

Bulletin 800FD
22.5 mm Monolithic Push Buttons
 Product Selection

Selector Switch Operators, Non-Illuminated



Operator Type	Contact Configuration	Pkg. Quantity	2-Position	3-Position
			Cat. No.	Cat. No.
Maintained	1 N.O.	1	800FD-SM22X10	—
	1 N.C.		800FD-SM22X01	—
	2 N.O.		800FD-SM22X20	800FD-SM32X20
	2 N.C.		800FD-SM22X02	800FD-SM32X02
	1 N.O. & 1 N.C.		800FD-SM22X11	800FD-SM32X11
Spring Return From Both	2 N.O.	1	—	800FD-SB32X20
	2 N.C.		—	800FD-SB32X02
	1 N.O. & 1 N.C.		—	800FD-SB32X11

800FD – S L 3 2 X 11

a

b

c

Operator Function	
Code	Description
M2	Maintained, 2-position
L2	Return from left, 2-position
R2	Return from right, 2-position
M3	Maintained, 3-position
L3	Return from left, 3-position
R3	Return from right, 3-position
B3	Return from both, 3-position

Termination Style	
Code	Description
X	Standard screw
R	Ring lug

Contact Module		
Code	Number of N.O.	Number of N.C.
01*	0	1
10*	1	0
11	1	1
02	0	2
20	2	0

* Only available for 2-position selector switch.

2-Position Selector Switch				
Knob Position				
Contacts/Contact Position	Left	Right	Left	Right
01	X	—	O	—
10	—	O	—	X
11	X	O	O	X
02	X	X	O	O
20	O	O	X	X

3-Position Selector Switch						
Knob Position						
Contacts/ Contact Position	Left	Right	Left	Right	Left	Right
11	O	O	X	O	X	X
02	O	X	X	X	X	O
20	X	O	O	O	O	X

Note: X = Closed/O = Open

Note: X = Closed/O = Open

2-Position Push-Pull/Twist-to-Release Mushroom Operators, Non-Illuminated†*



Color	Contacts	Pkg. Quantity	Cat. No.
Red	1 N.C.	1	800FD-MT44X01
	2 N.C.		800FD-MT44X02

800FD – MT4 4 X 11

a

b

c

Color Cap	
Code	Description
2	Black
3	Green
4	Red
4E	Red - EMO
5	Yellow
6	Blue

Termination Style	
Code	Description
X	Standard screw
R	Ring lug

Contact Module*		
Code	Number of N.O.	Number of N.C.
01	0	1
11	1	1
02	0	2

* E-stops must contain at least one N.C. circuit.

† All E-stop operators are EN/ISO 13850 compliant when using at least one N.C. contact block.

* E-Stop operators, latch, and contact block combinations have been third-party tested for B10d values. B10d values can be found in publication SAFETY-SR001-EN-E.

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Bulletin 800FD

22.5 mm Monolithic Push Buttons

Specifications

Specifications*

Mechanical Ratings				
Vibration (assembled to panel)		Tested at 10...2000 Hz, 1.52 mm displacement (peak-to-peak) max./10 G max. for 3 hr duration, no damage		
Shock		Tested at 1/2 cycle sine wave for 11 ms; no damage at 100 G		
Degree of protection		IP66 (Type 3/3R/4/4X/12/13)		
Mechanical durability per EN 60947-5-1 (Annex C)	300 000 cycles	Selector switch		
	2 000 000 cycles	Push-pull/twist-to-release E-stop		
		Momentary push buttons		
Operating forces		E-stop = 36 N		
Operating torque (typical application with one contact block)		Selector switch = 0.25 N•m		
Contact operation	N.O.	Slow double make and break		
	N.C.	Slow double make and break - positive opening		
Push button travel to change electrical state	N.O.	2.5 mm (0.1 in.)		
	N.C.	1.5 mm (0.060 in.)		
Environmental				
Temperature range (operating)		-25...+60 °C (-13...+140 °F)*		
Temperature range (short term storage)		-40...+85 °C (-40...+185 °F)		
Humidity		50...95% RH from 25...60 °C (77...140 °F)		
Electrical Ratings				
Standard contact block ratings		B300, R300 AC 15, DC 13 300 VAC EN/IEC 60947-5-1 and UL 508, 17V, 5 mA min.		
	Nominal Voltage	Range	Current Draw	Frequency
LED module ratings	24V AC	20...26V AC	32 mA	50/60 Hz
	24V DC	18...30V DC	24 mA	DC
	120V AC	102...132V AC	22 mA	50/60 Hz
	240V AC	204...264V AC	22 mA	50/60 Hz
Thermal current		5 A max. enclosed (40 °C ambient) to UL 508, EN/IEC 60947-5-1		
Insulation voltage (U _i)		300V		
Wire capacity (screw terminal)		#18...14 AWG (0.75...2.5 mm ²) Max. (2) #14 AWG, uses same size wire only		
Recommendations for ring lug termination option‡		6.35 mm (0.250 in.) Max. outer diameter with 3.8 mm (0.148 in.) hole diameter		
Recommended tightening torque on screw terminals		0.7...0.9 N•m (6...8 lb•in)		
Dielectric strength (minimum)		2500V for one minute		
External short circuit protection		5 A Type gL/gG cartridge fuse to EN 60269-2-1 or gN (Class J to UL 248-8 or Class CC to UL 248-4)		
Electrical shock protection		Finger-safe conforming to IP2X		
Illumination				
LED dominant wavelength	Green	525 nm		
	Red	629 nm		
	Yellow	590 nm		
	Blue	470 nm		
	White	—		
LED luminous intensity	Green	780 mcd		
	Red	780 mcd		
	Yellow	600 mcd		
	Blue	168 mcd		
	White	360 mcd		
Incandescent maximum wattage		2.6 W		

