

Our Bulletin 800F 22 mm round operator family meets demanding performance specifications. We use state-of-the-art solid modeling techniques and finite element analysis to optimize the durability and performance of our push buttons.

800FP Plastic Operators

- IP69K
- IP65/66, Type 4/4X/13
- Engineering grade thermoplastics
- Chemical-resistant for harsh environments



800FM Metal Operators

- IP65/66, Type 4/13
- Die-cast metal construction
- Chrome-plated



3-across x 2-deep Back-of-panel (6 Circuits Max)

- Rugged snap-fit design for plastic or metal latch
- Stackable contact blocks
- Rotating collar for easy one-hand latch removal
- Color-coded contact block plungers for contact identification

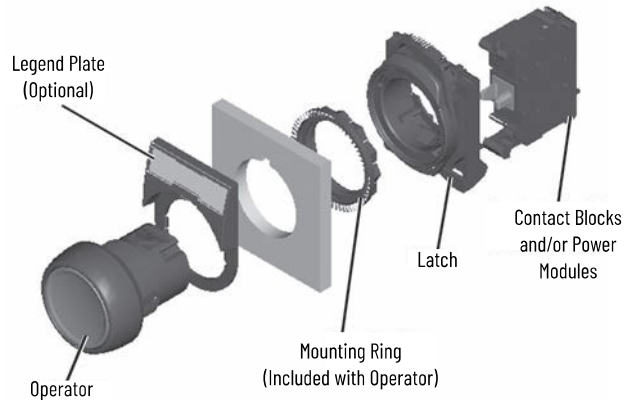


Plastic Latch with Contact Block



Metal Latch with Contact Block

Assembly Overview



Specifications

Product Certifications

Attribute	Plastic (Bulletin 800FP) and Metal (Bulletin 800FM)
Certifications	UR/UL, CSA, CCC, CE
Standards Compliance – CE Marked	NEMA ICS-5; UL 508, EN ISO 13850, EN 60947-1, EN 60947-5-1, EN 60947-5-5
Terminal Identification	EN/IEC 60947-1
Shipping Approvals	ABS
RoHS	Yes

Front-of-Panel (Operators)

IMPORTANT Performance Data – Performance data that is given in this publication is provided only as a guide for you to determine suitability and does not constitute a performance warranty of any kind. Such data can represent the results of accelerated testing at elevated stress levels, and you are responsible for correlating the data to actual application requirements. ALL WARRANTIES AS TO ACTUAL PERFORMANCE, WHETHER EXPRESS OR IMPLIED, ARE EXPRESSLY DISCLAIMED.

Table 1 - Mechanical Ratings – Operators

Attribute		Plastic (Bulletin 800FP)	Metal (Bulletin 800FM)
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 ^{(1) (2)}		IP69K ⁽³⁾ and IP65/66 (Type 3/3R/4/4X/12/13)	IP65/66 (Type 3/3R/4/12/13)
Mechanical durability per EN 60947-5-1 (Annex C)	10,000,000 Cycles	Momentary push buttons, momentary mushroom	
	1,000,000 Cycles	Multi-function, selector switch, key selector switch, selector jog, SensEject™ key selector switch	
	500,000 Cycles	Non-illuminated push-pull E-stop ⁽⁴⁾	
	300,000 Cycles	Twist-to-release E-stop, illuminated push-pull E-stop ⁽⁴⁾ , alternate action push buttons	
	100,000 Cycles	Potentiometer, toggle switch	
Operating forces (typical with one contact block)		Flush/extended = 5 N, E-stop = 36 N Mushroom = 9 N	
Operating torque (typical application with one contact block)		Selector switch = 0.25 N•m (2.2 lb•in)	
Mounting torque	Plastic	1.7 N•m (15 lb•in)	
	Metal	4.4 N•m (40 lb•in)	

- (1) Momentary mushroom operators are IP65. Plastic keyed operators are IP66, Type 4/13; not Type 4X.
- (2) IP65/66 products are compliant to IEC 60529.
- (3) IP69K products listed in [Table 2](#) are compliant to ISO 20653 (replaces DIN 40050 Part 9) for IP69K and IEC 60529 for all other IP ratings.
- (4) Limit of four contact blocks max for these devices.

Table 2 - IP69K Operators and Assembled Stations

IP69K Rated Operators		IP69K Rated Assembled Stations
<ul style="list-style-type: none"> • 800FD-MT44* • 800FP-F* • 800FP-F* and 800F-AB7 • 800FP-LF* • 800FP-E* • 800FP-E* and 800F-ABE7 • 800FP-LE* • 800FP-FA* • 800FP-LFA* • 800FP-G* • 800FP-P* • 800FP-MT3* • 800FP-MT4* • 800FP-LMT4* • 800FP-MT6* • 800FP-LMT6* • 800FP-LMP3* • 800FP-MP4* • 800FP-LMP4* • 800FP-MM4* • 800FP-LMM4* • 800FP-MM6* • 800FP-LMP6* • 800FP-MP9* • 800FP-LMP9* • 800FP-U2* • 800FP-LU2* • 800FP-U3* • 800FP-MM9* • 800FP-POT* 	<ul style="list-style-type: none"> • 800F-1YP1 • 800F-1YP2 • 800F-1YP3 • 800F-1YP7 • 800F-1YP8 • 800F-1YM1 • 800F-1YM2 • 800F-1YM3 • 800F-1YM7 • 800F-1YM8 • 800F-1YML1 • 800F-1YML2 • 800F-1YML3 • 800F-1YMD51 • 800F-1YMD52 • 800F-1YMD81 	
<ul style="list-style-type: none"> • 800F-1YMD and 800F-ALC2 (1 pc) and IP69K rated operators • 800F-2PM and 800F-ALC2 (2 pcs) and IP69K rated operators • 800F-3PM and 800F-ALC2 (3 pcs) and IP69K rated operators • 800F-4PM and 800F-ALC2 (4 pcs) and IP69K rated operators • 800F-6PM and 800F-ALC2 (6 pcs) and IP69K rated operators • 800F-AHA1 • 800F-1YMD51, 800F-1YMD52, and 800F-1YMD81 		

Table 3 - Environmental – Operators

Attribute		Plastic (Bulletin 800FP)	Metal (Bulletin 800FM)
Temperature Range	Operating	-25...+70 °C (-13...+158 °F) ⁽¹⁾	
	Short-term Storage	-40...+85 °C (-40...+185 °F)	
Humidity		≤95% RH from 25...60 °C (77...140 °F)	

(1) Operating temperatures below 0 °C (32 °F) are based on the absence of freezing moisture and liquids, UL Recognized to 55 °C (131 °F) - Incandescent module max. 40 °C (104 °F).

