

5C EJB Custom-Built Control Panels

Globally Certified—Individually Customized

Cl. I, Div. 1 & 2, Groups B*, C, D
 Cl. I, Zones 1 & 2
 Cl. II, Div. 1, Groups E, F, G
 Cl. II, Div. 2, Groups F, G
 Cl. III

UL and cUL approved
 Ex d IIB + H₂ T6
 Certified to ATEX Directive†
 NEMA 3, 7B*CD, 9EFG
 IP66

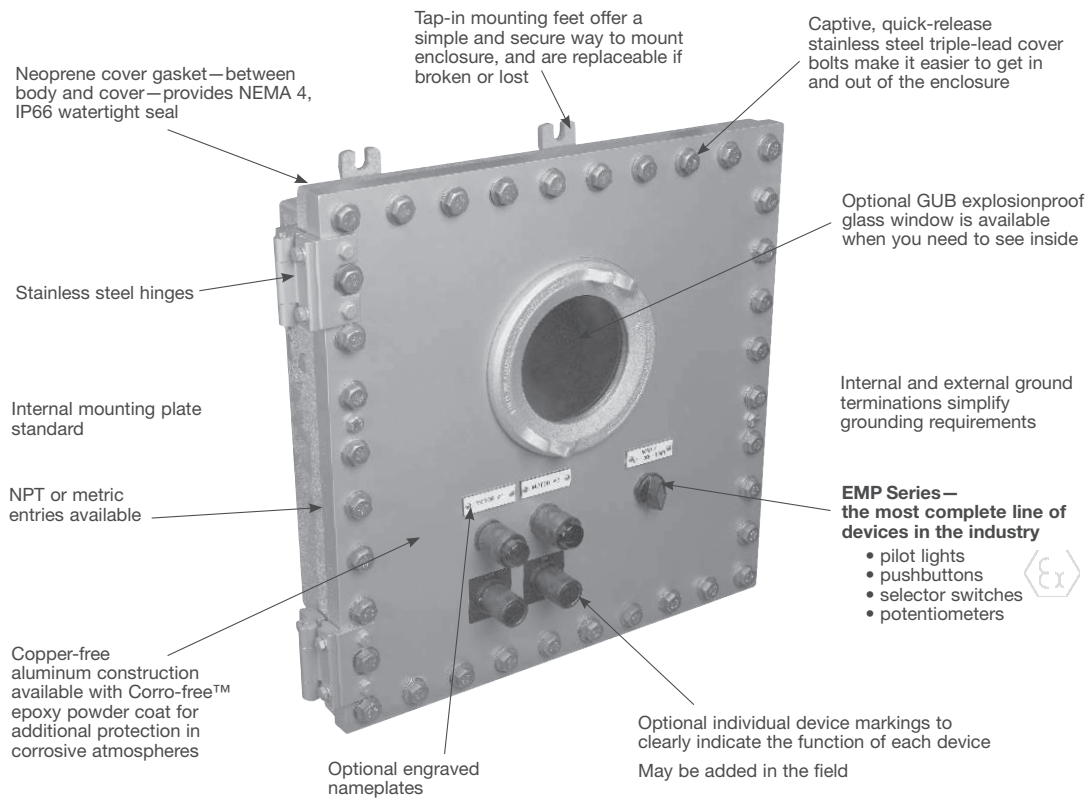
The following pages will assist you in choosing the combination of features suited to your needs and requirements. The easy, five-step process will take you through the specification of cover openings, specifying devices, drilled and tapped conduit openings, device locations, and legend and nameplate selection.

After filling out your separate order form for each panel, fax it to your local Cooper Crouse-Hinds Distributor. Please consult the factory for alternatives not detailed in these pages, such as other conduit arrangements, terminal blocks, or circuit breaker operating handles.

Features:

- The foundation of the Custom-Built Control Panel is our tried and tested copper-free aluminum EJB enclosure. This corrosion resistant, heavy-duty enclosure features bolted construction, stainless steel hinges, and flexible tap-in mounting feet.

5C



Applications:

- Manufactured for hazardous environments, the EJB Custom-Built Control Panel is an explosionproof enclosure built to customer specific requirements
- Available in a variety of sizes with an unlimited combination of devices, windows, and markings, these panels are designed to maximize the efficiency of each unique process

Certifications and Compliances:

EJB Custom Control Panels

- NEC/CEC:
 - Class I, Divisions 1 & 2, Groups B*, C and D
 - Class I, Zones 1 & 2
 - Class II, Division 1, Groups E, F and G
 - Class II, Division 2, Groups F and G
 - Class III
- NEMA: 3, 4, 7B*CD, 9EFG
- cUL to CSA Standard C22.2 No. 30—C22.2 No. 25 Cl. II (E, F, G)
- Ex d IIB + H₂ T6
- UL Standard 1203
- IP66
- Certified to the ATEX Directive when ordered with -ATEX suffix.
- Custom Control Panel is component certified only. For assembly certification, please consult factory.

