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C

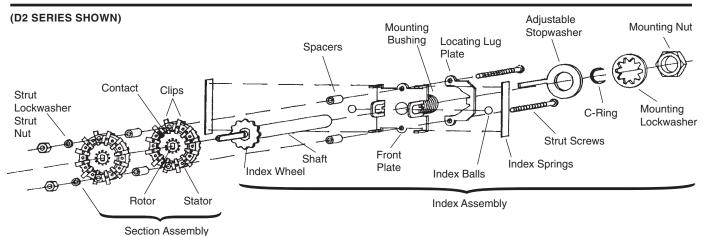
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E

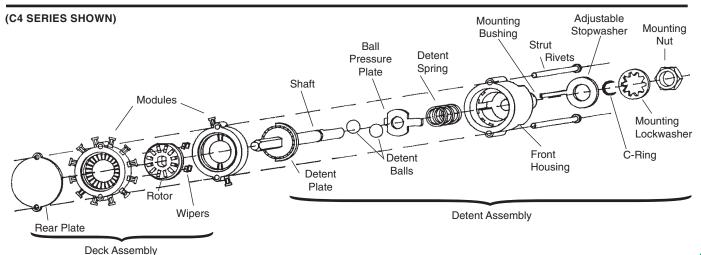
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EXPLODED VIEWS AND GLOSSARY

EXAMPLE OF OPEN FRAME CONSTRUCTION



EXAMPLE OF ENCLOSED FRAME CONSTRUCTION



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.

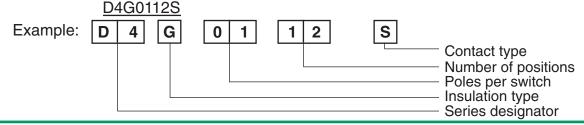
Stop Strength - The maximum rotation force the mechanical stop can facilitate.



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.

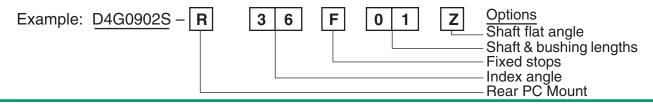
■ 1. Use the pre-designed standard part numbers printed in the catalog.



■ 2. Use the "How to Order Additional Options" section located with each series to specify the switch requirements with standard options.

Example: D4G0902S
Specify additional pole and position options not listed in our standard part numbering section

■ 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 |
| | | | | | | | |
| Е | Current and Voltage | 0.1A @ 125 VAC | 0.1A @ 125 VAC | 0.1A @ 125 VAC | 0.3A @ 125 VAC | 1.0A @ 125 VAC | 0.5A @ 125 VAC |
| L | | 0.25A @ 28 VDC | 0.25A @ 28 VDC | 0.25A @ 28 VDC | 0.5A @ 28 VDC | 1.0A @ 28 VDC | 1.0A @ 28 VDC |
| Ε | Current Carrying Capacity | 6A | 6A | 6A | 15A | 5A | 25A |
| С | Dielectric Strength | 600 VAC | 1,000 VAC | 1,000 VAC | 1,000 VAC | 1,000 VAC | 1,000 VAC |
| Т | Insulation Resistance | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 |
| R | (megohms) | | | | | | |
| ı | Contact Resistance | 5 | 30 | 30 | 3 | 20 | 3 |
| С | (milliohms) | | | | | | |
| Α | | | | | | | |
| L | | | | | | | |
| М | Insulation - Glass Epoxy | NO | NO | NO | YES ★ | NO | NO |
| Α | Diallyl Phthalate | STANDARD | NO | NO | STANDARD | NO | STANDARD |
| Т | Ceramic | NO | NO | NO | NO | NO | NO |
| E | Polyester | NO | STANDARD | STANDARD | NO | STANDARD | NO |
| R | 1 olycotol | 110 | OTANDAND | OTANDAND | 110 | OTANDAND | 110 |
| ï | Contacts - Silver Alloy ★ | YES | NO | NO | YES | NO | YES |
| A | Brass/Silver Plate | STANDARD | STANDARD | STANDARD | STANDARD | STANDARD | STANDARD |
| L | Diass/Silver Flate | STANDALID | STANDALID | STANDALID | STANDALID | STANDALID | STANDARD |
| ٦. | | | | | | | |
| M | Stop Strength | 8 in. lb. | 8 in. lb. | 8 in. lb. | 25 in. lb. | 4.5 in. lb. | 25 in. lb. |
| Е | Mechanical Life | 25,000 cycles | 25,000 cycles | 25,000 cycles | 25,000 cycles | 10,000 cycles | 25,000 cycles |
| С | Detenting Angles: 15° | - | _ | _ | - | _ | 15 |
| Н | | | | | | | |
| Α | 30 ° | 30 | 30 | 30 | 30 | 30 | 30 |
| N | 36 ° | _ | _ | _ | 36 | _ | _ |
| 1 | 45° | _ | _ | _ | 45 | _ | _ |
| С | 60 ° | 60 | 60 | 60 | 60 | _ | 60 |
| Α | 90 ° | 90 | 90 | 90 | 90 | _ | 90 |
| L | | | | | | | |
| 0 | Quick Connect | NO | NO | NO | YES | NO | YES |
| Р | Rear PC Mount | YES | NO | NO | YES | YES | NO |
| Т | Vertical PC Mount ★ | YES | YES | YES | YES | NO | NO |
| 1 | Front PC Mount ★ | NO | NO | NO | YES | NO | NO |
| 0 | Dual Concentric Designs ★ | YES | YES | YES | YES | NO | YES |
| N | Keylock ★ | YES | YES | YES | YES | NO | YES |
| s | Spring Return ★ | NO | NO | NO | YES | NO | NO |
| | Water Resistant Seals ★ | YES | YES | YES | YES | YES | YES |
| | | | | | | | |

★ Contact factory



ENCLOSED FRAME WORKSHEET

| ENCLUSED FR. | AML WU. | KNSHELI | |
|--|--------------------------------|--|---|
| SERIES PREFERRED | | | |
| ELECTRICAL REQUIREMENTS | : | | |
| SHORTING OR NON-SHORT | | | |
| CURRENT CARRYING CAPACITY | | | |
| INTERRUPTING CURRENT | | | |
| MAXIMUM WORKING VOLTAGE | | | |
| ADDITIONAL REQUIREMENTS | • | | |
| | | | |
| NON- TURN LUG [] (| 0' | | |
| e 1 | HAFT | A | |
| | ÄNGLE | | |
| | | | |
| | | | |
| | | | |
| NON-TURN LUG | M⊺ | TG. SURFACE | |
| YES NO | W | MAX | |
| | NOTES and | A ADDDODDIAME CAMALOG DAGES FOR | |
| MECHANICAL REQUIREMENTS | CITT 4 | E APPROPRIATE CATALOG PAGES FOR INDARD DIMENSIONS AND OPTIONS. | |
| NO. OF POSITIONS | J. | | |
| NO. OF POLES | | | |
| TERMINAL TYPE | | | |
| INDEX ANGLE | | | |
| Estimated usage | | | |
| ADDITIONAL REQUIREMENTS: | | | |
| | | | |
| | | | |
| | | | _ |
| | | | |
| ELECTROSWITCH | | Sender Information | |
| ELECTRONIC PRODUCTS UNIT OF ELECTRO SWITCH CORP. | DATE: | Date: Time: | |
| 2010 YONKERS ROAD, RALEIGH, NC 27604 | FAX Numbers: (919) 833-8016 | Name: | |
| | (800) 909-9171 | Company:Address: | |
| | FOR ASSISTANCE PLEASE CALL: | Address: | |
| FAX TRANSMISSION | (919) 833-0707 | Ph #: | |
| | (888) ROTARYS | Fax #: | |

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

C

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.