Back-of-panel Components

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Table 4 - Electrical Ratings – Back-of-panel Components

Attribute	Screw Termination	Spring Clamp Termination			
Standard Contact Block Ratings	A600, Q600 600V AC	A300, Q300 300V AC			
	AC 15, DC 13 to IEC/EN 60947-5-1 and UL 508, 17V, 5 mA min.				
Low-voltage Contact Block Ratings ⁽¹⁾	5V, 1 mA DC min. C300, R150, AC 15, DC 13 to EN 60947-5-1 and UL 508				
	Lamp Voltage	Voltage Range	Current, Typical	Leakage Current	Frequency
LED Module Ratings	Universal	24...120V AC/DC	15 mA (AC), 12 mA (DC)	3 mA	50/60 Hz, DC
	24V AC	10...29V AC	31 mA	3 mA	50/60 Hz
	24V DC	10...30V DC	24 mA	3 mA	DC
	120V AC	102...132V AC	6 mA	3 mA	50/60 Hz
	240V AC	204...264V AC	6 mA	3 mA	50/60 Hz
Thermal Current	10 A max. enclosed (40 °C [104 °F] ambient) to UL508, EN 60947-5-1 @ A600				
Insulation Voltage (U _i)	Screw terminal = 690V, spring-clamp = 300V				
Wire Capacity	Screw Terminal ⁽²⁾	#18...12 AWG (0.75...2.5 mm ²); Max. (2) #14 AWG or (1) #12 AWG			
	Spring-clamp terminal	#18...14 AWG (0.75...1.5 mm ²) One per spring clamp, two spring clamps per terminal			
Recommended Tightening Torque on Screw Terminals	0.7...0.9 N•m (6...8 lb•in)				
Dielectric Strength (Minimum)	2500V for 1 minute				
External Short Circuit Protection	Standard blocks	10 A type gL/gG cartridge fuse to EN 60269-2-1 or gN (Class J to UL 248-8 or Class C to UL 248-4)			
	Low-voltage contact blocks	6 A type gL/gG cartridge fuse to EN 60269-2-1 or gN (Class J to UL 248-8 or Class C to UL 248-4)			
Electrical shock protection	Finger-safe conforming to IP2X				

(1) Low-voltage contacts are recommended for applications below 17V, 5 mA.

(2) Wires less than #18 AWG (0.75 mm²) may not hold in terminal securely.

Table 5 - Mechanical Ratings – Back-of-panel Components

Attribute	Value	
Vibration (assembled to panel)	Tested at 10...2000 Hz, 1.52 mm displacement (peak-to-peak) max./10 G max. 6 hr	
Shock	Tested at 1/2 cycle sine-wave for 11 ms and no damage at 100 G max.	
Contact durability per EN 60947-5-1 (Annex C)	10,000,000 cycles	
Contact operation	N.O.	Slow double make and break
	N.C. & S.M.C.B.	Slow double make and break – positive opening ⊖
	N.O.E.M.	Double break / double make, early make
	N.C.L.B.	Double break / double make, late break – positive opening ⊖
	N.C.E.B.	Double break / double make, early break – positive opening ⊖
Push button travel to change electrical state	N.C. and N.O.E.M.	1.5 mm (0.060 in.)
	N.O. and N.C.L.B.	2.5 mm (0.1 in.)
Operating forces (typical)	Single-circuit contact block	3.4 N
	Dual-circuit contact block	5...6.5 N

Table 6 - Illumination – Back-of-panel Components

Attribute	Green	Red	White
LED Dominant Wavelength	525 nm	629 nm	–
LED Luminous Intensity	780 mcd	780 mcd	360 mcd
Incandescent maximum wattage	2.6 W		

Table 7 - Materials – Back-of-panel Components

Attribute	Value	
Springs	Stainless steel and zinc coated music wire	
Electrical contacts	Standard	Silver-nickel
	Low-voltage	Gold-plated over silver
Terminals	Screw	Brass
	Spring-clamp	Silver-plated brass

Material Listing

Component	For Use with	Material Used
Panel gasket	All operators	Nitrile, TPE
Diaphragm seal	Illuminated push button, non-illuminated push button	Automotive industry acceptable silicone
K-seal	Selector switch, key selector switch, push/twist-to-release E-stop, key E-stop, push/pull mushroom	Nitrile
Diaphragm retainer, return spring I	Illuminated push button, non-illuminated push button, momentary mushroom	Stainless steel
Return spring II	Reset, selector switch, key selector switch, alternate action, push/twist-to-release E-stop, key E-stop, push/pull mushroom	Zinc-coated music wire
Button cap/mushroom head	Non-illuminated push button, momentary mushroom, reset, push/twist-to-release E-stop, key E-stop, push/pull mushroom, multi-function	PBT/polycarbonate blend
2-color molded button cap	Non-illuminated push button	PBT/polycarbonate blend
Lens	Multi-function	Acetal
Lens, knob	Illuminated push button, illuminated momentary mushroom, illuminated selector switch	Polyamide
Knob	Non-illuminated selector switch	Glass-filled polyamide
Plastic bezel/bushing I	Non-illuminated push button, illuminated push button, momentary mushroom, selector switch, key selector switch, push/twist-to-release E-stop, key E-stop, push/pull mushroom, multi-function, reset	Glass-filled polyamide
Plastic bezel/bushing II, jam nut	Pilot light, reset jam nut, reset pushers	Glass-filled PBT
Metal bezel/bushing	All metal operators	Zinc
Diffuser	Illuminated push button, pilot light	Polycarbonate
Legend frames	–	Glass-filled polyamide
Plastic mounting ring	All plastic operators	Glass-filled polyamide
Metal mounting ring	All metal operators	Chromated zinc
Plastic latch	–	Glass-filled polyamide
Metal latch	–	Chromated zinc + stainless steel
Plastic enclosure	–	PBT/polycarbonate blend
Metal enclosure	–	Aluminum
Terminal screws	LED module, incandescent module, contact blocks	Zinc-plated steel with chromate
Terminals	LED module, incandescent module, contact blocks	Brass with silver-nickel contacts
Spring clamps	LED module, incandescent module, contact blocks	Stainless steel
Lamp socket	Incandescent module	Brass
Housing	Incandescent module, LED module	Glass-filled polyamide
Low-voltage terminals	Contact blocks	Gold-plated silver-nickel contacts
Low-voltage spanner	Contact blocks	Gold-plated silver-nickel contacts
Spanner	Contact blocks	Brass with silver-nickel contacts
Boot	Toggle Switch, illuminated push button, non-illuminated push button, multi-function illuminated and non-illuminated	Automotive industry acceptable silicone

