar ZB5AZ009: \pm 2° 30'
4. ZBZ005 and ZBZ006 mounting screw tightening torque: (0.6 N•m)



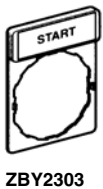
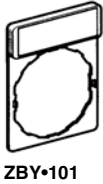
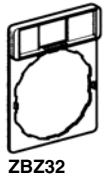
Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

- 1 Two elongated holes for ZBZ005 screw access.
- 2 One - 0.1 inch \pm 0.002 (2.6 mm \pm 0.05) diameter hole for orientation of the ZBZ010 adaptor.
- 3 One - 0.07 inch \pm 0.002 (1.8 mm \pm 0.05) diameter hole for orientation of contact block.
- 4 Two - 0.05 inch \pm 0.002 (1.2 mm \pm 0.05) diameter holes.
- 5 Two elongated holes for ZBZ006 screw access.
- 6 Six - 0.05 inch \pm 0.002 (1.2 mm \pm 0.05) diameter holes.
- 7 Four - 0.07 inch \pm 0.002 (1.8 mm \pm 0.05) diameter holes.

Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Printed Circuit Board (PCB) Components

Standard (30 x 40 mm) Legend Plates for 8 x 27 mm Legends ■

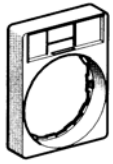


Description	Legend		Catalog Number
	Color	Text	
Without legend	–	–	ZBZ32
With blank legend (for engraving)	Black or red background	–	ZBY2101
	White or yellow background	–	ZBY4101
Custom Legend (Specify Engraving) 2 lines of 11 characters (including spaces) maximum per line	Black background	White	ZBY2002
	Red background	White	ZBY2004
	White background	Black	ZBY4001
	Yellow background	Black	ZBY4005
With international language marked legend	Black or red background	O (black background)	ZBY2146
		O (red background)	ZBY2931
		I	ZBY2147
		II	ZBY2148
		O-I	ZBY2178
		I-II	ZBY2179
		I-O-II	ZBY2186
		AUTO	ZBY2115
		STOP	ZBY2304
		With English language marked legend	Black or red background ▲
AUTO-O-HAND	ZBY2385		
CLOSE	ZBY2314		
DOWN	ZBY2308		
EMERGENCY STOP	ZBY2330		
FAST	ZBY2328		
FORWARD	ZBY2305		
FOR REV	ZBY2371		
HAND	ZBY2316		
HAND-OFF-AUTO	ZBY2387		
INCH	ZBY2321		
JOG	ZBY2382		
LEFT	ZBY2310		
OFF	ZBY2312		
OFF-ON	ZBY2367		
ON	ZBY2311		
OPEN	ZBY2313		
POWER ON	ZBY2326		
RESET (red background)	ZBY2323		
RESET (black background)	ZBY2322		
REVERSE	ZBY2306		
RIGHT	ZBY2309		
RUN	ZBY2334		
SLOW	ZBY2327		
START	ZBY2303		
STOP-START	ZBY2366		
UP	ZBY2307		

■ For legends, see page 99.

▲ “Start” functions: white letters on black background. “Stop” functions: white letters on red background (unless otherwise specified above).

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Printed Circuit Board (PCB) Components



ZBZ34



ZBY•H101



ZBZ33



ZBY610•



ZBZ35



ZBY6H10•

Flush Mounting with Bezel Legend Plates (30 x 40 mm) for 8 x 27 mm Legends

Description	For Use With	Color	Catalog Number
Without legend	Circular heads	–	ZBZ34
	Square heads	–	ZBCZ34
With blank legend	Circular heads	Black or red background	ZBY2H101
		White or yellow background	ZBY4H101
With blank legend	Square heads	Black or red background	ZBCY2H101
		White or yellow background	ZBCY4H101

Standard (30 x 50 mm) Legend Plates for 18 x 27 mm Legends

Description	For Use With	Color	Catalog Number
Without legend	Circular and square heads	–	ZBZ33
With blank legend	Circular and square heads	Black or red background	ZBY6101
		White or yellow background	ZBY6102

Flush Mounting with Bezel Legend Plates (30 x 50 mm) for 18 x 27 mm Legends

Description	For Use With	Color	Catalog Number
Without legend	Circular heads	–	ZBZ35
	Square heads	–	ZBCZ35
With blank legend	Circular heads	Black or red background	ZBY6H101
		White or yellow background	ZBY6H102
With blank legend	Square heads	Black or red background	ZBCY6H101
		White or yellow background	ZBCY6H102

Legends for Engraving (Inserts only)

