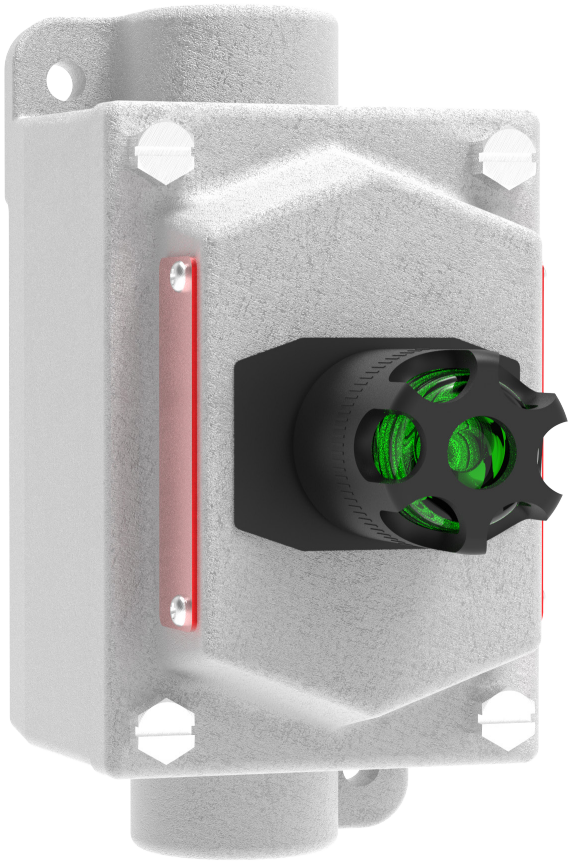
EDSX and DSDX
NEMA 4X rated devices

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:

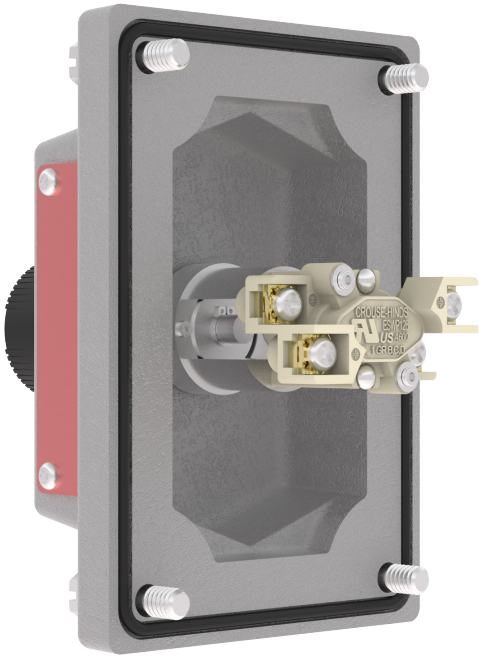


Extended temperature range:

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

NEMA 4X gasket:

- Provides NEMA 4X[A] protection against water ingress in the most demanding conditions



Captive cover screws:

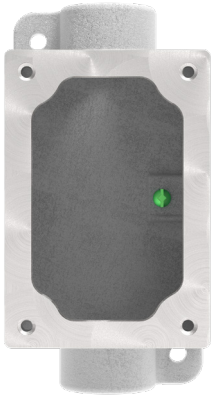
- Provide secure fastening while helping reduce costs associated with lost screws or damage

Retrofit design enables easy upgrade to NEMA 4X protection[A]:

- 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

=

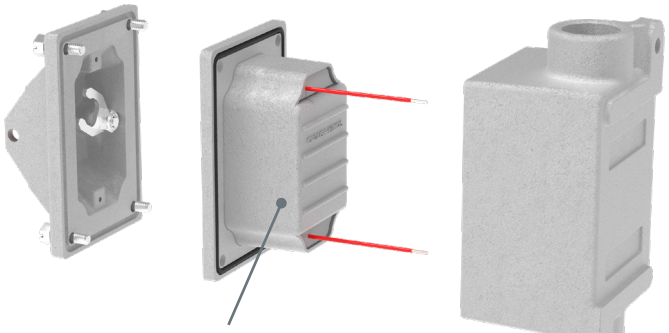
NEMA 4X

[A] 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:

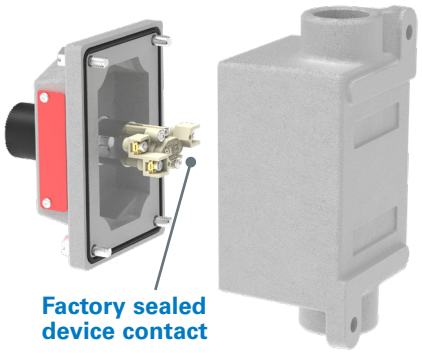
Reduce material costs	Reduce labor costs	Improve safety

Switches



- 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 flametight 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 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 flametight 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 ¾" 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

For use with EDSCM modular multi-gang device bodies and EDS/EDSC back boxes.

DSD/DSDX covers are available with a wide variety of devices and configurations, including manual motor starters, front operated pushbuttons, general use snap switches, side operated pushbuttons, selector switches and pilot lights.

DSD/DSDX sub-assemblies 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:

DSD/DSDX cover and device sub-assemblies are for mounting combinations of control device equipment for use 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 where atmospheres may contain hazardous gases or dusts, and arcing of enclosed devices must not ignite the surrounding atmosphere
- Conjunction with magnetic starters or contactors for remote control and monitoring motors
- Manual starting and stopping of small AC or DC motors
- Controlling and supplying energy to portable electrical devices, such as motor generator sets, compressors, conveyors, portable tools, etc.

Features:

DSD/DSDX cover and device sub-assemblies have:

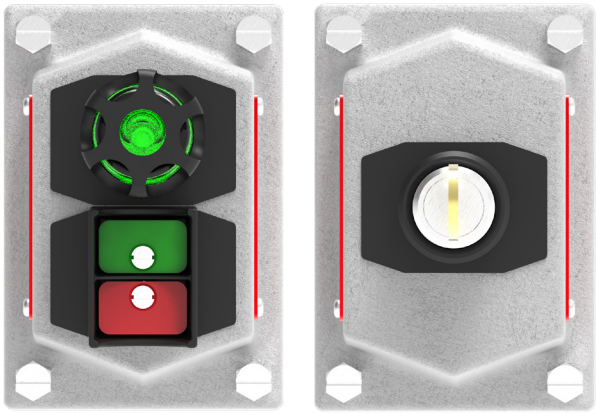
- Device contacts for pilot light, pushbutton, and selector switch control stations are factory sealed; external sealing is not required, improving safety and reducing costs
- Factory sealing available for motor starting switch and snap switch sub-assemblies *(see ordering information tables for details)*
- Large captive screws for fastening cover to body (DSDX only)
- Retrofit design enables easy upgrade to NEMA 4X protection[A]; simply purchase a DSDX cover and device assembly and use with the existing installed aluminum back box
- Lockout hole for padlock having 1/4" hasp is provided when used with covers for front lever and side rocker type operation
- Lockout provisions on front operated pushbutton (marked "STOP" and "OFF") and all selector switch covers
- For covers with front lever and side rocker type operating handles, threaded type shafts and bushings are used to ensure hazardous protection
- Accurately ground flange for flametight joint when mated with ground flange on back box

Standard materials:

- Covers – Feraloy iron alloy and copper-free aluminum
- Shafts and shaft bushings – stainless steel
- Rocker handles, pushbuttons and guards – type 6/6 nylon
- Sealing enclosures – copper-free aluminum

Standard finishes:

- Feraloy iron alloy – electrogalvanized and aluminum acrylic paint
- Copper-free aluminum – natural



Certifications and compliances:

(When used with EDS/EDSC or EFS/EFSC back box):

DSD:

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_2
- Class II, Division 1, Groups E, F, G
- Class III

UL standards:

- UL1203, UL121201, UL508

CSA standards:

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

DSDX:

NEC:

- Class I, Division 2, Groups B, C, D
- Class I, Zone 2, IIA, IIB + H_2
- 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:

Cover type	Back box material	NEMA rating	Temperature range
DSDX (aluminum)	Iron	NEMA 4	-40°C to +60°C
DSDX (aluminum)	Aluminum	NEMA 4X[A]	-40°C to +60°C
DSD (aluminum or iron)	Iron or aluminum	NEMA 3	-25°C to +40°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)

[A] 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.

