

EFD/EFDB and EDS Series Factory Sealed Control Stations

Explosionproof, Dust-Ignitionproof

NEC:

Class I, Division 1 and 2, Groups B*, C, D

Class II, Division 1 and 2, Groups E, F, G

Class III

NEMA 3, 7CD, 9EFG

Applications

- Push buttons and selector switches are used in conjunction with contactors or magnetic starters for remote control of motors. They provide circuit control and/or selection.
- Pilot lights provide visual assurance that an electrical function is being performed at a remote or local location.
- EFD/EFDB and EDS factory sealed control stations confine arcing of device within the enclosure, preventing ignition of ignitable atmospheres during control operation of motors and other equipment.
- Used in classified areas where flammable vapors, gases or highly combustible dusts are present.
- For installation in chemical and petrochemical plants, refineries, and other process industries.

Features

- EFD/EFDB Push Buttons and Selector Switches
 - Eliminate need for adding sealing fittings and compound at each conduit entrance.
 - Heavy-duty push buttons, 10 Amp, 600 Vac rated.
 - Dozens of possible combinations of push buttons, pilot lights and selector switches.
 - Smooth, rounded integral bushing in each EFD/EFDB hub protects conductor insulation.
 - Accurately tapped, tapered hubs for tight, rigid joints and ground continuity.
 - Stainless steel push button shaft operates within stainless steel bushing assuring long, maintenance free operation.
 - Push button and selector switch contacts are silver cadmium oxide which are "sealed" in lower phenolic chamber isolated from corrosive elements. Assures positive contact and long, trouble-free operation.
 - Enclosed stainless steel helper spring prevents accidental operation of push button in severe vibration installations.
 - Push button models also available with dust cap for use in areas where excessive dust, moisture or corrosive conditions are encountered.
 - Corrosion resistant captive stainless steel hex head cap screws hold EFKB covers to body.
 - All EFD/EFDB momentary push buttons are supplied with lockout type guards as standard. Hole in guard will accept locks with up to 1/4" hasp. Permits locking of push button to prevent unauthorized operation.
 - Clearly marked terminals with brass screws assure quick, easy wiring.
- EFD/EFDB Pilot Lights
 - Factory sealed pilot lights supplied with red jewel/guard assembly and 120 Vac/Vdc, 50/60 Hz, 6 Watt, Type 6S6 lamp.
 - Models also available in combination with factory sealed push buttons and selector switches.
- EFD/EFDB Selector Switches
 - Factory sealed selector switches furnished with nylon cam-operated, heavy-duty push buttons for either 2-position or 3-position maintained contact operation.
 - High thermal and arc resistance, high dielectric strength.
- EDS Push Buttons
 - Factory sealed — eliminates need for adding sealing fittings and compound at each conduit entrance.
 - Heavy duty, 10 Amp, 600 Vac.
 - Switch is enclosed in separate sealing chamber.



EFD/EFDB Push Button



EFD/EFDB Photocontrol



EDS Rocker Arm Push Button



EFD/EFDB Push Button with Dust Cap



EFD Combination Pilot Light and Push Buttons



EFD/EFDB Pilot Light



EFD/EFDB Selector Switch



EFD/EFDB Maintained Push Button

- Sealing chamber has smooth, double flanges that mate both to cover and mounting enclosure to provide flame-tight joints.
- Pigtail leads from push buttons are factory sealed in sealing well.
- Stainless steel hex head screws attach sealing chamber to cover and mounting enclosure.
- Side rocker arm push button has lockout holes.
- EFD/EFDB backbox supplied with internal ground screw.

Standard Materials

- EFD/EFDB control stations: malleable iron body with copperfree (4/10 of 1% max.) aluminum cover
- SPBB push button: copperfree (4/10 of 1% max.) aluminum upper barrel and phenolic lower barrel with nylon plastic button (dust cap models have neoprene buttons)
- SPLN/SPLS pilot light: copperfree (4/10 of 1% max.) aluminum guard and body assembly; steel clamping ring; and tempered glass jewel
- SSBA selector switch: copperfree (4/10 of 1% max.) aluminum operator mechanism, nylon cam, and sealed phenolic contact block
- EDS control stations: malleable iron body and cover; copperfree (4/10 of 1% max.) aluminum sealing chamber; and nylon operating handle

♦ Select items suitable for Class I, Division 1 and 2, Groups B, C and D; Class II, Groups E, F and G and Class III. See product selection pages for suitable items.