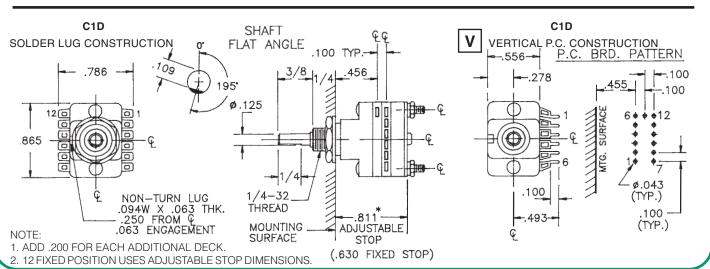
| VERTICAL P.C. TERMINALS - ADJUSTABLE STOPS |
|---|
| SWITCHES - 30° INDEXING - STOPS SET @ 2 POS. |

SWITCHES - 30° INDEXING - STOPS SET @ 2 POS

| POLES | ACTIVE POSITIONS | POLES/ DECK | NO. OF DECKS | | NON- SHORTING | FIG. | POLES | ACTIVE POSITIONS | POLES/ DECK | NO. OF DECKS | | NON- SHORTING | FIG. ★ |
|-------|------------------|----------------|-----------------|--------------|------------------|------|-------|------------------|----------------|-----------------|---------------|------------------|-----------|
| 01 | 02-12 | 1 | 1 | C1D0112S - A | C1D0112N - A | CA | 01 | 02-06 | 1 | 1 | C1D0106S - VA | C1D0106N - | VA CE |
| 02 | 02-12 | 1 | 2 | C1D0212S - A | C1D0212N - A | CA | 01 | 02-12 | 1 | 1 | C1D0112S - VA | C1D0112N - \ | VA CC |
| 02 | 02-06 | 2 | 1 | C1D0206S - A | C1D0206N - A | CH | 02 | 02-06 | 1 | 2 | C1D0206S - VA | C1D0206N - | VA CE |
| 03 | 02-12 | 1 | 3 | C1D0312S - A | C1D0312N - A | CA | 02 | 02-12 | 1 | 2 | C1D0212S - VA | C1D0212N - | VA CC |
| 03 | 02-04 | 3 | 1 | C1D0304S - A | C1D0304N - A | CK | 03 | 02-06 | 1 | 3 | C1D0306S - VA | C1D0306N - | VA CE |
| 04 | 02-06 | 2 | 2 | C1D0406S - A | C1D0406N - A | CH | 03 | 02-12 | 1 | 3 | C1D0312S - VA | C1D0312N - | VA CC |
| 06 | 02-04 | 3 | 2 | C1D0604S - A | C1D0604N - A | CK | 04 | 02-06 | 1 | 4 | C1D0406S - VA | C1D0406N - | VA CE |
| 06 | 02-06 | 2 | 3 | C1D0606S - A | C1D0606N - A | CH | 04 | 02-12 | 1 | 4 | C1D0412S - VA | C1D0412N - | VA CC |

* FIGURES ARE SHOWN ON PAGE 55.

DIMENSIONS





2010 Yonkers Road Raleigh, NC 27604

Raleigh, NC 27604 S or (919) 833-0707

C1 - SERIES

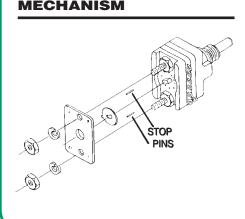
How to Order Additional Options:

| 2 DIGIT SERIES | INSULATION TYPE | TOTAL POLES | ACTIVE POSITIONS | CONTACT TYPE | |
|-------------------|--------------------|----------------|--|--------------------------------------|--|
| C1 | D - DIALLYL | 01 - MIN. | 12 - MAX @ 30° 06 - MAX @ 60° 04 - MAX @ 90° | N - NON- SHORTING S - SHORTING | |
| | | | | | |

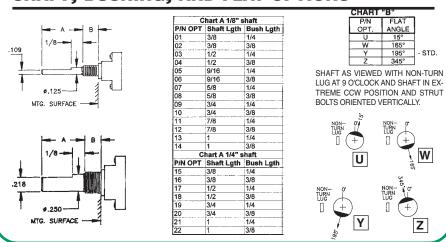
| TERMINAL TYPE | INDEX ANGLE | STOP TYPE | SHAFT/ BUSHING | SHAFT FLAT |
|------------------|-------------------|------------------------|---------------------|---------------------|
| L - SOLDER LUG | 30° | F - FIXED | | |
| V - VERT. P.C. | 60° 90° | C - CONT. A - ADJ. | | |
| R - REAR P.C. | 30° 60° 90° | F - FIXED C - CONT. | SEE CHART "A" | SEE CHART "B" |

| CUSTOMERS SPECIFIE | D ORDER NUM | IBER FOR STAN | | ADDITIONAL OPTIONS | | | | |
|--------------------|-------------|---------------|-----------|--------------------|-----------|-----------|-----------|-----------|
| C 1 D | | | | | | | | |
| | (SPECIFY) | (SPECIFY) | (SPECIFY) | (SPECIFY) | (SPECIFY) | (SPECIFY) | (SPECIFY) | (SPECIFY) |

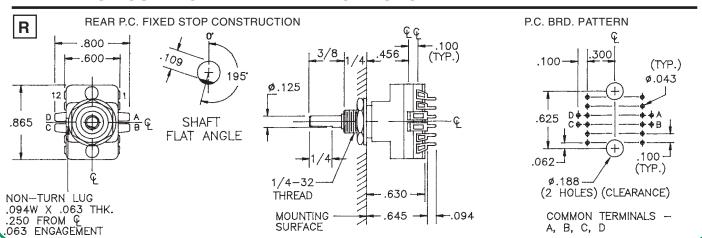
ADJUSTABLE STOP MECHANISM



SHAFT, BUSHING, AND FLAT OPTIONS



PRINTED CIRCUIT BOARD TERMINAL OPTIONS



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



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

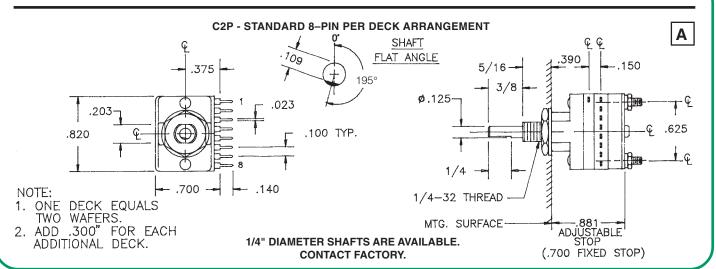
C2 - 8 PIN CONSTRUCTION SWITCHES - 30° INDEXING ADJUSTABLE STOPS SET @ 2 POS. - P.C. TERMINALS C3 - 12 PIN CONSTRUCTION SWITCHES - 30° INDEXING ADJUSTABLE STOPS SET @ 2 POS. - P.C. TERMINALS

| POLES | ACTIVE POSITIONS | POLES/ DECK | NO. OF DECKS | SHORTING | NON- SHORTING | FIG. |
|-------|------------------|----------------|-----------------|--------------|------------------|------|
| 01 | 02-08 | 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 |
| | | | | | | |

| | ACTIVE | POLES/ | NO. OF | SHORTING | NON- | FIG. |
|-------|-----------|--------|--------|--------------|--------------|------|
| POLES | POSITIONS | DECK | DECKS | | SHORTING | * |
| 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

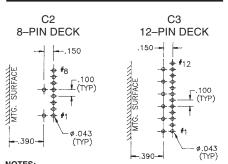




How to Order Additional Options:

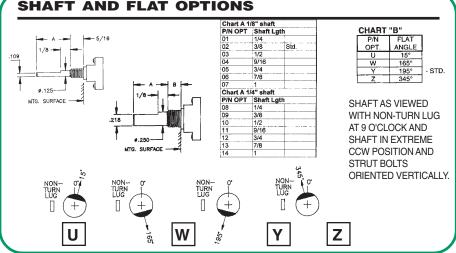
| 2 DIGIT SERIES | INSULATION TYPE | TOTAL POLES | ACTIVE POSITIONS | CONTACT TYPE | TERMINAL TYPE | INDEX ANGLE | STOP TYPE | SHAFT/ BUSHING | SHAFT FLAT |
|---|--------------------|----------------|------------------|-----------------|------------------|----------------|--------------|-------------------|---------------|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

PRINTED CIRCUIT **BOARD PATTERN**

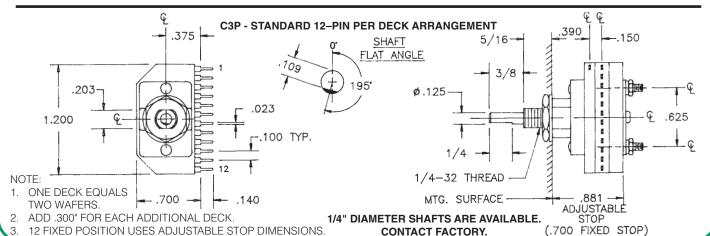


- 1. The standard spacing for the 1/8" dia. shaft from the first row of terminals to the mounting surface is .390 in.
- 2. The standard spacing for the 1/4" dia. shaft from the first row of terminals to the mounting surface is .481 in.

