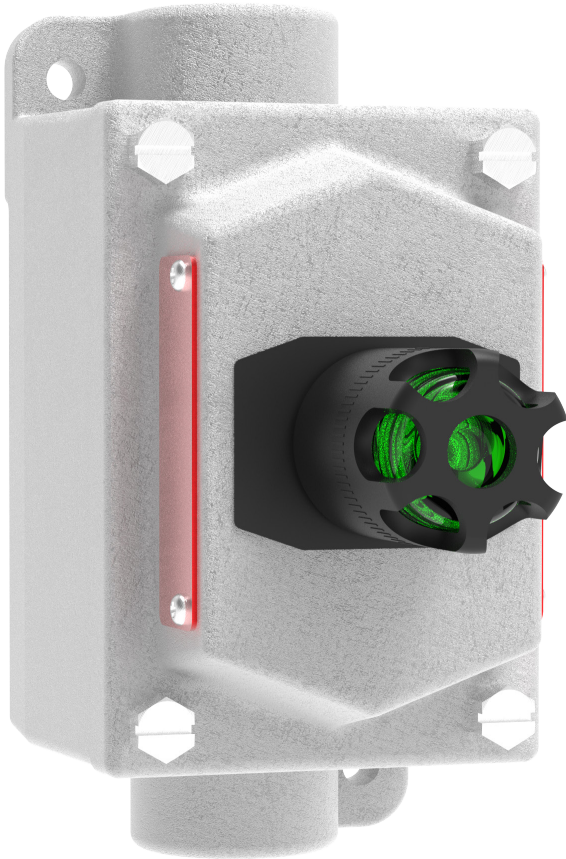


## The next generation of hazardous area control stations and switches

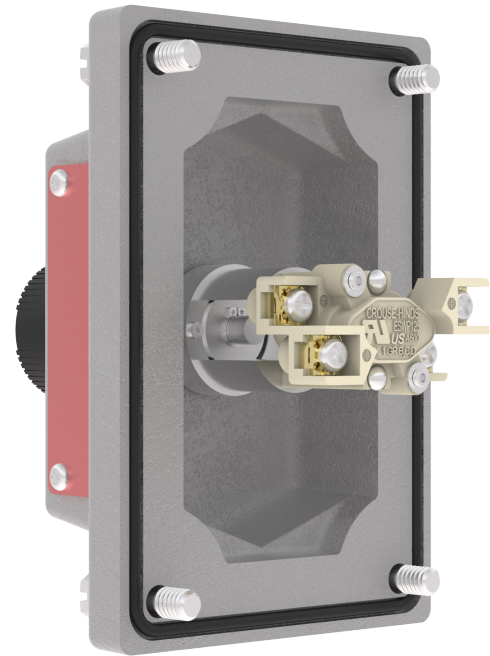
Eaton's innovative and factory sealed control station solutions safely and efficiently control power and protect circuits in industrial and hazardous area environments worldwide.

### Features:



### NEMA 4X gasket:

- Provides NEMA 4X<sup>A</sup> protection against water ingress in the most demanding conditions



### Captive cover screws:

- Provide secure fastening while helping reduce costs associated with lost screws or damage

### Extended temperature range:

- Extended temperature range of -40°C to +60°C standard for improved reliability in extreme environments

**Retrofit design enables easy upgrade to NEMA 4X protection<sup>A</sup>:**

- Simply purchase a DSDX cover and device assembly and use with the existing installed aluminum back box

DSDX cover and device
+
Original aluminum back box
=

NEMA 4X

<sup>A</sup> If existing back box is iron and is used with new X series cover, it is NEMA 4 rated. To achieve NEMA 4X rating, the back box and the cover must be aluminum. For questions, please contact your local sales rep or Eaton's customer service.

