

# IEC Push Button Specifications

Bulletin Numbers 598, 800F, 800FC, 800FD, 800B, 800MB, and 800MR

Topic	Page
<b>800F 22.5 mm Push Buttons</b>	
Specifications	3
Momentary Push Buttons	6
Pilot Lights	10
Selector Switches	11
Key-Operated Selector Switches	16
Push-Pull Operators	18
Momentary Mushroom Push Buttons	22
Momentary Multi-Operators	23
Reset Operators	26
Selector Push Button Operators	27
Toggle Switch Operators	28
Back-of-Panel Components	29
Assembled Stations with DeviceNet	31
Legend Plates/Caps	32
Approximate Dimensions	33
Assembled Station Pinout Chart	39
<b>598 General Purpose Push Button Enclosures</b>	40
<b>800FC 22.5 mm Configured Pendant Stations</b>	
Operator Mounting/Sequence	41
1-, 2-, and 3-Speed Operators	42
Configured Pendant Stations	43
Specifications	45
Approximate Dimensions	47

Topic	Page
<b>800FD 22.5 mm Monolithic Push Buttons</b>	
Momentary Push Button Operators	49
Pilot Light Devices	50
Selector Switch Operators	51
Push-Pull/Twist-to-Release Mushroom Operators	51
Specifications	52
Approximate Dimensions	53
<b>800B 16 mm Push Buttons</b>	
Specifications	54
Operator Assembly Sequence/Target Table and Operator Position	55
Approximate Dimensions	56
<b>800MR/800MB IEC Oiltight Operators</b>	
800MR Momentary Contact Push Buttons	57
800MR Push-Pull Operators	59
800MR Selector Switches	61
800MR Pilot Lights & Wobble Sticks	66
800MB Momentary Contact Push Buttons	67
800MB Pilot Lights	70
800MB/MR Specifications	71
800MB/MR Approximate Dimensions	72

## Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, <a href="http://www.ab.com">http://www.ab.com</a>	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at <http://www.rockwellautomation.com/literature/>. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.



**Bulletin 800FP Plastic Operators**

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



*Bul. 800FP Plastic Operators*

**Bulletin 800FM Metal Operators**

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



*Bul. 800FM Die-Cast Metal Operators*

**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

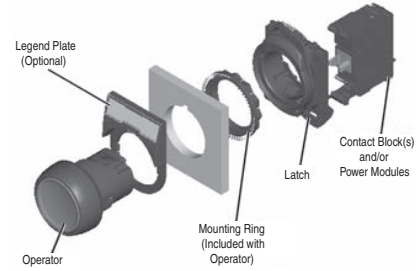


*Plastic Latch with Contact Block*



*Metal Latch with Contact Block*

**Assembly Overview**



## Specifications

## Front-of-Panel (Operators)★

		Mechanical Ratings	
Description		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‡		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§	
	300 000 Cycles	Twist-to-release E-stop, illuminated push-pull E-stop§, 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)	
		Environmental	
Temperature range (operating)		-25...+70 °C (-13...+158 °F)♣	
Temperature range (short term storage)		-40...+85 °C (-40...+185 °F)	
Humidity		50...95% RH from 25...60 °C (77...140 °F)	

★ **Performance Data** — Performance data given in this publication is provided only as a guide for the user in determining suitability and do not constitute a performance warranty of any kind. Such data may represent the results of accelerated testing at elevated stress levels, and the user is responsible for correlating the data to actual application requirements. ALL WARRANTIES AS TO ACTUAL PERFORMANCE, WHETHER EXPRESS OR IMPLIED, ARE EXPRESSLY DISCLAIMED.

‡ Momentary mushroom operators are IP65. Plastic keyed operators are IP66, Type 4/13; not Type 4X.

§ Limit of four contact blocks max. for these devices.

♣ 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).

## Standards Compliance and Certifications

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	✓

## Back-of-Panel Components★

Electrical Ratings				
		Screw Termination	Spring Clamp Termination	
Standard contact block ratings		A600, Q600 600V AC	A300, Q300 300V AC	
Low voltage contact block ratings†		AC 15, DC 13 to IEC/EN 60947-5-1 and UL 508, 17V, 5 mA min. 5V, 1 mA DC min. C300, R150, AC 15, DC 13 to EN 60947-5-1 and UL 508		
Nominal Voltage		Range	Current Draw	Frequency
LED Module Ratings	24...120V AC/DC	20...132V AC/DC	15 mA (AC), 12 mA (DC)	50/60 Hz, DC
	24V AC	10...29V AC	31 mA	50/60 Hz
	24V DC	10...30V DC	24 mA	DC
	120V AC	102...132V AC	6 mA	50/60 Hz
	240V AC	204...264V AC	6 mA	50/60 Hz
Thermal current		10 A max. enclosed (40 °C ambient) to UL508, EN 60947-5-1		
Insulation voltage (U <sub>i</sub> )		Screw terminal = 690V, spring-clamp = 300V		
Wire capacity (screw terminal)§		#18...12 AWG (0.75...2.5 mm <sup>2</sup> ) Max. (2) #14 AWG or (1) #12 AWG		
Wire capacity (spring-clamp terminal)		#18...14 AWG (0.75...1.5 mm <sup>2</sup> ) 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 one 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		
Mechanical Ratings				
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		
Illumination				
LED Dominant Wavelength	Green	525 nm		
	Red	629 nm		
	White	—		
LED Luminous Intensity	Green	780 mcd		
	Red	780 mcd		
	White	360 mcd		
Incandescent maximum wattage		2.6 W		
Materials				
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		

★ Performance Data — see note on page 3.

† Low voltage contacts are recommended for applications below 17V, 5 mA.

§ Wires less than #18 AWG (0.75 mm<sup>2</sup>) may not hold in terminal securely.

## 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

800F  P - F 3 -   
a b c d

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
F	Flush
E	Extended
G	Guarded

c

Color Cap	
Code	Color
0	Orange
1	White
2	Black
3	Green
4	Red
5	Yellow
6	Blue
8	Grey★
9	No cap
X	Assortment pack‡

d

Packaging	
Code	Description
Blank	1 per package
BP	10 per package§

★ Available in flush only.

‡ Assortment pack contains one cap of each color, not available in BP packaging.

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

Momentary Push Button Operators, Non-Illuminated — with Two-Color Molded Legend Caps



**Flush Operator**  
Cat. No. 800FP-F301

**800F**   **P** - **F**   **3**   **01**  
                   *a*        *b*        *c*        *d*

*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
F	Flush
E	Extended
G	Guarded

*c*

Color Cap	
Code	Color
0	Orange
1	White
2	Black
3	Green
4	Red
5	Yellow
6	Blue

*d*

Legend Text*‡§	
Code	Text
Blank	No Text
01	START
02	STOP
05	O
06	I
08	→
09	Forward△
10	Reverse△
11	R

★ For custom laser-engraved legend cap, consult your local Rockwell Automation sales office or Allen-Bradley distributor.

‡ White and yellow caps have black text. All other color caps have white text.

§ Legend button cap supplied loose for customer installation.

△ Available for flush only.

§ Valid color cap/legend text codes include:

Color	Text	
	Flush Caps	Extended Caps
White	FORWARD, REVERSE, START, I, →, R	→, R
Black	FORWARD, REVERSE, →, R	STOP, O, →, R
Green	FORWARD, REVERSE, START, I, →	→
Red	FORWARD, REVERSE, STOP, O, →	STOP, O, →
Yellow	FORWARD, REVERSE, →	→
Blue	FORWARD, REVERSE, →, R	→, R

Momentary Push Button Operators, Illuminated — Flush, Extended, Guarded



Flush Operator  
Cat. No. 800FM-LF4



Extended Operator  
Cat. No. 800FP-LE3



Guarded Operator  
Cat. No. 800FP-LG3

800F  P - LE   3 -   
 a b c d

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
LF	Flush
LE	Extended
LG	Guarded

c

Color Cap ★	
Code	Color
0	Amber‡
3	Green
4	Red
5	Yellow‡
6	Blue‡
7	Clear
9	No cap

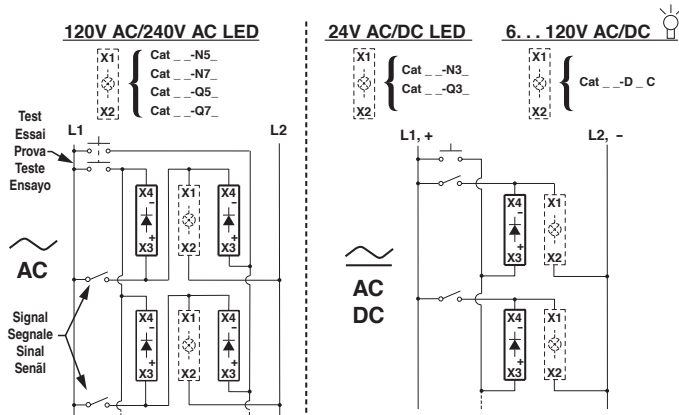
d

Packaging	
Code	Description
Blank	1 per package
BP	10 per package§

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

Push-to-Test Push Button Device Schematic

Illuminated push buttons may be wired as a push-to-test device by using the following schematic and Cat. No. 800F-XD7 Diode module from page 10-111.



