

Application and Selection Quick Selector Chart

Applications:

Control stations are used as a remote means of:

- Motor control
- Visual indication of equipment performance
- On-off control of circuits
- Circuit selection

Considerations for Selection:

- The environment of the control station location and requirements for construction in terms of NEC/CEC compliances and NEMA/EEMAC type
- Function to be performed
- Desirability of factory sealing as compared to field sealing
- Factory sealing has distinct advantages:
 - Less installation problems
 - Less time consuming
 - Less change of error
 - Lower installed cost
 - Accommodates future changes to circuitry
 - Greater reliability
- The number of controls required, and the space available for installation. Where space is limited, panel or junction box mounting with many combinations are available
- See "Quick Selector Chart" for guidance

Options:

Many options are available on:

- Material and finishes where special atmospheric conditions prevail
- Special features for specific applications. See individual control station listings for available options

Quick Selector Chart

Control Station	NEC/CEC – Hazardous Area Compliance	NEMA/EEMAC Type	Function	Factory Sealed	No. of Devices or Units	Type of Mounting	Cover Style
MC, MCC		3, 4	Pushbutton Pilot light Selector switch		1-5*	Surface 1-5 gang	Gasketed
EDS, EDSC§	Cl. I, Div. 1, Groups C, D Cl. I, Div. 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7B (Div. 2) CD, 9EFG	Pilot light Pushbutton Selector switch	Pilot light Pushbutton Selector switch§	1-2*	Surface 1-2 gang	Ground joint
DSD Covers and Device Sub-assemblies	Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7B, 9EFG	Pilot light Pushbutton Selector switch	Pilot light Pushbutton Selector switch	1	Surface 1 gang	Ground joint
DSD-SR	Cl. I, Div. 1 & 2, Groups C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 5, 7CD, 9EFG, 12	Selector Switch		1	Surface 1 gang	Ground joint
EDSCM	Cl. I, Div. 1, Groups C, D Cl. I, Div. 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7CD, 9EFG	Pilot light Pushbutton Selector switch		1-15*	Surface 1-15 gang	Ground joint
EFSS§	Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7BCD, 9EFG	Pilot light Pushbutton Selector switch	Pilot light§ Pushbutton Selector switch	1-2*	Surface 1 gang	Ground joint

*Number of devices per unit.

§Factory-sealed units.

Application and Selection Quick Selector Chart

Quick Selector Chart (continued)

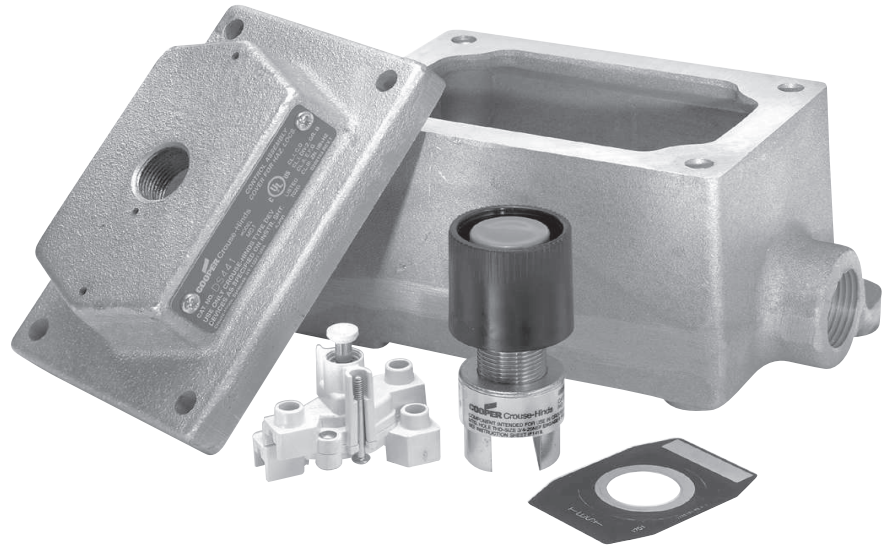
Control Station	NEC/CEC – Hazardous Area Compliances	NEMA/EEMAC Type	Function	Factory Sealed	No. of Devices or Units	Type of Mounting	Cover Style
FlexStation	Cl. I, Div. 1, Groups C, D Cl. I, Div. 2, Groups B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7B (Div. 2) CD, 9EFG	Pilot light Pushbutton	Pilot light Pushbutton	1-2-3	Surface 1-2 gang	Ground joint
GHG43	Cl. I, Div. 2, Groups A, B, C, D Cl. I, Zones 1 and 2, (A)Ex de IIB + H2, T6 Cl. II, Div. 1, Groups E, F, G PTB ATEX Certified 3117 CENELEC EEx de IIC, T6, Zones 1 and 2 Eex de IIC, T6 Zones 21 and 22	4X, IP66	Pushbutton Signal Lamp Potentiometer Ammeter Selector Switch Terminal Blocks		1-4*	Surface 1 gang	Screw and Gasket
N2FA, N2FAC	Cl. I, Div. 2, Groups B, C, D	3, 7BCD, 12	Fire Alarm	Pushbutton Selector switch	1	Surface 1 gang	Screw and Gasket
N2S, N2SC N2SU, N2SCU	Cl. I, Div. 2, Groups B, C, D	3, 4X, 7BCD, 12	Pilot light Pushbutton Selector switch Combination	Pilot light Pushbutton Selector switch Combination	1-4*	Surface 1 gang	Screw and Gasket
OAC	Cl. I, Div. 1, Groups A, B, C, D Cl. I, Div. 2, Groups A, B, C, D Cl. II, Div. 1, Groups E, F, G Cl. II, Div. 2, Groups F, G Cl. III	3, 7ABCD, 9EFG, 12	Pushbutton Selector switch	Pushbutton Selector switch	1-2*	Surface 1 gang	Threaded

*Number of devices per unit.

Applications:

Five modular components – operators, contact blocks, covers, legend plates, and bodies – are combined to provide a variety of control stations which are:

- For use indoors or outdoors, in areas which are hazardous due to the presence of flammable gases and vapors, or combustible dust.
- Used in conjunction with magnetic starters or contactors for remote control of motors and other electrical apparatus.
- For installation in petroleum refineries, chemical, petrochemical, and other industrial process facilities; grain processing and storage facilities; and other heavy industrial applications where Class I, Class II, or Class III hazards are present.



Features:

- Momentary contact pushbuttons, maintained contact pushbuttons, and pilots lights offer a choice of functions.
- Selector switches in 2 or 3 position configurations including keyed and spring return options.
- Single-hole, two-hole, and three-hole covers for one, two, or three devices respectively per station.
- Rugged control devices for safe, reliable operation in industrial applications.
- Bodies, with extra room for wire pulling and termination, also include two integral mounting feet for fast, secure installation.
- Bodies have 1/2", 3/4", or 1" dead-end or through-feed conduit hubs with integral bushing for protection of wire insulation.
- Covers and bodies are available in *Feraloy*® or copper-free aluminum for light weight and corrosion resistance.
- DL legend plates have large lettering to give clear indication of device function. Space is available for field markings.

Certifications and Compliances:

- NEC
 - Class I, Division 1 & 2, Groups B* (Div. 2), C, D
 - Class II, Division 1 & 2, Groups E, F, G
 - Class III
- Zone 1 & 2 Groups IIB*
- NEMA: 3R, 7B (Div. 2) CD, 9EFG, 12
- UL Standard: 1203

Standard Materials:

- Bodies, covers – *Feraloy*® or copper-free aluminum.
- Pushbuttons and guards – Type 6 / 6 nylon.
- Operating shafts, bearings – stainless steel.

Options:

Description	Suffix
Copper-free aluminum bodies and covers	SA
Corro-free™ epoxy finish for use in severely corrosive environments.	
FlexStation covers and bodies.	S752

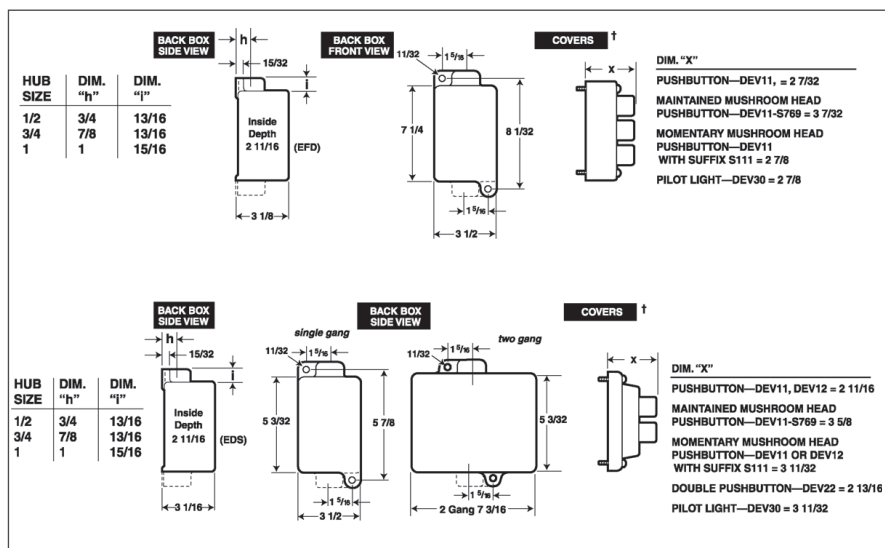
Standard Finishes:

- *Feraloy*® iron alloy – electrogalvanized and aluminum acrylic paint.
- Copper-free aluminum – natural.
- Stainless steel – natural.

Electrical Ratings:

- Pushbuttons and selector switches – 600 VAC heavy duty (NEMA A600).
- Pilot lights – 120 VAC.

Dimensions In Inches:



†Covers have same length and width as back boxes.

*For Class I, Division 1, Group B or Zone 1 Hydrogen applications, use the EFS(C) complete control station catalog numbers see page 514.

EDS / EFS Series Control Stations

Cl. I, Div. 1 & 2, Groups B (Div. 2 only) C, D
Cl. II, Div. 1 & 2, Groups E, F, G
Cl. III
Zone 1 & 2 Groups IIB
NEMA 3R, 7B* (Div. 2) CD, 9 EFG, 12

4C

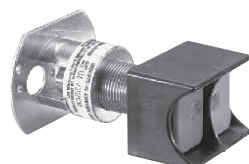
FlexStation™ Control Station Components

STEP 1 – Select Operator

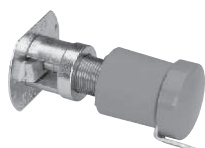
Pushbutton – front operated, standard black button



Description	Cat. #
Single button for 1 contact block	DEV11
Single button for 2 contact blocks	DEV12
Double buttons for 2 contact blocks	DEV22



Options	Suffix
Specify color for each pushbutton button (ex: DEV11G, DEV22GR). Color is black if unspecified.	
Green button - unmarked	G
Red button - unmarked (includes lockout with bar and chain)	R
Momentary red mushroom head style (not available with lockout or with DEV22)	S111
Lockout with bar and chain (available on DEV11 and DEV12)	S153
Maintained red mushroom head style (lockout comes standard, do not specify S153; not available on DEV22)	S769



Pilot Light – factory sealed, incandescent lamp



Description	Cat. #
Pilot light with red jewel	DEV30 J1
Pilot light with green jewel	DEV30 J3
Pilot light with amber jewel	DEV30 J6
Pilot light with clear jewel	DEV30 J10
Pilot light with blue LED and clear jewel	DEV30 J11 LED



Options	Suffix
LED lamps (standard clear jewel with colored lamp)	LED
24 V lamp (not available with transformer feature)	S300
240 / 120 V pilot light transformer	T2
480 / 120 V pilot light transformer	T4
600 / 120 V pilot light transformer	T5

Selector Switch – with standard lockout



Description	Cat. #
2-position (pos. 1 – N.O., pos. 2 – N.C.) for use with 1 or 2 contact blocks	DEV42
3-position (pos. 1 – N.O., pos. 2 – Open, pos. 3 – N.C.) for use with 1 or 2 contact blocks	DEV43
3-position (pos. 1 – N.C., pos. 2 – N.O., pos. 3 – N.O. for Switch A) (pos. 1 – N.O., pos. 2 – N.O., pos. 3 – N.C. for Switch B) for use with 2 contact blocks	DEV44



Options	Suffix
Spring return to center from right (For DEV43 or DEV44 only)	S634
Spring return to center from left (For DEV43 or DEV44 only)	S635
Spring return to center from right and left (For DEV43 or DEV44 only)	S842
Key Operated – removable from all positions	S847 K1
Key Operated – removable from left position for DEV42 or from center for DEV43 and DEV44	S847 K2
Key Operated – removable from right position for DEV42 or from left for DEV43 and DEV44	S847 K3
Key Operated – removable from right position for DEV43 and DEV44	S847 K4

STEP 2 – Select Contact Block (if required). For product details see page 557.

Contact Block



Description	Cat. #
Contact block, 1 NO and 1 NC, 10A, 600VAC, A600 rating	ESWP126

For additional technical information see page 557.

Note - Each control station will accept a maximum of three contact blocks. Select device operators accordingly. DEV12, DEV22 and DEV44 may not be used on a three-operator (DS443-SA) cover. DEV42 and DEV43 may not be used on a three-operator cover when using them with two contact blocks.

STEP 3 – Select Desired Legend Plates

For use with single hole covers

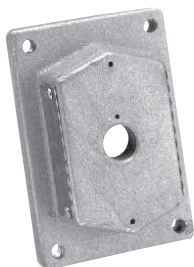
Cat. #	Inscription
DL101	Blank
DL128	Run-Jog
DL129	Hand-Auto
DL130	Forward-Reverse
DL132	Open-Close
DL133	Up-Down
DL135	In-Out
DL136	Raise-Lower
DL137	Start-Stop
DL138	Run-Off-Jog
DL139	Hand-Off-Auto
DL140	For-Off-Rev
DL141	Fast-Off-Slow
DL142	1-Off-2
DL143	Open-Off-Close
DL144	Up-Off-Down
DL148	Off-On
DL149	Auto-Off-Hand
DL165	Slow-Fast
DL186	Safe-Run
DL187	Raise-Off-Lower
DL188	Slow-Off-Fast
DL189	Odd-Off-Even
DL190	Stop-Start
DL191	On-Off
DL192	Fast-Slow
DL193	Local-Remote
DL194	Trip-Reset
DL195	Auto-Manual
DL196	Start-Emer Stop
DL197	Alarm-Silence
DL198	Maint-Manual
DL199	Test-Reset

For use with 2 or 3 hole covers

Cat. #	Inscription	Cat. #	Inscription
DL01	Blank w/no fields	DL32	Open-Close
DL02	Blank w/single field	DL33	Up-Down
DL03	Blank w/2 fields	DL35	In-Out
DL05	Start	DL36	Raise-Lower
DL06	Stop	DL37	Start-Stop
DL07	On	DL38	Run-Off-Jog
DL08	Off	DL39	Hand-Off-Auto
DL09	Run	DL40	For-Off-Rev
DL10	Jog	DL41	Fast-Off-Slow
DL11	Trip	DL42	1-Off-2
DL12	Reset	DL43	Open-Off-Close
DL13	Test	DL44	Up-Off-Down
DL14	Power On	DL46	Fast
DL15	Hand	DL47	Slow
DL16	Automatic	DL48	Off-On
DL17	Emer Stop	DL49	Auto-Off-Hand
DL18	Forward	DL65	Slow-Fast
DL19	Reverse	DL85	Safe
DL20	Open	DL86	Safe-Run
DL21	Close	DL87	Raise-Off-Lower
DL22	Up	DL88	Slow-Off-Fast
DL23	Down	DL89	Odd-Off-Even
DL24	In	DL90	Stop-Start
DL25	Out	DL91	On-Off
DL26	Raise	DL92	Fast-Slow
DL27	Lower	DL93	Local-Remote
DL28	Run-Jog	DL94	Trip-Reset
DL29	Hand-Auto	DL95	Auto-Manual
DL30	Forward-Reverse	DL96	Start-Emer Stop
		DL97	Alarm-Silence
		DL98	Maint-Manual
		DL99	Test-Reset

Note: For special markings order DL101-"desired markings" or DL01-"desired markings"

STEP 4 – Select Cover Covers



Description

Description	Cat. #
Blank cover with single hole (Single gang)	DS441
Blank cover with 2 holes (Single gang)	DS442
Blank cover with 3 holes (To be used with EFD(C)1491-SA, 2491-SA or 3491-SA series of back boxes)	DS443 SA
Replacement cover plug for unused device operator openings	206765



Options:

Options:	Suffix
Aluminum body (mandatory suffix on DS443 must be included in catalog number)	SA
Exterior epoxy powder coat finish	S752
Interior & exterior epoxy powder coat finish. Not available on three operator cover (DS443-SA)	S753

EDS / EFS Series Control Stations

FlexStation™ Control Station Components

Cl. I, Div. 1 & 2, Groups B (Div. 2 only) C, D
Cl. II, Div. 1 & 2, Groups E, F, G
Cl. III
Zone 1 & 2 Groups IIB
NEMA 3R, 7B* (Div. 2) CD, 9 EFG, 12

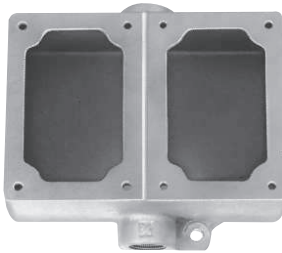
4C

STEP 5 – Select Back Box

Back Boxes - for use with DS441 and DS442 covers or with 1 gang and 2 gang DS/DSD Series covers



Dead End	Through Feed	Hub Size	Back Box Arrangement
EDS171	EDSC171	1/2"	Single gang back box
EDS271	EDSC271	3/4"	Single gang back box
EDS371	EDSC371	1"	Single gang back box
EDS172	EDSC172	1/2"	Double gang back box
EDS272	EDSC272	3/4"	Double gang back box
EDS372	EDSC372	1"	Double gang back box



Options:

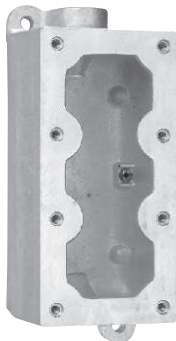
Aluminum body
Exterior epoxy powder coat finish
Interior & exterior epoxy powder coat finish

Suffix

SA
S752
S753

4C

Back Boxes – for use with DS443-SA cover or with 1½ gang DS511 (3-operator) Series covers



Dead End	Through Feed	Hub Size	Back Box Arrangement
EFD1491 SA	EFDC1491 SA	1/2"	1½ gang back box
EFD2491 SA	EFDC2491 SA	3/4"	1½ gang back box
EFD3491 SA	EFDC3491 SA	1"	1½ gang back box

Options

Exterior epoxy powder coat finish
Interior & exterior epoxy powder coat finish

Suffix

S752
S753

EDS / EFS Series Control Stations

FlexStation™ Control Station Components

Cl. I, Div. 1 & 2, Groups B (Div. 2 only) C, D
 Cl. II, Div. 1 & 2, Groups E, F, G
 Cl. III
 Zone 1 & 2 Groups IIB
 NEMA 3R, 7B* (Div. 2) CD, 9 EFG, 12

Back Boxes – for use with DS441 and DS442 covers



Through Feed	Hub Size	Back Box Arrangement
EDSC378	1"	3 gang tandem

Common Cover Assemblies

Cat. #	Description
DS455 ①	With one pilot light
DS476 ① ②	With one pilot light and transformer
DS456 ① ①	With two pilot lights
DS429§	With one pushbutton
DS454§	With two pushbuttons
DS510 ①§	With one pushbutton and one pilot light

4C

①Add color symbol for each pilot light from table below.

Color	Symbol	Color	Symbol	Color	Symbol
Red	J1	Amber	J6	Blue	J11
Green	J3	Clear	J10		

②Add suffix below for transformer primary voltage:

Transformers – Voltages above 125

Nom. Volts 50–60Hz Transformer	Primary Voltage Range	Suffix
220 / 110	220–240	T2
440 / 110	440–480	T4
550 / 110	550–600	T5

§ If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

START	OFF	RESET	LIGHT ON
STOP	RUN	TRIP	HAND
ON	JOG	TEST	AUTOMATIC
EMERGENCY	OPEN	DOWN	RAISE
FORWARD	CLOSE	IN	LOWER
REVERSE	UP	OUT	

EDS / EFS Series Control Stations

EDSCM Modular Multi-Gang Control Device Bodies

Cl. I, Div. 1, Groups C, D*
Cl. I, Div. 2, Groups B, C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III
NEMA 3, 7B (Div. 2) CD, 9EFG

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

4C

For use with DSD device cover sub-assemblies see page 507.

Applications:

Modular control device bodies are for surface 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:

EDSCM Modular Control Stations have many distinct advantages over multiple individual units:

- Reduce installation costs. A multi-gang device assembly can be installed in less time than several single-gang units.
- Seals not required between gangs.
- Improved appearance. No exposed conduit runs between devices.
- Lightweight. Fifteen-gang aluminum device body can be installed by one person.
- Mounting feet are provided on the top and bottom of every gang to facilitate installation.
- Two and three gang tandem bodies have 1¼" through feed inward horizontal hubs and 1" or 2" vertical through feed hubs. Pipe plugs are installed in one horizontal hub and both vertical hubs.
- Single-gang device bodies have 1" through feed inward horizontal hubs and ¾" through feed vertical hubs. Pipe plugs are installed in one horizontal hub and both vertical hubs.
- All hubs are taper tapped and have integral bushings.
- Close nipples, which are used to join two or more device bodies together, are furnished with EDSCM 21, 32, 33, 62 and 63 units.
- Any combination of bodies can be joined together horizontally.

