



**SERIES D1  
DISCONNECT  
SWITCHES**  
25 Amp / 600 VOLT  
also 16 Amp 600 VOLT

**SERIES D1  
MULTI-  
APPLICATION  
SWITCHES**

- Machine Disconnect
    - Motor Switch
    - Bypass Switch
    - Step Switch
    - Reversing Switch
    - Two Speed Switch
    - Ammeter Switch
    - Voltmeter Switch
- To 8 Pole, 8 Positions



**ELEKTRA DISCONNECTS  
MACHINE SAFETY DISCONNECT OPTION**

**FEATURING**

- **HANDLE-SHAFT SELF-ALIGNING SYSTEM**
  - IP65 DUSTTIGHT / WATERTIGHT
  - METAL / NON-METAL ENCLOSURES
  - STEEL SHAFT
  - HORSEPOWER RATED



**THE MULTI APPLICATION SWITCH!**

**SERIES D1 DISCONNECTS (ON-OFF)**

25 Amp 600 VOLT

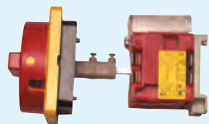
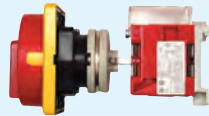


**PADLOCKABLE**

Lockout Tagout  
Page 232



**SAFETY DOOR INTERLOCKS**  
Auto Alignment  
Page 232



Non-Auto Alignment

Direct Drives  
Page 232



Page 235

Front Mount Disconnects



Base Mount  
Page 232

Enclosed Dust / Water Tight



Page 233



Fusible Enclosed  
Page 233



Fusible Open

DISCONNECTS  
25 AMP

**SERIES D1 SWITCHES**

Reversing Switch  
Page 234



Special Switches  
Page 237



STEP SWITCH  
Page 235



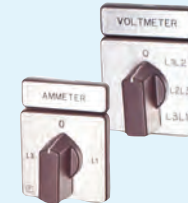
BYPASS  
Page 236



SPRING RETURN  
Page 237



METER  
Page 207



KEY OPERATED  
Page 234



**Also Available: Disconnects**  
Series D2 through 7 to 250 Amp  
Series D8, 9 to 630 Amp

**◆ CAM SWITCHES to 630 AMP  
UP TO 12 POLES, 12 POSITIONS**



**UV TRIP**

Series F and S  
with UV Trip  
(Under Voltage Trip)



**BUILT TO CUSTOMER SPECS**  
See page 209

**Electrical and Electronic Controls Inc.** 3881 Danbury Rd. Brewster, NY 10509  
(845) 278-5777 FAX (845) 278-5444 E-mail address: info@eecontrols.com  
In Canada EE Controls, Ltd. 17 Stewart Court Orangeville, Ontario, Canada L9W3Z9  
(519) 941-6845 FAX (519) 940-0514

## ENVIRONMENT RATINGS

“IP” Rating. Protection against ingress of dust and liquids.

### OPERATOR HANDLES / ENCLOSURES IP65

**1st Digit**  
6



Complete protection against dust.

**2nd Digit**  
5



Protected against water sprayed from a hose from all directions.

(See IP standard for exact specifications)

### NEMA/IP65

IP65 is for Industrial and Outdoor Applications and is capable of hose test water tightness.

IP65 is used internationally for similar applications as Type 4, or 4X for non-corrosive design areas.

## ELECTRICAL RATINGS

SWITCH SIZE D1		
Rated interrupted current iu switch	A	25
Approvals Canada, USA, UL	600 VAC max., 3 phase ~A	
General Use	IEC/UL/CSA	25A
<b>Motor 1 phase</b>		
120V	1 hp	
240V	2 hp	
<b>Motor 3 phase</b>		
208V	5 hp	
240V	5 hp	
480V	7.5 hp	
600V	7.5 hp	
Pilot Duty-Auxiliary switch UL/CSA	A600	
INTERNATIONAL RATINGS CE		
IEC 204, IEC 947-3, EN60204, EN 60947, VDE 0113		
Rated insulating voltage III/3 EN 60 947 UI	V	600
Rated impulse voltage rigidity III/3 EN 60 947	kV	6
Connectable cross section	mm <sup>3</sup>	1-4
	AWG	14-10
Short-circuit protection fusible cut-out (gL)	A max.	35
Switching capacity AC-21A/B Load break switches		
Rated operating 25 Amp	VAC	690
AC-23 A/B Motor Switches	380/440V	7.5KW

