




# Push Buttons and Operator Interface - XB6 16 mm

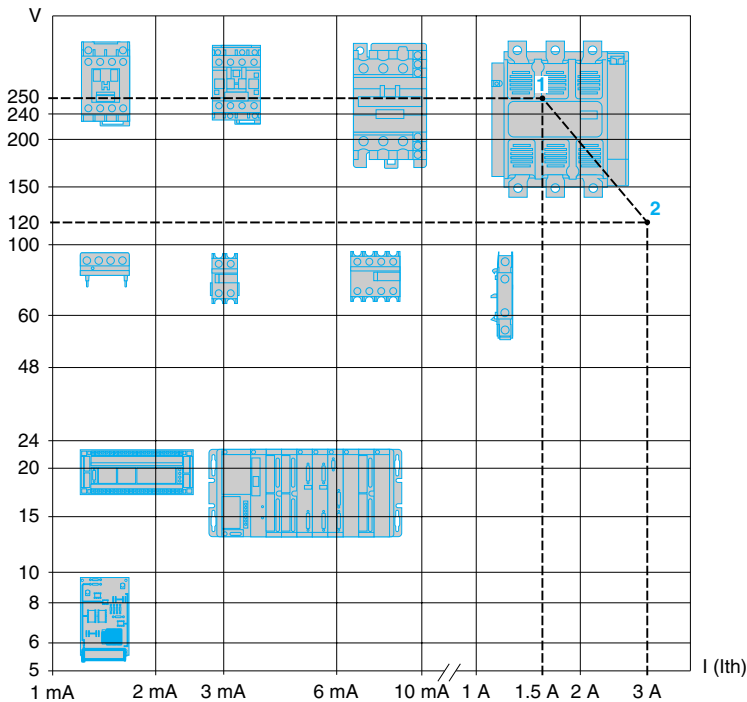
## Characteristics

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Environment		
<b>Conforming to standards</b>	 Marked	IEC 60947-1, IEC 60947-5-1, IEC 60947-5-4, EN 60947-5-1, JIS C 4520 and 852, UL 508, CSA C22.2 No. 14
<b>Product certifications</b>	 File E164353 CCN NKCR  File LR 44087 Class 3211 03	UL, CSA ASE, BV, JIS, RINA, LROS, DNV, GL: pending
<b>Protective treatment</b> Standard version		"TC"
<b>Ambient air temperature</b> around the device	Storage	-40 to +158 °F (-40 to +70 °C)
	Operation	-13 to +158 °F (-25 to +70 °C)
<b>Vibration resistance</b>	Conforming to IEC 60068-2-6	(2 - 500 Hz) 3 mm peak to peak or 5 gn
<b>Shock resistance</b>	Conforming to IEC 60068-2-27	Half sine wave 18 ms, 30 gn
		Half sine wave 11 ms, 50 gn
<b>Electric shock protection</b>	Conforming to IEC 60536 & NF C 20-030	Class II
<b>Degree of protection</b>	Conforming to IEC 60529 & NF C 20-010 Conforming to UL 50 & CSA C22.2 No. 94	IP 65 Type 1, 4, 4X and 12 (not for key selector switches)
<b>Mechanical durability</b> (in operating cycles)	Spring return push buttons	2 million
	Maintained push buttons	300,000
	Key operated selector switches	200,000
	Handle operated selector switches	500,000
<b>Mounting positions</b>		All
Electrical characteristics of LED pilot lights		
<b>Voltage limits</b>		6 - 30 Vac/Vdc
<b>Current Draw</b>		15 mA
<b>Surge withstand</b>	Conforming to IEC 61000-4-5	2/1 kV
<b>Resistance to fast transients</b>	Conforming to IEC 61000-4-4	2 kV
<b>Resistance to electromagnet fields</b>	Conforming to IEC 61000-4-3	10 V/m
<b>Resistance to electrostatic discharges</b>	Conforming to IEC 61000-4-2	8/6 kV
<b>Electromagnetic emission</b>	Conforming to EN 55011	Class B
<b>Service life</b>	At nominal voltage and 25°C ambient	100,000 hrs