Certifications and Compliances:

(When used with DSD device sub-assemblies)*:

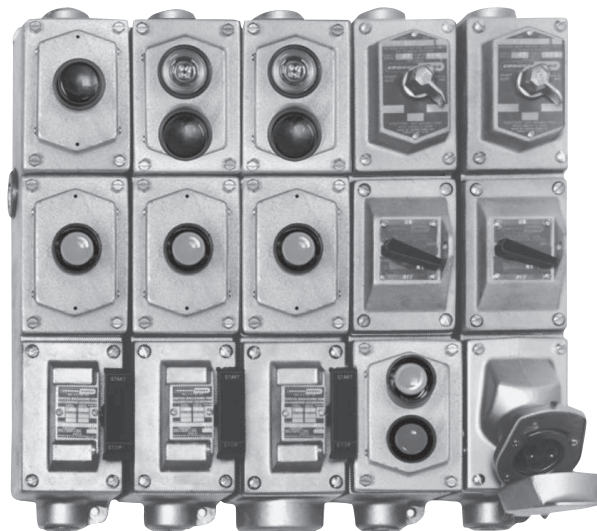
- Class I, Division 1 & 2, Groups C, D
- Class I, Division 2, Group B, C, D
- Class II, Division 1, Groups E, F, G
- Class II, Division 2, Groups F, G
- Class III
- NEMA/EEMAC: 3, 7B (Div.2) CD, 9EFG
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:

- Copper-free aluminum

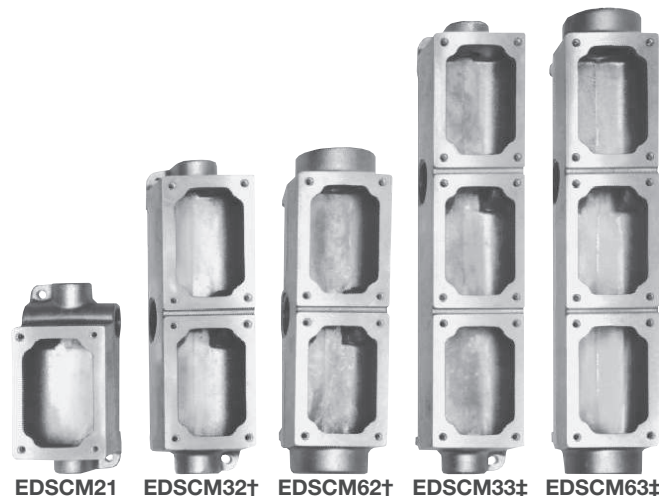
Finish:

- Natural



4C

Ordering Information



EDSCM21 EDSCM32† EDSCM62† EDSCM33‡ EDSCM63‡

Description	Through Feed Hub Size	Cat. #
Single Gang	¾"	EDSCM21
Tandem Two Gang	1"	EDSCM32
Tandem Two Gang	2"	EDSCM62
Tandem Three Gang	1"	EDSCM33
Tandem Three Gang	2"	EDSCM63

* When a CPS receptacle cover device is used, the assembly meets requirements for Class I, Groups C and D areas only.

† EDSCM32 and EDSCM62 will not accept covers with S697 or S701 suffixes.

‡ Bottom gang opening will accept covers with S697 or S701 suffixes.

In Class I areas all conduit runs entering bodies must be sealed. As many as five bodies can be joined horizontally without an intervening seal.

EDS / EFS Series Control Stations

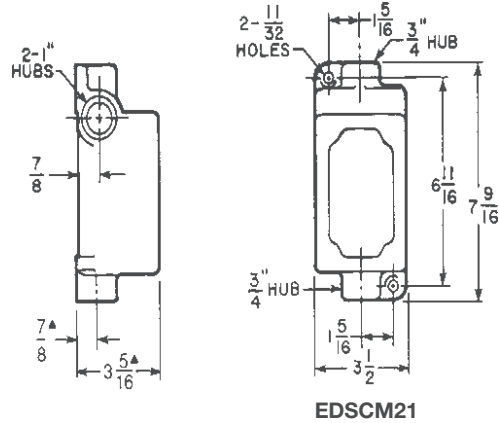
EDSCM Modular Multi-Gang Control Device Bodies

Cl. I, Div. 1, Groups C, D*
Cl. I, Div. 2, Groups B, C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III
NEMA 3, 7B (Div. 2) CD, 9EFG

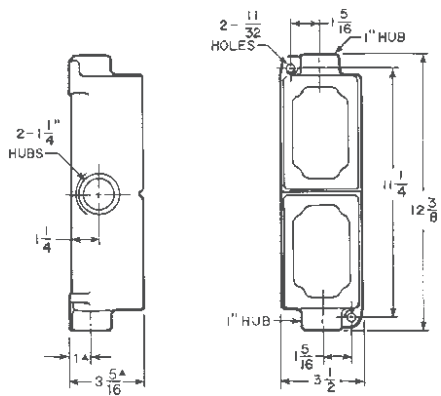
Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

Dimensions In Inches:

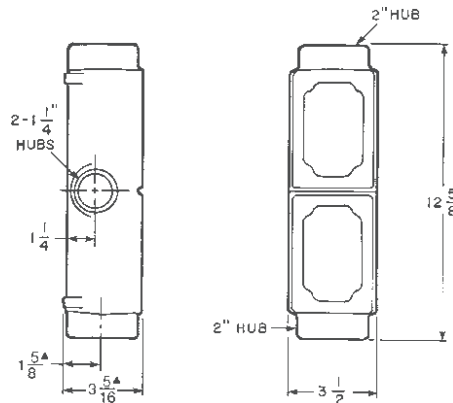
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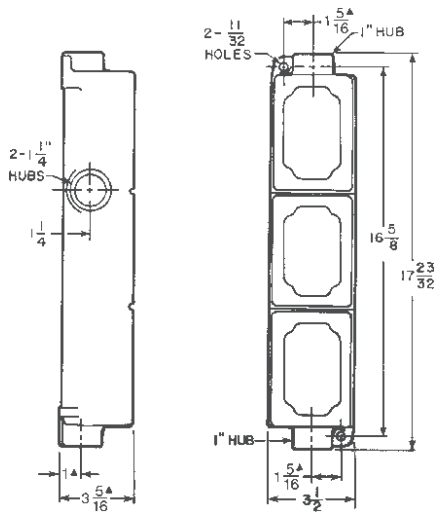
EDSCM21



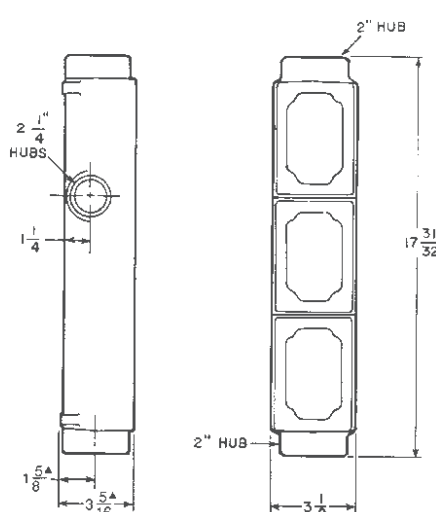
EDSCM32



EDSCM62



EDSCM33



EDSCM63

* When a CPS receptacle cover device is used, the assembly meets requirements for Class I, Groups C and D areas only. Dimensions are approximate. Not for construction purposes.

EDS / EFS Series Control Stations

DSD Cover and Device Sub-assemblies

Cl. I, Div. 1 & 2, Groups B*, C, D†
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III
NEMA 3, 7B*CD, 9EFG

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

4C

For use with EDSCM modular control device bodies see page 505 and EDS/EDSC back boxes.

Features:

- Large machine screws for fastening covers to bodies
- 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 flamatightness
- Accurately ground flange for flamatight joint when mated with ground flange on back box

Certifications and Compliances:

(When used with EDSCM & EDS bodies):

- NEC/CEC:
 - Class I, Division 1 & 2, Groups C, D†
 - Class I, Division 2, Groups B, C, D
 - Class II, Division 1, Groups E, F, G
 - Class II, Division 2, Groups F, G
 - Class III
- NEMA/EEMAC: 3, 7B (Div. 2) CD, 9EFG
- UL Standards: 894, 698
- CSA Standard: C22.2 No. 30

Pushbuttons, Pilot Lights & Selector Switches (when used with EFS bodies):

- NEC/CEC:
 - Class I, Division 1 & 2, Groups B, C, D
 - Class II, Division 1, Groups E, F, G
 - Class II, Division 2, Groups F, G
 - Class III
- NEMA/EEMAC: 3, 7BCD, 9EFG
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:

- Covers, front operated – *Feraloy* iron alloy and copper-free aluminum
 - Covers, side operated – copper-free aluminum
 - Shafts and shaft bushings – stainless steel
 - Rocker handles, pushbuttons and guards – type 6 / 6 nylon
 - Sealing enclosures – copper-free aluminum
- CPS delayed action receptacle cover:
- Receptacle housing – copper-free aluminum
 - Insulation – diallyl phthalate (DAP)
 - Contacts – brass

Standard Finishes:

- *Feraloy* – electrogalvanized and aluminum acrylic paint
- Copper-free aluminum – natural



Options:

The following special options are available by adding suffix to Cat. #:

Description	Suffix
• Lockout provision on front operated pushbutton cover (standard on buttons marked "STOP" and "OFF").....	S153
• Three-position selector switches with modified operation: Momentary contact clockwise operation, spring return to center, maintained contact counter-clockwise operation.....	S634
• Momentary contact counter-clockwise operation, spring return to center, maintained contact clockwise operation.....	S635
• Emergency "STOP" button momentary – front operated mushroom button breaks normally closed contacts (DL02 legend plate included - must specify legend text)	S111
• Bodies and covers – copper-free aluminum.....	SA
• For 24 VDC operation on pilot lights.....	S300
• Maintained contact mushroom head with lockout and guard (Will not fit with a pilot light if transformer is required).....	S769
• Spring return to center from right and left (For DEV43 or DEV44 only).....	S842
• Key Operated – removable from all positions.....	S847 K1
• Key Operated – removable from left position for DEV42 or from center for DEV43 and DEV44.....	S847 K2
• Key Operated – removable from right position for DEV42 or from left for DEV43 and DEV44.....	S847 K3
• Key Operated – removable from right position for DEV43 and DEV44.....	S847 K4

Ordering Information Manual Motor Starters

Poles	Max. H.P.	Max. Volts A.C.	Cat. #
With Allen-Bradley Bulletin 600 Switches			
1	1	115-230	DSD910 ①
2	1	115-230	DSD911 ①
With General Electric Switches			
1	1	115-230	DSD912 ①§
2	1	115-230	DSD913 ①§
With Cutler-Hammer Switches			
1	1	115-230	DSD914 ①§
2	1	115-230	DSD915 ①§
With Arrow-Hart Switches			
Without Overload Protection			
2	5	250 (30A)	DSD916
2	7.5	600 (30A)	DSD916
3	7.5	250 (30A)	DSD917
3	15	600 (20A)	DSD917



† When a CPS receptacle cover device is used, the assembly meets requirements for Class I, Groups C and D areas only.
* For pushbuttons, pilot lights, & selector switches, use EFS back box with required external conduit seal for 1 inch hub size, within 5 feet for Class I, Division 1, Group B applications.

§ A comparable factory sealed cover will fit on the EDSCM21 body, EDS and EDSC bodies and in bottom gang of EDSCM33 and EDSCM63 bodies. To order, add suffix S701 to catalog number.

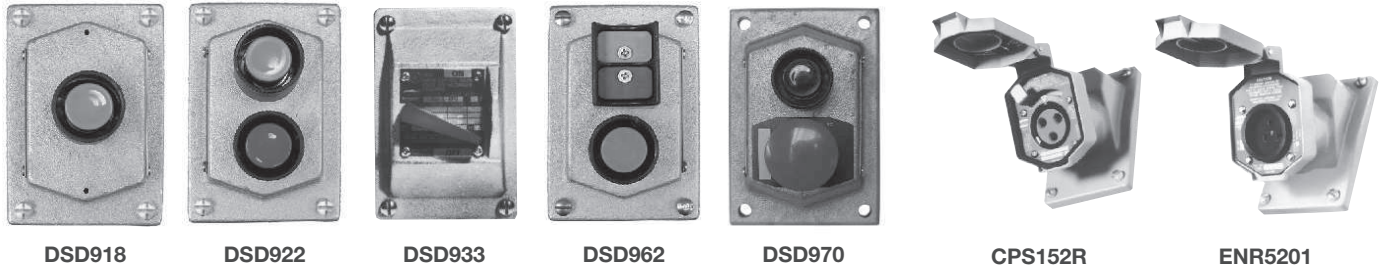
① Includes one interchangeable heater. To select heater see pages 463-464. Symbol 0 (zero) may be used to indicate heater omitted.

EDS / EFS Series Control Stations

DSD Cover and Device Sub-Assemblies

Cl. I, Div. 1 & 2, Groups B*, C, D†
 Cl. II, Div. 1, Groups E, F, G
 Cl. II, Div. 2, Groups F, G
 Cl. III
 NEMA 3, 7B*CD, 9EFG

Explosionproof
 Dust-Ignitionproof
 Raintight
 Wet Locations



For use with EDSCM modular control device bodies see page 505 & EFS/EDS back boxes.

Ordering Information

Front Operated Pushbutton Stations 600 VAC Heavy Duty, Factory Sealed

Number of Cover Buttons	Normal Position	Diagram	Cat. #
1	1 Circuit Universal		DSD918 ①
1	2 Circuits Universal		DSD919 ①
	2 Circuits		DSD920 ① ■
2	2 Circuits Universal		DSD921 ①
2	2 Circuits Start-Stop unless otherwise specified		DSD922 ① ■
2	2 Circuits Universal Mushroom Head		DSD970 ①
3 (2-operator)	3 Circuits Universal		DSD962 ①
3 (3-operator)	3 Circuits Universal		DS511 ① SA§
3 (3-operator)	3 Circuits Universal Double pilot light - single pushbutton combo		DS513 ① SA§
3 (3-operator)	3 Circuits Universal Double pushbutton - single pilot light combo		DS514 ① SA§

Front Operated General Use Snap Switch

Style	Amperes 120 VAC	277 VAC	Cat. #
1-Pole	20	20	DSD933‡
2-Pole	20	20	DSD934‡
3-Pole	▲	▲	DSD935⊗
3-Way	20	20	DSD936‡
4-Way	20	20	DSD937‡
1-Pole	30	30	DSD939⊗
2-Pole	30	30	DSD940⊗
3-Way	30	30	DSD941⊗

Delayed Action Receptacles Factory Sealed

Rating	Cat. #	Diagram
20 A, 1 HP, 125-250 VAC 60 Hertz 20 A, 18 VDC	CPS152R (2 wire, 3 pole)	
30 A, 1½ HP, 125-250 VAC 60 Hertz; 7 A, ½ HP, 480 VAC, 60 Hertz	CPS532R (2 wire, 3 pole)	
30 A, 3 HP, 125-250 VAC 60 Hertz; 7A, 1 HP, 480 VAC, 60 Hertz	CPS732R (3 wire, 4 pole)	
Rating	Cat. #	Diagram
20 A, 125 VAC	ENR5201	
20 A, 250 VAC	ENR6202	

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

START	OFF	RESET	LIGHT ON
STOP	RUN	TRIP	HAND
ON	JOG	TEST	AUTOMATIC
EMERGENCY	OPEN	DOWN	RAISE
FORWARD	CLOSE	IN	LOWER
REVERSE	UP	OUT	

* For pushbuttons, pilot lights, & selector switches, use EFS back box with required external conduit seal for 1 inch hub size, within 5 feet for Class I, Division 1, Group B applications.
 † When a CPS receptacle cover device is used, the assembly meets requirements for Class I, Groups C and D areas only.

■ Two universal contact blocks, must be wired as two circuits with one normally open and one normally closed. 1 green button, 1 red button, and lockout provision provided as standard.

▲ 16 Amp., 125V.
 10 Amp., 250V.

‡ To order a comparable factory sealed cover for EDS, EDSC, EDSCM21 and the bottom gang of EDSCM33 and EDSCM63 bodies, add suffix S697.

⊗ Cannot be factory sealed.

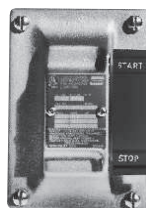
§ Can only be used with EFD Series 1½ gang back boxes. Pushbuttons include contact blocks. Standard pushbutton color is black. For optional colors - red, green - write in color. Example: DS511 GREEN BLACK RED-SA. First color is for uppermost button. For optional legend markings write in marking after device operator color. Example: DS513-J3 JOG-J1 STOP GREEN-SA.

EDS / EFS Series Control Stations

DSD Cover and Device Sub-Assemblies

Cl. I, Div. 1 & 2, Groups B*, C, D Explosionproof
 Cl. II, Div. 1, Groups E, F, G Dust-Ignitionproof
 Cl. II, Div. 2, Groups F, G Raintight
 Cl. III Wet Locations
 NEMA 3, 7B*CD, 9EFG

4C



DSD951



DSD925



DSD947-J1-J1



DSD958



DSD957



DSD961-J1

For use with EDSCM modular control device bodies see page 505 & EFS/EDS back boxes.

Ordering Information Side Operated Pushbutton Station

600 VAC Heavy Duty, Factory Sealed

Normal Position	Diagram	Cat. #
1 Circuit Universal		DSD949 ③
2 Circuits Universal		DSD950 ③
2 Circuits 1 Open - A 1 Closed - B Start-Stop unless otherwise specified		DSD951 ③

Selector Switches

Maintained Contact 600 VAC Heavy Duty, Factory Sealed

Style	Position 1	Position 2	Position 3	Cat. #
Two Circuit	A1	A2		DSD923 ④
Two Position Four Circuit	A1	A2	B1	DSD924 ④
	B2			
	A1	A2		DSD925 ④
Two Circuit	A1	A2		DSD926 ④
Three Position	B1	B2		
	A1	A2		DSD927 ④
Four Circuit	B1	B2		
	B2			

* For pushbuttons, pilot lights, & selector switches, use EFS back box with required external conduit seal for 1 inch hub size, within 5 feet for Class I, Division 1, Group B applications.
 ‡LED pilot lights can be furnished in place of standard incandescent pilot lamps. Add suffix LED to Cat. No. after last color symbol.

Pilot Light Devices† Factory Sealed

Description	Diagram	Cat. #
With one pilot light		DSD948 ①
With two pilot lights (Not available with a transformer)		DSD947 ①
With one pilot light and transformer		DSD948 ① ②
With one pilot light and pushbutton station		DSD958 ①
With one pilot light and 1 double pushbutton station		DSD961 ①
With one pilot light & transformer and 1 double pushbutton station		DSD961 ① ②
Triple pilot light		DS512 ① SA§
Double pilot light - single pushbutton combo		DS513 ① SA§
Double pushbutton - single pilot light combo		DS514 ① SA§

Blank Cover

Description	Cat. #
Blank Cover	DSD957

①Add color symbol for each pilot light from table below.

Color	Symbol	Color	Symbol	Color	Symbol
Red	J1	Amber	J6	Blue	J11
Green	J3	Clear	J10		

②Add suffix below for transformer primary voltage:

Transformers – Voltages above 125

Nom. Volts 50–60Hz Transformer	Primary Voltage Range	Suffix
220 / 110	220–240	T2
440 / 110	440–480	T4
550 / 110	550–600	T5

③ If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

START	OFF	RESET	LIGHT ON
STOP	RUN	TRIP	HAND
ON	JOG	TEST	AUTOMATIC
EMERGENCY	OPEN	DOWN	RAISE
FORWARD	CLOSE	IN	LOWER
REVERSE	UP	OUT	

④ Specify indicating plate markings. Standard indicating plate markings available are as follows:

Two-Position		
RUN, JOG	FAST, SLOW	IN, OUT
HAND, AUTOMATIC	OPEN, CLOSE	RAISE, LOWER
FORWARD, REVERSE	UP, DOWN	START, STOP
	ON, OFF	

Three-Position

JOG, OFF, RUN	1, OFF, 2
AUTOMATIC, OFF, HAND	OPEN, OFF, CLOSE
FORWARD, OFF, REVERSE	UP, OFF, DOWN
FAST, OFF, SLOW	

**DSD-SR Series Horsepower Rated Selector
Switch 30 A, 600 V; Front Operated**

Ordering Information

Switch Function	Cat. #	Number of Poles	Number of Positions	Connecting Diagram
ON/OFF	DSD SR30120	1	2	
	DSD SR30220	2	2	
	DSD SR30320	3	2	
	DSD SR30420	4	2	
	DSD SR30520	5	2	
	DSD SR30620	6	2	
DOUBLE-THROW without OFF	DSD SR30121	1	2	
	DSD SR30221	2	2	
	DSD SR30321	3	2	
DOUBLE-THROW without OFF with electrically isolated contacts	DSD SR30123	1	2	
	DSD SR30223	2	2	
	DSD SR30323	3	2	
DOUBLE-THROW with OFF	DSD SR30132	1	3	
	DSD SR30232	2	3	
	DSD SR30332	3	3	
DOUBLE-THROW with OFF and electrically isolated contacts	DSD SR30134	1	3	
	DSD SR30234	2	3	
	DSD SR30334	3	3	

4C

Electrical Specification

Voltage	Horsepower Rating	
	3PH	1PH
120	3	1.5
240	7.5	3
480	10	5
600	10	5

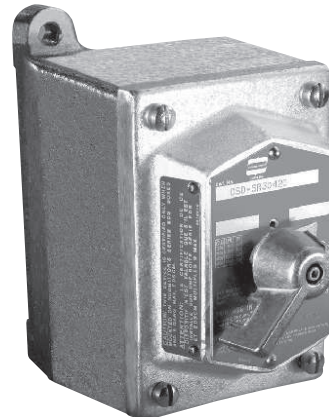
Maximum Current: 30 A
Heavy-duty A600 rating

Options:

Description

- Lockout for 2 position switch, handle in either position
- Lockout for 3 position switch, handle in either position

- Suffix **SX178**
- S349**



DSD-SR cover assembly shown mounted to an EDS back box

EDS / EFS Series Control Stations

Fully Assembled EFS and EDS Factory Sealed Devices

Cl. I, Div. 1 & 2, Groups B*, C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III
NEMA 3, 7B*CD, 9EFG

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

4C

Applications:

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 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 sealed devices have many distinct advantages:

- Reduce installation problems
- Eliminate external seals
- Lower installation costs
- Improve safety
- Are used with general purpose snap and pushbutton type switches
- Standard neoprene covers for front operated pushbuttons. Prevents accumulation of dirt and entrance of water around operating shafts
- Mounting lugs and taper tapped hubs with integral bushings
- Large machine screws for fastening covers to bodies
- Lockout provisions on front operated pushbutton (marked "STOP" and "OFF") and selector switch covers
- Lockout hole for padlock having 1/4" hasp is provided when used with covers for front lever and side rocker type operation
- Close tolerances in machining of wide, mating flanges and journalled shafts and bearings for front button operation, produces flametightness of enclosure joints
- On enclosures with front lever and side rocker type operating handles, threaded type shafts and bushings are used to ensure flametightness
- Dead end (EFS or EDS) or through feed (EFSC or EDSC) hubs – 1/2" to 1" sizes

Certifications and Compliances:

- NEC/CEC:
 - Class I, Division 1 & 2, Groups B*, C, D
 - Class II, Division 1, Groups E, F, G
 - Class II, Division 2, Groups F, G
 - Class III
- NEMA/EEMAC: 3, 7B*CD, 9EFG
- UL Standard: 1203
- CSA Standard: C22.2 No. 30

Standard Materials:

- Bodies – *Feraloy*[®] iron alloy; copper-free aluminum
- Front operated pushbutton and pilot light covers – *Feraloy* iron alloy
- Side operated type pushbutton covers – copper-free aluminum
- Shafts – stainless steel
- Shaft bushings – stainless steel
- Rocker handle and pushbutton guards – type 6 / 6 nylon
- Sealing enclosures – copper-free aluminum

Standard Finishes:

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

Options:

The following special options are available from the factory by adding suffix to Cat. #:

Description	Suffix
• Emergency "Stop" button (momentary) – front operated red mushroom button.....	S111
• Lockout provision on front operated pushbutton cover (standard on buttons marked "OFF" and "STOP").....	S153
• For 24 VDC operation on pilot lights.....	S300
• Three-position selector switches with modified operation: Momentary contact clockwise operation, spring return to center, maintained contact counter-clockwise operation.....	S634
• Momentary contact counter-clockwise operation, spring return to center, maintained contact clockwise operation....	S635
• Bodies and covers (single and two gang units) – copper-free aluminum.....	SA
• Where indicated in the catalog listings, EDS units suitable for Class I, Division 1, Group B usage can be supplied, add suffix -GB, EFS units are suitable for Class I, Division 1, Group B as standard.....	GB
• Maintained contact mushroom head with lockout and guard. May not be combined with a pilot light if a transformer is required.....	S769
• Spring return to center from right and left (For DEV43 or DEV44 only).....	S842

EDS bodies and factory sealed cover and device sub-assemblies are available for field assembly (see page 507).