DISCONNECTS  
25 AMP

## DISCONNECT SAFETY STANDARDS & REQUIREMENTS

### NFPA (Also per ANSI and NEC)

#### 13.2 Emergency stop devices

13.2.3 Actuators of emergency stop devices shall be colored RED.

As far as a background exists behind the device actuator, it shall be colored YELLOW.

### OSHA LOCKOUT-TAGOUT

While the OSHA Lock Out-Tag Out requirement is commonly understood, color is also specified. **1910.144 Safety color code for marking physical hazards.** (iii)...Electrical switches which letters or other markings appear, used for emergency stopping of machinery shall be RED.

### INTERNATIONAL SPECIFICATIONS.

#### IEC 204, IEC947-3 IEC...EN, EUROPEAN NORM. EN 60 204 PART 1 EN 60 947



The VDE specifications 0113 part 1 apply to the electrical equipment of machines. They comply largely with the IEC publication 204. This standard includes the German version of the European standard EN 60 204 part 1: 1992.

#### ▲ Emergency-off switch

Emergency-off mechanisms must be provided for each work station, where an emergency-off might be required. They must engage automatically and be easy to reach.

- ☞ The contacts of hand-operated emergency-off mechanisms shall disconnect simultaneously.
- ☞ The operating elements shall be **RED**. The area behind the handles shall be colored **YELLOW**.

#### ▲ Main switch = Emergency-off switch

For some machines which do not require emergency-off mechanisms the main switch may function as an emergency-off mechanism.

- ☞ In this case and for such disconnecting mechanisms the colors of the operating elements have to be the same as for the emergency-off mechanisms.

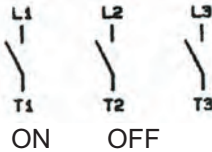
#### ▲ Main Switch

Each power supply must be provided with a hand-operated main switch. This main switch must disconnect the machine from the power supply (e.g. for machine maintenance).

- ☞ It shall be designed as a switch-disconnector according to EN 60 947-3 to satisfy the exigencies of utilization category AC-23B.
- ☞ It shall be hand-operated and may have only one “off” and one “on” position.
- ☞ It shall have a visible isolation section or indication of switching position which can indicate the “off” position only if spacings according to EN 60 947-3 have been obtained between all contacts.
- ☞ **If the main switch will not be used simultaneously as emergency-off switch, it's handle shall NOT be red. For the main switch black or grey handles are recommended.**
- ☞ It shall be lockable in the “off” position (e.g. by using padlocks).
- ☞ The handle of the main switch shall be easy to reach and located between 0.6 and 1.9m above the access level.
- ☞ The breaking ability must be sufficient to break at the same time the current of the largest motor of the machine at stall and the sum of the currents of all other motors and / or load circuits.

**TYPE D1 25 AMP ENCLOSED  
NON FUSIBLE TYPE ON-OFF**

25 Amp 600 Volt



**DISCONNECTS  
25 AMP**

Number Poles	AMP	NON METAL IP65 S4		NON METAL NEMA 4X		METAL IP65	
		NON FUSED ON-OFF	List Price ▲	NON FUSED ON-OFF	List Price	NON FUSED ON-OFF	List Price
2	25	E D1-2BE-S4-*	\$92.00	E D1-2D-4X-*	\$166.00	E D1-2D-M65-*	\$123.00
3	25	E D1-3BE-S4-*	\$105.00	E D1-3D-4X-*	\$180.00	E D1-3D-M65-*	\$136.00
4	25	E D1-4BE-S4-*	\$109.00	E D1-4D-4X-*	\$184.00	E D1-4D-M65-*	\$140.00
5	25	E D1-5BE-S4-*	\$122.00	E D1-5D-4X-*	\$196.00	E D1-5D-M65-*	\$153.00
6	25	E D1-6BE-S4-*	\$149.00	E D1-6D-4X-*	\$207.00	E D1-6D-M65-*	\$163.00