*Groups C and D only when ordered with GUB window.

† Certified to the ATEX Directive when ordered with ATEX suffix.

ATEX Certifications

- EJB Enclosure with Conduit Entries & Device Holes
 - Ex II 2 G Ex d IIB + H₂ Certificate #: ITS08ATEX15797U
- EMP Devices
 - Ex II 2 G Ex d IIB + H₂ Certificate #: ITS07ATEX15652U
- GUB0108 ATEX Window
 - Ex II 2 G Ex d IIB + H₂ Certificate #: ITS07ATEX15638U
- ECD Breather/Drain
 - Ex II 2 G Ex d IIB + H₂ Certificate #: ITS07ATEX15639U

Globally Certified—Individually Customized

Ordering and receiving Cooper Crouse-Hinds EJB Custom-Built Control Panels is now easier and faster than ever. Follow the steps below, fill out a separate order form for each panel, and fax it to your local Cooper Crouse-Hinds Distributor. It's as simple as that!

Easy Five Step Ordering Process:

- 1 Specify cover openings and devices.
- 2 Specify conduit openings.
- 3 Determine device arrangement.
- 4 Specify device location.
- 5 Specify legend and nameplates.

Step 1

Specify the openings required for the cover of the enclosure.

Indicate in Section 1 of the order form the combination of devices, openings without devices, and windows required.

Total the number of device openings required based on the devices, openings and windows specified in Section 1.

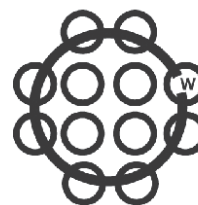
Using Table 1, you can determine the smallest size enclosure required based upon the total number of devices/openings and the number of devices a window requires. (NOTE: The actual size of your custom panel enclosure may change based on the number and size of your entry requirements.)

TABLE 1

DEVICE AND WINDOW INFORMATION

Total # of Device Openings Available		Device Layout			EJB Enclosure Catalog Number
9	=	3	X	3	EJB100806
16	=	4	X	4	EJB121204
16	=	4	X	4	EJB121206
16	=	4	X	4	EJB121208
36	=	6	X	6	EJB161606
36	=	6	X	6	EJB161608
24	=	6	X	4	EJB181206
24	=	6	X	4	EJB181208
36	=	9	X	4	EJB241208
36	=	9	X	4	EJB241210
54	=	9	X	6	EJB241808
81	=	9	X	9	EJB242408
81	=	9	X	9	EJB242410
52	=	13	X	4	EJB361208
78	=	13	X	6	EJB361808
78	=	13	X	6	EJB261810
117	=	13	X	9	EJB362408

Requires same area as 12 devices.
May be installed in all boxes.



GUB0108—Symbol W
4-3/4" dia. viewing area

SIZE REQUIREMENTS

EJB Size	Max. No. Windows
121204 to 181208	1
241208 to 362408	2

Globally Certified—Individually Customized

Step 2

Specify the number, size and location of conduit openings required on the sides, top and bottom of the enclosure body using the information in Tables 2, 3, and 4.

Refer to Table 2 to determine if the enclosure selected in Step 1 will accommodate the required conduit openings.
From Table 3, determine the symbol(s) that correspond with the required conduit openings.

Place these symbols in the desired positions using the conduit arrangement diagrams in Table 4.

Any combination of the four arrangement diagrams may be used per side and all positions on a side with openings must have a symbol. The side number (1, 2, 3 or 4) must precede the conduit opening(s) symbols for the respective side. When a side of the enclosure does not require any conduit openings, the side number is omitted from the catalog number.

Enter the complete catalog number, including conduit opening designations, in Section 2 of the order form. Indicate on which side the hinges should be mounted. Check boxes in Section 2 for options desired.

5C

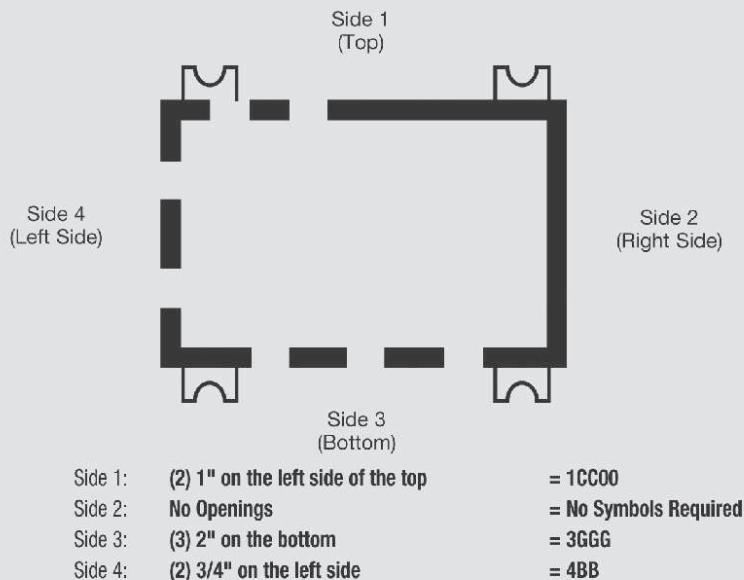
Example:

In Step 1, customer selects an EJB161606 based on the number of devices/openings specified (See Section 1 of sample order form). The following conduit openings are required: (2) 1" on the left side of the top; no openings on the right side; (3) 2" on the bottom; and (2) 3/4" on the left side.

