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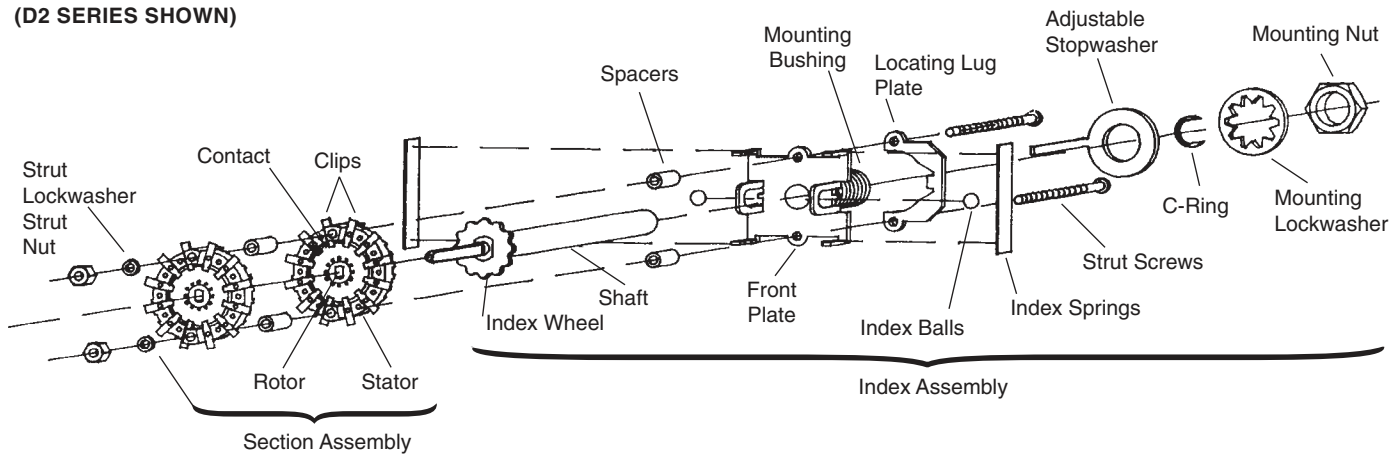
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# EXPLODED VIEWS AND GLOSSARY

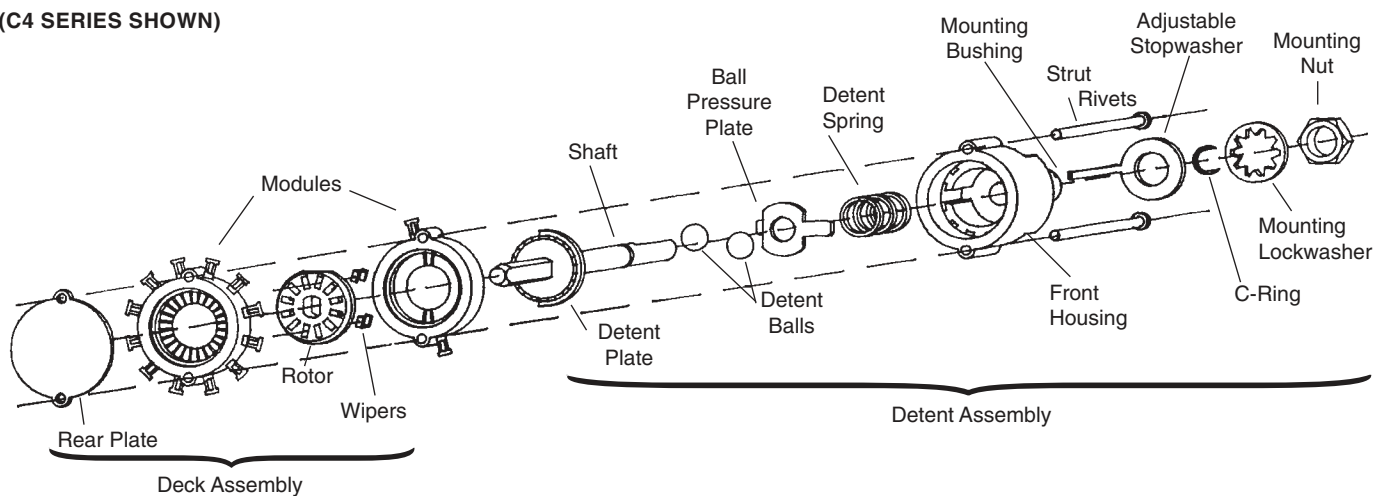
## EXAMPLE OF OPEN FRAME CONSTRUCTION

(D2 SERIES SHOWN)



## EXAMPLE OF ENCLOSED FRAME CONSTRUCTION

(C4 SERIES SHOWN)



## GLOSSARY

**Ceramic** - Used for stators, an inorganic, non-metallic material processed at high temperatures.

**Contact Resistance** - The interface resistance between a clip and contact or a wiper and a contact.

**Diallyl Phthalate** - Used for stators and modules, a thermosetting plastic.

**Dielectric Strength** - The maximum voltage a section or deck assembly can handle.

**Glass Epoxy** - Used for stators, a fiberglass material.

**Index and Detent Assembly** - Performs the mechanical functions of the switch.

**Index Angle** - The number of degrees between positions.

**Insulation Resistance** - The resistance of the stator or module between switching components on the stator or module.

**Non-Shorting** - Also known as break before make.

**Pole** - An electrically isolated switching circuit. (Common).

**Polyester** - Used for modules and switch bodies - a thermosetting or thermoplastic resin.

**Positions** - The mechanical indexing of the electrical circuits. (Throw).

**Section and Module Assembly** - Performs the electrical functions of the switch.

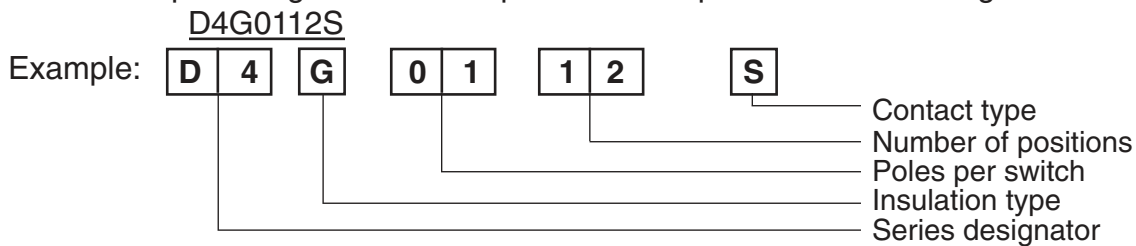
**Shorting** - Also known as make before break.

**Stop Strength** - The maximum rotation force the mechanical stop can facilitate.

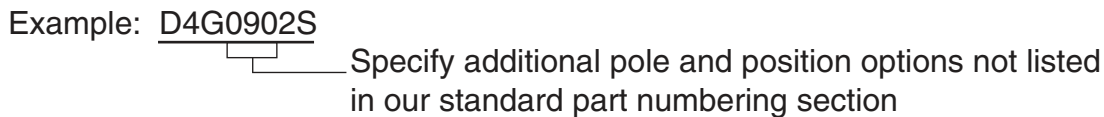
# ORDERING METHODS

Determine the most applicable switch construction (C) enclosed, (D) open frame, (E) special purpose or (M) military, and then use the appropriate selector guide to determine the desired series. There are four ways to select a switch from the catalog.

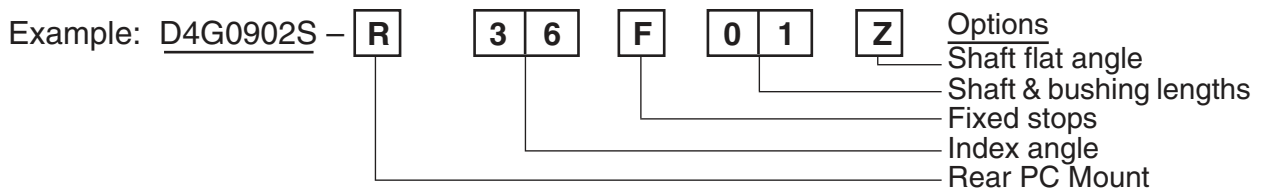
- 1. Use the pre-designed standard part numbers printed in the catalog.



- 2. Use the “How to Order Additional Options” section located with each series to specify the switch requirements with standard options.



- 3. Use the “How to Order Additional Options” to add additional options to either a standard part number or a standard option part number.



- 4. Contact the factory or your local representative of Electroswitch. Electroswitch designs and manufactures thousands of custom rotary switches, including “high volume one of a kind” designs. Open and enclosed frame worksheets are provided on pages 5 and 45 to help communicate your requirements.

Example: D4G0902S- Factory Assigned

# SELECTOR GUIDE

## ENCLOSED ROTARY ELECTRONIC SWITCHES



### CHARACTERISTICS

### SERIES C1

### SERIES C2

### SERIES C3

### SERIES C4

### SERIES C5 / C6

### SERIES C7

Page Number	6,7	8,9	8,9	10,11	12,13	14,15
Construction	ENCLOSED	ENCLOSED	ENCLOSED	ENCLOSED	ENCLOSED	ENCLOSED
Diameter	.865" wide	.82" wide	1.20" wide	1.50"	.92"	2.032"
Positions	2 - 12	2 - 8	2 - 12	2 - 12	2 - 12	2 - 24
Current and Voltage	0.1A @ 125 VAC 0.25A @ 28 VDC	0.1A @ 125 VAC 0.25A @ 28 VDC	0.1A @ 125 VAC 0.25A @ 28 VDC	0.3A @ 125 VAC 0.5A @ 28 VDC	1.0A @ 125 VAC 1.0A @ 28 VDC	0.5A @ 125 VAC 1.0A @ 28 VDC
Current Carrying Capacity	6A	6A	6A	15A	5A	25A
Dielectric Strength	600 VAC	1,000 VAC	1,000 VAC	1,000 VAC	1,000 VAC	1,000 VAC
Insulation Resistance	10,000	10,000	10,000	10,000	10,000	10,000
(megohms)						
Contact Resistance	5	30	30	3	20	3
(milliohms)						
Insulation - Glass Epoxy	NO	NO	NO	YES ★	NO	NO
Diallyl Phthalate	STANDARD	NO	NO	STANDARD	NO	STANDARD
Ceramic	NO	NO	NO	NO	NO	NO
Polyester	NO	STANDARD	STANDARD	NO	STANDARD	NO
Contacts - Silver Alloy ★	YES	NO	NO	YES	NO	YES
Brass/Silver Plate	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD
Stop Strength	8 in. lb.	8 in. lb.	8 in. lb.	25 in. lb.	4.5 in. lb.	25 in. lb.
Mechanical Life	25,000 cycles	25,000 cycles	25,000 cycles	25,000 cycles	10,000 cycles	25,000 cycles
Detenting Angles: 15°	—	—	—	—	—	15
30°	30	30	30	30	30	30
36°	—	—	—	36	—	—
45°	—	—	—	45	—	—
60°	60	60	60	60	—	60
90°	90	90	90	90	—	90
Quick Connect	NO	NO	NO	YES	NO	YES
Rear PC Mount	YES	NO	NO	YES	YES	NO
Vertical PC Mount ★	YES	YES	YES	YES	NO	NO
Front PC Mount ★	NO	NO	NO	YES	NO	NO
Dual Concentric Designs ★	YES	YES	YES	YES	NO	YES
Keylock ★	YES	YES	YES	YES	NO	YES
Spring Return ★	NO	NO	NO	YES	NO	NO
Water Resistant Seals ★	YES	YES	YES	YES	YES	YES

★ Contact factory



**ELECTROSWITCH • ELECTRONIC PRODUCTS**  
UNIT OF ELECTRO SWITCH CORP.

2010 Yonkers Road  
Raleigh, NC 27604

Telephone: (888) ROTARYS or (919) 833-0707  
Fax: (800) 909-9171 or (919) 833-8016

# ENCLOSED FRAME WORKSHEET

SERIES PREFERRED \_\_\_\_\_

**ELECTRICAL REQUIREMENTS:**

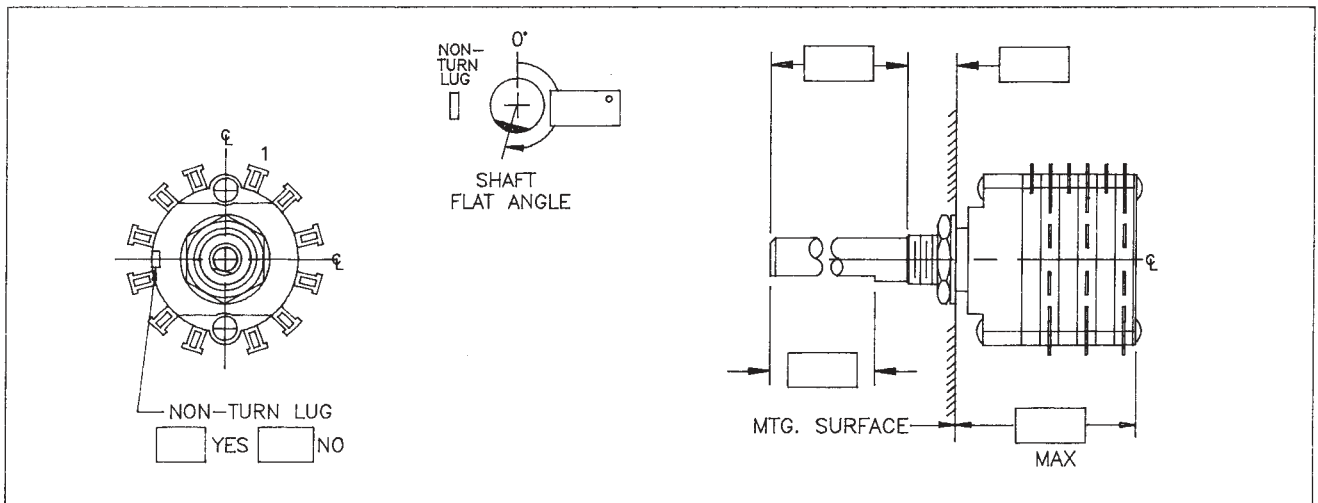
SHORTING OR  NON-SHORTING

CURRENT CARRYING CAPACITY \_\_\_\_\_

INTERRUPTING CURRENT \_\_\_\_\_

MAXIMUM WORKING VOLTAGE \_\_\_\_\_

**ADDITIONAL REQUIREMENTS:** \_\_\_\_\_



NOTES: SEE APPROPRIATE CATALOG PAGES FOR STANDARD DIMENSIONS AND OPTIONS.

**MECHANICAL REQUIREMENTS:**

NO. OF POSITIONS \_\_\_\_\_

NO. OF POLES \_\_\_\_\_

TERMINAL TYPE \_\_\_\_\_

INDEX ANGLE \_\_\_\_\_

Estimated usage \_\_\_\_\_

**ADDITIONAL REQUIREMENTS:**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



**ELECTROSWITCH**  
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 (919) 833-8016  
 (800) 909-9171  
 FOR ASSISTANCE  
 PLEASE CALL:  
 (919) 833-0707  
 (888) ROTARYS

**Sender Information**

Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 \_\_\_\_\_  
 Ph #: \_\_\_\_\_  
 Fax #: \_\_\_\_\_

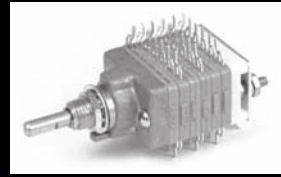
**FAX TRANSMISSION**

# C1 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

0.865" WIDE 0.25 AMP @ 28 VDC

The C1 Series is our smallest enclosed rotary switch, offering index angles of 30°, 60°, and 90°. Standard designs utilize solder lug or vertical PC terminals and diallyl phthalate insulation.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load 0.25 amp @ 28 VDC; 0.1 amp @ 125 VAC.  
**Current Carrying Capacity:** 6 amps.  
**Dielectric Strength:** 600 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 5 milliohms.  
**Insulation Resistance:** In excess of 10,000 megohms.

**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Terminals and Contacts:** Brass with silver plate as standard.  
**Insulation:** Diallyl phthalate.  
**Index:** Dual-ball, hill and valley.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** 30° standard, 60°, and 90° available.  
**Index Stops:** Fixed standard, adjustable, or continuous available.  
**Stop Strength:** 8 in. lbs. minimum.

### STANDARD PART NUMBER

#### SOLDER LUG - ADJUSTABLE STOPS

SWITCHES - 30° INDEXING - STOPS SET @ 2 POS.

POLES	ACTIVE POSITIONS	POLES/ DECK	NO. OF DECKS	SHORTING	NON-SHORTING	FIG. *
01	02-12	1	1	C1D0112S - A	C1D0112N - A	CA
02	02-12	1	2	C1D0212S - A	C1D0212N - A	CA
02	02-06	2	1	C1D0206S - A	C1D0206N - A	CH
03	02-12	1	3	C1D0312S - A	C1D0312N - A	CA
03	02-04	3	1	C1D0304S - A	C1D0304N - A	CK
04	02-06	2	2	C1D0406S - A	C1D0406N - A	CH
06	02-04	3	2	C1D0604S - A	C1D0604N - A	CK
06	02-06	2	3	C1D0606S - A	C1D0606N - A	CH

#### VERTICAL P.C. TERMINALS - ADJUSTABLE STOPS

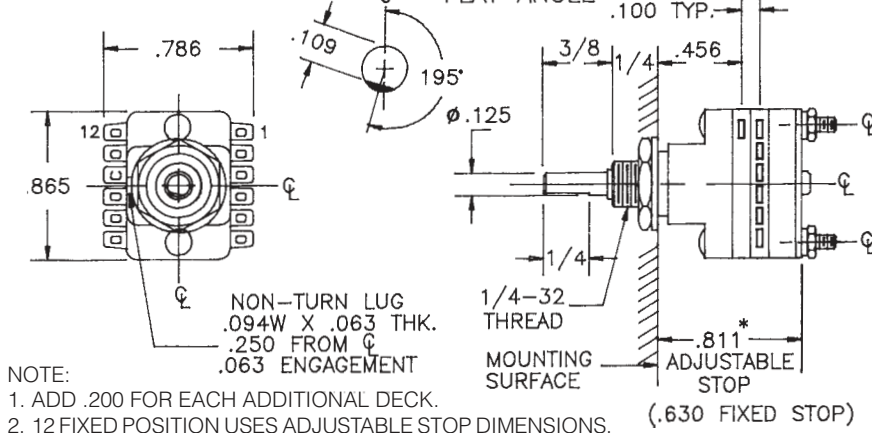
SWITCHES - 30° INDEXING - STOPS SET @ 2 POS.

POLES	ACTIVE POSITIONS	POLES/ DECK	NO. OF DECKS	SHORTING	NON-SHORTING	FIG. *
01	02-06	1	1	C1D0106S - VA	C1D0106N - VA	CB
01	02-12	1	1	C1D0112S - VA	C1D0112N - VA	CC
02	02-06	1	2	C1D0206S - VA	C1D0206N - VA	CB
02	02-12	1	2	C1D0212S - VA	C1D0212N - VA	CC
03	02-06	1	3	C1D0306S - VA	C1D0306N - VA	CB
03	02-12	1	3	C1D0312S - VA	C1D0312N - VA	CC
04	02-06	1	4	C1D0406S - VA	C1D0406N - VA	CB
04	02-12	1	4	C1D0412S - VA	C1D0412N - VA	CC

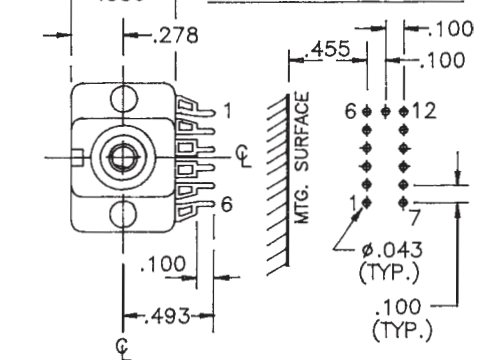
\* FIGURES ARE SHOWN ON PAGE 55.

### DIMENSIONS

#### C1D SOLDER LUG CONSTRUCTION



#### C1D VERTICAL P.C. CONSTRUCTION P.C. BRD. PATTERN



## How to Order Additional Options:

2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
C1	D - DIALLYL	01 - MIN.	12 - MAX @ 30° 06 - MAX @ 60° 04 - MAX @ 90°	N - NON-SHORTING S - SHORTING	L - SOLDER LUG V - VERT. P.C.	30° 60° 90°	F - FIXED C - CONT. A - ADJ.	SEE CHART "A"	SEE CHART "B"
					R - REAR P.C.	30° 60° 90°	F - FIXED C - CONT.		

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS

**C 1**

**D**

(SPECIFY)

(SPECIFY)

(SPECIFY)

(SPECIFY)

(SPECIFY)

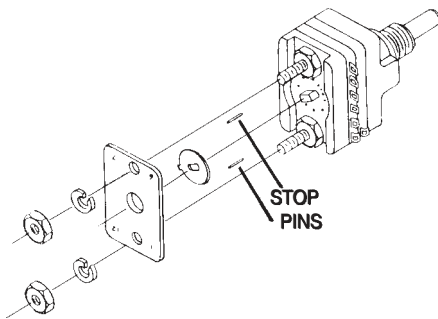
(SPECIFY)

(SPECIFY)

(SPECIFY)

ADDITIONAL OPTIONS

### ADJUSTABLE STOP MECHANISM



### SHAFT, BUSHING, AND FLAT OPTIONS

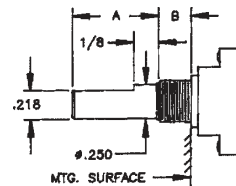
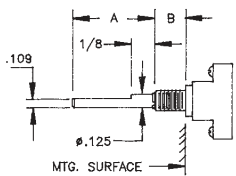


Chart A 1/8" shaft

P/N OPT	Shaft Lgth	Bush Lgth
01	3/8	1/4
02	3/8	3/8
03	1/2	1/4
04	1/2	3/8
05	9/16	1/4
06	9/16	3/8
07	5/8	1/4
08	5/8	3/8
09	3/4	1/4
10	3/4	3/8
11	7/8	1/4
12	7/8	3/8
13	1	1/4
14	1	3/8

Chart A 1/4" shaft

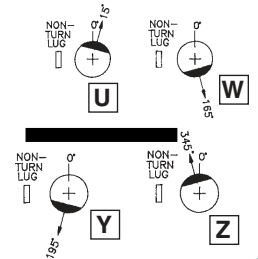
P/N OPT	Shaft Lgth	Bush Lgth
15	3/8	1/4
16	3/8	3/8
17	1/2	1/4
18	1/2	3/8
19	3/4	1/4
20	3/4	3/8
21	1	1/4
22	1	3/8

CHART "B"

P/N OPT.	FLAT ANGLE
U	15°
W	165°
Y	195°
Z	345°

- STD.

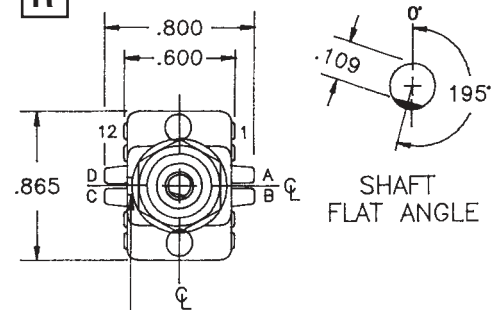
SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.



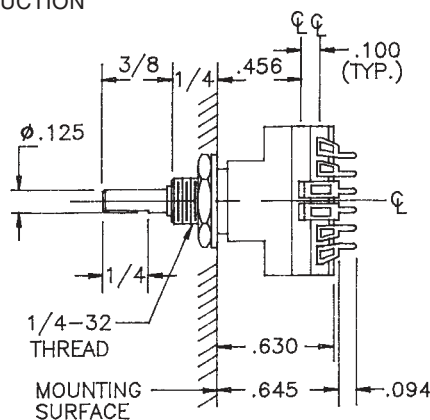
### PRINTED CIRCUIT BOARD TERMINAL OPTIONS

**R**

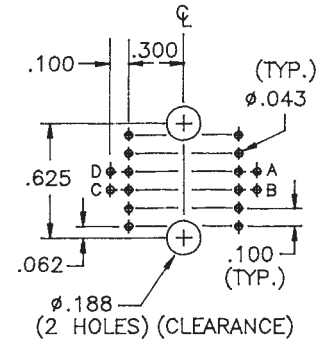
REAR P.C. FIXED STOP CONSTRUCTION



NON-TURN LUG  
.094W X .063 THK.  
.250 FROM  $\phi$   
.063 ENGAGEMENT



P.C. BRD. PATTERN



COMMON TERMINALS - A, B, C, D

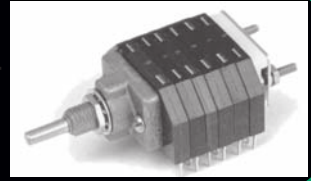
CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# C2/C3 - SERIES

SPECIFICATIONS AND ORDERING INFORMATION

0.82 / 1.2" WIDE 0.25 AMP @ 28 VDC

The C2/C3 Series offers an 8 position and a 12 position vertical P.C. board mountable design. Standard designs utilize a 30° index angle and polyester insulation.



## SPECIFICATIONS

### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load 0.25 amp @ 28 VDC; 0.1 amp @ 125 VAC.  
**Current Carrying Capacity:** 6 amps.  
**Dielectric Strength:** 1,000 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 30 milliohms.  
**Insulation Resistance:** In excess of 10,000 megohms.

**Hardware:** Mounting nut and lockwasher are shipped assembled.

### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Terminals and Contacts:** Brass with silver plate as standard.  
**Insulation:** Polyester.  
**Index:** Dual-ball, hill and valley.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 30° standard, 60°, and 90° available.  
**Index Stops:** Fixed standard, adjustable, or continuous available.  
**Stop Strength:** 8 in. lbs. minimum.