**ENCLOSURES.** Each of the above D1 enclosures is rated IP65 dust tight / water tight / hose test. IP65 is for industrial and outdoor applications and is capable of hose test water tightness. IP65 is used internationally for similar applications as the NEMA 4 or 4X, when non-corrosive design is required.

▲ Above are T8 Enclosures. For compact T24 Enclosure, add suffix -T24. Deduct -\$10 List

OPERATOR HANDLE
*SUFFIX:
Add - <b>RG</b> for Red-Yellow operator Handle.
Add - <b>SS</b> for Black handle "D" type only.
Add - <b>SI</b> for Black-Silver operator "BE" handle.

**"NEW PRODUCTS"**

**Padlockable Fusible ENCLOSED TYPE**



MINI COMPACT 4X



NEMA 4X



NEMA 3R



NEMA 12

600 VOLT		NEMA 3R		NEMA 12		NEMA 4X	
FUSE BLOCK AMP/TYPE	SWITCH AMPS/TYPE	CATALOG#	LIST	CATALOG#	LIST	CATALOG#	LIST
30 / CC	40 / ED2	ED2-D-FC3-3R-RG	\$401	ED2-D-FC3-12-RG	\$456	ED2-D-FC3-4X-RG	\$456
30 / J	40 / ED2	ED2-D-FJ3-3R-RG	438	ED2-D-FJ3-12-RG	496	ED2-D-FJ3-4X-RG	496
60 / J	40 / ED2	ED2-D-FJ6-3R-RG	474	ED2-D-FJ6-12-RG	517	ED2-D-FJ6-4X-RG	517
60 / J	80 / EDK4	EDK-D-FJ6-3R-RG	642	EDK-D-FJ6-12-RG	678	EDK-D-FJ6-4X-RG	678
100 / J	125 / ED5	ED5-D-FJ1-3R-RG	850	ED5-D-FJ1-12-RG	893	ED5-D-FJ1-4X-RG	893

**Notes to Enclosed Type Fusible Disconnects.**  
Above enclosed units are Standard "D" operators. Red / Yellow. If Black desired, replace RG with SS.

For "Finger Safe" Designs add suffix - FS (Add \$24 List)  
For additional Accessories Contact Factory.

## REVERSING (Maintained)

25 Amp 1 Phase / 3 Phase



**REVERSING** (Spring to Center) Same Circuit as maintained.

DISCONNECTS  
25 AMP



Catalog Number (**)	-*Suffix		
	Open -SO	Enclosed -S4 ▲	Enclosed -M65
ED1-3W 1FM-*	\$77	\$108	\$134
ED1-3W 1BM-*	\$80	-	-

Catalog Number (**)	-*Suffix		
	Open -SO	Enclosed -S4 ▲	Enclosed -M65
ED1-3KW 1FM-*	\$86	\$117	\$144

**Wiring** Standard circuit is 3 phase. For Single Phase Reversing, add one jumper per EEC Diagram. For factory supplied 1 Phase unit, change catalog number **3W** to **1W**. No price change.

Horse Power Rated		Horse Power Rated	
1 Phase		3 Phase	
120V	1HP	240V	5 HP
240V	2HP	480V	7.5HP
		600V	7.5HP

(\*\*) Marking on above is "FOR OFF REV". Front Mount, FM or Base Mount, BM.

For other standard Name Plate marking, see **Legend Plate Marking** on Dimension Page.

▲ Above S4 Enclosure is T25 (see dimension page). For larger T8 Enclosure, add suffix -T8, plus \$8.00 list.

