

MB22 Series Monolithic Push Buttons and Operator Interface



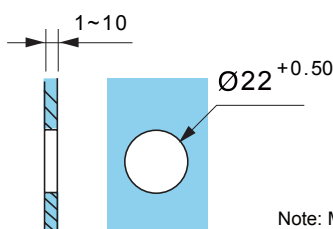
Specifications

Mechanical durability (in operating cycles)			<ul style="list-style-type: none"> • Push buttons: 5,000,000 • Selector switches and key switches: 1,000,000 • Emergency Stop: 300,000
Vibration resistance	Conforming to IEC 60068-2-6		5 gn (frequency 2 to 500 Hz)
Comfomity to Standards			IEC 60947-5-1, GB14048.5
Cabling capacity Conforming to EN/IEC 60947-1	Screw clamp terminal connection	mm ²	For all types of push buttons and pilot lights: <ul style="list-style-type: none"> • min: 1 x 0.34 mm² without cable end • max: 2 x 1.5 mm² with cable end or 2 x 2.5 mm² without cable end
	Forked type tag connection		2 max., fitted head to tail (for all types of push buttons and pilot lights) Recommended fork width: 6.5 mm (7 mm max.) for M3 screw
	Faston clip connection	mm	Type 6.35 x 0.8 mm (for pilot lights only)
Tightening torque of mounting screws		N	<ul style="list-style-type: none"> • 0.8 (nominal recommended) • 1.2 (max.)
			Screw heads compatible with Pozidriv, Phillips or JIS screwdrivers (size 1) and flat tipped screwdrivers (4 and 5.5 mm)
Ambient air temperature around the device	For storage		-40°C to +70°C
	For operation		-25°C to +70°C
Degree of protection	Conforming to IEC 60529		Front: IP40 Rear: IP20

Contact Specifications


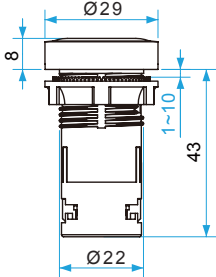

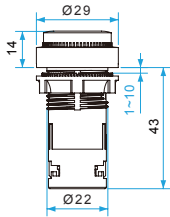

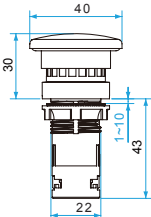
Positive operation	Conforming to EN/IEC 60947-5-1 Appendix K		All functions incorporating a N/C contact are positive opening operation
Short-circuit protection	Conforming to EN/IEC 60947-5-1	A	4 (using gG cartridge fuse conforming to IEC 269-1)
Rated insulation voltage	Conforming to EN/IEC 60947-1	V	Ui = 250 (degree of pollution 3)
Rated impulse withstand voltage	Conforming to EN/IEC 60947-1	kV	Uimp = 6
Rated operational specifications conforming to EN/IEC 60947-5-1	a.c. supply: utilization category		
	AC14, D300		Ue = 240 V and Ie = 0.3 A or Ue = 120 V and Ie = 0.6 A
	AC15, C300		Ue = 120 V and Ie = 1.5 A or Ue = 240 V and Ie = 0.75 A (Emergency Stop only)
	DC13, R300		Ue = 250 V and Ie = 0.1 A or Ue = 125 V and Ie = 0.22 A

Mounting (Unit: mm)



Note: Mounting hole can also be Ø25. With adapter, it can be Ø30

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Pictures	Description	Part Numbers		Dimensions
	Flush Head Momentary Pushbutton	MB22-FP		
		Add Color Suffix: <ul style="list-style-type: none"> ● -B ○ -W ● -G ● -U ● -R ● -Y 	Add Contact: -P1: 1NO/1NC -P5: 1NO -P6: 1NC -P7: 2NO -P8: 2NC	
		MB22-FPZ	Add Color Suffix: <ul style="list-style-type: none"> ● -B ○ -W ● -G ● -U ● -R ● -Y 	
	Flush Head Maintained Pushbutton	MB22-FPM		
	Extended Head Momentary Pushbutton	MB22-EP		
		Add Color Suffix: <ul style="list-style-type: none"> ● -B ○ -W ● -G ● -U ● -R ● -Y 	Add Contact: -P1: 1NO/1NC -P5: 1NO -P6: 1NC -P7: 2NO -P8: 2NC	
	Extended Head Maintained Pushbutton	MB22-EPM		
	Mushroom Head Momentary Pushbutton	MB22-MP		
		Add Color Suffix: <ul style="list-style-type: none"> ● -G ● -R 	Add Contact: -P1: 1NO/1NC -P5: 1NO -P6: 1NC -P7: 2NO -P8: 2NC	

