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.

EFDB Push Button

EFDB Photocontrol

EDS Rocker Arm Push Button

EFDB Push Button with Dust Cap

EFD Combination Pilot Light and Push Buttons

EFDB Pilot Light

EFDB Selector Switch

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

- EFDB control stations: malleable iron body with copperfree (4/10 of 1% max.) aluminum cover
- SPBB push putton: 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.*

EMERSON

EFD/EFDB and EDS Series Factory Sealed Control Stations
Explosionproof, Dust-Ignitionproof

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

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.
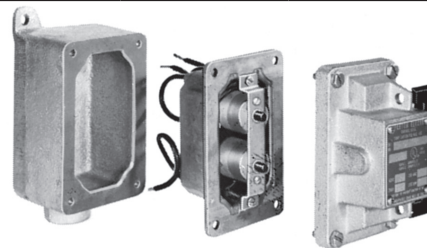 — Brackets fit side-by-side on 2-, 3- and 4-gang boxes and 3-devices.

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.
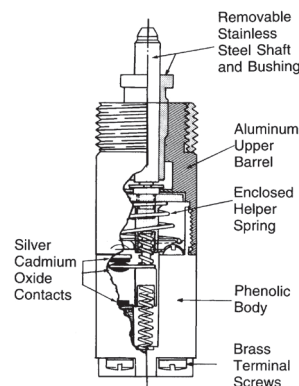

Securing Rod for EFD/EFDB Push Button Lockout Guard — available as an optional item as catalog number NBL–SR (single guard only) or add Suffix — SR to push button catalog number. Lockout Guard, furnished as standard with the EFD/EFDB push button, may also be padlocked.

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

SPBB Design Features

Removable Stainless Steel Shaft and Bushing

Aluminum Upper Barrel

Enclosed Helper Spring

Silver Cadmium Oxide Contacts

Phenolic Body

Brass Terminal Screws

♦ *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.*

EMERSON

EFD/EFDB and EDS Series Factory Sealed Control Stations
ESK/EFK Covers For Pilot Lights, Push Buttons, or Selector Switches.

NEC/CEC:
  Class I, Division 1 and 2, Groups C, D
  Class II, Division 1 and 2, Groups E, F, G
  Class III

Covers Only — for use on standard EFD bodies

Supplied with 4 cover bolts and blank cover nameplate.

	Description	Catalog Number

Push Button or Pilot Light Covers — 3/4" Tapped Openings ①

ESKB–1PBQ ESKB–2PBQ	One opening: one push button or one pilot light	**ESKB-1PBQ**
	Two openings: two push buttons, two pilot lights, or one of each	**ESKB-2PBQ**
EFKL–3HQ	Three openings: three device (EFDL) three push buttons or three pilot lights, or combination of push button(s) and pilot light(s)	**EFKL-3HQ** ②

Push Button or Selector Switch Cover — 1/2" Tapped Openings ①

	Two openings: selector switch or two push buttons	**ESKB-2SPQ**

Push Button, Pilot Light or Selector Switch Covers — 3/4" top and 1/2" Bottom Tapped Openings ①

ESKB–3JPBQ ESKB–BQ	One top and two bottom openings: one pilot light, two push buttons; one pilot light, one selector switch.	**ESKB-3JPBQ**
	Blank	**ESKB-BQ**

Nameplate Mounting Bracket

	Bracket with blank silver/black nameplate for EFDB series	**NPBRKT-EFDB**
	Bracket with blank silver/black nameplate for 3-device EFD series	**NPBRKT-CONT**

To order bracket with control station, add suffix –**NPBRKT** to end of catalog number.

To order engraved nameplates, add desired markings after catalog number. Maximum of 2 lines with 12 characters (including spaces) per line.

Note: Mount bracket between cover screws and cover. Do not mount bracket between ground joint flame path between cover and backbox.

① *All covers are copperfree aluminum. Supplied with four captive stainless steel bolts.*
② *Catalog number EFKL-3HQ supplied with 6 stainless steel non-captive bolts.*

EMERSON

APPLETON

CONTROLS: NEC/CEC EXPLOSIONPROOF CONTROL STATIONS AND SWITCHES