## Benefits of factory sealed control stations and switches:

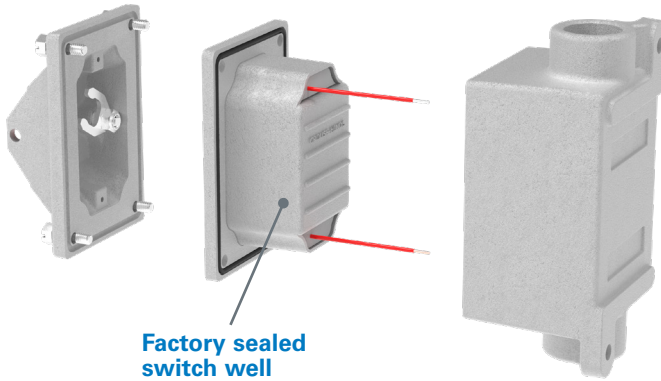
### Reduce material costs

### Reduce labor costs

### Improve safety

4C

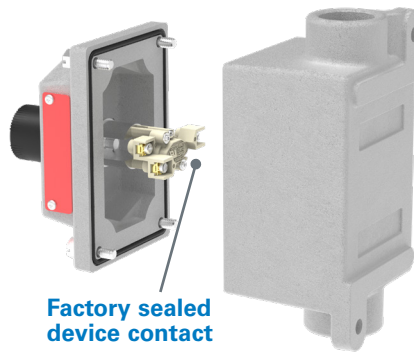
## Switches



Factory sealed switch well

- EDS and EDSX factory sealed snap switches or manual motor starting switches do not need external sealing
- The switches are enclosed in a unique sealing well with double flanges, which mate with the cover and the body
- Small, compact enclosures have accurately ground wide flanges on body, cover and sealing well for flamtight joints
- Wiring pigtails are factory sealed from under the sealing well
- Reliable pouring of seals at the factory ensures safe sealing

## Control stations



Factory sealed device contact

- Factory sealed EDS and EDSX pilot light, pushbutton and selector switch control stations do not need external sealing
- Device contacts are factory sealed in explosionproof ESWP contact blocks
- Small, compact enclosures have accurately ground wide flanges on both the body and cover for a flamtight joint

## Material and labor savings of factory sealed control stations

Factory sealed devices eliminate the need for explosionproof conduit seals in most applications.

No need to install explosionproof conduit seal and sealing compound.

– Eliminates 3/4" EYS21 seal fitting, \$32.01, and Chico compound, \$21.99. Saves \$54.00.

– Eliminates 50 minutes installation time for Chico seal, saves \$100.

Satisfies requirements of NEC® Sections 501.5(A)(1), 501.6(A) and (B), and 505.16(B)(1) and (2).

**Material and labor savings of at least \$154.00 per conduit entry**

# EDS/EDSX fully assembled control stations

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

Explosionproof  
Dust-ignitionproof  
Raintight  
Wet Locations

4C

EDS/EDSX pre-built hazardous area control stations with pushbuttons and selector switches are used in conjunction with magnetic starters or contactors for remote control of motors. Pilot lights are available to visually indicate that the desired function is being performed.

EDS/EDSX control stations are factory sealed to prevent arcing of the enclosed device from causing ignition of a hazardous atmosphere external to the enclosure. Factory sealing eliminates the need for external seals, simplifying installation and helping reduce material and labor costs.

## Applications:

EDS/EDSX factory sealed enclosures are installed in a rigid metallic conduit system for surface mounting adjacent to, or remote from, equipment being controlled, and are used:

- To help prevent arcing of enclosed device from causing ignition of a specific hazardous atmosphere, or atmospheres, external to the enclosure
- In industrial areas such as chemical plants, oil and gas refineries, paint and varnish manufacturing plants, gasoline bulk loading terminals, grain elevators, grain processing industries, coal processing or handling areas, or metal handling or finishing areas where atmosphere may contain hazardous gases and/or dust
- In non-hazardous areas where sturdy, durable enclosures are required
- In conjunction with magnetic starters or contactors for remote control of motors

Manual motor starting switch enclosures are used:

- For manual starting of small AC or DC motors
- To provide manual starting and stopping and, in the case of units with heaters, motor running protection