*See suffix GB in Options section

4C

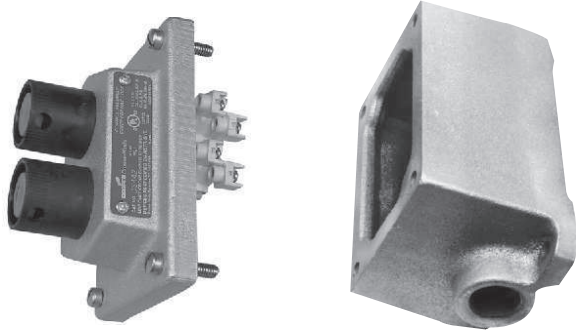
EDS / EFS Series Control Stations

Fully Assembled EFS and EDS Factory Sealed Devices

Cl. I, Div. 1 & 2, Groups B*, C, D Explosionproof
 Cl. II, Div. 1, Groups E, F, G Dust-Ignitionproof
 Cl. II, Div. 2, Groups F, G Raintight
 Cl. III Wet Locations
 NEMA 3, 7B*CD, 9EFG

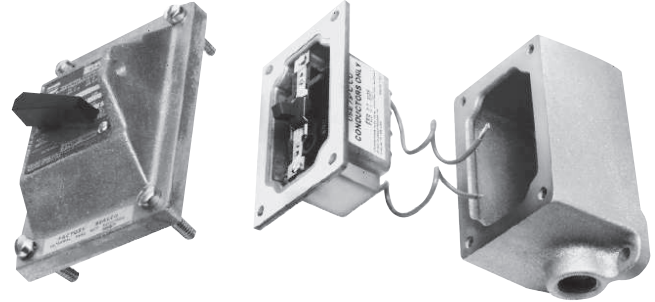
Methods of Factory Sealing

EFS/EDS Series



Factory sealed EDS and EFS 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 flame-tight joint.

EDS Series

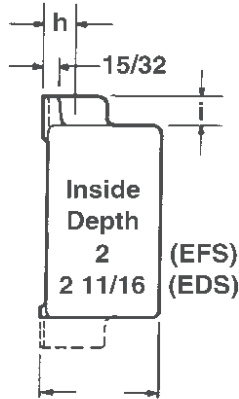


EDS factory sealed snap switches or manual motor starting switches do not need external sealing. The switches are enclosed in a unique sealing well with double flanges which mate with the cover and the body. Small, compact enclosures have accurately ground wide flanges on body, cover and sealing well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

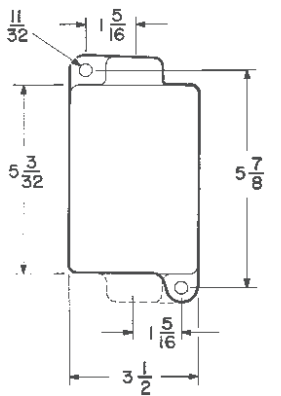
Dimensions (Inches) ‡

Bodies

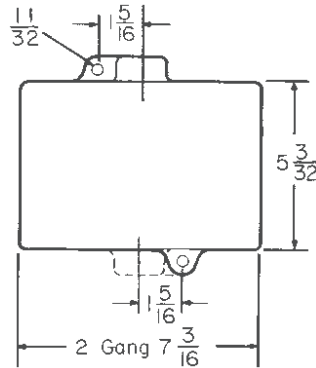
Hub Size	Dim. "h"	Dim. "i"
1/2	3/4	13/16
3/4	7/8	13/16
1	1	15/16



2 1/2 For EFS Series
 3 1/16 For EDS Series
 Side View

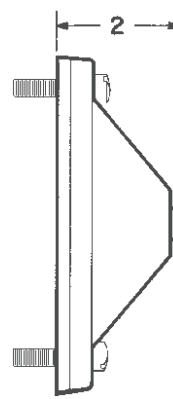


Front View - Single gang

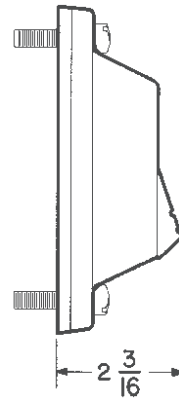


Front View - Two gang

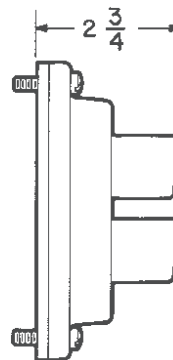
Covers†



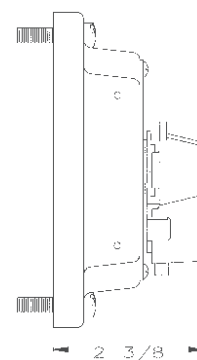
General use snap switch front operated and manual motor starting switch



Pushbutton switch rocker type side operated



Pushbutton switch front operated



Selector switch

*See suffix GB in Options section.

‡Dimensions are approximate, not for construction purposes.

† Surface covers have same length and width as bodies.

EDS / EFS Series Control Stations

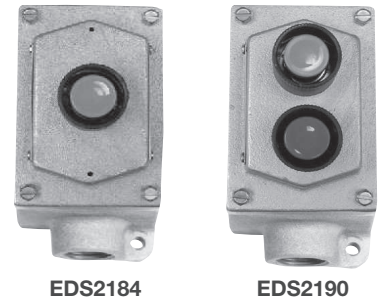
**Fully Assembled EDS Factory Sealed
Pushbutton Stations
Front Operated, 600VAC Heavy Duty**

Cl. I, Div. 1 & 2, Groups B*, C, D Explosionproof
Cl. II, Div. 1, Groups E, F, G Dust-Ignitionproof
Cl. II, Div. 2, Groups F, G Raintight
Cl. III Wet Locations
NEMA 3, 7B*CD, 9EFG

4C

Ordering Information - Single Gang

Normal Pos.	1 Circuit Universal	2 Circuits Universal	2 Circuits■	2 Circuits Universal	2 Circuits■
Marking	Specify	Specify	START-STOP unless otherwise specified	Specify	Specify
Diagram					
Replacement Pushbuttons‡	ED11	ED12	ED12■	ED12	ED12■

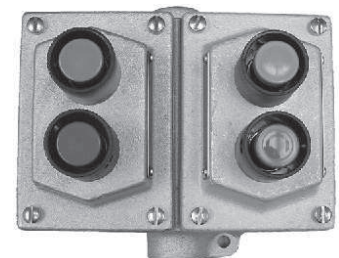


EDS2184

EDS2190

Enclosure with Pushbuttons

Hub Size	Cat. #	Cat. #	Cat. #	Cat. #§	Cat. #§
	Dead End				
1/2	EDS1184 ①		EDS115 ①		EDS1155 ①
3/4	EDS2184 ①	EDS2190 ①	EDS215 ①	EDS2192 ①	EDS2155 ①
1	EDS3184 ①	EDS3190 ①	EDS315 ①	EDS3192 ①	EDS3155 ①
	Through Feed				
1/2	EDSC1184 ①	EDSC1190 ①	EDSC115 ①	EDSC1192 ①	EDSC1155 ①
3/4	EDSC2184 ①	EDSC2190 ①	EDSC215 ①	EDSC2192 ①	EDSC2155 ①
1	EDSC3184 ①	EDSC3190 ①	EDSC315 ①	EDSC3192 ①	EDSC3155 ①



EDSC225

Dimensions

see page 512

Ordering Information - Two Gang

Normal Pos.	1 Circuit Universal	2 Circuits Universal	2 Circuits■
Marking	Specify	Specify	START-STOP unless otherwise specified
Diagram			
Replacement Pushbuttons‡	ED11	ED12	ED12■

Enclosure with Pushbuttons

Hub Size	Cat. #	Cat. #	Cat. #
	Dead End		
3/4	EDS2284 ①	EDS2290 ①	EDS225 ①
1	EDS3284 ①	EDS3290 ①	EDS325 ①
	Through Feed		
1/2	EDSC1284 ①	EDSC1290 ①	EDSC125 ①
3/4	EDSC2284 ①	EDSC2290 ①	EDSC225 ①
1	EDSC3284 ①	EDSC3290 ①	EDSC325 ①

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

START	OFF	RESET	LIGHT ON	EMERGENCY	OPEN	DOWN	RAISE
STOP	RUN	TRIP	HAND	FORWARD	CLOSE	IN	LOWER
ON	JOG	TEST	AUTOMATIC	REVERSE	UP	OUT	

* Class I, Group B: Consider using EFS series pushbuttons, see page 514. All enclosures listed above can be modified for Class I, Group B, Div. 1 usage. Add suffix GB to the Cat. No. Seals must be installed within 1/2" of each conduit opening in Division 1. These products are suitable for Group B, Div. 2 as listed, without external seals. In Canada, for Group B applications consult factory.

■ Two universal contact blocks, must be wired as two circuits, with one normally open and one normally closed.

§ Single external button operates both inner buttons simultaneously.

‡ For replacement contact blocks, see page 557.

4C EDS / EFS Series Control Stations

**Fully Assembled EFS Factory Sealed
Pushbutton Stations
Front Operated, 600VAC Heavy Duty**

Cl. I, Div. 1 & 2, Groups B*, C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III
NEMA 3, 7B*CD, 9EFG

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

Ordering Information

Normal Pos.	1 Circuit Universal	2 Circuits Universal	2 Circuits■	2 Circuits Universal	2 Circuits■
Marking	Specify	Specify	START-STOP unless otherwise specified	Specify	Specify
Diagram					
Replacement Pushbuttons‡	ED11	ED12	ED12■	ED12	ED12■



EFS2184



EFSC2190

Dimensions
see page 512

Enclosure with Pushbuttons

Hub Size	Cat. #	Cat. #	Cat. #	Cat. #	Cat. #
Dead End					
1/2	EFS1184 ①		EFS115 ①		EFS1155 ①
3/4	EFS2184 ①	EFS2190 ①	EFS215 ①	EFS2192 ①	EFS2155 ①
1	EFS3184 ①	EFS3190 ①	EFS315 ①	EFS3192 ①	EFS3155 ①
Through Feed					
1/2	EFSC1184 ①	EFSC1190 ①	EFSC115 ①	EFSC1192 ①	EFSC1155 ①
3/4	EFSC2184 ①	EFSC2190 ①	EFSC215 ①	EFSC2192 ①	EFSC2155 ①
1	EFSC3184 ①	EFSC3190 ①	EFSC315 ①	EFSC3192 ①	EFSC3155 ①

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

START	OFF	RESET	LIGHT ON	EMERGENCY	OPEN	DOWN	RAISE
STOP	RUN	TRIP	HAND	FORWARD	CLOSE	IN	LOWER
ON	JOG	TEST	AUTOMATIC	REVERSE	UP	OUT	

*Class I, Group B: All enclosures listed above are suitable for Class I, Group B, Div. 1 usage. Seals only have to be installed on 1 inch conduit within 5 ft. in Division 1.

‡For replacement contact blocks, see page 557.

■Two universal contact blocks, must be wired as two circuits, with one normally open and one normally closed.

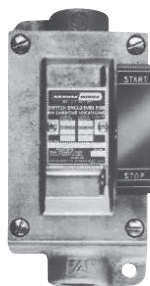
§Single external button operates both inner buttons simultaneously.

EDS / EFS Series Control Stations

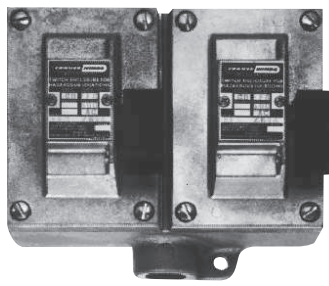
**Fully Assembled EDS Factory Sealed
Pushbutton Stations
Side Rocker Handle, 600VAC Heavy Duty**

Cl. I, Div. 1 & 2, Groups B*, C, D Explosionproof
Cl. II, Div. 1, Groups E, F, G Dust-Ignitionproof
Cl. II, Div. 2, Groups F, G Raintight
Cl. III Wet Locations
NEMA 3, 7B*CD, 9EFG

4C



EDSC2162



EDS2696

Dimensions

see page 512

Ordering Information - Single Gang

Normal Pos.	1 Circuit Universal	2 Circuits Universal	2 Circuits■
Marking	Specify	Specify	START-STOP unless otherwise specified
Diagram			
Replacement Pushbuttons‡	ED11	ED12	ED12■

Enclosure with Pushbuttons

Hub Size	Cat. #	Cat. #	Cat. #
Dead End			
1/2	EDS1596 ①		EDS1162 ①
3/4	EDS2596 ①	EDS2194 ①	EDS2162 ①
1	EDS3596 ①	EDS3194 ①	EDS3162 ①
Through Feed			
1/2	EDSC1596 ①	EDSC1194 ①	EDSC1162 ①
3/4	EDSC2596 ①	EDSC2194 ①	EDSC2162 ①
1	EDSC3596 ①	EDSC3194 ①	EDSC3162 ①

Two Gang

Normal Pos.	1 Circuit Universal	2 Circuits Universal	2 Circuits
Marking	Specify	Specify	START-STOP unless otherwise specified
Diagram			
Replacement Pushbuttons‡	ED11	ED12	ED12■

Enclosure with Pushbuttons

Hub Size	Cat. #	Cat. #	Cat. #
Dead End			
3/4	EDS2696 ①	EDS2294 ①	EDS2262 ①
1	EDS3696 ①	EDS3294 ①	EDS3262 ①
Through Feed			
1/2	EDSC1696 ①	EDSC1294 ①	EDSC1262 ①
3/4	EDSC2696 ①	EDSC2294 ①	EDSC2262 ①
1	EDSC3696 ①	EDSC3294 ①	EDSC3262 ①

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

START	OFF	RESET	LIGHT ON	EMERGENCY	OPEN	DOWN	RAISE
STOP	RUN	TRIP	HAND	FORWARD	CLOSE	IN	LOWER
ON	JOG	TEST	AUTOMATIC	REVERSE	UP	OUT	

*Class I, Group B: All enclosures listed above can be modified for Class I, Group B, Div. 1 usage. Add suffix GB to the Cat. No. Seals must be installed within 1 1/2" of each conduit opening in Division 1. These products are suitable for Group B, Div. 2 as listed, without external seals.

‡For replacement contact blocks, see page 557.

■Two universal contact blocks, must be wired as two circuits, with one normally open and one normally closed.

Cl. I, Div. 1 & 2, Groups B*, C, D
 Cl. II, Div. 1, Groups E, F, G
 Cl. II, Div. 2, Groups F, G
 Cl. III
 NEMA 3, 7B*CD, 9EFG

Explosionproof
 Dust-Ignitionproof
 Raintight
 Wet Locations

Applications:

EFS pilot lights are used:

- In areas which are hazardous due to the presence of flammable vapors, gases or highly combustible dusts
- For installation at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist
- To visually indicate at a remote location that the desired function is being performed

Features:

- Small, compact enclosures with accurately ground flange on both body and cover for flame-tight joint
- Pilot lights are factory sealed. Conventional external seals are not required
- Dead end (EFS) or through feed (EFSC) hubs – ½" to 1" sizes

Certifications and Compliances:

- NEC/CEC:
 - Class I, Groups B*, C, D
 - Class II, Groups E, F, G
 - Class III
- NEMA/EEMAC: 3, 7B*CD, 9EFG
- UL Standard: 1203
- CSA Standard: C22.2

Standard Materials:

- Bodies – *Feraloy*® iron alloy (U.S.) and copper-free aluminum (Canada)
- Pilot light covers – *Feraloy* iron alloy
- Operating shafts – stainless steel

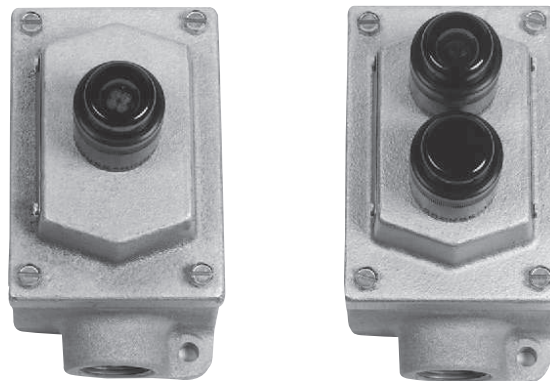
Standard Finishes:

- *Feraloy* iron alloy – electrogalvanized with aluminum acrylic paint
- Copper-free aluminum – natural
- Stainless steel – natural

Electrical Rating Range:

- Pilot lights – 110 to 600VAC

* External conduit seal required for 1 inch hub size in Division 1, Group B within 5 feet (1.5 meters) of enclosure.



Options:

The following special options are available from factory by adding suffix to Cat. #:

Description	Suffix
Pilot lights for circuit voltages up to 600 volts maximum (standard voltage range 110–125) – See Listings	
LED pilot lights in place of standard incandescent pilot lamps	LED
Bodies and covers – copper-free aluminum	SA
24 VDC operation on pilot lights	S300

EDS / EFS Series Control Stations

Fully Assembled EFS Pilot Lights

Cl. I, Div. 1 & 2, Groups B*, C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III
NEMA 3, 7B*CD, 9EFG

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

4C

Pilot lights listed below are factory sealed and do not require external seals*. Lamps are 6 watt, type S6, candelabra base for use on 110–125 volt circuits.

LED pilot lights can be provided in place of standard incandescent lamps by adding suffix LED after the color symbols. For Options see pages 516–517.

Enclosures with single pilot covers **only** can be equipped with a transformer for each lamp for high voltages as shown.

Transformer Voltages Above 125

Nominal Volts 50–60 Hertz Transformer	Primary Voltage Range	Cat. # Suffix
220 / 110	220–240	T2
440 / 110	440–480	T4
550 / 110	550–600	T5

Ordering Information

Enclosure with Single Pilot Light†

Hub Size	Dead End Cat. #	Through Feed Cat. #
1/2	EFS11524 ①	EFSC11524 ①
3/4	EFS21524 ①	EFSC21524 ①
1	EFS31524 ①	EFSC31524 ①

Enclosure with Double Pilot Lights‡

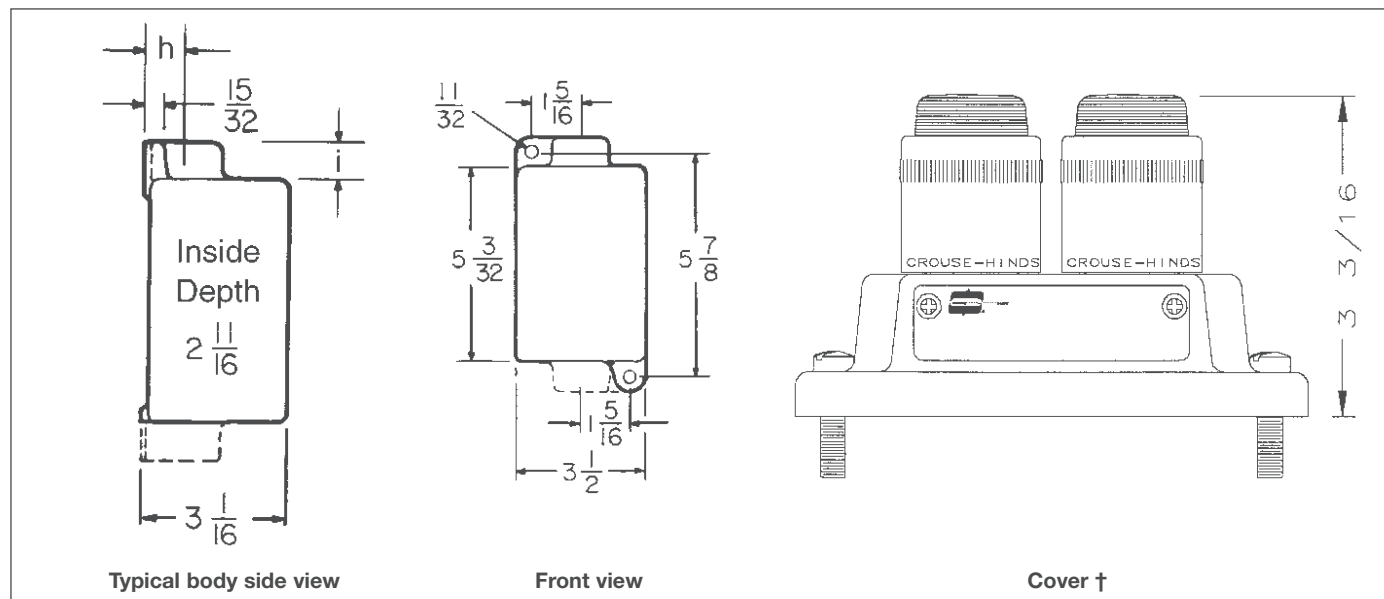
Hub Size	Dead End Cat. #	Through Feed Cat. #
1/2	EFS11561 ①	EFSC11561 ①
3/4	EFS21561 ①	EFSC21561 ①
1	EFS31561 ①	EFSC31561 ①

① Add color symbol for each pilot light from table below. Example: EFS11561 with red and green lights is EFS11561-J1-J3

Color	Symbol	Color	Symbol	Color	Symbol
Red	J1	Amber	J6	Blue	J11
Green	J3	Clear	J10		

Dimensions

In Inches:



Dimensions are approximate, not for construction purposes.

Hub Size	Dim. "h"	Dim. "i"
1/2	3/4	13/16
3/4	7/8	13/16
1	1	15/16

* External conduit seal required for 1 inch hub size in Division 1, Group B within 5 feet (1.5 meters) of enclosure.