## STANDARD PART NUMBER

### C2 - 8 PIN CONSTRUCTION

SWITCHES - 30° INDEXING

ADJUSTABLE STOPS SET @ 2 POS. - P.C. TERMINALS

POLES	ACTIVE POSITIONS	POLES/ DECK	NO. OF DECKS	SHORTING	NON-SHORTING	FIG. *
01	02-08	1	1	C2P0108S - A	C2P0108N - A	CD
02	02-08	1	2	C2P0208S - A	C2P0208N - A	CD
02	02-04	2	1	C2P0204S - A	C2P0204N - A	CI
03	02-08	1	3	C2P0308S - A	C2P0308N - A	CD
04	02-04	2	2	C2P0404S - A	C2P0404N - A	CI
04	02-08	1	4	C2P0408S - A	C2P0408N - A	CD
05	02-08	1	5	C2P0508S - A	C2P0508N - A	CD
06	02-04	2	3	C2P0604S - A	C2P0604N - A	CI

### C3 - 12 PIN CONSTRUCTION

SWITCHES - 30° INDEXING

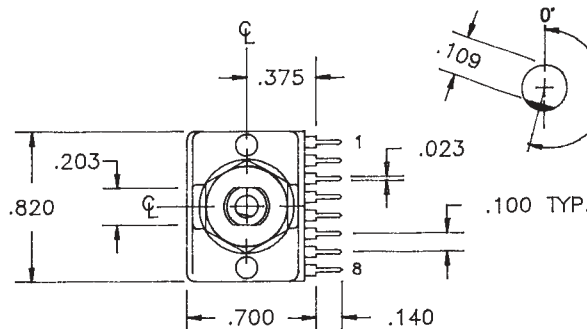
ADJUSTABLE STOPS SET @ 2 POS. - P.C. TERMINALS

POLES	ACTIVE POSITIONS	POLES/ DECK	NO. OF DECKS	SHORTING	NON-SHORTING	FIG. *
01	02-12	1	1	C3P0112S - A	C3P0112N - A	CA
02	02-12	1	2	C3P0212S - A	C3P0212N - A	CA
02	02-06	2	1	C3P0206S - A	C3P0206N - A	CH
03	02-04	3	1	C3P0304S - A	C3P0304N - A	CK
03	02-12	1	3	C3P0312S - A	C3P0312N - A	CA
04	02-06	2	2	C3P0406S - A	C3P0406N - A	CH
04	02-12	1	4	C3P0412S - A	C3P0412N - A	CA
06	02-04	3	2	C3P0604S - A	C3P0604N - A	CK

\* FIGURES ARE SHOWN ON PAGE 55.

## C2 - DIMENSIONS - 8 PIN DESIGN

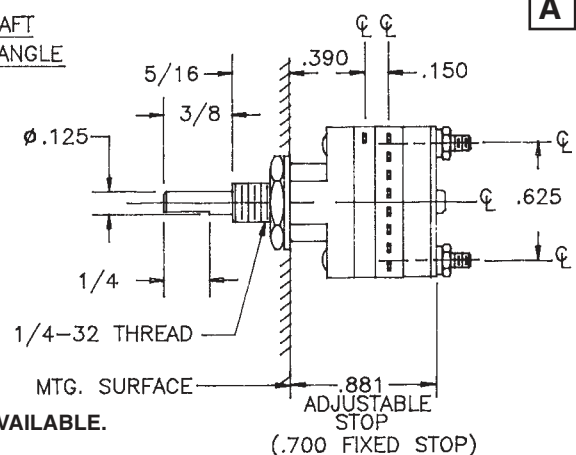
### C2P - STANDARD 8-PIN PER DECK ARRANGEMENT



**NOTE:**

- ONE DECK EQUALS TWO WAFERS.
- ADD .300" FOR EACH ADDITIONAL DECK.

1/4" DIAMETER SHAFTS ARE AVAILABLE.  
CONTACT FACTORY.





# ADDITIONAL OPTIONS AND ORDERING INFORMATION

# C2/C3 - SERIES

## How to Order Additional Options:

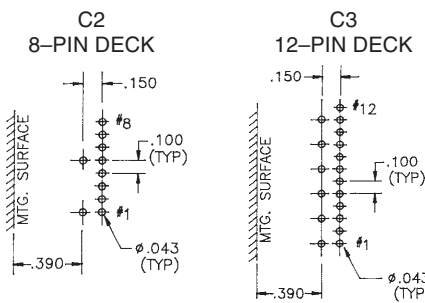
2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
C2	P-POLYESTER	01 - MIN.	08 - MAX @ 30° 04 - MAX @ 60° 03 - MAX @ 90°	N - NON SHORTING S - SHORTING		30° 60° 90°	F - FIXED C - CONT. A - ADJ.	SEE CHART "A"	SEE CHART "B"
C3	P-POLYESTER	01 - MIN.	12 - MAX @ 30° 06 - MAX @ 60° 04 - MAX @ 90°	N - NON SHORTING S - SHORTING					

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS				ADDITIONAL OPTIONS			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	<b>P</b>	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)

C

### PRINTED CIRCUIT BOARD PATTERN



- NOTES:**
- The **standard** spacing for the 1/8" dia. shaft from the first row of terminals to the mounting surface is .390 in.
  - The **standard** spacing for the 1/4" dia. shaft from the first row of terminals to the mounting surface is .481 in.

### SHAFT AND FLAT OPTIONS

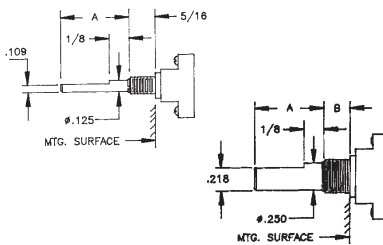


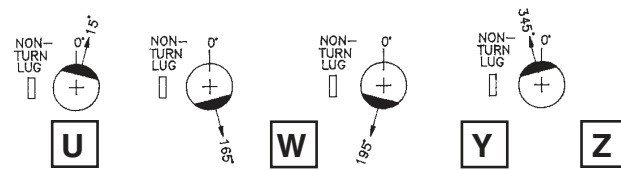
Chart A 1/8" shaft		
P/N	OPT	Shaft Lgth
01		1/4
02		3/8
03		1/2
04		9/16
05		3/4
06		7/8
07		1

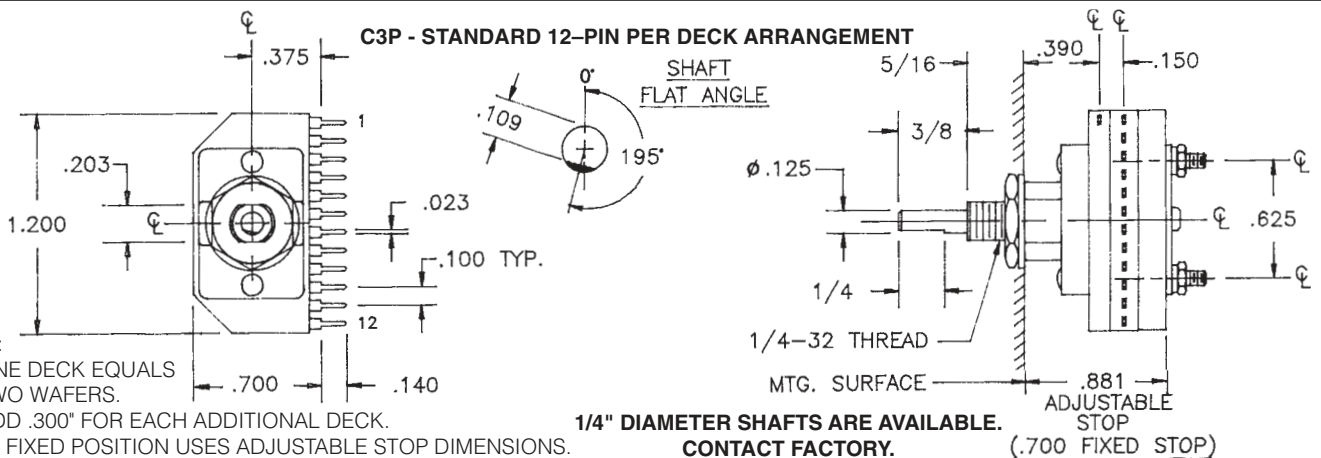
Chart A 1/4" shaft		
P/N	OPT	Shaft Lgth
08		1/4
09		3/8
10		1/2
11		9/16
12		3/4
13		7/8
14		1

CHART "B"	
P/N OPT.	FLAT ANGLE
U	15°
W	165°
Y	195°
Z	345°

SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.



### C3 - DIMENSIONS - 12 PIN DESIGN



- NOTE:**
- ONE DECK EQUALS TWO WAFERS.
  - ADD .300" FOR EACH ADDITIONAL DECK.
  - 12 FIXED POSITION USES ADJUSTABLE STOP DIMENSIONS.

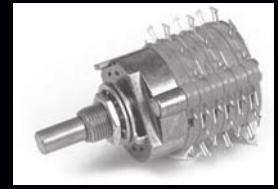
CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# C4 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

1.5" DIAMETER 0.5 AMP @ 28 VDC

The C4 Series provides a versatile, fully enclosed design, that helps keep dirt and moisture out of the contact area while locking in life time lubricants. IP67 Rating Available.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
0.5 amp @ 28 VDC; 0.3 amp @ 125 VAC.  
**Current Carrying Capacity:** 15 amps.  
**Dielectric Strength:** 1,000 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 3 milliohms.  
**Insulation Resistance:** In excess of 10,000 megohms.

**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Terminals and Contacts:** Brass with silver plate as standard.  
**Insulation:** Diallyl phthalate.  
**Index:** Dual-ball, hill and valley.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** 30° standard, 36°, 45°, 60°, and 90° available.  
**Index Stops:** Fixed standard, adjustable or continuous available.  
**Stop Strength:** 15 in. lbs. minimum.

### STANDARD PART NUMBER

#### SOLDER LUG - ADJUSTABLE STOPS

SWITCHES - 30° INDEXING - STOPS SET @ 2 POS.

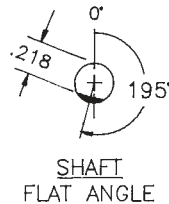
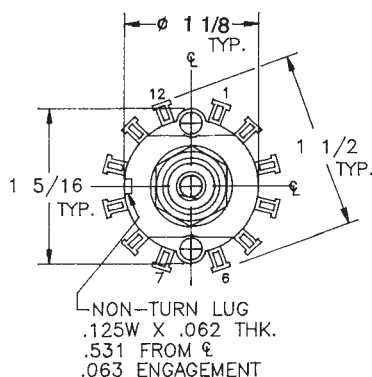
FIG. *	NON-SHORTING	SHORTING	NO. OF DECKS	POLES/DECK	ACTIVE POSITIONS
01	C4D0112S - A	C4D0112N - A	1	1	02-12
02	C4D0206S - A	C4D0206N - A	1	2	02-06
02	C4D0212S - A	C4D0212N - A	2	1	02-12
03	C4D0312S - A	C4D0312N - A	3	1	02-12
03	C4D0304S - A	C4D0304N - A	1	3	02-04
04	C4D0412S - A	C4D0412N - A	4	1	02-12
04	C4D0406S - A	C4D0406N - A	2	2	02-06
05	C4D0512S - A	C4D0512N - A	5	1	02-12

FIG. *	NON-SHORTING	SHORTING	NO. OF DECKS	POLES/DECK	ACTIVE POSITIONS
06	C4D0606S - A	C4D0606N - A	3	2	02-06
06	C4D0604S - A	C4D0604N - A	2	3	02-04
06	C4D0612S - A	C4D0612N - A	1	6	02-12
08	C4D0806S - A	C4D0806N - A	4	2	02-06
09	C4D0904S - A	C4D0904N - A	3	3	02-04
10	C4D1006S - A	C4D1006N - A	5	2	02-06
12	C4D1204S - A	C4D1204N - A	4	3	02-04
15	C4D1504S - A	C4D1504N - A	5	3	02-04

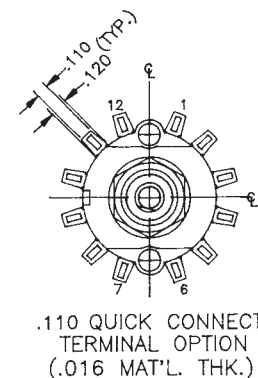
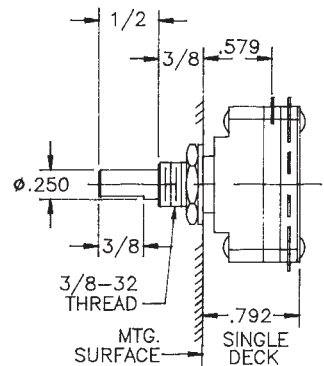
\* FIGURES ARE SHOWN ON PAGE 55.

### DIMENSIONS

#### C4D STANDARD CONSTRUCTION



- NOTE:
- ONE DECK EQUALS TWO WAFERS.
  - ADD .284" FOR EACH ADDITIONAL DECK.



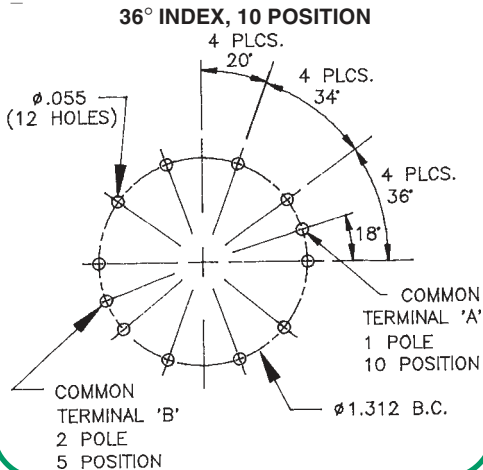
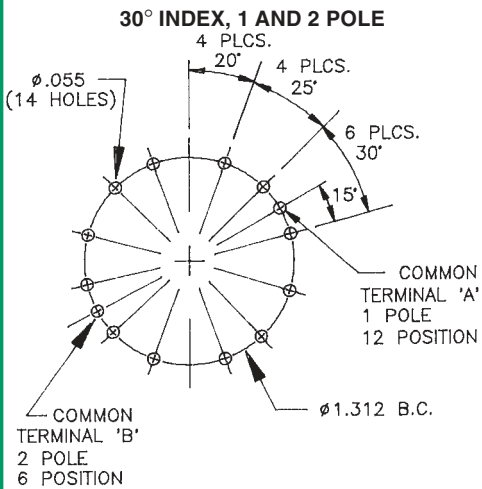
## How to Order Additional Options:

2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
C4	D - DIALLYL	01 - MIN.	12 - MAX @ 30° 10 - MAX @ 36° 08 - MAX @ 45° 06 - MAX @ 60° 04 - MAX @ 90°	S - SHORTING N - NON SHORTING	L - SOLDER LUG P - FRONT P.C. (NOT IN 45°) R - REAR P.C. (30° & 36° ONLY) Q - QUICK CONNECT	30° 36° 45° 60° ONLY 90°	F - FIXED A - A (30°, 60°, 90° ONLY) C - CONT.	D  SEE CHART "A"	J  SEE CHART "B"

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS

<b>C</b>	<b>4</b>	<b>D</b>							
(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)

### PRINTED CIRCUIT BOARD HOLE PATTERNS



### SHAFT, BUSHING, AND FLAT OPTIONS

**CHART "A"**

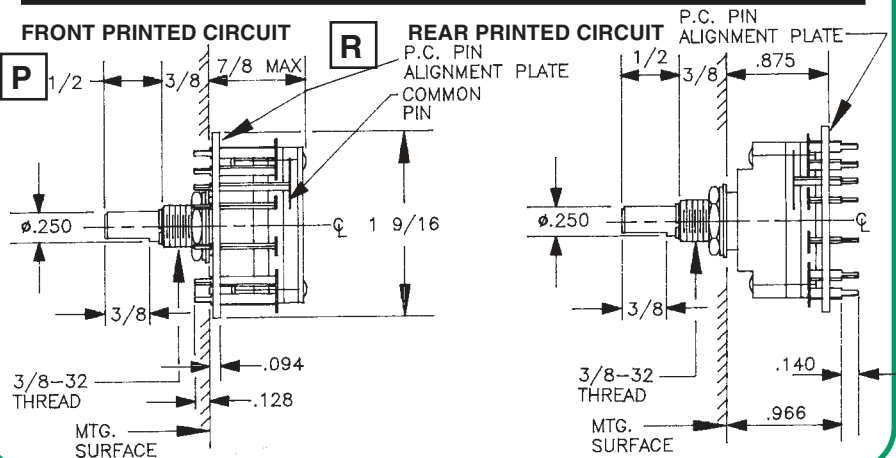
P/N OPT.	SHAFT LGTH. "A"	BUSH. LGTH. "B"
01	3/8	1/4
02	3/8	3/8
03	1/2	1/4
04	1/2	3/8
05	9/16	1/4
06	9/16	3/8
07	5/8	1/4
08	5/8	3/8
09	3/4	1/4
10	3/4	3/8
11	7/8	1/4
12	7/8	3/8
13	1	1/4
14	1	3/8

**CHART "B"**

P/N OPT.	FLAT ANGLE
U	15°
W	165°
Y	195°
Z	345°

SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.

### PRINTED CIRCUIT BOARD TERMINAL OPTIONS



CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# C5/C6 - SERIES

SPECIFICATIONS AND ORDERING INFORMATION

0.92" DIAMETER 1.0 AMP @ 28 VDC

The C5 Series offers a very economical and lightweight design. Standard features include 30° indexing up to 12 positions, solder lug terminals, fixed stops, and both internal and external seals for washability. The C6 Series offers the same features in an unsealed design.



## SPECIFICATIONS

### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
1 amp @ 28 VDC; 1 amp @ 125 VAC.  
**Current Carrying Capacity:** 5 amps.  
**Dielectric Strength:** 1,000 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 20 milliohms.  
**Insulation Resistance:** In excess of 10,000 megohms.

**Hardware:** Mounting nut and lockwasher are shipped assembled.

### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Terminals and Contacts:** Brass with silver plate as standard.  
**Insulation:** Polyester.  
**Index:** Molded live spring detent.  
**Index Life:** 10,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 30° standard.  
**Index Stops:** Fixed standard, adjustable, or continuous available.  
**Stop Strength:** 4.5 in. lbs. minimum.

## STANDARD PART NUMBER

### C5 - SOLDER LUG TERMINALS

SWITCHES - 30° INDEX - ADJUSTABLE STOPS - SET @ 2 POS. - SEALED

POLES	ACTIVE POSITIONS	POLES/ SECTION	NO. OF SECTIONS	NON-SHORTING	FIG. *
01	02-12	1	1	C5P0112N - A	CE
02	02-06	2	1	C5P0206N - A	CJ
03	02-04	3	1	C5P0304N - A	CL
04	02-03	4	1	C5P0403N - A	CM

### C5 - P.C. TERMINALS

SWITCHES - 30° INDEX - ADJUSTABLE STOPS - SET @ 2 POS. - SEALED

POLES	ACTIVE POSITIONS	POLES/ SECTION	NO. OF SECTIONS	NON-SHORTING	FIG. *
01	02-12	1	1	C5P0112N - RA	CE
02	02-06	2	1	C5P0206N - RA	CJ
03	02-04	3	1	C5P0304N - RA	CL
04	02-03	4	1	C5P0403N - RA	CM

### C6 - UNSEALED

POLES	ACTIVE POSITIONS	POLES/ SECTION	NO. OF SECTIONS	NON-SHORTING	FIG. *
01	02-12	1	1	C6P0112N - A	CE
02	02-06	2	1	C6P0206N - A	CJ
03	02-04	3	1	C6P0304N - A	CL
04	02-03	4	1	C6P0403N - A	CM

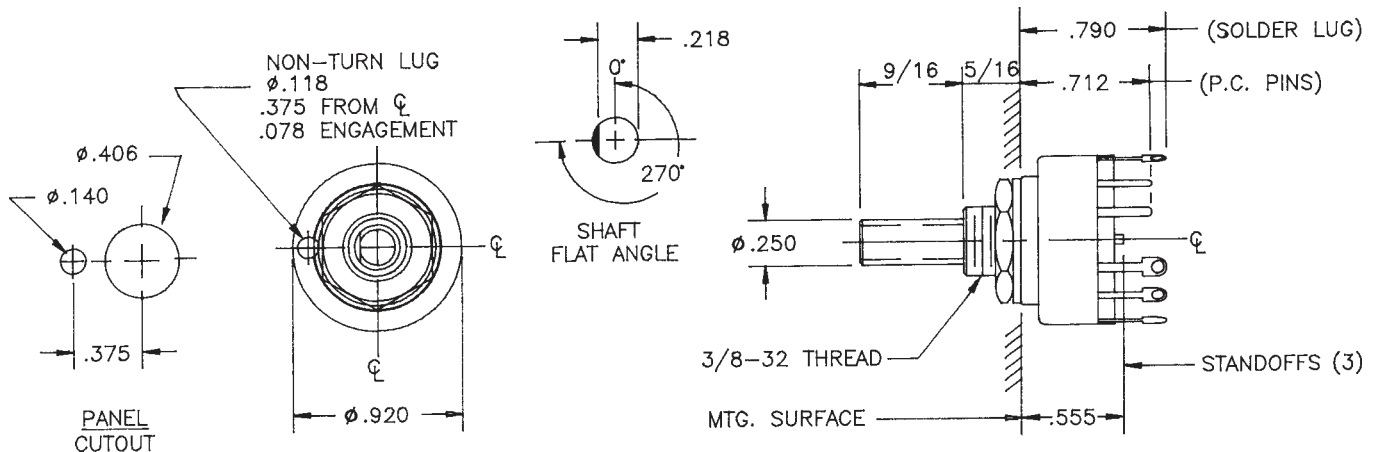
### C6 - UNSEALED

POLES	ACTIVE POSITIONS	POLES/ SECTION	NO. OF SECTIONS	NON-SHORTING	FIG. *
01	02-12	1	1	C6P0112N - RA	CE
02	02-06	2	1	C6P0206N - RA	CJ
03	02-04	3	1	C6P0304N - RA	CL
04	02-03	4	1	C6P0403N - RA	CM

\* FIGURES ARE SHOWN ON PAGE 55.

## DIMENSIONS

### STANDARD CONSTRUCTION



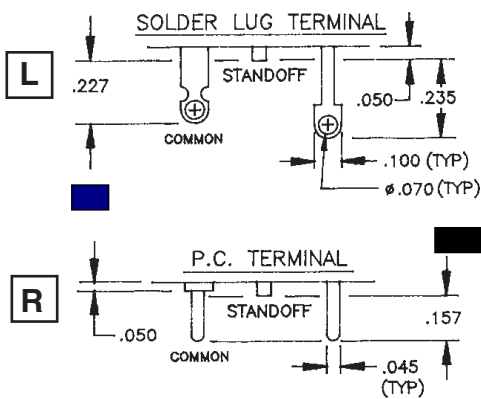
## How to Order Additional Options:

2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
C5	P - POLYESTER SEALED	01	12 - MAX	N - NON - SHORTING	L - SOLDER LUG R - REAR P.C.		F - FIXED A - ADJ. C - CONT.	SEE CHART "A"	SEE CHART "B"
		02	06 - MAX						
		03	04 - MAX						
		04	03 - MAX						
C6	P - POLYESTER UNSEALED	01	12 - MAX	N - NON - SHORTING					
		02	06 - MAX						
		03	04 - MAX						
		04	03 - MAX						

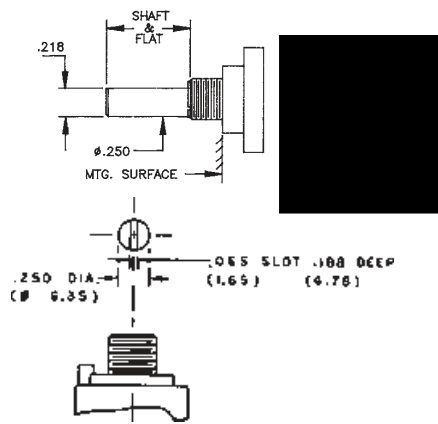
  

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS				ADDITIONAL OPTIONS		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	P	(SPECIFY)	(SPECIFY)	N	(SPECIFY)	(SPECIFY)

### TERMINAL TYPES



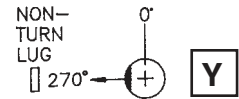
### SHAFT AND FLAT OPTIONS



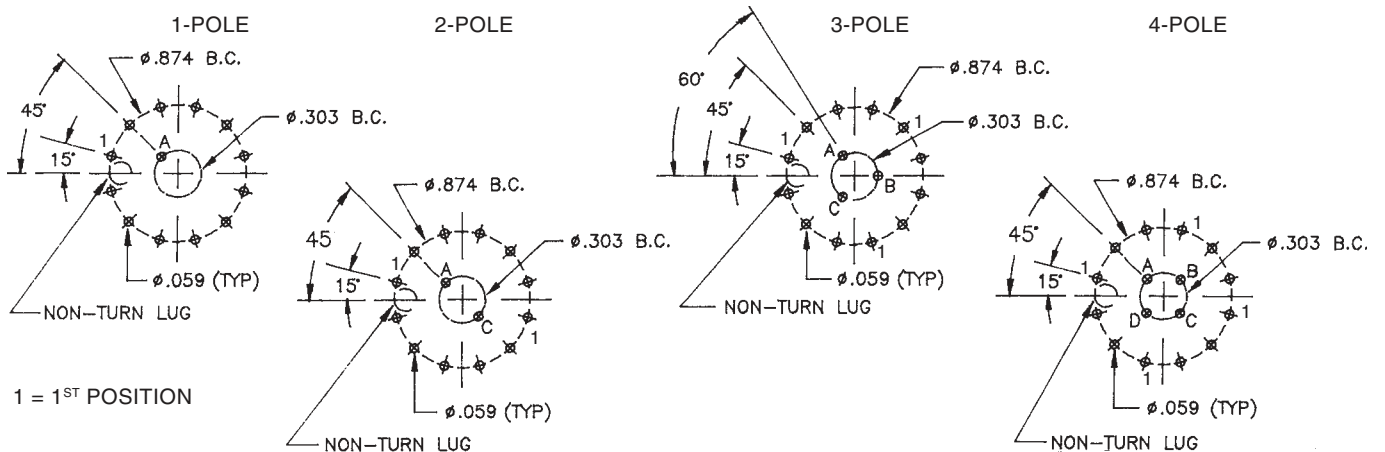
P/N OPT.	SHAFT & FLAT LGTH.
01	1/4
02	5/16
03	3/8
04	7/16
05	1/2
06	9/16
07	5/8
08	11/16
09	3/4
10	13/16
11	7/8
12	15/16
13	1
14	1 1/2
15	SLOTTED

P/N OPT.	FLAT ANGLE
B	ROUND
Y	270° - STD.

SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION.



### PRINTED CIRCUIT BOARD TERMINAL PATTERNS



CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# C7 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

2 1/32" DIAMETER 1.0 AMP @ 28 VDC

The C7 Series provides a fully enclosed, modular design that enables switching up to 24 positions. Our standard design offers 15° indexing, and solder lug terminals.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
1.0 amp @ 28 VDC; 0.5 amp @ 125 VAC.  
**Current Carrying Capacity:** 25 amps.  
**Dielectric Strength:** 1,000 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 3 milliohms.  
**Insulation Resistance:** In excess of 10,000 megohms.

**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Terminals and Contacts:** Brass with silver plate as standard.  
**Insulation:** Diallyl phthalate.  
**Index:** Single-ball, hill and valley.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** 15° standard, 30°, 60°, and 90° available.  
**Index Stops:** Fixed standard, continuous, or adj. available.  
**Stop Strength:** 25 in. lbs. minimum.