SHAFT AND FLAT OPTIONS



C3 - DIMENSIONS - 12 PIN DESIGN



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



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

FI FCTRICAL

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

C

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.

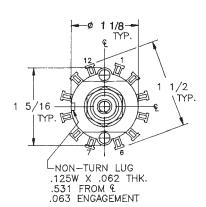
| | ACTIVE | POLES/ | NO. OF | SHORTING | NON- | FIG. |
|-------|-----------|--------|--------|--------------|--------------|------|
| POLES | POSITIONS | DECK | DECKS | | SHORTING | * |
| 01 | 02-12 | 1 | 1 | C4D0112S - A | C4D0112N - A | CA |
| 02 | 02-06 | 2 | 1 | C4D0206S - A | C4D0206N - A | CH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

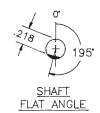
| | ACTIVE | POLES/ | NO. OF | SHORTING | NON- | FIG. |
|-------|-----------|--------|--------|--------------|--------------|------|
| POLES | POSITIONS | DECK | DECKS | | SHORTING | * |
| 06 | 02-06 | 2 | 3 | C4D0606S - A | C4D0606N - A | СН |
| 06 | 02-04 | 3 | 2 | C4D0604S - A | C4D0604N - A | CK |
| 06 | 02-12 | 1 | 6 | C4D0612S - A | C4D0612N - A | CA |
| 80 | 02-06 | 2 | 4 | C4D0806S - A | C4D0806N - A | CH |
| 09 | 02-04 | 3 | 3 | C4D0904S - A | C4D0904N - A | CK |
| 10 | 02-06 | 2 | 5 | C4D1006S - A | C4D1006N - A | CH |
| 12 | 02-04 | 3 | 4 | C4D1204S - A | C4D1204N - A | CK |
| 15 | 02-04 | 3 | 5 | C4D1504S - A | C4D1504N - A | CK |

* FIGURES ARE SHOWN ON PAGE 55.

DIMENSIONS

C4D STANDARD CONSTRUCTION

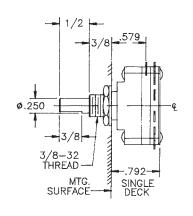


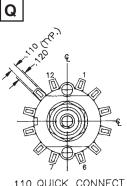


NOTE:

1. ONE DECK EQUALS TWO WAFERS.

2. ADD .284" FOR EACH ADDITIONAL DECK.





.110 QUICK CONNECT TERMINAL OPTION (.016 MAT'L, THK.)



2010 Yonkers Road

Raleigh, NC 27604

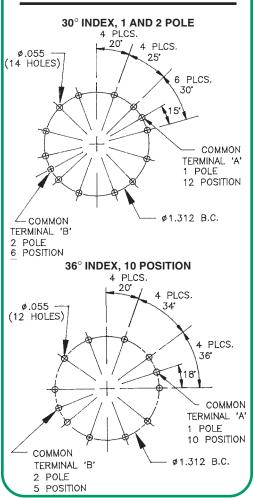
How to Order Additional Options:

| 2 DIGIT SERIES | INSULATION TYPE | TOTAL POLES | ACTIVE POSITIONS | CONTACT TYPE |
|-------------------|--------------------|----------------|------------------|-----------------|
| | | | | |
| C4 | D - DIALLYL | 01 - MIN. | 12 - MAX @ 30° | S - SHORTING |
| | | | 10 - MAX @ 36° | N - NON |
| | | | 08 - MAX @ 45° | SHORTING |
| | | | 06 - MAX @ 60° | |
| | | | 04 - MAX @ 90° | |
| 1 | | | | |
| | | | | |

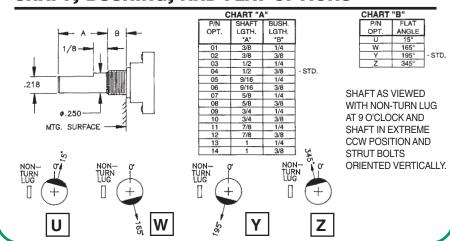
| TERMINAL | INDEX | STOP | SHAFT/ | SHAFT |
|---|---------------------------------|--|---------------------|---------------------|
| TYPE | ANGLE | TYPE | BUSHING | FLAT |
| L - SOLDER LUG P - FRONT P.C. (NOT IN 45°) R - REAR P.C. (30° & 36° ONLY) Q - QUICK CONNECT | 30° 36° 45° 60° 90° | F - FIXED A - ADJ (30°,60°,90° ONLY) C - CONT. | SEE CHART "A" | SEE CHART "B" |

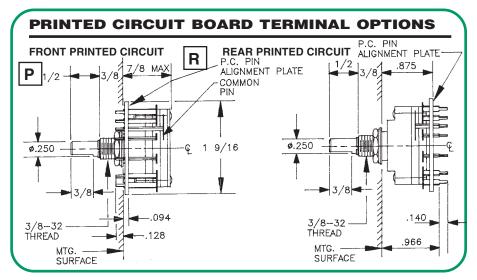
| CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS ADDITIONAL OPTIONS | | | | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| C 4 D | | | | | | | | |
| | (SPECIFY) |

PRINTED CIRCUIT BOARD HOLE PATTERNS



SHAFT, BUSHING, AND FLAT OPTIONS





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



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

FI FCTRICAL

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

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 |
| C | 6 - UNSE | ALED | | | | |
| | 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 |

C5 - P.C. TERMINALS

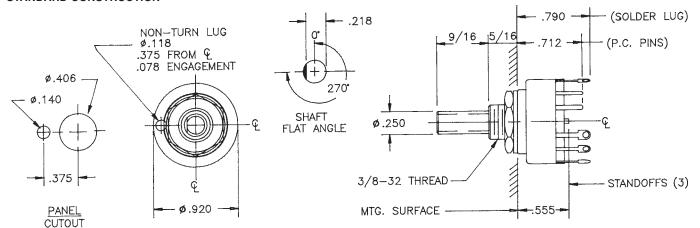
SWITCHES - 30° INDEX - ADJUSTABLE STOPS - SET @ 2 POS. - SEALED

| Г | | ACTIVE | POLES/ | NO. OF | NON- | FIG. |
|----------|---------|-----------|---------|----------|-----------------|------|
| L | POLES | POSITIONS | SECTION | SECTIONS | SHORTING | * |
| | 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 |
| <u>C</u> | 6 - UNS | SEALED | | | | |
| | 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



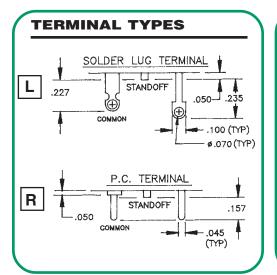


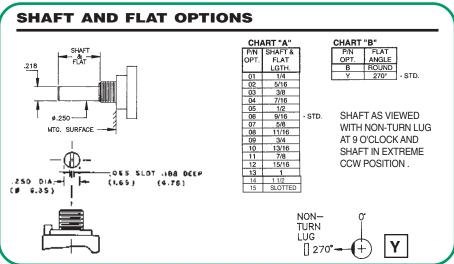
2010 Yonkers Road

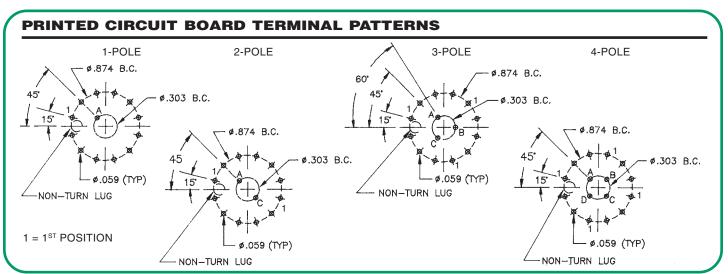
Raleigh, NC 27604

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 P - POLYESTER UNSEALED | 01 02 03 04 01 02 03 04 | 12 - MAX 06 - MAX 04 - MAX 03 - MAX 12 - MAX 06 - MAX 04 - MAX 03 - MAX | N - NON - SHORTING N - NON - SHORTING | L - SOLDER LUG R - REAR P.C. | | F - FIXED A - ADJ. C - CONT. | SEE CHART "A" | SEE CHART "B" |
| CUSTO | MERS SPECIFIED P | ORDER NU | MBER FOR STAN | N PRIOR OPTIONS | (SPECIFY) | ADDITI | ONAL OPTIO | | (SPECIFY) |