Description	For use with	Color	Catalog Number
8 x 27 mm	30 x 40 mm legend holders	Black or red background	ZBY0101
		White or yellow background	ZBY0102
18 x 27 mm	30 x 50 mm legend holders	Black or red background	ZBY5101
		White or yellow background	ZBY5102

Custom Engraved (inserts only)

Description	For use with	Color	Text	Catalog Number
8 x 27 mm Custom Legend / Insert only (Specify Engraving) 2 lines of 11 characters (including spaces) maximum per line	30 x 40 mm holder	Black background	White	ZBY01002
		Red background	White	ZBY01004
		White background	Black	ZBY01001
		Yellow background	Black	ZBY01005
18 x 27 mm Custom Legend / Insert only (Specify Engraving) 3 lines of 11 characters (including spaces) maximum per line	30 x 50 mm holder	Black background	White	ZBY05002
		Red background	White	ZBY05004
		White background	Black	ZBY05001
		Yellow background	Black	ZBY05005

Sheets of Peel-Off Legends (with backing board and protective transparent cover)

Description	For use with	Catalog Number
Sheet of 76 8 x 27 mm legends	30 x 40 mm legend holders ZBZ32 and ZBZ34	ZBY4100
Sheet of 40 18 x 27 mm legends	30 x 50 mm legend holders ZBZ33 and ZBZ35	ZBY5100

Circular Legends for Emergency Stop Mushroom Heads (yellow background)

Diameter	For use with	Catalog Number
60 mm	Blank	ZBY9101
	ARRET D'URGENCE	ZBY9130
	EMERGENCY STOP	ZBY9330
90 mm	Blank	ZBY8101
	ARRET D'URGENCE	ZBY8130
	EMERGENCY STOP	ZBY8330



ZBY9330

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Printed Circuit Board (PCB) Components

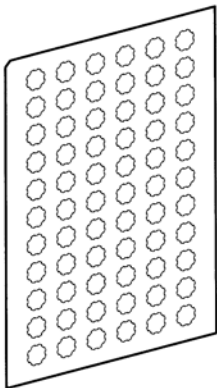
Marked Legends (8 x 27 mm) (for 30 x 40 mm legend holders ZBZ32 and ZBZ34)



Color	Text		Catalog Number
Black or red background ■	International	O (black background)	ZBY02146
		O (red background)	ZBY02931
I		ZBY02147	
II		ZBY02148	
O-I		ZBY02178	
I-II		ZBY02179	
I-O-II		ZBY02186	
AUTO		ZBY02115	
STOP		ZBY02304	
English		AUTO-HAND	ZBY02364
		AUTO-O-HAND	ZBY02385
		CLOSE	ZBY02314
		DOWN	ZBY02308
		EMERGENCY STOP	ZBY02330
	FAST	ZBY02328	
	FORWARD	ZBY02305	
	FOR REV	ZBY02371	
	HAND	ZBY02316	
	HAND-OFF-AUTO	ZBY02387	
	INCH	ZBY02321	
	JOG	ZBY02382	
	LEFT	ZBY02310	
	OFF	ZBY02312	
	OFF-ON	ZBY02367	
	ON	ZBY02311	
	OPEN	ZBY02313	
	POWER ON	ZBY02326	
RESET (red background)	ZBY02323		
RESET (black background)	ZBY02322		
REVERSE	ZBY02306		
RIGHT	ZBY02309		
RUN	ZBY02334		
SLOW	ZBY02327		
START	ZBY02303		
STOP-START	ZBY02366		
UP	ZBY02307		

■ "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

Sheets of Legends for Push Buttons, Switches, and Pilot Lights



ZBY1101

Description	Text		Catalog Number
Sheets of 66 circular peel-off transparent self-adhesive legends	Without		ZBY1101
	International	O	ZBY1146
		I	ZBY1147
		II	ZBY1148
		III	ZBY1149
		STOP	ZBY1304
		↑	ZBY1912
		English	HAND
	OFF	ZBY1312	
	ON	ZBY1311	
	START	ZBY1303	

Push Buttons & Operator Interface - XB5 22 mm Double Insulated

Push Button Caps

Push Button Caps - Unmarked



ZBA•



ZBL•

For use with	Type of Push	Color	Catalog Number	
ZB5AA0 push button heads supplied with cap	Flush	White	ZBA1	
		Black	ZBA2	
		Green	ZBA3	
		Red	ZBA4	
		Yellow	ZBA5	
		Blue	ZBA6	
	6 colors ■			ZBA9
		Extended	White	ZBL1
			Black	ZBL2
			Green	ZBL3
			Red	ZBL4
			Yellow	ZBL5
Blue	ZBL6			
6 colors ■			ZBL9	