### STANDARD PART NUMBER

#### 15° INDEXING - FIXED STOPS SOLDER LUG TERMINALS

	ACTIVE POLES	POLES/ DECK	NO. OF DECKS	SHORTING	NON- SHORTING	FIG. *
01	23	1	1	C7D0123S	C7D0123N	CF
02	23	1	2	C7D0223S	C7D0223N	CF
03	23	1	3	C7D0323S	C7D0323N	CF
04	23	1	4	C7D0423S	C7D0423N	CF

#### 30° INDEXING

	ACTIVE POLES	POLES/ DECK	NO. OF DECKS	SHORTING	NON- SHORTING	FIG. *
01	12	1	1	C7D0112S-30	C7D0112N-30	CA
02	12	1	2	C7D0212S-30	C7D0212N-30	CA
03	12	1	3	C7D0312S-30	C7D0312N-30	CA

#### 15° INDEXING - CONTINUOUS ROTATION SOLDER LUG TERMINALS

	ACTIVE POLES	POLES/ DECK	NO. OF DECKS	SHORTING	NON- SHORTING	FIG. *
01	24	1	1	C7D0124S - C	C7D0124N - C	CG
02	24	1	2	C7D0224S - C	C7D0224N - C	CG
03	24	1	3	C7D0324S - C	C7D0324N - C	CG
04	24	1	4	C7D0424S - C	C7D0424N - C	CG

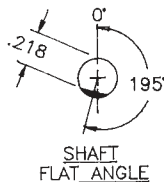
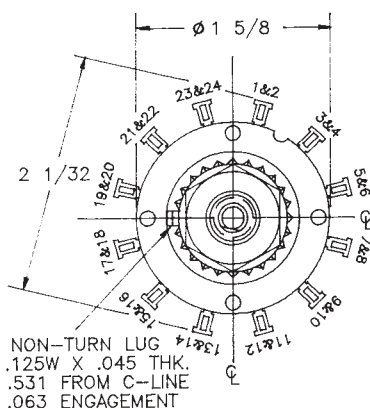
#### 30° INDEXING

	ACTIVE POLES	POLES/ DECK	NO. OF DECKS	SHORTING	NON- SHORTING	FIG. *
01	12	1	1	C7D0112S-30C	C7D0112N-30C	CA
02	12	1	2	C7D0212S-30C	C7D0212N-30C	CA
03	12	1	3	C7D0312S-30C	C7D0312N-30C	CA

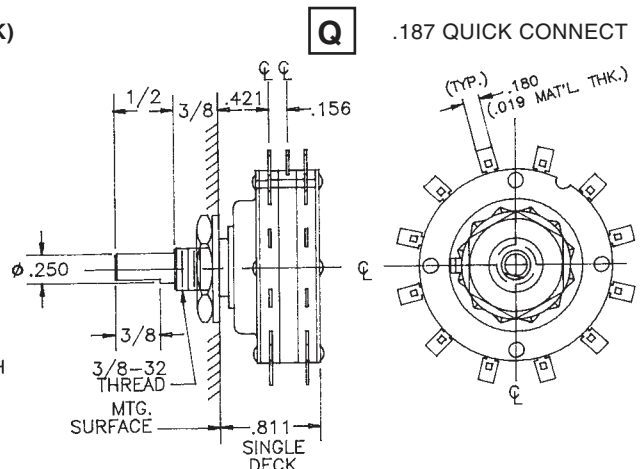
\* FIGURES ARE SHOWN ON PAGE 55.

### DIMENSIONS

#### STANDARD CONSTRUCTION - 15° INDEX ANGLE (3 WAFER DECK)



- NOTE:  
1. ONE DECK EQUALS THREE WAFERS.  
2. ADD .468" FOR EACH ADDITIONAL DECK.



## How to Order Additional Options:

2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
C7	D - DIALLYL	01 - MIN.	24 - MAX @ 15°	S - SHORTING N - NON SHORTING	L - SOLDER LUG Q - QUICK CONNECT	15°	F - FIXED 23 - POS. MAX. C - CONT. 24 - POS. MAX. A - Adjustable A23 - POS. MAX.	SEE CHART "A"	SEE CHART "B"
C7	D - DIALLYL	01 - MIN.	12 - MAX @ 30° 06 - MAX @ 60° 04 - MAX @ 90°	S - SHORTING N - NON SHORTING	L - SOLDER LUG Q - QUICK CONNECT	30° 60° 90°			

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS					ADDITIONAL OPTIONS				
C	7	D							
		(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)

SHORTING AND NON-SHORTING SWITCHING IS NOT GUARANTEED ON THE 15° INDEXING C7 SERIES.

### SHAFT AND FLAT OPTIONS

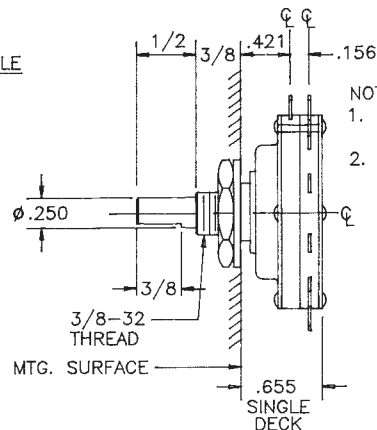
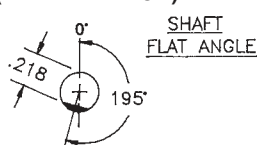
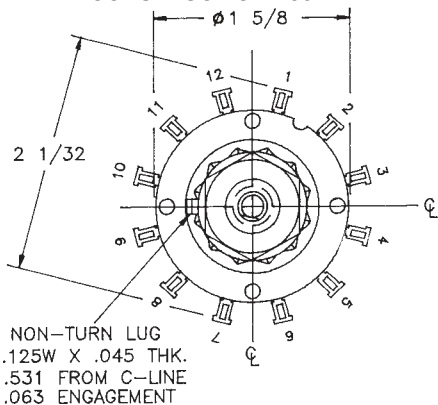
P/N OPT.	SHAFT LGTH. "A"
01	1/4
02	1/2
03	9/16
04	3/4
05	7/8
06	1

P/N OPT.	FLAT ANGLE
U	15°
W	165°
Y	195°
Z	345°

SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION.

### DIMENSIONS

STANDARD CONSTRUCTION - 30° INDEX ANGLE (2 WAFER DECK)



- NOTE:
- ONE DECK EQUALS TWO WAFERS.
  - ADD .312" FOR EACH ADDITIONAL DECK.

CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.



# SELECTOR GUIDE OPEN FRAME ROTARY ELECTRONIC SWITCHES



## CHARACTERISTICS

## SERIES D1

## SERIES D2

## SERIES D3

## SERIES D4

## SERIES D5

## SERIES D6

Page Number	18,19	20,21	22,23	24,25	26,27	28,29
Construction	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
Diameter	1.00"	1.00"	1.312"	1.437"	1.437"	1.687"
Positions	2 - 12	2 - 12	2 - 12	2 - 12	2 - 12	2 - 12
<b>Current and Voltage</b>	0.25A @ 115 VAC	0.25A @ 115 VAC	0.5A @ 115 VAC	0.5A @ 115 VAC	0.5A @ 115 VAC	0.5A @ 115 VAC
	0.55A @ 28 VDC	0.55A @ 28 VDC	1.5A @ 28 VDC	1.5A @ 28 VDC	1.5A @ 28 VDC	1.5A @ 28 VDC
<b>Current Carrying Capacity</b>	7A	7A	12A	9A	9A	9A
Dielectric Strength	750 VAC	750 VAC	1,000 VAC	1,500 VAC	1,500 VAC	1,500 VAC
<b>Insulation Resistance</b>	750,000	900,000	1,000,000	1,000,000	750,000	900,000
(megohms)						
<b>Contact Resistance</b>	5	5	3.5	3.5	3.5	3.5
(milliohms)						
<b>Insulation - Glass Epoxy</b>	STANDARD	YES	STANDARD	STANDARD	STANDARD	YES
Diallyl Phthalate	YES	STANDARD	YES	YES	NO	STANDARD
Ceramic	YES	YES	YES	YES	NO	YES
<b>Contacts - Silver Alloy *</b>	YES	YES	STD-CERAMIC	YES	YES	YES
Brass/Silver Plate	STANDARD	STANDARD	STD-GLASS	STANDARD	STANDARD	STANDARD
<b>Stop Strength</b>	10 in. lb.	10 in. lb.	25 in. lb.	10 in. lb.	25 in. lb.	25 in. lb.
Mechanical Life	25,000 cycles	25,000 cycles	25,000 cycles	25,000 cycles	25,000 cycles	25,000 cycles
<b>Detenting Angles:</b>						
30°	30	30	30	30	30	30
36°	36	36	—	—	—	36
45°	45	45	—	—	—	45
60°	—	60	60	60	—	60
<b>Quick Connect</b>	NO	NO	NO	NO	NO	NO
Rear PC Mount	YES	YES	YES	YES	YES	YES
<b>Vertical PC Mount *</b>	YES	YES	NO	NO	NO	NO
Front PC Mount *	YES	YES	YES	YES	YES	YES
<b>Dual Concentric Designs *</b>	YES	YES	YES	YES	NO	NO
Keylock *	YES	YES	YES	YES	YES	YES
<b>Spring Return *</b>	NO	NO	NO	NO	NO	NO
Water Resistant Seals *	YES	YES	YES	YES	YES	YES
<b>Originally Designed To</b>	SR05	N/A	SR03	SR02	N/A	N/A

★ Contact factory



# SELECTOR GUIDE OPEN FRAME ROTARY ELECTRONIC SWITCHES



## CHARACTERISTICS

## SERIES D7

## SERIES D8

## SERIES D9

Page Number	30,31	32,33	34,35
Construction	OPEN	OPEN	OPEN
<b>Diameter</b>	1.875"	2.312"	2.312"
Positions	2 - 12	2 - 18	2 - 24
<b>Current and Voltage</b>	1.0A @ 115 VAC	1.0A @ 115 VAC	0.25A @ 115 VAC
	2.25A @ 28 VDC	2.25A @ 28 VDC	1.5A @ 28 VDC
<b>Current Carrying Capacity</b>	9A	9A	9A
Dielectric Strength	1,500 VAC	1,000 VAC	1,000 VAC
<b>Insulation Resistance</b>	750 ,000	750,000	750 ,000
(megohms)			
<b>Contact Resistance</b>	3.5	5	5
(milliohms)			
<b>Insulation - Glass Epoxy</b>	STANDARD	STANDARD	STANDARD
Diallyl Phthalate	NO	NO	NO
Ceramic	YES	NO	NO
<b>Contacts - Silver Alloy *</b>	YES	YES	YES
Brass/Silver Plate	STANDARD	STANDARD	STANDARD
<b>Stop Strength</b>	25 in. lb.	25 in. lb.	25 in. lb.
<b>Mechanical Life</b>	25,000 cycles	25,000 cycles	25,000 cycles
<b>Detenting Angles:</b> 15°	—	—	15
20°	—	20	—
22.5°	—	—	—
30°	30	—	—
36°	—	—	—
45°	—	—	—
60°	60	—	—
<b>Quick Connect</b>	NO	NO	NO
Rear PC Mount	NO	NO	YES
<b>Vertical PC Mount *</b>	NO	NO	NO
Front PC Mount *	NO	NO	NO
<b>Dual Concentric Designs *</b>	YES	YES	YES
Keylock *	YES	YES	YES
<b>Spring Return *</b>	NO	NO	NO
Water Resistant Seals *	YES	YES	YES
<b>Originally Designed To</b>	N/A	N/A	N/A

Meet MIL 3785

Also see our "E" Series section for specialty open frame switches on pages 37 thru 43.

Use the open frame worksheet on page 45 for custom designs.

D

★ Contact factory

# D1 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

1" DIAMETER 0.55 AMP @ 28 VDC

This 1" diameter switch offers a unique lateral thrust index with exceptionally crisp torque. The D1 Series was originally designed to meet the size requirements of MIL-S-3786 style SR05. The 30° index and glass epoxy insulation are standard and several options are available including rear printed circuit terminals.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
0.55 amp @ 28 VDC; 0.25 amp @ 115 VAC.  
**Current Carrying Capacity:** 7 amps.  
**Dielectric Strength:** 750 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 5 milliohms.  
**Insulation Resistance:** Diallyl in excess of 900,000 megohms.  
Glass in excess of 750,000 megohms.  
Ceramic in excess of 1,000,000 megohms.  
**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Clips and Rotors:** Brass with silver plate as standard.  
**Insulation:** Glass, diallyl phthalate, or ceramic.  
**Index:** Dual-ball, side thrust design.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angle:** Positive 30° standard, 36°, and 45° available.  
**Index Stops:** Fixed or Continuous available.  
**Stop Strength:** 10 in. lbs. minimum.

### STANDARD PART NO.

EPOXY GLASS INSULATION  
SWITCHES - SOLDER LUG TERMINALS - 30° INDEX

	ACTIVE POLES	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON- SHORTING	FIG. ★
01	02-12	1	1	D1G0112S-F	D1G0112N-F	DE
02	02-12	1	2	D1G0212S-F	D1G0212N-F	DE
02	02-06	2	1	D1G0206S-F	D1G0206N-F	DL
03	02-12	1	3	D1G0312S-F	D1G0312N-F	DE
03	02-05	3	1	D1G0305S-F	D1G0305N-F	DO
04	02-06	2	2	D1G0406S-F	D1G0406N-F	DL
06	02-06	2	3	D1G0606S-F	D1G0606N-F	DL
06	02-05	3	2	D1G0605S-F	D1G0605N-F	DO

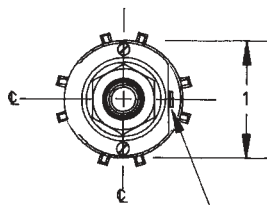
CERAMIC INSULATION  
SWITCHES - SOLDER LUG TERMINALS - 30° INDEX

	ACTIVE POLES	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON- SHORTING	FIG. ★
01	02-11	1	1	D1C0111S-F	D1C0111N-F	DB
02	02-11	1	2	D1C0211S-F	D1C0211N-F	DB
02	02-05	2	1	D1C0205S-F	D1C0205N-F	DG
03	02-11	1	3	D1C0311S-F	D1C0311N-F	DB
03	02-03	3	1	D1C0303S-F	D1C0303N-F	DN
04	02-05	2	2	D1C0405S-F	D1C0405N-F	DG
06	02-05	2	3	D1C0605S-F	D1C0605N-F	DG
06	02-03	3	2	D1C0603S-F	D1C0603N-F	DN

\* FIGURES ARE SHOWN ON PAGES 55 AND 56.

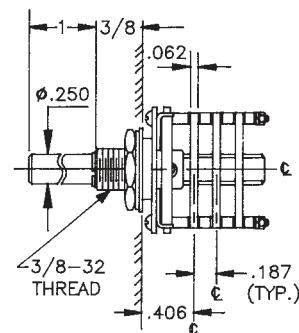
### DIMENSIONS

#### STANDARD CONSTRUCTION

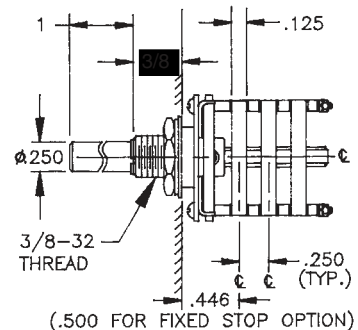


NON-TURN LUG  
.125W X .035 THK.  
.375 FROM  $\epsilon$   
.063 ENGAGEMENT

#### D1G - STANDARD GLASS EPOXY CONSTRUCTION



#### D1C CERAMIC INSULATION



## How to Order Additional Options:

2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/BUSHING	SHAFT FLAT
D1	G - GLASS (30°,36°,45°) D - DIALYL (30°,45°)	01 - MIN.	12 - MAX @ 30° 10 - MAX @ 36° 08 - MAX @ 45°	S - SHORTING N - NON-SHORTING	L - SOLDER LUG R - (REAR P.C. NOT CERAMIC)	30° 36° 45°	A - ADJ. F - FIXED (7-POS MAX @ 45°) C - CONT.	SEE CHART "A"	SEE CHART "B"
D1	C - CERAMIC	01 - MIN.	11 - MAX @ 30°	S - SHORTING N - NON-SHORTING	L - SOLDER LUG	30°	A - ADJ. F - FIXED C - CONT.	SEE CHART "A"	SEE CHART "B"

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS					ADDITIONAL OPTIONS						
D	1	□	□□ (SPECIFY)	□□ (SPECIFY)	□ (SPECIFY)	■ (SPECIFY)	□ (SPECIFY)	□□ (SPECIFY)	□ (SPECIFY)	□□ (SPECIFY)	□ (SPECIFY)

### SHAFT, BUSHING, AND FLAT OPTIONS

**SHAFT, BUSHING, AND FLAT OPTIONS**

**CHART "A"**

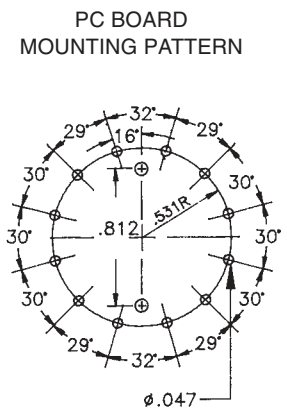
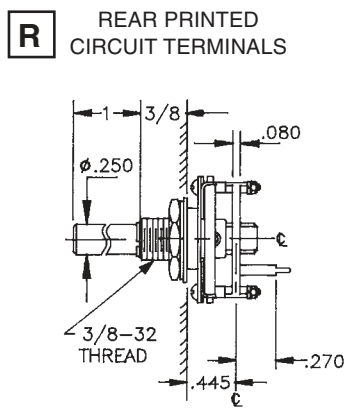
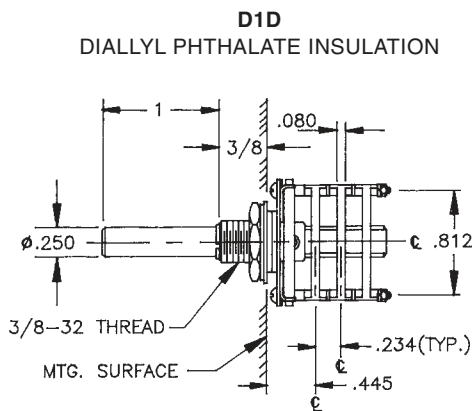
P/N OPT	SHAFT LGTH. "A"	BUSH LGTH. "B"
01	3/8	1/4
02	3/8	3/8
03	1/2	1/4
04	1/2	3/8
05	9/16	1/4
06	9/16	3/8
07	5/8	1/4
08	5/8	3/8
09	3/4	1/4
10	3/4	3/8
11	7/8	1/4
12	7/8	3/8
13	1	1/4
14	1	3/8

**CHART "B"**

P/N OPT	FLAT ANGLE
B	ROUND - STD.
U	15°
W	165°
Y	195°
Z	345°

SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.

### INSULATION AND PRINTED CIRCUIT BOARD TERMINAL OPTIONS



CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# D2 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

1" DIAMETER 0.55 AMP @ 28 VDC

The D2 Series switch is used where space is at a premium. This dual-ball side thrust index offers exceptional torque control and is available in 30°, 36°, 45°, and 60° angles. Standard designs utilize diallyl phthalate or ceramic insulation, solder lug terminals, and 30° adjustable stop indexing.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
0.55 amp @ 28 VDC; 0.25 amp @ 115 VAC.  
**Current Carrying Capacity:** 7 amps.  
**Dielectric Strength:** 750 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 5 milliohms.  
**Insulation Resistance:** Diallyl in excess of 900,000 megohms.  
Glass in excess of 750,000 megohms.  
Ceramic in excess of 1,000,000 megohms.  
**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Clips and Rotors:** Brass with silver plate as standard.  
**Insulation:** Diallyl phthalate, glass, or ceramic.  
**Index:** Dual-ball, side thrust design.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 30° standard, 36°, 45°, and 60° available.  
**Index Stops:** Adjustable standard, fixed or continuous.  
**Stop Strength:** 10 in. lbs. minimum.

### STANDARD PART NUMBER

DIALLYL PHTHALATE INSULATION - ADJUSTABLE STOPS  
SWITCHES - SOLDER LUG TERMINALS - 30° INDEX - SET @ 2 POS.

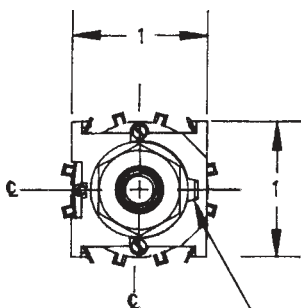
CERAMIC INSULATION - ADJUSTABLE STOPS  
SWITCHES - SOLDER LUG TERMINALS - 30° INDEX - SET @ 2 POS. - 1/8 DIA. SHAFT

ACTIVE POLES	POLES/ POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *	ACTIVE POLES	POLES/ POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *
01	02-12	1	1	D2D0112S	D2D0112N	DE	01	02-11	1	1	D2C0111S	D2C0111N	DB
02	02-06	2	1	D2D0206S	D2D0206N	DL	02	02-05	2	1	D2C0205S	D2C0205N	DG
02	02-12	1	2	D2D0212S	D2D0212N	DE	02	02-11	1	2	D2C0211S	D2C0211N	DB
03	02-05	3	1	D2D0305S	D2D0305N	DO	03	02-03	3	1	D2C0303S	D2C0303N	DN
03	02-12	1	3	D2D0312S	D2D0312N	DE	03	02-11	1	3	D2C0311S	D2C0311N	DB
04	02-06	2	2	D2D0406S	D2D0406N	DL	04	02-05	2	2	D2C0405S	D2C0405N	DG
06	02-05	3	2	D2D0605S	D2D0605N	DO	06	02-05	2	3	D2C0605S	D2C0605N	DG
06	02-06	2	3	D2D0606S	D2D0606N	DL	06	02-03	3	2	D2C0603S	D2C0603N	DN

\* FIGURES ARE SHOWN ON PAGES 55 AND 56.

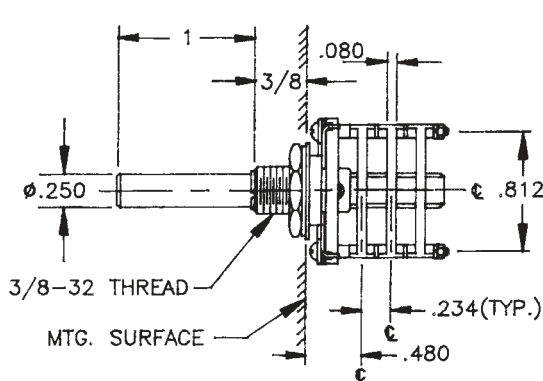
### DIMENSIONS

#### STANDARD CONSTRUCTION

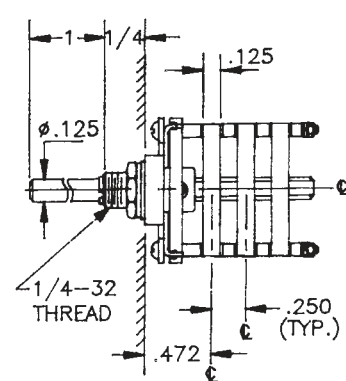


NON-TURN LUG  
.125W X .035 THK.  
.375 FROM  $\epsilon$   
.063 ENGAGEMENT

#### D2D DIALLYL PHTHALATE INSULATION



#### D2C CERAMIC INSULATION



## How to Order Additional Options:

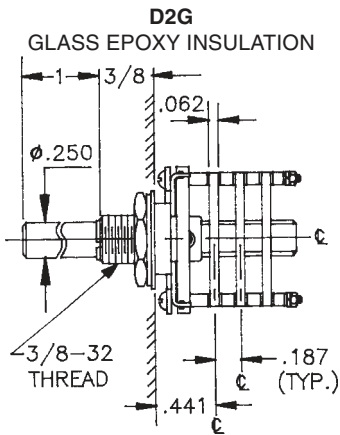
2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
D2	D - DIALYL (30°, 45°, 60°) G - GLASS (30°, 36°, 45°, 60°)	01 - MIN.	12 - MAX @ 30° 10 - MAX @ 36° 08 - MAX @ 45° 06 - MAX @ 60°	S - SHORTING N - NON SHORTING	L - SOLDER LUG V - VERT. P.C. 30° R - (REAR P.C. NOT CERAMIC)	30° 36° 45° 60°	A - ADJ. F - FIXED C - CONT.	SEE CHART "A"	SEE CHART "B"
D2	C - CERAMIC (30°, 60°) 1/8 SHAFT	01 - MIN.	11 - MAX @ 30°	S - SHORTING N - NON SHORTING	L - SOLDER LUG	30° 60°	A - ADJ. F - FIXED C - CONT.	SEE CHART "A"	SEE CHART "B"

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS

<b>D</b>	<b>2</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)

ADDITIONAL OPTIONS

### INSULATION OPTION



### SHAFT, BUSHING, AND FLAT OPTIONS

NOTE: DIMENSIONS IN ( ) ARE FOR P/N'S BEGINNING WITH D2C.

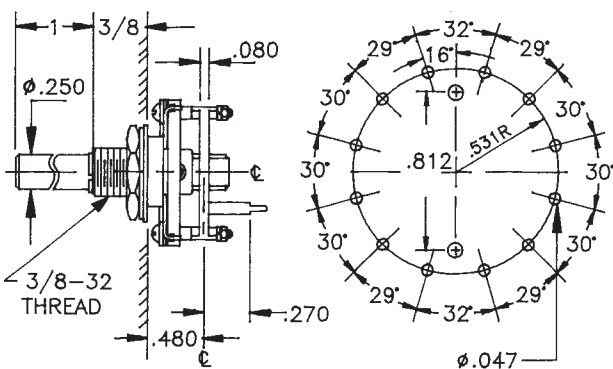
P/N OPT.	CHART "A"		CHART "B"	
	SHAFT LGTH. "A"	BUSH LGTH. "B"	P/N OPT.	FLAT ANGLE
01	3/8	1/4	B	ROUND - STD.
02	3/8	3/8	U	15°
03	1/2	1/4	W	165°
04	1/2	3/8	Y	195°
05	9/16	1/4	Z	345°
06	9/16	3/8		
07	5/8	1/4		
08	5/8	3/8		
09	3/4	1/4		
10	3/4	3/8		
11	7/8	1/4		
12	7/8	3/8		
13	1	1/4		
14	1	3/8		

SHAFT AS VIEWED WITH NON-TURN LUG AT 3 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.

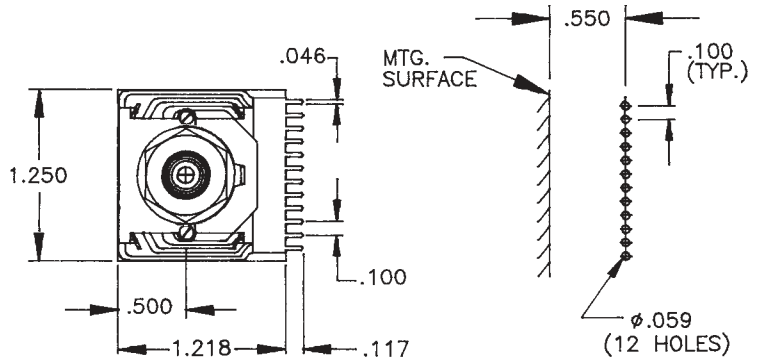
D2C - STD.  
D2D - STD.