Momentary Push Button Operators

Non-illuminated – Flush, Extended, Guarded



Flush Operator
Cat. No. 800FP-F3



Extended Operator
Cat. No. 800FM-E4



Guarded Operator
Cat. No. 800FP-G6

Color	Package Quantity	Flush		Extended	
		Plastic	Metal	Plastic	Metal
		Cat. No.	Cat. No.	Cat. No.	Cat. No.
Black	1	800FP-F2	800FM-F2	800FP-E2	800FM-E2
Green		800FP-F3	800FM-F3	800FP-E3	800FM-E3
Red		800FP-F4	800FM-F4	800FP-E4	800FM-E4

800F $\frac{P}{a}$ - $\frac{F}{b}$ $\frac{3}{c}$ - $\frac{\quad}{d}$

a	
Operator Construction	
Code	Description
P	Round plastic operator (IP69K; IP66, Type 4/4X/13)
M	Round metal operator (IP66, Type 4/13)

b	
Operator Type	
Code	Description
F	Flush
E	Extended
G	Guarded

c	
Color Cap	
Code	Description
0	Green
1	Red
2	Amber
3	Blue
4	Clear
5	Yellow
6	Blue
8	Gray ⁽¹⁾
9	No cap
X	Assortment pack ⁽²⁾

d	
Packaging	
Code	Description
Blank	1 per package
BP	10 per package ⁽³⁾

(1) Available in flush only.

(2) Assortment pack contains one cap of each color, not available in BP packaging.

(3) Only available with no color cap (option 9 from Table c).

Illuminated – Flush, Extended, Guarded



Flush Operator
Cat. No. 800FM-LF4



Extended Operator
Cat. No. 800FP-LE3



Guarded Operator
Cat. No. 800FP-LG3

Color	Package Quantity	Flush		Extended	
		Plastic	Metal	Plastic	Metal
		Cat. No.	Cat. No.	Cat. No.	Cat. No.
Green	1	800FP-LF3	800FM-LF3	800FP-LE3	800FM-LE3
Red		800FP-LF4	800FM-LF4	800FP-LE4	800FM-LE4
Yellow		800FP-LF5	800FM-LF5	800FP-LE5	800FM-LE5
Clear		800FP-LF7	800FM-LF7	800FP-LE7	800FM-LE7

800F P - LE 3 - _____
 a b c d

a	
Operator Construction	
Code	Description
P	Round plastic operator (IP69K; IP66, Type 4/4X/13)
M	Round metal operator (IP66, Type 4/13)

b	
Operator Type	
Code	Description
F	Flush
E	Extended
G	Guarded

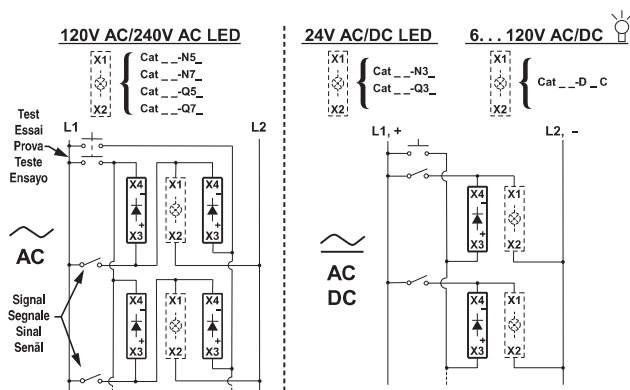
c	
Color Cap (1)	
Code	Description
0	Amber (2)
3	Green
4	Red
5	Yellow (2)
6	Blue (2)
7	Clear
9	No cap

d	
Packaging	
Code	Description
Blank	1 per package
BP	10 per package (3)

- (1) For custom laser-engraved operator, consult your local Rockwell Automation sales office or Allen-Bradley distributor.
- (2) When using LED for illumination, a white LED is recommended.
- (3) Only available with no color cap (9 from Table c).

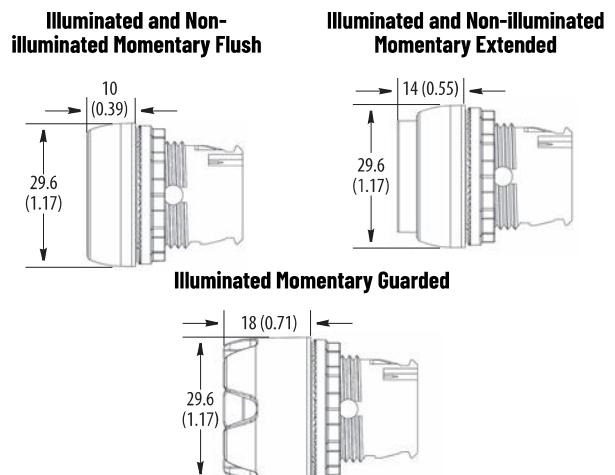
Push-to-test Push Button Device Schematic

Illuminated push buttons can be wired as a push-to-test device by using the following schematic and a catalog number 800F-XD7 diode module (see [page 52](#)).



Approximate Dimensions – Momentary Operators

Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.



Pilot Light Operators



Plastic Pilot Light
Cat. No. 800FP-P7



Metal Pilot Light
Cat. No. 800FM-P4

Color	Package Quantity	Plastic	Metal
		Cat. No.	Cat. No.
Green	1	800FP-P3	800FM-P3
Red		800FP-P4	800FM-P4
Yellow		800FP-P5	800FM-P5

800F P - P 3 -
a b c d

a	
Operator Construction	
Code	Description
P	Round plastic operator (IP69K; IP66, Type 4/4X/13)
M	Round metal operator (IP66, Type 4/13)

b	
Operator Type	
Code	Description
P	Diffuser

c	
Lens Color ⁽¹⁾	
Code	Description
0	Amber ⁽²⁾
3	Green
4	Red
5	Yellow ⁽²⁾
6	Blue ⁽²⁾
7	Clear
9	No cap

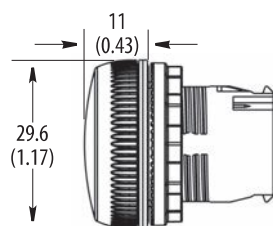
d	
Packaging	
Code	Description
Blank	1 per package
BP	10 per package ⁽³⁾

- (1) For custom laser-engraved operator, consult your local Rockwell Automation sales office or Allen-Bradley distributor.
- (2) When using LED for illumination, a white LED is recommended.
- (3) Only available with no color cap (Code 9 from Table c).

