














Back-of-Panel Components, Continued

Other

	Description		Pkg. Quantity	Cat. No.			
 <i>Cat. No. 800F-ALM</i>	Metal Mounting Latch These are zinc-plated, metal die cast mounting latches. Note: Sold only in multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces.		10	800F-ALM			
	Note: Sold only in multiples of 100. Order (quantity of) 100 to receive one package of 100 pieces.		100	800F-ALM-BP			
 <i>Cat. No. 800F-ALP</i>	Plastic Mounting Latch Note: Sold only in multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces.		10	800F-ALP			
	Note: Sold only in multiples of 100. Order (quantity of) 100 to receive one package of 100 pieces.		100	800F-ALP-BP			
	Description	Contact Type	Pkg. Quantity	Cat. No.			
 <i>Cat. No. 800F-X10</i>	Contact Block Note: Sold only in multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces. Latch not included.	N.O.	10	800F-X10			
		N.C.		800F-X01			
		N.O. low voltage — QuadCONNECT™		800F-X10V			
		N.C. low voltage — QuadCONNECT™		800F-X01V			
		N.O.L.M.			800F-X10N		
		N.O.E.M.		800F-X10E			
		N.O.E.E.M.			800F-X10M		
		N.C.L.B.		800F-X01L			
		N.C.E.B.			800F-X01B		
		Self-Monitoring			800F-X01S		
		Dual circuit of 2 N.O.			800F-X20D		
		Dual circuit of 2 N.C.			800F-X02D		
		Dual circuit of 1 N.O.-1 N.C.			800F-X11D		
		N.O. with stab terminals		800F-X10T			
		N.C. with stab terminals		800F-X01T			
		N.O. spring-clamp		800F-Q10			
		N.C. spring-clamp		800F-Q01			
		N.O. spring-clamp low-voltage — QuadConnect™		800F-Q10V			
		N.C. spring-clamp low-voltage — QuadConnect™		800F-Q01V			
		N.O.E.M. spring-clamp		800F-Q10E			
		N.C.L.B. spring clamp		800F-Q01L			
		N.C.E.B. spring-clamp			800F-Q01B		
		Ring lug N.O.			800F-R10		
		Ring lug N.C.			800F-R01		
		Note: Sold only in multiples of 100. Order (quantity of) 100 to receive one package of 100 pieces. Latch not included.		N.O.	100	800F-X10-BP	
				N.C.		800F-X01-BP	

- ✦ For use with **Cat. No. 800FP-CB_** and **Cat. No. 800FP-CC_** operators.
- For use with **Cat. No. 800FP-CC_** operators.
- ✦ Only for use with 4-position selector switch, 4-position toggle switch, or 3-position push-pull operator.
- ✦ Cannot stack.
- ‡ Cannot be used in a composite catalog number.
- § Replacement screws are available (Cat. No. 800F-ARS1)

Overview, Continued

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

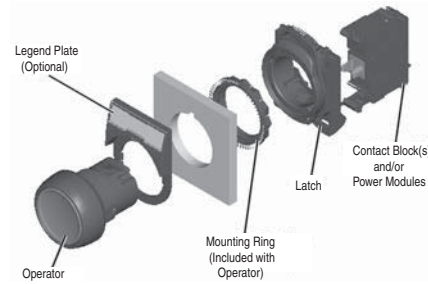


Plastic Latch with Contact Block



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

‡ 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).

Product 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	✓

Bulletin 800F

22.5 mm Push Buttons

Specifications

Back-of-Panel Components*

Electrical Ratings				
Standard contact block ratings		A600, Q600 600V AC AC 15, DC 13 to IEC/EN 60947-5-1 and UL 508, 17V, 5 mA min.		
Low voltage contact block ratings❖		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 _i)		Screw terminal = 690V, spring-clamp = 300V		
Wire capacity (screw terminal)‡		#18...12 AWG (0.75...2.5 mm²) Max. (2) #14 AWG or (1) #12 AWG		
Wire capacity (spring-clamp terminal)		#18...14 AWG (0.75...1.5 mm²) 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		
	Yellow	590 nm		
	Blue	470 nm		
	White	—		
LED Luminous Intensity	Green	780 mcd		
	Red	780 mcd		
	Yellow	600 mcd		
	Blue	168 mcd		
	White	360 mcd		
Incandescent maximum wattage		2.6 W		
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 page Important-3 of the Industrial Controls catalog.