### PRINTED CIRCUIT BOARD TERMINAL OPTIONS

**R** REAR P.C. DIALYL ONLY



**V** VERTICAL P.C.



CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# D3 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

1 5/16" DIAMETER 1.5 AMPS @ 28 VDC

The D3 Series was originally designed as a high quality military switch, but is ideal for use in both military and commercial equipment applications. The standard features of this hill and valley design are glass epoxy insulation and a 30° index, with options of ceramic and diallyl insulation and a 60° index.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
1.5 amps @ 28 VDC; 0.5 amp @ 115 VAC.  
**Current Carrying Capacity:** 9 amps.  
**Dielectric Strength:** 1,000 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 3.5 milliohms.  
**Insulation Resistance:** Glass in excess of 750,000 megohms.  
Ceramic in excess of 1,000,000 megohms.  
Diallyl in excess of 900,000 megohms.  
**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials.  
**Clips and Rotors:** Silver alloy standard on ceramic.  
Brass with silver plate standard on glass.  
**Insulation:** Glass epoxy, ceramic, or diallyl phthalate.  
**Index:** Single-ball, hill and valley.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 30° standard, 60° available.  
**Index Stops:** Adjustable standard, fixed or continuous.  
**Stop Strength:** 25 in. lbs. minimum.

### STANDARD PART NUMBER

EPOXY GLASS INSULATION - BRASS SILVER PLATE  
SWITCHES - SOLDER LUG TERMINALS - 30° INDEX - ADJUSTABLE STOPS SET @ 2 POS.

ACTIVE POLES	POLES/ POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *
01	02-11	1	1	D3G0111S	D3G0111N	DA
02	02-11	1	2	D3G0211S	D3G0211N	DA
02	02-05	2	1	D3G0205S	D3G0205N	DH
03	02-11	1	3	D3G0311S	D3G0311N	DA
03	02-03	3	1	D3G0303S	D3G0303N	DM
04	02-05	2	2	D3G0405S	D3G0405N	DH
06	02-03	3	2	D3G0603S	D3G0603N	DM
06	02-05	2	3	D3G0605S	D3G0605N	DH

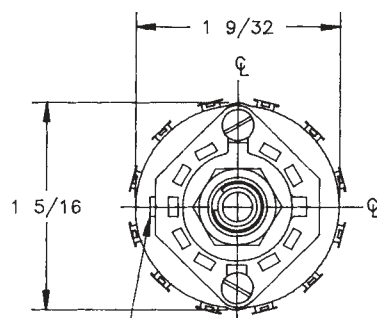
CERAMIC INSULATION - SILVER ALLOY - 2.6 AMPS @ 28 VDC  
SWITCHES - SOLDER LUG TERMINALS - 30° INDEX - ADJUSTABLE STOPS SET @ 2 POS.

ACTIVE POLES	POLES/ POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *
01	02-11	1	1	D3C0111S	D3C0111N	DA
02	02-11	1	2	D3C0211S	D3C0211N	DA
02	02-05	2	1	D3C0205S	D3C0205N	DH
03	02-11	1	3	D3C0311S	D3C0311N	DA
03	02-03	3	1	D3C0303S	D3C0303N	DM
04	02-05	2	2	D3C0405S	D3C0405N	DH
06	02-03	3	2	D3C0603S	D3C0603N	DM
06	02-05	2	3	D3C0605S	D3C0605N	DH

\* FIGURES ARE SHOWN ON PAGES 55 AND 56.

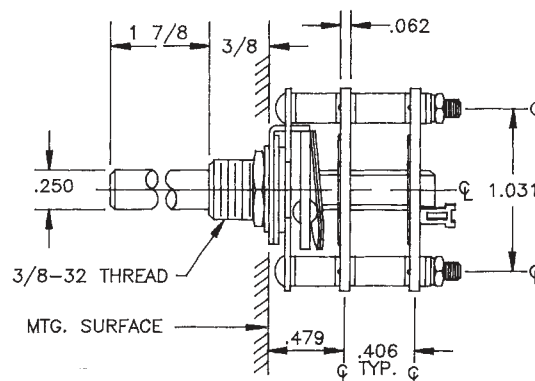
### DIMENSIONS

#### STANDARD CONSTRUCTION



NON-TURN LUG  
.125W X .035 THK.  
.531 FROM C-LINE  
.117 ENGAGEMENT

#### D3G - GLASS EPOXY CONSTRUCTION



## How to Order Additional Options:

2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
D3	G - GLASS C - CERAMIC (SILVER ALLOY) D - DIALLYL	01 - MIN.	12 - MAX @ 30° 06 - MAX @ 60°	N - NON SHORTING S - SHORTING	L - SOLDER LUG R - REAR P.C.	30° 60°	A - ADJ. F - FIXED C - CONT.	SEE CHART "A"	SEE CHART "B"

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS

<b>D</b>	<b>3</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)

## SHAFT, BUSHING, AND FLAT OPTIONS

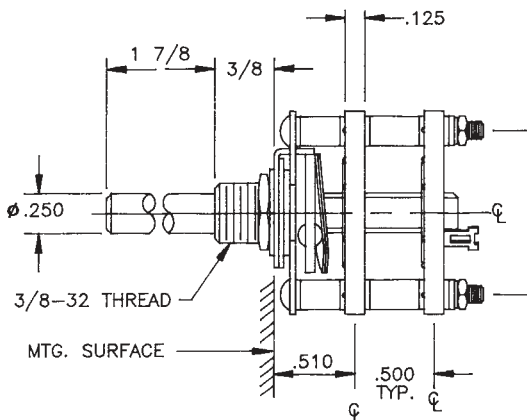
P/N OPT.	SHAFT LGTH. "A"	BUSH LGTH. "B"
01	3/8	1/4
02	3/8	3/8
03	1/2	1/4
04	1/2	3/8
05	9/16	1/4
06	9/16	3/8
07	3/4	1/4
08	3/4	3/8
09	1	1/4
10	1	3/8
11	1 1/2	1/4
12	1 1/2	3/8
13	1 7/8	1/4
14	1 7/8	3/8

P/N OPT.	FLAT ANGLE
B	ROUND - STD.
U	15°
W	165°
Y	195°
Z	345°

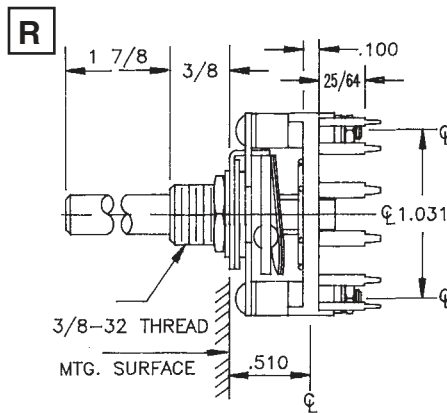
SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.

## INSULATION AND PRINTED CIRCUIT BOARD TERMINAL OPTIONS

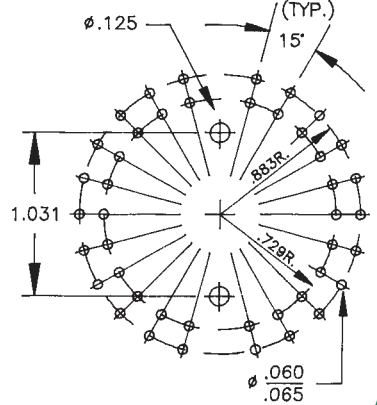
D3C - CERAMIC CONSTRUCTION



D3D - DIALLYL PHTHALATE CONSTRUCTION



P.C. BOARD MOUNTING PATTERN (TYP.)



CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.



# D4 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

1.437" DIAMETER 1.5 AMPS @ 28 VDC

The D4 Series switch is the most economical and versatile switch in our open frame rotary line. This series offers the quality feel of a ball and spring index mechanism and is available with up to 12 positions and 30° or 60° indexing.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
1.5 amps @ 28 VDC; 0.5 amp @ 115 VAC.  
**Current Carrying Capacity:** 9 amps.  
**Dielectric Strength:** 1,500 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 3.5 milliohms.  
**Insulation Resistance:** Glass epoxy in excess of 750,000 megohms.  
Ceramic in excess of 1,000,000 megohms.  
Diallyl in excess of 900,000 megohms.  
**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Clips and Rotors:** Brass with silver plate as standard.  
**Insulation:** Glass epoxy, ceramic, or diallyl phthalate.  
**Index:** Single-ball, hill and valley.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 30° standard, 60° available.  
**Index Stops:** Adjustable standard, fixed or continuous.  
**Stop Strength:** 10 in. lbs. minimum.

### STANDARD PART NUMBER

#### GLASS EPOXY INSULATION

SWITCHES - SOLDER LUG TERMINALS - 30° INDEX - ADJUSTABLE STOPS

ACTIVE POLES	POLES/ POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *
01	02-11	1	1	D4G0111S	D4G0111N	DA
02	02-11	1	2	D4G0211S	D4G0211N	DA
02	02-05	2	1	D4G0205S	D4G0205N	DG
03	02-11	1	3	D4G0311S	D4G0311N	DA
03	02-03	3	1	D4G0303S	D4G0303N	DM
04	02-11	1	4	D4G0411S	D4G0411N	DA
04	02-05	2	2	D4G0405S	D4G0405N	DG
05	02-11	1	5	D4G0511S	D4G0511N	DA
06	02-11	1	6	D4G0611S	D4G0611N	DA
06	02-05	2	3	D4G0605S	D4G0605N	DG
06	02-03	3	2	D4G0603S	D4G0603N	DM
09	02-03	3	3	D4G0903S	D4G0903N	DM

#### CERAMIC INSULATION

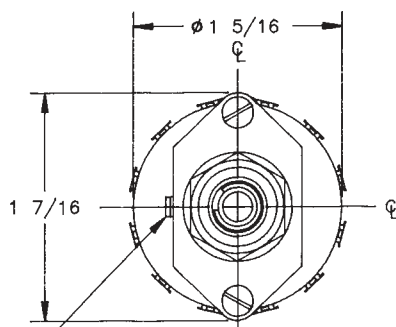
SWITCHES - SOLDER LUG TERMINALS - 30° INDEX - ADJUSTABLE STOPS

ACTIVE POLES	POLES/ POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *
01	02-12	1	1	D4C0112S	D4C0112N	DD
02	02-12	1	2	D4C0212S	D4C0212N	DD
02	02-06	2	1	D4C0206S	D4C0206N	DL
03	02-12	1	3	D4C0312S	D4C0312N	DD
03	02-05	3	1	D4C0305S	D4C0305N	DO
04	02-12	1	4	D4C0412S	D4C0412N	DD
04	02-06	2	2	D4C0406S	D4C0406N	DL
05	02-12	1	5	D4C0512S	D4C0512N	DD
05	02-03	5	1	D4C0503S	D4C0503N	DR
06	02-12	1	6	D4C0612S	D4C0612N	DD
06	02-06	2	3	D4C0606S	D4C0606N	DL
06	02-05	3	2	D4C0605S	D4C0605N	DO

\* FIGURES ARE SHOWN ON PAGES 55 AND 56.

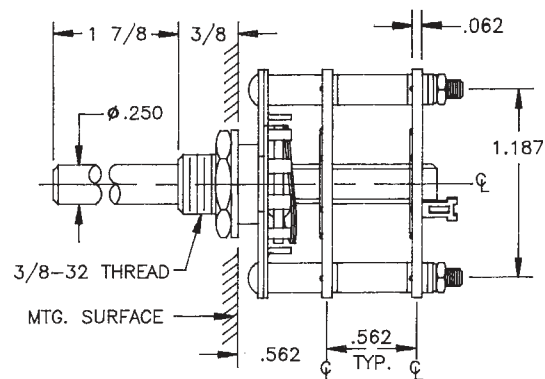
### DIMENSIONS

#### STANDARD CONSTRUCTION



NON-TURN LUG  
.125W X .035 THK.  
.437 FROM C-LINE  
.090 ENGAGEMENT

#### D4G - STANDARD GLASS EPOXY CONSTRUCTION





## How to Order Additional Options:

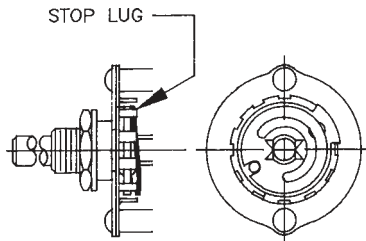
2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
D4	G - GLASS C - CERAMIC D - DIALLYL	01 - MIN.	12 - MAX @ 30° 06 - MAX @ 60°	N - NON SHORTING S - SHORTING	L - SOLDER LUG R - REAR P.C.	30° 60°	A - ADJ. F - FIXED C - CONT.	SEE CHART "A"	SEE CHART "B"

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS

<b>D</b>	<b>4</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)

ADDITIONAL OPTIONS

### ADJUSTABLE STOP MECHANISM



REMOVE STOP LUGS TO ACHIEVE MORE POSITIONS.

### SHAFT, BUSHING, AND FLAT OPTIONS

**CHART "A"**

P/N OPT.	SHAFT LGTH "A"	BUSH LGTH "B"
01	3/8	1/4
02	3/8	3/8
03	1/2	1/4
04	1/2	3/8
05	9/16	1/4
06	9/16	3/8
07	3/4	1/4
08	3/4	3/8
09	1	1/4
10	1	3/8
11	1 1/2	1/4
12	1 1/2	3/8
13	1 7/8	1/4
14	1 7/8	3/8

**CHART "B"**

P/N OPT.	FLAT ANGLE
B	ROUND
U	15°
W	165°
Y	195°
Z	345°

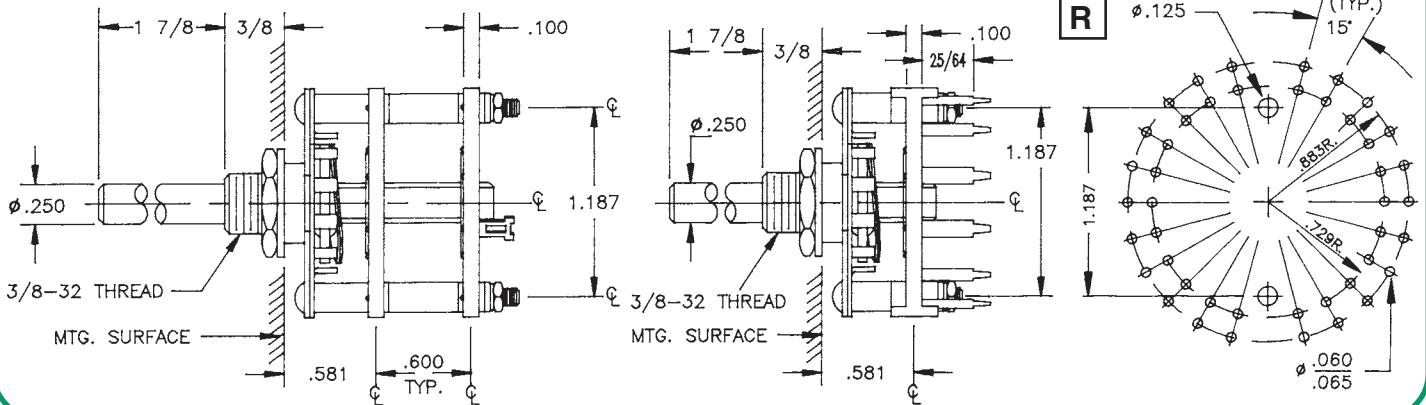
SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.

### INSULATION AND PRINTED CIRCUIT BOARD TERMINAL OPTIONS

#### D4C - CERAMIC CONSTRUCTION

#### D4D - DIALLYL PHTHALATE CONSTRUCTION

#### DIALLYL PHTHALATE P.C. BOARD MOUNTING PATTERN



CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# D5 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

1.437" DIAMETER 1.5 AMPS @ 28 VDC

The D5 Series switch is an economical single section switch utilizing glass epoxy insulation, staked construction, and printed circuit board or solder lug terminals. The formed spring index uses a small face plate area with detenting available up to 12 positions.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
1.5 amps @ 28 VDC; 0.5 amp @ 115 VAC.  
**Current Carrying Capacity:** 9 amps.  
**Dielectric Strength:** 1,500 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 3.5 milliohms.  
**Insulation Resistance:** In excess of 750,000 megohms.

**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Clips and Rotors:** Brass with silver plate as standard.  
**Insulation:** Glass epoxy.  
**Index:** Formed spring, hill and valley design.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 30° standard.  
**Index Stops:** Fixed or continuous.  
**Stop Strength:** 25 in. lbs. minimum.

### STANDARD PART NUMBER

#### SOLDER LUG TERMINALS

SWITCHES - 30° INDEXING - FIXED STOPS

ACTIVE POLES	POLES/ POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *
01	06	1	1	D5G0106S	D5G0106N	DB
01	08	1	1	D5G0108S	D5G0108N	DB
01	10	1	1	D5G0110S	D5G0110N	DB
01	11	1	1	D5G0111S	D5G0111N	DB
02	04	2	1	D5G0204S	D5G0204N	DG
02	05	2	1	D5G0205S	D5G0205N	DG
03	03	3	1	D5G0303S	D5G0303N	DN

#### PRINTED CIRCUIT BOARD TERMINALS

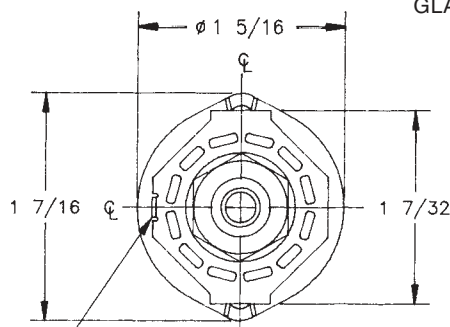
SWITCHES - 30° INDEXING - FIXED STOPS

ACTIVE POLES	POLES/ POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *
01	06	1	1	D5G0106S - R	D5G0106N - R	DB
01	08	1	1	D5G0108S - R	D5G0108N - R	DB
01	10	1	1	D5G0110S - R	D5G0110N - R	DB
01	11	1	1	D5G0111S - R	D5G0111N - R	DB
02	04	2	1	D5G0204S - R	D5G0204N - R	DG
02	05	2	1	D5G0205S - R	D5G0205N - R	DG
03	03	3	1	D5G0303S - R	D5G0303N - R	DN

\* FIGURES ARE SHOWN ON PAGES 55 AND 56.

### DIMENSIONS

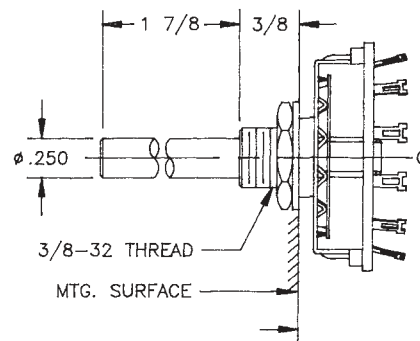
#### STANDARD CONSTRUCTION



NON-TURN LUG  
.125W X .025 THK.  
.531 FROM C-LINE  
.063 ENGAGEMENT

#### D5G

#### GLASS EPOXY CONSTRUCTION



## How to Order Additional Options:

2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
D5	G - GLASS	01 - MIN.	12 - MAX @ 30°	S - SHORTING N - NON SHORTING	L - SOLDER LUG R - REAR P.C.		F - FIXED C - CONT.	SEE CHART "A"	SEE CHART "B"

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS					ADDITIONAL OPTIONS				
<b>D</b>	<b>5</b>	<b>G</b>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)

### SHAFT, BUSHING, AND FLAT OPTIONS

P/N OPT.	SHAFT LGTH. "A"	BUSH. LGTH. "B"
01	3/8	1/4
02	3/8	3/8
03	1/2	1/4
04	1/2	3/8
05	9/16	1/4
06	9/16	3/8
07	3/4	1/4
08	3/4	3/8
09	1	1/4
10	1	3/8
11	1 1/2	1/4
12	1 1/2	3/8
13	1 7/8	1/4
14	1 7/8	3/8

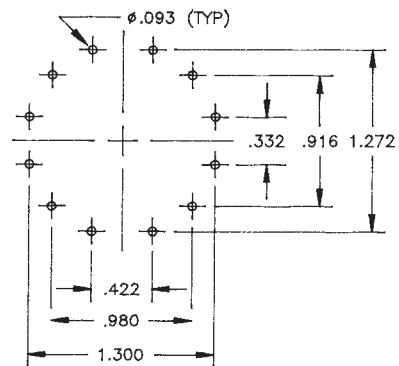
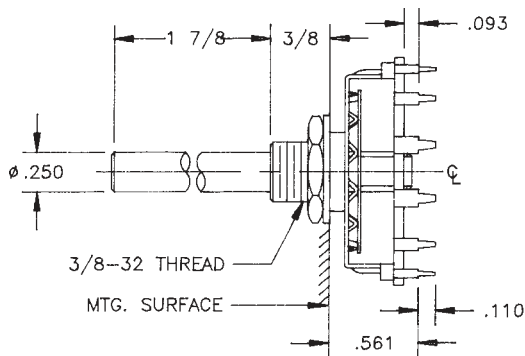
P/N OPT.	FLAT ANGLE	STD
B	ROUND	
U	15°	
W	165°	
Y	195°	
Z	345°	

SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.

### PRINTED CIRCUIT BOARD OPTIONS

**R**

P.C. BOARD MOUNTING PATTERN



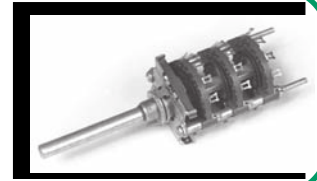
CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# D6 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

1.687" DIAMETER 1.5 AMPS @ 28 VDC

The D6 Series is one of our more versatile rotary switches. A 30° index angle, solder lug terminals, and diallyl phthalate insulation are standard. However, additional indexes of 36°, 45°, and 60° and insulation sections of glass epoxy and ceramic are available. Adjustable stops are available on indexes of 30° and 60°.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
1.5 amps @ 28 VDC; 0.5 amp @ 115 VAC.  
**Current Carrying Capacity:** 9 amps.  
**Dielectric Strength:** 1,500 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 3.5 milliohms.  
**Insulation Resistance:** Diallyl in excess of 900,000 megohms  
Glass in excess of 750,000 megohms.  
Ceramic in excess of 1,000,000 megohms.  
**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Clips and Rotors:** Brass with silver plate as standard.  
**Insulation:** Diallyl phthalate, glass, or ceramic.  
**Index:** Dual-ball, side thrust design.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 30° standard, 36°, 45°, and 60° available.  
**Index Stops:** Adjustable standard, fixed or continuous.  
**Stop Strength:** 25 in. lbs. minimum.

### STANDARD PART NUMBER

#### DIALLYL PHTHALATE INSULATION

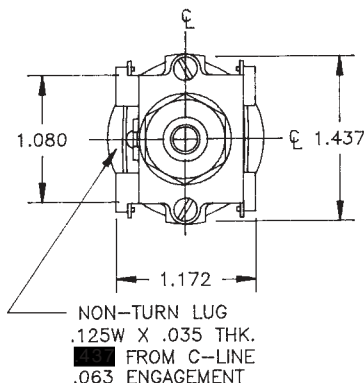
SWITCHES - 30° INDEX - ADJUSTABLE STOPS - SOLDER LUG TERMINALS

POLES	ACTIVE POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *	POLES	ACTIVE POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *
01	02-12	1	1	D6D0112S	D6D0112N	DD	05	02-03	5	1	D6D0503S	D6D0503N	DR
02	02-12	1	2	D6D0212S	D6D0212N	DD	06	02-12	1	6	D6D0612S	D6D0612N	DD
02	02-06	2	1	D6D0206S	D6D0206N	DL	06	02-06	2	3	D6D0606S	D6D0606N	DL
03	02-12	1	3	D6D0312S	D6D0312N	DD	06	02-05	3	2	D6D0605S	D6D0605N	DO
03	02-05	3	1	D6D0305S	D6D0305N	DO	08	02-06	2	4	D6D0806S	D6D0806N	DL
04	02-12	1	4	D6D0412S	D6D0412N	DD	09	02-05	3	3	D6D0905S	D6D0905N	DO
04	02-06	2	2	D6D0406S	D6D0406N	DL	10	02-03	5	2	D6D1003S	D6D1003N	DR
05	02-12	1	5	D6D0512S	D6D0512N	DD	10	02-06	2	5	D6D1006S	D6D1006N	DL

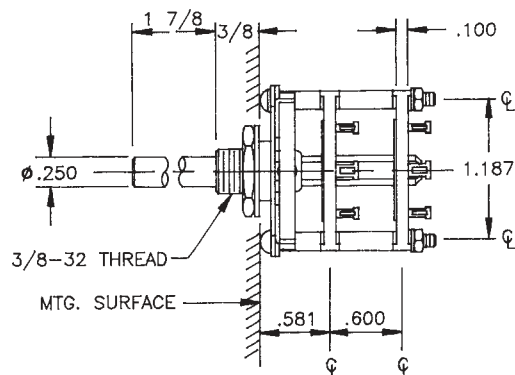
\* FIGURES ARE SHOWN ON PAGES 55 AND 56.