Approximate Dimensions

Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

Pilot Light Operators



Selector Switch Operators

2-position, Non-illuminated



Standard Knob
Cat. No. 800FP-SM22



Knob Lever
Cat. No. 800FP-HM22

Switching Angle

Table 9 - Target Table and Operator Position ⁽¹⁾

Contact Type ⁽²⁾			
N.O.	O	X	
N.C.	X	O	

(1) Target table for spring return from left is reversed from what is shown in the table.

(2) Contact selection is limited to the following options, consult your local Rockwell Automation sales office or Allen-Bradley distributor for other options.

Note: X = Closed / O = Open

Color	Operator Type		Package Quantity	Standard Knob	
				Plastic	Metal
				Cat. No.	Cat. No.
Black with White Insert	Maintained (60° switching angle)		1	800FP-SM22	800FM-SM22

800F - P - S M2 2 -

a b c d e f

a	
Operator Construction	
Code	Description
P	Round plastic operator (IP66, Type 4/4X/13)
M	Round metal operator (IP66, Type 4/13)

b	
Operator Type	
Code	Description
S	Standard knob
H	Knob lever ⁽¹⁾

c	
Operator Function	
Code	Type
M2	Maintained (60° switching angle)
L2	Spring return from left (60° switching angle)
R2	Spring return from right (60° switching angle)

d		
Knob/Insert Color		
Code	Knob Color	Insert Color
2	Black	White

e	
Orientation	
Code	Description
Blank	Standard
N	90° offset ⁽²⁾

f	
Packaging	
Code	Description
Blank	1 per package
BP	10 per package ⁽³⁾

(1) 30 mm hole spacing does not work if knob lever is used. See [page 47](#) for recommended operator panel spacing.
 (2) For use in vertical mount Bulletin 800F enclosures.
 (3) Not available with 90° offset orientation.

3-position, Illuminated

IMPORTANT Crevices can exist on product that make it unsuitable for certain applications. Consult your local Rockwell Automation sales office or Allen-Bradley distributor.

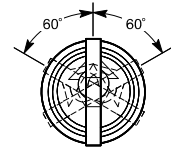


Standard Knob
Cat. No. 800FP-LSM37

Switching Angle

Table 12 - Target Table and Operator Position (60° Switching Angle)

Contact Type (1)	Position on Mounting Latch			
N.O.	Left	X	0	0
	Right	0	0	X
N.C.	Left	0	X	X
	Right	X	X	0



(1) Contact selection is limited to the following options, consult your local Rockwell Automation sales office or Allen-Bradley distributor for other options.

Note: X = Closed / 0 = Open

Operator Type			Package Quantity	Green		Red		Yellow	
				Plastic	Metal	Plastic	Metal	Plastic	Metal
				Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
Maintained			1	800FP-LSM33	800FM-LSM33	800FP-LSM34	800FM-LSM34	800FP-LSM35	800FM-LSM35
Spring return from right				800FP-LSR33	800FM-LSR33	800FP-LSR34	800FM-LSR34	800FP-LSR35	800FM-LSR35
Spring return from left				800FP-LSL33	800FM-LSL33	800FP-LSL34	800FM-LSL34	800FP-LSL35	800FM-LSL35
Spring return from left and right				800FP-LSB33	800FM-LSB33	800FP-LSB34	800FM-LSB34	800FP-LSB35	800FM-LSB35

800F P - LS M3 3
 a b c d e

a	
Operator Construction	
Code	Description (1)
P	Round plastic operator (IP66, Type 4/4X/13)
M	Round metal operator (IP66, Type 4/13)

b	
Operator Type	
Code	Description
LS	Standard knob
LH	Knob lever (3)

c	
Operator Function	
Code	Type
M3	Maintained
L3	Spring return from left
R3	Spring return from right
B3	Spring return from left and right

d		
Knob/Insert Color		
Code	Knob Color	Insert Color
0	Amber (2)	White
3	Green	White
4	Red	White
5	Yellow (2)	Black
6	Blue (2)	White
7	Clear	Black

e	
Orientation	
Code	Description
Blank	Standard
N	90° offset (4)

- (1) LED module is required for illumination, cannot use incandescent module.
- (2) Use of a white LED is recommended.
- (3) Only available in clear.
- (4) For use in vertical mount Bulletin 800F enclosures.

4-position, Non-illuminated



Standard Knob
Cat. No. 800FP-SM42

Table 13 - Target Table and Operator Position (45° Switching Angle) ⁽¹⁾

Contact Type ⁽²⁾	Position on Mounting Latch				
N.O.	Left	0	0	X	0
	Right	X	0	0	0
	Center	X	0	X	0
	Center CL	0	0	X	0
	Center CR	X	0	0	0
N.C.E.B.	Left	0	0	0	X
	Right	0	X	0	0
	Center CL	0	0	0	X
	Center CR	0	X	0	0
N.C.L.B.	Left	X	X	0	X
	Right	0	X	X	X
	Center	0	X	0	X
	Center CL	X	X	0	X
	Center CR	0	X	X	X

(1) Must use N.O., N.C.E.B., or N.C.L.B. contact blocks only. Cannot use N.C. or N.O.E.M. contact blocks with 4-position selector switch.
 (2) Contact selection is limited to the following options, consult your local Rockwell Automation sales office or Allen-Bradley distributor for other options.
Note: X = Closed / 0 = Open

Color	Pkg. Quantity	Standard Knob – Maintained	
		Plastic	Metal
		Cat. No.	Cat. No.
Black with White Insert	1	800FP-SM42	800FM-SM42

800F P - S M4 2
 a b c d e f

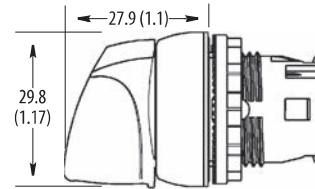
a		b		c	
Operator Construction		Operator Type		Operator Function	
Code	Description		Description	Code	Type
P	Round plastic operator (IP66, Type 4/4X/13)		Standard knob	M4	Maintained (45° switching angle)
M	Round metal operator (IP66, Type 4/13)		Knob lever		

d			e		f	
Knob/Insert Color			Orientation		Operation	
Code	Knob Color	Insert Color	Code	Description	Code	Description
2	Black	White	Blank	Standard	Blank	Standard
			N	90° offset ⁽¹⁾	CL	Center left ⁽²⁾
					CR	Center right ⁽²⁾

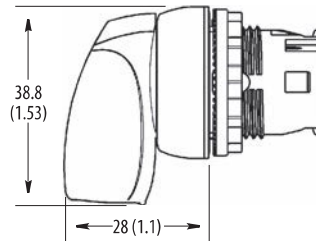
(1) For use in vertical mount enclosures.
 (2) The center contact block can have the same target output as the left or right contact block, by specifying center left (CL) or center right (CR) option.

