




# Push Buttons and Operator Interface - XB6 16 mm

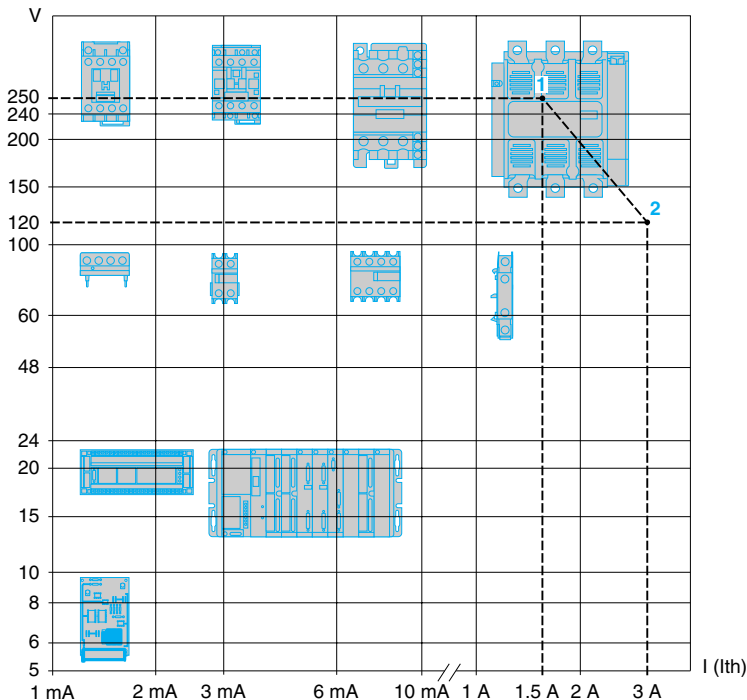
## Characteristics

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Environment		
Conforming to standards	 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
Product certifications	 File E164353 CCN NKCR  File LR 44087 Class 3211 03	UL, CSA ASE, BV, JIS, RINA, LROS, DNV, GL: pending
Protective treatment Standard version		"TC"
Ambient air temperature around the device	Storage	-40 to +158 °F (-40 to +70 °C)
	Operation	-13 to +158 °F (-25 to +70 °C)
Vibration resistance	Conforming to IEC 60068-2-6	(2 - 500 Hz) 3 mm peak to peak or 5 gn
Shock resistance	Conforming to IEC 60068-2-27	Half sine wave 18 ms, 30 gn
		Half sine wave 11 ms, 50 gn
Electric shock protection	Conforming to IEC 60536 & NF C 20-030	Class II
Degree of protection	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)
Mechanical durability (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
Mounting positions		All
Electrical characteristics of LED pilot lights		
Voltage limits		6 - 30 Vac/Vdc
Current Draw		15 mA
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 electromagnet 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
Service life	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
 

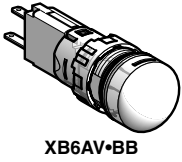
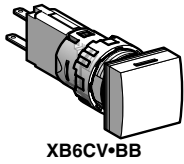
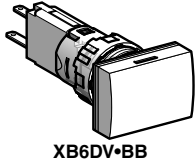
B300	240 Vac	1.5 A
R300	250 Vdc	0.1 A
- 2 Switching capacity conforming to IEC 60947-5-1, utilization category AC-15, DC-13
 




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



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
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		Yellow	XB6AV5BB
		Blue	XB6AV6BB

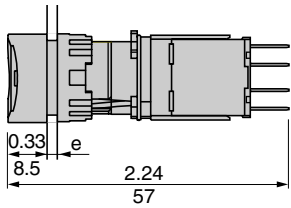
### Trigger Action Emergency Stop Mushroom Head Push Buttons (Color Red)



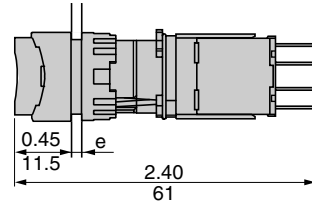
Shape of head	Type of push	Type of Contact		Diameter of push (mm)	Catalog Number
		N/O	N/C		
	Turn to release	-	1	30	XB6AS8342B
		1	1	30	XB6AS8345B
	Key release	-	1	30	XB6AS9342B
		1	1	30	XB6AS9345B