Push Button Caps - Marked



ZBA•33

For use with	Type of Push	Marking		Color of Cap	Catalog Number
		Text	Color		
ZB5AA0 push button heads supplied with cap	Flush	▲	White	Green	ZBA331
			Black	White	ZBA131
		START ▲	White	Green	ZBA333
			Black	White	ZBA133
		◊	White	Green	ZBA346
		ON	White	Green	ZBA341
			Black	White	ZBA141
		UP ▲	Black	White	ZBA343
		DOWN ▲	White	Black	ZBA344
		⊕	White	Green	ZBA346
		⊕ ▲	Black	White	ZBA145
			White	Black	ZBA245
		↑	Black	White	ZBA334 ●
			White	Black	ZBA335 ●
		O ▲	White	Red	ZBA432
				Black	ZBA232
		STOP ▲		Red	ZBA434
			Black	ZBA234	
OFF		Red	ZBA435		
		Black	ZBA235		
R ▲	White	Blue	ZBA639		
Extended	O ▲	White	Red	ZBL432	

- Set of 6 different colored caps: white, black, green, red, yellow, blue.
- ▲ Double injection molded marking.
- Cap supplied not clipped-in, allowing orientation of arrow in 4 directions: ↑, ↓, ←, →.

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Accessories and Replacement Parts



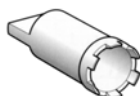
ZBZ160*



ZB4SZ3



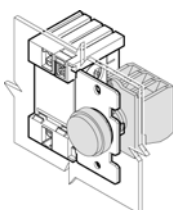
ZB5AZ31



ZB5AZ905



ZB5AZ902



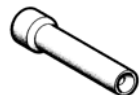
XBZS43



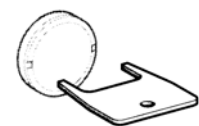
DLCE***



DL1CF***



XBFX13



ZBZ8




ZBG455

Accessories

Description	Application	Color	Catalog Number
Metal guards (padlocking possible)	Ø 40 mm Emergency stop and mushroom head push buttons	Black	ZBZ1602
		Red	ZBZ1604
		Yellow	ZBZ1605
		Blue	ZBZ1606
Plastic blanking plug, round, black ■	For Ø 22 mm units with round heads		ZB5SZ3
Plastic blanking plug, square, black ■	For Ø 22 mm units with square heads		ZB5SZ5
Square insert	To give square appearance to ZB5A round heads		ZB5AZ31
Mounting nut	Operator		ZB5AZ901
Tool	For tightening screw ZB5AZ901		ZB5AZ905
Plate	Anti-rotation of head		ZB5AZ902

■ Mounting nut included with blanking plug.

Modules for AS-i Interface with Ø 22 mm Control and Signalling Units

Description	Application	Catalog Number
Mounted on panel, with a Harmony style push button		
Profil P 7.0 	4 I/O direct supply for AS-i bus	XBZS43

BA 9s Bulbs and Associated Accessories

Description	Characteristics	Catalog Number
Incandescent bulbs	6 V, 1.2 W	DL1CB006
	12 V, 2 W	DL1CE012
	24 V, 2 W	DL1CE024
	120-130 V, 2.4 W	DL1CE130
Neon bulbs	120-130 V	DL1CF110
	230-240 V	DL1CF220
Bulb extractor		XBFX13
Lens cap tightening tool	Illuminated push buttons with flush push	ZBZ8

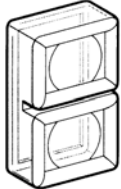
Replacement Keys for Emergency Stop Push Buttons and Selector Switches

Description	Key Number	Catalog Number
Set of 2 keys	455	ZBG455
	421E	ZBG421E
	458A	ZBG458A
	520E	ZBG520E
	3131A	ZBG3131A

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Accessories and Replacement Parts



ZBP0



ZBW008



ZBV01-3



ZBV01

Clear Boots

Description	For use with	Catalog Number
Single boots	Booted push buttons with circular head (neoprene)	ZBP0
	Booted push buttons with circular head used in food industry applications (silicone)	ZBP0A
Double boots	Double-headed push buttons, with or without pilot light (neoprene)	ZBW008
	Double-headed push buttons used in food industry applications (silicone)	ZBW008A