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



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

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

| | ļ | ACTIVE | POLES/ | NO. (| OF SHORTIN | G NON- | FIG. |
|--------------|-------|-----------|--------|-------|--------------|--------------|------|
| | POLES | POSITIONS | DECK | DEC | KS | SHORTING | * |
| | 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 | | | | | | | |
| | 01 | 12 | 1 | 1 | C7D0112S -30 | C7D0112N -30 | CA |
| | 02 | 12 | 1 | 2 | C7D0212S -30 | C7D0212N -30 | CA |

15° INDEXING - CONTINUOUS ROTATION

SOLDER LUG TERMINALS

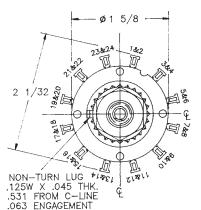
| POLES | ACTIVE POSITIONS | POLES/ DECK | NO. DEC | | SHORTING | NON- SHORTING | FIG. |
|----------|---------------------|----------------|------------|-------|-----------|------------------|------|
| 01 | 24 | 1 | 1 | C7D0 | 124S - C | C7D0124N - C | CG |
| 02 | 24 | 1 | 2 | C7D0 | 224S - C | C7D0224N - C | CG |
| 03 | 24 | 1 | 3 | C7D0 | 324S - C | C7D0324N - C | CG |
| 04 | 24 | 1 | 4 | C7D0 |)424S - C | C7D0424N - C | CG |
| 30° INDE | EXING | | | | | | |
| 01 | 12 | 1 | 1 | C7D01 | 12S -30C | C7D0112N -30C | CA |
| 02 | 12 | 1 | 2 | C7D02 | 12S -30C | C7D0212N -30C | CA |
| 03 | 12 | 1 | 3 | C7D03 | 12S -30C | C7D0312N -30C | CA |

Q

* FIGURES ARE SHOWN ON PAGE 55.

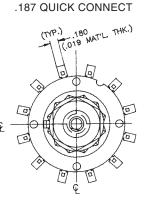
DIMENSIONS







 ONE DECK EQUALS THREE WAFERS. 2. ADD .468" FOR EACH ADDITIONAL DECK.





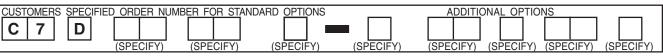


C7 - SERIES

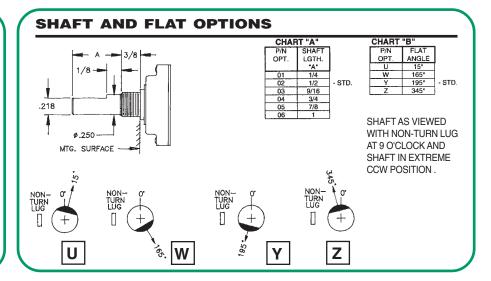
How to Order Additional Options:

| 2 DIGIT SERIES | INSULATION TYPE | TOTAL POLES | ACTIVE POSITIONS | CONTACT TYPE |
|-------------------|--------------------|----------------|--|-------------------------------------|
| C7 | D - DIALLYL | 01 - MIN. | 24 - MAX @ 15° | S - SHORTING N - NON SHORTING |
| C7 | D - DIALLYL | 01 - MIN. | 12 - MAX @ 30° 06 - MAX @ 60° 04 - MAX @ 90° | S - SHORTING N - NON SHORTING |

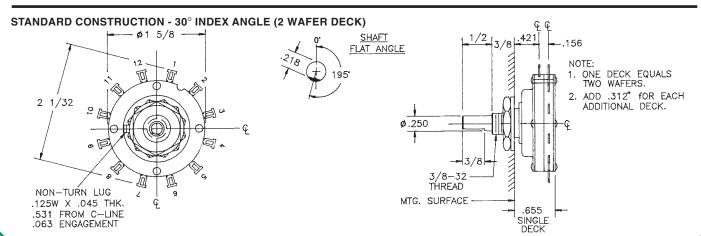
| TERMINAL TYPE | INDEX ANGLE | STOP TYPE | SHAFT/ BUSHING | SHAFT FLAT |
|--|----------------|--|---------------------|---------------------|
| L - SOLDER LUG Q - QUICK CONNECT L - SOLDER LUG30 Q - QUICK | 15° | F - FIXED 23 - POS. MAX. C - CONT. 24 - POS. MAX. A- Adjustable A23 - POS. MAX | SEE CHART "A" | SEE CHART "B" |
| CONNECT | 90° | | | |



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



DIMENSIONS

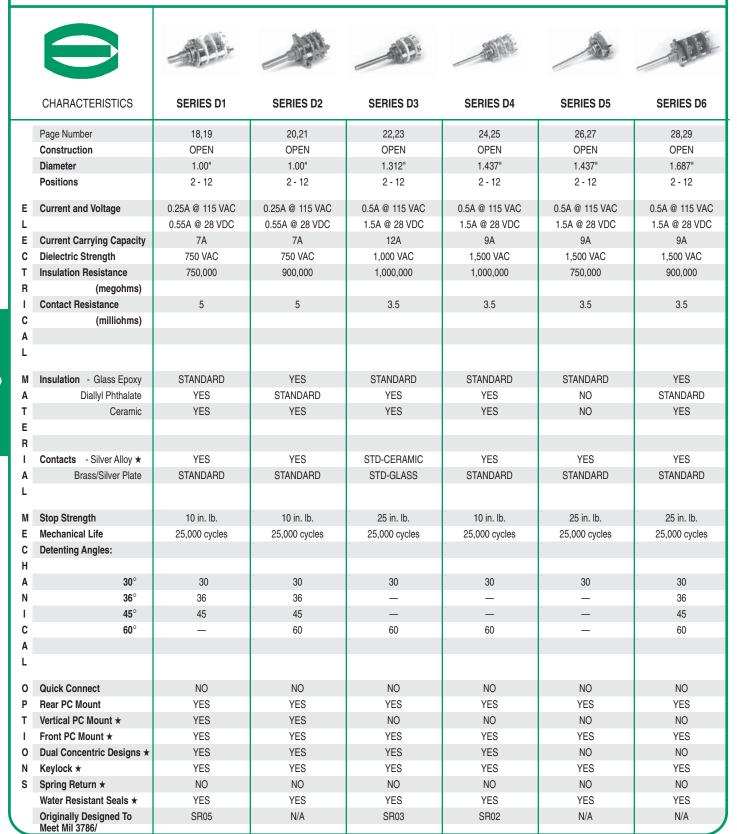


CUSTOM SWITCHES ARE AVAILABLE. CONTACT THE FACTORY WITH YOUR COMPLETE SPECIFICATIONS.



D

SELECTOR GUIDE OPEN FRAME ROTARY ELECTRONIC SWITCHES



★ 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 |
| | Diameter | 1.875" | 2.312" | 2.312" |
| | Positions | 2 - 12 | 2 - 18 | 2 - 24 |
| Е | Current and Voltage | 1.0A @ 115 VAC | 1.0A @ 115 VAC | 0.25A @ 115 VAC |
| L | | 2.25A @ 28 VDC | 2.25A @ 28 VDC | 1.5A @ 28 VDC |
| Е | Current Carrying Capacity | 9A | 9A | 9A |
| С | Dielectric Strength | 1,500 VAC | 1,000 VAC | 1,000 VAC |
| Т | Insulation Resistance | 750 ,000 | 750,000 | 750 ,000 |
| R | (megohms) | · | · | · |
| ı | Contact Resistance | 3.5 | 5 | 5 |
| С | (milliohms) | | | |
| Α | , | | | |
| L | | | | |
| М | Insulation - Glass Epoxy | STANDARD | STANDARD | STANDARD |
| Α | Diallyl Phthalate | NO | NO | NO |
| Т | Ceramic | YES | NO | NO |
| Ε | | | | |
| R | | | | |
| ī. | Contacts - Silver Alloy ★ | YES | YES | YES |
| Α | Brass/Silver Plate | STANDARD | STANDARD | STANDARD |
| L | | | | |
| M | Stop Strength | 25 in. lb. | 25 in. lb. | 25 in. lb. |
| Е | Mechanical Life | 25,000 cycles | 25,000 cycles | 25,000 cycles |
| С | Detenting Angles: 15° | _ | _ | 15 |
| Н | 20 ° | _ | 20 | _ |
| Α | 22.5° | _ | _ | _ |
| N | 30 ° | 30 | _ | _ |
| I | 36 ° | _ | - | _ |
| С | 45° | _ | _ | _ |
| Α | 60° | 60 | - | _ |
| L | | | | |
| 0 | Quick Connect | NO | NO | NO |
| Р | Rear PC Mount | NO | NO | YES |
| Т | Vertical PC Mount ★ | NO | NO | NO |
| Ι. | Front PC Mount ★ | NO | NO | NO |
| 0 | Dual Concentric Designs ★ | YES | YES | YES |
| N | Keylock ★ | YES | YES | YES |
| S | Spring Return ★ | NO | NO | NO |
| | Water Resistant Seals ★ | YES | YES | YES |
| | Originally Designed To Meet Mil 3786/ | N/A | N/A | N/A |

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.