# Push Buttons and Operator Interface - XB6 16 mm Dimensions

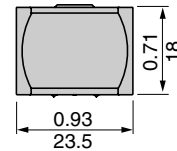
## Push Buttons (Illuminated and Non-illuminated) Rectangular Head XB6DW\*\*\*, DF\*\*\*, DA\*\*\*



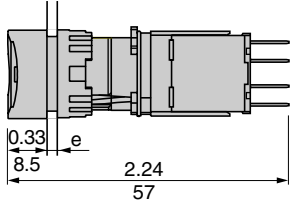
## XB6DE\*\*\*



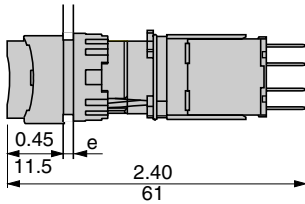
## Common Face View



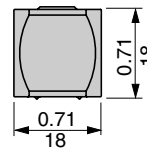
## Square Head XB6CW\*\*\*, CF\*\*\*, CA\*\*\*



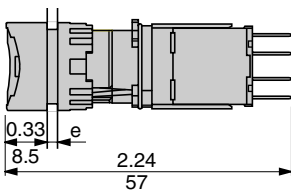
## XB6CE\*\*\*



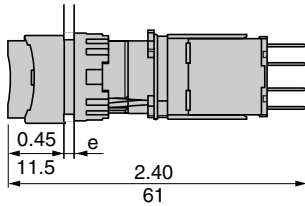
## Common Face View



## Circular Head XB6AW\*\*\*, AF\*\*\*, AA\*\*\*



## XB6AE\*\*\*

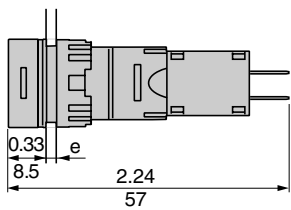


## Common Face View

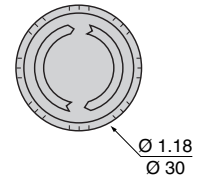
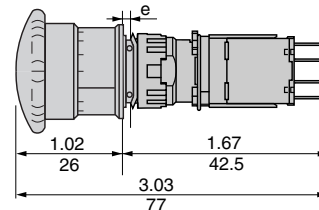
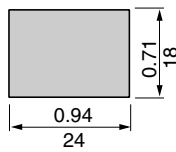


Dual Dimensions  $\frac{\text{inches}}{\text{mm}}$

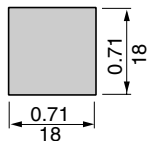
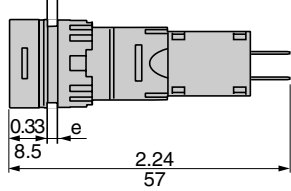
## Pilot Lights Rectangular Head XB6DV\*\*\*



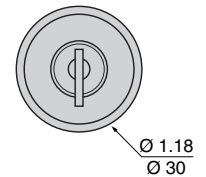
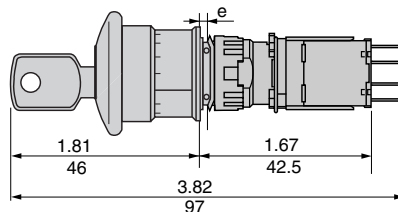
## Mushroom Head Push Button XB6AS834•B



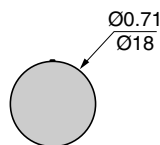
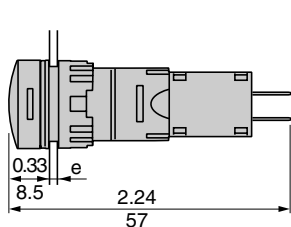
## Square Head XB6CV\*\*\*



## 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  $\frac{\text{inches}}{\text{mm}}$