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Standard Finishes

- EFD/EFDB control stations: body, triple-coat—(1) zinc electroplate, (2) chromate, and (3) epoxy powder coat
- SPBB push button, SPLN/SPLS pilot light and SSBA selector switch: natural finish
- EDS control stations: body and cover: triple-coat—(1) zinc electroplate, (2) chromate, and (3) epoxy powder coat sealing chamber, natural finish

Options

- 1- or 2-gang copperfree (4/10 of 1% max.) aluminum bodies and covers available. Add suffix — **A**.
- Three position selector switches with modified operation.
 - Momentary contact right position, spring return to center, maintained contact left position. Add suffix — **SRC**.
 - Momentary contact left position, spring return to center, maintained contact right position. Add suffix — **SLC**.
 - Alternate contacts add suffix — **ALT**.
- EFD/EFDB selector switch lockout locks two or three position handle in any position. Add suffix — **LD**.
- Push button front operated mushroom head (momentary contact): Order by suffixes for desired color as follows:
 - Red — **NMRBRE**
 - Green — **NMRBGR**
 - Black — **NMRBBL**
- EFD/EFDB pilot light jewel/guard assembly. Order by suffixes if color desired is other than red, as follows:
 - Amber — **JGBA**
 - Blue — **JGBB**
 - Clear — **JGBC**
 - Green — **JGBG**;
 - Opal — **JGBO**
- For colored LED jewel/guard assembly, order by suffixes:
 - Red — **LEDR**
 - Green — **LEDG**
 - Amber — **LEDA**
- EFD/EFDB pilot light transformers for single pilot light per gang. Order by suffix:

Primary Voltage	Lamp Voltage	Suffix
220	120	-TR-2
277	120	-TR-3
440	120	-TR-4
550	120	-TR-5

- EFD and EDS units may be supplied with brazed hubs as 3-, 4-, and 5-gang in a variety of hub configurations. See Ordering Information page for how to order these and other "custom" units by adding suffixes to mounting body catalog numbers.
- Securing Rod for EFD/EFDB Push Button Lockout Guard. Add suffix — **SR**.
- NPBRKT** Nameplate Mounting Bracket to make circuit description/identification easy.
 - Pre-drilled holes in bottom of bracket allow direct mounting to control stations with existing cover bolts.
 - Pre-drilled holes in middle of bracket allow mounting of customer's circuit identification nameplate; epoxy glue may also be used for mounting (phenolic nameplate not included).
 - Bracket eliminates costly field installation of drilling and tapping to accommodate circuit identification nameplate.
 - Brackets fit side-by-side on 2-, 3- and 4-gang boxes and 3-devices.

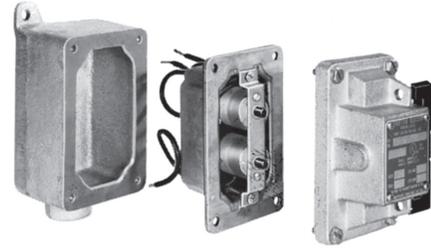
NEC Certifications and Compliances

- UL Standards: UL 508, UL 698, UL 1203
- cULus Listed: E10449, E81751

Related Products

- For Hazardous Location Photocontrols, see *Lighting Section*.

Illustrated Features



EDS factory sealed rocker arm push button control station — shows separate sealing chamber and device construction. Rocker arm has holes for lock.

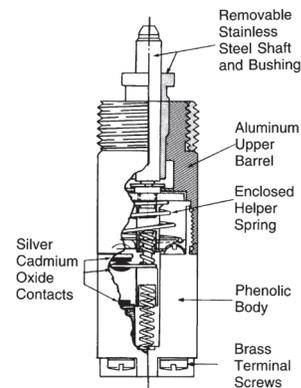


Securing Rod for EFD/EFDB Push Button Lockout Guard — available as an optional item as catalog number NBL-SR (single guard only) or add Suffix — SR to push button catalog number. Lockout Guard, furnished as standard with the EFD/EFDB push button, may also be padlocked.



SPBB factory sealed push button used in EFD/EFDB Series — standard type and unit with dust cap.

SPBB Design Features



APPLETON™

CONTROLS: NEC/CEC EXPLOSIONPROOF CONTROL STATIONS AND SWITCHES

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APPLETON™

CONTROLS: NEC/CEC EXPLOSIONPROOF CONTROL STATIONS AND SWITCHES

Nameplates ①

Description	Suffix
Mushroom Head Push Buttons (Maintained and Momentary)	
Start	MNPSTQ
Stop	MNPSPQ
Emergency Stop	MNPESTPQ
Blank	MNPBQ
Pilot Light Nameplates	
Blank	LNPBQ
Forward	LNPFWQ
Jog	LNPJOGQ
Run	LNPRUNQ
Stop	LNPSPQ
Start	LNPSTQ
Down	LNPDOWNQ
Fast	LNPFASTQ
Slow	LNPSLOWQ
Raise	LNPRAISEQ
Lower	LNPLOWERQ
Reset	LNPRESETQ
Off	LNPOFFQ
On	LNPONQ
Reverse	LNPREVQ
Close	LNPCLOSEQ
Open	LNPOPENQ
Up	LNPUPQ
Test	LNPTTESTQ
Low	LNPLOWQ
High	LNPHIGHQ
Two Position Selection Switch Nameplates	
Forward—Reverse	SLNPFRQ
Hand—Auto ②	SLNPHAQ
On—Off	SLNPOO
Start—Stop	SLNPSS
Blank	SLNPBQ
Up—Down	SLNPUDQ
Run—Jog	SLNPRJQ
Auto—Hand	SLNPAHQ
Off—Remote	SLNPORQ