‡ LED pilot lights can be furnished in place of standard incandescent pilot lamps.

† Add suffix LED to catalog number after color symbol.

† Surface covers have same length and width dimensions as bodies.

4C EDS / EFS Series Control Stations

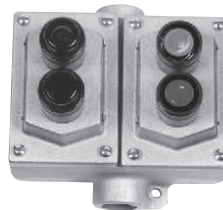
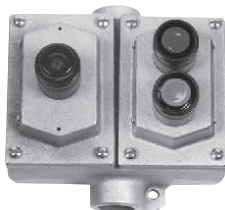
Fully Assembled EDS Factory Sealed Combination Pushbutton and Pilot Light Stations 600VAC, Heavy Duty

Cl. I, Div. 1 & 2, Groups B*, C, D
 Cl. II, Div. 1, Groups E, F, G
 Cl. II, Div. 2, Groups F, G
 Cl. III
 NEMA 3, 7B*CD, 9EFG

Explosionproof
 Dust-Ignitionproof
 Raintight
 Wet Locations

Pushbutton contacts and pilot light receptacles are sealed in separate chambers. External seals are not required. Lamps† are 6 watt, type S6, candelabra base for use on 110–125 volt circuits.

Two gang units with single pilot light covers can be furnished with transformers. Specify markings for each button. See table below listings.



Dimensions
 see page 512

4C

Ordering Information - Single Gang

Description	Dead End	Through Feed
No. Pushbuttons	1	1
No. Pilot Lights†	1	1
Diagram		

Ordering Information - Two Gang

	Dead End	Through Feed	Dead End	Through Feed
No. Pushbuttons	2	2	2	2
No. Pilot Lights†	1	1	2	2
Diagram				

Hub Size	Cat. #	Cat. #	Hub Size	Cat. #	Cat. #	Cat. #	Cat. #
1/2	EDS11473 ①②	EDSC11473 ①②	1/2	EDS12471 ①②	EDSC12471 ①②	EDS22868 ①②	EDSC22868 ①②
3/4	EDS21473 ①②	EDSC21473 ①②	3/4	EDS22471 ①②	EDSC22471 ①②	EDS32868 ①②	EDSC32868 ①②
1	EDS31473 ①②	EDSC31473 ①②	1	EDS32471 ①②	EDSC32471 ①②		

① Add color symbol for each pilot light from table below. Example: EDS21473 with a red light is EDS21473-J1

Color	Symbol	Color	Symbol	Color	Symbol
Red	J1	Amber	J6	Blue	J11
Green	J3	Clear	J10		

② If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

START	LIGHT ON	DOWN	RUN	FORWARD	ON	AUTOMATIC	OUT
STOP	EMERGENCY	RAISE	TRIP	CLOSE IN	JOG	REVERSE	
RESET	OPEN	STOP	HAND	LOWER	TEST	UP	

* All enclosures listed above can be modified for Class I, Group B, Division 1 usage. Add suffix GB to the Cat. No. Example: EDS11473-J1-GB. Conduit seal(s) must be installed within 1 1/2" of each conduit opening. These products are suitable for Group B, Div. 2 as listed, without external conduit seals.

† LED pilot lights can be furnished in place of standard incandescent pilot lamps. Add suffix LED to catalog number after color symbol. For 24 VDC operation on pilot lights add suffix S300.

EDS / EFS Series Control Stations

Cl. I, Div. 1 & 2, Groups B*, C, D
 Cl. II, Div. 1, Groups E, F, G
 Cl. II, Div. 2, Groups F, G
 Cl. III
 NEMA 3, 7B*CD, 9EFG

Explosionproof
 Dust-Ignitionproof
 Raintight
 Wet Locations

4C

**Fully Assembled EDS Factory Sealed
 Selector Switches
 Maintained Contact, 600VAC Heavy Duty**

Furnished with pushbuttons, cam actuated by a maintained contact selector mechanism to operate in the sequences shown in the diagrams below. Specify indicating plate markings. See table below listings.



EDS11273

Dimensions

see page 512

4C

Ordering Information - Single Gang

Style	Position 1	Position 2	Position 3	Replacement Contact Blocks†	Enclosure with Switch		
					Hub Size	Dead End Cat. #	Through Feed Cat. #
Two-Position, Two-Circuit	A1			ED11	1/2	EDS11271 ①	EDSC11271 ①
	A2				3/4	EDS21271 ①	EDSC21271 ①
					1	EDS31271 ①	EDSC31271 ①
Two-Position, Four-Circuit	A1			ED12	1/2	EDS11272 ①	EDSC11272 ①
	A2				3/4	EDS21272 ①	EDSC21272 ①
	B1				1	EDS31272 ①	EDSC31272 ①
	B2						
Three-Position, Two-Circuit ‡	A1			ED11	1/2	EDS11273 ①	EDSC11273 ①
	A2				3/4	EDS21273 ①	EDSC21273 ①
					1	EDS31273 ①	EDSC31273 ①
Three-Position, Four-Circuit ‡	A1			ED12	1/2	EDS11274 ①	EDSC11274 ①
	A2				3/4	EDS21274 ①	EDSC21274 ①
	B1				1	EDS31274 ①	EDSC31274 ①
	B2						
	A1			ED12	1/2	EDS11275 ①	EDSC11275 ①
	A2				3/4	EDS21275 ①	EDSC21275 ①
	B1				1	EDS31275 ①	EDSC31275 ①
B2							

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

Two-Position

RUN, JOG	FAST, SLOW	IN, OUT
HAND, AUTOMATIC	OPEN, CLOSE	RAISE, LOWER
FORWARD, REVERSE	UP, DOWN	START, STOP
	ON, OFF	

Three-Position

RUN, OFF, JOG	1, OFF, 2
HAND, OFF, AUTOMATIC	OPEN, OFF, CLOSE
FORWARD, OFF, REVERSE	UP, OFF, DOWN
FAST, OFF, SLOW	

*For Class I, Group B: Consider using EFS series selector switches, see page 520. All enclosures listed above can be modified for Class I, Group B, Div. 1 usage. Add suffix GB to the Cat. No. Seals must be installed within 1 1/2" of each conduit opening in Division 1. These products are suitable for Group B, Div. 2 as listed, without external seals. In Canada, for Group B applications consult factory.

† For replacement contact blocks, see page 557.

‡ Suffixes S634 or S635 may be used on these catalog numbers. See page 511 for explanation of options.

4C EDS / EFS Series Control Stations

**Fully Assembled EFS Factory Sealed
Selector Switches
Maintained Contact, 600VAC Heavy Duty**

Cl. I, Div. 1 & 2, Groups B*, C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III
NEMA 3, 7B*CD, 9EFG

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

Furnished with pushbuttons, cam actuated by a maintained contact selector mechanism to operate in the sequences shown in the diagrams below. Specify indicating plate markings. See table below listings.



EFS11273

Dimensions
see page 512

4C

Ordering Information - Single Gang

Style	Position 1	Position 2	Position 3	Replacement Contact Blocks†	Enclosure with Switch		
					Hub Size	Dead End Cat. #	Through Feed Cat. #
Two-Position, Two-Circuit	A1			ED11	1/2	EFS11271 ①	EFSC11271 ①
	A2				3/4	EFS21271 ①	EFSC21271 ①
					1	EFS31271 ①	EFSC31271 ①
Two-Position, Four-Circuit	A1			ED12	1/2	EFS11272 ①	EFSC11272 ①
	A2				3/4	EFS21272 ①	EFSC21272 ①
	B1				1	EFS31272 ①	EFSC31272 ①
	B2						
Three-Position, Two-Circuit ‡	A1			ED11	1/2	EFS11273 ①	EFSC11273 ①
	A2				3/4	EFS21273 ①	EFSC21273 ①
					1	EFS31273 ①	EFSC31273 ①
Three-Position, Four-Circuit ‡	A1			ED12	1/2	EFS11274 ①	EFSC11274 ①
	A2				3/4	EFS21274 ①	EFSC21274 ①
	B1				1	EFS31274 ①	EFSC31274 ①
	B2						
	A1			ED12	1/2	EFS11275 ①	EFSC11275 ①
	A2				3/4	EFS21275 ①	EFSC21275 ①
	B1				1	EFS31275 ①	EFSC31275 ①
B2							

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

Two-Position

RUN, JOG	FAST, SLOW	IN, OUT
HAND, AUTOMATIC	OPEN, CLOSE	RAISE, LOWER
FORWARD, REVERSE	UP, DOWN	START, STOP
	ON, OFF	

Three-Position

RUN, OFF, JOG	1, OFF, 2
HAND, OFF, AUTOMATIC	OPEN, OFF, CLOSE
FORWARD, OFF, REVERSE	UP, OFF, DOWN
FAST, OFF, SLOW	

*Class I, Group B: All enclosures listed above are suitable for Class I, Group B, Div. 1 usage. Seals only have to be installed on 1 inch conduit within 5 ft. in Division 1.

† For replacement contact blocks, see page 557.

‡ Suffixes S634 or S635 may be used on these catalog numbers. See page 511 for explanation of options.

EDS / EFS Series Control Stations

**Fully Assembled EDS Factory Sealed
General Use Snap Switches**

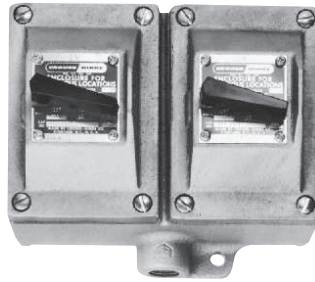
Cl. I, Div. 1 & 2, Groups B*, C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III
NEMA 3, 7B*CD, 9EFG

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations

4C



EDSC2129



EDS2229

Dimensions
see page 512

Ordering Information - General Use Snap Switch – Front Operated

Hub Size	Style†	Amperes		Single Gang		Two Gang‡		Factory Sealed Replacement Switch
		120VAC§	277VAC§	Dead End Cat. #	Through Feed Cat. #	Dead End Cat. #	Through Feed Cat. #	
3/4	1-pole	20	20	EDS2129	EDSC2129†	EDS2229	EDSC2229†	SW5
3/4	2-pole	20	20	EDS218	EDSC218†		EDSC228†	SW6
3/4	3-way	20	20	EDS2130	EDSC2130	EDS2230	EDSC2230	SW7
3/4	4-way	20	20	EDS2140	EDSC2140		EDSC2240	SW8
1	1-pole	20	20	EDS3129	EDSC3129†	EDS3229	EDSC3229†	SW5
1	2-pole	20	20	EDS318	EDSC318†	EDS328	EDSC328†	SW6
1	3-way	20	20	EDS3130	EDSC3130	EDS3230	EDSC3230	SW7
1	4-way	20	20	EDS3140	EDSC3140	EDS3240	EDSC3240	SW8

*Class I, Group B: All units on this page can be modified for Class I, Group B usage. Add suffix GB to the Cat. No. Seals must be installed within 1/8" of each conduit opening in Division 1. In Canada, for Group B applications consult factory.

† ON-OFF standard marking for 1-pole and 2-pole units.

‡ Combinations of switches can be furnished.

§ AC rated switches are tested for resistive, inductive and tungsten filament loads up to the full current rating and for motor loads up to 80% of the ampere rating.

4C

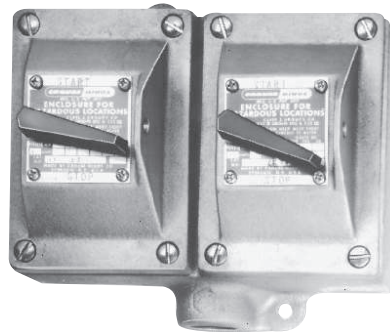
4C EDS / EFS Series Control Stations

**Fully Assembled EDS Factory Sealed
Manual Motor Starting Switches
and Enclosures**

Cl. I, Div. 1 & 2, Groups B*, C, D Explosionproof
Cl. II, Div. 1, Groups E, F, G Dust-Ignitionproof
Cl. II, Div. 2, Groups F, G Raintight
Cl. III Wet Locations
NEMA 3, 7B*CD, 9EFG



EDS2199



EDS2229

4C

Ordering Information

With Allen-Bradley Bulletin 600 Switches
Maximum HP Ratings

Poles	115-230 Volts AC	115-230 Volts DC	Allen-Bradley Switch Cat. #	
1	1 hp		A B BUL 600 T0X4	
2	1 hp	3/4 hp	A B BUL 600 T0X5	
Poles	Hub Size in.	Dead End Cat. #	Through Feed Cat. #	Factory Sealed Replacement Switch
Single Gang				
1	3/4	EDS2199 ①	EDSC2199 ①	SW9
	1	EDS3199 ①	EDSC3199 ①	SW9
2	3/4	EDS21100 ①	EDSC21100 ①	SW10
	1	EDS31100 ①	EDSC31100 ①	SW10
Two Gang				
1	3/4	EDS2299 ①	EDSC2299 ①	SW9
	1	EDS3299 ①	EDSC3299 ①	SW9
2	3/4	EDS22100 ①	EDSC22100 ①	SW10
	1	EDS32100 ①	EDSC32100 ①	SW10

① Heater Table (Allen Bradley)

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

These heaters are for motors rated 40°C continuously. For motors rated 50°C or 55°C, multiply full load motor 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. Select heater from the table below individual listings and use symbol number as second section of the Cat. No. Example: EDS21101-W5. Insert symbol 0 (zero) to omit heater.

* Class I, Group B: All units on this page can be modified for Class I, Group B usage. Add suffix GB to the Cat. No. Seals must be installed within 1/8" of each conduit opening in Division 1. In Canada, for Group B applications consult factory.

① Includes one interchangeable heater. Select from the heater table and use symbol number as second section of the Cat. No. Example: EDS2199-P5. Insert symbol 0 (zero) to omit heater.

EDS / EFS Series Control Stations

Fully Assembled EDS Factory Sealed Manual Motor Starting Switches and Enclosures

Cl. I, Div. 1 & 2, Groups B*, C, D Explosionproof
 Cl. II, Div. 1, Groups E, F, G Dust-Ignitionproof
 Cl. II, Div. 2, Groups F, G Raintight
 Cl. III Wet Locations
 NEMA 3, 7B*CD, 9EFG

4C

Ordering Information With General Electric Switches Maximum HP Ratings

Poles	115-230 Volts AC	115 Volts DC	230 Volts DC	G.E. Switch Cat. #
1	1 hp	1 hp	¼ hp	CR101 Y
2	1 hp	1 hp	1 hp	CR101 H

Poles	Hub Size in.	Dead End Cat. #	Through Feed Cat. #	Factory Sealed Replacement Switch
-------	--------------------	-----------------------	---------------------------	---

Single Gang

1	¾	EDS21093 ①	EDSC21093 ①	SW11
	1	EDS31093 ①	EDSC31093 ①	SW11
2	¾	EDS21094 ①	EDSC21094 ①	SW12
	1	EDS31094 ①	EDSC31094 ①	SW12

Two Gang

1	¾	EDS22093 ①	EDSC22093 ①	SW11
	1	EDS32093 ①	EDSC32093 ①	SW11
2	¾	EDS22094 ①	EDSC22094 ①	SW12
	1	EDS32094 ①	EDSC32094 ①	SW12

① Heater Table (General Electric)

Max. Motor Full-Load Amps	Crouse- Hinds Symbol Number	Max. Motor Full-Load Amps	Crouse- Hinds Symbol Number
.48	G2	3.01	G22
.53	G3	3.27	G23
.58	G4	3.56	G24
.65	G5	3.88	G25
.71	G6	4.22	G26
.78	G7	4.60	G27
.86	G8	5.00	G28
.95	G9	5.43	G29
1.04	G10	5.90	G30
1.14	G11	6.41	G31
1.25	G12	6.98	G32
1.37	G13	7.60	G33
1.49	G14	8.25	G34
1.63	G15	8.95	G35
1.78	G16	9.75	G36
1.95	G17	10.60	G37
2.13	G18	11.40	G38
2.32	G19	12.50	G39
2.53	G20	13.60	G40
2.76	G21	14.80	G41
		16.00	G42

Dimensions

see page 512

These heaters are for motors rated 40°C continuously. For motors rated 50°C or 55°C, multiply full load motor 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. Select heater from the table below individual listings and use symbol number as second section of the Cat. No. Example: EDS21101-W5. Insert symbol 0 (zero) to omit heater.

*Class I, Group B: All units on this page can be modified for Class I, Group B usage. Add suffix GB to the Cat. No. Seals must be installed within 1½" of each conduit opening in Division 1. In Canada, for Group B applications consult factory.

① Includes one interchangeable heater. Select from the heater table and use symbol number as second section of the Cat. No. Example: EDS2199-P5. Insert symbol 0 (zero) to omit heater.

Ordering Information With Cutler-Hammer Switches Maximum HP Ratings

Poles	120-240 Volts AC	32 Volts DC	120 Volts DC	240 Volts DC	Cutler-Hammer Switch Cat. #
1	1 hp	¼ hp			MST01
2	1 hp	¼ hp	1 hp	1 hp	MST02

Poles	Hub Size in.	Dead End Cat. #	Through Feed Cat. #	Factory Sealed Replacement Switch
-------	--------------------	-----------------------	---------------------------	---

Single Gang

1	¾	EDS21101 ①	EDSC21101 ①	SW13
	1	EDS31101 ①	EDSC31101 ①	SW13
2	¾	EDS21102 ①	EDSC21102 ①	SW14
	1	EDS31102 ①	EDSC31102 ①	SW14

Two Gang

1	¾	EDS22101 ①	EDSC22101 ①	SW13
	1	EDS32101 ①	EDSC32101 ①	SW13
2	¾	EDS22102 ①	EDSC22102 ①	SW14
	1	EDS32102 ①	EDSC32102 ①	SW14

① Heater Table (Cutler-Hammer)

Max. Motor Full-Load Amps	Crouse- Hinds Symbol Number	Max. Motor Full-Load Amps	Crouse- Hinds Symbol Number
.43	W1	2.95	W21
.48	W2	3.27	W22
.53	W3	3.59	W23
.58	W4	3.99	W24
.64	W5	4.39	W25
.71	W6	4.79	W26
.78	W7	5.26	W27
.87	W8	5.83	W28
.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		

4C EDS / EFS Series Control Stations

Fully Assembled EFS Fire Alarm Station

Cl. I, Div. 1, Groups B*, C, D Explosionproof
 Cl. I, Div. 2, Groups B, C, D Dust-Ignitionproof
 Cl. II, Div. 1, Groups E, F, G Raintight
 Cl. II, Div. 2, Groups F, G Wet Locations
 Cl. III
 NEMA 3, 7B*CD, 9EFG

Applications:

EFS Fire Alarm Stations are used:

- In areas which are hazardous due to the presence of flammable vapors, gases or highly combustible dusts
- For installation at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist
- To indicate at a remote location that a fire exists in the area

Features:

- Small, compact enclosures with accurately ground flange on both body and cover for flame-tight joint



EFS21095

Certifications and Compliances:

- NEC/CEC
 - Class I, Groups B*, C, D
 - Class II, Groups E, F, G
 - Class III
- NEMA/EEMAC: 3, 7B*CD, 9EFG
- UL Standard: 1203
- CSA Standard: C22.2
- As indicated under catalog listings, certain units can be supplied for Class I, Division 1, Group B (NEMA/EEMAC 7B). Seals must be installed within 1/2" of each conduit opening.

Standard Materials:

- Bodies – *Feraloy*[®] iron alloy (U.S.) and copper-free aluminum (Canada)

Standard Finishes:

- *Feraloy* iron alloy – electrogalvanized with aluminum acrylic paint
- Copper-free aluminum – natural
- Stainless steel – natural

Options:

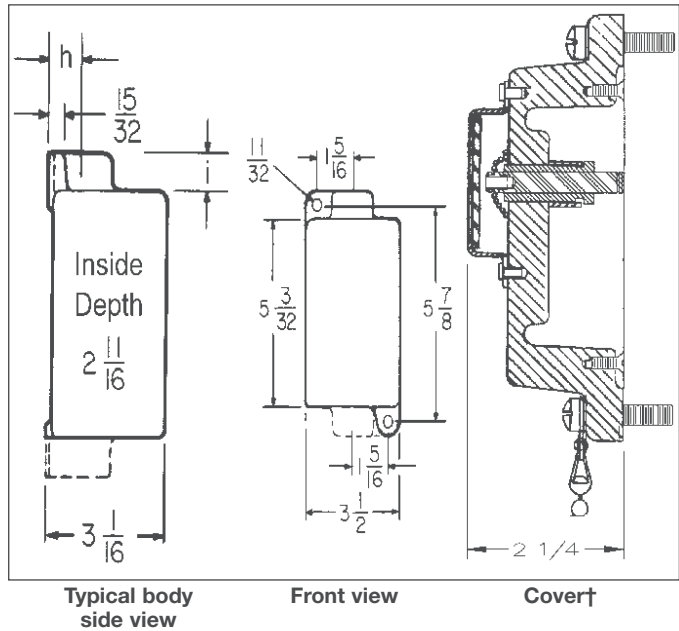
The following special option is available from factory by adding suffix to Cat. #:

Description	Suffix
Where indicated in the catalog listings, units suitable for Class I, Division 1, Group B usage can be supplied.....	GB*

Ordering Information

Hub Size	Dead End Cat. #	Through Feed Cat. #
3/4	EFS21095	EFSC21095

Dimensions In Inches:



Hub Size	Dim. "h"	Dim. "i"
1/2	3/4	13/16
3/4	7/8	13/16
1	1	13/16

Dimensions are approximate, not for construction purposes.

†Surface covers have same length and width dimensions as bodies.

*Class I, Group B option: Units listed above can be modified for Class I, Division 1, Group B usage. Add suffix GB to the Cat. No. Example: EFS21095-GB. Seals must be installed within 1/2" of each conduit opening.