### DIMENSIONS

#### STANDARD CONSTRUCTION



#### D6D - DIALLYL PHTHALATE CONSTRUCTION



## How to Order Additional Options:

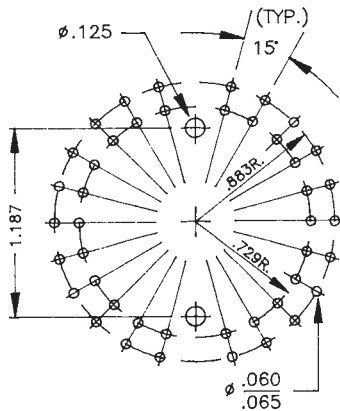
2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
D6	D - DIALLYL (30°,45°,60°) G - GLASS (30°,36°,45°,60°)	01 - MIN.	12 - MAX @ 30° 10 - MAX @ 36° 08 - MAX @ 45° 06 - MAX @ 60°	S - SHORTING N - NON SHORTING	L - SOLDER LUG R - REAR P.C. (NO 36°)	30° 36° 45° 60°	A - ADJ. (30°,60° ONLY) F - FIXED C - CONT.	SEE CHART "A"	SEE CHART "B"
D6	C - CERAMIC (30°,60°)	01 - MIN.	12 - MAX @ 30° 06 - MAX @ 60°	S - SHORTING N - NON SHORTING	L - SOLDER LUG	30° 60°	A - ADJ. F - FIXED C - CONT.	SEE CHART "A"	SEE CHART "B"

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS

**D 6**

(SPECIFY) (SPECIFY) (SPECIFY) (SPECIFY) (SPECIFY) (SPECIFY) (SPECIFY) (SPECIFY)

### PRINTED BOARD MOUNTING PATTERN



### SHAFT, BUSHING, AND FLAT OPTIONS

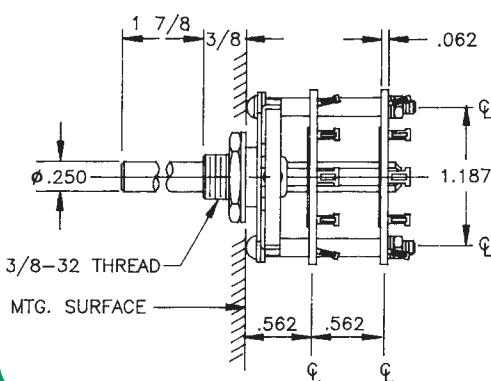
P/N OPT.	SHAFT LGTH. "A"	BUSH LGTH. "B"
01	3/8	1/4
02	3/8	3/8
03	1/2	1/4
04	1/2	3/8
05	9/16	1/4
06	9/16	3/8
07	3/4	1/4
08	3/4	3/8
09	1	1/4
10	1	3/8
11	1 1/2	1/4
12	1 1/2	3/8
13	1 7/8	1/4
14	1 7/8	3/8

P/N OPT.	FLAT ANGLE	STD
B	ROUND	STD
U	15°	
W	165°	
Y	195°	
Z	345°	

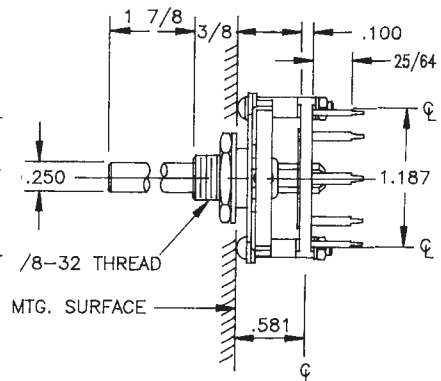
SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.

### INSULATION OPTIONS

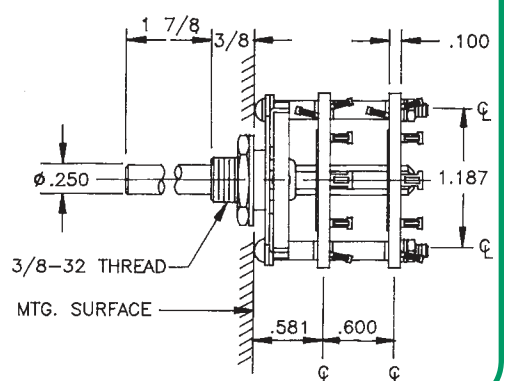
D6G - GLASS EPOXY INSULATION



**R** REAR P.C.



D6C - CERAMIC CONSTRUCTION



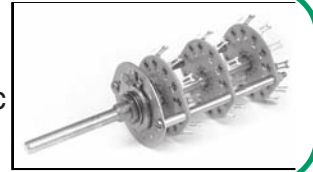
CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# D7 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

1 7/8" DIAMETER 2.25 AMPS @ 28 VDC

The D7 Series, constructed with a dual-ball, hill and valley index, has increased the physical size of the switch conductors allowing for additional current carrying capabilities. Standard designs utilize glass epoxy or ceramic insulations, solder lug terminals, and 30° adjustable stop indexing.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load 2.25 amps @ 28 VDC; 1.0 amp @ 115 VAC.  
**Current Carrying Capacity:** 9 amps.  
**Dielectric Strength:** 1,500 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 3 milliohms.  
**Insulation Resistance:** Glass in excess of 750,000 megohms.  
 Ceramic in excess of 1,000,000 megohms.  
**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Clips and Rotors:** Brass with silver plate as standard.  
**Insulation:** Glass epoxy, or ceramic.  
**Index:** Dual-ball, hill and valley design.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 30° standard, 60° available.  
**Index Stops:** Adjustable standard, fixed or continuous.  
**Stop Strength:** 25 in. lbs. minimum.

### STANDARD PART NUMBER

#### GLASS EPOXY INSULATION

#### SWITCHES - 30° INDEXING

ADJUSTABLE STOPS - SOLDER LUG TERMINALS - STOPS SET @ 2 POS.

#### CERAMIC INSULATION

#### SWITCHES - 30° INDEXING

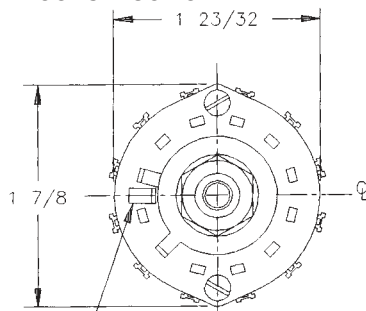
ADJUSTABLE STOPS - SOLDER LUG TERMINALS - STOPS SET @ 2 POS.

POLES	ACTIVE POSITIONS	POLES/ SECTION	NO. OF SECTIONS	GLASS EPOXY INSULATION			CERAMIC INSULATION						
				SHORTING	NON-SHORTING	FIG. *	SHORTING	NON-SHORTING	FIG. *				
01	02-11	1	1	D7G0111S	D7G0111N	DA	01	02-11	1	D7C0111S	D7C0111N	DA	
02	02-11	1	2	D7G0211S	D7G0211N	DA	02	02-11	1	2	D7C0211S	D7C0211N	DA
02	02-05	2	1	D7G0205S	D7G0205N	DH	02	02-05	2	1	D7C0205S	D7C0205N	DH
03	02-11	1	3	D7G0311S	D7G0311N	DA	03	02-11	1	3	D7C0311S	D7C0311N	DA
03	02-03	3	1	D7G0303S	D7G0303N	DM	03	02-03	3	1	D7C0303S	D7C0303N	DM
04	02-11	1	4	D7G0411S	D7G0411N	DA	04	02-05	2	2	D7C0405S	D7C0405N	DH
04	02-05	2	2	D7G0405S	D7G0405N	DH	06	02-05	2	3	D7C0605S	D7C0605N	DH
05	02-11	1	5	D7G0511S	D7G0511N	DA	06	02-03	3	2	D7C0603S	D7C0603N	DM
06	02-05	2	3	D7G0605S	D7G0605N	DH	60° INDEXING						
06	02-03	3	2	D7G0603S	D7G0603N	DM	01	02-06	1	1		D7C0106N-60	DK
06	02-11	1	6	D7G0611S	D7G0611N	DA	02	02-06	1	2		D7C0206N-60	DK
08	02-05	2	4	D7G0805S	D7G0805N	DH	03	02-06	1	3		D7C0306N-60	DK
09	02-03	3	3	D7G0903S	D7G0903N	DM	04	02-06	1	4		D7C0406N-60	DK
10	02-05	2	5	D7G1005S	D7G1005N	DH	05	02-06	1	5		D7C0506N-60	DK

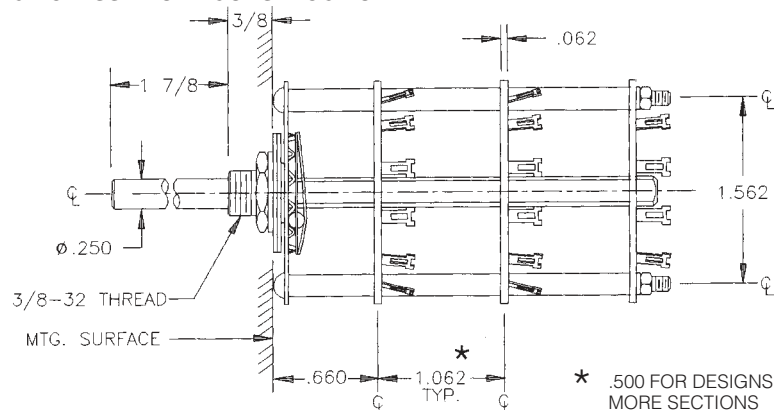
\* FIGURES ARE SHOWN ON PAGES 55 AND 56.

### DIMENSIONS

#### STANDARD CONSTRUCTION



#### D7G - GLASS EPOXY CONSTRUCTION



## How to Order Additional Options:

2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	INDEX ANGLE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
D7	G - GLASS C - CERAMIC	01 - MIN.	12 - MAX @ 30° 06 - MAX @ 60°	S - SHORTING N - NON-SHORTING	30° 60°	A - ADJ. F - FIXED C - CONT.	SEE CHART "A"	SEE CHART "B"

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS

<b>D</b>	<b>7</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)

ADDITIONAL OPTIONS

### SHAFT, BUSHING, AND FLAT OPTIONS

P/N OPT.	SHAFT LGTH. "A"	BUSH LGTH. "B"
01	3/8	1/4
02	3/8	3/8
03	1/2	1/4
04	1/2	3/8
05	9/16	1/4
06	9/16	3/8
07	3/4	1/4
08	3/4	3/8
09	1	1/4
10	1	3/8
11	1 1/2	1/4
12	1 1/2	3/8
13	1 7/8	1/4
14	1 7/8	3/8

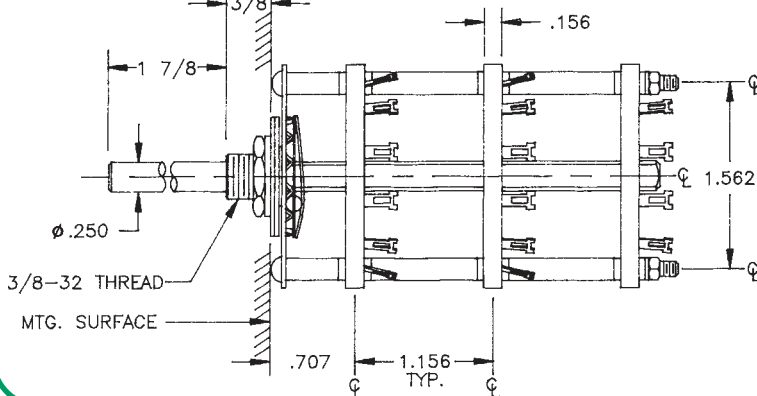
P/N OPT.	FLAT ANGLE
B	ROUND - STD
U	15°
W	165°
Y	195°
Z	345°

SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.

### INSULATION AND INDEX OPTIONS

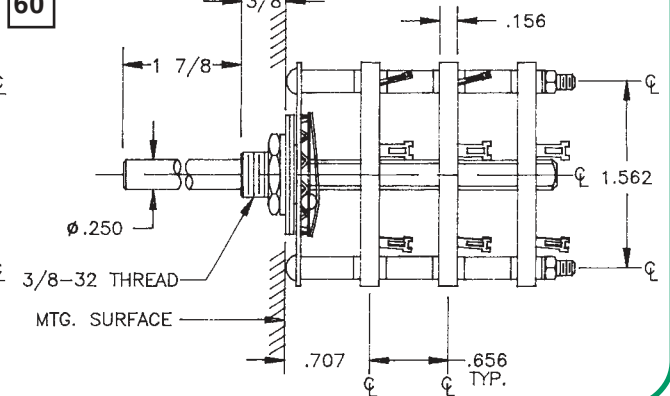
D7C - CERAMIC CONSTRUCTION

30° INDEX



D7C - CERAMIC INSULATION

60° INDEX



CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.



# D8 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

2 5/16" DIAMETER 2.25 AMPS @ 28 VDC

The D8 Series switches are heavy duty, 18 position, 20° index, and glass epoxy insulation. Double eyelet construction is standard to assist in supporting larger wiring harness applications. Positive indexing is provided by a dual-ball, hill and valley index assembly.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load 2.25 amps @ 28 VDC; 1.0 amp @ 115 VAC.  
**Current Carrying Capacity:** 9 amps.  
**Dielectric Strength:** 1,000 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 5 milliohms.  
**Insulation Resistance:** In excess of 750,000 megohms.

**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Clips and Rotors:** Brass with silver plate as standard.  
**Insulation:** Glass epoxy.  
**Index:** Dual-ball, hill and valley.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 20° standard.  
**Index Stops:** Adjustable standard, fixed or continuous.  
**Stop Strength:** 25 in. lbs. minimum.

### STANDARD PART NUMBER

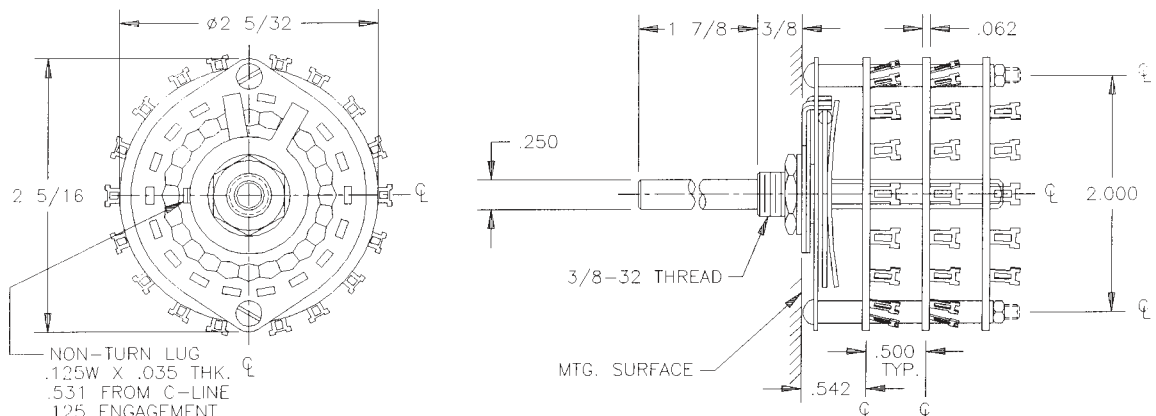
GLASS EPOXY INSULATION SWITCHES - 20° INDEXING  
 ADJUSTABLE STOPS SET @ 2 POS. - SOLDER LUG TERMINALS

	ACTIVE POLES	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *
01	02-17	1	1	D8G0117S	D8G0117N	DT
02	02-17	1	2	D8G0217S	D8G0217N	DT
03	02-17	1	3	D8G0317S	D8G0317N	DT
04	02-17	1	4	D8G0417S	D8G0417N	DT
05	02-17	1	5	D8G0517S	D8G0517N	DT
06	02-17	1	6	D8G0617S	D8G0617N	DT
07	02-17	1	7	D8G0717S	D8G0717N	DT
08	02-17	1	8	D8G0817S	D8G0817N	DT

\* FIGURES ARE SHOWN ON PAGE 57.

### DIMENSIONS

STANDARD CONSTRUCTION  
 D8G - GLASS EPOXY  
 CONSTRUCTION





## How to Order Additional Options:

2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
D8	G - GLASS	01 - MIN.	18 - MAX @ 20°	N - NON SHORTING S - SHORTING			A - ADJ. F - FIXED C - CONT.	SEE CHART "A"	SEE CHART "B"

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS

<b>D</b>	<b>8</b>	<b>G</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>
			(SPECIFY)	(SPECIFY)	(SPECIFY)	

ADDITIONAL OPTIONS

<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
(SPECIFY)	(SPECIFY)	(SPECIFY)

### SHAFT, BUSHING, AND FLAT OPTIONS

P/N OPT.	SHAFT LGTH. "A"	BUSH LGTH. "B"
01	3/8	1/4
02	3/8	3/8
03	1/2	1/4
04	1/2	3/8
05	9/16	1/4
06	9/16	3/8
07	3/4	1/4
08	3/4	3/8
09	1	1/4
10	1	3/8
11	1 1/2	1/4
12	1 1/2	3/8
13	1 7/8	1/4
14	1 7/8	3/8

P/N OPT.	FLAT ANGLE
B	ROUND - STD.
U	10°
W	170°
Y	190°
Z	350°

SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.

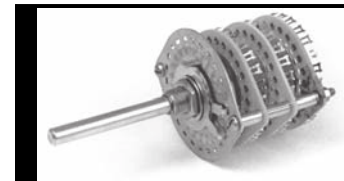
CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# D9 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

2 5/16" DIAMETER 1.5 AMPS @ 28 VDC

The D9 Series has a 15° index with a maximum of 24 positions. Indexing is provided by a dual-ball hill and valley design. Standard features include solder lug terminals, adjustable stops and glass epoxy insulation.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
1.5 amps @ 28 VDC; 0.25 amp @ 115 VAC.  
**Current Carrying Capacity:** 9 amps.  
**Dielectric Strength:** 1,000 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 5 milliohms.  
**Insulation Resistance:** In excess of 750,000 megohms.

**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Clips and Rotors:** Brass with silver plate as standard.  
**Insulation:** Glass epoxy.  
**Index:** Dual-ball, hill and valley design.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 15° standard.  
**Index Stops:** Adjustable standard, fixed or continuous.  
**Stop Strength:** 25 in. lbs. minimum.

### STANDARD PART NUMBER

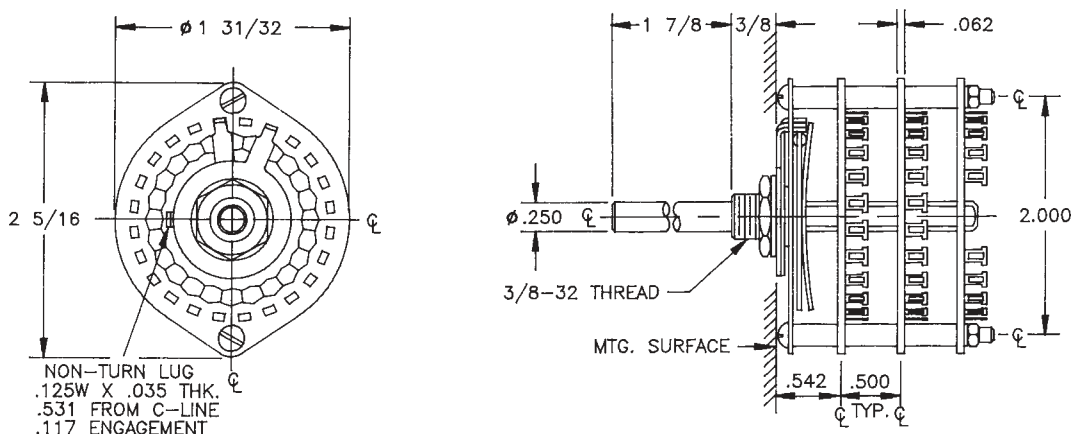
GLASS EPOXY INSULATION SWITCHES - 15° INDEXING  
ADJUSTABLE STOPS - SOLDER LUG TERMINALS - STOPS SET @ 2 POS.

POLES	ACTIVE POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *
01	02-23	1	1	D9G0123S	D9G0123N	DU
02	02-23	1	2	D9G0223S	D9G0223N	DU
03	02-23	1	3	D9G0323S	D9G0323N	DU
04	02-23	1	4	D9G0423S	D9G0423N	DU
05	02-23	1	5	D9G0523S	D9G0523N	DU
06	02-23	1	6	D9G0623S	D9G0623N	DU
07	02-23	1	7	D9G0723S	D9G0723N	DU
08	02-23	1	8	D9G0823S	D9G0823N	DU

\* FIGURES ARE SHOWN ON PAGE 57.

### DIMENSIONS

STANDARD CONSTRUCTION  
D9G - GLASS EPOXY  
CONSTRUCTION



## How to Order Additional Options:

2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
D9	G - GLASS	01 - MIN.	24 - MAX @ 15°	S - SHORTING N - NON SHORTING	L - SOLDER LUG R - REAR P.C.		A - ADJ. F - FIXED C - CONT.	SEE CHART "A"	SEE CHART "B"

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS

<b>D</b>	<b>9</b>	<b>G</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			(SPECIFY)	(SPECIFY)	(SPECIFY)			(SPECIFY)	(SPECIFY)	(SPECIFY)

ADDITIONAL OPTIONS

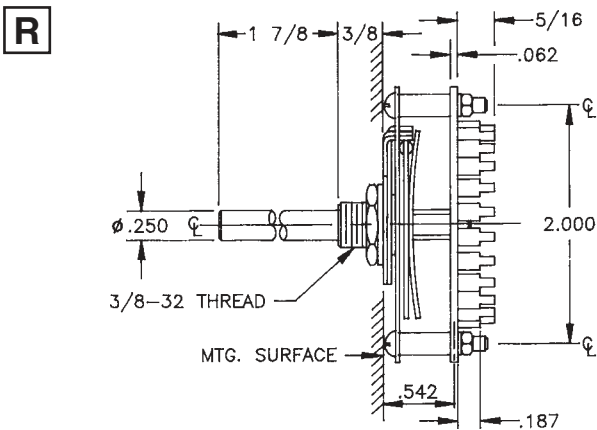
### SHAFT, BUSHING, AND FLAT OPTIONS

P/N OPT.	SHAFT LGTH. "A"	BUSH LGTH. "B"
01	3/8	1/4
02	3/8	3/8
03	1/2	1/4
04	1/2	3/8
05	9/16	1/4
06	9/16	3/8
07	3/4	1/4
08	3/4	3/8
09	1	1/4
10	1	3/8
11	1 1/2	1/4
12	1 1/2	3/8
13	1 7/8	1/4
14	1 7/8	3/8

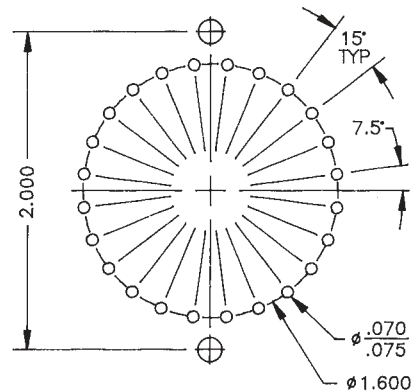
P/N OPT.	FLAT ANGLE
B	ROUND - STD
U	7.5°
W	172.5°
Y	187.5°
Z	352.5°

SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.

### PRINTED CIRCUIT BOARD OPTIONS

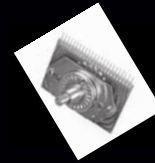


P.C. BOARD MOUNTING PATTERN



CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# SELECTOR GUIDE OPEN FRAME ROTARY ELECTRONIC SWITCHES



## CHARACTERISTICS

## SERIES E1

## SERIES E2

## SERIES E3

## SERIES E4

## SERIES E5

CHARACTERISTICS	SERIES E1	SERIES E2	SERIES E3	SERIES E4	SERIES E5
Page Number	37	38	39	40,41	42,43
Construction	OPEN	OPEN	OPEN	OPEN	OPEN
Diameter	1.50"	N/A	1.500"	2.812"	2.5 x 1.625"
Positions	2 - 3	2 - 5	2 - 3	2 - 17	2 - 24
<b>Current and Voltage</b>	.25A @ 115 VAC	0.5A @ 115 VAC	0.5A @ 115 VAC	9.0A @ 115 VAC	0.25A @ 115 VAC
	1.5A @ 28 VDC	1.5A @ 28 VDC	1.5A @ 28 VDC	11.0A @ 28 VDC	0.55A @ 28 VDC
<b>Current Carrying Capacity</b>	9A	9A	9A	17A	1A
Dielectric Strength	1,000 VAC	1,000 VAC	1,500 VAC	3,000 VAC	750 VAC
Insulation Resistance	750,000	750,000	750,000	1,000,000	750,000
(megohms)					
<b>Contact Resistance</b>	3.5	3.5	3.5	7	N/A
(milliohms)					
<b>Insulation - Glass Epoxy</b>	STANDARD	STANDARD	STANDARD	NO	STANDARD
Ceramic	NO	NO	YES	STANDARD	NO
<b>Contacts - Silver Alloy *</b>	YES	YES	YES	STANDARD	YES
Brass/Silver Plate	STANDARD	STANDARD	STANDARD	NO	STANDARD
<b>Stop Strength</b>	10 in. lb.	25 in. lb.	25 in. lb.	25 in. lb.	25 in. lb.
Mechanical Life	10,000 cycles	25,000 cycles	25,000 cycles	25,000 cycles	25,000 cycles
<b>Detenting Angles:</b> 15°	—	15	—	—	15
20°	—	—	—	20	—
22.5°	—	—	—	—	—
30°	30	30	30	—	—
36°	—	—	—	—	—
45°	—	—	—	—	—
60°	—	—	—	—	—
90°	—	—	—	—	—
<b>Quick Connect</b>	NO	NO	NO	NO	NO
Rear PC Mount	YES	YES	YES	NO	NO
<b>Vertical PC Mount *</b>	NO	NO	NO	NO	YES
Front PC Mount *	YES	NO	NO	NO	NO
<b>Dual Concentric Designs *</b>	NO	NO	NO	NO	NO
Keylock *	NO	NO	NO	NO	NO
<b>Spring Return *</b>	NO	YES	YES	NO	NO
Water Resistant Seals *	NO	NO	YES	NO	YES

★ Contact factory



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UNIT OF ELECTRO SWITCH CORP.

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Raleigh, NC 27604

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Fax: (800) 909-9171 or (919) 833-8016

# SPECIFICATIONS AND ORDERING INFORMATION

# E1 - SERIES

1 1/2" MAXIMUM DIAMETER 1.5 AMPS @ 28 VDC

The E1 Series offers a strong positive 30° index in a hill and valley design, and a small front housing. This series is superior where depth-behind-panel is critical.



## SPECIFICATIONS

### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
1.5 amps @ 28 VDC; 0.25 amp @ 115 VAC.  
**Current Carrying Capacity:** 9 amps.  
**Dielectric Strength:** 1,000 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 3.5 milliohms.  
**Insulation Resistance:** In excess of 750,000 megohms.

**Hardware:** Mounting nut and lockwasher are shipped assembled.

### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Clips and Rotors:** Brass with silver plate as standard.  
**Insulation:** Glass epoxy.  
**Index:** Formed spring, hill and valley design.  
**Index Life:** 10,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 30° standard.  
**Index Stops:** Fixed stops standard.  
**Stop Strength:** 10 in. lbs. minimum.