Alternate Action Operators — Non-Illuminated



Cat. No. 800FM-FA3

800F  M - FA   3   
           a      b      c

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
FA	Non-illuminated, flush, alternate action

c

Color Cap‡	
Code	Color
0	Orange
1	White
2	Black
3	Green
4	Red
5	Yellow
6	Blue
9	No cap
X	Assortment pack

\* Must use N.O.E.M. or N.C. contacts.  
 ‡ For custom laser-engraved legend cap, consult your local Rockwell Automation sales office or Allen-Bradley distributor.

Alternate Action Operators — Illuminated



Cat. No. 800FP-LFA3

800F  P - LFA   3   
           a      b      c

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*Δ	
Code	Description
LFA	Illuminated, flush, alternate action

c

Color Cap♦	
Code	Color
0	Amber▲
3	Green
4	Red
5	Yellow▲
6	Blue▲
7	Clear
9	No lens

\* Must use N.O.E.M. or N.C. contacts.  
 Δ LED module required for illumination, can not use incandescent module.  
 ♦ For custom laser-engraved operator, consult your local Rockwell Automation sales office or Allen-Bradley distributor.  
 ▲ Use of a white LED is recommended.

Pilot Light Operators



Plastic Pilot Light  
Cat. No. 800FP-P7



Metal Pilot Light  
Cat. No. 800FM-P4

800F  P  -  P   3  -    
a b c d

a

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

c

Lens Cap★	
Code	Color
0	Amber‡
3	Green
4	Red
5	Yellow‡
6	Blue‡
7	Clear
9	No lens

d

Packaging	
Code	Description
Blank	1 per package
BP	10 per package

b

Operator Type	
Code	Description
P	Diffuser

★ For custom laser-engraved pilot light, consult your local Rockwell Automation sales office or Allen-Bradley distributor.  
 ‡ When using LED for illumination, a white LED is recommended.

2-Position Selector Switch Operators, Non-Illuminated



Standard Knob  
Cat. No. 800FP-SM22



Knob Lever  
Cat. No. 800FP-HM22

Switching Angle



Target Table and Operator Position ★		
Contact Type★		
N.O.	O	X
N.C.	X	O

Note: X = Closed/O = Open

★ Target table for spring return from left is reversed from what is shown in the table.

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

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‡

*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§

*f*

Packaging	
Code	Description
Blank	1 per package
BP	10 per package△

‡ 30 mm hole spacing will not work if knob lever is used. See page 38 for recommended operator panel spacing.

§ For use in vertical mount Bul. 800F enclosures.

△ Not available with 90° offset orientation.

2-Position Selector Switch Operators, Illuminated ✦



**Standard Knob**  
Cat. No. 800FP-LSM26

Switching Angle



Target Table and Operator Position ✦		
Contact Type ✦		
N.O.	O	X
N.C.	X	O

Note: X = Closed/O = Open

✦ Target table for spring return from left is reversed from what is shown in the table.

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

800F  P  -  LS   M2   3

*a*      *b*      *c*      *d*      *e*

*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
LS	Standard knob
LH	Knob lever Δ

*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
0	Amber ✦	White
3	Green	White
4	Red	White
5	Yellow ✦	Black
6	Blue ✦	White
7	Clear	Black

*e*

Orientation	
Code	Description
Blank	Standard
N	90° offset §

‡ LED module required for illumination, can not use incandescent module.

§ For use in vertical mount enclosures.

✦ Crevices may exist on product that may be unsuitable for certain applications. Please consult your local Rockwell Automation sales office or Allen-Bradley distributor.

Δ Only available in clear.

✦ Use of a white LED is recommended.

3-Position Selector Switch Operators, Non-Illuminated

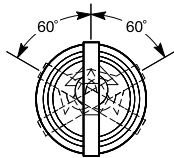


Standard Knob  
Cat. No. 800FP-SM32



Knob Lever  
Cat. No. 800FM-HM32

Switching Angle



Target Table and Operator Position (60° Switching Angle)				
Contact Type <sup>Δ</sup>	Position on Mounting Latch			
N.O.	Left	X	O	O
	Right	O	O	X
	Center	X	O	X
	Center CL <sup>§</sup>	X	O	O
	Center CR <sup>§</sup>	O	O	X
N.C.	Left	O	X	X
	Right	X	X	O
	Center	O	X	O
	Center CL <sup>§</sup>	O	X	X
	Center CR <sup>§</sup>	X	X	O

Note: X = Closed/O = Open

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

800F P - S M3 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★

*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
2	Black	White

*e*

Orientation	
Code	Description
Blank	Standard
N	90° offset <sup>‡</sup>

*f*

Operation	
Code	Description
Blank	Standard
CL	Center left <sup>§</sup>
CR	Center right <sup>§</sup>

★ 30 mm hole spacing will not work if knob lever is used. See page 38 for recommended operator panel spacing.

‡ For use in vertical mount enclosures.

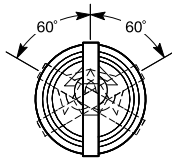
§ The center contact block can have the same target output as the left or right contact block, by specifying center left (CL) or center right (CR) option.

3-Position Selector Switch Operators, Illuminated §



**Standard Knob**  
Cat. No. 800FP-LSM37

Switching Angle



Target Table and Operator Position (60° Switching Angle)				
Contact Type <sup>Δ</sup>	Position on Mounting Latch			
N.O.	Left	X	O	O
	Right	O	O	X
N.C.	Left	O	X	X
	Right	X	X	O

Note: X = Closed/O = Open

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

800F  P  -  LS   M3   3

*a*                      *b*                      *c*                      *d*                      *e*

*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
LS	Standard knob
LH	Knob lever ♣

*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 ♦	White
3	Green	White
4	Red	White
5	Yellow ♦	Black
6	Blue ♦	White
7	Clear	Black

*e*

Orientation	
Code	Description
Blank	Standard
N	90° offset ‡

★ LED module required for illumination, can not use incandescent module.

‡ For use in vertical mount 800F enclosures.

§ Crevices may exist on product that may be unsuitable for certain applications. Please consult your local Rockwell Automation sales office or Allen-Bradley distributor.

♣ Only available in clear.

♦ Use of a white LED is recommended.

4-Position Selector Switch Operators, Non-Illuminated



**Standard Knob**  
Cat. No. 800FP-SM42

Target Table and Operator Position ★					
Contact Type♣	Position on Mounting Latch				
N.O.	Left	O	O	X	O
	Right	X	O	O	O
	Center	X	O	X	O
	Center CL	O	O	X	O
	Center CR	X	O	O	O
N.C.E.B.	Left	O	O	O	X
	Right	O	X	O	O
	Center CL	O	O	O	X
	Center CR	O	X	O	O
N.C.L.B.	Left	X	X	O	X
	Right	O	X	X	X
	Center	O	X	O	X
	Center CL	X	X	O	X
	Center CR	O	X	X	X

**Note:** X = Closed/O = Open  
 ★ 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.  
 ♣ Contact selection is limited to the following options, consult your local Rockwell Automation sales office or Allen-Bradley distributor for other options.

**800F**   **P** - **S**   **M4**   **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)

*c*

Operator Function	
Code	Type
M4	Maintained (45° switching angle)

*e*

Orientation	
Code	Description
Blank	Standard
N	90° offset‡

*b*

Operator Type	
Code	Description
S	Standard knob
H	Knob lever

*d*

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

*f*

Operation	
Code	Description
Blank	Standard
CL	Center left§
CR	Center right§

‡ For use in vertical mount enclosures.  
 § 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.

2-Position Key-Operated Selector Switches, Non-Illuminated



Key Selector Switch  
Cat. No. 800FP-KM21R

Switching Angle



Target Table and Operator Position ★		
Contact Type ♦		
N.O.	O	X
N.C.	X	O

Note: X = Closed/O = Open

★ Target table for spring return from left is reversed from what is shown in the table.

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

800F       - KM2            

*a*                      *b*                      *c*                      *d*

*a*

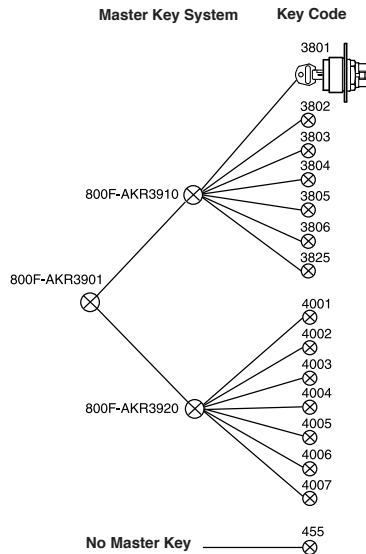
Operator Construction	
Code	Description
P	Round plastic operator (IP66, Type 4/13)
M	Round metal operator (IP66, Type 4/13)

*b*

Operator Type	
Code	Type
KM2	Maintained (60° switching angle) ✓
KL2	Spring return from left (60° switching angle) ✓
KR2	Spring return from right (60° switching angle) ✓

*c*

Key Removal Position ‡	
Code	Position
1	Left
2	Right
3	Both



*d*

Ronis Key Lock §*Δ	
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

‡ Key removal in maintained positions only.