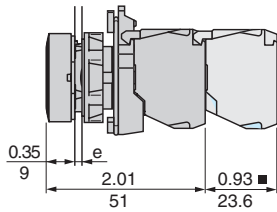
Lens Caps

For use with	Color	Catalog Number
Lens caps for protected LED light modules		
Pilot lights	White	ZBV0113
	Green	ZBV0133
	Red	ZBV0143
	Yellow	ZBV0153
	Blue	ZBV0163
	Blue	ZBV0163
Illuminated push buttons with flush push	White	ZBW9113
	Green	ZBW9133
	Red	ZBW9143
	Yellow	ZBW9153
	Blue	ZBW9163
Illuminated push buttons with extended push	White	ZBW9313
	Green	ZBW9333
	Red	ZBW9343
	Yellow	ZBW9353
	Blue	ZBW9363
Circular lens caps for Ba9 light modules		
Pilot lights	White	ZBV011
	Green	ZBV013
	Red	ZBV014
	Yellow	ZBV015
	Blue	ZBV016
	Clear	ZBV017
Illuminated push buttons with flush push	White	ZBW911
	Green	ZBW913
	Red	ZBW914
	Yellow	ZBW915
	Blue	ZBW916
	Clear	ZBW917
Illuminated push buttons with extended push	White	ZBW931
	Green	ZBW933
	Red	ZBW934
	Yellow	ZBW935
	Blue	ZBW936
	Clear	ZBW937
Square lens caps for protected LED light modules (ZB5C operators only)		
Pilot lights	White	ZBCV0113
	Green	ZBCV0133
	Red	ZBCV0143
	Yellow	ZBCV0153
	Blue	ZBCV0163
Illuminated push buttons with flush push	White	ZBCW9113
	Green	ZBCW9133
	Red	ZBCW9143
	Yellow	ZBCW9153
	Blue	ZBCW9163
Illuminated push buttons with extended push	White	ZBCW9313
	Green	ZBCW9333
	Red	ZBCW9343
	Yellow	ZBCW9353
	Blue	ZBCW9363

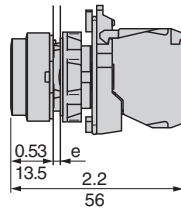
Push Buttons & Operator Interface - XB5 22 mm Double Insulated Dimensions

Push Buttons, momentary

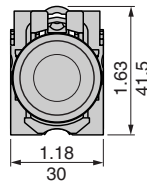
XB5AA**



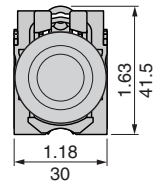
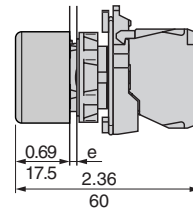
XB5AL**



Common face view



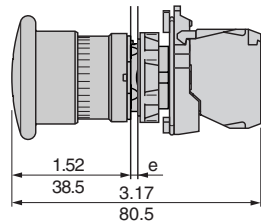
XB5AP**



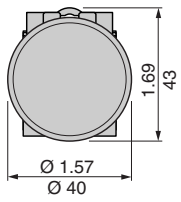
■ Can be fitted with additional contact block.

Push buttons, momentary Mushroom head

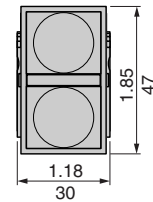
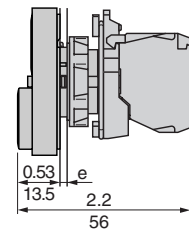
XB5AC21



Double-headed



XB5AL*45, AL*4C5

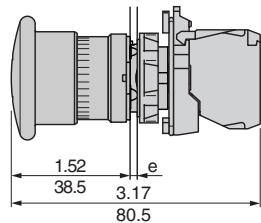


Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

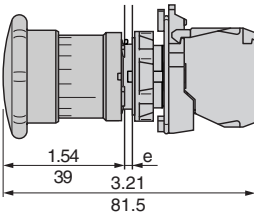
e: Panel thickness, 0.04 to 0.24 in (1 to 6 mm).

Emergency stop and mushroom head push buttons

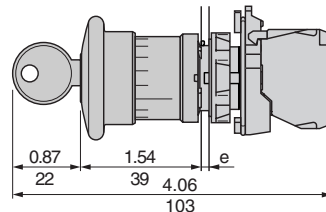
XB5AT42, AT845



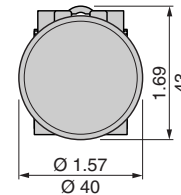
XB5AS542, AS8445



XB5AS142, AS9445



Common face view

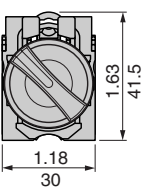
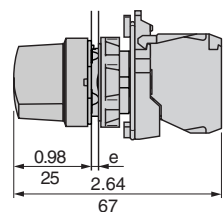


e: Panel thickness, 0.04 to 0.24 in (1 to 6 mm).