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

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

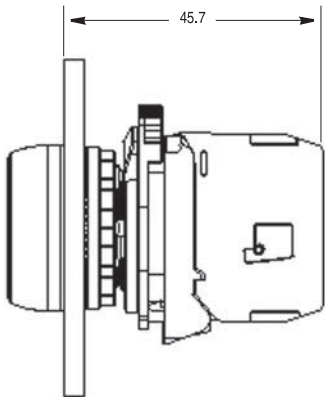
Bulletin 800F

22.5 mm Push Buttons

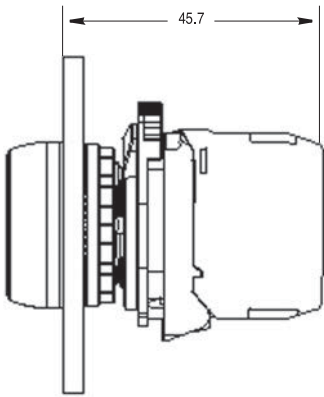
Approximate Dimensions

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

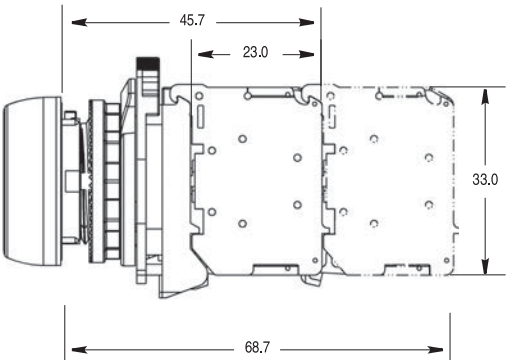
Back-of-Panel Components —
Incandescent Module with Latch



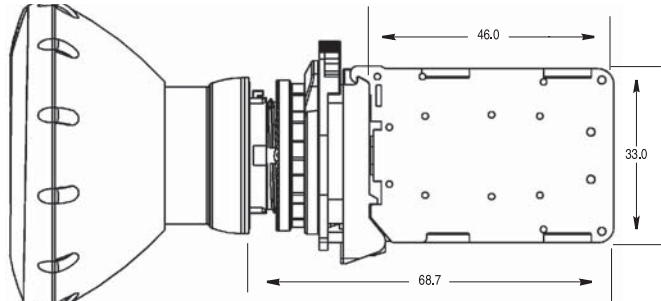
Back-of-Panel Components —
LED Module with Latch



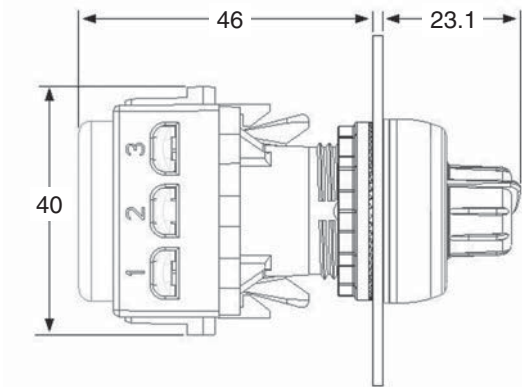
Back-of-Panel Components —
Contact Cartridges with Latch



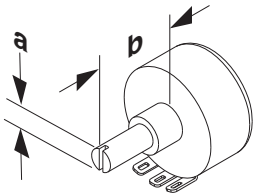
Back-of-Panel Components —
Dual Circuit Contact Block or
Self Monitoring Contact Block
(Max. of 1 Deep)



Potentiometer with Resistive Element



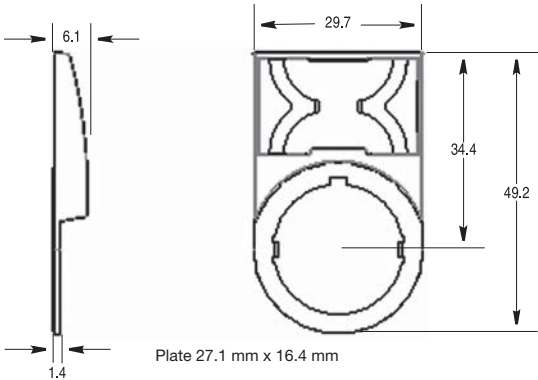
Customer Supplied Resistive Element



	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 50 mm Snap-In Legend Plate



30 x 40 mm Snap-In Legend Plate