## Features:

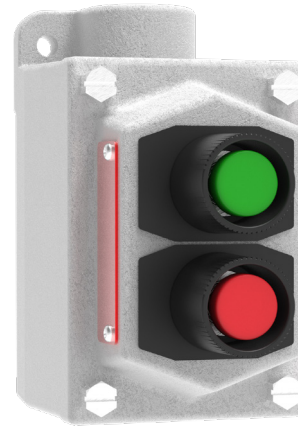
- Factory sealing eliminates external sealing fittings required for Class I, Divisions 1 & 2 environments, reducing installation costs and associated challenges
- Mounting lugs and taper tapped hubs with integral bushings
- Large captive screws for fastening cover to body (EDSX only)
- Lockout provisions on front operated pushbutton (marked "STOP" and "OFF") and selector switch covers
- Lockout hole for padlock having  $\frac{1}{4}$ " hasp is provided when used with covers for front lever and side type operation
- On enclosures with front lever and side type operating handles, threaded type shafts and bushings are used to ensure hazardous protection
- Dead end (EDS) or through feed (EDSC) hubs –  $\frac{1}{2}$ " to 1" sizes
- When "STOP" is indicated, button is automatically red; when "START" is indicated, button is automatically green; otherwise, black buttons are standard

## Standard materials:

- Bodies and covers – Fer alloy iron alloy or copper-free aluminum
- Shafts and shaft bushings – stainless steel
- Handle and pushbutton guards – type 6/6 nylon

## Standard finishes:

- Fer alloy iron alloy – electrogalvanized and aluminum acrylic paint
- Copper-free aluminum – natural
- Type 6/6 nylon – black
- Stainless steel – natural



4C

## Certifications and compliances:

### EDS:

### NEC:

- Class I, Division 1, Groups C, D
- Class I, Division 2, Groups B, C, D
- Class I, Zones 1 & 2, IIA
- Class I, Zone 2, IIB + H<sub>2</sub>
- Class II, Division 1, Groups E, F, G
- Class III

### UL standards:

- UL1203, UL121201, UL508

### CSA standards:

- C22.2 Nos. 14, 25, 213-17

### Environmental ratings:

- NEMA 3
- -25°C to +40°C

### EDSX:

### NEC:

- Class I, Division 2, Groups B, C, D
- Class I, Zone 2, IIA, IIB + H<sub>2</sub>
- Class II, Division 1, Groups E, F, G
- Class III

### UL standards:

- UL1203, UL121201, UL508

### CSA standards:

- C22.2 Nos. 14, 25, 213-17

### Environmental ratings:

- NEMA 4X
- -40°C to +60°C

## Electrical ratings:

- Contact block – 10A at 600 VAC; 5A at 125 VDC
- Pilot lights – 120V (1.2W LED, 6W incandescent); 24V S300 option (0.6W LED, 1.7W incandescent)

# EDS/EDSX fully assembled control stations

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

Explosionproof  
 Dust-ignitionproof  
 Raintight  
 Wet Locations

**4C**

## Ordering information – part number example:

EDSCX215 SA

**EDS**

**Series**

EDS EDS series

**Hub arrangement**

BLANK Dead end

C Through feed

**C**

**X**

**2**

**1**

**Hub size**

1 ½"

2 ¾"

3 1"

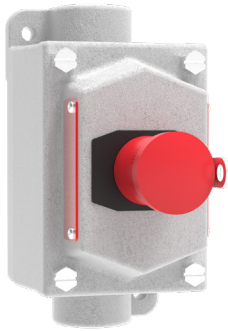
**Gang**

1 Single-gang

2 Two-gang

**NEMA protection**

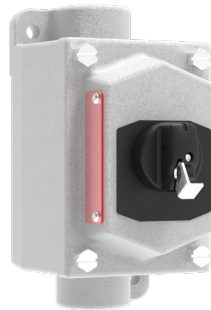
	Gasketed 5
X	NEMA 4X/IP66 Class I, Division 2, Groups B, C, D Class I, Zone 2, IIB + H <sub>2</sub>
BLANK	NEMA 3R, Class I, Division 1