Control Stations and their Sub-assemblies

Complete Control Station	Sub-assembly		Notes and Requirements
	Cover & Device	Cast Back Box	
PUSHBUTTONS			
EDS2184	DSD918	EDS271	
EDSC2184	DSD918	EDSC271	
EDS215	DSD922	EDS271	Start/ Stop Legend included
EDSC215	DSD922	EDSC271	Start/ Stop Legend included
EDS2190	DSD921	EDS271	
EDSC2190	DSD921	EDSC271	
EDS2184-S769-EM-SP	DSD918-S769-EM-SP	EDS271	Emergency Stop Legend included
EDSC2184-S769-EM-SP	DSD918-S769-EM-SP	EDSC271	Emergency Stop Legend included
EDS2284	(2) DSD918	EDS272	
EDSC2284	(2) DSD918	EDSC272	
EDS225	(2) DSD922	EDS272	Start/ Stop Legend included
EDSC225	(2) DSD922	EDSC272	Start/ Stop Legend included
EDS2290	(2) DSD921	EDS272	
EDSC2290	(2) DSD921	EDSC272	
PILOT LIGHTS			
EFS21524-J*	DSD948-J*	EDS271 †	* Insert pilot light color
EFSC21524-J*	DSD948-J*	EDSC271 †	† When using the EFS Series pilot light in Cl. I, Div. 2 applications, the EFS back box is required in place of the EDS.
EFS21561-J*-J*	DSD947-J*-J*	EDS271 †	
EFSC21561-J*-J*	DSD947-J*-J*	EDSC271 †	
PUSHBUTTON / PILOT LIGHT COMBINATIONS			
EDS21473-J*	DSD958-J*	EDS271	* Insert pilot light color
EDSC21473-J*	DSD958-J*	EDSC271	* Insert pilot light color
EDS22471-J*	DSD948-J* & DSD921	EDS272	* Insert pilot light color
EDSC22471-J*	DSD948-J* & DSD921	EDSC272	* Insert pilot light color
EDS22868-J*-J*	DSD947-J*-J* & DSD921	EDS272	* Insert pilot light color
EDSC22868-J*-J*	DSD947-J*-J* & DSD921	EDSC272	* Insert pilot light color
SELECTOR SWITCHES			
EDS21271	DSD923	EDS271	
EDSC21271	DSD923	EDSC271	
EDS21272	DSD924	EDS271	
EDSC21272	DSD924	EDSC271	
EDS21273	DSD925	EDS271	
EDSC21273	DSD925	EDSC271	
EDS21274	DSD926	EDS271	
EDSC21274	DSD926	EDSC271	
EDS21275	DSD927	EDS271	
EDSC21275	DSD927	EDSC271	
MANUAL MOTOR STARTER WITH O/L			
EDS21101	DS415A & SW13	EDS271	"-W * " for heater, or "-0" distributor provided
EDSC21101	DS415A & SW13	EDSC271	"-W * " for heater, or "-0" distributor provided
EDS21102	DS415A & SW14	EDS271	"-W * " for heater, or "-0" distributor provided
EDSC21102	DS415A & SW14	EDSC271	"-W * " for heater, or "-0" distributor provided
EDS21093	DS415A & SW11	EDS271	"-G * " for heater, or "-0" distributor provided
EDSC21093	DS415A & SW11	EDSC271	"-G * " for heater, or "-0" distributor provided
EDS21094	DS415A & SW12	EDS271	"-G * " for heater, or "-0" distributor provided
EDSC21094	DS415A & SW12	EDSC271	"-G * " for heater, or "-0" distributor provided
EDS2199	DS415A & SW9	EDS271	"-P * " for heater, or "-0" distributor provided
EDSC2199	DS415A & SW9	EDSC271	"-P * " for heater, or "-0" distributor provided
EDS21100	DS415A & SW10	EDS271	"-P * " for heater, or "-0" distributor provided
EDSC21100	DS415A & SW10	EDSC271	"-P * " for heater, or "-0" distributor provided

Sub-assembly Reference Guide

Control Stations and their Sub-assemblies

Complete Control Station	Sub-assembly		Notes and Requirements
	Cover & Device	Cast Back Box	
MANUAL MOTOR STARTER			
EFD218-T8	DSD916	EDS271	
Alternative	DS415A & SQ D 2510 KO-1	EDS271	SQ D switch provided by distributor
EFDC218-T8	DSD916	EDSC271	
Alternative	DS415A & SQ D 2510 KO-1	EDSC271	SQ D switch provided by distributor
EFD2419	DSD917	EDS271	
Alternative	DS415A & GE 2368S	EDS271	GE switch provided by distributor
EFDC2419	DSD917	EDSC271	
Alternative	DS415A & GE 2368S	EDSC271	GE switch provided by distributor
SNAP SWITCHES			
EDS2129	DS652 & SW5	EDS271	
Alternative	DSD933	EDS271	External Sealing Fitting Required
EDSC2129	DS652 & SW5	EDSC271	
Alternative	DSD933	EDSC271	External Sealing Fitting Required
EDS218	DS652 & SW6	EDS271	
Alternative	DSD634	EDS271	External Sealing Fitting Required
EDSC218	DS652 & SW6	EDSC271	
Alternative	DSD634	EDSC271	External Sealing Fitting Required
EDS2130	DS652 & SW7	EDS271	
Alternative	DSD936	EDS271	External Sealing Fitting Required
EDSC2130	DS652 & SW7	EDSC271	
Alternative	DSD936	EDSC271	External Sealing Fitting Required
EDS2140	DS652 & SW8	EDS271	
Alternative	DSD937	EDS271	External Sealing Fitting Required
EDSC2140	DS652 & SW8	EDSC271	
Alternative	DSD937	EDSC271	External Sealing Fitting Required
EDS2229	(2) DS652 & (2) SW5	EDS272	
Alternative	(2) DSD933	EDS272	External Sealing Fitting Required
EDSC2229	(2) DS652 & (2) SW5	EDSC272	
Alternative	(2) DSD933	EDSC272	External Sealing Fitting Required
EDSC228	(2) DS652 & (2) SW6	EDSC272	
Alternative	(2) DSD634	EDSC272	External Sealing Fitting Required
EDS2230	(2) DS652 & (2) SW7	EDS272	
Alternative	(2) DSD936	EDS272	External Sealing Fitting Required
EDSC2230	(2) DS652 & (2) SW7	EDSC272	
Alternative	(2) DSD936	EDSC272	External Sealing Fitting Required
EDSC2240	(2) DS652 & (2) SW8	EDSC272	
Alternative	(2) DSD937	EDSC272	External Sealing Fitting Required
ROCKER SWITCHES			
EDS2596	DSD949	EDS271	
EDSC2596	DSD949	EDSC271	
EDS2162	DSD951	EDS271	Start/ Stop Legend included
EDSC2162	DSD951	EDSC271	Start/ Stop Legend included
EDS2194	DSD950	EDS271	
EDSC2194	DSD950	EDSC271	
EDS2696	(2) DSD949	EDS272	Start/ Stop Legend included
EDSC2696	(2) DSD949	EDSC272	Start/ Stop Legend included
EDS2262	(2) DSD951	EDS272	
EDSC2262	(2) DSD951	EDSC272	
EDS2294	(2) DSD950	EDS272	
EDSC2294	(2) DSD950	EDSC272	

Additional notes:

- See Cooper Crouse-Hinds installation instructions for any possible additional sealing requirements.
- Part numbers listed with 3/4" hub in back box (Ex. EDS2184). For 1/2" hub change the "2" to "1" (EDS1184). For 1" hub change the "2" to "3" (EDS3184).
- Control Stations with "Stop" legend have Lockout provided as standard.
- Pilot Light Colors J*-- J1= Red, J3= Green, J6= Amber, J10= Clear, J11= Blue. LED Pilot Lights are available with LED Suffix.
- Pilot Light Transformers for voltages over 125V. Suffix T2= 240/220 - 110V, T4= 480/440 - 110V, T5= 600/550 - 110V (Not available on double pilot cover).
- Standard Legend Plate markings are available by adding nomenclature after the part number (EDS2184-Run).
- Selector Switch Nameplate kits available. 2-Pos = "SS2KIT", 3-Pos = "SS3KIT". See Replacement Parts book for additional information.
- Copper-Free Aluminum Bodies and Covers available with SA Suffix.
- Additional Control Station Options may be found in section 4C.
- Group B ratings may be achieved by adding the GB suffix or using the EFS back box. See part number instructions for the item required.
- Group B ratings may already be achieved when used in Class I, Division 2 applications. See Certifications and Compliances for item required.
- Additional Control Station configurations available through the FlexStation Component series.

Pushbutton Stations, Selector Switches and Pilot Lights 600 VAC Heavy Duty

Applications:

MC pushbuttons or selector switches are used:

- In conjunction with magnetic starters or contactors for remote control of motors

MC pilot lights are used:

- To visually indicate at a remote point that the desired function is being performed (motor running, etc.)

MC pushbuttons, selector switches or pilot lights are used:

- In damp, wet or corrosive locations such as dairies, meat packing plants, chemical plants and outdoor locations

Features:

- Enclosures are compact in design, and gasketed to meet NEMA/EEMAC 3 or 4 requirements as noted in catalog listings
- Pushbutton stations with side rocker handle are furnished with a lockout arrangement on "STOP" position as standard
- Dead end (MC) or through feed (MCC) hubs - 1/2" and 3/4" sizes - with mounting feet
- Standard lockout on "STOP" and "OFF" button on front operated pushbutton covers
- Standard lockout on selector switch covers. Locks two or three position switch handle in any position.

Certifications and Compliances:

- NEMA/EEMAC 3, 4
- UL Standard: 508
- CSA Encl. 3, 4, 5

Standard Materials:

- Bodies - *Feraloy*® iron alloy
- Cover with side rocker handle - copper-free aluminum
- Front pushbutton, selector switch and pilot light covers - *Feraloy* iron alloy
- Rocker handle and pushbutton guards - type 6 / 6 nylon
- Selector switch handle - copper-free aluminum
- Operating shafts - stainless steel

Standard Finishes:

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

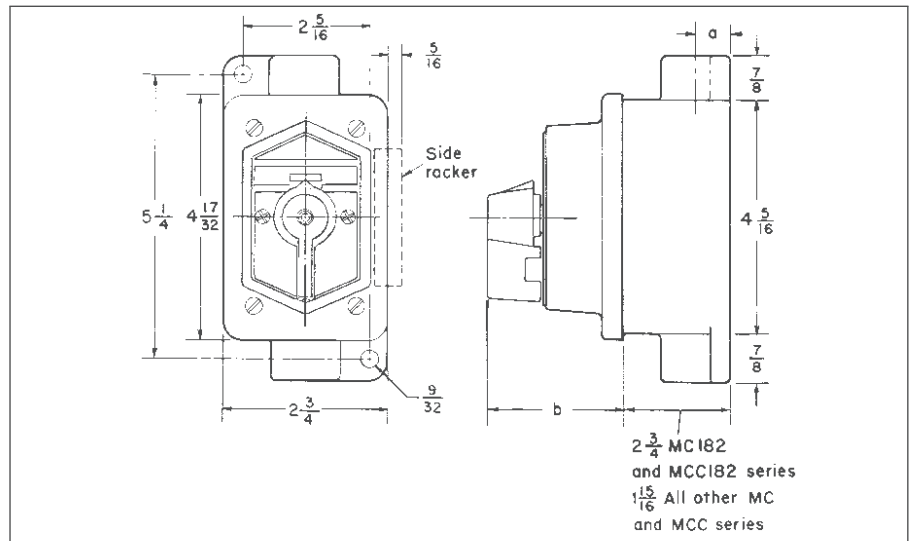
Options:

The following special options are available by adding suffix to Cat. #:

Description	Suffix
Lockout provision on front operated pushbutton (standard on buttons marked "OFF" and "STOP").....	S153
Neoprene covers for front operated pushbuttons. Meets NEMA 4 requirements and prevents accumulation of dirt around operating shafts.....	S323
Three-position selector switches with modified operation:	
Momentary contact clockwise operation, spring return to center, maintained contact counter-clockwise operation.....	S634
Momentary contact counter-clockwise operation, spring return to center, maintained contact clockwise operation.....	S635
Multiple gang bodies. Two gang, two gang tandem and three, four or five gang bodies can be supplied with combinations of single gang devices.....	Specify
LED pilot lights in place of standard incandescent pilot lamps.....	LED

Dimensions

In Inches*:



Hub size	a	Type of Cover	b
1/2	5/8	Side Rocker Handle	1 1/2
3/4	3/4	Front Pushbutton	2 3/8
		Selector Switch	2 3/8
		Pilot Light	1 1/16

*Dimensions are approximate, not for construction purposes.

**Pushbutton Stations, Selector Switches
and Pilot Lights
600 VAC Heavy Duty**



MC dead end side rocker handle



MCC through feed side rocker handle



MC dead end front pushbutton



MCC through feed front pushbutton

**Ordering Information - With Side Rocker Handles
Watertight, NEMA 3, 4**

Normal Positions	Marking	Diagram	Replacement Contact Blocks‡	Enclosure with Rocker Handles		
				Hub Size	Dead End Cat. #	Through Feed Cat. #
1 Circuit Universal	Specify		ED11	1/2	MC1810U1 ①	MCC1810U1 ①
				3/4	MC2810U1 ①	MCC2810U1 ①
2 Circuits Universal	Specify		ED12	1/2	MC1810U ①	MCC1810U ①
				3/4	MC2810U ①	MCC2810U ①
2 Circuits	START-STOP					
1 Open - A	otherwise		ED12*	1/2	MC1810 ①	MCC1810 ①
1 Closed - B	specified			3/4	MC2810 ①	MCC2810 ①

**Ordering Information - With Front Pushbuttons
Weather Resistant, NEMA 3 §**

Normal Positions	Marking	Diagram	Replacement Contact Blocks‡	Enclosure with Pushbuttons		
				Hub Size	Dead End Cat. #	Through Feed Cat. #
1 Circuit Universal	Specify		ED11	1/2	MC1910U1 ①	MCC1910U1 ①
				3/4	MC2910U1 ①	MCC2910U1 ①
2 Circuits Universal	Specify		ED12	1/2	MC1910U ①	MCC1910U ①
				3/4	MC2910U ①	MCC2910U ①
2 Circuits	START-STOP					
1 Open - A	otherwise		ED12*	1/2	MC1910 ①	MCC1910 ①
1 Closed - B	specified			3/4	MC2910 ①	MCC2910 ①

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

START	OFF	RESET	LIGHT ON
STOP	RUN	TRIP	HAND
ON	JOG	TEST	AUTOMATIC
EMERGENCY	OPEN	DOWN	RAISE
FORWARD	CLOSE	IN	LOWER
REVERSE	UP	OUT	

*Two universal contact blocks, must be wired as two circuits, with one normally open and one normally closed.

§ For Watertight NEMA 4 rating, use suffix S323 (Neoprene button covers). See Options section.

‡For replacement pushbuttons see page 557

**Pushbutton Stations, Selector Switches
and Pilot Lights
600 VAC Heavy Duty**



MC dead end selector switch

Ordering Information - Selector Switches

Furnished with pushbutton contact blocks, cam actuated by a maintained contact selector mechanism to operate in the sequences shown in the diagrams below.

Style	Maintained Contact			Replacement Contact Blocks*	Enclosure with Selector Switch		
	Position 1	Position 2	Position 3		Hub Size	Dead End Cat. #	Through Feed Cat. #
Two-Position, Two-Circuit	A1 A2			ED11	1/2 3/4	MC11271 ① MC21271 ①	MCC11271 ① MCC21271 ①
Two-Position, Four-Circuit	A1 A2 B1 B2			ED12	1/2 3/4	MC11272 ① MC21272 ①	MCC11272 ① MCC21272 ①
Three-Position, Two-Circuit †	A1 A2			ED11	1/2 3/4	MC11273 ① MC21273 ①	MCC11273 ① MCC21273 ‡
Three-Position, Four-Circuit †	A1 A2 B1 B2			ED12	1/2 3/4	MC11274 ① MC21274 ①	MCC11274 ① MCC21274 ①
	A1 A2 B1 B2			ED12	1/2 3/4	MC11275 ① MC21275 ①	MCC11275 ① MCC21275 ①

① If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

START	OFF	RESET	LIGHT ON
STOP	RUN	TRIP	HAND
ON	JOG	TEST	AUTOMATIC
EMERGENCY	OPEN	DOWN	RAISE
FORWARD	CLOSE	IN	LOWER
REVERSE	UP	OUT	



MC dead end pilot light

Ordering Information - Pilot Lights‡

Primary Voltage Range	Lamp Base	Lamp Watts	Enclosure with Jewel Cover and Lamp		
			Hub Size	Dead End Cat. #	Through Feed Cat. #
110-125	Candelabra	6	1/2	MC180 J1	MCC180 J1
110-125	Candelabra	6	3/4	MC-280-J1	MCC280 J1
220-250	Intermediate	10	1/2	MC184 J1	MCC184 J1
220-250	Intermediate	10	3/4	MC-284-J1	MCC284 J1
440-480	Candelabra	6	1/2	MC182 J1	MCC182 J1
440-480	Candelabra	6	3/4	MC282 J1	MCC282 J1

* For replacement contact blocks see page 557.

† Suffixes S634 or S635 may be used on these catalog numbers. See explanation in Options section.

‡ LED pilot lights can be furnished in place of standard incandescent pilot lamps. Add suffix LED after color symbol (J1).

N2S and N2SC Series Control Stations

**Factory Sealed, Corrosion-Resistant
600VAC Heavy Duty**

Cl. I, Div. 2, Groups B, C, D
NEMA 3, 4X, 7BCD (Div. 2), 12
Watertight
Weatherproof
Dust-tight

Applications:

N2S and N2SC pushbutton stations, selector switches and pilot lights are suitable for use:

- In Class I, Groups B, C, D; Division 2 hazardous areas where flammable vapors or gases may be present due to accidental or abnormal operation
- In damp, wet, or corrosive locations
- Indoors or outdoors in Division 2 areas of petroleum refineries, chemical plants and other process industry facilities where similar hazards exist

N2S and N2SC pushbutton stations and selector switches are used:

- In conjunction with magnetic starters or contactors for remote control of motors
- N2S and N2SC pilot lights are used:
- To visually indicate at a remote location that the desired function is being performed

Optional maintained stop pushbutton(s) are used: As emergency or normal stop button(s) in motor control circuits for positive shutdown.

Features:

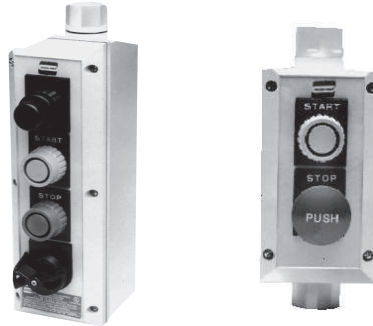
- Pushbutton stations, pilot lights, and selector switch devices are factory sealed. External seals are not required.
- Enclosures are made of Krydon® fiberglass-reinforced polyester material having excellent corrosion resistance and stability to heat and sunlight.
- Optional maintained stop feature operates by depressing the mushroom head pushbutton. Pushbutton must be manually pulled before start button can be actuated.
- Lockout is standard on selector switch devices.
- Factory installed dead end (N2S) or through feed (N2SC) hubs – 1/2", 3/4", and 1" sizes.
- Indicating plates are available with a choice of 40 standard markings.
- Grounding plate included with each hub.

Certifications and Complies:

- NEC: Class I, Division 2, Groups B, C & D
- NEMA: 3, 4X, 7BCD (Division 2) and 12
- UL Standard: 1203
- CSA Standard: C22.2 Nos. 14 & 30

Electrical Rating Ranges:

- Pushbutton stations and selector switches – heavy duty 600 VAC maximum
- Pilot lights – 120 to 600 VAC



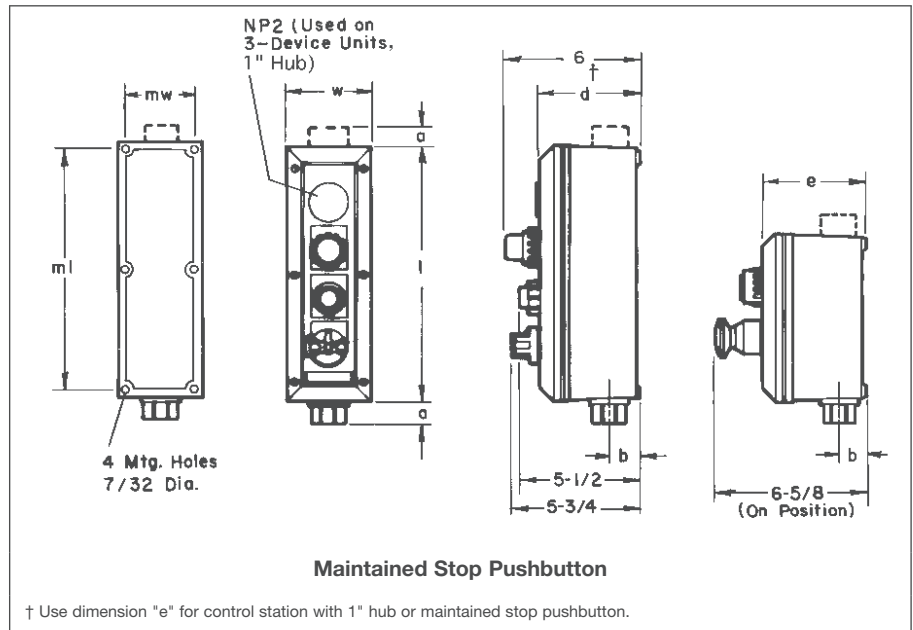
Options:

The following special options are available from factory by adding suffix to Cat. #:

Description	Suffix
Padlock attachments for all pushbuttons. For "START-STOP" stations, only "STOP" button provided with lockout.....	S708
Three position selector switches with modified operation:	
Momentary contact clockwise operation, spring return to center, maintained contact counterclockwise operation.....	S634
Momentary contact counterclockwise operation, spring return to center, maintained contact clockwise operation.....	S635
Control station with maintained stop pushbutton (requires NCD type enclosure):	
One maintained stop pushbutton.....	MSR1
Two maintained stop pushbuttons.....	MSR2
Maintained stop pushbuttons are installed at bottom position(s) of control station unless otherwise specified.	
LED pilot lights in place of standard incandescent pilot lamps.....	LED

Dimensions

In Inches:



Dimensions are approximate, not for construction purposes.

N2S(C) Body Style	Outside Dims.		(NCS)* (NCD)*		Mounting Dims.		1/2" & 3/4" Hubs		1" Hubs	
	l	w	d	e	ml	mw	a	b	a	b
1 or 2 devices	7 1/4	3 13/16	4 3/8	5 3/8	6 3/8	2 15/16	1 1/8	1 1/16	1 1/4	1 5/16
3 or 4 devices	11 3/4	3 13/16	4 3/8	5 3/8	10 7/8	2 15/16	1 1/8	1 1/16	1 1/4	1 5/16

*NCS box is supplied with units using 1/2" and 3/4" hubs. NCD box is supplied with units using 1" hubs or MSR option.
‡ NCD 4 device box used with 1" hubs or MSR option.