★ Contact factory



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

FI FCTRICAL

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

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

| POLES | ACTIVE POSITIONS | POLES/ SECTION | NO. (| | SHORTING | G NON- SHORTING | FIG. |
|-------|------------------|-------------------|-------|-----|----------|--------------------|------|
| 01 | 02-12 | 1 | 1 | D10 | G0112S-F | D1G0112N-F | DE |
| 02 | 02-12 | 1 | 2 | D10 | G0212S-F | D1G0212N-F | DE |
| 02 | 02-06 | 2 | 1 | D10 | G0206S-F | D1G0206N-F | DL |
| 03 | 02-12 | 1 | 3 | D10 | G0312S-F | D1G0312N-F | DE |
| 03 | 02-05 | 3 | 1 | D10 | G0305S-F | D1G0305N-F | DO |
| 04 | 02-06 | 2 | 2 | D10 | G0406S-F | D1G0406N-F | DL |
| 06 | 02-06 | 2 | 3 | D10 | G0606S-F | D1G0606N-F | DL |
| 06 | 02-05 | 3 | 2 | D10 | G0605S-F | D1G0605N-F | DO |

CERAMIC INSULATION

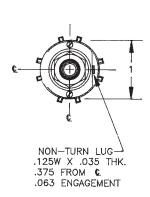
SWITCHES - SOLDER LUG TERMINALS - 30° INDEX

| | ACTIVE | POLES/ | NO. O | F SHORTING | NON- | FIG. | |
|-------|-----------|---------|--------|------------|------------|------|--|
| POLES | POSITIONS | SECTION | SECTIO | NS | SHORTING | * | |
| 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 | |
| | | | | | | | |

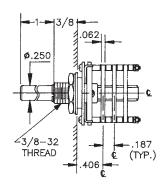
* FIGURES ARE SHOWN ON PAGES 55 AND 56.

DIMENSIONS

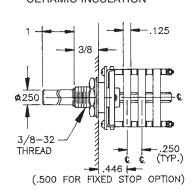
STANDARD CONSTRUCTION



D1G - STANDARD GLASS **EPOXY CONSTRUCTION**



D₁C CERAMIC INSULATION



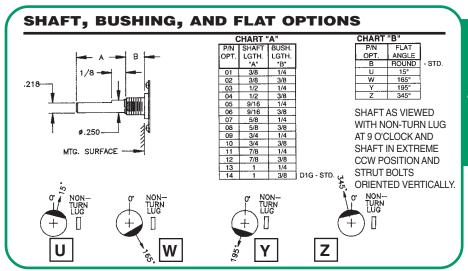


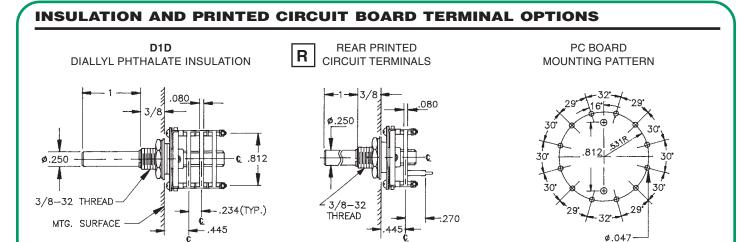
2010 Yonkers Road Raleigh, NC 27604

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

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 - DIALLYL (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° | F - FIXED (7-POS MAX @ 45°) C - CONT. | SEE CHART | SEE CHART |
| D1 | C - CERAMIC | 01 - MIN. | 11 - MAX @ 30° | S - SHORTING N - NON- SHORTING | L - SOLDER LUG | 30° | F - FIXED C - CONT. | "A" | "B" |
| D | MERS SPECIFIE | D ORDER NU (SPECIFY) | MBER FOR STANI | DARD OPTIONS (SPECIFY) | (SPECIFY) | ADDIT | IONAL OPTION (SPECIFY) | | (SPECIFY) |





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



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.

| | ACTIVE | POLES/ | NO. C | OF SH | IORTING | NON- | FIG. |
|-------|-----------|---------|---------|-------|---------|----------|------|
| POLES | POSITIONS | SECTION | SECTION | SNC | | SHORTING | * |
| 01 | 02-12 | 1 | 1 | D2D01 | 12S [| D2D0112N | DE |
| 02 | 02-06 | 2 | 1 | D2D02 | 06S [| D2D0206N | DL |
| 02 | 02-12 | 1 | 2 | D2D02 | 12S [| D2D0212N | DE |
| 03 | 02-05 | 3 | 1 | D2D03 | 05S [| D2D0305N | DO |
| 03 | 02-12 | 1 | 3 | D2D03 | 12S [| D2D0312N | DE |
| 04 | 02-06 | 2 | 2 | D2D04 | 06S [| D2D0406N | DL |
| 06 | 02-05 | 3 | 2 | D2D06 | 05S [| D2D0605N | DO |
| 06 | 02-06 | 2 | 3 | D2D06 | 06S [| D2D0606N | DI |

CERAMIC INSULATION - ADJUSTABLE STOPS

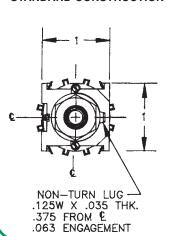
SWITCHES - SOLDER LUG TERMINALS - 30° INDEX - SET @ 2 POS. - 1/8 DIA. SHAFT

| | ACTIVE | POLES/ | NO. O | F SHORTING | NON- | FIG. |
|-------|-----------|---------|--------|------------|----------|------|
| POLES | POSITIONS | SECTION | SECTIO | NS | SHORTING | * |
| 01 | 02-11 | 1 | 1 | D2C0111S | D2C0111N | DB |
| 02 | 02-05 | 2 | 1 | D2C0205S | D2C0205N | DG |
| 02 | 02-11 | 1 | 2 | D2C0211S | D2C0211N | DB |
| 03 | 02-03 | 3 | 1 | D2C0303S | D2C0303N | DN |
| 03 | 02-11 | 1 | 3 | D2C0311S | D2C0311N | DB |
| 04 | 02-05 | 2 | 2 | D2C0405S | D2C0405N | DG |
| 06 | 02-05 | 2 | 3 | D2C0605S | D2C0605N | DG |
| 06 | 02-03 | 3 | 2 | D2C0603S | D2C0603N | DN |
| | | | | | | |

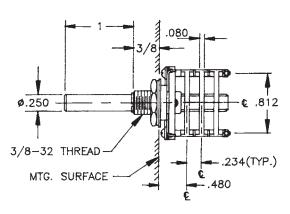
* FIGURES ARE SHOWN ON PAGES 55 AND 56.

DIMENSIONS

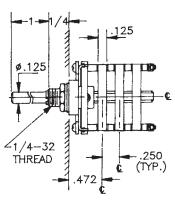
STANDARD CONSTRUCTION



D2DDIALLYL PHTHALATE INSULATION



D2C CERAMIC INSULATION





2010 Yonkers Road Raleigh, NC 27604

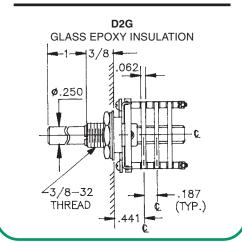
.250 ((TYP.)