Ordering information – part number example:
DSDX925 S634 SA

DSD **X** **925**

Series

DSD	DSD series

NEMA protection

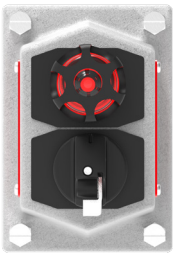
X	Gasketed ❽ NEMA 4X/IP66 Class I, Division 2, Groups B, C, D Class I, Zone 2, IIB + H_2
BLANK	NEMA 3R, Class I, Division 1

Single pushbutton

Combination pushbutton and double pushbutton

Single keyed selector switch

Combination pilot light and double pushbutton



Combination selector switch and pilot light

Catalog rules / notes:
❶ For use with 910-915 only; not applicable for 916 and 917.
❷ Default legend marking is START-STOP unless otherwise specified.
❸ If legend for 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).
❹ S769 only available on a single pushbutton assembly or one button of a two button assembly.
❺ XFMR option not available on DSD973 through DSD977.
❻ C1B is default key housing. If S847 option is selected and no key housing has been selected, then the customer would get C1B by default.
❼ 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.
❽ "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 (suffix SA required). Valid only for front operated pushbuttons, front operated snap switches, selector switches, pilot lights, selector switch and pilot lights.

Single-gang cover assemblies (Step 1: select assembly)

Front operated motor starting switch covers and devices (NEMA 4X not avail.)	
910	Front operated Allen-Bradley 1-pole switch, 1 HP, 115-230 VAC
911	Front operated Allen-Bradley 2-pole switch, 1 HP, 115-230 VAC
912	Front operated GE 1-pole switch, 1 HP, 115-230 VAC
913	Front operated GE 2-pole switch, 1 HP, 115-230 VAC
914	Front operated Westinghouse 1-pole switch, 1 HP, 115-230 VAC
915	Front operated Westinghouse 2-pole switch, 1 HP, 115-230 VAC
916	Front operated Square D 2-pole switch, 2 HP at 250 VAC (30A), 3 HP at 600 VAC (20A)
917	Front operated GE 3-pole switch, 7.5 HP at 250 VAC (30A), 15 HP at 600 VAC (20A)
Front operated pushbutton covers and devices	
918	One button, one universal switch
919	One button, two universal switches
920	One button, two universal switches, one N.O., one N.C.
921	Two button, two universal switches
922	Two button, two universal switches, one N.O., one N.C. ❷
962	Three button (one double and one single), single on bottom, lockout avail. only on single button
970	Momentary contact mushroom head (N111 style) and one button (breaks N.C.)
Front operated snap switch covers and devices	
933	1-pole, 20A, 120/277 VAC
934	2-pole, 20A, 120/277 VAC
935	3-pole, 16A, 125V; 10A, 250 VAC (NEMA 4X not available)
936	3-way, 20A, 120/277 VAC
937	4-way, 20A, 120/277 VAC
939	1-pole, 30A, 120/277 VAC
940	2-pole, 30A, 120/277 VAC
941	3-way, 30A, 120/277 VAC
943	3-pole, 30A, 600 VAC
Side rocker pushbutton covers and devices (NEMA 4X not available)	
949	One circuit universal
950	Two circuit universal
951	Two circuit, one N.O., one N.C. ❷
Front operated selector switch covers and devices	
923	2-position, two circuit
924	2-position, four circuit
925	3-position, two circuit (N.O., open, N.C.)
926	3-position, four circuit (N.O., open, N.C.)
927	3-position, four circuit (A1 = N.C., N.O., N.O.; B1 = N.O., N.O., N.C.)
Pilot light covers and devices	
947	Two pilot lights (not available with a transformer)
948	One pilot light
Combination pushbutton and pilot lights	
958	One pilot light and one pushbutton station
961	Double pushbutton with pilot light (with a transformer - see table), lockout not available
Combination selector switches and pilot light covers and devices ❺	
973	One light and 2-position switch, two circuit
974	One light and 2-position switch, four circuit
975	One light and 3-position switch, two circuit (N.O., open, N.C.)
976	One light and 3-position switch, four circuit (N.O., open, N.C.)
977	One light and 3-position switch, four circuit (A1 = N.C., N.O., N.O.; B1 = N.O., N.O., N.C.)