* Performance Data — see page Important-3 of the Industrial Controls catalog.

* Operating temperatures below 0 °C (32 °F) are based on the absence of freezing moisture and liquids.

† 3M MV018-R/S (#22...18 AWG) or 3M MVU14-6R/S (#16...14 AWG)

22.5 mm Monolithic Push Buttons

Specifications, Approximate Dimensions, and Instruction Sheet Information

Specifications, Continued*

Materials			
Springs	Stainless steel and zinc coated music wire	Lens (pilot light)	Acrylic
Electrical contacts	Brass with silver-nickel contacts	Bezel/bushing, housing	Glass-filled polyester
Terminals	Brass and phosphor bronze	Legend frames	Glass-filled polyamide
Panel gasket	Nitrile and polyester-based TPE	Mounting ring	Glass-filled polyamide
Seal	Nitrile	Terminal screws	Zinc-plated steel with chromate
Button cap/mushroom head	Polyester/polycarbonate blend	Lamp socket	Brass and Phosphor bronze

* Performance Data — see page Important-3 of the Industrial Controls catalog.

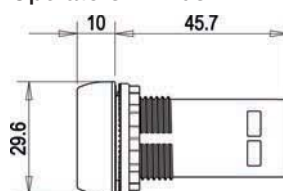
Product Certifications

Certifications	UL, CSA, CCC, CE
Conformity to standards — CE Marked	UL 508, EN/ISO 13850, EN 60947-1, EN 60947-5-1, EN 60947-5-5
Terminal identification	EN/IEC 60947-1

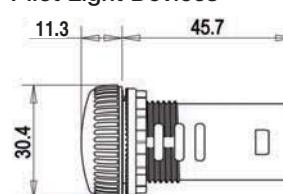
Approximate Dimensions

Dimensions in millimeters. Dimensions are not intended to be used for manufacturing purposes. Refer to RAISE software for additional dimensional information.

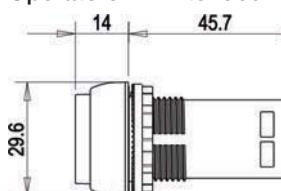
Momentary Push Button Operators — Flush



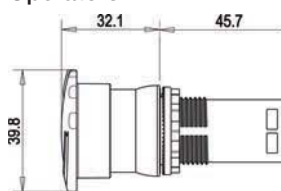
Pilot Light Devices



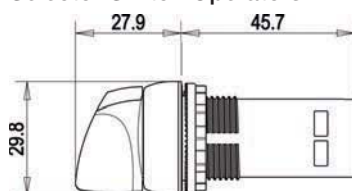
Momentary Push Button Operators — Extended



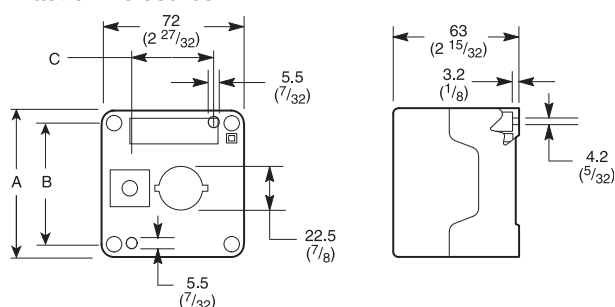
2-Position Push-Pull/Twist-to-Release Mushroom Operators



Selector Switch Operators



Plastic Enclosures



Plastic Enclosures

Cat. No.	No. of Units (Holes)	A	B	C	Weight
800FD-1P	1	72	59	41	95 g
800FD-1PY		(2-27/32)	(2-5/16)	(1-5/8)	(3.5 oz)

Instruction Sheet