Table 2 indicates the maximum size allowed for three conduit openings in an EJB161606 is 2-1/2". Therefore, an EJB161606 would be suitable.

Table 3 indicates a 3/4" opening is symbol B, a 1" opening is symbol C, a 2" opening is symbol G and no opening is a 0.

Using the conduit arrangement diagrams in Table 4, place the symbols for the desired openings in the appropriate positions. Remember, any combination of the four arrangement diagrams may be used and all positions on a side with openings must have a symbol even if no opening is required in a particular position.



Complete catalog number is: **EJB161606-1CC003GGG4BB**. Enter the completed catalog number, including conduit opening designations, in Section 2 of the order form. Indicate on which side the hinges should be mounted.

Globally Certified—Individually Customized

TABLE 2

CONDUIT ARRANGEMENTS

CAT #	Maximum Trade Size and Number of Openings								Spacing Dimensions						
	Top and Bottom (bb)				Sides (aa)				S	T	U	V	W	X	Y
	1	2	3	4	1	2	3	4							
Drilled and Tapped Openings															
EJB100806	3-1/2	3	1-1/2	1-1/4	3-1/2	2-1/2	1-1/4	3/4	3-3/4	2-5/16	1-15/16	2-3/4	2-1/2	2-1/2	1-3/4
EJB121204	1-1/2	1-1/2	1-1/2	1-1/4	1-1/2	1-1/2	1-1/2	1-1/4	3	2-1/4	2-1/4	3-5/8	3-5/8	3-1/16	3-1/16
EJB121206	3-1/2	3-1/2	1-1/2	1-1/4	3-1/2	3-1/2	1-1/2	1-1/4	3-3/4	3	3	3-5/8	3-5/8	3-1/16	3-1/16
EJB121208	5	3-1/2	1-1/2	1-1/4	5	3-1/2	1-1/2	1-1/4	4-3/4	3	3	3-5/8	3-5/8	3-1/16	3-1/16
EJB161606	3-1/2	3-1/2	2-1/2	2	3-1/2	3-1/2	2-1/2	2	3-3/4	3	3	4-5/8	4-5/8	4-3/16	4-3/16
EJB161608	5	5	3	2	5	5	3	2	4-3/4	3-1/4	3-1/4	6	4-5/8	4-3/16	4-3/16
EJB181206	3-1/2	3-1/2	3-1/2	2-1/2	3-1/2	3-1/2	1-1/2	1-1/4	3-3/4	3	3	6	3-5/8	4-5/8	3-1/16
EJB181208	5	5	3-1/2	2-1/2	5	3-1/2	1-1/2	1-1/4	4-3/16	4-3/16	3	6	3-5/8	4-5/8	3-1/16
EJB241208	5	5	5	3-1/2	5	3-1/2	1-1/2	1-1/4	5-1/8	4-3/16	3	8-7/16	3-5/8	6	3-1/16
EJB241210	6	6	5	3-1/2	6	3-1/2	1-1/2	1-1/4	6-1/8	4-3/4	3	8-7/16	3-5/8	6	3-1/16
EJB241808	5	5	5	3-1/2	5	5	3-1/2	2-1/2	5-1/4	4-3/16	4-3/16	8-7/16	6	6	4-5/8
EJB241810	6	6	5	3-1/2	6	6	3-1/2	2-1/2	6-1/4	4-3/4	4-3/4	8-7/16	6	6	4-5/8
EJB242408	5	5	5	3-1/2	5	5	5	3-1/2	5-3/8	4-3/16	4-3/16	8-7/16	8-7/16	6	6
EJB242410	6	6	5	3-1/2	6	6	5	3-1/2	6-3/8	4-3/4	4-3/4	8-7/16	8-7/16	6	6
EJB361208	5	5	5	5	5	3-1/2	1-1/2	1-1/4	4-3/4	4-7/16	3	8-7/16	3-5/8	8-7/16	3-1/16
EJB361808	5	5	5	5	5	5	3-1/2	2-1/2	5-1/2	4-7/16	4-7/16	8-7/16	6	8-7/16	4-5/8
EJB361810	6	6	5	5	6	6	3-1/2	2-1/2	6-1/2	4-3/4	4-3/4	8-7/16	6	8-7/16	4-5/8
EJB362408	5	5	5	5	5	5	5	3-1/2	6	4-3/16	4-3/16	8-7/16	8-7/16	8-7/16	6