Note: Add -Q for quick connector terminals

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Pictures	Description	Part Numbers		Dimensions	
	30mm Mushroom Turn-to-Release E-stop Button	MB22-ET3			
		Add Contact: -P1: 1NO/1NC -P5: 1NO -P6: 1NC -P7: 2NO -P8: 2NC			
	40mm Mushroom Turn-to-Release E-stop Button	MB22-ET			
		Add Contact: -P1: 1NO/1NC -P5: 1NO -P6: 1NC -P7: 2NO -P8: 2NC			
	2-Position Selector Switch (Maintained)	∨ Angle Between Positions: 90°			
		MB22-S2M	Add Contact:	 NO NC	
	Extended Lever 2-Position Selector Switch (Maintained)	MB22-SL2M	-P1: 1NO/1NC	1 -	
			-P5: 1NO	1 1	
			-P7: 2NO	2 -	
	2-Position Selector Switch (Spring Return)	∨ Angle Between Positions: 90°			
		MB22-S2ML	Add Contact:	 NO NC	
	Extended Lever 2-Position Selector Switch (Spring Return)	MB22-SL2ML	-P1: 1NO/1NC	1 -	
			-P5: 1NO	1 1	
			-P7: 2NO	2 -	
3-Position Selector Switch (Maintained)	∨ Angle Between Positions: 45°				
	MB22-S3M	Add Contact:	-P7: 2NO 		
Extended Lever 3-Position Selector Switch (Maintained)	MB22-SL3M	-P1: 1NO/1NC			

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Pictures	Description	Part Numbers	Dimensions												
	3-Position Selector Switch (Spring Return Left and Right to Center)	<p>∇ Angle Between Positions: 45°</p> <p>MB22-S3</p> <p>Add Contact:</p> <p>-P7: 2NO</p>													
	Extended Lever 3-Position Selector Switch (Spring Return Left and Right to Center)	<p>MB22-SL3</p> <p>-P1: 1NO/1NC</p>													
	3-Position Selector Switch (Spring Return Right to Center)	<p>∇ Angle Between Positions: 45°</p> <p>MB22-S3L</p> <p>Add Contact:</p> <p>-P1: 1NO/1NC</p>													
	Extended Lever 3-Position Selector Switch (Spring Return Right to Center)	<p>MB22-SL3L</p>													
	2-Position Key Switch (Maintained)	<p>∠ Angle Between Positions: 90° (Key Withdrawal in LH position)</p> <p>MB22-SK2M</p> <p>Add Contact:</p> <table border="1"> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>-P1: 1NO/1NC</td> <td>1</td> <td>-</td> </tr> <tr> <td>-P5: 1NO</td> <td>1</td> <td>1</td> </tr> <tr> <td>-P7: 2NO</td> <td>2</td> <td>-</td> </tr> </table>				-P1: 1NO/1NC	1	-	-P5: 1NO	1	1	-P7: 2NO	2	-	
	-P1: 1NO/1NC	1	-												
	-P5: 1NO	1	1												
-P7: 2NO	2	-													
2-Position Key Switch (Spring Return)	<p>∠ Angle Between Positions: 45° (Key Withdrawal in LH position)</p> <p>MB22-SK2</p> <p>Add Contact:</p> <table border="1"> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>-P1: 1NO/1NC</td> <td>1</td> <td>-</td> </tr> <tr> <td>-P5: 1NO</td> <td>1</td> <td>1</td> </tr> <tr> <td>-P7: 2NO</td> <td>2</td> <td>-</td> </tr> </table>				-P1: 1NO/1NC	1	-	-P5: 1NO	1	1	-P7: 2NO	2	-		
-P1: 1NO/1NC	1	-													
-P5: 1NO	1	1													
-P7: 2NO	2	-													
2-Position Key Switch (Maintained)	<p>∠ Angle Between Positions: 90° (Key Withdrawal in LHand RH positions)</p> <p>MB22-SK2ME</p> <p>Add Contact:</p> <table border="1"> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>-P1: 1NO/1NC</td> <td>1</td> <td>-</td> </tr> <tr> <td>-P5: 1NO</td> <td>1</td> <td>1</td> </tr> <tr> <td>-P7: 2NO</td> <td>2</td> <td>-</td> </tr> </table>				-P1: 1NO/1NC	1	-	-P5: 1NO	1	1	-P7: 2NO	2	-		
-P1: 1NO/1NC	1	-													
-P5: 1NO	1	1													
-P7: 2NO	2	-													