Selector switches

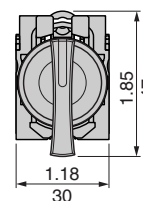
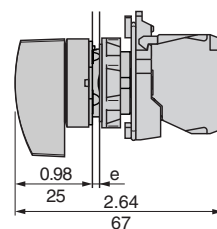
Standard lever operator

XB5AD



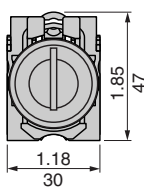
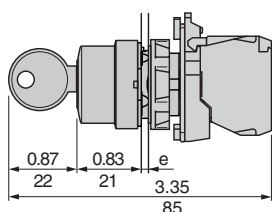
Rectangular head

XB5AJ



Key switches

XB5AG

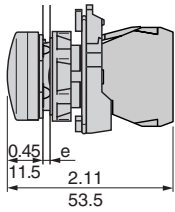


Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

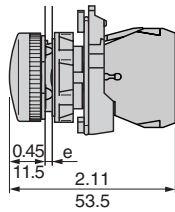
e: Panel thickness, 0.04 to 0.24 in (1 to 6 mm)

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Dimensions

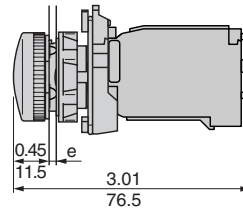
Pilot lights
Protected LED
XB5AVB•, AVG•, AVM•



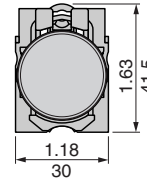
Direct supply
XB5AV6



Transformer type
XB5AV3•, AV4•



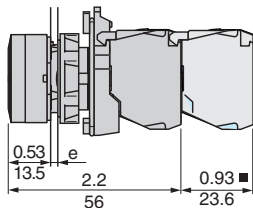
Common face view



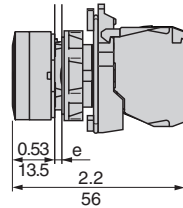
Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

e: Panel thickness, 0.04 to 0.24 in (1 to 6 mm).

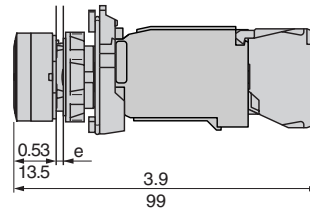
Illuminated push buttons
Protected LED
XB5AW3••5



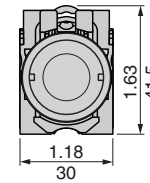
Direct supply
XB5AW3•65



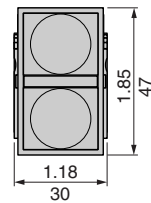
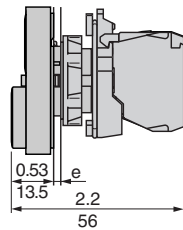
Transformer type
XB5AW3••5



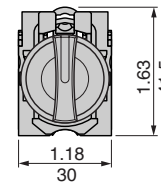
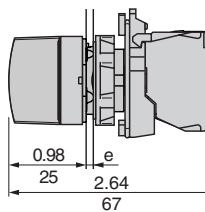
Common face view



Double headed push buttons with pilot light
Protected LED
XB5AW84•5



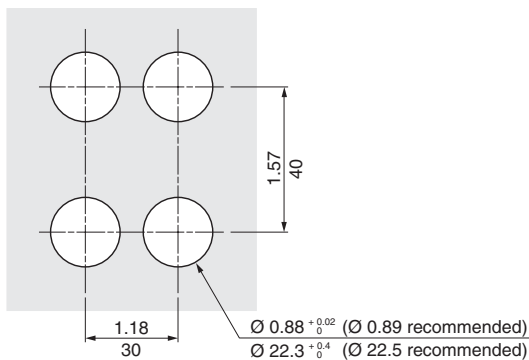
Illuminated selector switches
Protected LED
XB5AK12••5



e: Panel thickness, 0.04 to 0.24 in (1 to 6 mm).

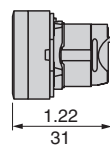
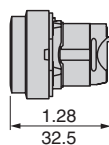
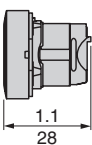
■ Can be fitted with additional contact block.

Support panel cut-out (suitable for mounting all types of push buttons and pilot lights)

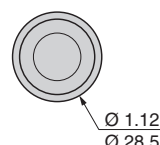


Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

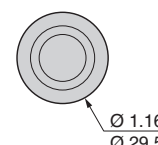
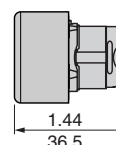
Heads for push buttons, momentary
ZB5AA•, AA••• ZB5AL•, AL••• ZB5AA•4
ZB5AA•8



Common face view

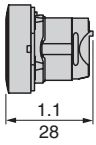


ZB5AP••

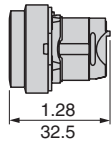


Push Buttons & Operator Interface - XB5 22 mm Double Insulated Dimensions

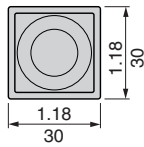
ZB5CA•



ZB5CL•

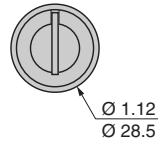
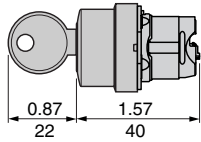