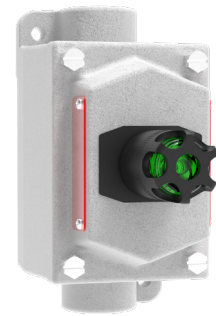
Maintained mushroom pushbutton



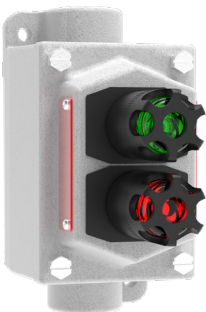
Single pushbutton



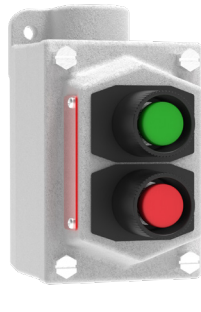
Front operated selector switch



Single pilot light



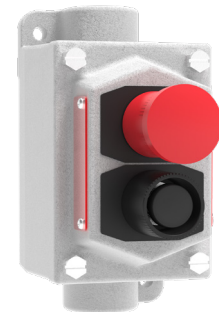
Double pilot lights



Double pushbuttons



Combination pushbutton and pilot light



Combination mushroom head pushbutton and single pushbutton

# EDS/EDSX fully assembled control stations

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

Explosionproof  
Dust-ignitionproof  
Raintight  
Wet Locations

4C



### Heater (motor starting switch only)

<b>G2 - G42</b>	GE heaters
<b>P1 - P39</b>	Allen-Bradley heaters
<b>W1 - W39</b>	Westinghouse heaters
<b>0</b>	Without heater

See next page for heater tables

## Operators

Front operated pushbutton	
<b>84</b>	1 circuit universal switch (internal) - 1 button external
<b>90</b>	2 circuit universal switch (internal) - 2 button external
<b>5</b>	2 circuit switch (1 circuit open - A, 1 circuit closed - B) (internal) - 2 button external ③
<b>92</b>	2 circuit universal switch (internal) - 1 button external
<b>55</b>	2 circuit switch (1 circuit open - A, 1 circuit closed - B (internal) - 1 button external
Pilot lights ⑥	
<b>524</b>	Single pilot light enclosure
<b>561</b>	Double pilot light enclosure (not available with a transformer)
Combination pushbutton and pilot lights	
<b>473</b>	1 pilot - (single gang), 1 pushbutton, 1 universal switch - ordering with transformers (T suffix)
<b>471</b>	1 pilot on one cover (two-gang only), 2 pushbuttons on the other cover, ordering with transformers (T suffix)
<b>868</b>	2 pilots on one cover (two-gang only), 2 pushbuttons on the other cover, not available with a transformer
Front operated selector switch	
<b>271</b>	2-position, 2 circuit switch (internal)
<b>272</b>	2-position, 4 circuit switch (internal)
<b>273</b>	3-position, 2 circuit switch (internal) (position 1 - N.O., position 2 - open, position 3 - N.C.)
<b>274</b>	3-position, 4 circuit switch (internal) (switch A = position 1 - N.O., position 2 - open, position 3 - N.C.; switch B = position 1 - N.O.; position 2 - open, position 3 - N.C.)
<b>275</b>	3-position, 4 circuit switch (internal) (switch A = position 1 - N.C., position 2 - N.O., position 3 - N.O.; switch B = position 1 - N.O.; position 2 - N.O., position 3 - N.C.)
Front operated snap switch ④	
<b>29</b>	Single cover assembly per gang, 1-pole, 20A 120/277 VAC (internal)
<b>8</b>	Single cover assembly per gang, 2-pole, 20A 120/277 VAC (internal)
<b>30</b>	Single cover assembly per gang, 3-way, 20A 120/277 VAC (internal)
<b>40</b>	Single cover assembly per gang, 4-way, 20A 120/277 VAC (internal)
<b>31</b>	Single cover assembly per gang, 1-pole, 30A 120/277 VAC (internal) - EDSX only
<b>32</b>	Single cover assembly per gang, 2-pole, 30A 120/277 VAC (internal) - EDSX only
<b>33</b>	Single cover assembly per gang, 3-way, 30A 120/277 VAC (internal) - EDSX only
<b>60</b>	Single cover assembly per gang, 3-pole, 30A 600 VAC (internal) - EDSX only
<b>23</b>	Single cover assembly per gang, 3-pole, 15A 125 VAC, 10A 250 VAC (internal) (not factory sealed) (X option not available)
Front operated motor starting switch - external (NEMA 4X not available) ④	
<b>99</b>	Single cover assembly per gang, 1-pole, Allen-Bradley switch (internal)
<b>100</b>	Single cover assembly per gang, 2-pole, Allen-Bradley switch (internal)
<b>093</b>	Single cover assembly per gang, 1-pole, GE switch (internal)
<b>094</b>	Single cover assembly per gang, 2-pole, GE switch (internal)
<b>101</b>	Single cover assembly per gang, 1-pole, Westinghouse switch (internal)
<b>102</b>	Single cover assembly per gang, 2-pole, Westinghouse switch (internal)