## STANDARD PART NUMBER

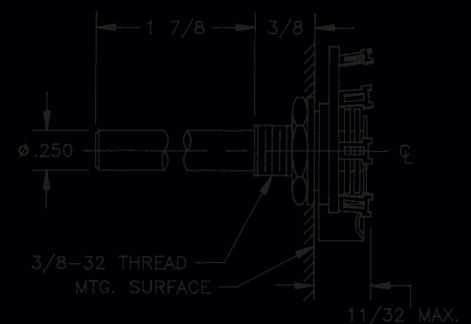
### GLASS EPOXY INSULATION

SWITCHES - 30° INDEXING - FIXED STOPS - SOLDER LUG TERMINALS

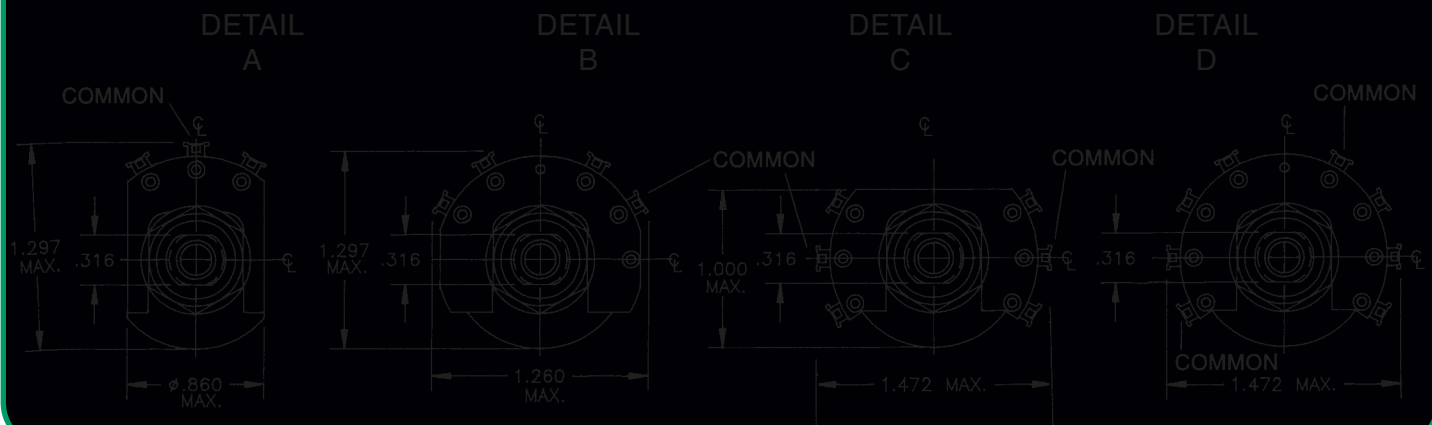
POLES	ACTIVE POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	DETAIL
01	02	1	1	E1G0102S	E1G0102N	A
01	03	1	1	E1G0103S	E1G0103N	B
02	02	2	1	E1G0202S	E1G0202N	C
02	03	2	1	E1G0203S	E1G0203N	D

## DIMENSIONS

STANDARD CONSTRUCTION  
E1G - GLASS EPOXY CONSTRUCTION



## DIMENSIONS

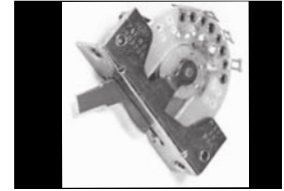


# E2 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

Lever Action 1.5 AMPS @ 28 VDC

The E2 Series is our lever action switch, originally designed for the electric guitar market. It offers positive 2-5 position switching, a 30° or a 15° index, and solder lug terminals.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load 1.5 amps @ 28 VDC; 0.5 amp @ 115 VAC.

**Current Carrying Capacity:** 9 amps.

**Dielectric Strength:** 1,000 VAC between current carrying parts and ground.

**Contact Resistance:** Average initial 3.5 milliohms.

**Insulation Resistance:** In excess of 750,000 megohms.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.

**Clips and Rotors:** Brass with silver plate as standard.

**Insulation:** Glass epoxy.

**Index:** Cam and roller with coil spring.

**Index Life:** 25,000 cycles minimum.

**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.

**Index Angles:** Positive 30°, 15° and spring return.

**Index Stops:** Fixed stops standard.

**Stop Strength:** 25 in. lbs. minimum.

### STANDARD PART NUMBER

#### LEVER

SWITCHES - 30° INDEXING - FIXED STOPS - SOLDER LUG TERMINALS

POLES	ACTIVE POSITIONS	POLES/SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	DESCRIPTION	DETAIL
02	03	2	1	E2G0203S-1	E2G0203N-1	..... POSITIVE INDEX ONE SIDE TO CENTER, SPRING RETURN OPPOSITE SIDE TO CENTER.	E
02	05	2	1	E2G0205S-15	-----	..... 2 POSITIVE INDEX POSITIONS BOTH SIDES OF CENTER.	E
02	03	2	1	E2G0203S	E2G0203N	..... POSITIVE INDEX BOTH SIDES OF CENTER.	E
02	03	2	1	E2G0203S-2	E2G0203N-2	..... SPRING RETURN BOTH SIDES TO CENTER.	E
04	02	4	1	E2G0402S-3	E2G0402N-3	..... SPRING RETURN TO CENTER.	E
04	02	4	1	E2G0402S	E2G0402N	..... POSITIVE INDEX.	E

### DIMENSIONS

#### STANDARD CONSTRUCTION

#### DETAIL E

#### DETAIL F



# SPECIFICATIONS AND ORDERING INFORMATION

# E3 - SERIES

1 1/2" DIAMETER 1.5 AMPS @ 28 VDC

The E3 Series was designed to provide spring return action in an open frame construction. Standard construction is available with 2 or 3 positions, 30° index, and solder lug terminals.



## SPECIFICATIONS

### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
1.5 amps @ 28 VDC; 0.5 amp @ 115 VAC.  
**Current Carrying Capacity:** 9 amps.  
**Dielectric Strength:** 1,500 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 3.5 milliohms.  
**Insulation Resistance:** In excess of 750,000 megohms.

**Hardware:** Mounting nut and lockwasher are shipped assembled.

### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Clips and Rotors:** Brass with silver plate as standard.  
**Insulation:** Glass epoxy.  
**Index:** Coil spring.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 30° standard.  
**Index Stops:** Fixed stops standard.  
**Stop Strength:** 25 in. lbs. minimum.

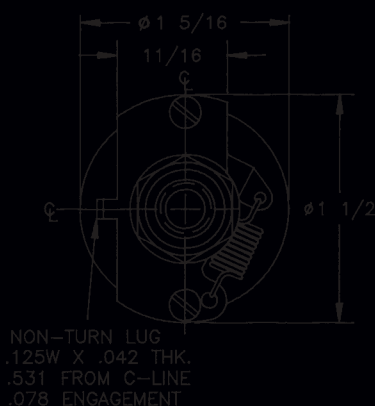
## STANDARD PART NUMBER

SPRING RETURN  
SWITCHES - 30° INDEXING - FIXED STOPS - SOLDER LUG TERMINALS

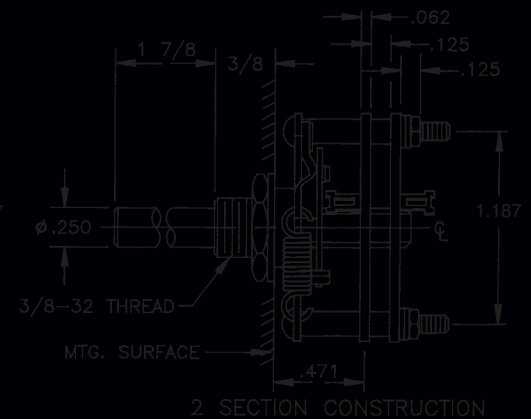
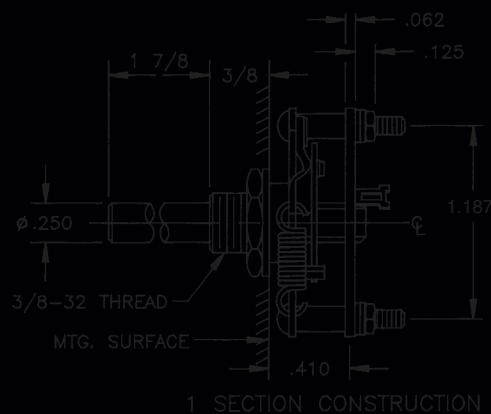
ACTIVE POLES	POLES/ POSITIONS	NO. OF SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	DESCRIPTION
04	02	4	1	E3G0402S-1	E3G0402N-1	..... SPRING RETURN FROM CLOCKWISE.
06	03	3	2	E3G0603S-2	E3G0603N-2	..... SPRING RETURN BOTH SIDES TO CENTER.
06	03	3	2	E3G0603S-3	E3G0603N-3	..... SPRING RETURN CLOCKWISE TO CENTER, POSITIVE INDEX COUNTER CLOCKWISE OF CENTER.

## DIMENSIONS

### STANDARD CONSTRUCTION



### E3G - GLASS EPOXY CONSTRUCTION



# E4 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

2 13/16" DIAMETER 11.0 AMPS @ 28 VDC

The E4 Series was designed to offer maximum power ratings in an electronic open frame switch. Standard construction consists of a 20° index, 2-17 positions, and solder lug terminals.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load 11.0 amps @ 28 VDC; 9.0 amps @ 115 VAC.  
**Current Carrying Capacity:** 17 amps.  
**Dielectric Strength:** 3000 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 7.0 milliohms.  
**Insulation Resistance:** In excess of 1,000,000 megohms.

**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Contacts and Collector Rings:** Coin silver as standard.  
**Insulation:** Ceramic.  
**Index:** Dual-ball, hill and valley design.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 20° standard.  
**Index Stops:** Adjustable stops standard, fixed or continuous.  
**Stop Strength:** 25 in. lbs. minimum.

### STANDARD PART NUMBER

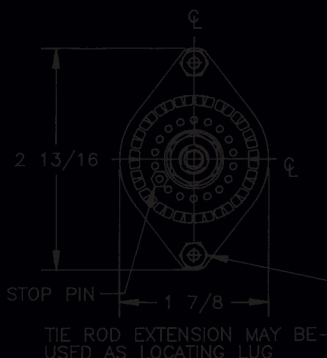
20° INDEXING  
 SWITCHES ADJUSTABLE STOPS - SOLDER LUG TERMINALS - STOPS SET @ 2 POS.

POLES	ACTIVE POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *	POLES	ACTIVE POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *
01	02-17	1	1	E4C0117S	E4C0117N	EA	06	02-17	1	6	E4C0617S	E4C0617N	EA
02	02-17	1	2	E4C0217S	E4C0217N	EA	06	02-08	2	3	E4C0608S	E4C0608N	EB
02	02-08	2	1	E4C0208S	E4C0208N	EB	06	02-05	3	2	E4C0605S	E4C0605N	EC
03	02-17	1	3	E4C0317S	E4C0317N	EA	08	02-08	2	4	E4C0808S	E4C0808N	EB
03	02-05	3	1	E4C0305S	E4C0305N	EC	09	02-05	3	3	E4C0905S	E4C0905N	EC
04	02-17	1	4	E4C0417S	E4C0417N	EA	10	02-08	2	5	E4C1008S	E4C1008N	EB
04	02-08	2	2	E4C0408S	E4C0408N	EB	12	02-05	3	4	E4C1205S	E4C1205N	EC
05	02-17	1	5	E4C0517S	E4C0517N	EA	15	02-05	3	5	E4C1505S	E4C1505N	EC

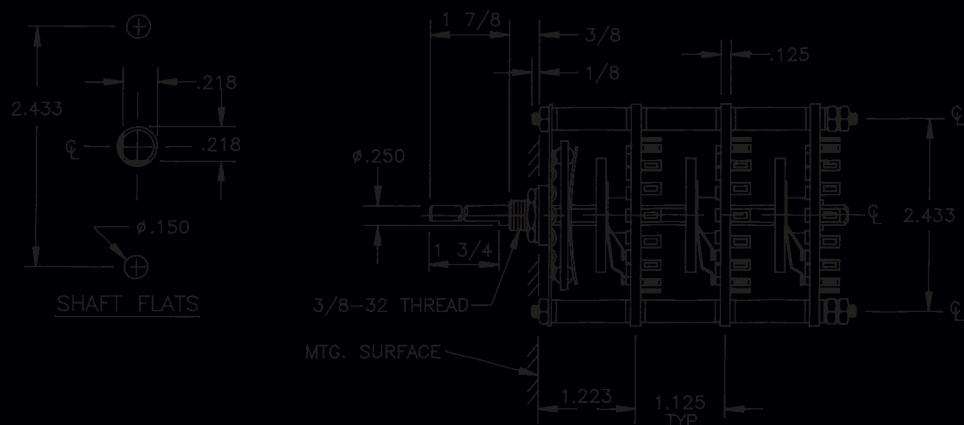
\* FIGURES ARE SHOWN ON PAGE 57.

### DIMENSIONS

#### STANDARD CONSTRUCTION



#### E4C - CERAMIC CONSTRUCTION





## How to Order Additional Options:

2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	STOP TYPE		
E4	C - CERAMIC	01 - MIN.	17 - MAX @ 20°	S - SHORTING N - NON SHORTING	A - ADJ. F - FIXED C - CONT.	SEE CHART "A"	SEE CHART "B"
CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS					ADDITIONAL OPTIONS		
<b>E</b> <b>4</b>	<b>C</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
		(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)

### SHAFT, BUSHING, AND FLAT OPTIONS

P/N OPT.	SHAFT LGTH. "A"	FLAT LGTH. "B"	BUSH LGTH. "C"
01	3/8	1/4	1/4
02	3/8	1/4	3/8
03	1/2	11/32	1/4
04	1/2	11/32	3/8
05	3/4	15/32	1/4
06	3/4	15/32	3/8
07	1	19/32	1/4
08	1	19/32	3/8
09	1 1/2	5/8	1/4
10	1 1/2	5/8	3/8
11	1 7/8	5/8	1/4
12	1 7/8	5/8	3/8

P/N OPT.	FLAT ANGLE
B	ROUND
U	10°
W	170°
T	180° - STD.
Y	190°
Z	350°

SHAFT AS VIEWED IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.



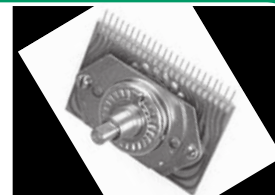
CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# E5 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

2 1/2" 0.55 AMP @ 28 VDC

The E5 Series offers a vertical printed circuit board mountable switch with up to 24 positions and a 15° index. This series is great where complex switching is required in a small package.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
0.55 amp @ 28 VDC; 0.55 amp @ 115 VAC.

**Current Carrying Capacity:** 1 amp.

**Dielectric Strength:** 750 VAC between current carrying parts and ground.

**Insulation Resistance:** In excess of 750,000 megohms.

**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.

**Clips and Rotors:** Brass with silver plate as standard.

**Insulation:** Glass epoxy.

**Index:** Single-ball, hill and valley.

**Index Life:** 25,000 cycles minimum.

**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.

**Index Angles:** Positive 15° standard.

**Index Stops:** Fixed standard or continuous.

**Stop Strength:** 25 in. lbs. minimum.

### STANDARD PART NUMBER

#### VERTICAL PRINTED CIRCUIT BOARD

15° INDEXING - SOLDER LUG TERMINALS - FIXED STOPS

ACTIVE POLES	ACTIVE POSITIONS	POLES/ DECK	NO. OF DECKS	SHORTING	NON-SHORTING	FIG. *
01	23	1	1	E5G0123S	E5G0123N	ED
02	23	1	2	E5G0223S	E5G0223N	ED
03	23	1	3	E5G0323S	E5G0323N	ED
04	23	1	4	E5G0423S	E5G0423N	ED

#### VERTICAL PRINTED CIRCUIT BOARD

15° INDEXING - SOLDER LUG TERMINALS - CONTINUOUS ROTATION

ACTIVE POLES	ACTIVE POSITIONS	POLES/ DECK	NO. OF DECKS	SHORTING	NON-SHORTING	FIG. *
01	23	1	1	E5G0123S-C	E5G0123N-C	ED
02	23	1	2	E5G0223S-C	E5G0223N-C	ED
03	23	1	3	E5G0323S-C	E5G0323N-C	ED
04	23	1	4	E5G0423S-C	E5G0423N-C	ED

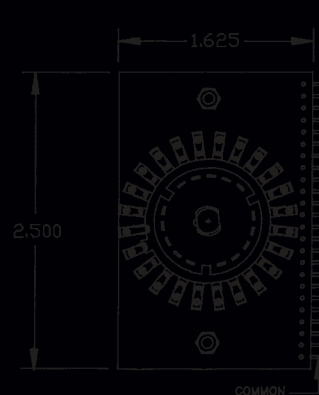
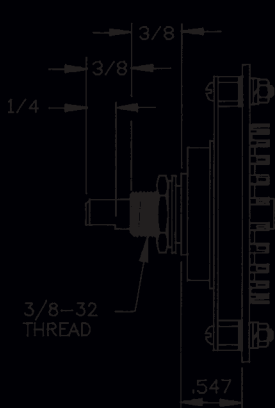
\* FIGURES ARE SHOWN ON PAGE 57.

### DIMENSIONS

#### STANDARD CONSTRUCTION



#### E5 - GLASS EPOXY CONSTRUCTION



## How to Order Additional Options:

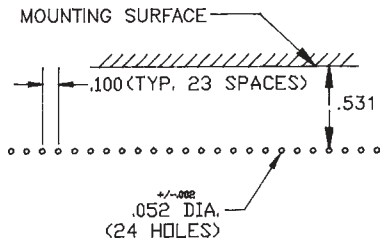
2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	STOP TYPE	SHAFT/BUSHING	SHAFT FLAT
E5	G - GLASS	01 - MIN.	23 - MAX @ 15°	S - SHORTING N - NON SHORTING	F - FIXED 23 - POS. MAX. C - CONT. 24 - POS. MAX.	SEE CHART "A"	SEE CHART "B"

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS

<b>E</b>	<b>5</b>	<b>G</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)

ADDITIONAL OPTIONS

### PRINTED CIRCUIT BOARD DRILLING



### SHAFT, BUSHING, AND FLAT OPTIONS

P/N OPT.	SHAFT LGTH. "A"
01	3/8
02	1/2
03	9/16
04	3/4
05	7/8
06	1

P/N OPT.	FLAT ANGLE
T	180° - STD.
U	15°
W	165°
Y	195°
Z	345°

SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.

NON-TURN LUG

180° T

15° U

165° W

195° Y

345° Z

CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# SELECTOR GUIDE

ORIGINALLY DESIGNED AS MIL. SPEC.  
ROTARY ELECTRONIC SWITCHES



## CHARACTERISTICS

## SERIES M4

## SERIES M5

## SERIES M6

## SERIES M7

Page Number	46,47	48,49	50,51	52,53
Construction	ENCLOSED	ENCLOSED	OPEN	OPEN
Diameter	1.43"	1.00"	1.75"	2.5" SQ.
Positions	2 - 12	2 - 12	2 - 32	2 - 48
<b>Current and Voltage</b>	0.35A @ 115 VAC	2.5A @ 120 VAC	0.125A @ 115 VAC	0.125A @ 115 VAC
	1.0A @ 28 VDC	2.0A @ 28 VDC	0.5A @ 28 VDC	0.5A @ 28 VDC
<b>Current Carrying Capacity</b>	10A	12A	10A	10A
Dielectric Strength	1,000 VAC	1,500 VAC	1,500 VAC	1,500 VAC
<b>Insulation Resistance</b>	10,000	100,000	1,000,000	1,000,000
(megohms)				
<b>Contact Resistance</b>	5	5	10	10
(milliohms)				
<b>Insulation - Glass Epoxy</b>	NO	NO	STANDARD	STANDARD
Diallyl Phthalate	STANDARD	STANDARD	NO	NO
<b>Contacts - Silver Alloy *</b>	STANDARD	STANDARD	STANDARD	STANDARD
Brass/Silver Plate	NO	NO	NO	NO
Gold Plate	YES	YES	YES	YES
<b>Stop Strength</b>	25 in. lb.	15 in. lb.	50 in. lb.	50 in. lb.
Mechanical Life	25,000 cycles	25,000 cycles	25,000 cycles	25,000 cycles
<b>Detenting Angles:</b> 7.5°	—	—	—	7.5
11.25°	—	—	11.25	—
15°	—	—	15	15
22.5°	—	—	22.5	—
30°	30	30	30	—
36°	—	36	—	—
45°	—	45	—	—
60°	—	60	—	—
90°	—	90	—	—
<b>Quick Connect</b>	NO	NO	NO	NO
<b>Rear PC Mount</b>	NO	NO	YES	NO
<b>Vertical PC Mount *</b>	NO	NO	NO	NO
<b>Front PC Mount *</b>	NO	NO	NO	NO
<b>Dual Concentric Designs *</b>	NO	YES	NO	YES
<b>Keylock *</b>	NO	NO	NO	NO
<b>Spring Return *</b>	NO	NO	YES	NO
<b>Water Resistant Seals *</b>	YES	YES	YES	YES
Originally Designed To Meet Mil. 3786/	SR28	SR04	SR40	SR15

The M4 and M5 Series use the enclosed frame worksheet on page 5 for custom designs.

The M6 and M7 Series use the open frame worksheet on page 45 for custom designs.

## ★ Contact factory



**ELECTROSWITCH • ELECTRONIC PRODUCTS**  
UNIT OF ELECTRO SWITCH CORP.

2010 Yonkers Road  
Raleigh, NC 27604

Telephone: (888) ROTARYS or (919) 833-0707  
Fax: (800) 909-9171 or (919) 833-8016

# OPEN FRAME WORKSHEET

SERIES PREFERRED

## ELECTRICAL REQUIREMENTS:

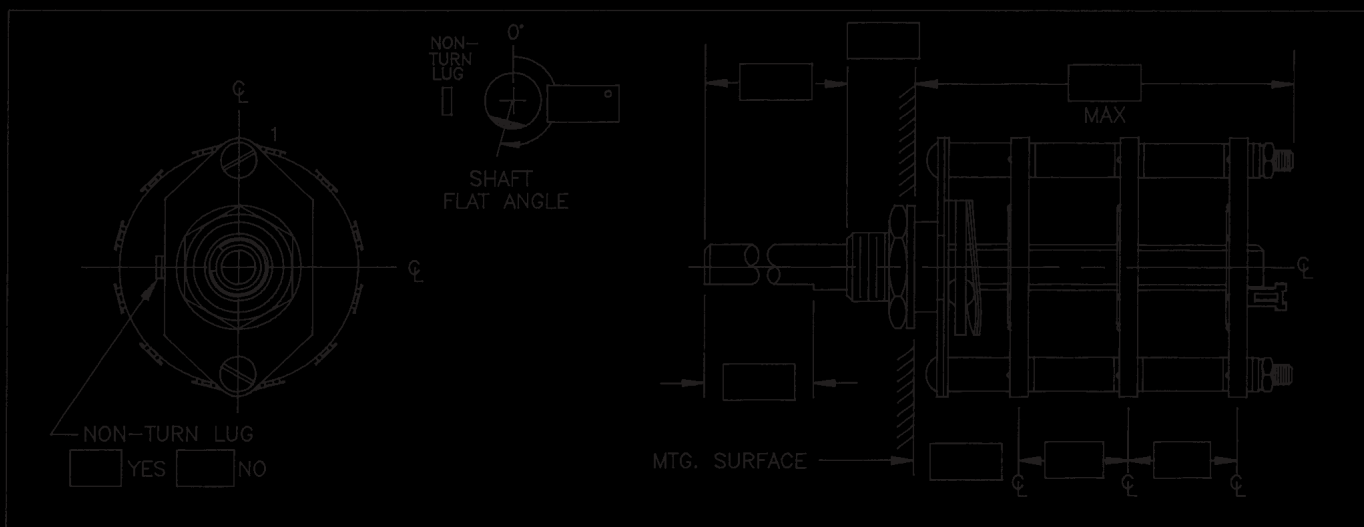
SHORTING OR  NON-SHORTING

CURRENT CARRYING CAPACITY \_\_\_\_\_

INTERRUPTING CURRENT \_\_\_\_\_

MAXIMUM WORKING VOLTAGE \_\_\_\_\_

ADDITIONAL REQUIREMENTS: \_\_\_\_\_



NOTES: SEE APPROPRIATE CATALOG PAGES FOR STANDARD DIMENSIONS AND OPTIONS.

## MECHANICAL REQUIREMENTS:

NO. OF POSITIONS \_\_\_\_\_

NO. OF POLES \_\_\_\_\_

TERMINAL TYPE \_\_\_\_\_

INDEX ANGLE \_\_\_\_\_

Estimated usage \_\_\_\_\_

ADDITIONAL REQUIREMENTS: \_\_\_\_\_



**ELECTROSWITCH**  
• ELECTRONIC PRODUCTS

UNIT OF ELECTRO SWITCH CORP.

2010 YONKERS ROAD, RALEIGH, NC 27604

FAX Numbers:  
(919) 833-8016  
(800) 909-9171  
FOR ASSISTANCE  
PLEASE CALL:  
(919) 833-0707  
(888) ROTARYS

## Sender Information

Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Ph #: \_\_\_\_\_  
Fax #: \_\_\_\_\_

FAX TRANSMISSION

# M4 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

1.43" DIAMETER 1.0 AMP @ 28 VDC

The M4 Series was originally designed to meet the requirements of MIL-S-3786/28. Standard construction includes solder lug terminals, adjustable stops and up to 12 positions.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
1.0 amp @ 28 VAC; 0.35 amp @ 115 VDC; .  
**Current Carrying Capacity:** 10 amps.  
**Dielectric Strength:** 1,000 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 5 milliohms.  
**Insulation Resistance:** In excess of 10,000 megohms

**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Clips and Rotors:** Silver alloy as standard.  
**Insulation:** Diallyl phthalate.  
**Index:** Dual-ball, hill and valley design.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 30° standard.  
**Index Stops:** Adjustable standard, or continuous.  
**Stop Strength:** 25 in. lbs. minimum.

### STANDARD PART NUMBER

2 WAFER/DECK CONSTRUCTION  
ADJUSTABLE STOPS SET @ 12 POS. - SOLDER LUG TERMINALS

SWITCHES - 30° INDEXING

1 WAFER/DECK CONSTRUCTION  
ADJUSTABLE STOPS SET @ 6 POS. - SOLDER LUG TERMINALS

SWITCHES - 30° INDEXING

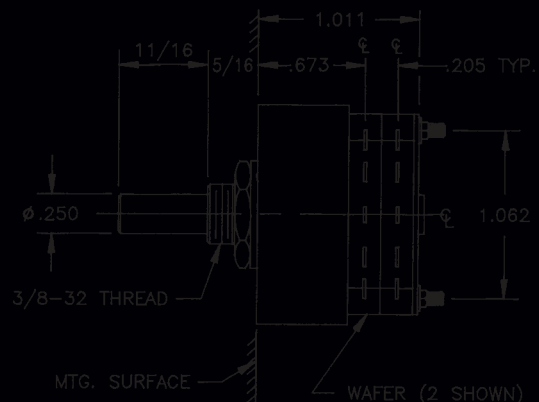
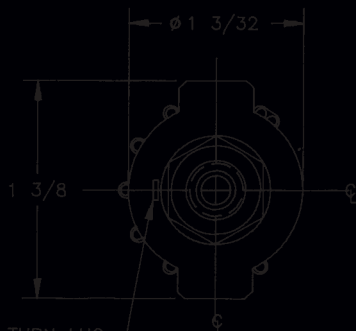
POLES	ACTIVE POSITIONS	POLES/DECK	NO. OF DECKS	SHORTING	NON-SHORTING	FIG. *	POLES	ACTIVE POSITIONS	POLES/DECK	NO. OF DECKS	SHORTING	NON-SHORTING	FIG. *
01	02-12	1	1	M4D0112S	M4D0112N	MB	01	02-06	1	1	M4D01 06S	M4D01 06N	MA
02	02-12	1	2	M4D0212S	M4D0212N	MB	02	02-06	1	2	M4D0206S	M4D0206N	MA
03	02-12	1	3	M4D0312S	M4D0312N	MB	03	02-06	1	3	M4D0306S	M4D0306N	MA
04	02-12	1	4	M4D0412S	M4D0412N	MB	04	02-06	1	4	M4D0406S	M4D0406N	MA

\* FIGURES ARE SHOWN ON PAGE 57.