N2S and N2SC Series Control Stations

Factory Sealed, Corrosion-Resistant
600VAC Heavy Duty

Cl. I, Div. 2, Groups B, C, D
NEMA 3, 4X, 7BCD (Div. 2), 12
Watertight
Weatherproof
Dust-tight

4C

Ordering Information - With Pilot Lights†*

No. Units	Diagram	Volts	Enclosure with Pilot Lights ½" Hubs		¾" Hubs		1" Hubs	
			Dead End Cat. #	Through Feed Cat. #	Dead End Cat. #	Through Feed Cat. #	Dead End Cat. #	Through Feed Cat. #
1		120	N2S1131 ①	N2SC1131 ①	N2S2131 ①	N2SC2131 ①	N2S3131 ①	N2SC3131 ①
		240	N2S1132 ①	N2SC1132 ①	N2S2132 ①	N2SC2132 ①	N2S3132 ①	N2SC3132 ①
		480	N2S1134 ①	N2SC1134 ①	N2S2134 ①	N2SC2134 ①	N2S3134 ①	N2SC3134 ①
		600	N2S1135 ①	N2SC1135 ①	N2S2135 ①	N2SC2135 ①	N2S3135 ①	N2SC3135 ①
2		120	N2S1231 ①	N2SC1231 ①	N2S2231 ①	N2SC2231 ①	N2S3231 ①	N2SC3231 ①
		240	N2S1232 ①	N2SC1232 ①	N2S2232 ①	N2SC2232 ①	N2S3232 ①	N2SC3232 ①
		480	N2S1234 ①	N2SC1234 ①	N2S2234 ①	N2SC2234 ①	N2S3234 ①	N2SC3234 ①
		600	N2S1235 ①	N2SC1235 ①	N2S2235 ①	N2SC2235 ①	N2S3235 ①	N2SC3235 ①
3		120	N2S1331 ①	N2SC1331 ①	N2S2331 ①	N2SC2331 ①	N2S3331 ①	N2SC3331 ①
		240	N2S1332 ①	N2SC1332 ①	N2S2332 ①	N2SC2332 ①	N2S3332 ①	N2SC3332 ①
		480	N2S1334 ①	N2SC1334 ①	N2S2334 ①	N2SC2334 ①	N2S3334 ①	N2SC3334 ①
		600	N2S1335 ①	N2SC1335 ①	N2S2335 ①	N2SC2335 ①	N2S3335 ①	N2SC3335 ①
4		120	N2S1431 ①	N2SC1431 ①	N2S2431 ①	N2SC2431 ①	N2S3431 ①	N2SC3431 ①
		240	N2S1432 ①	N2SC1432 ①	N2S2432 ①	N2SC2432 ①	N2S3432 ①	N2SC3432 ①
		480	N2S1434 ①	N2SC1434 ①	N2S2434 ①	N2SC2434 ①	N2S3434 ①	N2SC3434 ①
		600	N2S1435 ①	N2SC1435 ①	N2S2435 ①	N2SC2435 ①	N2S3435 ①	N2SC3435 ①

Ordering Information - With Selector Switches

Style	Switch Position			Marking Unless Otherwise Specified	Enclosure With Selector Switch		
	1	2	3		Hub Size	Dead End Cat. #	Through Feed Cat. #
Two-Position, Two-Circuit	A1			START-STOP (or Specify)	½	N2S1121 ②	N2SC1121 ②
	A2				¾	N2S2121 ②	N2SC2121 ②
					1	N2S3121 ②	N2SC3121 ②
Two-Position, Four-Circuit	A1			START-STOP (or Specify)	½	N2S1122 ②	N2SC1122 ②
	A2				¾	N2S2122 ②	N2SC2122 ②
	B1				1	N2S3122 ②	N2SC3122 ②
Three-Position, Two-Circuit †	A1			Specify	½	N2S1123 ②	N2SC1123 ②
	A2				¾	N2S2123 ②	N2SC2123 ②
					1	N2S3123 ②	N2SC3123 ②
Three-Position, Four-Circuit †	A1			Specify	½	N2S1124 ②	N2SC1124 ②
	A2				¾	N2S2124 ②	N2SC2124 ②
	B1				1	N2S3124 ②	N2SC3124 ②
Three-Position, Four-Circuit †	A1			Specify	½	N2S1125 ②	N2SC1125 ②
	A2				¾	N2S2125 ②	N2SC2125 ②
	B1				1	N2S3125 ②	N2SC3125 ②

① Specify lens color for each pilot light. As an example, N2S1231 with one red and one green would be ordered as N2S1231-J1-J3.

Color	Symbol	Color	Symbol
Red	J1	Clear	J10
Green	J3	Blue	J11
Amber	J6		

② If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

Marking

	REVERSE	Selector Switches – Two-Position:	Selector Switches – Three-Position:
Pushbuttons:	REVERSE		
START	OPEN		
STOP	CLOSE	RUN-JOG	RUN-OFF-JOG
ON	UP	HAND-AUTO	HAND-OFF-AUTO
OFF	DOWN	FOR-REV	FOR-OFF-REV
RUN	IN	FAST-SLOW	FAST-OFF-SLOW
JOG	OUT	OPEN-CLOSE	1-OFF-2
TRIP	RAISE	UP-DOWN	OPEN-OFF-CLOSE
RESET	LOWER	ON-OFF	UP-OFF-DOWN
TEST		IN-OUT	
LIGHT ON		RAISE-LOWER	
HAND		START-STOP	
AUTOMATIC			
EMERGENCY			
FORWARD			

† Pilot lights are transformer type except those rated 120 volts. Lamp type is 120MB, 120 volts, 3 watts.

* LED pilot lights are available. Add suffix LED after last color symbol. See Options Sections for more information.

† Suffixes S634 or S635 may be used on these catalog numbers. See explanation in Options section.

N2S and N2SC Series Control Stations

Factory Sealed, Corrosion-Resistant
600VAC Heavy Duty

Cl. I, Div. 2, Groups B, C, D
NEMA 3, 4X, 7BCD (Div. 2), 12
Watertight
Weatherproof
Dust-tight

Ordering Information - With Pushbuttons – Momentary Contact

No. Units	Contact Symbol	Marking Unless Otherwise Specified	Enclosure with Pushbuttons		
			Hub Size	Dead End Cat. #	Through Feed Cat. #
1		START (or Specify)	1/2	N2S1110 ②	N2SC1110 ②
			3/4	N2S2110 ②	N2SC2110 ②
			1	N2S3110 ②	N2SC3110 ②
2		START-STOP (or Specify)	1/2	N2S1210 ②	N2SC1210 ②
			3/4	N2S2210 ②	N2SC2210 ②
			1	N2S3210 ②	N2SC3210 ②
3		Specify	1/2	N2S1310 ②	N2SC1310 ②
			3/4	N2S2310 ②	N2SC2310 ②
			1	N2S3310 ②	N2SC3310 ②
4		Specify	1/2	N2S1410 ②	N2SC1410 ②
			3/4	N2S2410 ②	N2SC2410 ②
			1	N2S3410 ②	N2SC3410 ②

4C

Ordering Information - Combination Control Stations

Pilot Lights*	Pushbuttons	Diagram	Markings	Enclosure With Pushbuttons and Pilot Lights						
				Hub Size	Volts	Dead End Cat. #	Through Feed Cat. #	Volts	Dead End Cat. #	Through Feed Cat. #
1	1		Specify	1/2	120	N2S12411 ①②	N2SC12411 ①②	480	N2S12414 ①②	N2SC12414 ①②
				3/4		N2S22411 ①②	N2SC22411 ①②		N2S22414 ①②	N2SC22414 ①②
				1		N2S32411 ①②	N2SC32411 ①②		N2S32414 ①②	N2SC32414 ①②
			Specify	1/2	240	N2S12412 ①②	N2SC12412 ①②	600	N2S12415 ①②	N2SC12415 ①②
				3/4		N2S22412 ①②	N2SC22412 ①②		N2S22415 ①②	N2SC22415 ①②
				1		N2S32412 ①②	N2SC32412 ①②		N2S32415 ①②	N2SC32415 ①②
1	2		Specify	1/2	120	N2S13421 ①②	N2SC13421 ①②	480	N2S13424 ①②	N2SC13424 ①②
				3/4		N2S23421 ①②	N2SC23421 ①②		N2S23424 ①②	N2SC23424 ①②
				1		N2S33421 ①②	N2SC33421 ①②		N2S33424 ①②	N2SC33424 ①②
			Specify	1/2	240	N2S13422 ①②	N2SC13422 ①②	600	N2S13425 ①②	N2SC13425 ①②
				3/4		N2S23422 ①②	N2SC23422 ①②		N2S23425 ①②	N2SC23425 ①②
				1		N2S33422 ①②	N2SC33422 ①②		N2S33425 ①②	N2SC33425 ①②
2	1		Specify	1/2	120	N2S13411 ①②	N2SC13411 ①②	480	N2S13414 ①②	N2SC13414 ①②
				3/4		N2S23411 ①②	N2SC23411 ①②		N2S23414 ①②	N2SC23414 ①②
				1		N2S33411 ①②	N2SC33411 ①②		N2S33414 ①②	N2SC33414 ①②
			Specify	1/2	240	N2S13412 ①②	N2SC13412 ①②	600	N2S13415 ①②	N2SC13415 ①②
				3/4		N2S23412 ①②	N2SC23412 ①②		N2S23415 ①②	N2SC23415 ①②
				1		N2S33412 ①②	N2SC33412 ①②		N2S33415 ①②	N2SC33415 ①②
2	2		Specify	1/2	120	N2S14421 ①②	N2SC14421 ①②	480	N2S14424 ①②	N2SC14424 ①②
				3/4		N2S24421 ①②	N2SC24421 ①②		N2S24424 ①②	N2SC24424 ①②
				1		N2S34421 ①②	N2SC34421 ①②		N2S34424 ①②	N2SC34424 ①②
			Specify	1/2	240	N2S14422 ①②	N2SC14422 ①②	600	N2S14425 ①②	N2SC14425 ①②
				3/4		N2S24422 ①②	N2SC24422 ①②		N2S24425 ①②	N2SC24425 ①②
				1		N2S34422 ①②	N2SC34422 ①②		N2S34425 ①②	N2SC34425 ①②

① See page 533

② See page 533

* LED pilot lights are available. Add suffix LED after last color symbol. See Options Sections for more information.





N2S and N2SC Series Control Stations

**Factory Sealed, Corrosion-Resistant
600VAC Heavy Duty**

Cl. I, Div. 2, Groups B, C, D
NEMA 3, 4X, 7BCD (Div. 2), 12
Watertight
Weatherproof
Dust-tight

4C

Ordering Information - Combination Control Stations

Pilot Lights*	Push buttons	Selector Switches Position No.			Markings	Enclosure With Pilot Light, Pushbuttons and Selector Switch						
		1	2	3		Hub Size	Volts	Dead End Cat. #	Through Feed Cat. #	Volts	Dead End Cat. #	Through Feed Cat. #
		2-Pos, 2-Cct			Specify	1/2		N2S145211 ①②	N2SC145211 ①②		N2S145214 ①②	N2SC145214 ①②
		3/4	120	N2S245211 ①②		N2SC245211 ①②	480	N2S245214 ①②	N2SC245214 ①②			
		1		N2S345211 ①②		N2SC345211 ①②		N2S345214 ①②	N2SC345214 ①②			
		1/2		N2S145212 ①②		N2SC145212 ①②		N2S145215 ①②	N2SC145215 ①②			
		3/4	240	N2S245212 ①②		N2SC245212 ①②	600	N2S245215 ①②	N2SC245215 ①②			
		1		N2S345212 ①②		N2SC345212 ①②		N2S345215 ①②	N2SC345215 ①②			
		3-Pos, 2-Cct			Specify	1/2		N2S145231 ①②	N2SC145231 ①②		N2S145234 ①②	N2SC145234 ①②
		3/4	120	N2S245231 ①②		N2SC245231 ①②	480	N2S245234 ①②	N2SC245234 ①②			
		1		N2S345231 ①②		N2SC345231 ①②		N2S345234 ①②	N2SC345234 ①②			
		1/2		N2S145232 ①②		N2SC145232 ①②		N2S145235 ①②	N2SC145235 ①②			
		3/4	240	N2S245232 ①②		N2SC245232 ①②	600	N2S245235 ①②	N2SC245235 ①②			
		1		N2S345232 ①②		N2SC345232 ①②		N2S345235 ①②	N2SC345235 ①②			

① Specify lens color for each pilot light. As an example, N2S1231 with one red and one green would be ordered as N2S1231-J1-J3.

Color	Symbol	Color	Symbol
Red	J1	Clear	J10
Green	J3	Blue	J11
Amber	J6		

② If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

Marking		Selector Switches – Two-Position:		Selector Switches – Three-Position:	
Pushbuttons:		REVERSE			
START		OPEN			
STOP		CLOSE	RUN-JOG	RUN-OFF-JOG	
ON		UP	HAND-AUTO	HAND-OFF-AUTO	
OFF		DOWN	FOR-REV	FOR-OFF-REV	
RUN		IN	FAST-SLOW	FAST-OFF-SLOW	
JOG		OUT	OPEN-CLOSE	1-OFF-2	
TRIP		RAISE	UP-DOWN	OPEN-OFF-CLOSE	
RESET		LOWER	ON-OFF	UP-OFF-DOWN	
TEST			IN-OUT		
LIGHT ON			RAISE-LOWER		
HAND			START-STOP		
AUTOMATIC					
EMERGENCY					
FORWARD					

‡ Pilot lights are transformer type except those rated 120 volts. Lamp type is 120MB, 120 volts, 3 watts.

* LED pilot lights are available. Add suffix LED after last color symbol. See Options Sections for more information.

† Suffixes S634 or S635 may be used on these catalog numbers. See explanation in Options section.

Ordering Information - Custom-Built, Factory Assembled Control Stations

To order your custom-built factory assembled control station, select the enclosure required and add the desired devices from listings below.

Custom-built factory assembled control stations may thus be ordered as follows:

Requirements:

3-device control station on *Krydon*® material enclosure with 3/4" through feed hubs, with 1 pilot light with green jewel, rated at 120V; 1 three position, two circuit selector switch marked HAND-OFF-AUTO; and 1 green single circuit pushbutton marked START.

ORDER:

NCDC23FA

N2P310-J3

N2SW11311-HAND-OFF-AUTO

N2PS1111G-START

Pilot light jewel symbol, pushbutton and selector switch plate markings are selected from footnote tables. Suffix FA indicates factory assembled.

Note that order of assembly of control stations should be listed in desired mounting order, reading from top to bottom of enclosure.

Enclosures (NCD or NCDC enclosures must be used with MSR1 or MSR2)

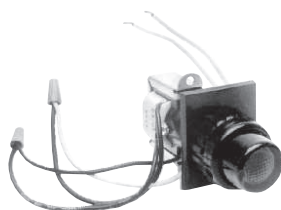
No. of Devices	Without Hubs Cat. #	With One Hub 1/2" Cat. #	With Two Hub 1/2" Cat. #	With One Hub 3/4" Cat. #	With Two Hub 3/4" Cat. #	With One Hub 1" Cat. #	With Two Hub 1" Cat. #
1	NCD01	NCD11	NCDC11	NCD21	NCDC21	NCD31	NCDC31
2	NCD02	NCD12	NCDC12	NCD22	NCDC22	NCD32	NCDC32
3	NCD03	NCD13	NCDC13	NCD23	NCDC23	NCD33	NCDC33
4	NCD04	NCD14	NCDC14	NCD24	NCDC24	NCD34	NCDC34

No. of Devices	Without Hubs Cat. #	With One Hub (3/4") Cat. #	With Two Hub (3/4") Cat. #	With One Hub (1/2") Cat. #	With Two Hub (1/2") Cat. #
1	NCS01	NCS21	NCSC21	NCS11	NCSC11
2	NCS02	NCS22	NCSC22	NCS12	NCSC12
3	NCS03	NCS23	NCSC23	NCS13	NCSC13
4	NCS04	NCS24	NCSC24	NCS14	NCSC14

Pilot Lights†*

Transformer Type

Volts	Cat. #
120	N2PL10 ①
240	N2PL20 ①
480	N2PL40 ①
600	N2PL50 ①



Pilot lights to be used in N2SU Series:

Red	N2PLU10 J1 LED
Green	N2PLU10 J3 LED
Amber	N2PLU10 J6 LED
Clear	N2PLU10 J10 LED
Blue	N2PLU10 J11 LED

① Specify lens color for each pilot light using symbols below.

Color	Symbol	Color	Symbol
Red	J1	Clear	J10
Green	J3	Blue	J11
Amber	J6		

† Pilot lights are transformer type except those rated 120 volts. Lamp type is 120MB, 120 volts, 3 watts.

* LED pilot lights are available. Add suffix LED after last color symbol. See Options Sections for more information.

N2S and N2SC Series Control Stations

Factory Sealed, Corrosion-Resistant
600VAC Heavy Duty

Cl. I, Div. 2, Groups B, C, D
NEMA 3, 4X, 7BCD (Div. 2), 12
Watertight
Weatherproof
Dust-tight

4C

Pushbutton Stations – Momentary Contact

Color of Operator	1 Circuit		2 Circuit	
	Contact Symbol	Universal Cat. #	Contact Symbol	Universal Cat. #
Natural		N2PS1111 ②		N2PS1211 ②
Red		N2PS1111R ②		N2PS1211R ②
Green		N2PS1111G ②		N2PS1211G ②
Red Mushroom Head		N2PM1111 S111 ②		



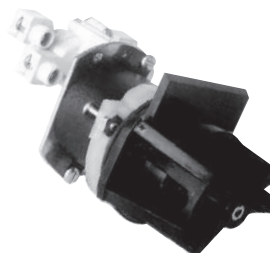
Closure Plug



Description	Cat. #
Closure Plug	NP2

Selector Switches

Style	Position 1	Position 2	Position 3	Cat. #
Two Position Two Circuit	A1 A2			N2SW11211 ②
Two Position Four Circuit	A1 A2 B1 B2			N2SW12221 ②
Three Position Two Circuit †	A1 A2			N2SW11311 ②
Three Position Four Circuit †	A1 A2 B1 B2			N2SW12321 ②
Three Position Four Circuit †	A1 A2 B1 B2			N2SW12322 ②



② If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

Marking

Pushbuttons:	REVERSE	Selector Switches –	Selector Switches –
START	OPEN	Two-Positions:	Three-Position:
STOP	CLOSE	RUN-JOG	RUN-OFF-JOG
ON	UP	HAND-AUTO	HAND-OFF-AUTO
OFF	DOWN	FOR-REV	FOR-OFF-REV
RUN	IN	FAST-SLOW	FAST-OFF-SLOW
JOG	OUT	OPEN-CLOSE	1-OFF-2
TRIP	RAISE	UP-DOWN	OPEN-OFF-CLOSE
RESET	LOWER	ON-OFF	UP-OFF-DOWN
TEST		IN-OUT	
LIGHT ON		RAISE-LOWER	
HAND		START-STOP	
AUTOMATIC			
EMERGENCY			
FORWARD			

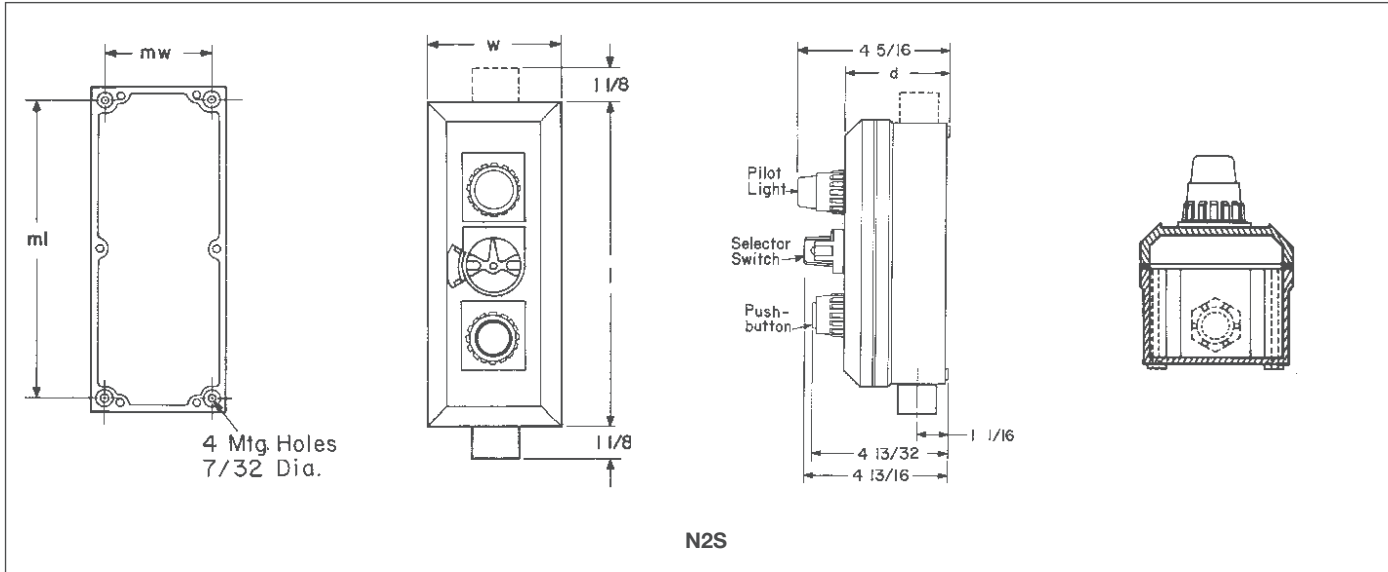
† Suffixes S634 or S635 may be used on these catalog numbers. See explanation in Options section.

N2S and N2SC Series Control Stations

Factory Sealed, Corrosion-Resistant
600VAC Heavy Duty

Cl. I, Div. 2, Groups B, C, D
NEMA 3, 4X, 7BCD (Div. 2), 12
Watertight
Weatherproof
Dust-tight

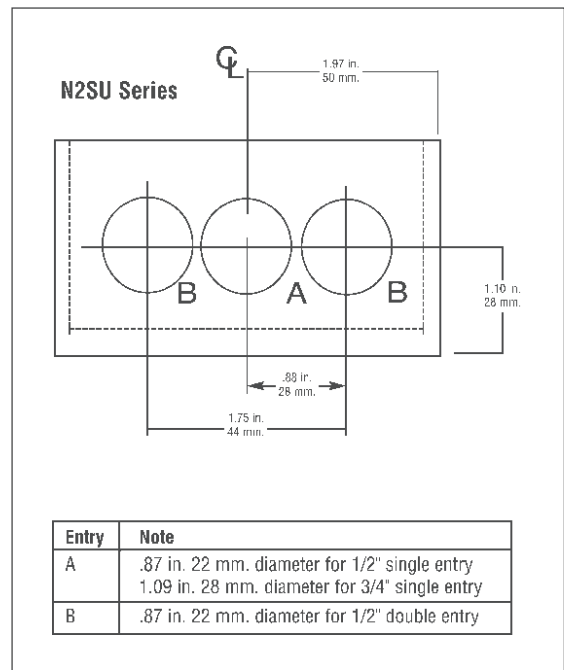
Dimensions In Inches:



N2S

For 1/2" and 3/4" hub sizes (for 1" hub and/or MSR option, see page 530).