## Options and legend markings

<b>LED</b>	LED pilot lights furnished in place of standard incandescent lights
<b>SA</b>	Bodies and covers aluminum - suffix required for "X" (gasketed, NEMA 4X ⑤/IP66) configuration
<b>S111</b>	Momentary contact, front operated, red mushroom head button (breaks N.C. contacts only)
<b>S153</b>	Lockout on stop, front operated pushbutton (locks normally closed contacts in open position) ①
<b>S300</b>	Lamp set up for 24V (AC and DC) (not avail. with transformer feature)
<b>S634</b>	3-position selector switch with momentary contact clockwise operation, spring return to center, maintained contact counterclockwise operation
<b>S635</b>	3-position selector switch with momentary contact counterclockwise operation, spring return to center, maintained contact clockwise operation
<b>S752</b>	Exterior epoxy powder coat finish
<b>S769</b>	Maintained contact, front operated, mushroom head button with lockout and guard (breaks N.C. contacts and maintains N.O. contacts) ②
<b>S842</b>	3-position selector switch with momentary contact left and right, spring return to center
<b>J1</b>	Red jewel
<b>J3</b>	Green jewel
<b>J6</b>	Amber jewel
<b>J10</b>	Clear jewel
<b>J11</b>	Blue jewel
<b>T2</b>	240/120 volt pilot light transformer
<b>T4</b>	480/120 volt pilot light transformer
<b>T5</b>	600/120 volt pilot light transformer

Legend marking note - see instructions and standard marking abbreviations and catalog rules/notes ② ③ ④

### Catalog rules / notes:

- ① If legend marking contains SP (STOP) or OF (OFF), suffix S153 is NOT required. Lockout will be added. (Lockout not available in double pushbutton and with S111).
- ② S769 only available on a single pushbutton assembly or one button of a 2-button assembly.
- ③ Default legend marking is START-STOP unless otherwise specified.
- ④ 1-, 2- and 3-pole snap switches are marked ON-OFF; 3- and 4-way snap switches have blank stamping boxes. Motor starting switches are marked START-STOP. No alternate markings are permitted.
- ⑤ X includes gasketing and o-rings on assembly to provide a Cl. I, Div. 2, Group B, C, D, Cl. II, Div. 1, Group E, F, G NEMA 4X/IP66 corrosion-resistant rating for aluminum only (suffix SA required). Valid only for front operated pushbuttons (5, 55, 84, 90, 92), combination pushbutton and pilot lights (471, 473, 868), front operated selector switch (271-275), front operated snap switch (29, 8, 30, 40, 31, 32, 33, 60) and pilot lights (524, 561).
- ⑥ Pilot lights only available with EDSX or EDSXC devices.

