EFS Non–Sealed Tumbler Switches

Explosionproof, Dust-Ignitionproof

Malleable Iron Body and Cover. Furnished with Internal Ground Screw.

NEC:
Class I, Division 1 and 2, Groups C, D
Class II, Division 1 and 2, Groups E, F, G
Class III
NEMA 7CD, 9EFG

Applications

- Designed to prevent arcing of enclosed switches in ignitable atmospheres during connect and disconnect operation of lighting and light power loads.
- For use in classified areas where ignitable vapors, gases or highly combustible dusts are present.
- For installation in:
  - — Chemical and petrochemical plants
  - — Refineries
  - — Other process industries

Features

- Enclosures have external mounting lugs for ease of mounting.
- Smooth, rounded integral bushing in each hub protects conductor insulation.
- Enclosures furnished with internal ground screw.
- 20 Amp and 30 Amp units available for use with 120-277 Vac.
- Smooth ground mating surfaces assure flame-tight joint between cover and mounting enclosure.
- Stainless steel hex head cap screws for attaching cover to mounting enclosure.
- Choice of front-operating or side rocker arm handle—each may be locked in ON or OFF position.
- Each handle has close-tolerance threaded stainless steel shaft to meet explosionproof requirements.
- Enclosures furnished with internal ground screw.

Options

- 1- or 2-gang copperfree (4/10 of 1% max.) aluminum bodies and covers available. Add suffix – **A**.
- **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.

Standard Materials

- Body and cover: malleable iron
- Handle: nylon 6/6
- Optional nameplate mounting bracket: corrosion resistant stainless steel

Standard Finishes

- Tumbler switch body: triple-coat—(1) zinc electroplate, (2) chromate, and (3) epoxy powder coat

NEC Certifications and Compliances

- UL Standards: UL 894, UL 1203
- UL Listed: E10523, E81751

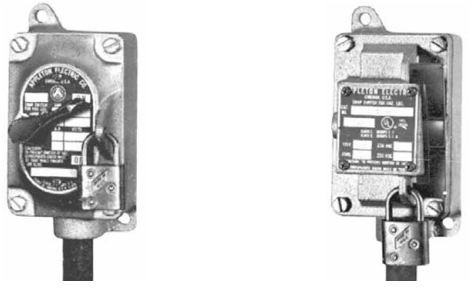
Ordering Information for "Custom" Units

- Devices, covers and bodies may be ordered separately so that a different EFS switch may be used in each gang.
- Order components separately as follows:
  (1) select body catalog number,
  (2) select cover catalog number, and
  (3) select switch or switch assembly catalog number (1-pole, 2-pole, 3-way or 4-way available in listings).

Front Operated

Rocker Arm Operated

Illustrated Features



Handles may be locked in ON or OFF position

How to Order Hub Arrangements

- Simply send sketch indicating sizes and locations for brazed hubs on body or bodies selected from catalog listings. Orient sketch so that cover opening faces front and mounting lugs face upward and downward (box wall opposite cover should be referred to as the *back* of box).

Bodies and Hubs Available

- Tumbler switches may be ordered in single thru five gang deep malleable iron blank bodies with brazed hubs as specified at any location.
- Tumbler switches may be ordered with tandem malleable iron boxes with additional brazed hubs as specified.
- Standard malleable iron single and 2-gang tumbler switches may be ordered with additional brazed hubs as specified.
- Single and 2-gang tumbler switches may be ordered with aluminum boxes with additional brazed hubs as specified.

Related Products

- For classified-location push button, pilot light and selector switch control stations, see *EFD/EFDB and EDS Control Stations and Pilot Lights*.

EMERSON

EFS Non–Sealed Rocker Tumbler Switches

Arm Operated. Explosionproof, Dust-Ignitionproof

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	Hub Size (Inches)	Switch	Catalog Number Dead–End	Catalog Number Feed–Thru
1-Gang				
 **Dead–End**	**20 Amp — 120-277 Vac** ①			
	1/2	1-Pole	**EFS150-R1**	**EFSC150-R1**
	1/2	2-Pole	—	**EFSC150-R2**
	1/2	3-Way	**EFS150-R3W**	**EFSC150-R3W**
	1/2	4-Way	**EFS150-R4W**	**EFSC150-R4W**
	3/4	1-Pole	**EFS175-R1**	**EFSC175-R1**
	3/4	2-Pole	**EFS175-R2**	**EFSC175-R2**
	3/4	3-Way	**EFS175-R3W**	**EFSC175-R3W**
	3/4	4-Way	**EFS175-R4W**	**EFSC175-R4W**
 **Feed–Thru**				
2-Gang				
 **Dead–End**	**20 Amp — 120-277 Vac** ①			
	1/2	1-Pole	**EFS250-R1**	**EFSC250-R1**
	1/2	2-Pole	—	**EFSC250-R2**
	1/2	3-Way	—	**EFSC250-R3W**
	1/2	4-Way	—	**EFSC250-R4W**
	3/4	1-Pole	**EFS275-R1**	**EFSC275-R1**
	3/4	2-Pole	—	**EFSC275-R2**
	3/4	3-Way	—	**EFSC275-R3W**
	3/4	4-Way	—	**EFSC275-R4W**
	1	2-Pole	**EFS210-R2**	**EFSC210-R2**
	1	3-Way	**EFS210-R3W**	**EFSC210-R3W**
	1	4-Way	**EFS210-R4W**	**EFSC210-R4W**
 **Feed–Thru**				