N2S(C) Body Style	Outside Dimensions			Mounting Dimensions	
	l	w	d	ml	mw
1 device	7 1/4	3 13/16	4 3/8	6 3/8	21 5/16
2 devices	7 1/4	3 13/16	4 3/8	6 3/8	21 5/16
3 devices	9 1/2	3 13/16	4 3/8	8 3/8	21 5/16
4 devices	11 1/4	3 13/16	4 3/8	10 3/8	21 5/16



N2SU/N2SCU Control Stations

**Factory Sealed, Corrosion-Resistant
600VAC Heavy Duty**

Cl. I, Div. 2, Groups B, C, D
Corrosion-Resistant
Dust-tight
Watertight
Weatherproof
NEMA 3, 4X, 7BCD (Div. 2), 12

Cl. II, Div. 2, Groups F, G
Cl. I, Zones 1 and 2, Ex de IIB + H₂
IP66

4C

Applications:

N2SU and N2SCU pushbutton stations, selector switches and pilot lights are suitable for use:

- In Class I, Groups B, C, D; Division 2 and Class I, Zones 1 and 2 hazardous areas where flammable vapors or gases may be present due to accidental or abnormal operation
- In damp, wet, or corrosive locations
- Indoors or outdoors in Division 2 and Class I, Zones 1 and 2 areas of petroleum refineries, chemical plants and other process industry facilities where similar hazards exist

N2SU and N2SCU pushbutton stations and selector switches are used:

- In conjunction with magnetic starters or contactors for remote control of motors
- N2SU and N2SCU pilot lights are used:
- To visually indicate at a remote location that the desired function is being performed

Optional maintained stop pushbutton(s) are used: As emergency or normal stop button(s) in motor control circuits for positive shutdown.

Features:

- Compact, strong, durable enclosures are made of *Vestamid™* – a black molded high impact strength, polyester material having excellent corrosion resistance and stability to heat.
- Exterior parts of pushbuttons, pilot lights, and selector switches are made of *Krydon* material. See pages 538–539 for device part numbers
- Pushbutton design uses a unique internal neoprene boot which completely encloses all internal parts. A wiping gasket around the pushbutton cleans the wall of the pushbutton guard of any foreign material accumulation as the button is operated.
- Formed-in-place gasket, and stainless steel screws for added corrosion resistance.
- Pushbutton and pilot light guards are fluted for no-slip installation.
- Factory installed dead end (N2SU) or through feed (N2SCU) hubs – 1/2" and 3/4" sizes.
- Legend plates are available with 40 standard markings.
- Lockout is standard on selector switch devices.
- LED lamps are standard to provide longer life.

Certifications and Compliances:

- NEMA: 3, 4X, 7BCD and 12
- UL Standard: 508
- CSA C22.2 No. 14 & 30

Size Ranges:

- 1, 2, 3 and 4-device units

Electrical Rating Ranges:

- Pushbutton stations and selector switches – heavy duty 600VAC maximum
- Pilot lights – 120 to 600 VAC

Options:

Description

Padlock attachments for all pushbuttons. For "START-STOP" stations, only "STOP" button provided with lockout.....

Three-position selector switches with modified operation:

Momentary contact clockwise operation, spring return to center, maintained contact counterclockwise operation.....

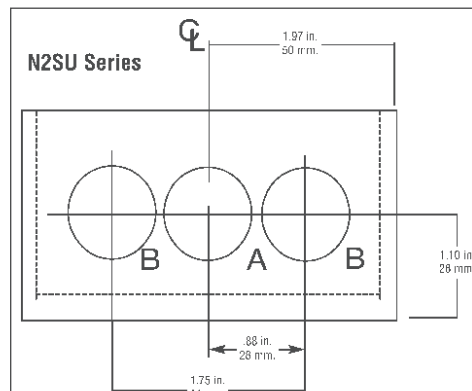
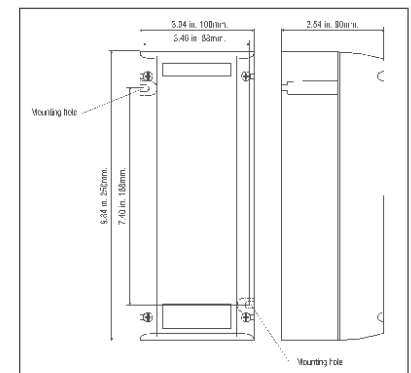
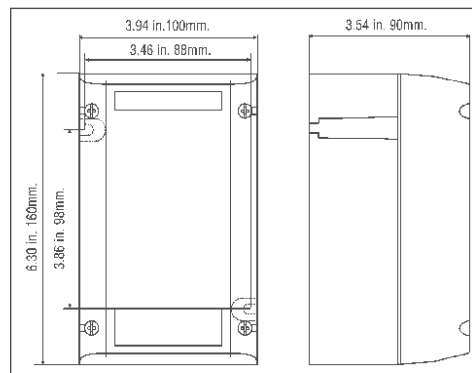
Momentary contact counterclockwise operation, spring return to center, maintained contact clockwise operation.....

Note: In addition to hub arrangements shown, the following can be obtained by inserting these codes for the 4th and 5th character in the catalog number:

- D = Double 1/2" hubs at bottom
- CD = Single hub at top, double 1/2" hubs at bottom
- DD = Double 1/2" hubs at each end

Dimensions

In Inches:



Entry	Note
A	.87 in. 22 mm. diameter for 1/2" single entry 1.09 in. 28 mm. diameter for 3/4" single entry
B	.87 in. 22 mm. diameter for 1/2" double entry

4C N2SU/N2SCU Control Stations

Factory Sealed, Corrosion-Resistant
600VAC Heavy Duty

Cl. I, Div. 2, Groups B, C, D
Corrosion-Resistant
Dust-tight
Watertight
Weatherproof
NEMA 3, 4X, 7BCD (Div. 2), 12

Cl. II, Div. 2, Groups F, G
Cl. I, Zones 1 and 2, Ex de IIB + H₂
IP66

Ordering Information - With Pushbuttons – Momentary Contact



Maintained pushbutton with pilot light control station

No. Units	Contact Symbol	Marking Unless Otherwise Specified	Enclosure with Pushbuttons		
			Hub Size	Dead End Cat. #	Through Feed Cat. #
1		START (or Specify)	1/2	N2S1110U ②	N2SC1110U ②
			3/4	N2S2110U ②	N2SC2110U ②
2		START-STOP (or Specify)	1/2	N2S1210U ②	N2SC1210U ②
			3/4	N2S2210U ②	N2SC2210U ②
3		Specify	1/2	N2S1310U ②	N2SC1310U ②
			3/4	N2S2310U ②	N2SC2310U ②
4		Specify	1/2	N2S1410U ②	N2SC1410U ②
			3/4	N2S2410U ②	N2SC2410U ②

Ordering Information - With Selector Switches*

Style	Position			Marking Unless Otherwise Specified	Enclosure with One Selector Switch		
	1	2	3		Hub Size	Dead End Cat. #	Through Feed Cat. #
Two-Position, Two-Circuit	A1 A2			START-STOP (or Specify)	1/2 3/4	N2S1121U ② N2S2121U ②	N2SC1121U ② N2SC2121U ②
Two-Position, Four-Circuit	A1 A2 B1 B2			START-STOP (or Specify)	1/2 3/4	N2S1122U ② N2S2122U ②	N2SC1122U ② N2SC2122U ②
Three-Position, Two-Circuit	A1 A2			Specify	1/2 3/4	N2S1123U ② N2S2123U ②	N2SC1123U ② N2SC2123U ②
Three-Position, Four-Circuit	A1 A2 B1 B2			Specify	1/2 3/4	N2S1124U ② N2S2124U ②	N2SC1124U ② N2SC2124U ②
Three-Position, Four-Circuit	A1 A2 B1 B2			Specify	1/2 3/4	N2S1125U ② N2S2125U ②	N2SC1125U ② N2SC2125U ②

② If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

Marking

Push Buttons:
START
STOP
ON
OFF
RUN
JOG
TRIP
RESET
TEST
LIGHT ON
HAND
AUTOMATIC
EMERGENCY
FORWARD

REVERSE
OPEN
CLOSE
UP
DOWN
IN
OUT
RAISE
LOWER

Selector Switches –
Two-Position:
RUN-JOG
HAND-AUTO
FOR-REV
FAST-SLOW
OPEN-CLOSE
UP-DOWN
ON-OFF
IN-OUT
RAISE-LOWER
START-STOP

Selector Switches –
Three-Position
RUN-OFF-JOG
HAND-OFF-AUTO
FOR-OFF-REV
FAST-OFF-SLOW
1-OFF-2
OPEN-OFF-CLOSE
UP-OFF-DOWN

*Replacement switch for selector switches is Cat. No. ESWP126.

N2SU/N2SCU Control Stations

**Factory Sealed, Corrosion-Resistant
600VAC Heavy Duty**

Cl. I, Div. 2, Groups B, C, D
Corrosion-Resistant
Dust-tight
Watertight
Weatherproof
NEMA 3, 4X, 7BCD (Div. 2), 12

Cl. II, Div. 2, Groups F, G
Cl. I, Zones 1 and 2, Ex de IIB + H₂
IP66

4C

Ordering Information - With Pilot Lights - Transformer Type

No. Units	Diagram	Volts	Enclosure with Pilot Lights†			
			½" Hubs		¾" Hubs	
			Dead End Cat. #	Through Feed Cat. #	Dead End Cat. #	Through Feed Cat. #
1		120	N2S1131U ①	N2SC1131U ①	N2S2131U ①	N2SC2131U ①
		240	N2S1132U ①	N2SC1132U ①	N2S2132U ①	N2SC2132U ①
2		120	N2S1231U ①	N2SC1231U ①	N2S2231U ①	N2SC2231U ①
		240	N2S1232U ①	N2SC1232U ①	N2S2232U ①	N2SC2232U ①
3		120	N2S1331U ①	N2SC1331U ①	N2S2331U ①	N2SC2331U ①
		240	N2S1332U ①	N2SC1332U ①	N2S2332U ①	N2SC2332U ①
4		120	N2S1431U ①	N2SC1431U ①	N2S2431U ①	N2SC2431U ①
		240	N2S1432U ①	N2SC1432U ①	N2S2432U ①	N2SC2432U ①

① Specify lens color for each pilot light. As an example, N2S1231U with one red and one green would be ordered as N2S1231U-J1-J3

Color	Symbol	Color	Symbol
Red	J1	Clear	J10
Green	J3	Blue	J11
Amber	J6		

†Pilot lights are transformer type except those rated 120 volts.

4C

4C N2SU/N2SCU Control Stations

Factory Sealed, Corrosion-Resistant
600VAC Heavy Duty

Cl. I, Div. 2, Groups B, C, D
Corrosion-Resistant
Dust-tight
Watertight
Weatherproof
NEMA 3, 4X, 7BCD (Div. 2), 12

Cl. II, Div. 2, Groups F, G
Cl. I, Zones 1 and 2, Ex de IIB + H₂
IP66

Ordering Information - Combination Control Stations†*

Pilot Lights*	Pushbuttons	Diagram	Marking Unless Otherwise Specified	Volts	Enclosure with Push Buttons and Pilot Lights†			
					1/2" Hubs		3/4" Hubs	
					Dead End Cat. #	Through Feed Cat. #	Dead End Cat. #	Through Feed Cat. #
1	1		Specify	120	N2S12411U ①②	N2SC12411U ①②	N2S22411U ①②	N2SC22411U ①②
				240	N2S12412U ①②	N2SC12412U ①②	N2S22412U ①②	N2SC22412U ①②
1	2		START-STOP (or Specify)	120	N2S13421U ①②	N2SC13421U ①②	N2S23421U ①	N2SC23421U ①②
				240	N2S13422U ①②	N2SC13422U ①②	N2S23422U ①	N2SC23422U ①②
2	1		Specify	120	N2S13411U ①②	N2SC13411U ①②	N2S23411U ①②	N2SC23411U ①②
				240	N2S13412U ①②	N2SC13412U ①②	N2S23412U ①②	N2SC23412U ①②
2	2		START-STOP (or Specify)	120	N2S14421U ①②	N2SC14421U ①②	N2S24421U ①②	N2SC24421U ①②
				240	N2S14422U ①②	N2SC14422U ①②	N2S24422U ①②	N2SC24422U ①②

Pilot Lights*	Pushbuttons	Selector Switches Position No.			Markings	Enclosure With Pilot Light, Pushbuttons and Selector Switch			
		1	2	3		Hub Size in.	Volts	Dead End Cat. #	Through Feed Cat. #
1	2	Two-Position, Two-Circuit			Specify	1/2	120	N2S145211U ①②	N2SC145211U ①②
				A1				3/4	N2S245211U ①②
1	2	Three-Position, Two-Circuit			Specify	1/2	120	N2S145231U ①②	N2SC145231U ①②
				A1				3/4	N2S245231U ①②
1	2				Specify	1/2	240	N2S145232U ①②	N2SC145232U ①②
				A1				3/4	N2S245232U ①②

① Specify lens color for each pilot light. As an example, N2S1231U with one red and one green would be ordered as N2S1231U-J1-J3

Color	Symbol	Color	Symbol
Red	J1	Clear	J10
Green	J3	Blue	J11
Amber	J6		

② If desired, markings on indicating plates may be added to catalog number. Select from the list of standard markings below:

Marking		Selector Switches – Two-Position:		Selector Switches – Three-Position:	
Push Buttons:					
START	FORWARD	RUN-JOG		RUN-OFF-JOG	
STOP	REVERSE	HAND-AUTO		HAND-OFF-AUTO	
ON	OPEN	FOR-REV		FOR-OFF-REV	
OFF	CLOSE	FAST-SLOW		FAST-OFF-SLOW	
RUN	UP	OPEN-CLOSE		1-OFF-2	
JOG	DOWN	UP-DOWN		OPEN-OFF-CLOSE	
TRIP	IN	ON-OFF		UP-OFF-DOWN	
RESET	OUT	IN-OUT			
TEST	RAISE	RAISE-LOWER			
LIGHT ON	LOWER	START-STOP			
HAND					
AUTOMATIC					
EMERGENCY					

*Replacement switch for selector switches is Cat. No. ESWP126.
†Pilot lights are transformer type except those rated 120 volts.

Factory Sealed, Corrosion-Resistant

Applications:

N2FA and N2FAC fire alarm stations are used:

- As break-glass fire alarm stations
- In conjunction with audible and/or visible signaling devices to alert personnel of a fire hazard
- In Class I, Division 2, Groups B, C, D hazardous areas where flammable vapors or gases may be present due to an accident or abnormal operation
- In damp, wet or corrosive locations
- Indoors or outdoors in Division 2 areas of petroleum refineries, chemical plants and other process industry facilities where similar hazards exist

Features:

- Factory sealed. External seals are not required.
- Enclosures are made of *Krydon*[®] fiberglass-reinforced polyester material having excellent corrosion resistance and stability to heat and sunlight.
- Highly visible molded-in red color for quick identification.
- Break-glass rod is attached to station with a chain for ready access during an emergency.
- Factory installed dead end (N2FA) or through feed (N2FAC) hubs – 1/2", 3/4" and 1" sizes.

Certifications and Compliances:

- NEC:
Class I, Division 2, Groups B, C, D
- NEMA 3, 7BCD (Division 2), 12

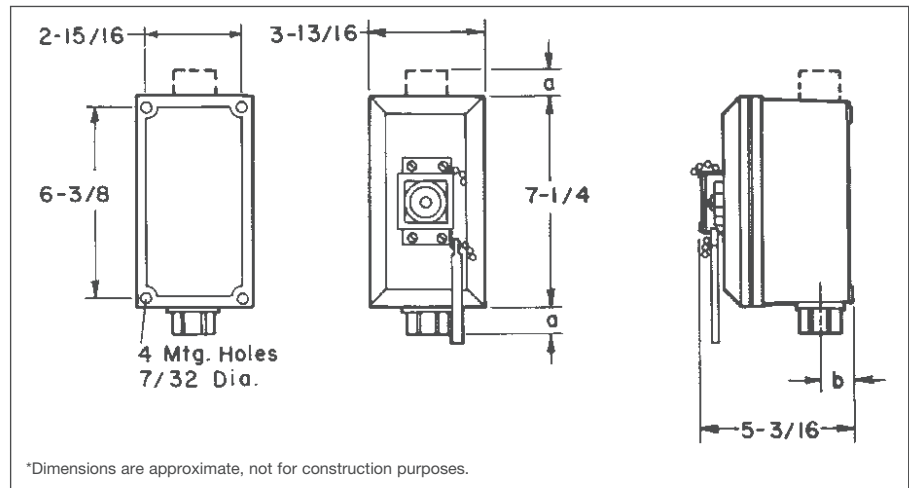


4C

Ordering Information

Hub Size	Dead End Cat. #	Through Feed Cat. #	Replacement Glass Cat. #
1/2	N2FA11	N2FAC11	DS K14
3/4	N2FA21	N2FAC21	DS K14
1	N2FA31	N2FAC31	DS K14

Dimensions* In Inches:



1/2" & 3/4" Hubs		1" Hubs	
a	b	a	b
1 1/8	1 1/16	1 1/4	1 5/16

4C GHG43 Series Control Stations

Nonmetallic or 316L Stainless Steel Corrosion Resistant

UL/cUL listed
 Cl. I, Div. 2, Groups A, B, C, D
 Cl. I, Zones 1 and 2,
 (A) Ex de IIB + H₂ T6
 Cl. II, Div. 1, Groups E, F, G (cUL)

PTB ATEX CERTIFIED 3117
 Ex de IIC, T6,
 Zones 1 and 2
 Ex de IIC, T6 Zones 21 and 22
 IP 66, NEMA 4X

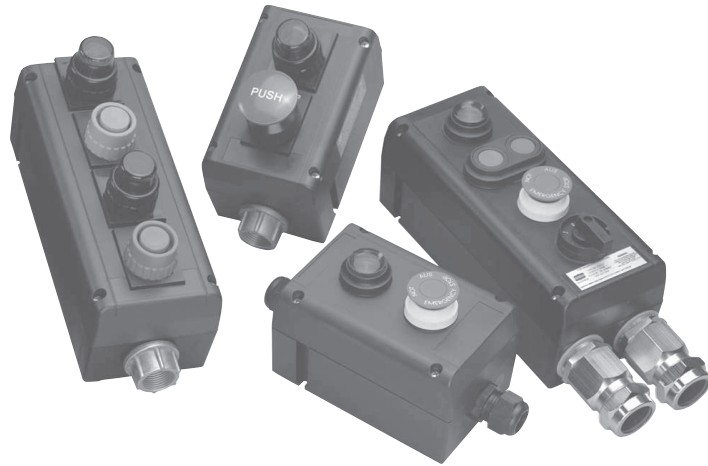
Applications:

Control stations are used as a remote means of:

- Motor control
- Visual indication of equipment performance
- On-off control of circuits
- Circuit selection

Common applications include:

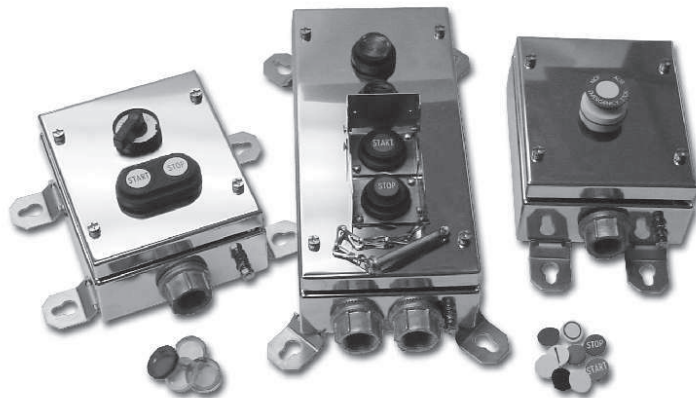
- Areas which are hazardous due to the presence of flammable vapors, gases or highly combustible dusts
- For installation at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist



GHG43 Nonmetallic Control Stations

Features:

- NEMA 4X, IP66 enclosure with formed-in-place gasket
- Available with all operators: indicator lights, potentiometers, control switches, pushbuttons, terminal blocks and meters
- Base-mounted contact blocks
- Easy change-out components snap in place on DIN rail
- Enclosure meets UL 94-VO. Also available in anti-static Ex e materials
- Inserts for mounting DIN rails
- Available with a maximum of 2 entries - top and bottom for conduit fittings or cable glands
- Suitable for universal mounting plates on pipes, conduit, wall or channels
- Mounting dimensions data molded on back
- Captive, corrosion-resistant cover screws
- Built-in mounting slots for wall installation
- Available in 316L stainless steel



GHG43 Stainless Steel Control Stations

Certifications and Compliances:

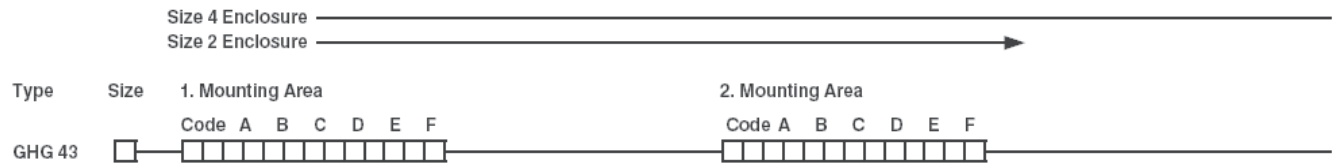
- UL/cUL Listed
- Class I, Div. 2, Groups A, B, C, D
- Class II, Div. 1, Groups E, F, G (cUL)
- Class I, Zones 1 and 2, Ex de IIB + H₂, T6
- AEx de IIB + H₂, T6
- Type 3, 4, 4X; IP66
- CENELEC-PTB 00 ATEX 3117
- Ex de IIC, T6, Zones 1 and 2, IP66

Options:

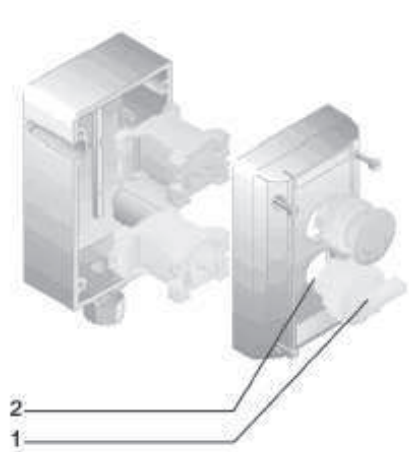
Description	Suffix
Cooper Crouse-Hinds GHG43 Series control stations are now available with 316L stainless steel enclosures, making them ideal for corrosive and adverse locations - especially offshore platform applications.	S860



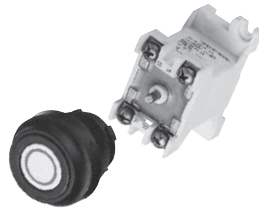
Nonmetallic or 316L Stainless Steel Corrosion Resistant



GHG43 2 - Size 2 Enclosure



Mounting Area*



Pushbutton DRT

Code A B C D

Codes see page 545

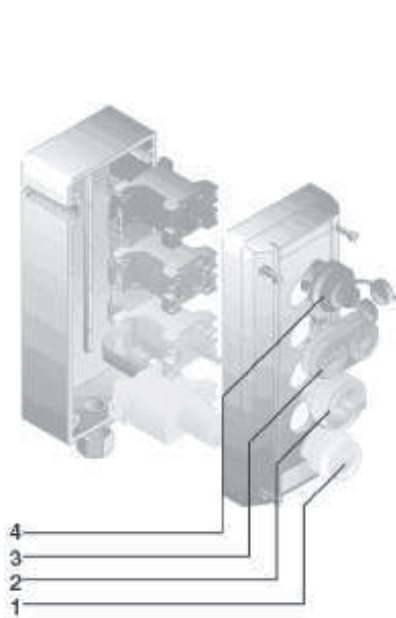


Double Pushbutton

Code A B C D E

Codes see page 545

GHG43 4 - Size 4 Enclosure



Mounting Area*



Key Operated Pushbutton

Code A B C

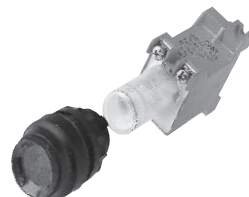
Codes see page 545



Mushroom-Head Pushbutton

Code A B C D E F

Codes see page 546



Signal Lamp

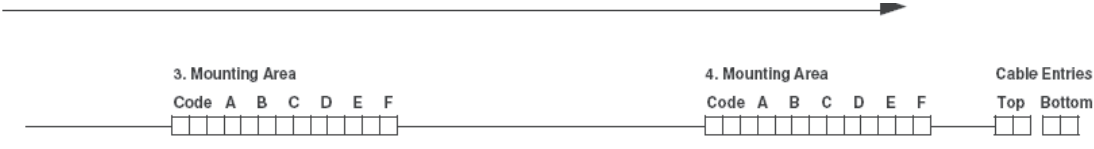
Code A B C

Codes see page 546

‡For a GHG43 control station with 316L stainless steel enclosure, add suffix "S860" to end of catalog number.
*Unoccupied spaces must be filled in with KLM for correct positioning of devices.