§ Keyed operators are IP66, Type 4/13.

\* 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.

Δ For replacement Ronis keys, see Accessories, consult your local Rockwell Automation sales office or Allen-Bradley distributor.

3-Position Key-Operated Selector Switches, Non-Illuminated

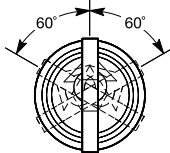


Key-Operated Selector Switch  
Cat. No. 800FP-KM31R



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

Switching Angle



Target Table and Operator Position				
Contact Type♦	Position on Mounting Latch			
N.O.	Left	X	O	O
	Right	O	O	X
	Center	X	O	X
N.C.	Left	O	X	X
	Right	X	X	O
	Center	O	X	O

Note: X = Closed/O = Open

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

800F       - KM3           
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	
Code	Description
KM3	Maintained
KR3	Spring return from right
KL3	Spring return from left
KB3	Spring return from both

**c**

Key Removal Position★	
Code	Type
1	Left
3	All
4	Center
5	Left/center
7Δ	Center/right

**d**

See page 16 for optional key codes†§‡

- ★ Key removal in maintained positions only.
- † Keyed operators are IP66, Type 4/13.
- § 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.
- ‡ For replacement Ronis keys, consult your local Rockwell Automation sales office or Allen-Bradley distributor.
- Δ Key removal position only valid with operator types 800F\_-KM3 and 800F\_-KL3.

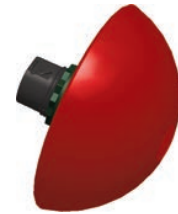
2-Position Push-Pull Operators, Non-Illuminated — Twist-to-Release (Trigger Action), Push-Pull (Trigger Action)★▲



40 mm Trigger Action  
Twist-to-Release Mushroom  
Cat. No. 800FP-MT44



40 mm Trigger Action  
Push-Pull Mushroom  
Cat. No. 800FP-MP44



90 mm Half-Dome  
Cat. No. 800FP-MP94

800F  P  -  MT4   4     
a b c d

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	
Push, Twist-to-Release◆	
Code	Type
MT3	30 mm color cap
MT4	40 mm color cap
MT6	60 mm color cap
Push-Pull▽	
Code	Type
MP4	40 mm color cap
Half-Dome Push-Pull▽	
Code	Type
MP9	90 mm color cap‡

c

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

d§▲

Engraving	
Code	Description
Blank	No engraving on cap
LE	EMO laser engraved
E	EMO printed

- ★ All emergency stop operators are EN ISO 13850 compliant with standard NC, NCLB, 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\_-EN-E.
- ◆ Only available with red color cap.
- § For EMO guards, consult your local Rockwell Automation sales office or Allen-Bradley distributor.
- ▲ Only available on 40 mm color cap.
- △ Only available on red, 40 mm push, twist-to-release operator type (MT44).
- ‡ Half-dome operators only available with black, red, and yellow color caps.
- ▽ Limit of four contact blocks max. for these devices.

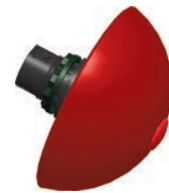
2-Position Push-Pull Operators, Illuminated — Twist-to-Release (Trigger Action), Push-Pull (Trigger Action)★‡∇



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

800F  P  -  LMP4   3   
           a                  b                  c

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	
Push, Twist-to-Release§*	
Code	Type
LMT4	40 mm color cap
LMT6	60 mm color cap
Push-Pull&	
Code	Type
LMP3	30 mm color cap
LMP4	40 mm color cap
LMP6	60 mm color cap
Half-Dome Push-Pull&	
Code	Type
LMP9	90 mm color cap▲

c

Lens Cap Color	
Code	Color
3	Green
4	Red
5	Yellow♦
6	Blue△♦

- ★ LED module required for illumination, can not use incandescent module.
- ‡ All emergency stop operators are EN ISO 13850 compliant with standard NC, NCLB, 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\_-EN-E.
- § Only available with red color cap.
- ♣ 60 mm version has black arrows; 30 and 40 mm versions have white arrows.
- ♦ Use of a white LED is recommended.
- △ Only available with 40 mm Push-Pull color cap (LMP4 from Table b).
- ▲ Half-dome operators only available with red and yellow lens cap colors.
- & Limit of four contact blocks max. for these devices.

2-Position Non-Illuminated Operators — Mushroom, Key Release (Trigger Action)★△



40 mm Key Release Mushroom  
Cat. No. 800FP-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†§★	
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

- ★ All emergency stop operators are EN ISO 13850 compliant with standard NC, NCLB, 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\_-EN-E.
- † Keyed operators are IP66, Type 4/13.
- § 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.
- ★ For replacement Ronis keys, consult your local Rockwell Automation sales office or Allen-Bradley distributor.

3-Position Push-Pull Operators, Illuminated & Non-Illuminated — Mushroom $\Delta$



**Illuminated 3-Position Push-Pull**  
Cat. No. 800FM-LMP44E3

Target Table and Operator Position $\star$			
Contact Type $\nabla$			
	Out	Center	In
N.O.	O	O	X
N.C.E.B.	X	O	O
N.C.L.B.	X	X	O

Note: X = Closed/O = Open

$\star$  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.

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

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

$a$

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

$b$

Operator Type	
Code	Description
Blank	Non-illuminated
L	Illuminated $\ddagger$

$c$

Operator Function	
Code	Description
MM	Momentary out, Maintained center, Momentary in
MP	Momentary out, Maintained center, Maintained in

$d$

Cap Size	
Code	Description
4	40 mm plastic

$e$

Cap Color	
Code	Description
0	Amber $\S$ $\clubsuit$
2	Black $\clubsuit$
3	Green
4	Red
6	Blue $\S$ $\clubsuit$
7	Clear $\S$ $\clubsuit$

$f$

Positions	
Code	Description
E3	3-position

$\Delta$  Sold as stand-alone operator only. Not available as a composite catalog number.

$\ddagger$  LED module required for illumination. Cannot use incandescent module.

$\S$  Available in illuminated only.

$\clubsuit$  Use of white LED is recommended.

$\clubsuit$  Available in non-illuminated only.

Momentary Push Button Operators, Non-Illuminated — Mushroom ★



40 mm Mushroom  
Cat. No. 800FM-MM42



60 mm Mushroom  
Cat. No. 800FP-MM63



90 mm Mushroom  
Cat. No. 800FP-MM94

800F  P  -  MM4   3   
           a          b          c

a

Operator Construction	
Code	Description
P	Round plastic operator (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‡

c

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

★ Momentary mushroom operators are IP65 rated.  
 ‡ Only available with black, red, and yellow cap colors.

Momentary Push Button Operators, Illuminated — Mushroom Δ



40 mm Mushroom  
Cat. No. 800FP-LMM43

800F  P  -  LMM4   3   
           a          b          c

a

Operator Construction	
Code	Description
P	Round plastic operator (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

Lens Cap Color	
Code	Color
3	Green
4	Red
5	Yellow§
6	Blue §
7	Clear §

Δ Momentary mushroom operators are IP65 rated.  
 § When using LED for illumination, a white LED is recommended.

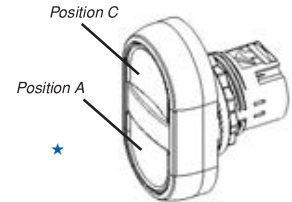
2-Function Momentary Multi-Operator, Non-Illuminated



2-Function Momentary Multi-Operator Non-Illuminated  
Cat. No. 800FP-U2E4F3

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

800F P – U2 X (without button caps)  
*a b c*



*a*

Operator Construction	
Code	Description
P	Plastic operator (IP66, Type 4/4X)
M	Metal operator (IP66, Type 4)

*b*

Operator Type	
Code	Description
U2	Two-function

*c*

Operator Type — Position A★	
Code	Description
F	Flush
E	Extended
X	No caps (all positions)‡

*d*

Operator Color Cap/Text — Position A§	
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★	
Code	Description
F	Flush
E	Extended

*f*

Operator Color Cap/Text — Position C§	
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

★ 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.

‡ For custom-engraved caps, consult your local Rockwell Automation sales office or Allen-Bradley distributor.

§ Valid color cap/legend text codes include:

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

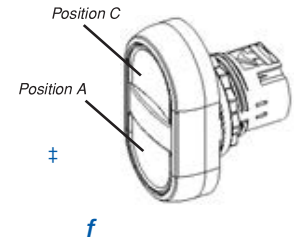
2-Function Momentary Multi-Operator, Illuminated★



2-Function Momentary Multi-Operator Illuminated  
Cat. No. 800FP-LU2E2E1

800F P - LU2 E 4 F 3 (with button caps)  
*a b c d e f*

800F P - LU2 X (without button caps)  
*a b c*



*a*

Operator Construction	
Code	Description
P	Plastic operator (IP66, Type 4/4X)
M	Metal operator (IP66, Type 4)

*b*

Operator Type★	
Code	Description
LU2	Two-function Illuminated

*c*

Operator Type — Position A‡	
Code	Description
F	Flush
E	Extended
X	No caps (all positions)§

*d*

Operator Color Cap/Text — Position A★	
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

*f*

Operator Color Cap/Text — Position C★	
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‡	
Code	Description
F	Flush
E	Extended

★ LED module required for illumination, can not use incandescent module.