## TWO SPEED MOTOR SWITCHES

TWO SPEED: CONSTANT OR VARIABLE TORQUE 3 PHASE										
Max Horsepower		Catalog No.	Single Winding (1-0-2)			Two Winding (0-1-2)				
230V	460V		Open Front Panel Mount	List	S4 Enclosed	List	Open Front Panel Mount	List	S4 Enclosed	List
3	7.5	ED1-4PT 1FM-	-SO	\$116	-S4	\$147	-	-	-	-
3	7.5	ED1-3PT 1FM-	-	-	-	-	-SO	\$93	-S4	\$124

TWO SPEED: CONSTANT HORSEPOWER 3 PHASE										
Max Horsepower		Catalog No.	Single Winding (1-0-2)			Two Winding (0-1-2)				
230V	460V		Open Front Panel Mount	List	S4 Enclosed	List	Open Front Panel Mount	List	S4 Enclosed	List
2	5	ED1-4PH 1FM-	-SO	\$116	-S4	\$147	-	-	-	-
2	5	ED1-3PH 1FM-	-	-	-	-	-SO	\$93	-S4	\$124

Standard marking on above (1-0-2) is "LOW-OFF-HIGH"

Standard marking on above (0-1-2) is "OFF-LOW-HIGH"

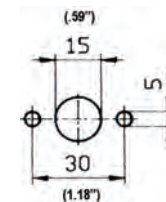
For **METAL ENCLOSURE**, IP65, add suffix: **-M65**, to above part #'s, plus \$23.00 list.

## KEY OPERATED ON-OFF 25 Amp

No. Poles	Catalog Number	-*Suffix		
		Open -SO	Enclosed -S4 ▲	Enclosed -M65
1	ED1-1ZE 1FM-	\$101	\$146	\$177
2	ED1-2ZE 1FM-	\$105	\$150	\$181
3	ED1-3ZE 1FM-	\$119	\$163	\$194
4	ED1-4ZE 1FM-	\$123	\$167	\$198

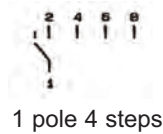
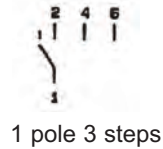


**Note:** Open type units are 2 or 4 screw mount as standard.



**STEP SWITCH with "OFF" position**

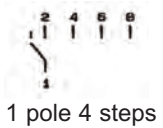
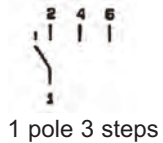
OPEN TYPE FRONT PANEL MOUNT 25 Amp



No. Steps	Catalog No.	List Each	No. Chambers
1	ED1-1SO 1 FM-SO	\$43.00	1
2	ED1-2SO 1 FM-SO	\$47.00	1
3	ED1-3SO 1 FM-SO	\$61.00	2
4	ED1-4SO 1 FM-SO	\$65.00	2

**STEP SWITCH without "OFF" position**

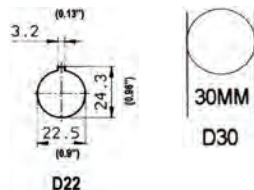
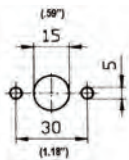
OPEN TYPE FRONT PANEL MOUNT



No. Steps	Catalog No.	List Each	No. Chambers
2	ED1-2S 1 FM-SO	\$47.00	1
3	ED1-3S 1 FM-SO	\$61.00	2
4	ED1-4S 1 FM-SO	\$65.00	2
5	ED1-5S 1 FM-SO	\$77.00	3
6	ED1-6S 1 FM-SO	\$81.00	3

NOTE: Above units are 2 or 4 screw mount as standard.

NOTE: For single hole mount To order single hole mount: replace "FM" with "SH". Add \$7 List.