Common face view

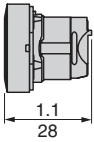


Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

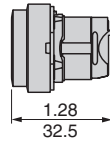
Heads for push buttons Lockable "Push-turn" ZB5AFD



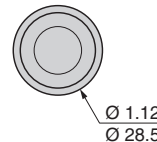
"Push-push to release" ZB5AH•



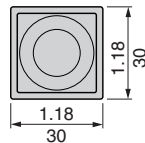
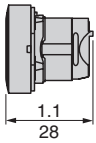
ZB5AH•



Common face view

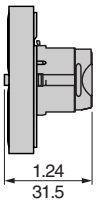


ZB5CH•

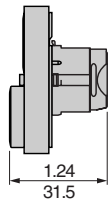


Heads for double-headed push buttons, momentary

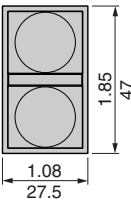
ZB5AA81•• ZB5AA82••



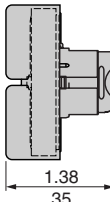
ZB5AL83•• ZB5AL84••



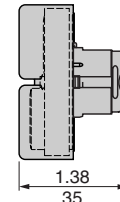
Common face view



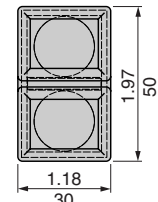
ZB5AA91•• ZB5AA92••



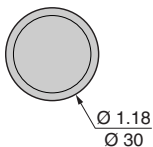
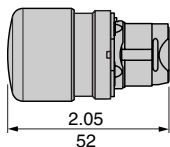
ZB5AL93•• ZB5AL94••



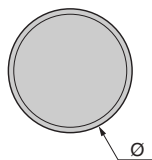
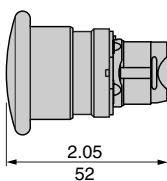
Common face view



Mushroom heads for push buttons ZB5AC•4



ZB5AC•, AR•

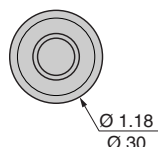
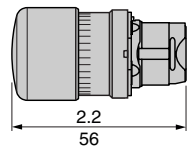


ZB5	Ø
AC•	1.57 in (40 mm)
AR•	2.36 in (60 mm)

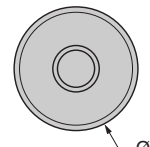
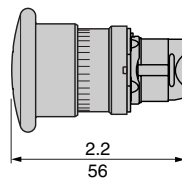
Mushroom heads for push buttons, maintained

Push-pull

ZB5AT•4



ZB5AT•, AX•

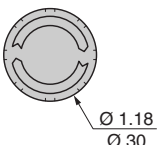
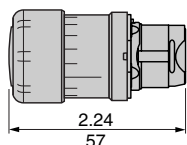


Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

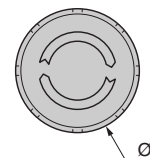
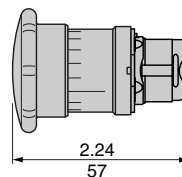
ZB5	Ø
AT•	1.57 in (40 mm)
AX•	2.36 in (60 mm)

Turn to release

ZB5AS4•, AS834



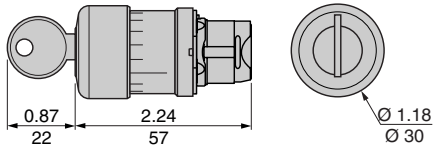
ZB5AS5•, AS844, AS6•



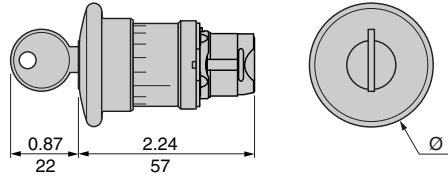
ZB5	Ø
AS5•, AS844	1.57 in (40 mm)
AS6•	2.36 in (60 mm)

Push Buttons & Operator Interface - XB5 22 mm Double Insulated Dimensions

Key release ZB5AS7*, AS934

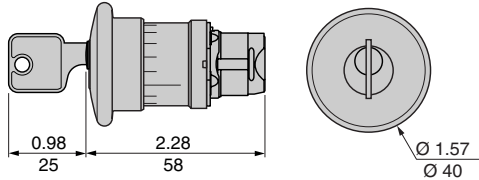


ZB5AS1*, AS2*, AS944, AS964



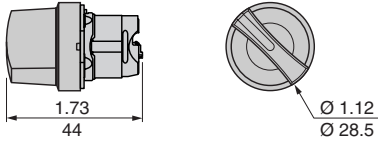
ZB5	Ø
AS1*, AS944	1.57 in (40 mm)
AS2*, AS964	2.36 in (60 mm)