‡ 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) is reserved for the power module.

§ For custom-engraved caps, consult your local Rockwell Automation sales office or Allen-Bradley distributor.

★ Valid color cap/legend text codes include:

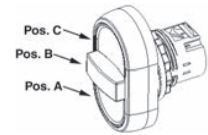
Color	Text	
	Flush Caps	Extended Caps
White	START, I	—
Black	—	STOP, O
Green	START, I	—
Red	—	STOP, O

3-Function Momentary Multi-Operator, Non-Illuminated



3-Function Momentary Multi-Operator Non-Illuminated  
Cat. No. 800FP-U3E4F34

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



800F P – U3 X (without button caps)  
*a b c*  
*a*

Operator Construction	
Code	Description
P	Plastic operator (IP66, Type 4/4X)
M	Metal operator (IP66, Type 4)

*b*

Operator Type	
Code	Description
U3	Three-function

*c*

Operator Type — Position A★	
Code	Description
F	Flush
E	Extended
X	No caps (all positions)‡§

*d*

Operator Color Cap/Text — Position A★	
Code	Description
1	White
2	Black
3	Green
4	Red
5	Yellow
6	Blue

*d (cont'd)*

Operator Color Cap/Text — Position A★	
Code	Description
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★	
Code	Description
F	Flush
E	Extended

*f*

Operator Color Cap/Text — Position C★	
Code	Description
1	White
2	Black
3	Green
4	Red
5	Yellow
6	Blue

*f (cont'd)*

Operator Color Cap/Text — Position C★	
Code	Description
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★§	
Code	Description
4	Red
B	Red with “Stop” text
F	Red with “O” text

★ 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.

‡ For custom-engraved caps, consult your local Rockwell Automation sales office or Allen-Bradley distributor.

§ For “no caps” option, (position B) center cap available as red, no text only.

♣ Valid color cap/legend text codes include:

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



Selector Push Button Operators



**Selector Jog Operator**  
Cat. No. 800FM-SJ23

Target Table and Operator Position (2-Position)

Contact Type†	Position on Mounting Latch	↙		↗	
		Selector Left Free	Selector Left Depressed	Selector Right Free	Selector Right Depressed
N.O.	Left	O	X	O	O
N.O.	Right	O	O	O	X
N.O.	Center	O	X	O	X
N.C.	Left	X	O	X	X
N.C.	Right	X	X	X	O
N.C.	Center	X	O	X	O

Note: X = Closed/O = Open

Target Table and Operator Position (3-Position)

Contact Type†	Position on Mounting Latch	↙		↑		↗	
		Selector Left Free	Selector Left Depressed	Selector Center Free	Selector Center Depressed	Selector Right Free	Selector Right Depressed
N.O.	Left	O	X	O	X	O	O
N.O.	Right	O	O	O	X	O	X
N.O.	Center	O	X	O	X	O	X
N.C.	Left	X	O	X	O	X	X
N.C.	Right	X	X	X	O	X	O
N.C.	Center	X	O	X	O	X	O

Note: X = Closed/O = Open

† Contact selection is limited to the following options; consult your local Rockwell Automation sales office or Allen-Bradley distributor for other options.

**800F**   **P** - **SJ**   **2**   **2**  
*a*   *b*   *c*   *d*

*a*

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

*c*

Operator Function	
Code	Description
2	2-position
3	3-position

*b*

Operator Type	
Code	Description
SJ	Selector jog

*d*

Color Cap★	
Code	Description
2	Black
3	Green

★ Buttons cannot be engraved.

Toggle Switch Operators



**Toggle Switch Operator**  
Cat. No. 800FM-JM2

Target Table and Operator Position (2-Position)				
Contact Type*	Position on Mounting Latch			
		Toggle Left	Center	Toggle Right
N.O.	Left	O	O	X
N.O.	Right	X	O	O
N.O.	Center	X	O	X
N.C.	Left	X	X	O
N.C.	Right	O	X	X
N.C.	Center	O	X	O

Note: X = Closed/O = Open

Target Table and Operator Position (4-Position)§						
Contact Type*	Position on Mounting Latch					
		Toggle Up	Toggle Left	Center	Toggle Right	Toggle Down
N.O.	Left	X	O	O	O	O
N.O.	Right	O	X	O	O	O
N.O.	Center	X	X	O	O	O
N.C.L.B.	Left	O	X	X	X	X
N.C.L.B.	Right	X	O	X	X	X
N.C.L.B.	Center	O	O	X	X	X
N.C.E.B.	Left	O	O	O	O	X
N.C.E.B.	Right	O	O	O	X	O

Note: X = Closed/O = Open

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

§ 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.

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*‡

**c**

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

\* Use legend plates 800F-34\_ and 800F-35\_.

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

Back-of-Panel Components

Contact Blocks with Latch — Composite

800F – P X 0 1 E  
*a* *b* *c* *d* *e*



*a*

Style	
Code	Description
P	Plastic latch
M	Metal latch

*c*

N.O. (Normally Open) Circuits	
Code	Description
0	No contact
1	1 N.O.
2	2 N.O.
3	3 N.O.
4	4 N.O.
5	5 N.O.
6	6 N.O.

*d*

N.C. (Normally Closed) Circuits	
Code	Description
0	No contact
1	1 N.C.
2	2 N.C.
3	3 N.C.
4	4 N.C.
5	5 N.C.
6	6 N.C.

*b*

Contact Block(s) Termination Style★	
Code	Description
X	Screw termination
Q	Spring-clamp termination

*e*

Specialty Contact Block(s)	
Code	Description
Blank	Standard blocks
V	Low voltage — QuadCONNECT™
E	N.O. early make
L	N.C. late break
B	N.C. early break
S	N.C. self-monitoring

★ Six circuits maximum allowable.

Power Modules with Latch — Composite

800F – M N 3 G  
*a* *b* *c* *d*



*a*

Style	
Code	Description
P	Plastic latch
M	Metal latch

*c*

Voltage	
Code	Description
0	No bulb△
1	6V AC/DC△
2	12V AC/DC△
3	24V AC/DC
4	48V AC/DC△
5	120V AC
7	240V AC◆

*d*

Lamp Color▲	
Code	Description
C	Incandescent
R	Red LED
G	Green LED
W	White LED

*b*

Power Module Type§*	
Code	Description
D	Incandescent module, screw termination
N	Integrated LED module, screw termination
Q	Integrated LED module, spring-clamp termination

§ LED modules for use with all illuminated operators. Incandescent module for use with pilot lights, momentary push buttons, and momentary mushroom operators only.

\* Four circuits maximum allowable when power module is used. Contact blocks cannot be stacked on power module.

△ Only available for incandescent module.

◆ Only available for integrated LED module.

▲ For best illumination results, LED color should match lens color. For yellow operator, select a white LED.

Back-of-Panel Components, Continued

Power Modules with Contact Blocks and Latch — Composite

800F – P N 5 R X 1 0 E  
*a* *b* *c* *d* *e* *f* *g* *h*

**a**

Style	
Code	Description
P	Plastic latch
M	Metal latch

**b**

Power Module Type★‡	
Code	Description
D	Incandescent module, screw termination
N	Integrated LED module, screw termination
Q	Integrated LED module, spring-clamp termination

**c**

Voltage	
Code	Description
0	No bulb§
1	6V AC/DC§
2	12V AC/DC§
3	24V AC/DC
4	48V AC/DC§
5	120V AC
7	240V AC♣

**d**

Lamp Color△	
Code	Description
C	Incandescent
R	Red LED
G	Green LED
W	White LED

**e**

Contact Block(s) Termination Style	
Code	Description
X	Screw termination
Q	Spring-clamp termination

**f**

N.O. (Normally Open) Circuits	
Code	Description
0	No contact
1	1 N.O.
2	2 N.O.
3	3 N.O.
4	4 N.O.

**g**

N.C. (Normally Closed) Circuits	
Code	Description
0	No contact
1	1 N.C.
2	2 N.C.
3	3 N.C.
4	4 N.C.

**h**

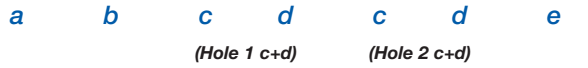
Specialty Contact Block(s)	
Code	Description
Blank	Standard blocks
V	Low voltage — QuadCONNECT™
E	N.O. early make
L	N.C. late break
B	N.C. early break
S	N.C. self-monitoring

★ Four circuits maximum allowable when power module is used. Contact blocks cannot be stacked on power module.  
 ‡ LED modules for use with all illuminated operators. Incandescent module for use with pilot lights, push buttons, and momentary mushroom operators only.  
 § Only available for incandescent module.  
 ♣ Only available for integrated LED module.  
 △ For best illuminated results, LED should match lens color. For yellow operator, select a white LED.