How to Order Additional Options:

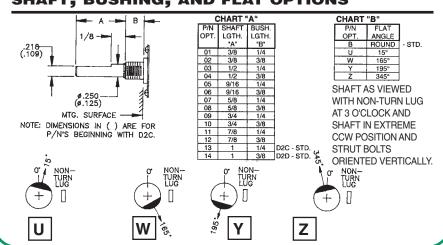
| SERIES TYP | POL | <u>.ES POSITIONS</u> | TYPE | TYPE | ANGLE | TYPE | BUSHING | FLAT |
|---|---------|---|-------------------------------------|--|--------------------------|------------------------------------|--------------|--------------|
| D2 D - DIAL (30°,45°,6 G - GLA (30°,36°. | °) S | MIN. 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 | SEE |
| D2 C - CER (30°,¢ | °) | MIN. 11 - MAX @ 30° | S - SHORTING N - NON SHORTING | L - SOLDER LUG | 30° 60° | A - ADJ. F - FIXED C - CONT. | CHART "A" | CHART "B" |

| CUSTOMERS SPECIFIED OF | RDER NUMBER FOR ST | ANDARD OPTIONS | | ADDITIO | NA <u>L OP</u> TIO | NS | |
|------------------------|--------------------|----------------|-----------|-----------|--------------------|-----------|-----------|
| D 2 | | _ | | | | | |
| (SP | PECIFY) (SPECIFY) | (SPECIFY) | (SPECIFY) | (SPECIFY) | (SPECIFY) | (SPECIFY) | (SPECIFY) |

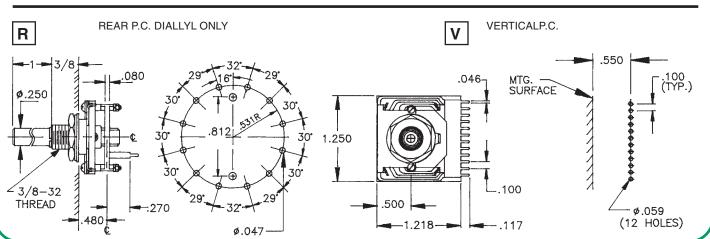
INSULATION OPTION



BUSHING, AND FLAT OPTIONS



PRINTED CIRCUIT BOARD TERMINAL OPTIONS



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



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/ | NO. O | F SHORTIN | G NON- | FIG. |
|-------|-----------|---------|--------|-----------|----------|------|
| POLES | POSITIONS | SECTION | SECTIO | NS | SHORTING | * |
| 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

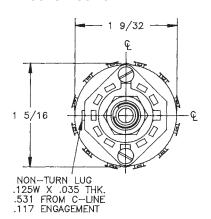
SWITCHES - SOLDER LUG TERMINALS - 30° INDEX - ADJUSTABLE STOPS SET @ 2 POS.

| POLES | ACTIVE POSITIONS | POLES/ | NO. O | | IG NON- SHORTING | FIG. |
|-------|------------------|---------|-------|----------|---------------------|------|
| | | SECTION | | | | |
| 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 |

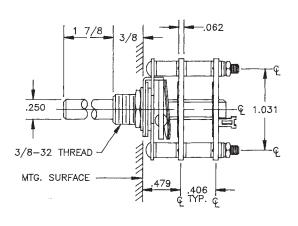
* FIGURES ARE SHOWN ON PAGES 55 AND 56.

DIMENSIONS

STANDARD CONSTRUCTION



D3G - GLASS EPOXY CONSTRUCTION





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

SHAFT/

BUSHING

SEE

CHART

"A"

SHAFT

FLAT

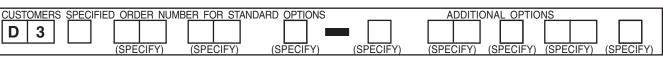
SEE

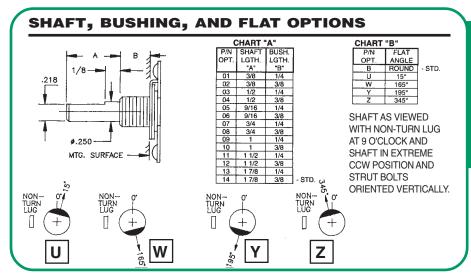
CHART

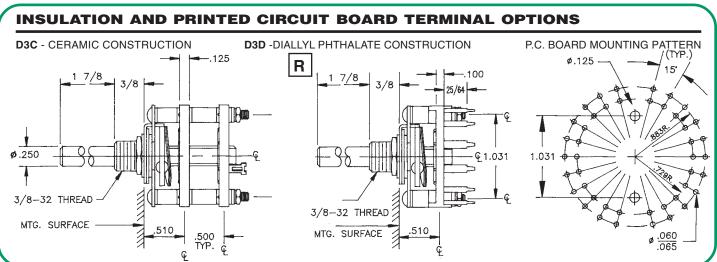
"B"

How to Order Additional Options:

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







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



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

around.

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.

CHODTING

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

DOLES/

GLASS EPOXY INSULATION ACTIVE

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

| | ACTIVE | POLES/ | NO. OF | SHURTING | NON- | FIG. |
|-------|-----------|---------|----------|----------|----------|------|
| POLES | POSITIONS | SECTION | SECTIONS | | SHORTING | * |
| 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 |
| | | | | | | |

NO OF

CERAMIC INSULATION

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

| . | | ACTIVE | POLES/ | NO. OF | SHORTING | NON- | FIG. |
|---|-------|-----------|---------|----------|----------|----------|------|
| ╝ | POLES | POSITIONS | SECTION | SECTIONS | | SHORTING | * |
| _ | 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 |
| i | 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.

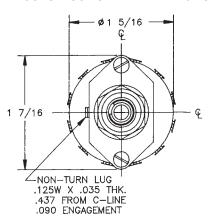
D4G0903N

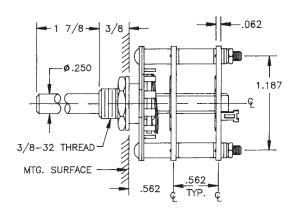
DIMENSIONS

02-03

STANDARD CONSTRUCTION

D4G - STANDARD GLASS EPOXY CONSTRUCTION







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

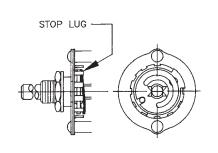
How to Order Additional Options:

| 2 DIGIT | INSULATION | TOTAL | ACTIVE | CONTACT |
|---------|---|-----------|----------------------------------|-------------------------------------|
| SERIES | TYPE | POLES | POSITIONS | TYPE |
| D4 | G - GLASS C - CERAMIC D - DIALLYL | 01 - MIN. | 12 - MAX @ 30° 06 - MAX @ 60° | N - NON SHORTING S - SHORTING |

| TERMINAL | INDEX | STOP | SHAFT/ | SHAFT |
|---------------------------------|------------|------------------------------------|---------------------|---------------------|
| TYPE | ANGLE | TYPE | BUSHING | FLAT |
| L - SOLDER LUG R - REAR P.C. | 30° 60° | A - ADJ. F - FIXED C - CONT. | SEE CHART "A" | SEE CHART "B" |

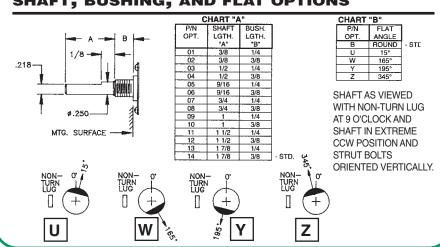
| CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS ADDITIONAL OPTIONS | | | | | | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|--|
| D 4 | | | | | | | | | | |
| | (SPECIFY) | | |

ADJUSTABLE STOP **MECHANISM**

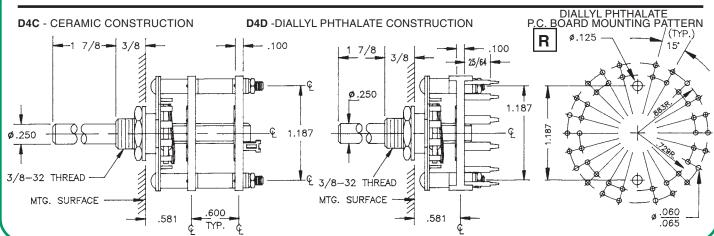


REMOVE STOP LUGS TO ACHIEVE MORE POSITIONS.