① *20 Amp — 1 HP at 120 Vac and 2 HP at 240 Vac.*

EFS Non–Sealed Tumbler Switches

Cast Device Box Ordering Information. Blank Bodies for Brazed Threaded Hubs

Single, Two, Three, Four and Five Gang Boxes. Brazed Threaded Hubs for Rigid Conduit, 1/2" thru 1"; Brazed Union Hubs, 1/2" thru 1".

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Determine catalog number as follows:
(1) Select EFD device box catalog number;
(2) Select "Standard Hub Arrangement Diagram" number; and
(3) Select symbols that represent hub sizes from "Symbol Table." (Use "0" where no hub is required, and separate the various divisions of the complete catalog number by dashes.)

Example
The blank body device box selected is EFD3NL and the hub arrangement is diagram #8. Hub "a" is to be 3/4" brazed threaded; hub "b", 1" brazed threaded; hub "c", 3/4" brazed threaded; hub "d", no hub is required; and hub "e", 1" brazed union.
The complete catalog number will be:
EFD–3NL–8–23203E

If a "Standard Hub Arrangement" is not suitable for the application, or when hubs are to be more accurately spaced, submit sketch locating hubs (1) from centerlines of walls and (2) from outside back of box (or from mounting lug surface if lugs are supplied).

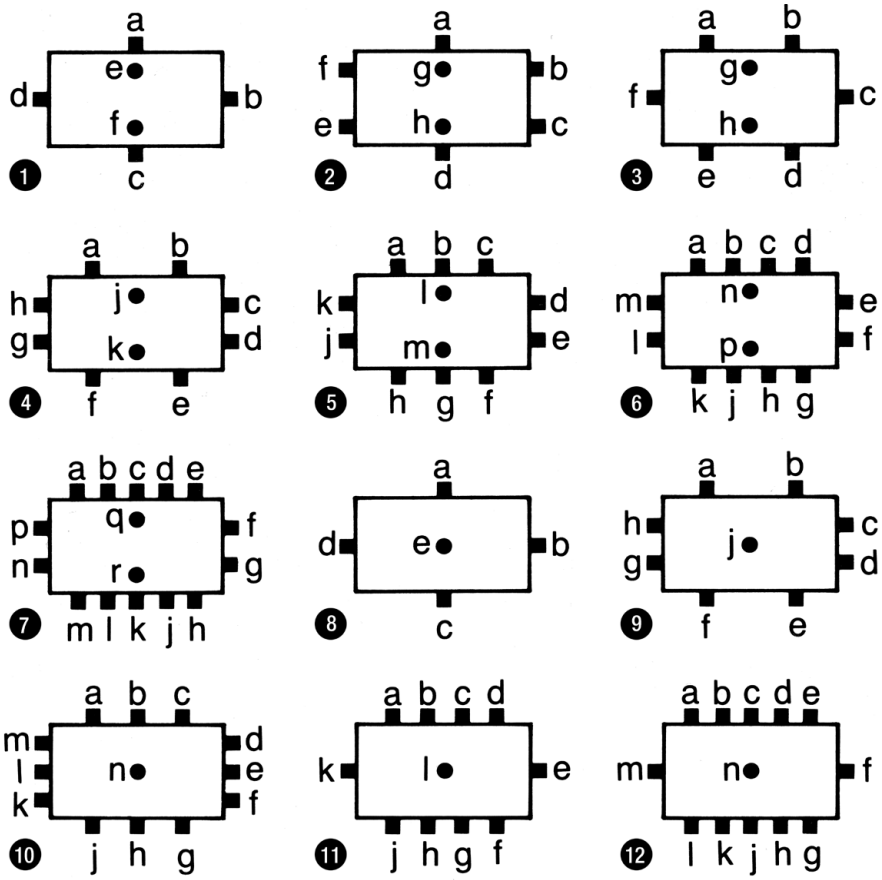
All hubs will be located in centerlines of walls and evenly spaced unless otherwise specified.