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<b>Electrical characteristic of contacts</b>		
<b>Rated operational characteristics</b>	AC-15	B300, U <sub>e</sub> = 240 Vac and I <sub>e</sub> = 1.5 A or U <sub>e</sub> 120 Vac and I <sub>e</sub> = 3 A
	DC-13	R300, U <sub>e</sub> = 250 Vdc and I <sub>e</sub> = 0.1 A or U <sub>e</sub> = 125 Vdc and I <sub>e</sub> = 0.22 A
<b>Rated insulation voltage</b>	Conforming to IEC 60947-1	U <sub>i</sub> = 250 V Degree of pollution 3 (Except pilot lights with incandescent or neon bulb: degree of pollution 2)
<b>Rated impulse withstand voltage</b>	Conforming to IEC 60947-1	U <sub>imp</sub> = 4 kV
<b>Contact material</b>	Normal environment and usage	Silver alloy
	Chemically corrosive environment or infrequent operation	Gold
<b>Contact operation</b>	N/C or N/O	Slow break, with indication of change of state by tactile feedback on push and audibility
<b>Differential travel of contacts</b>	With push button head	Changing N/C state: 0.04 in (1.0 mm)
		Changing N/O state: 0.08 in (2.0 mm)
		Total travel: 0.14 in (3.5 mm)
<b>Operating force</b>	N/C contact	0.56 lbf (2.5 N)
	N/O contact	0.36 lbf (1.6 N)
	Push button head + N/O contact	0.79 lbf (3.5 N)
	Push button head + N/C contact	1.01 lbf (4.5 N)
<b>Positive operation</b>	Conforming to IEC 60947-5-2	N/C contact with positive opening operation Positive opening force: 3.38 lbf (15 N)
<b>Terminal referencing</b>	Conforming to EN 50005 and EN 50013	
<b>Short-circuit protection</b>	Cartridge fuse mounted upstream	6 A gG, 6 A Class CC, Bussman KTK-R
<b>Electrical reliability</b>	Failure rate Conforming to IEC 60947-5-4	With confidence level of 90%: $\lambda_{90} = 10^{-8}$ 5 V - 1 mA, defect contact voltage drop = 0.5 V
<b>Cabling</b>		By Quick Connectors/Solder tabs 0.11 x 0.02 in (2.8 x 0.5 mm)
		By pins for printed circuit board connection 0.04 x 0.02 in (1 x 0.5 mm)
<b>Electrical durability</b>	Conforming to IEC 947-5-1 Appendix C Utilization category AC-15 and DC-13 Operating rate 3600 operating cycles/h. Load factor 0.5	1 million operating cycles - 200 VA-230 V



- 1 Switching capacity conforming to IEC 60947-5-1, utilization category AC-15, DC-13
 

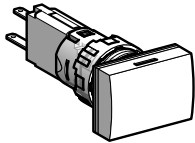
B300	240 Vac	1.5 A
R300	250 Vdc	0.1 A
- 2 Switching capacity conforming to IEC 60947-5-1, utilization category AC-15, DC-13
 

B300	120 Vac	3 A
R300	125 Vdc	0.22 A

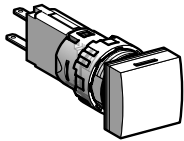
# Push Buttons and Operator Interface - XB6 16 mm

## Pilot Lights and Push Buttons

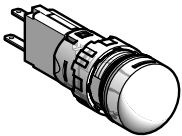
### Pilot Lights (12 - 24 VAC/VDC LED included) Complete Units with Quick Connectors/Solder Tabs






XB6DV•BB



XB6CV•BB



XB6AV•BB

Shape of head		Color	Catalog Number
		White	XB6DV1BB
		Green	XB6DV3BB
		Red	XB6DV4BB
		Yellow	XB6DV5BB
		Blue	XB6DV6BB
		White	XB6CV1BB
		Green	XB6CV3BB
		Red	XB6CV4BB
		Yellow	XB6CV5BB
		Blue	XB6CV6BB
		White	XB6AV1BB
		Green	XB6AV3BB
		Red	XB6AV4BB
		Yellow	XB6AV5BB
		Blue	XB6AV6BB



### Trigger Action Emergency Stop Mushroom Head Push Buttons (Color Red)



XB6AS8345B



XB6AS9345B

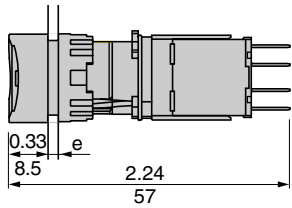
Shape of head	Type of push	Type of Contact		Diameter of push (mm)	Catalog Number
		N/O	N/C		
	Turn to release	-	1	30	XB6AS8342B
		1	1	30	XB6AS8345B
	Key release	-	1	30	XB6AS9342B
		1	1	30	XB6AS9345B