Approximate Dimensions – Selector Switch Operators

Illuminated and Non-illuminated Knob Selector Switch Operators



Non-illuminated Knob Lever Selector Switch Operators



3-position, Non-illuminated



Key-operated Selector Switch
Cat. No. 800FP-KM31R

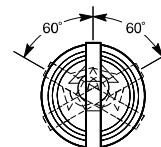


Key-operated Selector Switch
Cat. No. 800FM-KM31R

Switching Angle

Table 15 - Target Table and Operator Position (60° Switching Angle)

Contact Type ⁽¹⁾	Position on Mounting Latch			
N.O.	Left	X	0	0
	Right	0	0	X
	Center	X	0	X
N.C.	Left	0	X	X
	Right	X	X	0
	Center	0	X	0



(1) Contact selection is limited to the following options, consult your local Rockwell Automation sales office or Allen-Bradley distributor for other options.

Note: X = Closed / 0 = Open

Key Removal Position	Operator Type			Package Quantity	Standard Knob	
					Plastic	Metal
					Cat. No.	Cat. No.
Left				1	800FP-KM31	800FM-KM31
All					800FP-KM33	800FM-KM33
Center					800FP-KM34	800FM-KM34
Center					800FP-KB34	800FM-KB34

800F M - KM3 3
 a b c d

a	
Operator Construction	
Code	Description
P	Round plastic operator (IP66, Type 4/13)
M	Round metal operator (IP66, Type 4/13)

d
See [page 17](#) for optional key codes ⁽²⁾ ⁽³⁾ ⁽⁴⁾

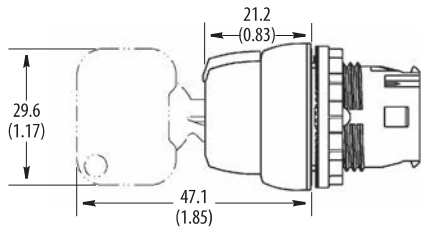
b		
Operator Type		
Code	Description	
KM3	Maintained	
KR3	Spring return from right	
KL3	Spring return from left	
KB3	Spring return from both	

c		
Key Removal Position ⁽¹⁾		
Code	Type	
1	Left	
3	All	
4	Center	
5	Left/center	
7	Center/right ⁽⁵⁾	

- (1) Key removal in maintained positions only.
- (2) Keyed operators are IP66, Type 4/13.
- (3) Not intended for high security applications. Interoperability is possible with certain key/cylinder lock combinations. Consult your local Rockwell Automation sales office or Allen-Bradley distributor for interoperability information.
- (4) For replacement Ronis keys, consult your local Rockwell Automation sales office or Allen-Bradley distributor
- (5) Key removal position only valid with operator types 800F_-KM3 and 800F_-KL3.

Approximate Dimensions – Key-operated Selector Switches

Key Selector Switch Operators



2-position, Illuminated – Twist-to-release / Push-pull (Trigger Action)

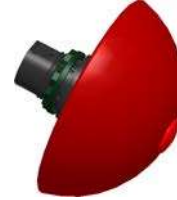
- IMPORTANT**
- LED module is required for illumination.
 - All emergency stop operators are EN ISO 13850 compliant with standard N.C., N.C.L.B., or self-monitoring contact blocks.
 - E-stop operators, latch, and contact block combinations have been third-party tested for B10d values. B10d values can be found in publication [SAFETY-SR001](#).



40 mm Illuminated
Twist-to-Release
Cat. No. 800FP-LMT44



40 mm Mushroom Push-pull
Cat. No. 800FM-LMP44



90 mm Half-dome
Cat. No. 800FP-LMP94

Color	Package Quantity	40 mm Mushroom (Trigger Action) Twist-to-Release		40 mm Mushroom (Trigger Action) Push-Pull	
		Plastic	Metal	Plastic	Metal
		Cat. No.	Cat. No.	Cat. No.	Cat. No.
Red	1	800FP-LMT44	800FM-LMT44	800FP-LMP44	800FM-LMP44

800F P - LMP4 3
 a b c

a	
Operator Construction	
Code	Description
P	Round plastic operator (IP69K; IP66, Type 4/4X/13)
M	Round metal operator (IP66, Type 4/13)

b	
Operator Type	
Push, Twist-to-Release ^{(1) (2)}	
Code	Type
LMT4	40 mm color cap
LMT6	60 mm color cap
Push-pull ⁽³⁾	
LMP3	30 mm color cap
LMP4	40 mm color cap
LMP6	60 mm color cap
Half-dome Push-pull ⁽³⁾	
LMP9	90 mm color cap ⁽⁴⁾

c	
Lens Cap Color	
Code	Color
3	Green
4	Red
5	Yellow ⁽⁵⁾
6	Blue ^{(5) (6)}

- (1) Only available with red color cap.
 (2) 60 mm version has black arrows; 30 and 40 mm versions have white arrows.
 (3) Limit of four contact blocks max. for these devices.
 (4) Half-dome operators only available with red and yellow lens cap colors.
 (5) Use of a white LED is recommended.
 (6) Only available with 40 mm Push-Pull color cap (Code LMP4 from Table [b](#)).

2-position, Non-illuminated – Mushroom, Key Release (Trigger Action)

- IMPORTANT**
- All emergency stop operators are EN ISO 13850 compliant with standard N.C., N.C.L.B., or self-monitoring contact blocks.
 - 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](#).



40 mm Key Release Mushroom
Cat. No. 800FP-MK44

Color	Package Quantity	2-Position (Trigger Action) 40 mm Mushroom Key Release	
		Plastic	Metal
		Cat. No.	Cat. No.
Red	1	800FP-MK44	800FM-MK44

800F P - MK4 4
 a b c d

a	
Operator Construction	
Code	Description
P	Round plastic operator (IP66, Type 4/13)
M	Round metal operator (IP66, Type 4/13)

b	
Operator Type	
Key Release Mushroom	
Code	Type
MK4	40 mm

c	
Lens Cap Color	
Code	Color
4	Red

d	
Ronis Key Lock (1) (2) (3)	
Code	Key No.
Blank	3825 (Standard)
R	455
01R	3801
02R	3802
03R	3803
04R	3804
05R	3805
06R	3806
27R	4001
28R	4002
29R	4003
30R	4004
31R	4005
32R	4006
33R	4007

- (1) Keyed operators are IP66, Type 4/13.
 (2) Not intended for high security applications. Interoperability is possible with certain key/cylinder lock combinations. Consult your local Rockwell Automation sales office or Allen-Bradley distributor for interoperability information.
 (3) For replacement Ronis keys, consult your local Rockwell Automation sales office or Allen-Bradley distributor.