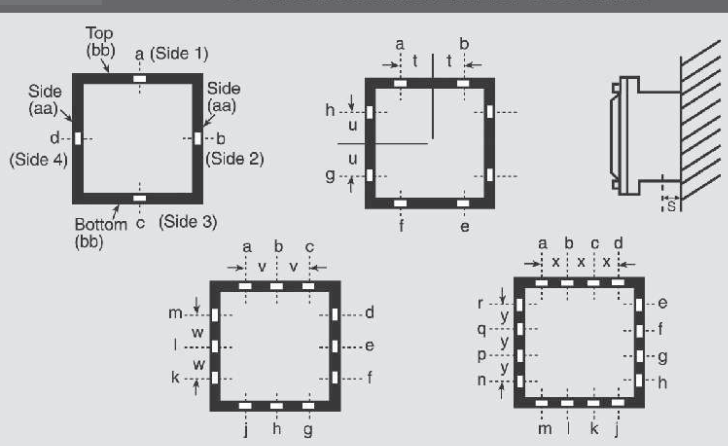
TABLE 3

SYMBOLS FOR OPENINGS

NPT Conduit Size	Drilled & Tapped Hole Symbol	Metric Openings	Drilled & Tapped Hole Symbol
1/2	A	M16	AM
3/4	B	M20	BM
1	C	M25	CM
1-1/4	E	M32	EM
1-1/2	F	M40	FM
2	G	M50	GM
2-1/2	H	M63	HM
3	J		
3-1/2	K		
4	L		
5	M		
6	N		

TABLE 4

CONDUIT ARRANGEMENT DIAGRAMS



Step 3

Based upon the EJB selected, use Section 3 of the order form and outline the maximum number of columns and rows available (from Table 1) beginning in the upper left corner. Fill in the length of each side in the space provided.

Note that the left side will be hinged unless otherwise specified in Section 2. In our example, an EJB161606 was selected and according to Table 1, a total of 36 device spaces are available (6 columns and 6 rows). See sample order form.

Step 4

Place the appropriate letter symbol from Section 1 of the order form in the position you desire the devices or openings to be located. If a window is required, outline the position and number of spaces the window will occupy and place the symbol of the window (w) in the center.

Note that 2 windows per enclosure can be used. If more windows are required contact factory. (See appropriate window information in the sample order form)

Globally Certified—Individually Customized

Step 5

Indicate the desired device marking (DSL legend plate) or engraved plate for each device or window in Section 4 of the order form.

Engraved plates will be located above the device or window and are white letters on a black background. If an engraved plate is desired, fill in desired wording on engraved plate (up to 2 lines) on Section 4 of order form. If a device marking is required on EMP device, insert the DSL catalog number from those listed below (Table 5) on Section 4 of order form under column labeled "Device Marking." Be sure to specify the row and column location of the EMP device being marked. See sample order form.

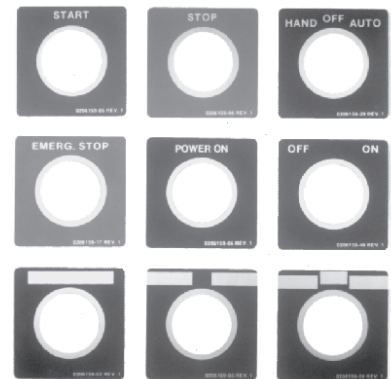
That's it. *It's that simple.* Now fax the order form to your local Cooper Crouse-Hinds Distributor.

TABLE 5

LEGEND PLATE SELECTOR CHART

Use the charts below to select the appropriate legend plate(s) for your application. Markings shown in **bold print** are etched; all others are stamped.

Single Function Legend Plates		Double Function Legend Plates		Triple Function Legend Plates	
Marking	Cat #.	Marking	Cat #.	Marking	Cat #.
Automatic	DSL16	Blank with 2 fields	DSL03	Auto-Off-Hand	DSL49
Blank	DSL01	For-Rev	DSL30	Blank with 3 fields	DSL04
Blank with single field	DSL02	Hand-Auto	DSL29	Fast-Off-Slow	DSL41
Close	DSL21	In-Out	DSL35	For-Off-Rev	DSL40
Down	DSL23	Off-On	DSL48	Hand-Off-Auto	DSL39
Emerg. Stop	DSL17	Open-Close	DSL32	Run-Off-Jog	DSL38
Fast	DSL46	Raise-Lower	DSL36	Open-Off-Close	DSL43
Forward	DSL18	Run-Jog	DSL28	Raise-Off-Lower	DSL87
Hand	DSL15	Safe-Run	DSL86	Slow-Off-Fast	DSL88
In	DSL24	Start-Stop	DSL37	Up-Off-Down	DSL44
Jog	DSL10	Slow-Fast	DSL65	1-Off-2	DSL42
Lower	DSL27	Up-Down	DSL33	Note: Background color for all legend plates is black with the following exceptions:	
On	DSL07				
Off	DSL08			Marking	Plate Color
Open	DSL20			Start	Green
Out	DSL25			Stop	Red
Power On	DSL14			Emerg. Stop	Red
Raise	DSL26				
Reset	DSL12				
Reverse	DSL19				
Run	DSL09				
Safe	DSL85				
Slow	DSL47				
Start	DSL05				
Stop	DSL06				
Test	DSL13				
Trip	DSL11				
Up	DSL22				