SHAFT, BUSHING, AND FLAT OPTIONS



INSULATION AND PRINTED CIRCUIT BOARD TERMINAL OPTIONS



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

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

| PRINTED CIRC | CUIT BOARD | TERMINALS |
|----------------|---------------|-----------|
| SWITCHES - 30° | INDEXING - FI | XED STOPS |
| A CTIVE | DOLEC/ | NO OF |

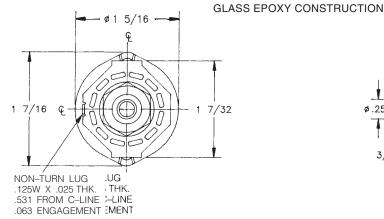
| | ACTIVE | POLES/ | NO. OF | SHORTING | | FIG. | | ACTIVE | POLES/ | NO. OF | SHORTING | NON- | FIG. | l |
|-------|-----------|---------|----------|----------|----------|------|-------|-----------|---------|----------|--------------|--------------|------|---|
| POLES | POSITIONS | SECTION | SECTIONS | | SHORTING | * | POLES | POSITIONS | SECTION | SECTIONS | | SHORTING | * |] |
| 01 | 06 | 1 | 1 | D5G0106S | D5G0106N | DB | 01 | 06 | 1 | 1 | D5G0106S - R | D5G0106N - R | DB | |
| 01 | 80 | 1 | 1 | D5G0108S | D5G0108N | DB | 01 | 08 | 1 | 1 | D5G0108S - R | D5G0108N - R | DB | |
| 01 | 10 | 1 | 1 | D5G0110S | D5G0110N | DB | 01 | 10 | 1 | 1 | D5G0110S - R | D5G0110N - R | DB | |
| 01 | 11 | 1 | 1 | D5G0111S | D5G0111N | DB | 01 | 11 | 1 | 1 | D5G0111S - R | D5G0111N - R | DB | |
| 02 | 04 | 2 | 1 | D5G0204S | D5G0204N | DG | 02 | 04 | 2 | 1 | D5G0204S - R | D5G0204N - R | DG | |
| 02 | 05 | 2 | 1 | D5G0205S | D5G0205N | DG | 02 | 05 | 2 | 1 | D5G0205S - R | D5G0205N - R | DG | |
| 03 | 03 | 3 | 1 | D5G0303S | D5G0303N | DN | 03 | 03 | 3 | 1 | D5G0303S - R | D5G0303N - R | DN | |

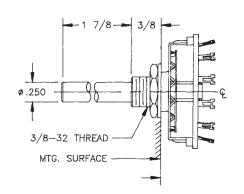
* FIGURES ARE SHOWN ON PAGES 55 AND 56.

DIMENSIONS

STANDARD CONSTRUCTION

D₅G





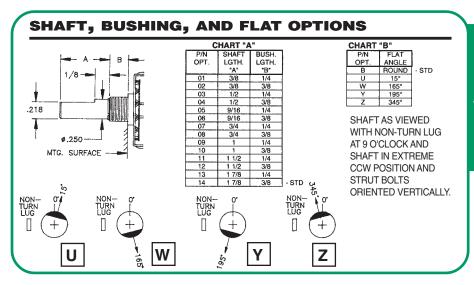
ELECTROSWITCH • ELECTRONIC PRODUCTS UNIT OF ELECTRO SWITCH CORP.

2010 Yonkers Road

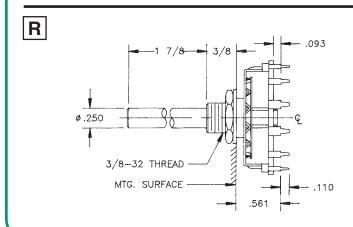
Raleigh, NC 27604

How to Order Additional Options:

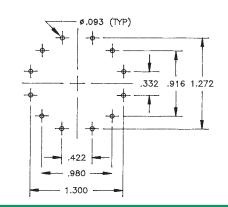
| 2 DIGIT SERIES | INSULATION TYPE | TOTAL POLES | ACTIVE POSITIONS | CONTACT TYPE | TERMINAL TYPE | INDEX ANGLE | STOP TYPE | SHAFT/ BUSHING | SHAFT FLAT |
|-------------------|--------------------|-------------------------|----------------------------|-------------------------------------|---------------------------------|----------------|------------------------|---------------------|---------------------|
| 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" |
| | MERS SPECIFIE G | D ORDER NU (SPECIFY) | MBER FOR STAN (SPECIFY) | DARD OPTIONS (SPECIFY) | (SPECIFY) | ADDITI | ONAL OPTIO | | (SPECIFY) |



PRINTED CIRCUIT BOARD OPTIONS



P.C. BOARD MOUNTING PATTERN



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



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 dially 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

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

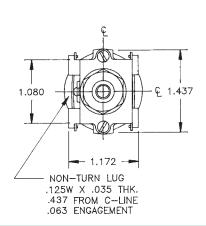
| POLES | ACTIVE POSITIONS | POLES/ SECTION | NO. OF SECTIONS | SHORTING | NON- SHORTING | FIG. ★ | POLES | ACTIVE POSITIONS | POLES/ SECTION | NO. OF SECTIONS | SHORTING | NON- SHORTING | FIG. |
|-------|------------------|-------------------|--------------------|----------|------------------|-----------|-------|------------------|-------------------|--------------------|----------|------------------|------|
| 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 | 80 | 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 |

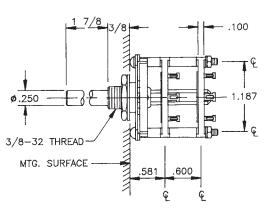
* FIGURES ARE SHOWN ON PAGES 55 AND 56.

DIMENSIONS

STANDARD CONSTRUCTION

D6D - DIALLYL PHTHALATE CONSTRUCTION







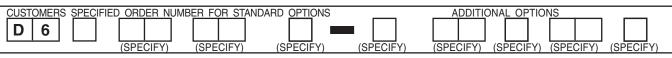
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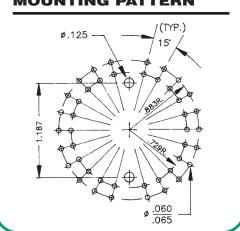
How to Order Additional Options:

| 2 DIGIT SERIES | INSULATION TYPE | TOTAL POLES | ACTIVE POSITIONS | CONTACT TYPE |
|-------------------|--|----------------|--|-------------------------------------|
| 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 |
| D6 | C - CERAMIC (30°,60°) | 01 - MIN. | 12 - MAX @ 30° 06 - MAX @ 60° | S - SHORTING N - NON SHORTING |

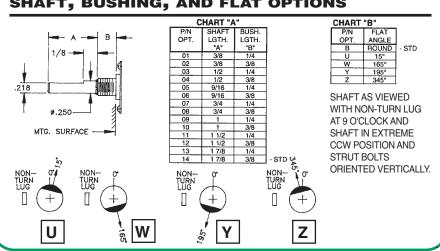
| TERMINAL TYPE | INDEX ANGLE | STOP TYPE | SHAFT/ BUSHING | SHAFT FLAT |
|---|--------------------------|--|-------------------|---------------|
| L - SOLDER LUG R - REAR P.C. (NO 36°) | 30° 36° 45° 60° | A - ADJ. (30°,60° ONLY) F - FIXED C - CONT. | SEE | SEE |
| L - SOLDER LUG | 30° 60° | A - ADJ. F - FIXED C - CONT. | CHART "A" | CHART "B" |



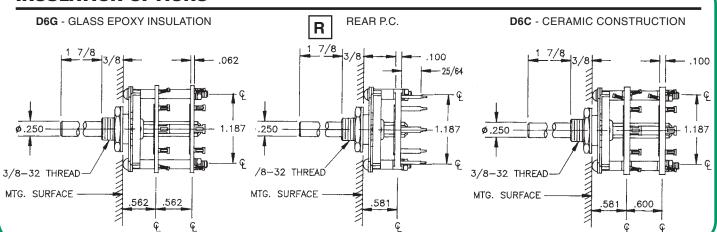
PRINTED BOARD **MOUNTING PATTERN**



SHAFT, BUSHING, AND FLAT OPTIONS



INSULATION OPTIONS



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



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.

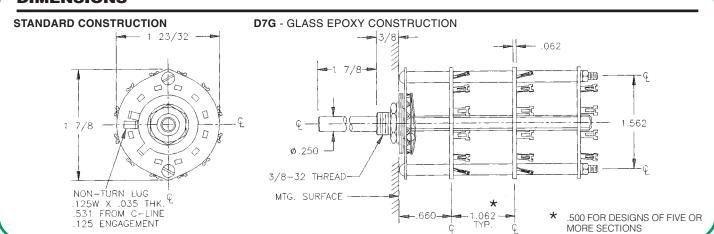
Stop Strength: 25 in. lbs. minimum.