# EDS/EDSX fully assembled control stations

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

Explosionproof  
Dust-ignitionproof  
Raintight  
Wet Locations

4C

## Heater tables<sup>Ⓐ</sup>:

### Allen-Bradley

Max. motor full load amperage	Eaton's Crouse-Hinds symbol number	Max. motor full load amperage	Eaton's Crouse-Hinds symbol number
0.17	P1	2.58	P21
0.21	P2	2.92	P22
0.25	P3	3.09	P23
0.32	P4	3.32	P24
0.39	P5	3.77	P25
0.46	P6	4.16	P26
0.57	P7	4.51	P27
0.71	P8	4.93	P28
0.79	P9	5.43	P29
0.87	P10	6.03	P30
0.98	P11	6.83	P31
1.08	P12	7.72	P32
1.19	P13	8.24	P33
1.30	P14	8.90	P34
1.43	P15	9.60	P35
1.58	P16	10.80	P36
1.75	P17	12.00	P37
1.88	P18	13.50	P38
2.13	P19	15.20	P39
2.40	P20		

### General Electric

Max. motor full load amperage	Eaton's Crouse-Hinds symbol number	Max. motor full load amperage	Eaton's Crouse-Hinds symbol number
0.48	G2	3.27	G23
0.53	G3	3.56	G24
0.58	G4	3.88	G25
0.65	G5	4.22	G26
0.71	G6	4.60	G27
0.78	G7	5.00	G28
0.86	G8	5.43	G29
0.95	G9	5.90	G30
1.04	G10	6.41	G31
1.14	G11	6.98	G32
1.25	G12	7.60	G33
1.37	G13	8.25	G34
1.49	G14	8.95	G35
1.63	G15	9.75	G36
1.78	G16	10.60	G37
1.95	G17	11.40	G38
2.13	G18	12.50	G39
2.32	G19	13.60	G40
2.53	G20	14.80	G41
2.76	G21	16.00	G42
3.01	G22		

### Cutler-Hammer

Max. motor full load amperage	Eaton's Crouse-Hinds symbol number	Max. motor full load amperage	Eaton's Crouse-Hinds symbol number
0.43	W1	2.95	W21
0.48	W2	3.27	W22
0.53	W3	3.59	W23
0.58	W4	3.99	W24
0.64	W5	4.39	W25
0.71	W6	4.79	W26
0.78	W7	5.26	W27
0.87	W8	5.83	W28
0.95	W9	6.39	W29
1.03	W10	7.03	W30
1.15	W11	7.74	W31
1.27	W12	8.46	W32
1.35	W13	9.35	W33
1.51	W14	10.30	W34
1.67	W15	11.35	W35
1.83	W16	12.47	W36
1.99	W17	13.67	W37
2.23	W18	15.12	W38
2.47	W19	16.00	W39
2.71	W20		

**Note:** These heaters are for motors rated 40°C continuously. For motors rated 50°C or 55°C, multiply full load current by 0.9 and use this value to select heaters. Symbol '0' (zero) must be used to indicate heater omitted. Includes one interchangeable heater.