Globally Certified—Individually Customized

Please photocopy and fax all pages of order form (Sections 1-4) to your local Cooper Crouse-Hinds Distributor.

Section 1: EMP Style Operators—UL, cULus and ATEX

Number of Devices: Indicate the Number of Devices, Openings Without Devices and Window(s) Required.

Pilot Lights			
	Diagram	Symbol	Quantity
EMP009-J1 (Red)		A	_____
EMP009-J1-LED		A1	_____
EMP0090-J1		A2	_____
EMP0098-J1		A4	_____
EMP009-J3 (Green)		B	_____
EMP009-J3-LED		B1	_____
EMP0090-J3		B2	_____
EMP0098-J3		B4	_____
EMP009-J6 (Amber)		C	_____
EMP009-J6-LED		C1	_____
EMP0090-J6		C2	_____
EMP0098-J6		C4	_____
EMP009-J10 (Clear)		E	_____
EMP0090-J10		E2	_____
EMP0098-J10		E4	_____
EMP009-J11 (Blue)		F	_____
EMP0090-J11	F2	_____	
EMP0098-J11	F4	_____	

Pushbuttons—Single Pushbutton			
	Diagram	Symbol	Quantity
EMP019 (Black)		G	_____
EMP019 (Red)		H	_____
EMP019 (Green)		J	_____
EMP098 (Red)		K	_____

Pushbuttons—Double Pushbutton, Single Operator			
	Diagram	Symbol	Quantity
EMP029 (Black)		L	_____
EMP029 (Red)		M	_____
EMP029 (Green)		N	_____

Pushbuttons—Double Pushbutton, Double Operator			
	Diagram	Symbol	Quantity
EMP039		P	_____

Selector Switches – Two position			
	Diagram	Symbol	Quantity
EMP049		Q	_____
EMP059		R	_____

Selector Switches – Three position			
	Diagram	Symbol	Quantity
EMP069		S	_____
EMP069-S634		S4	_____
EMP069-S635		S5	_____
EMP079		T	_____
EMP079-S634		T4	_____
EMP079-S635		T5	_____
EMP089		U	_____
EMP089-S634		U4	_____
EMP089-S635		U5	_____

Selector Switches – Keyed Selector Switches			
	Diagram	Symbol	Qty
EMP0491		Q6	_____
EMP0492		Q7	_____
EMP0493		Q8	_____
EMP0591		R6	_____
EMP0592		R7	_____
EMP0593		R8	_____
EMP0691		S6	_____
EMP0692		S7	_____
EMP0693		S8	_____
EMP0694		S9	_____
EMP0791		T6	_____
EMP0792		T7	_____
EMP0793	T8	_____	
EMP0794	T9	_____	
EMP0891		U6	_____
EMP0892		U7	_____
EMP0893		U8	_____
EMP0894		U9	_____

Total Number of all Devices on this page _____

5C

Globally Certified—Individually Customized

Section 1: EMP Style Operators Continued

Number of Devices: Indicate the Number of Devices, Openings Without Devices and Window(s) Required.

Openings Without Devices (For Future Expansion)	
	Symbol Quantity
3/4" - 14 NPSM Opening (plugged)	V _____

Windows			
	Symbol	Quantity	# of Openings
GUB0108	W	_____	_____

Total Number of all Device Openings from previous page _____

Total Number of all Devices / Openings from Section 1 _____

5C

Globally Certified—Individually Customized

Section 2

Completed Catalog Number:

Specify the complete catalog number including conduit designations.

EJB _____

All Cooper Crouse-Hinds Custom-Built Control Panels are provided with a mounting plate and hinges. Hinges are on left side of enclosure. If you desire hinges on one of the other sides, circle choice here: TOP RIGHT BOTTOM

Distributor: _____ Contact: _____

Customer: _____ Phone Number: _____

CROUSE-HINDS FACTORY USE ONLY	
Catalog Number Entered:	
Reference #:	B#

OPTIONS

For any of the following options, check here:

- ATEX Certified (ATEX)
- Breather and Drain (S756V)
- Epoxy finish, external (S752)
- Epoxy finish, internal and external (S753)

Section 3—Exterior Front View

Location of Devices and Windows in Cover:

Outline the cover space available, beginning in the upper left corner of the grid, based upon the EJB selected. See Table 1 for device layout.

	size												
							Top (column)						
	1	2	3	4	5	6	7	8	9	10	11	12	13
A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Bottom												

Note: All device openings are spaced 2.62" center to center.