Assembled Stations with DeviceNet

2-Hole

800F –



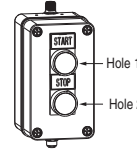
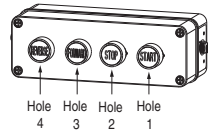
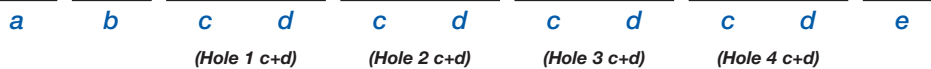
3-Hole

800F –



4-Hole

800F –



4-Hole Assembled Station  
Cat. No. 800F-VHA3A4J3J4J

a

Mounting Orientation	
Code	Description
V	Vertical ★
H	Horizontal

b

Enclosure Style/Legends	
Code	Description
A	2-hole/legend frames
B	3-hole/legend frames
C	4-hole/legend frames
D	2-hole/no legend frames
E	3-hole/no legend frames
F	4-hole/no legend frames
H	2-hole/E-stop only no legend frames ‡

c

Operator Types	
Code	Description
A	Non-illuminated flush button
B	Non-illuminated extended button
C	Non-illuminated guarded button
D	Illuminated flush button ▽
E	Illuminated extended button ▽
F	Illuminated guarded button ▽
G	Non-illuminated 2-pos. selector switch
H	Non-illuminated 3-pos. selector switch
J	Pilot light (diffused)
K	Hole plug &
L	Non-illuminated TTR E-stop §&
M	Non-illuminated push pull §&
N	2-pos. key selector switch
P	3-pos. key selector switch
R	Non-illuminated 40 mm mushroom
T	E-stop key release §&
U	Potentiometer †&
W	Illuminated push pull
X	Illuminated 2-pos. maintained selector switch
Y	Illuminated 3-pos. maintained selector switch
Z	Illuminated 40 mm mushroom

d

Color/Text	
Code	Description
1	White
2	Black
3	Green
4	Red
5	Yellow
6	Blue
7	Clear
8	Grey Δ
9	No cap
0	Amber
A	Green with "Start" text
B	Red with "Stop" text
C	Black with "→" symbol
D	Black with "←" symbol
E	Black with "↑" symbol
F	Black with "↓" symbol
G	Green with "I" symbol
H	Red with "O" symbol
L	Blue with "R" text
M	Red with yellow metal guard #
N	Yellow with yellow metal guard #

e

External I/O Version †	
Code	Description
Blank	No external I/O
A	1 input/1 output (sinking)
B	1 input/1 output (sourcing)
C	2 input
E	2 output (sourcing)
F	1 E-stop block ▲
G	2 E-stop block ▲
H	2 input/2 output
K	2 input/2 output (sourcing)
L	1 input/1 output (sinking) + 1 E-stop block ▲
M	1 input/1 output (sourcing) + 1 E-stop block ▲
N	1 input/1 output (sinking) + 2 E-stop block ▲
P	1 input/1 output (sourcing) + 2 E-stop block ▲
Q	2 input + 1 E-stop block ▲
R	2 input + 2 E-stop block ▲
U	2 output (sourcing) + 1 E-stop block ▲
W	2 output (sourcing) + 2 E-stop block ▲
X	2 input + 1 input/1 output (sinking)

★ Selector Switches in a vertical mount enclosure are mounted with a horizontal orientation.

‡ Enclosure Style/Legend option H from Table b can only select one operator from Table c. Valid options are L, M, and T. Also see footnote §

§ Operator Types L, M, and T from Table c may be used as emergency stops. To be valid as an E-Stop, operators must use color/text option 4 from Table d and it must be placed in the last hole position in the enclosure, where a yellow round E-stop legend plate is provided. An E-Stop connector also must be chosen from Table e. Also see footnote ▲

▲ Potentiometer allowed in first hole position only.

Δ Available in flush only.

◆ This is an 8-in/4-out device. 2-in and 1-out are assigned to each hole position in the enclosure. If a 2-hole enclosure is selected, 4-in and 2-out are assigned internally and up to 4 unassigned I/O points can be assigned to external connectors. This device contains up to two physical external I/O connectors. The "+" symbol in the Description field of table e indicates that two external connectors exist. If an E-Stop connector is used, 2 unassigned I/O points can be assigned to the other connector.

▲ External I/O Versions F, L, M, Q, and U receive only one contact block for the external E-Stop string. These connectors are rated 3 A. If more than 3 A of current is needed or if there are two E-Stop strings, use External I/O Versions G, N, P, R, and W. These versions receive two contact blocks. This allows for 6 A of switching or for two E-Stop strings.

▽ Cannot be ordered with "No Cap" (9 from Table d - Color/Text).

& Operator Types K, L, M, T, and U from Table c are not available with legend frames.

# Only available with non-illuminated push-pull operator (M from Table c).

Two-Color Molded Legend Caps — Non-Illuminated Push Buttons

800F – AF 3 01  
*a* *b* *c*



Cat. No. 800F-15YSE112C

Button Cap Type	
Code	Description
AF	Flush
AE	Extended

Color Cap	
Code	Description
1	White
2	Black
3	Green
4	Red
5	Yellow
6	Blue

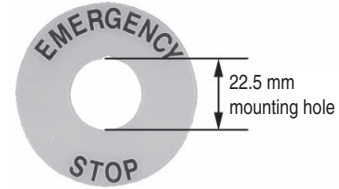
Legend Text†‡§	
English	
Code	Description
01	START
02	STOP
05	O
06	I
08	→
09	FORWARD★
10	REVERSE★
11	R

- ★ Available in flush only.
- † White and yellow caps have black text. All other color caps have white text.
- ‡ Valid color cap text codes include:

Color	Text	
	Flush Caps	Extended Caps
White	FORWARD, REVERSE, START, I, →, R	→, R
Black	FORWARD, REVERSE, →, R	STOP, O, →, R
Green	FORWARD, REVERSE, START, I, →	→
Red	FORWARD, REVERSE, STOP, O, →	STOP, O, →
Yellow	FORWARD, REVERSE, →	→
Blue	FORWARD, REVERSE, →, R	→, R

Emergency Stop Legend Plates ✦

800F – 15YS  
*a* *b*



Size/Color (Yellow)	
Code	Description
15Y	60 mm round (30.5 mm mounting hole)
15YS	60 mm round (22.5 mm mounting hole)✦
16Y	90 mm round (22.5 mm mounting hole)✦

Text	
Code	Description
Blank	No text
E112	EMERGENCY STOP
F112	ARRÊT D'URGENCE▲
S112	PARO DE EMERGENCIA
G112	NOT HALT
T112	ARRESTO EMERGENZA
N112	NÖDSTOPP, EMERGENCY STOP▲
P112	PARADA DE EMERGENCIA

Text	
Code	Description
W112	NÖDSTOPP, EMERGENCY STOP▲
A112	NÖDSTOPP
B112	EMERGENCY STOP, ARRÊT D'URGENCE, PARADA DE EMERGENCIA▲
D112	NOODSTOPP▲
M112	NOT HALT, ARRESTO EMERGENZA, ARRÊT D'URGENCE▽
	EMERGENCY STOP, ARRÊT D'URGENCE, NOT HALT&
L112	NEYÐARSTOPP, NEYÐARSTOPP▲
H112	NÖD-STOPP, HÄTÄ-SEIS, NÖD-STOPP▲

- ✦ Sold only multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces.
- ✦ Not for use with base mounted contact blocks.
- ▲ Not available on 15YS version.
- ▽ Text printed on the 15Y version only.
- & Text printed on the 15YS & 16Y versions only.

Push Button, Multi-Function Caps

800F – A F 1 C  
*a* *b*



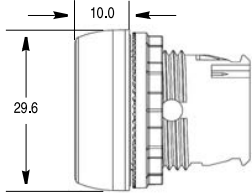
Type	
Code	Description
E	Push button extended cap
F	Push button flush cap
FA	Alternate action cap
FAU	Multi-function flush cap (for position A)
EAU	Multi-function extended cap (for position A)
FCU	Multi-function flush cap (for position C)
ECU	Multi-function extended cap (for position C)

Color	
Code	Description
0	Amber
1	White
2	Black
3	Green
4	Red
5	Yellow
6	Blue

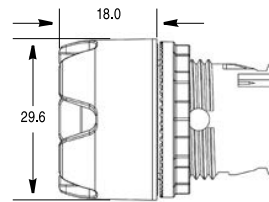
**Approximate Dimensions**

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

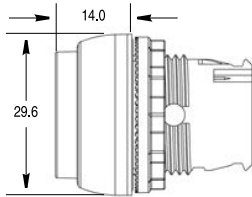
**Non-Illuminated and Illuminated Momentary Flush Push Button Operators**



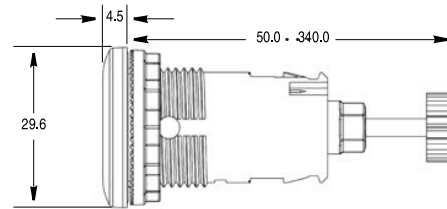
**Illuminated Momentary Guarded Push Button Operators**



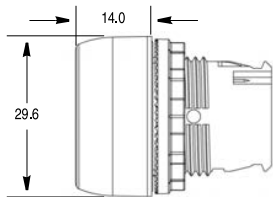
**Illuminated and Non-Illuminated Momentary Extended Push Button Operators**