ZB5AS14D

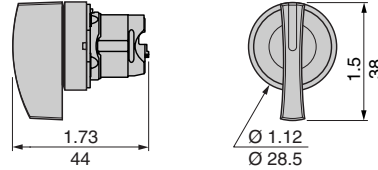


Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

Heads for selector switches Standard lever ZB5AD*

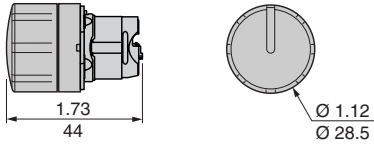


Extended lever ZB5AJ*

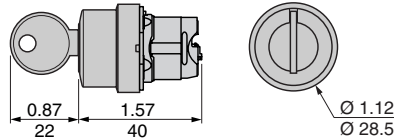


Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

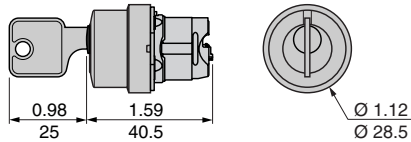
Knurled knob ZB5AD-9



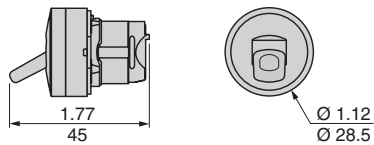
Key switches (Ronis No. 455) ZB5AG*, AG0*



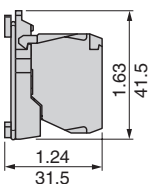
Key switches (DOM No. 8D1) ZB5AGD



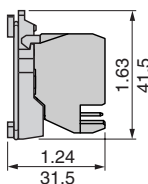
Heads for toggle switches ZB5AD-8



Bodies for push buttons and switches Screw clamp terminal connections ZB5AZ10*



Plug-in connector ZB5AZ10*4, AZ1414

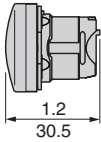


Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

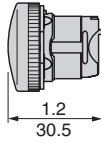
Push Buttons & Operator Interface - XB5 22 mm Double Insulated Dimensions

Heads for pilot lights, with light source

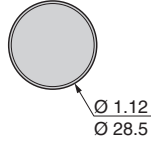
Protected LED
ZB5AV0•3



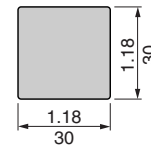
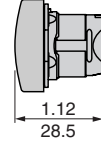
Incandescent, neon or LED
ZB5AV0•



Common face view

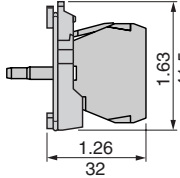


ZB5CV0•3

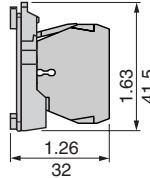


Bodies for pilot lights, screw clamp terminal connections

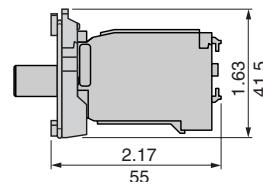
Protected LED
ZB5AV••



Direct supply, for BA 9s bulb
ZB5AV6



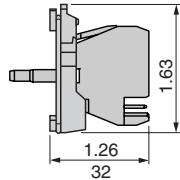
Transformer type, for BA 9s bulb
ZB5AV•, AV•D•



Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

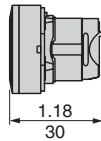
Bodies for pilot lights, plug-in connector

Protected LED
ZB5AV••4

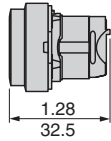


Heads for illuminated push buttons, momentary, light source LED

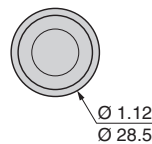
ZB5AW3•3
ZB5AA•8



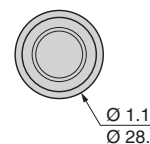
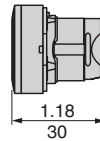
ZB5AW1•3
ZB5AL•8



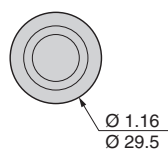
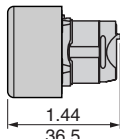
Common face view