Illuminated 3-position Push-pull
Cat. No. 800FM-LMP44E3

3-position, Illuminated and Non-illuminated – Mushroom

IMPORTANT Sold as standalone operator only. Not available as a composite catalog number.

Table 16 - Target Table and Operator Position ⁽¹⁾

Contact Type ⁽²⁾			
	Out	Center	In
N.O.	0	0	X
N.C.E.B	X	0	0
N.C.L.B	X	X	0

(1) Must use N.O., N.C.E.B., or N.C.L.B. contact blocks only. Cannot use N.C. or N.O.E.M. contact blocks with 3-position push-pull operators.
 (2) Contact selection is limited to the following options, consult your local Rockwell Automation sales office or Allen-Bradley distributor for other options.
Note: X = Closed / 0 = Open

Operator Function	Operator Type	Color	Package Quantity	Cat. No.
Momentary Out, Maintained Center, Momentary In	Non-illuminated	Black ⁽¹⁾	1	800FM-MM42E3
		Green		800FM-MM43E3
		Red ⁽²⁾		800FM-MM44E3
	Illuminated	Amber ⁽³⁾		800FM-LMM40E3
		Green		800FM-LMM43E3
		Red		800FM-LMM44E3
		Blue ⁽³⁾		800FM-LMM46E3
		Clear ⁽³⁾		800FM-LMM47E3
Momentary Out, Maintained Center, Maintained In	Non-illuminated	Black ⁽¹⁾	1	800FM-MP42E3
		Green		800FM-MP43E3
		Red ⁽²⁾		800FM-MP44E3
	Illuminated	Amber ⁽³⁾		800FM-LMP40E3
		Green		800FM-LMP43E3
		Red		800FM-LMP44E3
		Blue ⁽³⁾		800FM-LMP46E3
		Clear ⁽³⁾		800FM-LMP47E3

(1) Available in non-illuminated only.
 (2) Replacement caps are available for this device. Order Cat. No. 800F-AMP4.
 (3) Available in illuminated only.

800F **M** - **L** **MM** **4** **4** **E3**
 a b c d e f

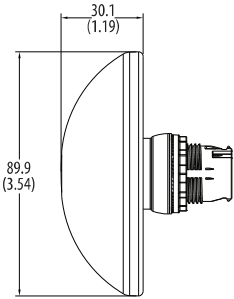
a		b		c		d		e		f	
Operator Construction		Operator Type		Operator Function		Cap Size		Cap Color		Positions	
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
M	Round metal operator (IP66, Type 4/13)	Blank	Non-illuminated	MM	Momentary out, Maintained center, Momentary in	4	40 mm plastic	0	Amber ⁽²⁾⁽³⁾	E3	3-position
		L	Illuminated ⁽¹⁾	MP	Momentary out, Maintained center, Maintained in			2	Black ⁽⁴⁾		
								3	Green		
								4	Red		
								6	Blue ⁽²⁾⁽³⁾		
								7	Clear ⁽²⁾⁽³⁾		

(1) LED module is required for illumination. Cannot use incandescent module.
 (2) Available in illuminated only.
 (3) Use of white LED is recommended.
 (4) Available in non-illuminated only.

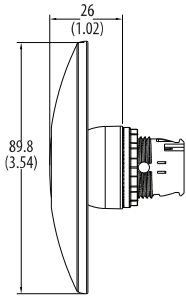
Approximate Dimensions – Push-pull Operators

Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

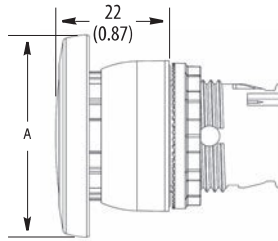
90 mm Half Dome



90 mm Mushroom

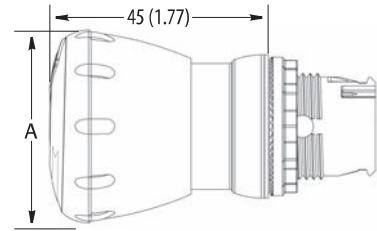


Illuminated and Non-illuminated Momentary Mushroom Operators (40 mm and 60 mm)

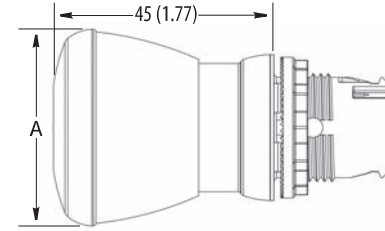


Operator	A
40 mm	39.8 (1.57)
60 mm	59.8 (2.35)

Illuminated and Non-illuminated Twist-to-release Operators (30 mm, 40 mm, and 60 mm)

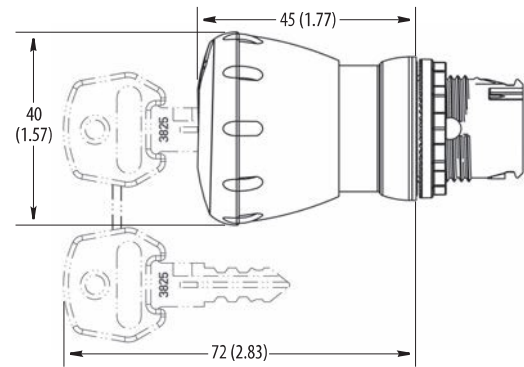


Illuminated and Non-illuminated Push-pull Mushroom Operators (30 mm, 40 mm, and 60 mm)



Operator	A
30 mm	30 (1.18)
40 mm	40 (1.57)
60 mm	60 (2.36)

Mushroom Key Release Operator (40 mm)



Momentary Mushroom Push Buttons

Non-illuminated



40 mm Mushroom
Cat. No. 800FM-MM42



60 mm Mushroom
Cat. No. 800FP-MM63



90 mm Mushroom
Cat. No. 800FP-MM94

Color	Package Quantity	40 mm Mushroom		60 mm Mushroom		90 mm Mushroom	
		Plastic	Metal	Plastic	Metal	Plastic	Metal
		Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
Black	1	800FP-MM42	800FM-MM42	800FP-MM62	800FM-MM62	800FP-MM92	800FM-MM92
Green		800FP-MM43	800FM-MM43	800FP-MM63	800FM-MM63	—	—
Red		800FP-MM44	800FM-MM44	800FP-MM64	800FM-MM64	800FP-MM94	800FM-MM94
Yellow		800FP-MM45	800FM-MM45	800FP-MM65	800FM-MM65	800FP-MM95	800FM-MM95
Blue		800FP-MM46	800FM-MM46	800FP-MM66	800FM-MM66	—	—

800F P - MM4 3
 a b c

a	
Operator Construction	
Code	Description
P	Round plastic operator (IP69K; IP65, Type 4/4X/13)
M	Round metal operator (IP65, Type 4/13)

b	
Size and Operator Type	
Code	Type
MM4	40 mm momentary
MM6	60 mm momentary
MM9	90 mm momentary ⁽¹⁾

c	
Color Cap	
Code	Color
2	Black
3	Green
4	Red
5	Yellow
6	Blue

(1) Only available with black, red, and yellow cap colors.