Section 4

Device Markings:

Indicate by row and column position markings/legends for each device.

Engraved Plate:

Specify markings for each nameplate based upon the following:

Marking Size	Maximum Number of Characters/Line			
	1/8"	3/16"	1/4"	1/2"
Number of Characters	36	24	18	9

Specify

Row	Column	Device Marking (DSL) or Engraved Plate Line 1	Engraved Plate Line 2	Marking Size

Cl. I, Div. 1 & 2, Groups B, C, D Explosionproof
 Cl. II, Div. 1, Groups E, F, G Dust-Ignitionproof
 Cl. II, Div. 2, Groups F, G Raintight
 Cl. III Wet Locations
 II 2 G Ex d IIB + H₂, T5 NEMA 3, 7BCD, 9EFG

As indicated in the listings, certain barrel assemblies are the same as those used in complete EMP units and may be utilized as replacements.

The remainder are primarily for use with hazardous area boxes to assemble special control stations. For additional information, see page 560 describing custom-built control panels.

Certifications and Compliances:

- Class I, Division 1 & 2, Groups B, C, D
- Class II, Division 2, Groups E, F, G
- Class III
- NEMA/EEMAC: 3, 7BCD, 9EFG
- UL Standard 1203
- CSA Standard C22.2 No 30
- CENELEC
- ATEX Certificate ITS07 ATEX 15652U

Ordering Information:


Select the Cat. No. from the listings. For pilot lights and illuminated pushbuttons, specify color of jewel using symbols from the table below. For pushbuttons and selector switches, optional markings may be specified in the tables below.

Group 1:

Standard assemblies are for replacement in complete EMP units or for custom-built control panels. Short assemblies are for custom-built control panels only. Both assemblies may be used with System 4 Control Stations.

Pilot light‡



Diagram		Standard Assembly Cat. #
	(120V)*	EMP009 ①

Single pushbutton Double pushbutton, single operator



Diagram	Short Cat. #	Standard Cat. #
	EMPS019 ②	EMP019 ②
	EMPS029 ②	EMP029 ②

Double pushbutton, double operator

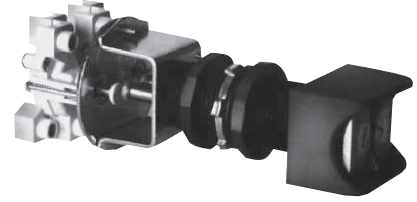







Diagram	Short Assembly Cat. #	Standard Assembly Cat. #
	EMPS039 ②	EMP039 ②

Two-position selector switch



Diagram	Position 1	Position 2	Short Assembly Cat. #	Standard Assembly Cat. #
	A1 A2	A1 A2	EMPS049 ②	EMP049 ②
	A1 B1 A2 B2	A1 B1 A2 B2	EMPS059 ②	EMP059 ②

Three-position selector switch

Diagram	Position 1	Position 2	Position 3	Short Assembly Cat. #	Standard Assembly Cat. #
	A1 A2	A1 A2	A1 A2	EMPS069 ②	EMP069 ②
	A1 B1 A2 B2	A1 B1 A2 B2	A1 B1 A2 B2	EMPS079 ②	EMP079 ②
	A1 B1 A2 B2	A1 B1 A2 B2	A1 B1 A2 B2	EMPS089 ②	EMP089 ②

① Add color symbol for each pilot light from table below.

Color	Symbol	Color	Symbol
Red	J1	Clear	J10
Green	J3	Blue	J11
Amber	J6		

② If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

Push Button Station Marking

START	OFF	RESET	LIGHT ON	EMERGENCY	OPEN	DOWN	RAISE
STOP	RUN	TRIP	HAND	FORWARD	CLOSE	IN	LOWER
ON	JOG	TEST	AUTOMATIC	REVERSE	UP	OUT	

‡ LED pilot lights can be furnished in place of standard incandescent pilot lamps. Add suffix LED to end of catalog number after last color symbol.

* Other voltages available. Consult factory. For 24 VDC operation, add suffix S300.

⊗ The following suffixes may be used with these catalog numbers: S634 - Momentary contact clockwise, spring return to center; S635 - Momentary contact counter-clockwise, spring return to center.