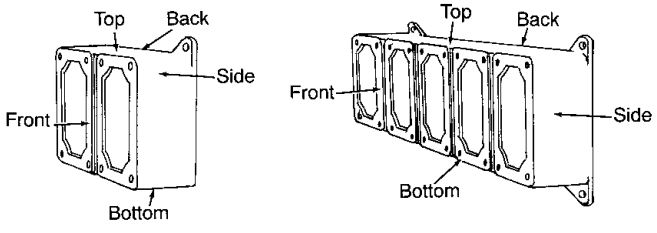
Symbol Table

Hub Size (Inches)	Brazed Threaded Hub Symbol	Brazed Union Hub Symbol
Blank	0	0
1/2	1	1E
3/4	2	2E
1	3	3E

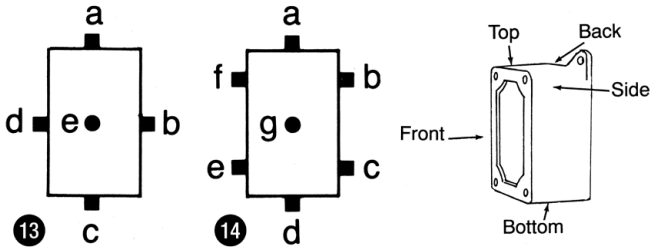
Standard Hub Arrangement Diagrams
Hub "a" is always TOP of box

2–, 3–, 4– and 5–Gang (Front View)





1–Gang (Front View)



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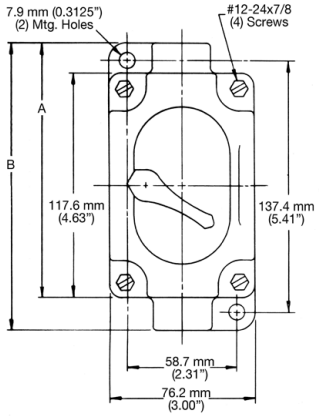
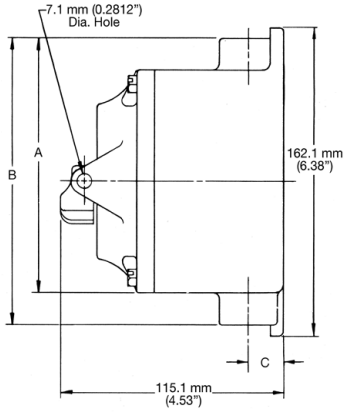
Dimensions in Millimeters (Inches)

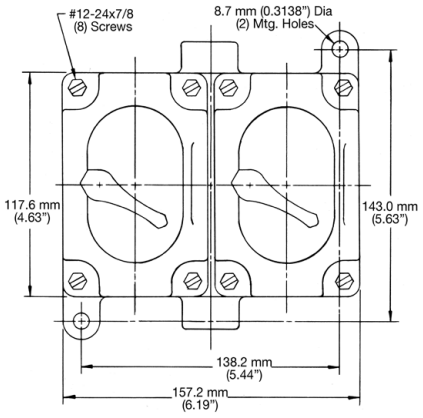
Front Operated Tumbler Switches



Front — 1–Gang



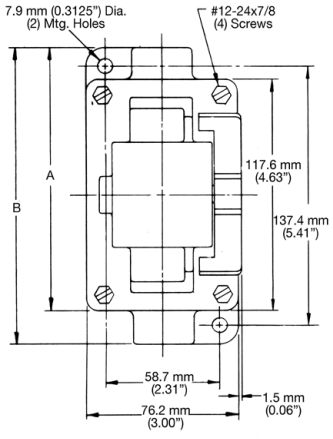
Side



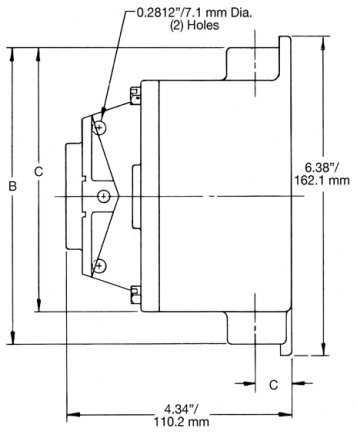
Front — 2–Gang

Hub Size (Inches)	Dimensions in Millimeters (Inches) A	B	C
1/2 and 3/4	136.7 (5.38)	155.7 (6.13)	19.8 (0.78)
1	139.7 (5.50)	160.3 (6.31)	23.9 (0.94)

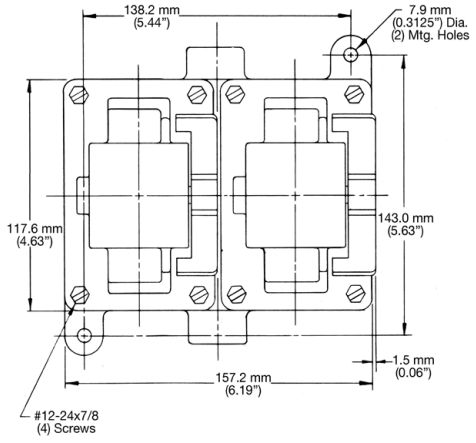
Rocker Arm Operated Tumbler Switches



Front — 1–Gang



Side



Front — 2–Gang

Hub Size (Inches)	Dimensions in Millimeters (Inches) A	B	C
1/2 and 3/4	136.7 (5.38)	155.7 (6.13)	19.8 (0.78)
1	139.7 (5.50)	160.3 (6.31)	23.9 (0.94)