## Common EDS/EDSX catalog numbers:

Type	EDS control stations and switches with 3/4" hub <sup>Ⓑ</sup>	Cat. # Dead end	Cat. # Through feed
Front operated pushbuttons	2 circuit switch (1 circuit open - A, 1 circuit closed - B) (internal) - 2 button external	EDSX215 SA	EDSCX215 SA
Front operated pushbuttons	1 circuit universal switch (internal) - 1 button external	EDSX2184 SA	EDSCX2184 SA
Front operated pushbuttons	2 circuit universal switch (internal) - 2 button external	EDSX2190 SA	EDSCX2190 SA
Pushbuttons and pilot lights	1 pilot (single-gang), 1 pushbutton, 1 universal switch - ordering with transformers (T suffix)	EDSX21473 J3 SA	EDSCX21473 J3 SA
Pushbuttons and pilot lights	1 pilot on one cover (two-gang only), 2 pushbuttons on the other cover, ordering with transformers (T suffix)	EDSX22471 J1 SA	EDSCX22471 J1 SA
Pushbuttons and pilot lights	2 pilots on one cover (two-gang only), 2 pushbuttons on the other cover, not available with a transformer	EDSX22868 J1 J3	EDSCX22868 J1 J3 SA
Selector switches	3-position, 2 circuit switch (internal) (position 1 - N.O., position 2 - open, position 3 - N.C.)	EDSX21273 SA	EDSCX21273 SA
Selector switches	3-position, 4 circuit switch (internal) (Sw. A = position 1 - N.O., position 2 - open, position 3 - N.C.; Sw. B = position 1 - N.O., position 2 - open, position 3 - N.C.)	EDSX21274 SA	EDSCX21274 SA
Selector switches	2-position, 2 circuit switch (internal)	EDSX21271 SA	EDSCX21271 SA
Snap switches	Single cover assembly per gang, 1-pole, 20 amp (internal)	EDSX2129 SA	EDSCX2129 SA
Snap switches	Single cover assembly per gang, 3-way, 20 amp (internal)	EDSX2130 SA	EDSCX2130 SA
Snap switches	Single cover assembly per gang, 2-pole, 20 amp (internal)	EDSX218 SA	EDSCX218 SA
Snap switches	Single cover assembly per gang, 4-way, 20 amp (internal)	EDSX2140 SA	EDSCX2140 SA
Snap switches	Single cover assembly per gang, 1-pole, 30 amp (internal)	EDSX2131 SA	EDSCX2131 SA
Snap switches	Single cover assembly per gang, 2-pole, 30 amp (internal)	EDSX2132 SA	EDSCX2132 SA
Snap switches	Single cover assembly per gang, 3-way, 30 amp (internal)	EDSX2133 SA	EDSCX2133 SA
Snap switches	Single cover assembly per gang, 3-pole, 30 amp 600 VAC (internal)	EDSX2160 SA	EDSCX2160 SA
Motor starter switch <sup>Ⓒ</sup>	Single cover assembly per gang, 1-pole, Allen-Bradley switch (internal)	EDS2199 0 SA	EDSC2199 0 SA
Motor starter switch <sup>Ⓒ</sup>	Single cover assembly per gang, 1-pole, Westinghouse switch (internal)	EDS21101 0 SA	EDSC21101 0 SA
Motor starter switch <sup>Ⓒ</sup>	Single cover assembly per gang, 2-pole, Westinghouse switch (internal)	EDS21102 0 SA	EDSC21102 0 SA

<sup>Ⓐ</sup>Select heater from table and use symbol number as second section of the catalog number. Example: EDS21101-W5. Insert symbol '0' (zero) to omit heater.

<sup>Ⓑ</sup>Common catalog numbers shown with 3/4" hub. To order a different hub size, replace the first numeral '2' with '1' for 1/2" hub or '3' for 1" hub.

<sup>Ⓒ</sup>NEMA 4X option not available.

# EDS/EDSX fully assembled control stations

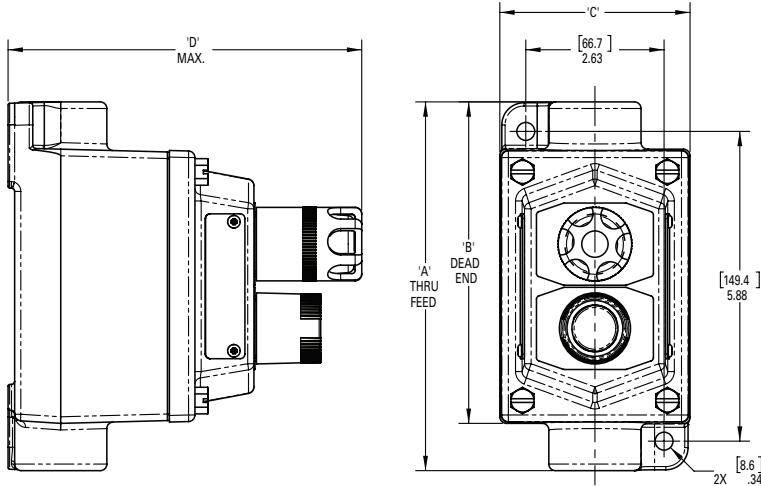
Cl. I, Div. 1 & 2, Groups B, C, D  
 Cl. I, Zones 1 & 2  
 Cl. II, Div. 1, Groups E, F, G  
 Cl. III