EMP and EMPS Barrel Assemblies

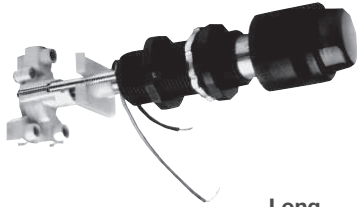
Cl. I, Div. 1 & 2, Groups B, C, D
 Cl. II, Div. 1, Groups E, F, G
 Cl. II, Div. 2, Groups F, G
 Cl. III
 II 2 G Ex d IIB + H₂, T5

Explosionproof
 Dust-Ignitionproof
 Raintight
 Wet Locations
 NEMA 3, 7BCD, 9EFG



5C

Group 2: For custom-built control panels.

Illuminated pushbutton‡







Diagram

	120V pilot light	EMP0090 ①
	120V pilot light	EMP0098 ①

Long Assembly Cat. #

Maintained Contact Pushbutton

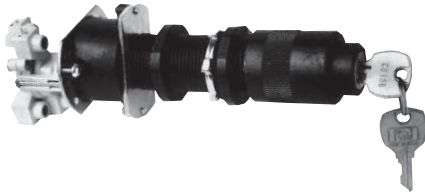


Diagram		Long Assembly Cat. #
Up	Down	
A1  A2 	A1  A2 	EMP098 ②













① Add color symbol for each pilot light from table below.

Color	Symbol	Color	Symbol
Red	J1	Clear	J10
Green	J3	Blue	J11
Amber	J6		

Two-position selector switch, key operated



Diagram

Position 1	Position 2	Key Removal	Short Assembly Cat. #	Standard Assembly Cat. #
A1  A2 	A1  A2 	Both positions Left only Right only	EMPS0491 ② EMPS0492 ② EMPS0493 ②	EMP0491 ② EMP0492 ② EMP0493 ②
A1  B1  A2  B2 	A1  B1  A2  B2 	Both positions Left only Right only	EMPS0591 ② EMPS0592 ② EMPS0593 ②	EMP0591 ② EMP0592 ② EMP0593 ②































② If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

Push Button Station Marking

START	OFF	RESET	LIGHT ON	EMERGENCY	OPEN	DOWN	RAISE
STOP	RUN	TRIP	HAND	FORWARD	CLOSE	IN	LOWER
ON	JOG	TEST	AUTOMATIC	REVERSE	UP	OUT	

Three-position selector switch, key operated

Diagram

Position 1	Position 2	Position 3	Key Removal	Short Assembly Cat. #	Standard Assembly Cat. # ✱
A1  A2 	A1  A2 	A1  A2 	All Center only Left only Right only	EMPS0691 ② EMPS0692 ② EMPS0693 ② EMPS0694 ②	EMP0691 ② EMP0692 ② EMP0693 ② EMP0694 ②
A1  B1  A2  B2 	A1  B1  A2  B2 	A1  B1  A2  B2 	All Center only Left only Right only	EMPS0791 ② EMPS0792 ② EMPS0793 ② EMPS0794 ②	EMP0791 ② EMP0792 ② EMP0793 ② EMP0794 ②
A1  B1  A2  B2 	A1  B1  A2  B2 	A1  B1  A2  B2 	All Center only Left only Right only	EMPS0891 ② EMPS0892 ② EMPS0893 ② EMPS0894 ②	EMP0891 ② EMP0892 ② EMP0893 ② EMP0894 ②