Illuminated



40 mm Mushroom
Cat. No. 800FP-LMM43

Color	Package Quantity	40 mm Mushroom	
		Plastic	Metal
		Cat. No.	Cat. No.
Green	1	800FP-LMM43	800FM-LMM43
Red		800FP-LMM44	800FM-LMM44
Yellow		800FP-LMM45	800FM-LMM45
Blue		800FP-LMM46	800FM-LMM46
Clear		800FP-LMM47	800FM-LMM47

800F P - LMM4 3
 a b c

a	
Operator Construction	
Code	Description
P	Round plastic operator (IP69K; IP65, Type 4/4X/13)
M	Round metal operator (IP65, Type 4/13)

b	
Size and Operator Type	
Code	Type
LMM4	40 mm momentary

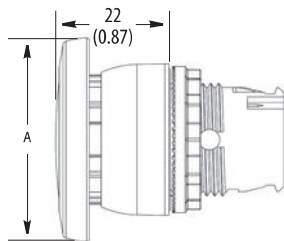
c	
Color Cap	
Code	Color
3	Green
4	Red
5	Yellow ⁽¹⁾
6	Blue ⁽¹⁾
7	Clear ⁽¹⁾

(1) When using LED for illumination, a white LED is recommended.

Approximate Dimensions – Momentary Mushroom Push Buttons

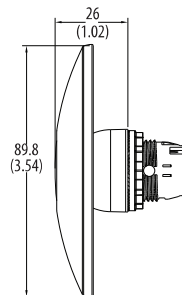
Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

Illuminated and Non-illuminated Momentary Mushroom Operators (40 mm and 60 mm)



Operator	A
40 mm	39.8 (1.57)
60 mm	59.8 (2.35)

90 mm Mushroom



Momentary Multi-operator

2-function, Non-illuminated

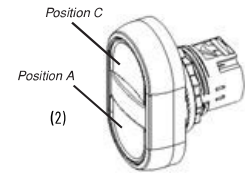


2-function Momentary Multi-operator Non-illuminated
Cat. No. 800FP-U2E4F3

Position A			Position C			Package Quantity	Plastic
Color	Type	Text	Color	Type	Text		Cat. No.
Red	Extended	Blank	Green	Flush	Blank	1	800FP-U2E4F3
		0			I		800FP-U2E4FE
		STOP			START		800FP-U2E4FA

800F P - U2 E 4 F 3 (with button caps)
 a b c d e f

800F P - U2 X (with button caps)
 a b c



a	
Operator Construction	
Code	Description
P	Round plastic operator (IP69K; IP66, Type 4/4X)
M	Round metal operator (IP66, Type 4)

b	
Operator Type	
Code	Description
U2	Two-function

c	
Operator Type – Position A ⁽²⁾	
Code	Description
F	Flush
E	Extended
X	No caps (all positions) ⁽³⁾

d	
Operator Color Cap/Text – Position A ⁽¹⁾	
Code	Description
1	White
2	Black
3	Green
4	Red
5	Yellow
6	Blue
A	Green with "Start" text
B	Red with "Stop" text
C	White with "Start" text
D	Black with "Stop" text
E	Green with "I" text
F	Red with "O" text
G	White with "I" text
H	Black with "O" text

e	
Operator Type – Position C ⁽²⁾	
Code	Description
F	Flush
E	Extended

f	
Operator Color Cap/Text – Position C ⁽¹⁾	
Code	Description
1	White
2	Black
3	Green
4	Red
5	Yellow
6	Blue
A	Green with "Start" text
B	Red with "Stop" text
C	White with "Start" text
D	Black with "Stop" text
E	Green with "I" text
F	Red with "O" text
G	White with "I" text
H	Black with "O" text

- (1) Valid color cap/legend text codes shown in [Table 17](#).
- (2) Position 1 of the latch (left position when viewed from the back) corresponds to position A of the operator. Position 2 of the latch (right position when viewed from the back) corresponds to position C of the operator.
- (3) For custom-engraved caps, consult your local Rockwell Automation sales office or Allen-Bradley distributor.

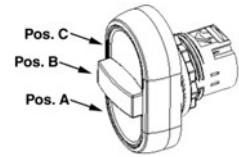
Table 17 - Cap/Legend Text

Color	Text	
	Flush Caps	Extended Caps
White	START, I	—
Black	—	STOP, O
Green	START, I	—
Red	—	STOP, O

3-function, Non-illuminated



3-function Momentary Multi-operator Non-illuminated
Cat. No. 800FP-U3E4F34



Position A			Position B			Position C			Pkg. Qty.	Plastic
Color	Type	Text	Color	Type	Text	Color	Type	Text		Cat. No.
Green	Flush	Blank	Red	Extended	Blank	Green	Flush	Blank	1	800FP-U3F3F34

800F **P** - **U3** **E** **4** **F** **3** **4** (with button caps)
 a b c d e f g

800F **P** - **U3** **X** (with button caps)
 a b c

a	
Operator Construction	
Code	Description
P	Round plastic operator (IP69K; IP66, Type 4/4X)
M	Round metal operator (IP66, Type 4)

b	
Operator Type	
Code	Description
U3	Three-function

c	
Operator Type – Position A ⁽²⁾	
Code	Description
F	Flush
E	Extended
X	No caps (all positions) ⁽³⁾⁽⁴⁾

d	
Operator Color Cap/Text – Position A ⁽¹⁾	
Code	Description
1	White
2	Black
3	Green
4	Red
5	Yellow
6	Blue
A	Green with "Start" text
B	Red with "Stop" text
C	White with "Start" text
D	Black with "Stop" text
E	Green with "I" text
F	Red with "O" text
G	White with "I" text
H	Black with "O" text

e	
Operator Type – Position C ⁽²⁾	
Code	Description
F	Flush
E	Extended

f	
Operator Color Cap/Text – Position C ⁽¹⁾	
Code	Description
1	White
2	Black
3	Green
4	Red
5	Yellow
6	Blue
A	Green with "Start" text
B	Red with "Stop" text
C	White with "Start" text
D	Black with "Stop" text
E	Green with "I" text
F	Red with "O" text
G	White with "I" text
H	Black with "O" text

g	
Operator Color Cap/Text – Position B ⁽²⁾⁽⁴⁾	
Code	Description
4	Red
B	Red with "Stop" text
F	Red with "O" text

- (1) Valid color cap/legend text codes shown in [Table 19](#).
- (2) Position 1 of the latch (left position when viewed from the back) corresponds to position A of the operator. Position 2 of the latch (right position when viewed from the back) corresponds to position C of the operator. Position 3 of the latch (center position) corresponds to position B of the operator.
- (3) For custom-engraved caps, consult your local Rockwell Automation sales office or Allen-Bradley distributor.
- (4) For "no caps" option, (position B) center cap available as red, no text only.