### DIMENSIONS

STANDARD CONSTRUCTION

M4D - DIALLYL PHTHALATE CONSTRUCTION



## How to Order Additional Options:

2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
M4	D - DIALLYL	01 - MIN.	12 - MAX @ 30°	S - SHORTING N - NON SHORTING	A - ADJ. C - CONT.	SEE CHART "A"	SEE CHART "B"

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS				ADDITIONAL OPTIONS		
<b>M</b>	<b>4</b>	<b>D</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
			(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)

### SHAFT, BUSHING, AND FLAT OPTIONS

P/N OPT.	SHAFT LGTH. "A"	BUSH LGTH. "B"
01	11/16	5/16
02	7/16	7/16

P/N OPT.	FLAT ANGLE
U	330°
B	ROUND

SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.

CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.



# M5 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

1" DIAMETER 2.0 AMPS @ 28 VDC

The M5 Series was originally designed to meet the requirements of MIL-S-3786/4. Standard construction includes 30° indexing up to 12 positions, solder lug terminals and adjustable stops. A very reliable switch for long life.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load 2.0 amps @ 28 VDC; 2.5 amp @ 120 VAC.  
**Current Carrying Capacity:** 12 amps.  
**Dielectric Strength:** 1,500 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 5 milliohms.  
**Insulation Resistance:** In excess of 100,000 megohms

**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Terminals:** Copper alloy with silver plating as standard.  
**Insulation:** Diallyl phthalate.  
**Index:** Dual-ball, hill and valley design.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 30° standard, 36°, 45°, 60°, and 90° available.  
**Index Stops:** Fixed standard, adjustable, or continuous.  
**Stop Strength:** 15 in. lbs. minimum.

### STANDARD PART NUMBER

#### ADJUSTABLE STOPS

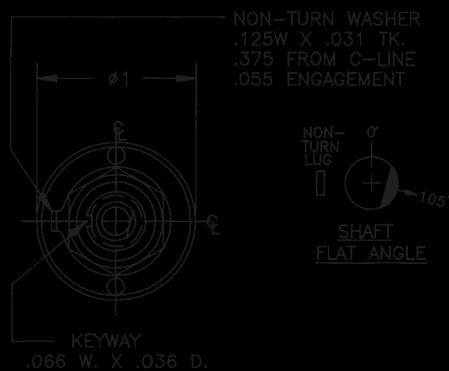
SWITCHES - 30° INDEXING - STOPS SET @ 2 POS. - SOLDER LUG TERMINALS

POLES	ACTIVE POSITIONS	POLES/ DECK	NO. OF DECKS	SHORTING	NON-SHORTING	FIG. ★
01	02-12	1	1	M5D0112S - A	M5D0112N - A	CE
02	02-12	1	2	M5D0212S - A	M5D0212N - A	CE
02	02-06	2	1	M5D0206S - A	M5D0206N - A	CJ
03	02-12	1	3	M5D0312S - A	M5D0312N - A	CE
04	02-12	1	4	M5D0412S - A	M5D0412N - A	CE
04	02-06	2	2	M5D0406S - A	M5D0406N - A	CJ
06	02-06	2	3	M5D0606S - A	M5D0606N - A	CJ
08	02-06	2	4	M5D0806S - A	M5D0806N - A	CJ

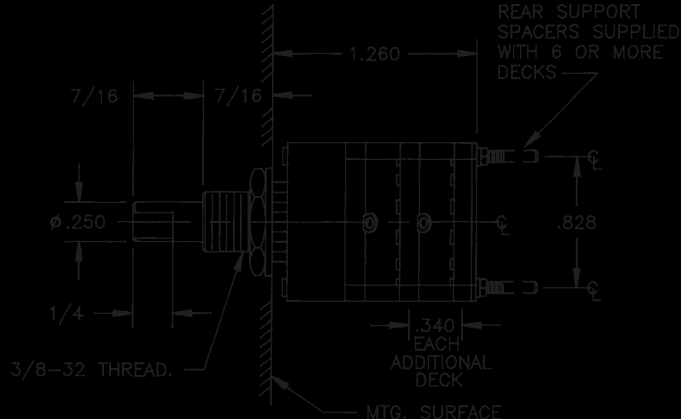
\* FIGURES ARE SHOWN ON PAGE 55.

### DIMENSIONS

#### STANDARD CONSTRUCTION



#### M5D - DIALLYL PHTHALATE CONSTRUCTION



M

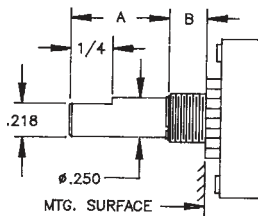
## How to Order Additional Options:

2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	INDEX ANGLE	STOP TYPE	SHAFT/BUSHING	SHAFT FLAT
M5	D - DIALLYL	01 - MIN.	12 - MAX @ 30° 10 - MAX @ 36° 08 - MAX @ 45° 06 - MAX @ 60° 04 - MAX @ 90°	S - SHORTING N - NON SHORTING	30° 36° 45° *60° *90°	F - FIXED A - ADJ. (30° AND 36° ONLY) C - CONT.	SEE CHART "A"	SEE CHART "B"
					*NOT AVAILABLE IN SHORTING			

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS

<b>M</b>	<b>5</b>	<b>D</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
			(SPECIFY)	(SPECIFY)	(SPECIFY)	ADDITIONAL OPTIONS		(SPECIFY)	(SPECIFY)

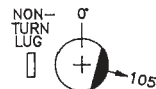
### SHAFT, BUSHING, AND FLAT OPTIONS



P/N OPT.	SHAFT LGTH. "A"	BUSH. LGTH. "B"
01	7/16	7/16
02	3/8	5/16

P/N OPT.	FLAT ANGLE
U	105° - STD
B	ROUND

SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.



**U**

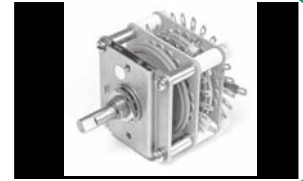
CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# M6 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

1 3/4" SQUARE 0.5 AMP @ 28 VDC

The M6 Series was originally designed to meet the requirements of MIL-S-3786/40. Standard construction includes 30° indexing up to 12 positions, solder lug terminals, and adjustable stops. Switching is available up to 32 positions.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
0.5 amp @ 28 VDC; 0.125 amp @ 115 VAC.  
**Current Carrying Capacity:** 10 amps.  
**Dielectric Strength:** 1,500 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 10 milliohms.  
**Insulation Resistance:** In excess of 1,000,000 megohms

**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Clips and Rotors:** Silver alloy composite as standard.  
**Insulation:** Glass epoxy.  
**Index:** Dual-ball, hill and valley design.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 30° standard, 11.25°, 15°, and 22.5° available.  
**Index Stops:** Adjustable standard, or continuous.  
**Stop Strength:** 50 in. lbs. minimum.

### STANDARD PART NUMBER

EPOXY GLASS INSULATION SWITCHES - 30° INDEXING  
ADJUSTABLE STOPS SET @ 2 POS. - SOLDER LUG TERMINALS

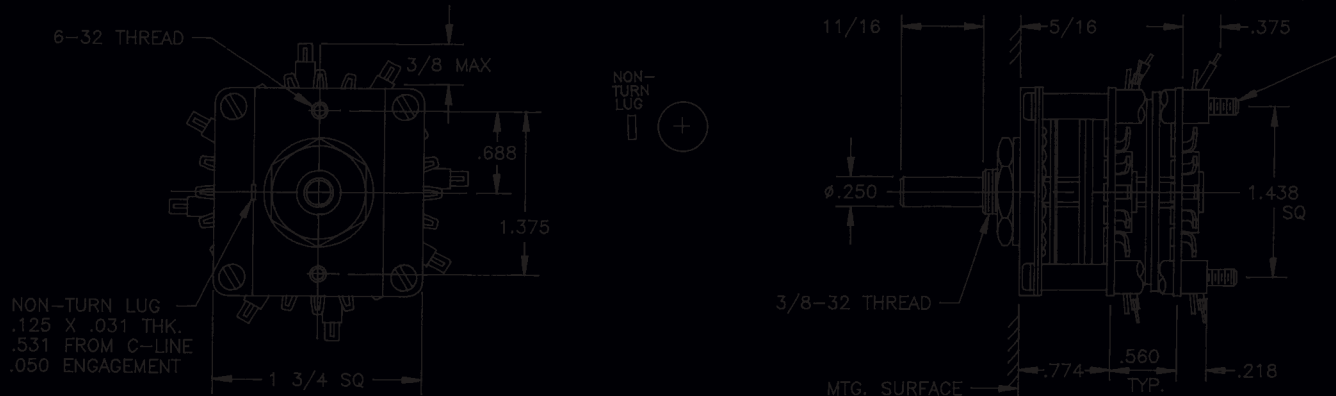
POLES	ACTIVE POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *
01	02-12	1	1	M6G0112S	M6G0112N	MC
02	02-12	1	2	M6G0212S	M6G0212N	MC
02	02-06	2	1	M6G0206S	M6G0206N	MD
03	02-12	1	3	M6G0312S	M6G0312N	MC
04	02-12	1	4	M6G0412S	M6G0412N	MC
04	02-06	2	2	M6G0406S	M6G0406N	MD
06	02-06	2	3	M6G0606S	M6G0606N	MD
08	02-06	2	4	M6G0806S	M6G0806N	MD

\* FIGURES ARE SHOWN ON PAGE 57.

### DIMENSIONS

STANDARD CONSTRUCTION  
M6G - GLASS EPOXY CONSTRUCTION

REAR SUPPORT SPACERS SUPPLIED WITH 6 OR MORE DECKS



## How to Order Additional Options:

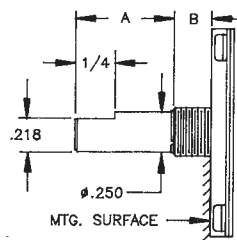
2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/ BUSHING	SHAFT FLAT
M6	G - GLASS	01 - MIN.	12 - MAX @ 30° 16 - MAX @ 22.5°	N - NON-SHORTING S - SHORTING	L - SOLDER LUG R - REAR P.C.	11.5° 15° 22.5° 30°	A - ADJ. C - CONT.	SEE CHART "A"	SEE CHART "B"
M6	G - GLASS	01 - MIN.	32 - MAX @ 11.5° 24 - MAX @ 15°	S - SHORTING					

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS

<b>M</b>	<b>6</b>	<b>G</b>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)

ADDITIONAL OPTIONS

## SHAFT, BUSHING, AND FLAT OPTIONS

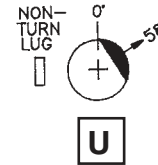


**CHART "A"**

P/N OPT.	SHAFT LGTH. "A"	BUSH. LGTH. "B"
01	11/16	5/16
02	5/8	3/8

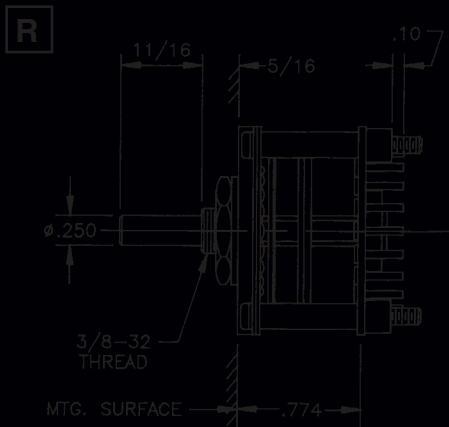
**CHART "B"**

P/N OPT.	FLAT ANGLE
B	ROUND
U	58°

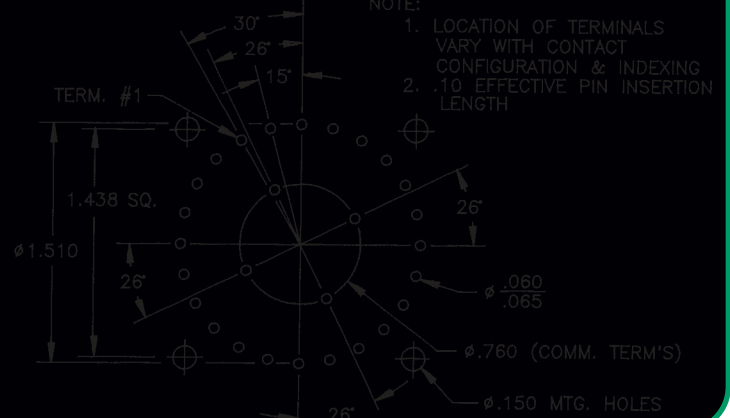


SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.

## PRINTED CIRCUIT BOARD OPTIONS



### P.C. BOARD MOUNTING PATTERN



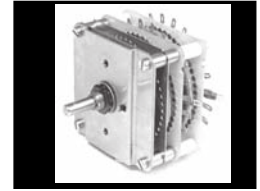
CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# M7 - SERIES

## SPECIFICATIONS AND ORDERING INFORMATION

2 1/2" SQUARE 0.5 AMPS @ 28 VDC

The M7 Series was originally designed to meet the requirements of MIL-S-3786/15. Standard construction includes 15° indexing up to 24 positions, adjustable stops and solder lug terminals. Switching is available with up to 48 positions. A very reliable switch for critical applications.



### SPECIFICATIONS

#### ELECTRICAL

**Current and Voltage Rating:** Make and break resistive load  
0.5 amp @ 28 VDC; 0.125 amp @ 115 VAC.  
**Current Carrying Capacity:** 10 amps.  
**Dielectric Strength:** 1,500 VAC between current carrying parts and ground.  
**Contact Resistance:** Average initial 10 milliohms.  
**Insulation Resistance:** In excess of 1,000,000 megohms

**Hardware:** Mounting nut and lockwasher are shipped assembled.

#### MECHANICAL

**Materials and Finishes:** All parts utilize non-corrosive materials as standard.  
**Clips and Rotors:** Silver alloy composite as standard.  
**Insulation:** Glass epoxy.  
**Index:** Dual-ball, hill and valley design.  
**Index Life:** 25,000 cycles minimum.  
**Index Torque:** Switches have lowest practical torque consistent with crisp detenting and smooth, reliable operation.  
**Index Angles:** Positive 15° standard, 7.5° available.  
**Index Stops:** Adjustable standard, or continuous.  
**Stop Strength:** 50 in. lbs. minimum.

### STANDARD PART NUMBER

EPOXY GLASS INSULATION SWITCHES - 15° INDEXING  
ADJUSTABLE STOPS SET @ 2 POS. - SOLDER LUG TERMINALS

EPOXY GLASS INSULATION SWITCHES - 7.5° INDEXING  
ADJUSTABLE STOPS SET @ 2 POS. - SOLDER LUG TERMINALS

POLES	ACTIVE POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *
01	02-24	1	1	.....	M7G0124N	ME
02	02-24	1	2	.....	M7G0224N	ME
02	02-12	2	1	.....	M7G0212N	MF
03	02-24	1	3	.....	M7G0324N	ME
04	02-12	2	2	.....	M7G0412N	MF
03	02-06	3	1	.....	M7G0306N	MG
06	02-12	2	3	.....	M7G0612N	MF
09	02-06	3	3	.....	M7G0906N	MG
12	02-06	4	3	.....	M7G1206N	MH

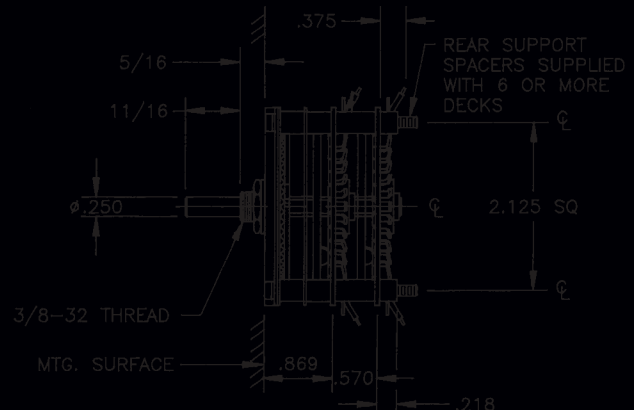
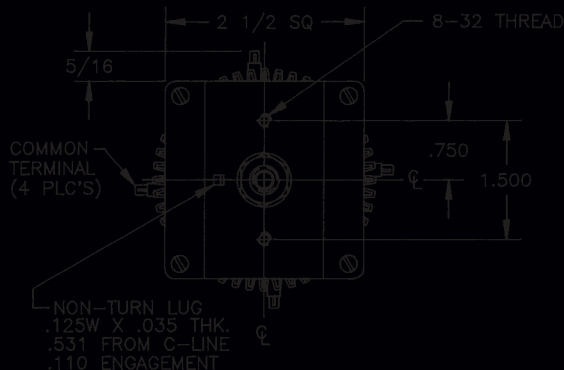
POLES	ACTIVE POSITIONS	POLES/ SECTION	NO. OF SECTIONS	SHORTING	NON-SHORTING	FIG. *
01	02 - 48	1	1	.....	M7G0148S-75	MI

\* FIGURES ARE SHOWN ON PAGE 57.

### DIMENSIONS

#### STANDARD CONSTRUCTION

#### M7G - GLASS EPOXY CONSTRUCTION



## How to Order Additional Options:

2 DIGIT SERIES	INSULATION TYPE	TOTAL POLES	ACTIVE POSITIONS	CONTACT TYPE	TERMINAL TYPE	INDEX ANGLE	STOP TYPE	SHAFT/BUSHING	SHAFT FLAT
M7	G - GLASS	01 - MIN.	48 - MAX @ 7.5°	S - SHORTING		7.5° 15°	A - ADJ. C - CONT.	SEE CHART "A"	SEE CHART "B"
M7	G - GLASS	01 - MIN.	24 - MAX @ 15°	N - NON-SHORTING					

CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS

<b>M</b>	<b>7</b>	<b>G</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			(SPECIFY)	(SPECIFY)	(SPECIFY)		(SPECIFY)	(SPECIFY)	(SPECIFY)	(SPECIFY)

ADDITIONAL OPTIONS

### SHAFT, BUSHING, AND FLAT OPTIONS

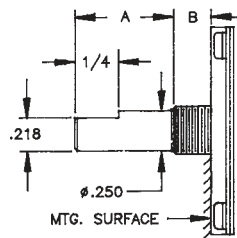


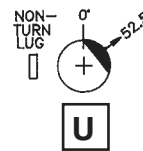
CHART "A"		
P/N OPT.	SHAFT LGTH. "A"	BUSH. LGTH. "B"
01	11/16	5/16
02	1	0

- STD

CHART "B"	
P/N OPT.	FLAT ANGLE
B	ROUND
U	52.5°

- STD

SHAFT AS VIEWED WITH NON-TURN LUG AT 9 O'CLOCK AND SHAFT IN EXTREME CCW POSITION AND STRUT BOLTS ORIENTED VERTICALLY.



CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.

# SECTION ASSEMBLIES

AVAILABLE SEPARATE

# INDEX ASSEMBLIES

AVAILABLE SEPARATE

NO. OF POLES	NO. OF POSITIONS	POLES/ SECTION	INDEX ANGLE	SHORTING	NON- SHORTING	FIG.
				PART NUMBERS	PART NUMBERS	
<b>D2D - SERIES</b> DIALLYL PHTHALATE INSULATION						
01	02-12	1	30°	D2D-50	D2D-51	DE
02	02-06	2	30°	D2D-52	D2D-53	DL
03	2-05	3	30°	D2D-54	D2D-55	DO
05	2-03	5	30°	D2D-56	D2D-57	DR
<b>D2C - SERIES</b> CERAMIC INSULATION						
01	2-11	1	30°	D2C-20	D2C-21	DB
02	2-05	2	30°	D2C-22	D2C-23	DG
03	2-03	3	30°	D2C-24	D2C-25	DN
04	02	4	30°	D2C-26	D2C-27	DQ
<b>D3C - SERIES</b> CERAMIC INSULATION						
01	2-11	1	30°	D3C-80	D3C-81	DA
02	2-05	2	30°	D3C-82	D3C-83	DH
<b>D4C - SERIES</b> CERAMIC INSULATION						
01	02-12	1	30°	D4C-0	D4C-1	DD
02	02-06	2	30°	D4C-2	D4C-3	DL
03	02-05	3	30°	D4C-4	D4C-5	DO
05	02-03	5	30°	D4C-6	D4C-7	DR
06	02	6	30°	D4C-8	D4C-9	DS
01	02-06	1	60°	D4C-20	D4C-17	DJ
<b>D4G - SERIES</b> GLASS EPOXY INSULATION						
01	2-11	1	30°	D4G-30	D4G-31	DA
02	2-05	2	30°	D4G-32	D4G-33	DG
03	2-03	3	30°	D4G-34	D4G-35	DM
04	2	4	30°	D4G-36	D4G-37	DP
<b>D7C - SERIES</b> CERAMIC INSULATION						
01	2-06	1	30°	D7C-SXD	D7C-XD	DI
01	2-11	1	30°	D7C-SYD	D7C-YD	DB
02	2-05	2	30°	D7C-SRRD	D7C-RRD	DF
01	2-06	1	60°	D7C-SZZD	D7C-ZZD	DK
<b>D7G - SERIES</b> GLASS EPOXY INSULATION						
01	2-11	1	30°	D7G-BD	D7G-JD	DB
02	2-05	2	30°	D7G-SKD	D7G-KD	DH
<b>E4C - SERIES</b> CERAMIC INSULATION						
01	2-17	1	20°	E4C-8	E4C-N8	EA
02	2-08	2	20°	E4C-10	E4C-N10	EB
03	02-05	3	20°	E4C-9	E4C-N9	EC

INDEX ANGLE	NO. OF POSITIONS	NO. OF SECTIONS	PART NUMBERS	PAGE NUMBER
30°	02-12	1-2	D2-512	20, 21
30°	02-12	3-5	D2-513	20, 21
<b>D3 - SERIES</b>				
30°	02-11	1-4	D3-600	22, 23
<b>D4 - SERIES</b>				
30°	02-12	1-3	D4-300	24, 25
30°	02-12	4-6	D4-301	24, 25
30°	02-12	7-9	D4-302	24, 25
60°	02-06	1-3	D4-304	24, 25
60°	02-06	4-6	D4-305	24, 25
<b>D7 - SERIES</b>				
30°	02-11	1-3	D7-270	30, 31
30°	02-11	4-5	D7-271	30, 31
30°	02-11	6-10	D7-272	30, 31
60°	02-06	1-2	D7-273	30, 31
60°	02-06	3-8	D7-275	30, 31
<b>E4 - SERIES</b>				
20°	02-17	1-6	E4-7	40, 41



# KNOBS AND DIAL PLATES

## KNOBS



Part Number	1910DG	1400R	1202BJ	1930BP	1922	1914N
Switch Type	Rotary	Rotary	Rotary	Rotary	Rotary	Rotary
Shaft Diameter	0.125	0.125	0.250	0.250	0.250	0.250
Description	Inner knob with skirt and spun silver color cap	Pointer knob with one set screw	Round knob with spun silver color cap and one set screw	Large round knob with skirt and one set screw	Outer knob for dual concentric designs	Round knob with brass insert and one set screw
Overall Length	0.75	0.82	0.75	1.50	1.06	0.75

## KNOBS



Part Number	P 2300	5149A	SSKW	SSKB		
Switch Type	Rotary	Lever	Lever	Lever		
Shaft Diameter	0.250	0.187x0.050	0.187x0.060	0.187x0.060		
Description	Pointer knob with one set screw	Oval knob push on design	Switch tip push on design-white	Switch tip push on design-black		
Overall Length	1.25	0.79	0.35 Dia.	0.35 Dia.		

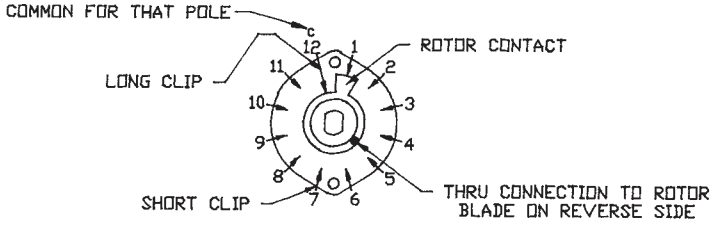
## DIAL PLATES



Part Number	P173	P230	P232	P231*	P115	P117	P118	P112
Switch Angle	15°	20°	20°	20°	30°	30°	30°	30°
Numbering Description	1-23	1-5	1-8	1-17	1-5	1-10	1-11	1-12
Plate Diameter	1.87	2.75	2.75	2.75	1.87	1.87	1.87	1.87

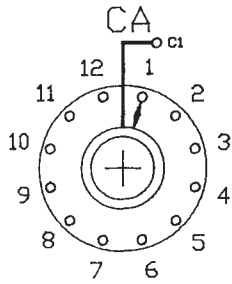
\* DISCONTINUED

# FIGURES/CIRCUIT DIAGRAMS

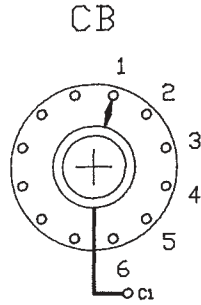


ALL DIAGRAMS ARE DRAWN AS VIEWED FROM THE KNOB END OF THE SWITCH, WITH THE LOCATING LUG IN THE 9 O'CLOCK POSITION AND THE SHAFT IN THE EXTREME COUNTER CLOCKWISE POSITION.

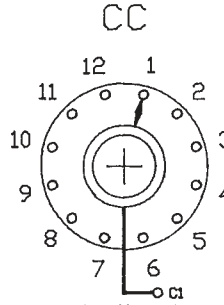
THE 'REAR' SIDE DIAGRAM OF THE SECTION IS VIEWED AS TRANSPARENT FROM THE KNOB END.