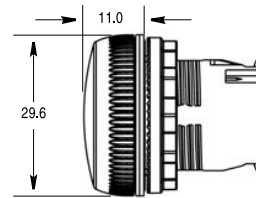
**Reset Operators with Reset Rod**



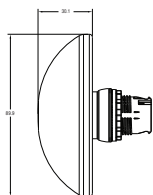
**Non-Illuminated Guarded, Illuminated and Non-Illuminated Alternate Action Push Button Operators**



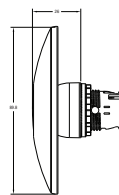
**Pilot Light Operators**



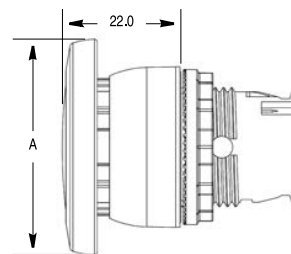
**90 mm Half Dome**



**90 mm Mushroom**

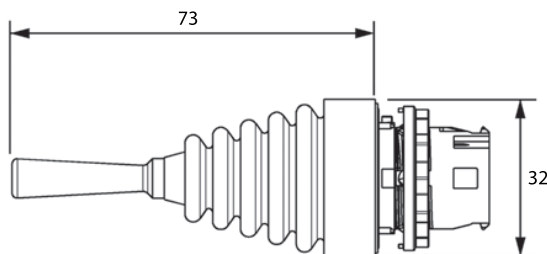


**Illuminated and Non-Illuminated Momentary Mushroom Operators 40 mm and 60 mm**

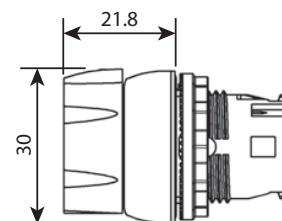


Operator	A
40 mm	39.8
60 mm	59.8

**Toggle Switch Operators**

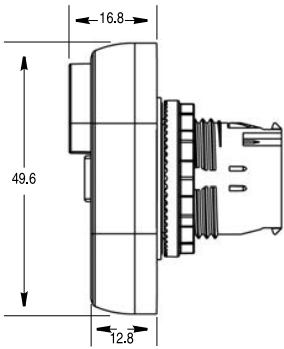


**Selector Jog Operators**

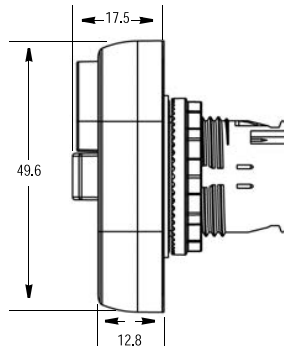


Dimensions in millimeters. Dimensions are not intended to be used for manufacturing purposes.

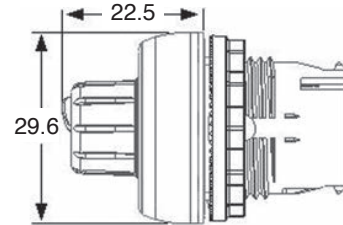
**Illuminated and Non-Illuminated 2-Position Multi-Function Operators**



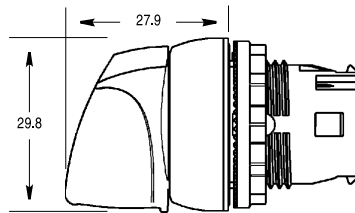
**Non-Illuminated 3-Position Multi-Function Operators**



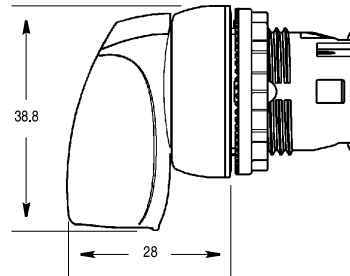
**Potentiometer Operator**



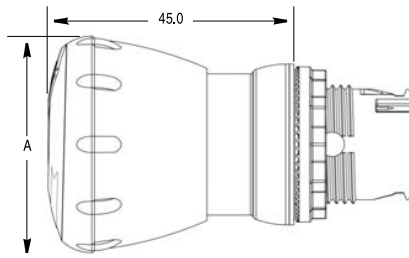
**Illuminated and Non-Illuminated Knob Selector Switch Operators**



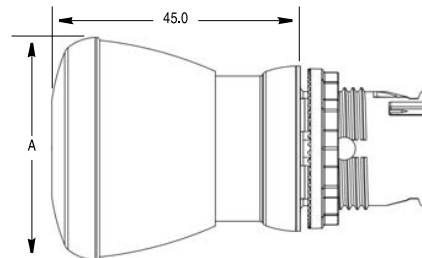
**Non-Illuminated Knob Lever Selector Switch Operators**



**Illuminated and Non-Illuminated Twist-to-Release Operators 30 mm, 40 mm, and 60 mm**

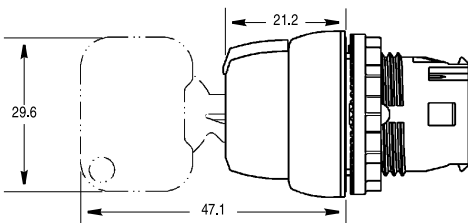


**Illuminated and Non-Illuminated Push-Pull Mushroom Operators 30 mm, 40 mm, and 60 mm**

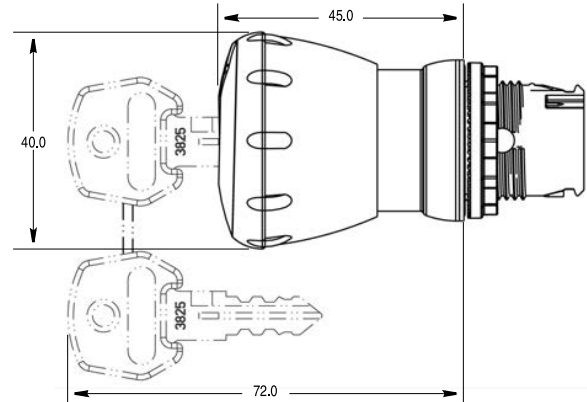


Operator	A
30 mm	30.0
40 mm	40.0
60 mm	60.0

**Key Selector Switch and Key Ejected SensEject Operators**

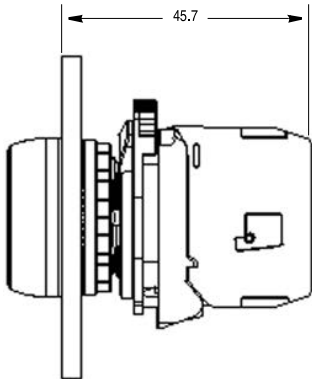


**Mushroom Key Release Operator 40 mm**

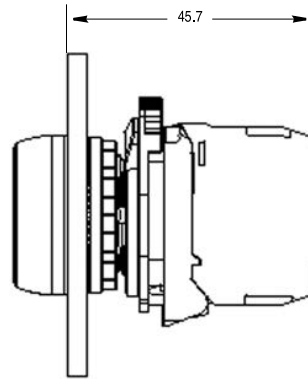


Dimensions in millimeters. Dimensions are not intended to be used for manufacturing purposes.

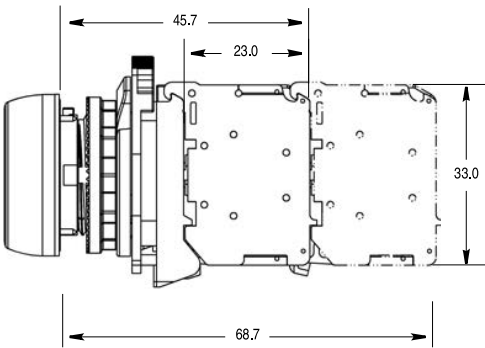
**Back-of-Panel Components —  
Incandescent Module with Latch**



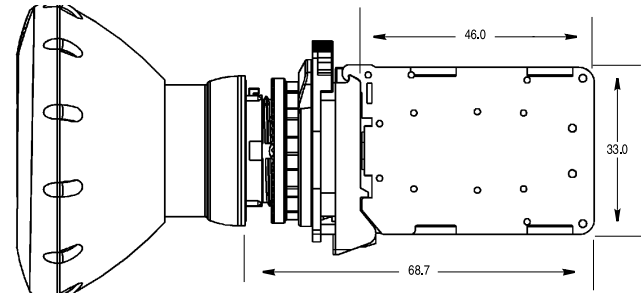
**Back-of-Panel Components —  
LED Module with Latch**



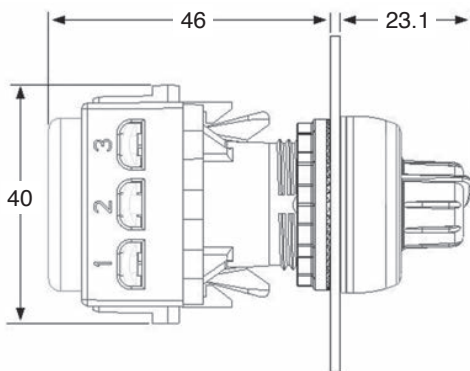
**Back-of-Panel Components —  
Contact Cartridges with Latch**