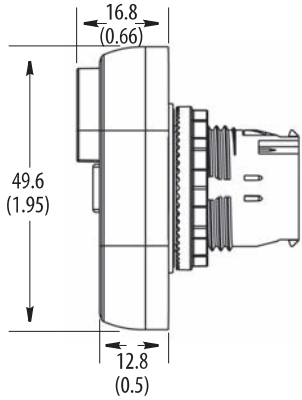
Table 19 - Cap/Legend Text

Color	Text	
	Flush Caps	Extended Caps
White	START, I	—
Black	—	STOP, O
Green	START, I	—
Red	—	STOP, O

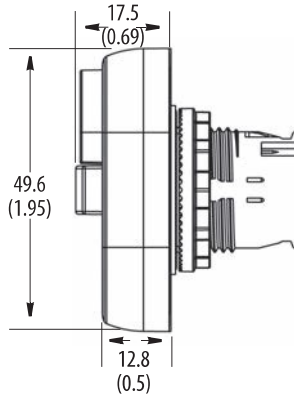
Approximate Dimensions – Momentary Multi-operator

Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

Illuminated and Non-illuminated 2-position Multi-function Operators



Non-illuminated 3-position Multi-function Operators



Single-turn Potentiometer Assembly



Resistive Element ^{(1) (2) (3)}	Series B Cat. No.	Series A Cat. No. ⁽⁴⁾
None (Operator Only) ⁽⁵⁾	800FP-POT	800FP-POTA
150 Ω	800FP-POT1	800FP-POT1A
500 Ω	800FP-POT2	800FP-POT2A
1000 Ω	800FP-POT3	800FP-POT3A
2500 Ω	800FP-POT4	800FP-POT4A
5000 Ω	800FP-POT5	800FP-POT5A
10,000 Ω	800FP-POT6	800FP-POT6A

(1) Rated 300V AC/DC, 2 W max.

(2) A latch is not needed.

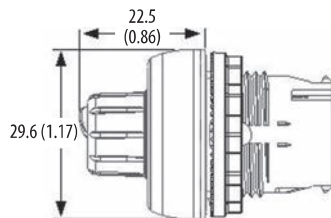
(3) Additional hole spacing required for potentiometers. See [Instruction Sheet on page 47](#) for panel hole spacing requirements.

(4) Not stocked. Longer leadtime.

(5) The catalog number 800FP-POT is a complete operator assembly supplied without the resistive element, used with potentiometers having a shaft diameter of 6.0 mm (0.23 in.) and a shaft length of 50.0 mm (1.97 in.), or a shaft diameter of 6.4 mm (0.25 in.) and a shaft length of 22.5 mm (0.88 in.). This operator is used with Type J potentiometers only.

Approximate Dimensions



Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.



Key-operated Selector Switch – SensEject

SensEject™ – patented spring-loaded key ejection system



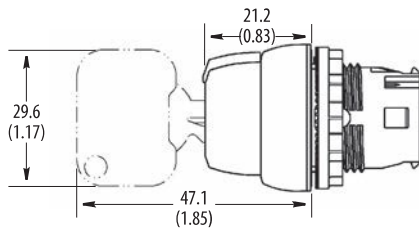
Operator Construction	Operator Type	Key Eject Position	Key Option ⁽¹⁾	Spare Key Cat. No.	Contact Blocks	Cat. No. ⁽²⁾
Round metal operator – SensEject is IP6X (dust-tight) Type 1	2-position spring return from right	 Left with key eject	Ronis key	800F-AKE006	None	800FM-KEM2106R
					1 N.O., 1 N.C.	800FM-KEM2106ZMX11
	3-position spring return from both	 Center with key eject	Ronis key	800F-AKE001	None	800FM-KEB3401R
					2 N.O., 3 N.C.	800FM-KEB3401RMX23

(1) Not intended for high security applications. Interoperability is possible with certain key/cylinder lock combinations. Consult your local Rockwell Automation sales office or Allen-Bradley distributor for interoperability information.

(2) Includes latch and spacer block.

Approximate Dimensions

Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.



Toggle Switch Operators



Toggle Switch Operator
Cat. No. 800FM-JM2

Table 22 - Target Table and Operator Position (2-position)

Contact Type ⁽²⁾	Position on Mounting Latch			
		Toggle Left	Center	Toggle Right
N.O.	Left	0	0	X
	Right	X	0	0
	Center	X	0	X
N.C.	Left	X	X	0
	Right	0	X	X
	Center	0	X	0

Table 23 - Target Table and Operator Position (4-position) ⁽¹⁾

Contact Type ⁽²⁾	Position on Mounting Latch					
		Toggle Up	Toggle Left	Center	Toggle Right	Toggle Down
N.O.	Left	X	0	0	0	0
	Right	0	X	0	0	0
	Center	X	X	0	0	0
N.C.L.B.	Left	0	X	X	X	X
	Right	X	0	X	X	X
	Center	0	0	X	X	X
N.C.E.B.	Left	0	0	0	0	X
	Right	0	0	0	X	0

(1) Must use N.O., N.C.E.B., or N.C.L.B. contact blocks only. Cannot use N.C. or N.O.E.M. contact blocks with 4-position toggle switch.

(2) Contact selection is limited to the following options, consult your local Rockwell Automation sales office or Allen-Bradley distributor for other options.

Note: X = Closed / 0 = Open

800F M - J M2
 a b c

a	
Operator Construction	
Code	Description
M	Round metal operator (IP66, Type 4/13)

b	
Operator Type	
Code	Description
J	Toggle switch ⁽¹⁾⁽²⁾

c	
Operator Function	
Code	Description
M2	2-position, maintained
R2	2-position, momentary
M4	4-position, maintained
R4	4-position, momentary

(1) Use legend plates 800F-34_ and 800F-35_.

(2) Silicone boot comes standard with toggle switch, consult your local Rockwell Automation sales office or Allen-Bradley distributor for replacement boots.

Approximate Dimensions

Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