Explosionproof  
 Dust-ignitionproof  
 Raintight  
 Wet Locations

4C

## Dimensions (in inches):

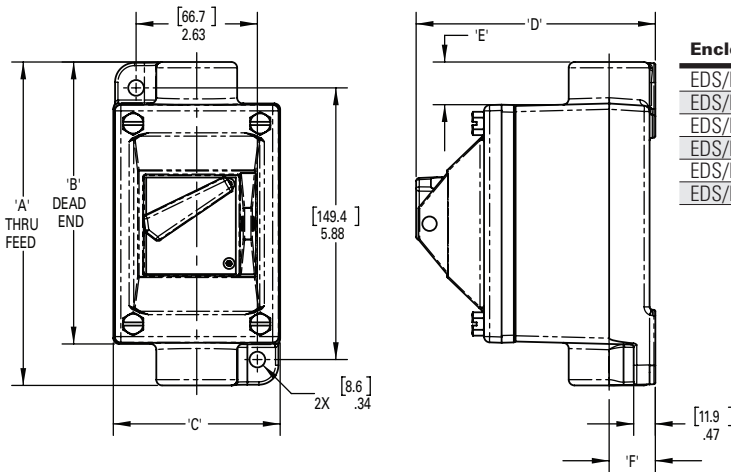
### EDS/EDSX fully assembled control stations



Control station type	Hub size	A	B	C	D max.
EDS/EDSX single-gang	1/2"	6.78	6.03	3.50	7.38
EDS/EDSX two-gang	1/2"	6.78	6.03	7.19	7.38
EDS/EDSX single-gang	3/4"	6.78	6.03	3.50	7.38
EDS/EDSX two-gang	3/4"	6.78	6.03	7.19	7.38
EDS/EDSX single-gang	1"	7.03	6.16	3.50	7.38
EDS/EDSX two-gang	1"	7.03	6.16	7.19	7.38

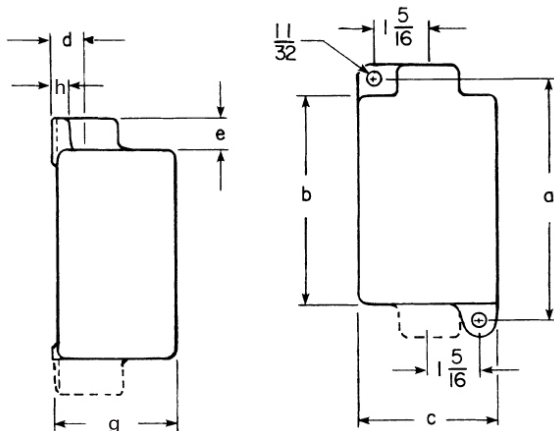
4C

### EDS/EDSX snap switches



Enclosure type	Hub size	A	B	C	D max. Ⓟ	E	F
EDS/EDSX single-gang, factory sealed	1/2"	6.78	6.03	3.50	5.25	0.81	0.75
EDS/EDSX two-gang, factory sealed	1/2"	6.78	6.03	7.19	5.25	0.81	0.88
EDS/EDSX single-gang, factory sealed	3/4"	6.78	6.03	3.50	5.25	0.81	0.88
EDS/EDSX two-gang, factory sealed	3/4"	6.78	6.03	7.19	5.25	0.81	0.88
EDS/EDSX single-gang, factory sealed	1"	7.03	6.16	3.50	5.25	0.94	1.00
EDS/EDSX two-gang, factory sealed	1"	7.03	6.16	7.19	5.25	0.94	1.00

### Back boxes



Control station type	a	b	c	d	e	g	h
EDS single-gang	5.88	5.09	3.50	see below	3.06	0.47	0.47
EDS two-gang	5.88	5.09	7.19	see below	3.06	0.47	0.47

Hub size	d	e
1/2"	0.75	0.81
3/4"	0.88	0.81
1"	1.00	0.94

Ⓟ EDS snap switches with number "23" operator are not factory sealed. Dimension D for these devices = 5.00.