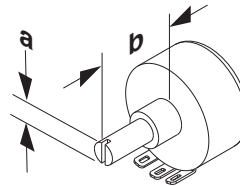
**Back-of-Panel Components —  
Dual Circuit Contact Block or  
Self Monitoring Contact Block  
(Max. of 1 Deep)**



**Potentiometer with Resistive Element**



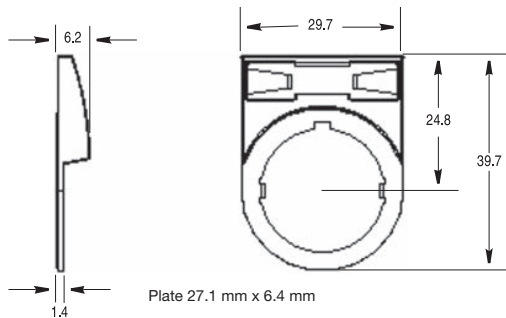
**Customer Supplied Resistive Element**



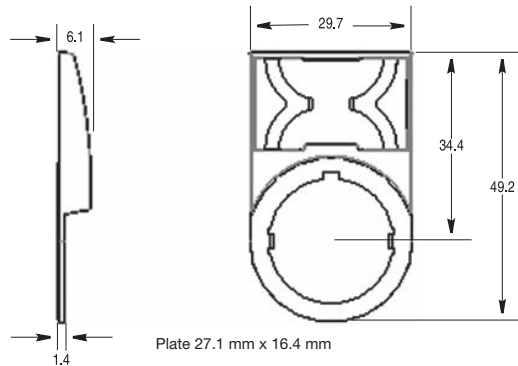
	Max.		Min.
a (Ø Dia.)	6.4 (0.252)	5.9 (0.232)	5.7 (0.224)
b (Length)	24 (0.945)	32 (1.26)	14 (0.551)

Dimensions in millimeters (inches).

**30 x 40 mm Snap-In Legend Plate**

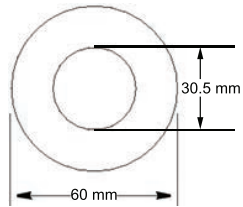


**30 x 50 mm Snap-In Legend Plate**

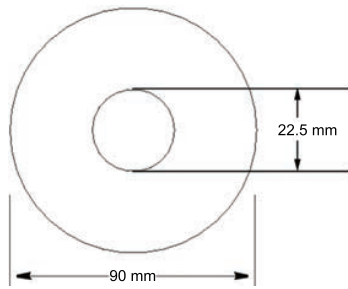


Dimensions in millimeters. Dimensions are not intended to be used for manufacturing purposes.

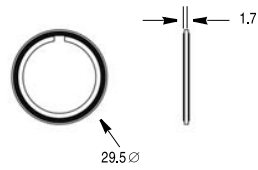
60 mm Round Legend — 15Y



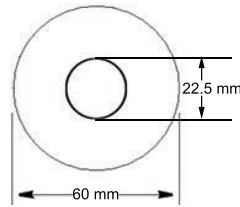
90 mm Round Legend



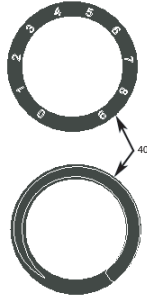
Trim Washer



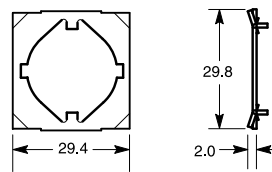
60 mm Round Legend — 15YS



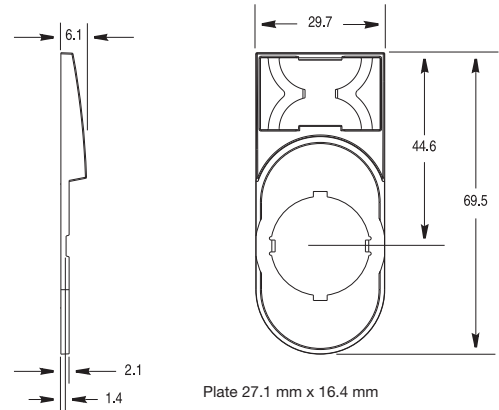
Potentiometer Legend Plate (Series A)



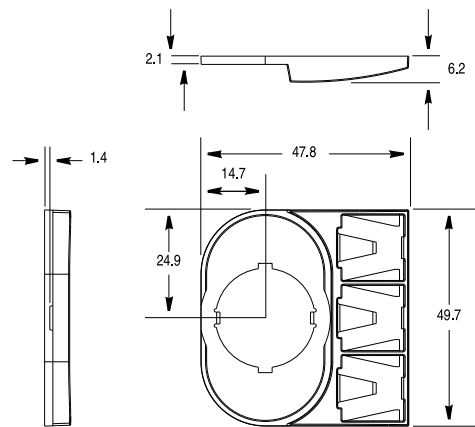
Anti-Rotation Washer



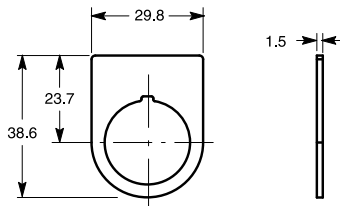
30 x 60 mm Snap-In Legend Plate



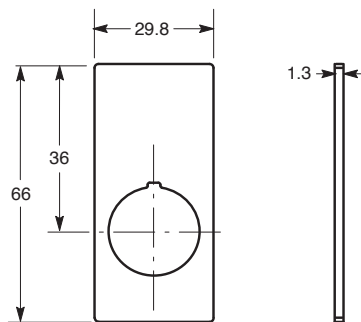
Special Multi-Function Snap-In Legend Plate



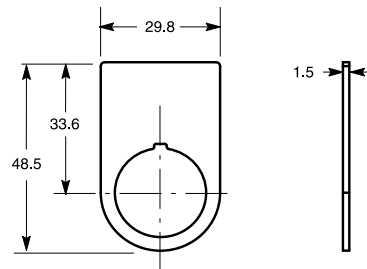
30 x 40 mm One-Piece Legend Plate



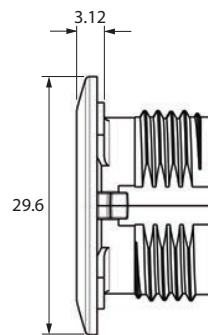
30 x 66 mm One-Piece Legend Plate



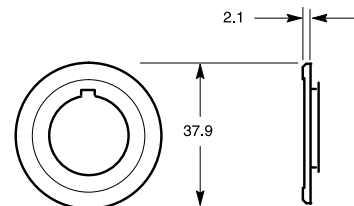
30 x 50 mm One-Piece Legend Plate



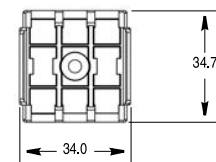
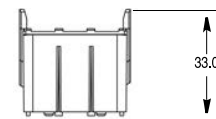
Hole Plug



30 mm to 22.5 mm Hole Adapter



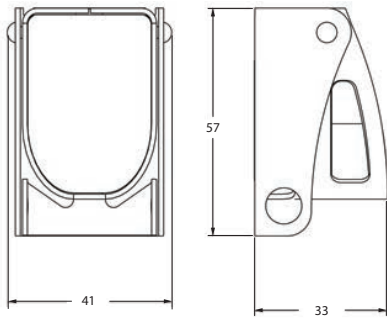
Base Mount Adapter



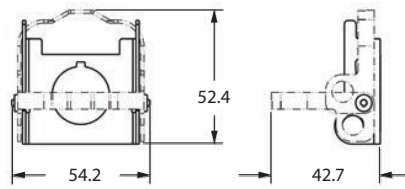
Note: Panel thickness range is 1.0...6.0 mm maximum.  
Panel thickness reduced to 4 mm (standard anti-rotation washer) or 5 mm (thin anti-rotation washer) when optional legend plates are used.

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

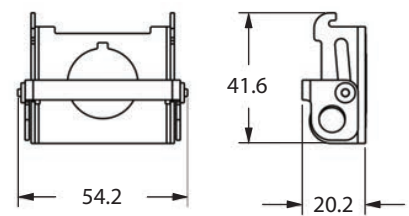
**Locking Cover**



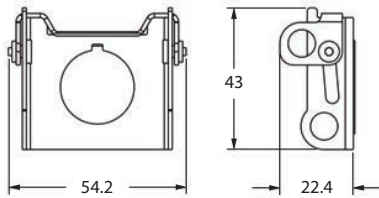
**Maintained Mushroom Locking Attachment**



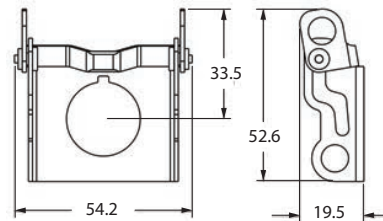
**Momentary Mushroom Locking Attachment**



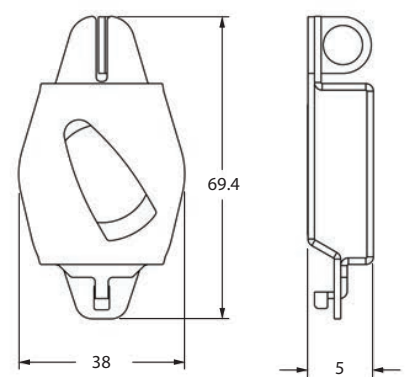
**Extended Non-Illuminated Locking Attachment**