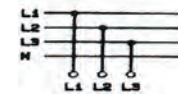
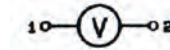


**METER SWITCHES 25 Amp**

OPEN TYPE FRONT PANEL MOUNT

**VOLTMETER 3 PHASE**

Line to Line

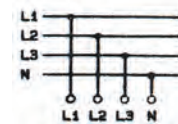


DISCONNECTS 25 AMP

Catalog No.	List Each	No. Chambers
E D1-2V 1 FM-SO	\$65.00	2

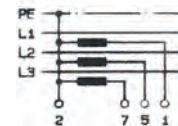
**VOLTMETER 3 PHASE**

Line to Line - plus line to neutral



Catalog No.	List Each	No. Chambers
E D1-3V 1 FM-SO	\$108.00	4

**AMMETER 3 PHASE**

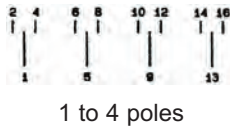


Catalog No.	List Each	No. Chambers
E D1-1MA 1 FM-SO	\$88.00	3

For other Meter Switch Circuits, see Catalog V2N. For S4 boxes, add \$31.00 to the open type.

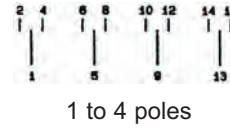
**DISCONNECTS  
25 AMP**

**BYPASS SWITCH *with* “OFF” Position**  
(Change-over switch) **Front Mount**



No. Poles	Catalog No.	List Each	No. Chambers
1	ED1-1U 1 FM-SO	\$59.00	1
2	ED1-2U 1 FM-SO	\$72.00	2
3	ED1-3U 1 FM-SO	\$85.00	3
4	ED1-4U 1 FM-SO	\$107.00	4

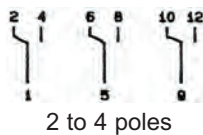
**BYPASS SWITCH *with* “OFF” Position**  
(Change-over switch) **Base Mount**



No. Poles	Catalog No.	List Each	No. Chambers
1	ED1-1U 1 BM-SO	\$64.00	1
2	ED1-2U 1 BM-SO	\$77.00	2
3	ED1-3U 1 BM-SO	\$90.00	3
4	ED1-4U 1 BM-SO	\$112.00	4

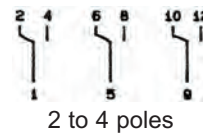
**Above units are marked “1 0 2”**  
To supply above units with “Hand Off Auto” Legend Plate, Add **-K** to the end of the part number at no additional cost.  
Ex: ED1-3U 1BM-SO-**K**

**BYPASS SWITCH *without* “OFF” Position**  
(Change-over switch) **Front Mount**  
Open Type



No. Poles	Catalog No.	List Each	No. Chambers
2	ED1-2UD 1FM-SO	\$72.00	2
3	ED1-3UD 1FM-SO	\$85.00	3
4	ED1-4UD 1FM-SO	\$107.00	4

**BYPASS SWITCH *without* “OFF” Position**  
(Change-over switch) **Base Mount**  
Open Type



No. Poles	Catalog No.	List Each	No. Chambers
2	ED1-2UD 1 BM-SO	\$77.00	2
3	ED1-3UD 1 BM-SO	\$90.00	3
4	ED1-4UD 1 BM-SO	\$112.00	4

Base Mount units are suitable for DIN RAIL or screw mount.  
\*See page 239 for other available for other engravings.

PRESSURE WASHER  
25 / 40 / 60 AMP



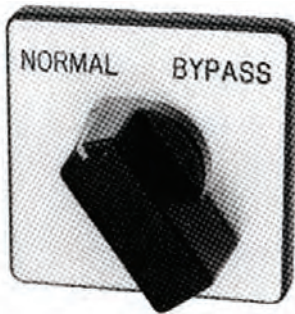
LIFT SWITCHES  
25 / 40 / 60 AMP  
BOATS & HOISTS



Type K Handle (see page 206).