S634

SA

Options for motor starting switches

Step 2: select heaters ❶	
G2 - G42	GE heaters
P1 - P39	Allen Bradley heaters
W1 - W39	Westinghouse heaters
0	Without heater
Step 3: select factory sealed cover if needed ❶	
S701	Factory sealing cover (motor control) for use with manual motor starters
Step 4: select material option	
Step 5: select legend marking (see next page)	

Options for front operated pushbuttons

Step 2: select operator function option	
S111	Momentary stop, front operated, red mushroom head button (breaks N.C. contacts only)
S153	Lockout on front operated pushbutton (locks normally closed contacts in open position) ❸
S769	Maintained contact, front operated, mushroom head button with lockout and guard (breaks N.C. contacts and maintains N.O. contacts) ❹
Step 3: select material option	
Step 4: select legend plate option	
BLANK	Standard or no legend plate
Step 5: select legend marking (see next page)	

Options for pilot lights

Step 2: select color	
J1	Red jewel
J3	Green jewel
J6	Amber jewel
J10	Clear jewel
J11	Blue jewel
Step 3: select lamp style	
BLANK	Standard incandescent lamp
LED	LED lamp furnished in place of standard incandescent lamp
Step 4: select voltage ❺	
S300	24V lamp (AC and DC) (not available with XFMR)
T2	240/120 volt XFMR
T4	480/120 volt XFMR
T5	600/120 volt XFMR
Step 5: select material option	
Step 6: select legend plate option	
BLANK	Standard or no legend plate
Step 7: select select legend marking (see next page)	

Options for front operated snap switches

Step 2: select factory sealed cover if needed	
S697	For factory sealing covers (for use with 20A and 30A front operated snap switches only; not available on DSD935) suffix required for "X" (gasketed, NEMA 4X ❽/IP66) config.
Step 3: select material option	
Step 4: select legend marking (see next page)	

Options for front operated selector switches

Step 2: select operator function options	
S634	3-position selector switch with momentary contact clockwise operation, spring return to center, maintained contact counterclockwise operation
S635	3-position selector switch with momentary contact counterclockwise operation, spring return to center, maintained contact clockwise operation
S842	3-position selector switch with momentary contact left and right, spring return to center
S847	Key operated selector switch - must define position where key is removed from (limited to NEMA 4)
Step 3: select removable key location (only if S847 is selected)	
K1	Selector switch key is removable from all positions
K2	Selector switch key is removable from left position for 2-position switches or from center position for 3-position switches
K3	Selector switch key is removable from right position for 2-position switches or from left position for 3-position switches
K4	Selector switch key is removable from right position for 3-position switches
Step 4: select key lock housing (only if S847 is selected)	
C19B	Key lock housing C19B
C1B / BLANK	Key lock housing C1B ❻
C2B	Key lock housing C2B
C3B	Key lock housing C3B
C4B	Key lock housing C4B
C5B	Key lock housing C5B
C6B-C18B	Key lock housing C6B-C18B
C20B-C152B	Key lock housing C20B-C152B
Step 5: select material option	
Step 6: select legend plate option	
BLANK	Standard or no legend plate
Step 7: select legend marking (see next page)	

Options for selector switches and pilot light devices

Step 2: select option from pilot light options
Step 3: select option from selector switches option
Step 4: select material option
Step 5: select legend marking (see next page)

Material and finish options

Select enclosure options	
BLANK	Iron cover (Feraloy) with zinc and aluminum paint
SA	Aluminum cover - suffix required for "X" (gasketed, NEMA 4X ❽/IP66) configuration
S752	Exterior gray epoxy powder coat finish (not required for NEMA 4X corrosion resistance)

Legend marking options

See instructions and standard marking abbreviations on previous page and catalog rules/notes ❷ ❸ ❽

Legend marking plates for pushbuttons, selector switches and pilot lights:

Marking req.	Suffix add	Standard pushbutton color	Actual marking on product
Acknowledge	**AK**	Black	ACK
Alarm	**AM**	Red	ALARM
Automatic	**AU**	Black	AUTO
Bypass	**BP**	Black	BYPASS
Call	**CA**	Black	CALL
Close	**CL**	Black	CLOSE
Down	**DN**	Black	DOWN
Emergency	**EM**	Red	EMER
EM-Stop	**EM-SP**	Red	EMER-STOP
Fast	**FS**	Green	FAST
Forward	**FW**	Black	FWD
Hand	**HN**	Black	HAND
High	**HI**	Black	HIGH
In	**IN**	Green	IN
Jog	**JG**	Black	JOG
Lighting On	**LN**	Green	LTG-ON
Local	**LC**	Black	LOCAL
Lower	**LO**	Black	LOWER
Maintain	**MT**	Black	MAINT
Manual	**MN**	Black	MANUAL

Marking req.	Suffix add	Standard pushbutton color	Actual marking on product
Normal	**NR**	Green	NORMAL
Off	**OF**	Black	OFF
On	**ON**	Green	ON
Open	**OP**	Green	OPEN
Out	**OT**	Black	OUT
Purge	**PG**	Black	PURGE
Raise	**RA**	Green	RAISE
Remote	**RM**	Black	REMOTE
Reset	**RS**	Black	RESET
Reverse	**RV**	Black	REV
Run	**RN**	Black	RUN
Safe	**SF**	Green	SAFE
Silence	**SN**	Black	SILENC
Slow	**SL**	Green	SLOW
Start	**ST**	Green	START
Stop	**SP**	Red	STOP
Test	**TT**	Black	TEST
Trip	**TP**	Black	TRIP
Up	**UP**	Green	UP

Note: Non-standard legend plate markings (not included in this table) can be accommodated by our Engineer To Order team. Non-standard markings must be included in catalog number exactly as desired on legend plates. There is a 10-character limit per marking.

Common DSD/DSDX catalog numbers:

Type	Description	Cat. #
Front operated pushbuttons	Two button, two universal switches, one N.O., one N.C. ❷	**DSDX922 SA**
Front operated pushbuttons	One button, one universal switch	**DSDX918 SA**
Front operated pushbuttons	Two button, two universal switches	**DSDX921 SA**
Front operated pushbuttons	Momentary contact mushroom head (S111 style) and one button (breaks N.C.)	**DSDX970 SA**
Pilot lights	Two pilot lights (not available with a transformer)	**DSDX947 J1 J3 SA**
Pilot lights	One pilot light	**DSDX948 J1 SA**
Pushbuttons and pilot lights	One pilot light and one pushbutton station	**DSDX958 J1 SA**
Pushbuttons and pilot lights	Double pushbutton with pilot light (with a transformer - see table), lockout not available	**DSDX961 J3 SA**
Selector switches	3-position, two circuit (N.O., open, N.C.)	**DSDX925 SA**
Selector switches	3-position, four circuit (A1 = N.C., N.O., N.O.; B1 = N.O., N.O., N.C.)	**DSDX927 SA**
Selector switches	2-position, two circuit	**DSDX923 SA**
Snap switches	1-pole, 20 amp	**DSDX933 S697 SA**
Snap switches	2-pole, 20 amp	**DSDX934 S697 SA**
Snap switches	3-pole, 30 amp	**DSDX943 S697 SA**
Motor starter switch❽	Front operated Allen-Bradley 1-pole switch, 1 HP, 115-230 VAC	**DSD910 0 S701 SA**
Motor starter switch❽	Front operated Westinghouse 1-pole switch, 1 HP, 115-230 VAC	**DSD914 0 S701 SA**
Motor starter switch❽	Front operated Westinghouse 2-pole switch, 1 HP, 115-230 VAC	**DSD915 0 S701 SA**

Back boxes		Cat. # Dead end	Cat. # Through feed
Back box	1/2" single-gang back box	**EDS171 SA**	**EDSC171 SA**
Back box	3/4" single-gang back box	**EDS271 SA**	**EDSC271 SA**
Back box	1" single-gang back box	**EDS371 SA**	**EDSC371 SA**
Back box	1/2" two-gang back box	**EDS172 SA**	**EDSC172 SA**
Back box	3/4" two-gang back box	**EDS272 SA**	**EDSC272 SA**
Back box	1" two-gang back box	**EDS372 SA**	**EDSC372 SA**

Catalog rules / notes:
❷ Default legend marking is START-STOP unless otherwise specified.

❽NEMA 4X option not available.