4C

Nonmetallic or 316L Stainless Steel Corrosion Resistant



Potentiometer

Code A **P** **O** **T** B

Codes see page 547



Measuring Instrument

Code A **M** **7** **2** B C

Codes see page 548
Requires 2 spaces



Switch

Code A **S** **C** **T** B C D

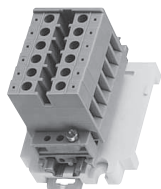
Codes see pages 549–550



Control Switch Ex 23 10A

Code A **E** **X** **2** **3** B C D E F

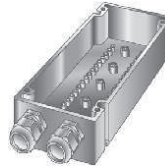
Codes see pages 549–550
Requires 2 spaces



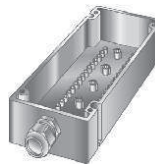
Terminals and cover blanking plug

Code A **K** **L** **M** B

Code see page 547



Two entries



One entry

Cable Entries

NPT

00

No entries

12

2 x 1/2" Myers Hub, STGK1 Zinc Gland plate

13

2 x 3/4" Myers Hub, STGK2 Zinc Gland plate (Stainless Steel Control Stations only)

22

2 x 1/2" Myers Hub, SSTGK1 Stainless steel Gland plate

23

2 x 3/4" Myers Hub, SSTGK2 Stainless steel Gland plate (Stainless Steel Control Stations only)

26

1 x 3/4" Myers Hub, STGK2, Zone 1 Gland plate

30

1 x 1/2" Myers Hub, STGK1, Zone 1 Gland plate

31

1 x 1/2" Myers Hub, SSTGK1 Stainless st. Gland plate

32

1 x 3/4" Myers Hub, SSTGK2 Stainless st. Gland plate

Metric

00

No entries

01

2 x M25 Plastic Cable gland M25 Blanking plug

02

2 x M20 Threaded entries Gland plate

03

2 x M25 Threaded entries Gland plate

04

1 x M32 Plastic Cable gland

27

1 x M25 Threaded Entry, Blanking plug and Gland plate

29

2 x M25 Threaded Entry, 1 blanking plug and Gland plate

33

1 x M20 Threaded entry Blanking plug and Gland plate

34

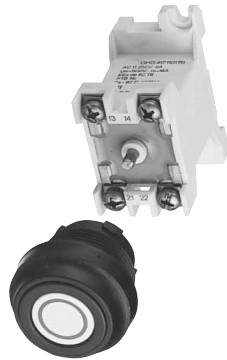
1 x 3/4" Myers Hub SSTGK2 stainless steel, Gland plate

‡For a GHG43 control station with 316L stainless steel enclosure, add suffix "S860" to end of catalog number.
*Unoccupied spaces must be filled in with KLM for correct positioning of devices.

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Pushbuttons:

- Used for logic controls in hazardous areas
- Single or double units
- Used with all operators
- Base mounting



Pushbutton

Type of Protection	Ex de IIC T6
Certificate of Conformity	PTB No. Ex-87.B.1007U
Approvals	PTB, UL, cUL
Rated Voltage	Up to 400V
Rated Current	NEC/CEC 10A IEC 16 A
Terminal Wiring	2 x 2.5mm ² / 14AWG
Mechanical and Electrical Life	>10 ⁵ Operations

See page 550 for explanation of contact symbols.

Pushbutton DRT

Code	<table border="1"><tr><td>D</td><td>R</td><td>T</td><td>O</td></tr></table>	D	R	T	O	<table border="1"><tr><td> </td><td> </td></tr></table>			<table border="1"><tr><td> </td><td> </td></tr></table>			<table border="1"><tr><td> </td></tr></table>	
D	R	T	O										
	A	B	C	D									
Contact System													
Code B	13	14	15										
Inscription	ALL *	0	I	II	Stop	Start	Special-Text On Order †						
Code C	01	02	03	04	06	07	99						

Lockout see page 551

Code D (leave blank if no lockout required)

Double Pushbutton DDTO

Code	<table border="1"><tr><td>D</td><td>D</td><td>T</td><td>O</td></tr></table>	D	D	T	O	<table border="1"><tr><td> </td><td> </td></tr></table>			<table border="1"><tr><td> </td><td> </td></tr></table>			<table border="1"><tr><td> </td><td> </td></tr></table>			<table border="1"><tr><td> </td><td> </td></tr></table>			<table border="1"><tr><td> </td></tr></table>	
D	D	T	O																
	A	B	C	D	E	E													
Contact System																			
Code B	43	44	45																
Inscription	ALL *	0	I	II	Stop	Start	Special-Text on Order †												
Code C, D Left/Right	01	02	03	04	06	07	99												

Lockout see page 551

Code E (leave blank if no lockout required)

Key-Operated Pushbutton SLT

Code	<table border="1"><tr><td>S</td><td>L</td><td>T</td><td>O</td></tr></table>	S	L	T	O	<table border="1"><tr><td> </td><td> </td></tr></table>			<table border="1"><tr><td> </td></tr></table>	
S	L	T	O							
	A	B	C							
Contact System										
Code B	23	24	25							
Pushbutton	Key									
Not Depressed	Lockable	Yes	Yes	Yes	No	No	Yes			
	Key Removable	Yes	Yes	No	No	Yes	Yes			
Depressed	Lockable	Yes	No	Yes	Yes	Auto	Yes			
	Key Removable	No	No	Yes	Yes	Yes	Yes			
Code C		1	2	3	4	5	6			

* 01 - Includes the following discs - Start, stop, I, O, and red, green, yellow, white and black blank discs.

† For Marking Guide for Pushbuttons see page 551.



Nonmetallic or 316L Stainless Steel
Corrosion Resistant



Mushroom-Head Pushbutton SGT

	S	G	T						
Code	A			B	C	D	E		F
Contact System									
Code B	53			54	55				
Color of Pushbutton	Red			Yellow	Black Actuator				
Code C	1			2	3				
Function	Spring Return			Maintained	Key Release				
Code D	1			2	3				
Inscription	Stop			Start	Black Actuator				
Code E	06			07	11				
Lockout	see page 551								
Code F	(leave blank if no lockout required)								

4C

Signal Lamp

- Used for positive feedback indication
- High intensity with special reflector and optical lens
- Accommodates most input voltages
- Base mounting



Type of Protection	Ex de IIC T6
Certificate of Conformity	PTB No. Ex-88.B.2106U
Approvals	PTB, UL, cUL
Lamp Life	>100,000 Hours (11.5 Years)
Rated Voltages	Up to 240VAC, 50 / 60 Hz Up to 110VDC
Rated Current	Max. 15 mA
Power Consumption	<1.2W
Terminal Wiring	2 x 2.5mm ² / 14AWG
Colors	Red, Green, Yellow, Clear & Blue

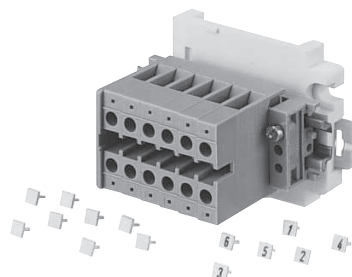
Signal Lamp SIL

	S	I	L			
Code	A			B	C	
Colored Lens Cover	White	Yellow	Red	1 pkg white, yellow, red, green	Green	Blue
Code B	1	2	3	4	5	6
Voltage	20-250VAC/DC			10-33VAC/DC		
Code C	01			31		

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Terminal Blocks

- Terminal block for easy field connections
- Base mounting



Type of Protection
Certificate of Conformity
Rated Voltages
Rated Current
Conductor Size

Terminal Blocks

Ex e II
PTB No. Ex-88.B.3112U
Up to 400V
23A
4mm² / 12AWG

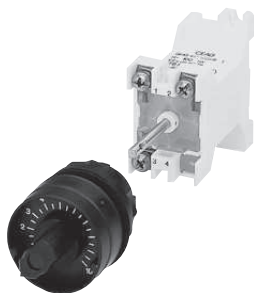
Terminals and Cover Plugs KLM



	6 Terminals 2 x 4 mm²	Undrilled Cover (No Terminals)
Code B	61	00

Potentiometers

- Used to adjust resistance to vary motor speed or light levels
- Scale 0 to 100%
- Base mounting



Type of Protection
Certificate of Conformity
Approvals
Rated Voltages
Power Consumption
Resistance
Angle of Rotation
Scale
Connection Terminals

Potentiometers

Ex de IIC T6
PTB No. Ex-87.B.1007U
PTB, UL, cUL
>250V
1.0W
100–10,000W
270°
0–100%
2 x 2.5mm² / 14AWG

Potentiometer POT



Power Consumption	1W			
Resistance W	1,000	2,200	4,700	10,000
Code B	4	7	5	6

**Nonmetallic or 316L Stainless Steel
Corrosion Resistant**

Ammeters

- Used to measure motor current draw for efficiencies and maintenance
- Slide in scales to accommodate any amperage range
- Red indicator for quick visual indication to compare set points and actual values



Ammeters	
Type of Protection	Ex e II T6
Certificate of Conformity	PTB No. Ex-87.B.2016U
Approvals	PTB, UL, cUL
Movement	Moving iron (core)
Accuracy	2.5% of range (class 2.5)
Measuring Range	0-16A direct, C.T. n/1 A
Operating Position	Vertical
Scale	Interchangeable for C.T. n/1 A
Zero Adjustment	At instrument
Terminal Wiring	2 x 2.5 mm ² / 14 AWG
Rated Current Marking	Red indicator

**Ammeter Measuring
Instrument AM 72***



Movement	Direct	n/1 A	0 - 2 mA	4-20 mA
Code B	1	2	3	6

Movements 0-20 mA and 4-20 mA are only available with 0 - 100 / 120% scale

Direct Measurement		Interchangeable Scale for C.T. n/1A					
Code C	Scale	Code C	Scale	Code C	Scale	Code C	Scale
02	0 - 1/1.5A	02	0 - 1/1.5A	09	0 - 30/45A	16	0 - 200/300A
03	0 - 2.5/3.75A	03	0 - 2.5/3.75A	10	0 - 40/60A	17	0 - 250/375A
04	0 - 5/7.5A	04	0 - 5/7.5A	11	0 - 50/75A	18	0 - 300/450A
05	0 - 10/15A	05	0 - 10/15A	12	0 - 60/90A	19	0 - 400/600A
07	0 - 16/24A	06	0 - 15/22.5A	13	0 - 75/112.5A	20	0 - 500/750A
		08	0 - 20/30A	14	0 - 100/150A	21	0 - 600/900A
				15	0 - 150/225A	22	0 - 100/150A

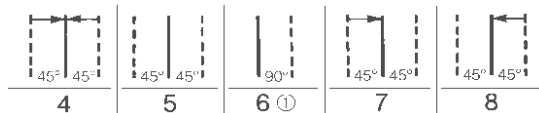
* Requires 2 spaces.

Nonmetallic or 316L Stainless Steel
Corrosion Resistant

4C

Code C	Contact System	Type	Code C	Contact System	Type
00		2 Position	09		3 Position
01		2 Position	10		3 Position
02		2 Position	12		3 Position
03		Single Pole Changeover	13		2 Position
05		HOA	14		2 Position
07		3 Position Single Level	15		3 Position Double Pole Changeover

Switched Mechanism
Code D



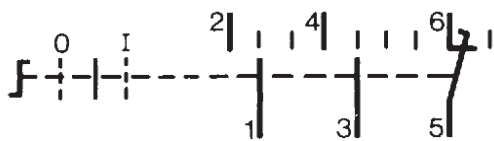
Padlocking Facility
Code E



Contact Configurations

Normally Closed			Normally Open
Normally Closed Extended Over 2 Positions			Normally Open Early Make/Late Break
Change-Over Break Before Make			Change-Over Make Before Break

Example of Switch Type 10



This example is the switch type 10 Stop-Run-Stop. The switch has 3 positions – the normal position is center and can be switched left or right. An arrow (↔) indicates spring return. (See codes for switch mechanism). Contacts 1-2 only close in the Stop position. Contacts 3-4 close only in the Start position. Contacts 5-6 are normally closed and remain closed when switched to the Start position and open when switched to the Stop position.

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Lockouts for DRTO Pushbuttons



X
Code D
Shroud Cover For
Pushbutton
Y-Lockout with bolt and chain



Z
Code D
Padlocking Fire Alarm
Cover For Pushbutton

Lockouts for DDTO Double Pushbuttons



X
Code ED
Padlocking Cover For
Double Pushbutton
Without Hole



Z
Code E
Padlocking Cover For
Double Pushbutton
With Hole

Lockouts for SGT Mushroom-Head Pushbuttons



X
Code F
Padlocking Cover For
Emergency Stop Pushbutton



Z
Code F
Padlocking Cover For
Emergency Stop Pushbutton
With Bolt & Chain

Marking Guide For Pushbuttons

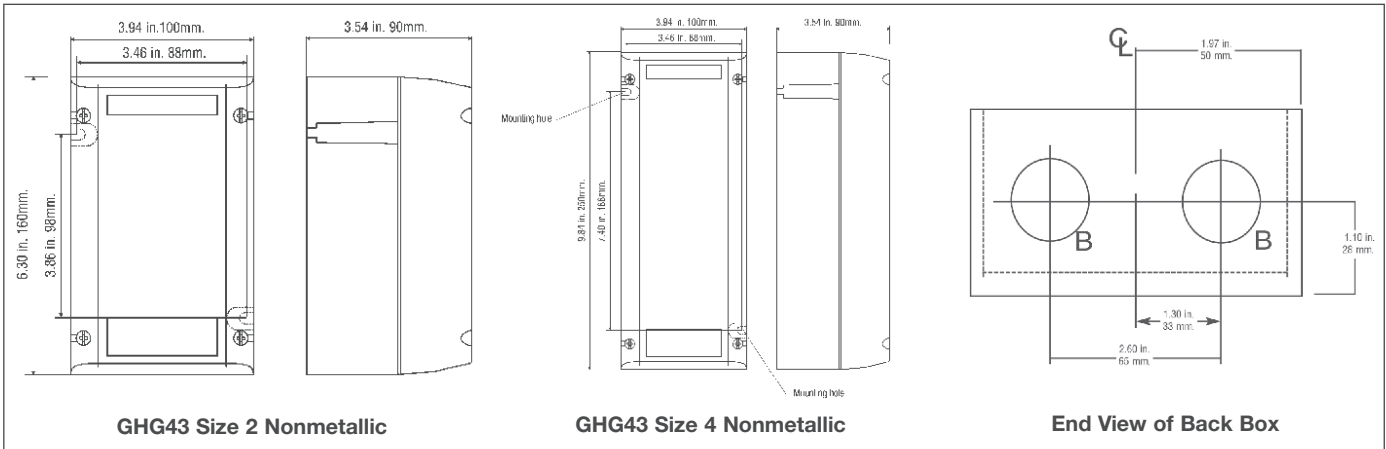
Special Text

Marking Required	Standard Abbreviation	Actual Marking on Disc
Acknowledge	AK	ACK
Alarm	AM	ALARM
Automatic	AU	AUTO
Close	CL	CLOSE
Down	DN	DOWN
Fast	FS	FAST
Forward	FW	FWD
Hand	HN	HAND
High	HI	HIGH
In	IN	IN
Jog	JG	JOG
Local	LC	LOCAL
Lower	LO	LOWER
Maintain	MT	MAINT
Manual	MN	MANUAL
Normal	NR	NORMAL
Off	OF	OFF
On	ON	ON
Open	OP	OPEN
Out	OT	OUT
Raise	RA	RAISE
Remote	RM	REMOTE
Reset	RS	RESET
Reverse	RV	REV
Run	RN	RUN
Slow	SL	SLOW
Test	TT	TEST
Trip	TP	TRIP
Up	UP	UP

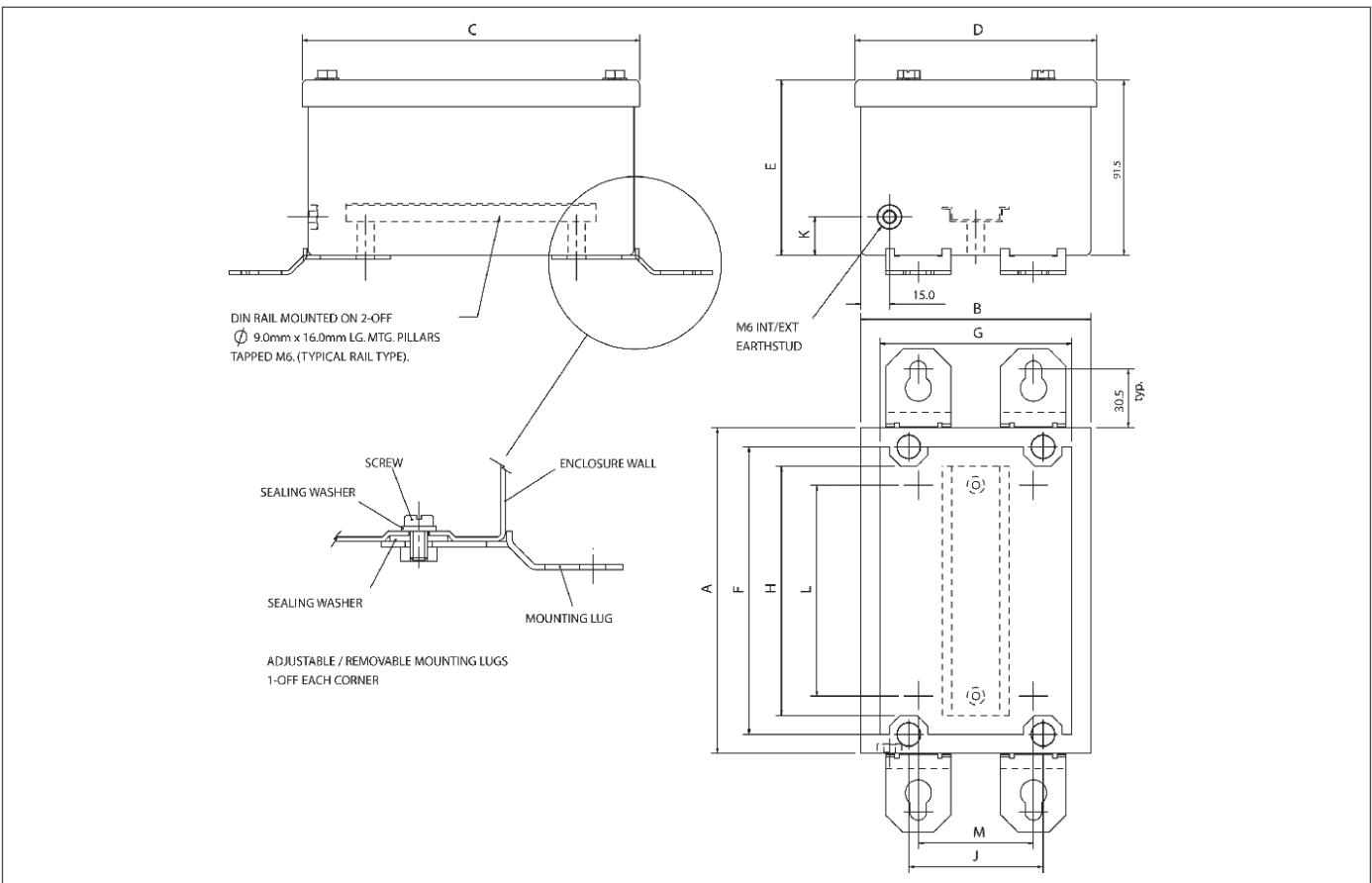
4C

**Nonmetallic or 316L Stainless Steel
Corrosion Resistant**

GHG43 Nonmetallic Control Stations



GHG43 Stainless Steel Control Stations



Box Type

Dimension (inches)

	A	B	C	D	E	F	G	H	J	K	L	M
1 Operator Control Station	4.72	4.72	4.96	4.96	3.60	3.94	3.94	3.15	2.76	0.79	2.36	2.36
2 Operator Control Station	6.69	4.72	6.93	4.96	3.60	5.90	3.94	5.12	2.76	0.79	4.33	2.36
3 Operator Control Station	8.66	4.72	8.90	4.96	3.60	7.87	3.94	7.09	2.76	0.79	6.30	2.36
4 Operator Control Station	10.63	4.72	10.87	4.96	3.60	9.84	3.94	9.06	2.76	0.79	8.27	2.36