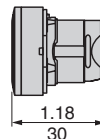
ZB5AW9•3



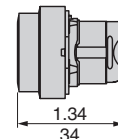
ZB5AW5•3



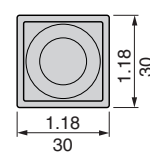
ZB5CW3•3



ZB5CW1•3

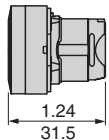


Common face view

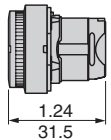


Incandescent or neon

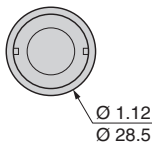
ZB5AW3•3



ZB5AW1•3



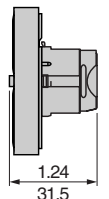
Common face view



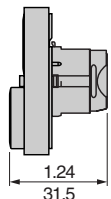
Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

Heads for double-headed push buttons with pilot light

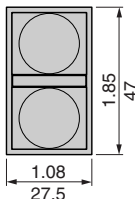
ZB5AW81•••3,
ZB5AW82•••3



ZB5AW83•••3
ZB5AW84•••3

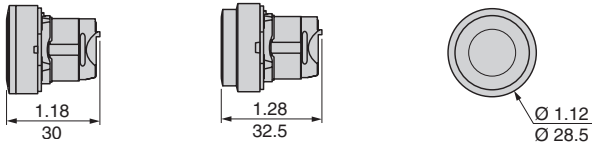


Common face view

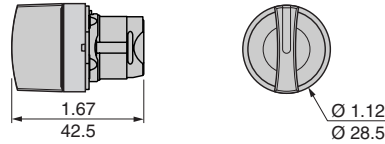


Push Buttons & Operator Interface - XB5 22 mm Double Insulated Dimensions

Heads for "push-push to release" illuminated push buttons
ZB5AH0•3, **ZB5AH•3** Common face view



Heads for illuminated selector switches, standard lever
ZB5AK1•••3



Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

Bodies for illuminated push buttons and selector switches, screw clamp terminal connections

Protected LED

Direct supply, for BA 9s bulb

Transformer type, for BA 9s bulb

Bodies for illuminated push buttons and selector switches, plug-in connector protected LED
ZB5AW0•••4

ZB5AW0•••

ZB5AW06•

ZB5AW0••, AW0•D••



Manual overload reset buttons

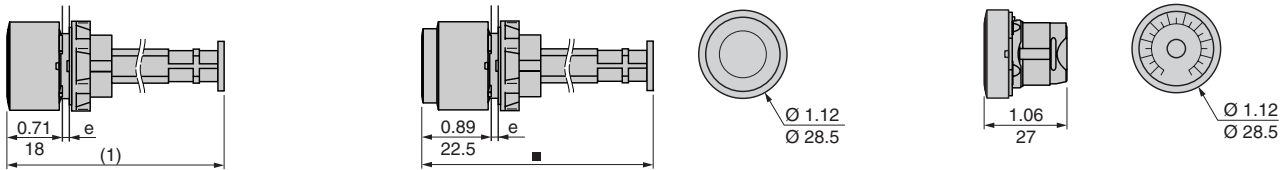
Head + mounting base

for potentiometer
ZB5AD9•2

XB5A8•••

XB5AL8•••

Common face view

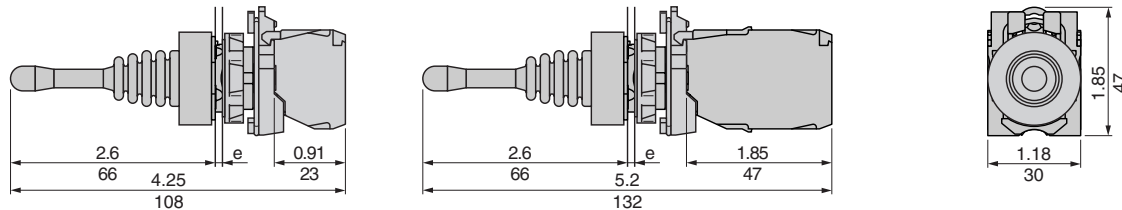


e: Panel thickness, 0.04 to 0.24 in (1 to 6 mm)

Joystick controllers
XD5PA•2

XD5PA•4

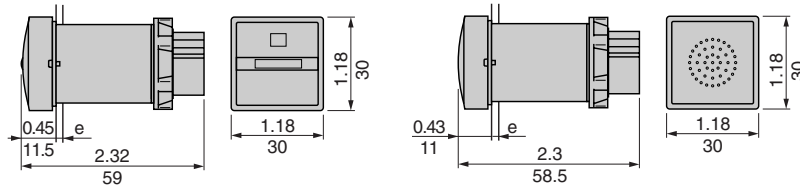
Common face view



e: Panel thickness, 0.04 to 0.24 in (1 to 6 mm).

Hour counters
XB5DS•

Annunciators
XB5KS•



e: Panel thickness, 0.04 to 0.24 in (1 to 6 mm).