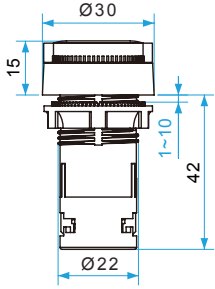

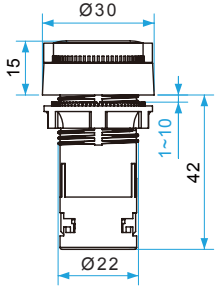

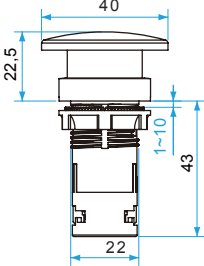

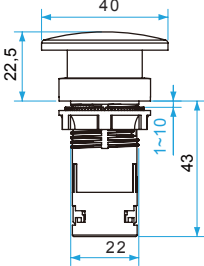
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Pictures	Description	Part Numbers	Dimensions
	3-Position Key Switch (Maintained)	<p>∩ Angle Between Positions: 45° (Key Withdrawal in center position)</p> <p>MB22-SK3M Add Contact: Make Break Break Break Break Make</p> <p>-P7: 2NO</p>	
	3-Position Key Switch (Spring Return Right and Left to Center)	<p>∩ Angle Between Positions: 45° (Key Withdrawal in center position)</p> <p>MB22-SK3 Add Contact: Make Break Break Break Break Make</p> <p>-P7: 2NO</p>	
	3-Position Selector Switch (Spring Return Right to Center)	<p>∩ Angle Between Positions: 45° (Key Withdrawal in LH position)</p> <p>MB22-SK3MLL Add Contact: Break Break Make Break Make Make</p> <p>-P1: 1NO/1NC</p> <p>-P5: 1NO</p>	
	3-Position Key Switch (Maintained)	<p>∩ Angle Between Positions: 45° (Key Withdrawal in all positions)</p> <p>MB22-SK3MC Add Contact: Make Break Break Break Break Make</p> <p>-P7: 2NO</p>	
	Extended Head Illuminated Momentary Pushbutton	<p>MB22-EP</p> <p>Add Voltage Suffix: -D12E: 12VAC/DC -D24E: 24VAC/DC -D36E: 36VAC/DC -D48E: 48VAC/DC -D120E: 110VAC/DC -D240E: 220VAC</p> <p>Add Color Suffix: ● -G ● -U ● -R -W ● -Y</p> <p>Add Contact: -P5: 1NO -P6: 1NC</p>	
	Extended Head Illuminated Maintained Pushbutton	<p>MB22-EPM</p> <p>Add Voltage Suffix: -D12E: 12VAC/DC -D24E: 24VAC/DC -D36E: 36VAC/DC -D48E: 48VAC/DC -D120E: 110VAC/DC -D240E: 220VAC</p> <p>Add Color Suffix: ● -G ● -U ● -R -W ● -Y</p> <p>Add Contact: -P5: 1NO -P6: 1NC</p>	

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Pictures	Description	Part Numbers			Dimensions
	Round Head Illuminated Momentary Pushbutton	MB22-FP			
		Add Voltage Suffix: -D12E: 12VAC/DC -D24E: 24VAC/DC -D36E: 36VAC/DC -D48E: 48VAC/DC -D120E: 110VAC/DC -D240E: 220VAC	Add Color Suffix: ● -G ● -U ● -R ○ -W ● -Y	Add Contact: -P5: 1NO -P6: 1NC	
	Flush Head Illuminated Maintained Pushbutton	MB22-FPM			
		Add Voltage Suffix: -D12E: 12VAC/DC -D24E: 24VAC/DC -D36E: 36VAC/DC -D48E: 48VAC/DC -D120E: 110VAC/DC -D240E: 220VAC	Add Color Suffix: ● -G ● -U ● -R ○ -W ● -Y	Add Contact: -P5: 1NO -P6: 1NC	
	Mushroom Head Illuminated Momentary Pushbutton	MB22-MP			
		Add Voltage Suffix: -D12E: 12VAC/DC -D24E: 24VAC/DC -D36E: 36VAC/DC -D48E: 48VAC/DC -D120E: 110VAC/DC -D240E: 220VAC	Add Color Suffix: ● -G ● -R	Add Contact: -P5: 1NO -P6: 1NC	
	Mushroom Head Illuminated Maintained Pushbutton	MB22-MPM			
		Add Voltage Suffix: -D12E: 12VAC/DC -D24E: 24VAC/DC -D36E: 36VAC/DC -D48E: 48VAC/DC -D120E: 110VAC/DC -D240E: 220VAC	Add Color Suffix: ● -G ● -R	Add Contact: -P5: 1NO -P6: 1NC	

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