DISCONNECTS  
25 AMP

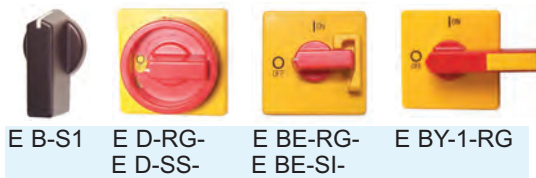
INVERTER BYPASS  
SWITCHES  
25 AMP TO 630 AMP



SPRING RETURN  
25 AMP



SWITCH OPERATORS



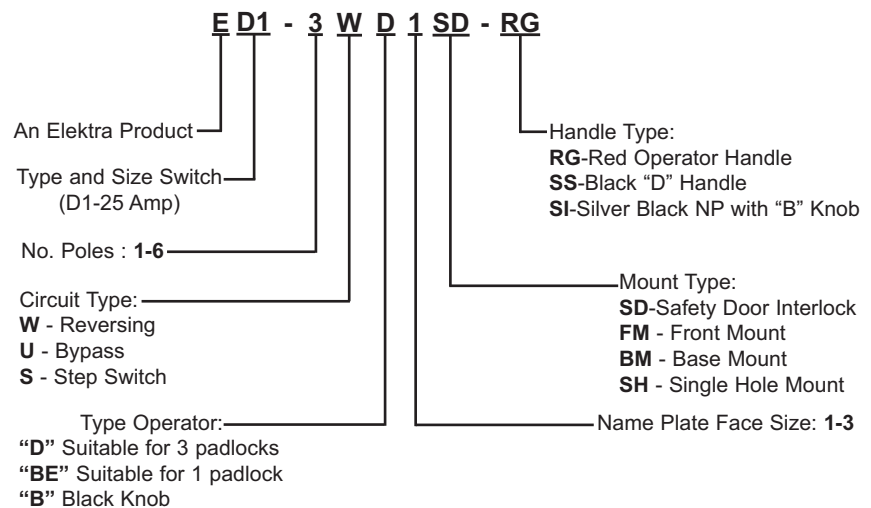
Operators Only	List	Color Code
E B-S1*	\$10.00	RG
E BE-RG-*	\$20.00	Red-Yellow
E BE-SI-*	\$20.00	B, SI, SS
E D-RG-*	\$23.00	Black-Silver
E D-SS-*	\$23.00	
E BY-1-RG-*	\$45.00	
E BY-1-SS-*	\$45.00	

**P/N Example:**  
E BE-RG-SI  
Operator for Type D Switch

**\* Select Switch Size:**

Switch Size	*
D1, D2, D3	S1
D4, D5	S2
	S3

ELEKTRA PART NUMBERING SYSTEM





## DIMENSIONS for D1 Mounting (Open Type)

**DISCONNECTS  
25 AMP**

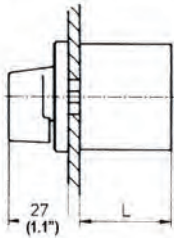
Approx. Dimensions in mm (inches)

### FRONT MOUNT

#Chambers	L
1	36 (1.4")
2	47 (1.9")
3	59 (2.3")
4	71 (2.8")

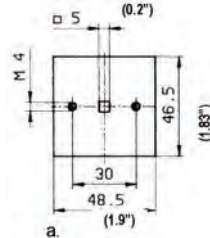
2 Contacts per chamber

#### Switch insert

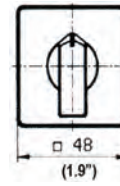


X max (0.16") 4mm

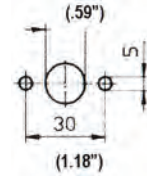
#### Front View



#### Face plate



#### Panel drilling

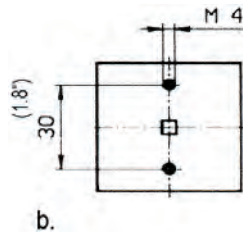


Two M4 screws are supplied with Front Mount units to mount into indented nuts.

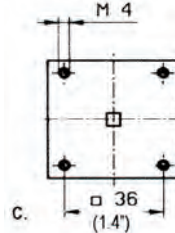
### OTHER MOUNTING OPTIONS FRONT MOUNT

Universal mounting is standard. The D1 front mount includes drilling pattern for 4 optional drillings, a, b, c, and d.