# Push Buttons and Operator Interface - XB6 16 mm Dimensions

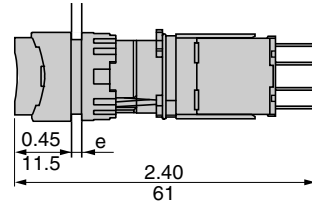
## Push Buttons (Illuminated and Non-illuminated)

### Rectangular Head

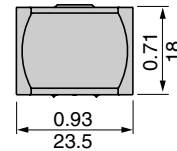
XB6DW\*\*\*, DF\*\*\*, DA\*\*\*



XB6DE\*\*\*

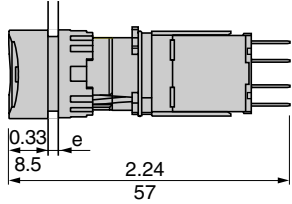


Common Face View

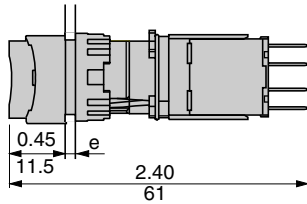


### Square Head

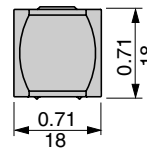
XB6CW\*\*\*, CF\*\*\*, CA\*\*\*



XB6CE\*\*\*

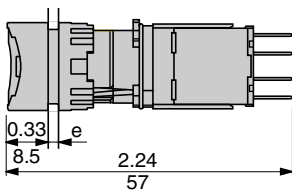


Common Face View

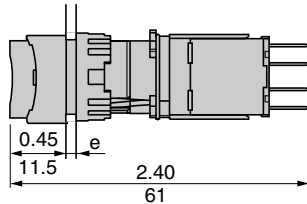


### Circular Head

XB6AW\*\*\*, AF\*\*\*, AA\*\*\*



XB6AE\*\*\*



Common Face View

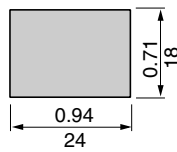
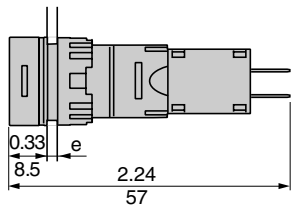


Dual Dimensions  $\frac{\text{inches}}{\text{mm}}$

## Pilot Lights

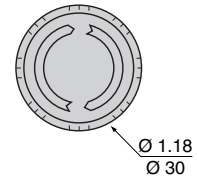
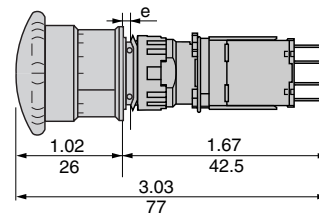
### Rectangular Head

XB6DV\*\*\*



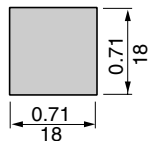
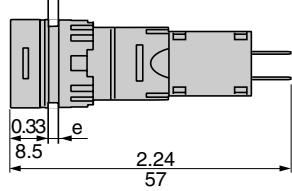
### Mushroom Head Push Button

XB6AS834•B



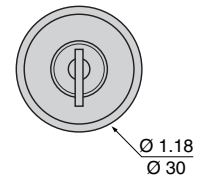
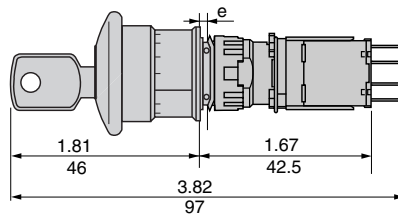
### Square Head

XB6CV\*\*\*



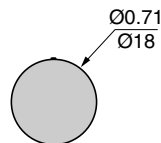
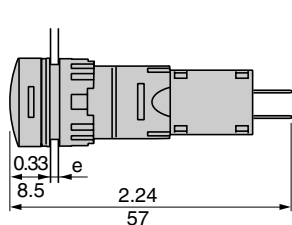
### Mushroom Head Push Button

XB6AS934•B



### Circular Head

XB6AV\*\*\*



e: panel thickness  $\frac{0.04 \text{ to } 0.24 \text{ in}}{1 \text{ to } 6 \text{ mm}}$

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