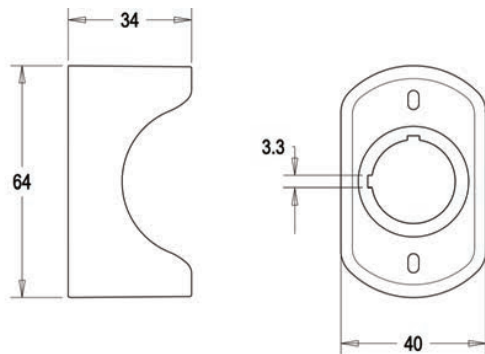
**Flush Non-Illuminated Locking Attachment**



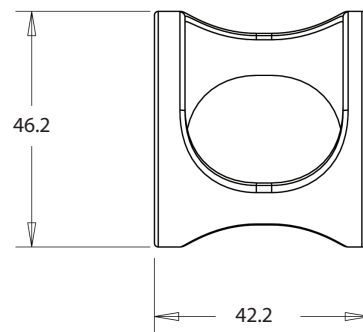
**Selector Switch Locking Cover (Same for all Lock Positions)**



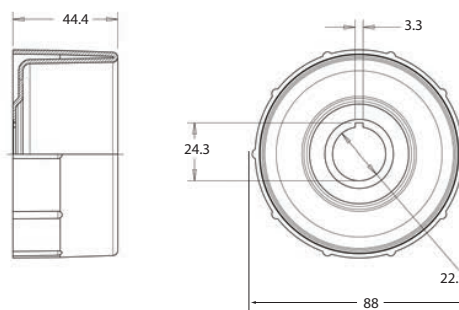
**Narrow Guard**



**Protective Ring**

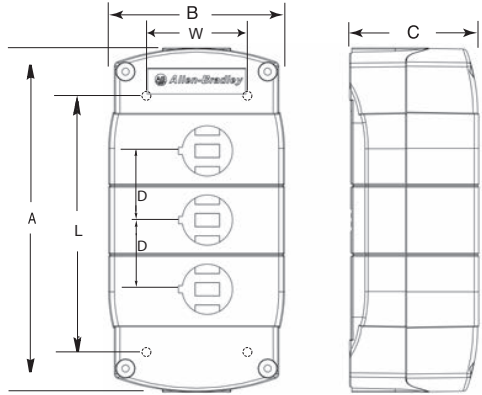


**Plastic Guard**

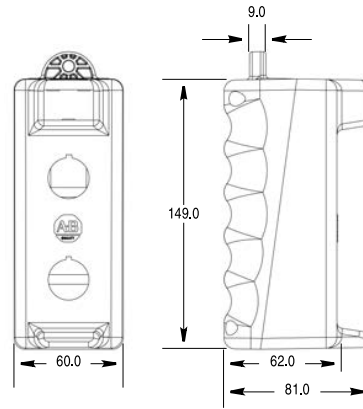


Dimensions in millimeters. Dimensions are not intended to be used for manufacturing purposes.

Plastic Enclosures†



Pendant Stations



Note: Cable opening = 21.2 mm diameter

Cat. No.	No. of Holes	A	B	C	D	Mounting Holes	
						W	L
800F-1P★ 800F-1Y★	1	85	89	58	—	58	59
800F-1Y★ D		85	89	74	—	58	65
800F-2P★	2	124	79	58	31	48	102.5
800F-3P★	3	155	79	58	31	48	133
800F-4P★	4	186	79	58	31	48	164.5
800F-6P★	6	248	87	64	31	55	224

† Mounting screw — pan head with diameter ≤ 7 mm.  
★ P = PG conduit holes or M = Metric conduit holes

Instruction Sheet

Instruction sheet for mounting buttons, including diagrams and torque specifications. The sheet shows various mounting options for plastic and metal enclosures, with torque values for different materials.

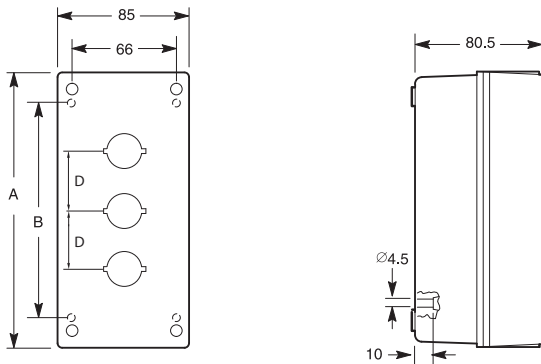
OPTIONAL EN OPTION  
OPTIONAL  
OPTIONAL  
OPZIONALE

Material	40	50	40	50	40/60	50/60	60/90	70	50
Plastic	30	48	40/60	60/90	30	50			

1-4.8 mm  
"Clc"  
"Clc"  
"Clc"  
1-2.8 mm  
1-6 mm  
1-4 mm  
1.7 Nm  
15 lb-in  
4.4 Nm  
40 lb-in  
METAL  
METAL  
METAL  
METALLO

7 mm  
0.75 - 1.5 mm<sup>2</sup>  
(#18 - #14 AWG)  
0.6 mm  
1.35 mm  
0.75 - 2.5 mm<sup>2</sup>  
(#18 - #12 AWG)  
8 mm  
0.7 - 0.9 Nm  
6 - 8 lb-in  
M3.5  
1.2 Nm  
10 lb-in

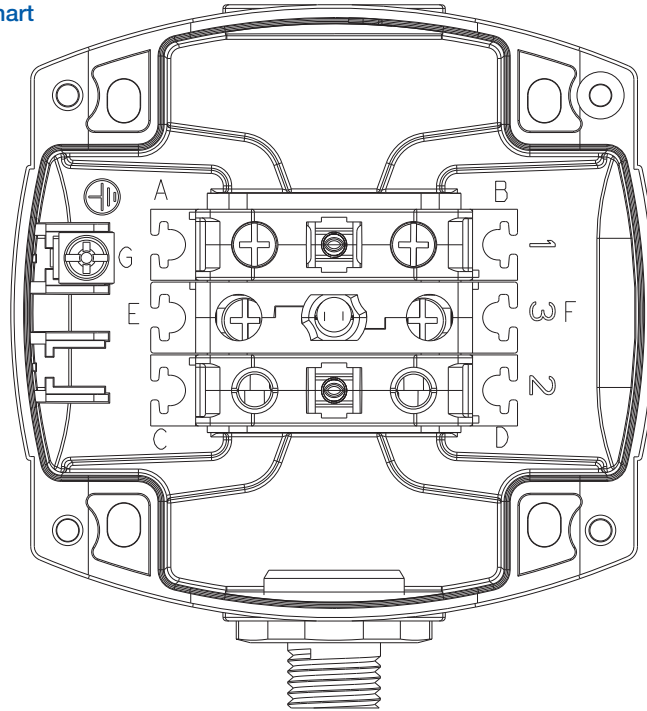
Metal Enclosures



Cat. No.	No. of Holes	A	D	Mounting Holes	
				L	
800F-1M★	1	99	—	62	
800F-2M★	2	137	37.5	100	
800F-3M★	3	174	37.5	137	
800F-5M★	5	249	37.5	212	

★ P = PG conduit holes or M = Metric conduit holes

Assembled Station Pin Out Chart



Cat. No.	Connector Style / No. of Pins	Location 1	A to Pin #	B to Pin #	Location 2	C to Pin #	D to Pin #	Location 3	E to Pin #	F to Pin #	G to Pin #
800F-1YMQ53V	AC Micro / 5-pin	BX01V	1	2	BX01V	4	5	—	—	—	3
800F-1YMQA	AC Micro / 6-pin	BX01	1	5	BX01	2	6	BX10	3	4	—
800F-NX1	DC Micro / 4-pin	BX01	1/4	2/3	—	—	—	—	—	—	—
800F-1YMQ1		BX01	1/4	2/3	—	—	—	—	—	—	—
800F-1YMQ2		BX10V	2	4	BX01V	1	3	—	—	—	—
800F-1YMQ3		BX01V	1	3	BX01V	2	4	—	—	—	—
800F-1YMQ3VEG		BX01V	1	3	BX01V	2	4	—	—	—	—
800F-1YMQ3V		DC Micro / 5-pin	BX01V	1	2	BX01V	4	5	—	—	—
800F-1YMQ41	Mini Receptacle / 4-pin	BX01	2	4	—	—	—	—	—	—	—
800F-1YMQ44		BX10	1	J	BX01	2	4	BN3R	3	J	J
800F-1YMQ4	Mini Receptacle / 6-pin	BX10	1	J	BX01	6	5	BN3R	2	J	J
800F-1YMQ5		BX10	1	J	BX01	6	5	BN5R	2	J	J
800F-1YMQ6		BX10	1	J	BX01	6	5	BN7R	2	J	J
800F-1MYMQ4		BX10	1	J	BX01	6	5	BN3R	2	J	J
800F-1MYMQ5		BX10	1	J	BX01	6	5	BN5R	2	J	J
800F-1MYMQ6		BX10	1	J	BX01	6	5	BN7R	2	J	J

J = Jumper