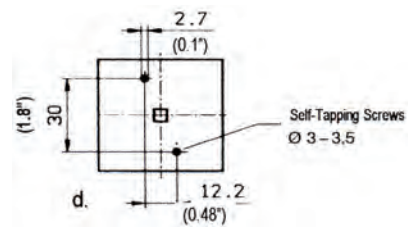
#### Front View



#### Front View



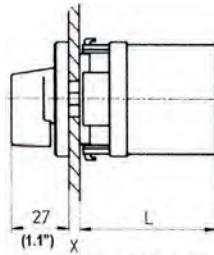
#### Front View



### SINGLE HOLE MOUNTING

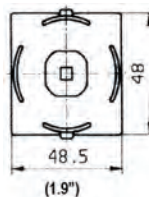
#Chambers	L
1	51 (2.0")
2	63 (2.5")
3	74 (2.9")
4	86 (3.4")

#### Switch insert

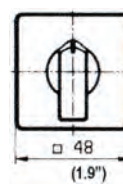


X max (0.16") 4mm

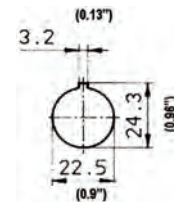
#### Front View



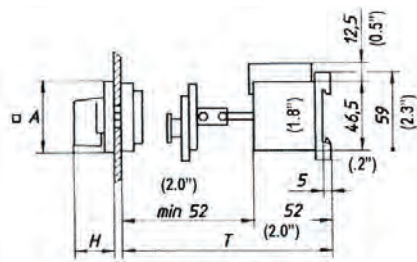
#### Face plate



#### Panel drilling

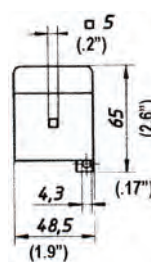


### D1 BASE MOUNT WITH (SD) SAFETY DOOR INTERLOCK

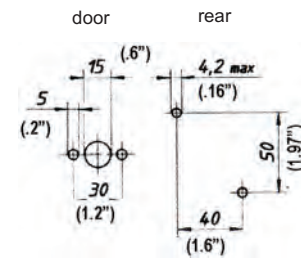


3.86-4.09 (inches)\*

#### Front View

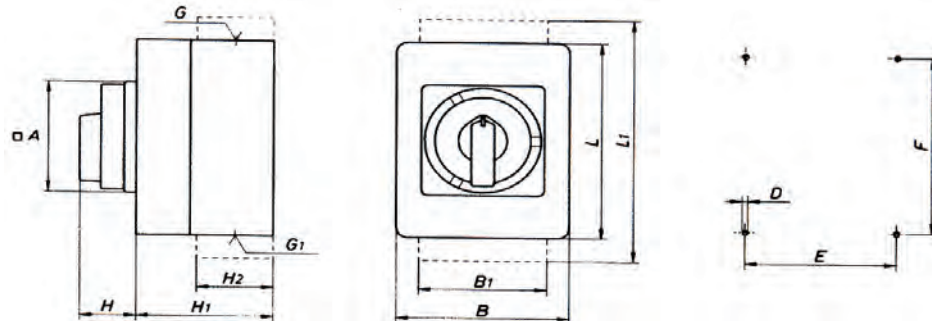


#### Panel drilling



\*Option for 8" deep enclosure, SD8, T=8"