Description	Suffix
Three Position Selection Switch Nameplates	
Forward—Off—Reverse	SLNPFORQ
Hand—Off—Auto ②	SLNPHOAQ
Run—Off—Jog	SLNPROJQ
Blank	SLNPB3
Reverse—Off—Forward	SLNPROFQ
Auto—Off—Hand	SLNPAOHQ
Hand—Off—Remote	SLNPHORQ
1—Off—2	SLNP102Q
Jog—Off—Run	SLNPJORQ
Stop—Run—Start	SLNPSRSQ
Local—Off—Remote	SLNPJORQ
Jog—Off—Auto	SLNP-JOAQ
Momentary Push Buttons	
<i>For Rectangular Weatherboot Style Only (Not for round weatherboot style)</i>	
Blank ②	SNPBQ
Forward	SNPFWDQ
Jog	SNPJOGQ
Run	SNPRUNQ
Stop ②	SNPSPQ
Start ②	SNPSTQ
Down	SNPDOWNQ
Fast	SNPFASTQ
Slow	SNPSLOWQ
Raise	SNPRAISEQ
Lower	SNPLOWERQ
Reset	SNPRESETQ
Off	SNPOFFQ
On	SNPONQ
Reverse	SNPREVQ
Close	SNPCLOSEQ
Open	SNPOPENQ
Up	SNPUPQ
Test	SNPTTESTQ
Low	SNPLOWQ
High	SNPHIGHQ

① Custom nameplates are not available.

② Included as standard (no need to use suffix).

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EFDB Series Factory Sealed Control Stations

Selector Switches and Photocontrols. Explosionproof, Dust-Ignitionproof

10 Amp, 600 Vac Max. for Heavy Duty Use. Furnished with Internal Ground Screw.

NEC/CEC:

Class I, Division 1 and 2, Groups B♦, C, D

Class II, Division 1 and 2, Groups E, F, G

Class III

NEMA 3, 7CD, 9EFG

	Hub Size (Inches)	Description	Diagram			Catalog Number	
			Left	Center	Right	Dead-End	Feed-Thru
2 Position Selector Switches — 1-Gang ♦ ① — Maintained Contact							
	1/2					EFDB150-12	EFDCB150-12
	3/4	2 Position, 2 Circuit		None		EFDB175-12	EFDCB175-12
	1					EFDB110-12	EFDCB110-12
	1/2					EFDB150-35	EFDCB150-35
	3/4	2 Position, 4 Circuits		None		EFDB175-35	EFDCB175-35
	1					EFDB110-35	EFDCB110-35

Nameplate: Hand—Auto

3 Position Selector Switches — 1-Gang ♦ ① — Maintained Contact							
<i>Three position units can be supplied for momentary contact right position, spring return to center, maintained contact left position. Add suffix —SRC.</i>							
	1/2					EFDB150-102	EFDCB150-102
	3/4	3 Position, 2 Circuit				EFDB175-102	EFDCB175-102
	1					EFDB110-102	EFDCB110-102
	1/2					EFDB150-345	EFDCB150-345
	3/4	3 Position, 4 Circuits				EFDB175-345	EFDCB175-345
	1					EFDB110-345	EFDCB110-345

Nameplate: Hand—Off—Auto

Selector Switches Nameplates ②



Two Position



Three Position

	Two Position Nameplates		Three Position Nameplates	
Forward—Reverse	SLNP-FRQ		Forward—Off—Reverse	SLNP-FORQ
Hand—Auto	SLNP-HAQ		Hand—Off—Auto	SLNP-HOAQ
On—Off	SLNP-OO		Run—Off—Jog	SLNP-ROJQ
Start—Stop	SLNP-SS		Blank	SLNP-B3
Blank	SLNP-BQ		Reverse—Off—Forward	SLNP-ROFQ
Up—Down	SLNP-UDQ		Auto—Off—Hand	SLNP-AOHQ
Run—Job	SLNP-RJQ		Hand—Off—Remote	SLNP-HORQ
Auto—Hand	SLNP-AHQ		1—Off—2	SLNP-102Q
Off—Remote	SLNP-ORQ		Jog—Off—Run	SLNP-JORQ
Local Remote	SLNP-LRQ		Stop—Run—Start	SLNP-SRSQ
Off—On	SLNP-OFON		Local—Off—Remote	SLNP-LORQ
			Jog—Off—Auto	SLNP-JOAQ

Selector Switch Locking Devices — Permit locking in any position



Description	Catalog Number
Two or Three Positions	SBL-3-Q

① Malleable iron body and aluminum cover. For aluminum body add suffix —A (Suitable for Class I, Division 1 and 2, Group B—single gang only).

② Custom nameplates are not available.

♦ Shaded area indicates items suitable for Class I, Division 1 and 2, Groups B, C and D; Class II, Groups E, F and G and Class III.

For Class I, Division 1, Group B, external seals must be installed at each conduit entrance.