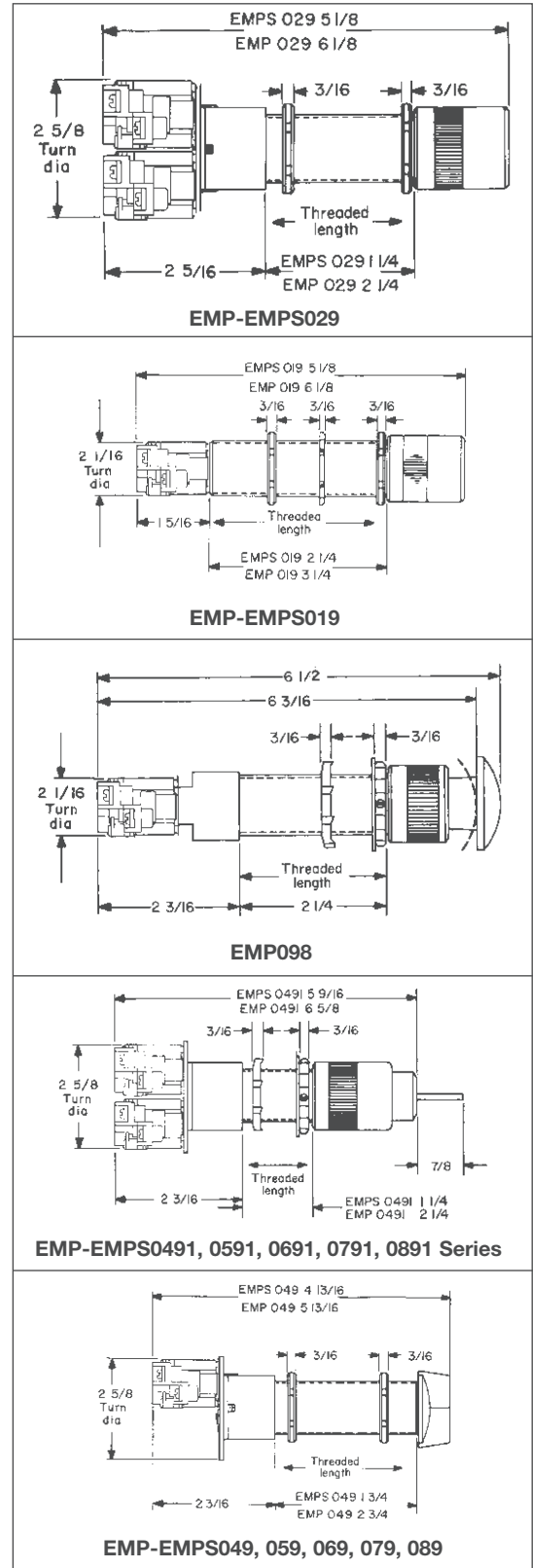
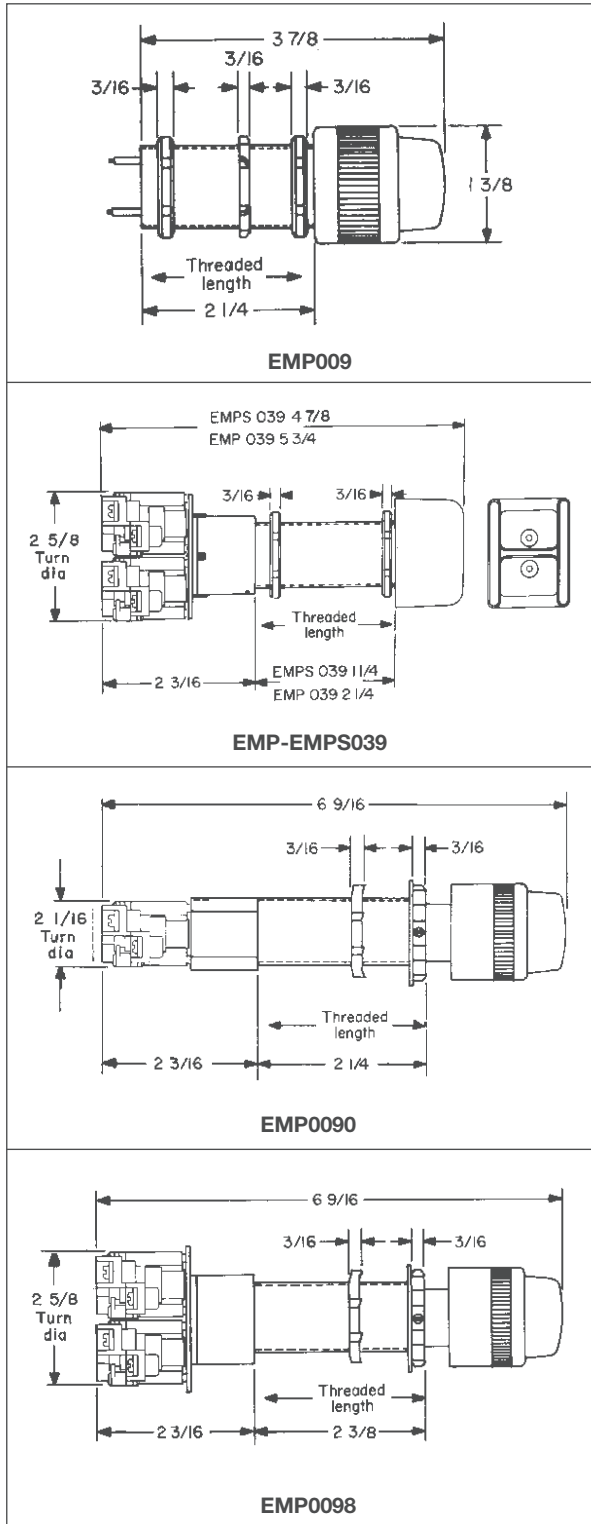
‡ LED pilot lights can be furnished in place of standard incandescent pilot lamps.

Add suffix LED to end of catalog number after last color symbol.

✱ The following suffixes may be used with these catalog numbers: S634 - Momentary contact clockwise, spring return to center; S635 - Momentary contact counter-clockwise, spring return to center.

Cl. I, Div. 1 & 2, Groups B, C, D Explosionproof
 Cl. II, Div. 1, Groups E, F, G Dust-Ignitionproof
 Cl. II, Div. 2, Groups F, G Raintight
 Cl. III Wet Locations
 II 2 G Ex d IIB + H₂, T5 NEMA 3, 7BCD, 9EFG

Dimensions* In Inches:



*Dimensions are approximate, not for construction purposes.
 All barrel assemblies are 3/4"-14 NPSM thread size.