**SERIES D1 DIMENSIONS, Appro. (Enclosed Type)**



**DISCONNECTS  
25 AMP**

Enclosure/Type	Max Poles	B	L	HI	A	H	E	F	D	G	GI
G32 (Metal)	6 poles max	91mm 3.58"	97mm 3.82"	72mm 2.83"	43mm 1.69"	26mm 1.02"	79mm 3.11"	83mm 3.27"	5.5mm .22"	2x23mm 1.3" opening	2x23mm 1.3" opening
T24 (Non-Metal) Standard Compact	6 poles max	82mm 3.22"	82mm 3.22"	67mm 2.63"	65mm 2.56"	34mm 1.33"	68mm 2.67"	68mm 2.67"	4.5mm .17"	2xPG16 *	2xPG16 *
T25 (Non-Metal) Standard	8 poles max	82mm 3.22"	82mm 3.22"	93mm 3.66"	65mm 2.56"	34mm 1.33"	68mm 2.67"	68mm 2.67"	4.5mm .17"	2xPG16 *	2xPG16 *
T8/1 (Non-Metal)	6 poles max	91mm 3.58"	121mm 4.75"	75mm 2.94"	72mm 2.83"	34mm 1.33"	76mm 2.98"	106mm 4.16"	4.5mm .17"	2xPG16 *	2xPG16 *

Each D1 chamber section contains 2 poles. \*PG16 accepts 7/8" cord grip

**NOTE:** Plastic Enclosures supplied with 3 plugs and 1 conduit adapter, threaded.

Metal Enclosures supplied with 2 plugs and 2 open non-threaded holes.

**LEGEND PLATE TYPE SI MARKING**

Standard markings

**Identification Suffix**

OFF ON	-N
HAND OFF AUTO	-K
FOR OFF REV	-I
UP OFF DOWN	-J
MANUAL AUTO	-L
HIGH OFF LOW	-P

Check with factory for additional standard markings.

**Special Marking Legend add: \$6.80 List**

**PLATE SI**

Silver with

Engraved Black Letters

**NAME PLATE MARKING**

FACE SIZE

1	1 7/8"x1 7/8" (48mm)
2	2 1/2"x2 1/2" (65mm)
3	2 7/8"x2 7/8" (72mm)



Face Size 1



Face Size 2

Disconnect Inscription Plate		List Price			
Fits above Type BE, BY, D, SI Operator/Plates		Catalog#	48 x 16mm (1.9"x0.6")	65 x 16mm (2.5"x0.8")	
Main Switch	Brush Silver with black letters	ED-NP-S1	\$7	-S2	\$8
	Yellow with black letters	ED-NP-Y1	\$7	-Y2	\$8
Main Switch	Black with white letters	ED-NP-B1	\$7	-B2	\$8

**MAIN SWITCH**

Standard marking add suffix:  
Main switch (-MS) or  
Emergency Off (-EO)

For special marking add \$6 List  
Example: #ED-NP-S1

**THE MULTI APPLICATION SWITCH!**

**SERIES D1 SWITCHES**



TYPE "B" KNOB

OPEN TYPE "B" KNOB  
FRONT PANEL MOUNT  
**ALL IP65 OPERATORS**

DUST TIGHT  
HOSE TEST WATER TIGHT

25 Amp 600 Volt



SPRING RETURN  
OPTIONS

DISCONNECTS  
25 AMP

**DESIGN: LOAD MAKE - LOAD BREAK (POSITIVE BREAK)**

Extra contact force on each pole insures reliable continuity on every operation. Full 25 Amp rating insures contact fidelity.

**STEEL SHAFT STANDARD**

**UNIVERSAL MOUNTING**

Flexible mounting options:  
Include 2 screws or single hole, 22m (7/8")/30mm



Type B Knob  
(Silver Plate SI shown can be engraved to suit)



Type BE Operator  
(Locks OFF one padlock. 3 padlock off also available).



Suffix - S4  
Nonmetal  
ENCLOSED



Suffix - M65  
Metal  
ENCLOSED



Universal Mounting  
Matches most  
all designs  
(see dimension page)



◆ Reversing Switch  
◆ Two Speed Switch

**SERIES D1  
IDEAL AS:**

- ◆ MACHINE DISCONNECT
- ◆ MOTOR SWITCH
- ◆ BYPASS SWITCH
- ◆ STEP SWITCH
- ◆ SPRING RETURN

**OTHER COMPACT DISCONNECTS**

See catalog ET...Series D2 through D7  
for higher current ratings through 250  
Amp, 600 Volt, 100hp.



TYPE D7 (250Amp)