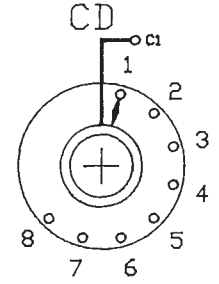
ONE POLE  
2-12 POSITION



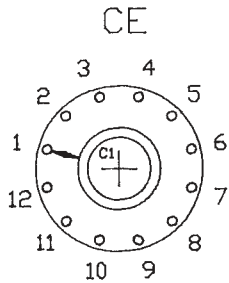
ONE POLE  
2-6 POSITION  
VPC



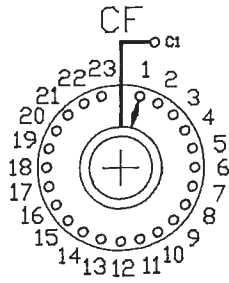
ONE POLE  
2-12 POSITION  
VPC



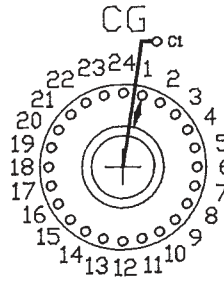
ONE POLE  
2-8 POSITION



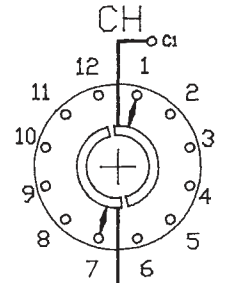
ONE POLE  
2-12 POSITION



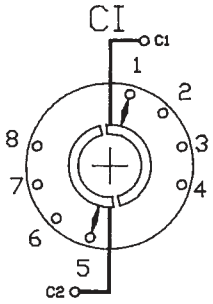
ONE POLE  
2-23 POSITION



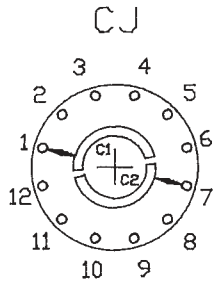
ONE POLE  
24 CONTINUOUS



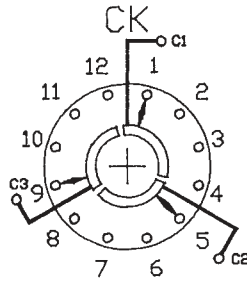
TWO POLE  
2-6 POSITION



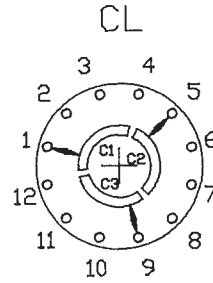
TWO POLE  
2-4 POSITION



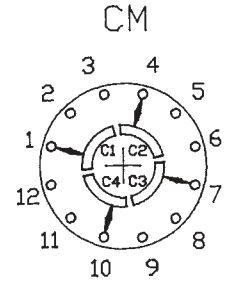
TWO POLE  
2-6 POSITION



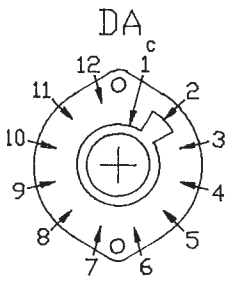
THREE POLE  
2-4 POSITION



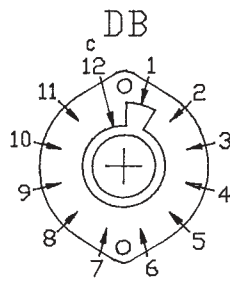
THREE POLE  
2-4 POSITION



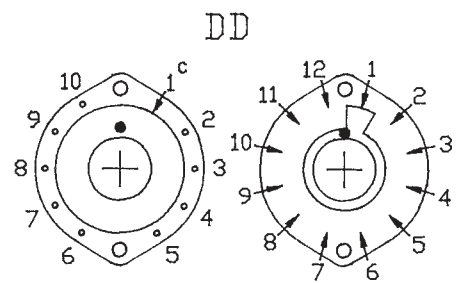
FOUR POLE  
2-3 POSITION



ONE POLE  
2-11 POSITION

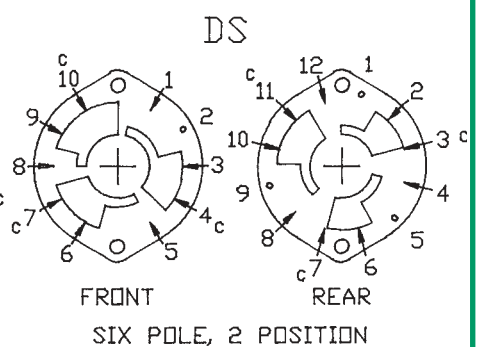
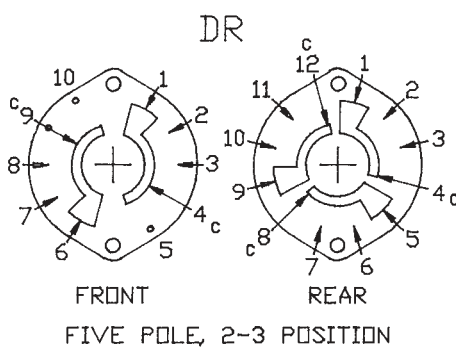
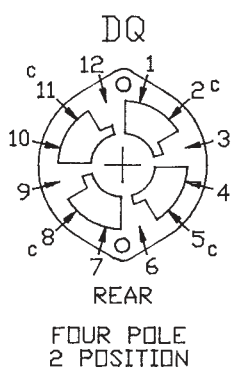
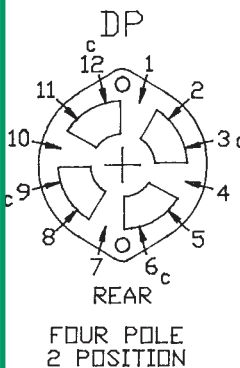
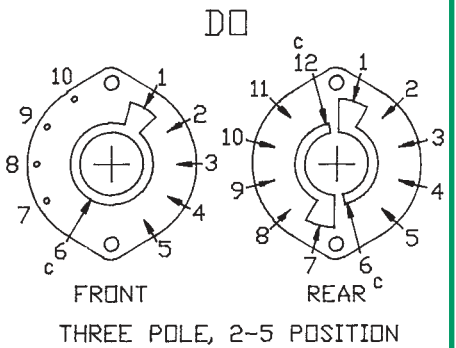
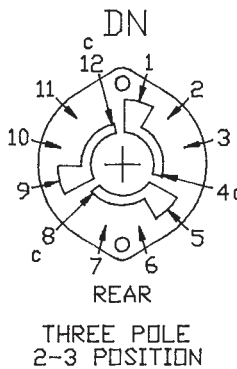
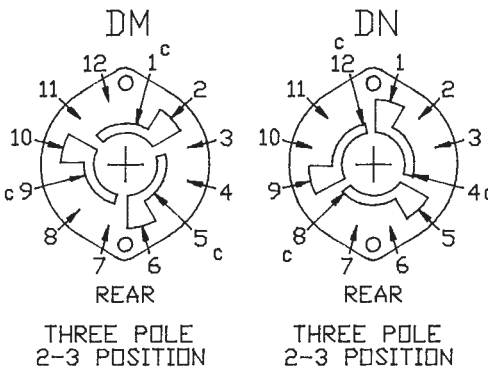
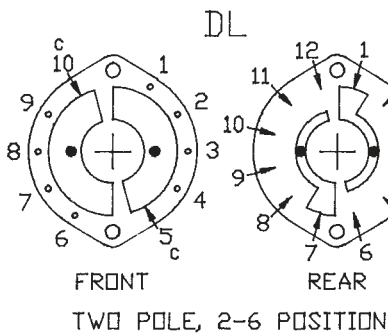
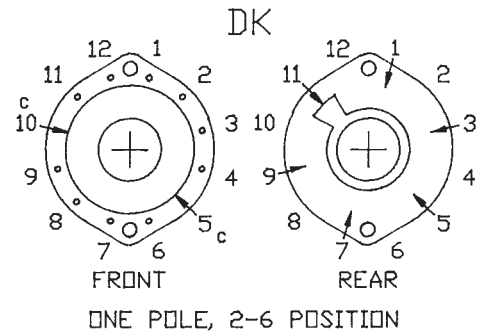
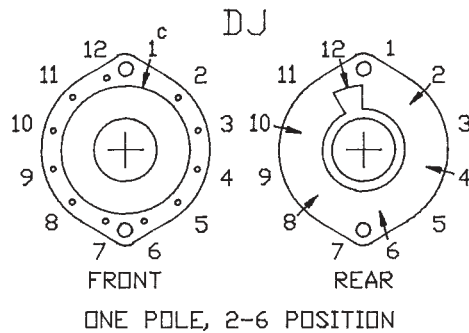
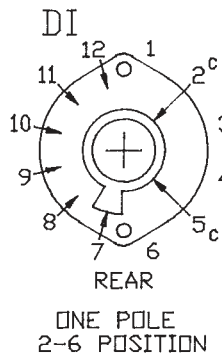
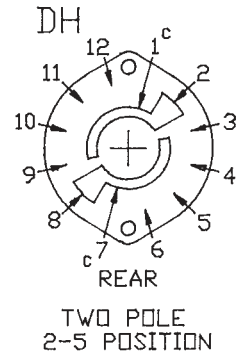
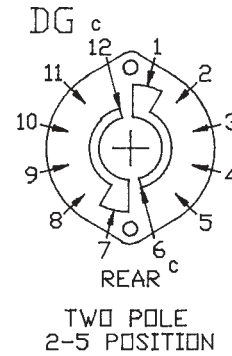
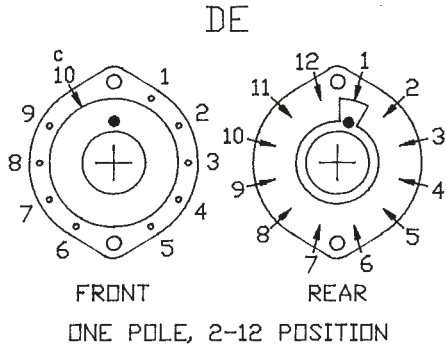


ONE POLE  
2-11 POSITION



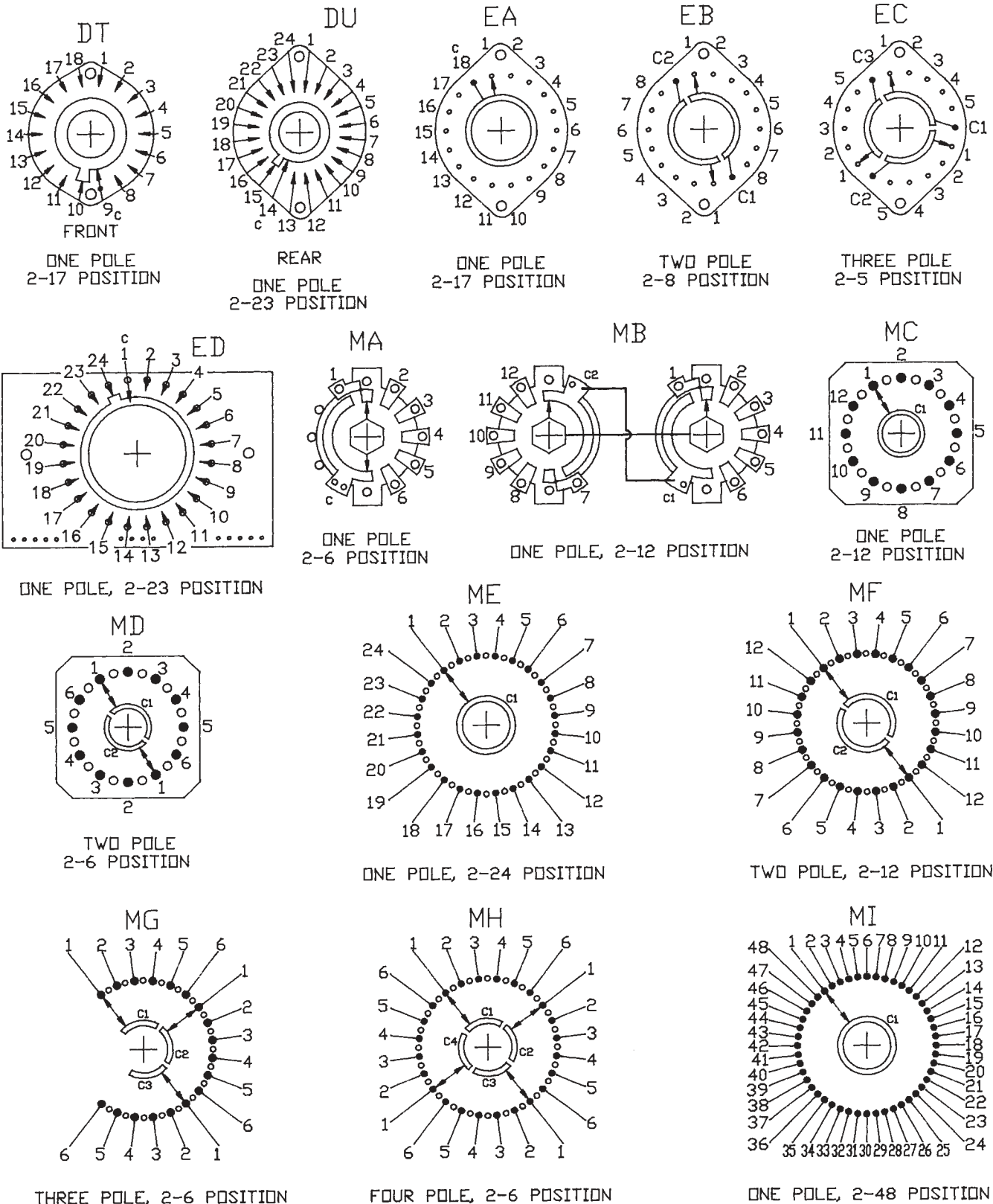
FRONT  
REAR  
ONE POLE, 2-12 POSITION

# FIGURES/CIRCUIT DIAGRAMS



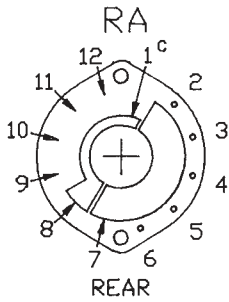
VIEWED FROM THE KNOB END OF SWITCH

# FIGURES/CIRCUIT DIAGRAMS

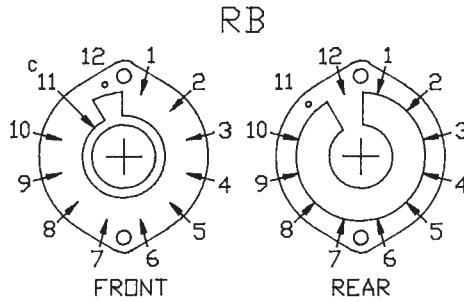


VIEWED FROM THE KNOB END OF SWITCH

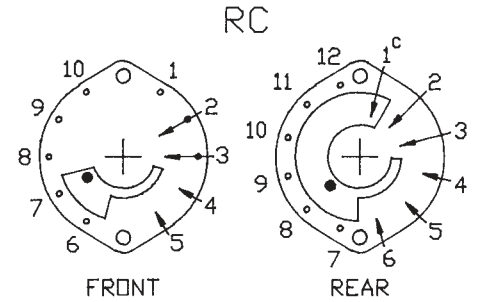
# REFERENCE FIGURES/CIRCUIT DIAGRAMS



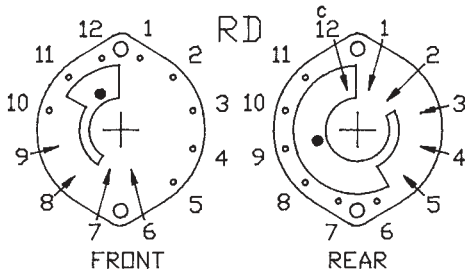
ONE POLE, 2-5 POSITION.  
UNUSED CLIPS ARE PROGRESSIVELY  
SHORTED BY SEPARATE CONTACT  
WITH CW ROTATION.



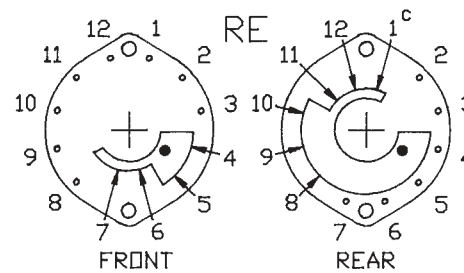
TWO POLE, 2-11 POSITION  
ALL UNUSED CLIPS CONNECTED  
AND SHORTED OUT.



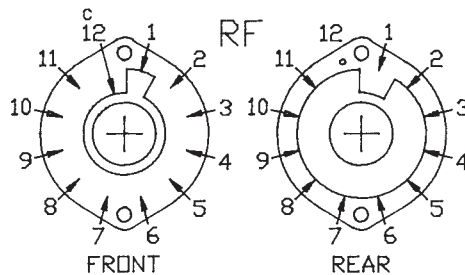
ONE POLE, 2-10 POSITION. NINE  
ACTIVE CLIPS, ALL OPEN IN FULL  
CCW POSITION AND PROGRESSIVELY  
PICKED UP AND SHORTED TO COMMON  
CONTACT WITH CW ROTATION.



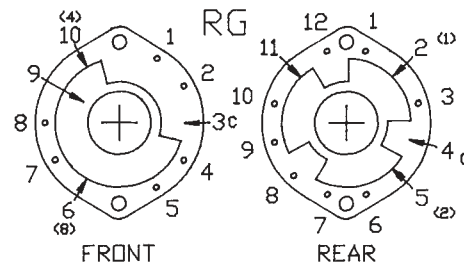
ONE POLE, 2-10 POSITION. NINE ACTIVE CLIPS,  
ALL OPEN IN FULL CCW POSITION AND  
PROGRESSIVELY PICKED UP AND SHORTED TO  
COMMON CONTACT WITH CW ROTATION.



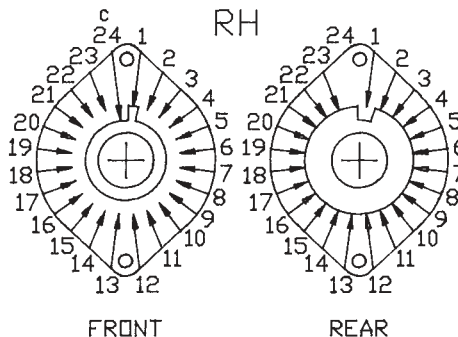
ONE POLE, 2-10 POSITION. NINE ACTIVE  
CLIPS, ALL SHORTED TO COMMON CONTACT  
IN FULL CCW POSITION AND PROGRESSIVELY  
OPENED AND DROPPED WITH CW ROTATION.



TWO POLE, 2-11 POSITION  
ALL UNUSED CLIPS CONNECTED  
AND SHORTED OUT



BCD OR COMPLEMENT



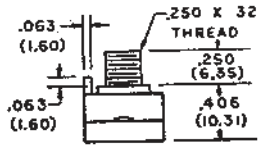
TWO POLE, 2-23 POSITION.  
ALL UNUSED CLIPS CONNECTED  
AND SHORTED OUT.

VIEWED FROM THE KNOB END OF SWITCH

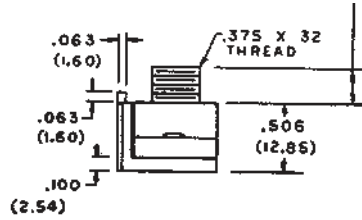
# PANEL CUTOUTS

## C1 SERIES

STANDARD - TWO PIECE  
(FOR .125" DIA. SHAFT)

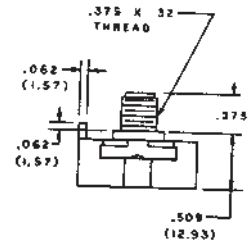


OPTIONAL - ONE PIECE  
(FOR .250" DIA. SHAFT)

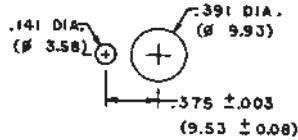
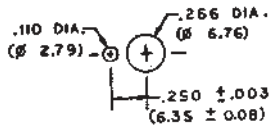
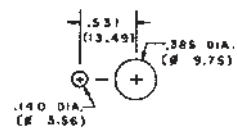


## C4 SERIES

STANDARD - ONE PIECE

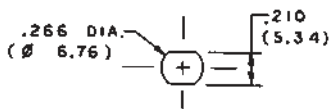
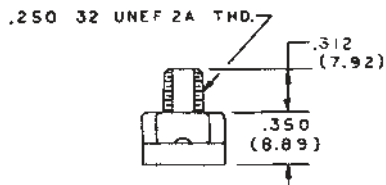
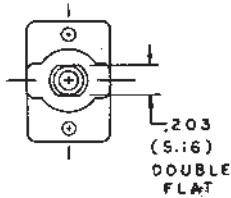


ONE PIECE  
DIE CAST

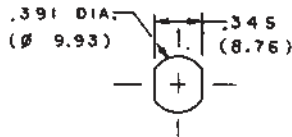
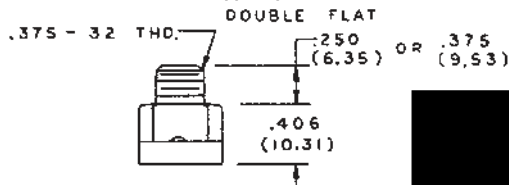
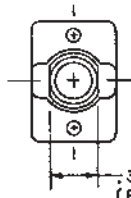


## C2/C3 SERIES

STANDARD - 1/4 - 32 THD.

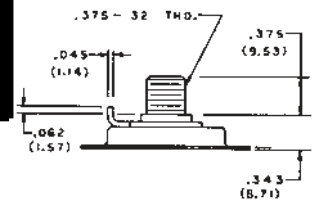


OPTIONAL - 3/8 - 32 THD.

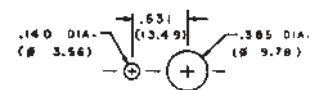


## C7 AND E5 SERIES

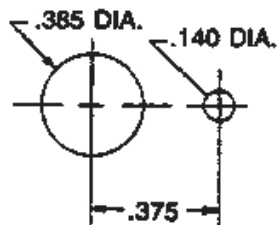
STANDARD



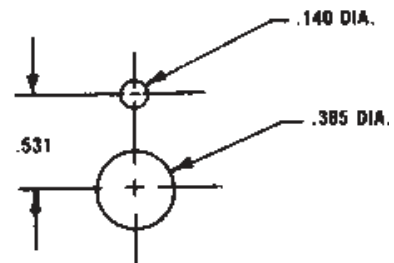
BRASS BUSHING/STEEL  
HSG.



## M4 SERIES



## M6 AND M7 SERIES



# OPERATING TEMPERATURE RANGE

The following chart shows minimum and maximum operating temperatures for standard product, in degrees Celsius, by switch series.

C1	-17° to +75°
C2/C3	-17° to +75°
C4	-17° to +75°
C5/C6	-17° to +75°
C7	-17° to +75°
D1	-65° to +125°
D2	-65° to +125°
D3	-65° to +125°
D4	-65° to +125°
D5	-65° to +125°
D6	-65° to +125°
D7	-65° to +125°
D8	-65° to +125°
D9	-65° to +125°
E1	-65° to +125°
E2	-65° to +125°
E3	-65° to +125°
E4	-65° to +125°
E5	-65° to +125°
M4	-65° to +125°
M5	-65° to +125°
M6	-65° to +125°
M7	-65° to +125°



# ADDITIONAL PRODUCTS & MANUFACTURERS

Toggles: NKK Electroswitch  
 E Series A Series  
 M Series A Series  
 M2T Series A Series  
 WT Series WT Series

Rockers: M. Series B Series  
 M2T Series WR Series  
 WR Series WR Series

Pushbuttons: EB Series PS Series  
 FB Series SA1 Series

Toggles: Carling Electroswitch  
 2M1 Series A Series  
 2MS Series WT Series

Rockers: 1M1 Series B Series  
 1MS Series WR Series

Pushbuttons: 3MN Series PS Series  
 3MA Series PS Series

Toggles: Grayhill Electroswitch  
 34A Series A Series  
 34B Series WT Series

Rockers: 47A Series B Series  
 47B Series WR Series

Pushbuttons: 39-2 Series SA1 Series

Toggles: APEM Electroswitch  
 5000 Series A Series  
 S / ST Series WT Series

Rockers: 7000 Series B Series  
 S / SR Series WR Series

Pushbuttons: 1800 Series PS Series  
 800 PS  
 PB PB

Encoders: Bourns Electroswitch  
 EN Series 900 Series  
 ECW Series 700 Series  
 EAW Series 700 Series

Encoders: Grayhill Electroswitch  
 62 Series OE2 Series  
 61A, B, C OE2 Series  
 61S, K, R 900 Series  
 63K, R 900 Series  
 25 Series MMP/REL  
 25L Series 700 Series

Rotaries: 42, 43 M5/C4  
 44, 45, 54 M5/C4

Encoders: Clarostat Electroswitch  
 510 Series 700 Series  
 600 900 Series

Indicator Dialight Electroswitch  
 Lights: 252-9951- LHC82  
 270-1930- MS25010A  
 800-1030- MS25041  
 804-1710- MS25331  
 128-09 LC35  
 178-03 LC11  
 162-09 LC12  
 230-03 LC25  
 162-14 LC29  
 130-09 LC33

Solenoids Tubular, Box Frame, and Rotary  
 Guardian  
 Deltrol Controls  
 Ledex  
 SAI Burgess  
 Dormeyer

## About ELECTRO SWITCH Corp.

ELECTRO SWITCH Corp. was founded in 1946 to manufacture rotary switches primarily for Naval ships where ruggedness was needed to withstand the high-shock, vibration, and shipboard environments. This business was expanded to include nuclear reactor control and missile control applications, including sophisticated motorized units that were integrated with shipboard computer controls. Rigorous testing to military specifications such as MIL-S-6807, MIL-S-15291, MIL-S-21604 and MIL-S-24187 combined with a MIL-Q-9858 quality program ensured high quality, high reliability products.

The company branched out into specialized industrial switching areas such as locomotives, earth-moving equipment, and engine-generators where the ruggedness and high reliability of ELECTRO SWITCH products were needed. UL and CSA certifications were obtained using UL1054, UL508, and CSA22.2 specifications.

This led the company to the electrical utility industry where control switches, lock-out relays, and other auxiliary relay devices were developed and qualified to ANSI/IEEE and NEMA standards including nuclear. Electro Switch is now considered “first-choice” in this industry.

The ability to custom design rotary switches and relay products to precisely fit every application has taken the company into many unique applications. The opportunity to choose from many different types of switches enables the company to provide the best product for every application – fully qualified at the lowest cost to the consumer.

## About ELECTROSWITCH Electronic Products

A separate manufacturing unit was set up in 1986 to provide the electronic applications customer the same kind of variety, quality, reliability, and value that had become an Electro Switch Corp. trademark. Combining the best products from Shallcross, Stackpole, ASM, Centralab/CRL, and Oak Grigsby, the ELECTROSWITCH unit provides an enviable line-up of products to satisfy nearly every electronic application. These have been supplemented by new designs for better PC insert applications and lever-switch designs. Mirroring the parent company's constant striving to be the best supplier of switches, the ELECTROSWITCH unit has applied the same sound design, careful manufacturing, and rigid quality control techniques to ensure complete customer satisfaction. After all, with a product line as specialized as ours and as critical in their application, we have to do the job right the first time...and every time...to support our customers' demands for the highest quality and reliability.