STANDARD PART NUMBER

| 01.40 | | = | | | | | | | | | | | _ |
|-------|---------------|------------|---------------|-----------------|----------|------|---------|----------------|-------------|--------------|----------------|------------|------|
| | S EPOXY INS | | | CHES - 30° INDE | | | | C INSULATIO | | SWITCHES - 3 | | | |
| ADJUS | TABLE STOPS - | SOLDER LUC | G TERMINALS - | STOPS SET @ 2 | POS. | | ADJUSTA | BLE STOPS - SO | OLDER LUG T | ERMINALS - S | TOPS SET @ 2 P | OS. | |
| | ACTIVE | POLES/ | NO. OF | SHORTING | NON- | FIG. | | ACTIVE | POLES/ | NO. OF | SHORTING | NON- | FIG. |
| POLES | POSITIONS | SECTION | SECTIONS | | SHORTING | * | POLES | POSITIONS | SECTION | SECTIONS | | SHORTING | * |
| 01 | 02-11 | 1 | 1 | D7G0111S | D7G0111N | DA | 01 | 02-11 | 1 | 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° INDEXINO | ì | | |
| 06 | 02-03 | 3 | 2 | D7G0603S | D7G0603N | DM | 01 | 02-06 | 1 | 1 | | D7C0106N-6 | 0 DK |
| 06 | 02-11 | 1 | 6 | D7G0611S | D7G0611N | DA | 02 | 02-06 | 1 | 2 | | D7C0206N-6 | 0 DK |
| 08 | 02-05 | 2 | 4 | D7G0805S | D7G0805N | DH | 03 | 02-06 | 1 | 3 | | D7C0306N-6 | 0 DK |
| 09 | 02-03 | 3 | 3 | D7G0903S | D7G0903N | DM | 04 | 02-06 | 1 | 4 | | D7C0406N-6 | 0 DK |
| 10 | 02-05 | 2 | 5 | D7G1005S | D7G1005N | DH | 05 | 02-06 | 1 | 5 | | D7C0506N-6 | 0 DK |

* FIGURES ARE SHOWN ON PAGES 55 AND 56.

DIMENSIONS





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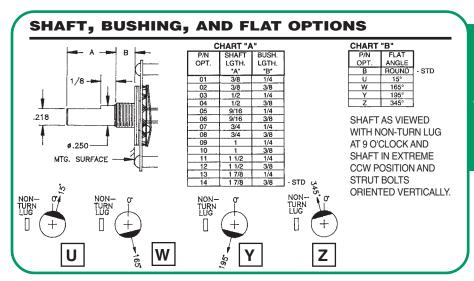
Raleigh, NC 27604

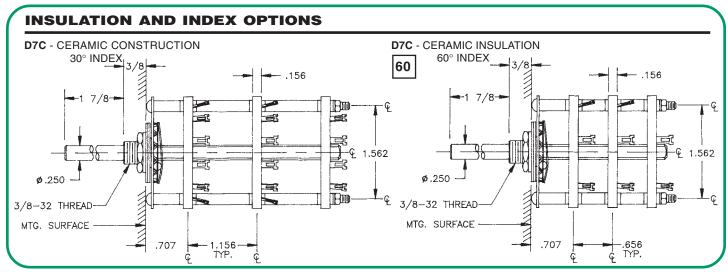
(SPECIFY)

(SPECIFY)

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 | | 60° | A - ADJ. F - FIXED C - CONT. | SEE CHART "A" | SEE CHART "B" | |
| CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS ADDITIONAL OPTIONS D 7 | | | | | | | | | | |





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



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

D

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

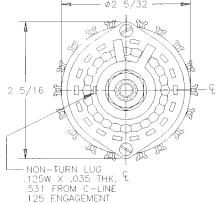
GLASS EPOXY INSULATION SWITCHES - 20° INDEXING ADJUSTABLE STOPS SET @ 2 POS. - SOLDER LUG TERMINALS

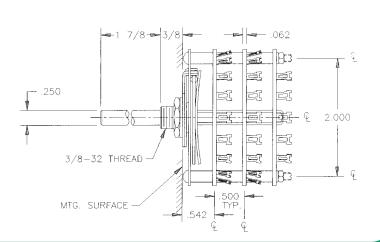
| POLES | ACTIVE POSITIONS | POLES/ SECTION | NO. OF SECTIONS | SHORTING | NON- SHORTING | FIG. |
|-------|---------------------|-------------------|--------------------|----------|------------------|------|
| 01 | 02-17 | 1 | 1 | D8G0117S | D8G0117N | DT |
| 02 | 02-17 | 1 | 2 | D8G0217S | D8G0217N | 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 |
| 80 | 02-17 | 1 | 8 | D8G0817S | D8G0817N | DT |

* FIGURES ARE SHOWN ON PAGE 57.

DIMENSIONS







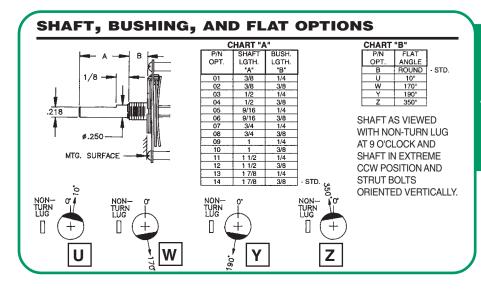


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How to Order Additional Options: TOTAL ACTIVE CONTACT TERMINAL INDEX STOP 2 DIGIT INSULATION SHAFT/ SHAFT SERIES **TYPE POLES POSITIONS** TYPE TYPE ANGLE TYPE **BUSHING FLAT** D8 G - GLASS 01 - MIN. 18 - MAX @ 20° N - NON A - ADJ. SHORTING F - FIXED S - SHORTING C - CONT. SEE SEE CHART CHART "A" "B" CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS ADDITIONAL OPTIONS 8 G D (SPECIFY) (SPECIFY) (SPECIFY) (SPECIFY)



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



1.5 AMPS @ 28 VDC 2 5/16" DIAMETER

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

D

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

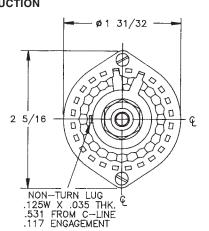
GLASS EPOXY INSULATION SWITCHES - 15° INDEXING ADJUSTABLE STOPS - SOLDER LUG TERMINALS - STOPS SET @ 2 POS.

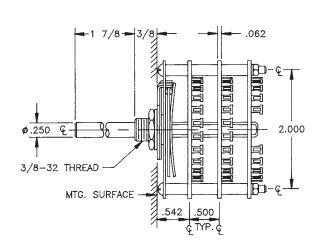
| POLES | ACTIVE POSITIONS | POLES/ SECTION | NO. OF SECTIONS | SHORTING | NON- SHORTING | FIG. |
|-------|---------------------|-------------------|--------------------|----------|------------------|------|
| 01 | 02-23 | 1 | 1 | D9G0123S | D9G0123N | DU |
| 02 | 02-23 | 1 | 2 | D9G0223S | D9G0223N | 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





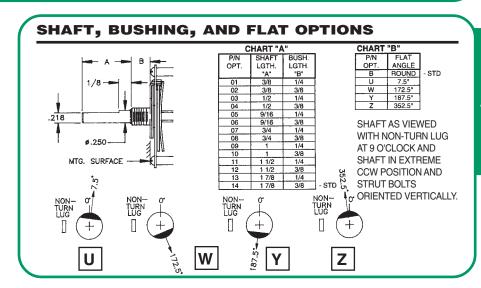


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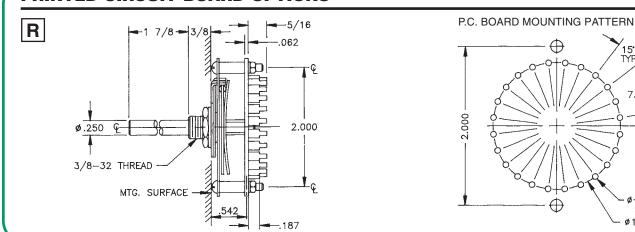
Fax: (800) 909-9171 or (919) 833-8016

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" |
| | 9 G | ORDER NU | JMBER FOR STAN (SPECIFY) | DARD OPTIONS (SPECIFY) | (SPECIFY) | ADDITI | ONAL OPTIO (SPECIFY) | | SPECIFY) |



PRINTED CIRCUIT BOARD OPTIONS



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E

SELECTOR GUIDE OPEN FRAME ROTARY ELECTRONIC SWITCHES













| SERIES E1 SERIES E2 SERIES E3 SERIES E4 SERIES E5 |
|--|
| cruction OPEN OPEN OPEN OPEN OPEN eter 1.50" N/A 1.500" 2.812" 2.5 x 1.625" ons 2 - 3 2 - 5 2 - 3 2 - 17 2 - 24 Int and Voltage .25A @ 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 Int Carrying Capacity 9A 9A 17A 1A Stric Strength 1,000 VAC 1,500 VAC 3,000 VAC 750 VAC Ition Resistance 750,000 750,000 750,000 750,000 (megohms) 3.5 3.5 3.5 7 N/A |
| cruction OPEN OPEN OPEN OPEN OPEN eter 1.50" N/A 1.500" 2.812" 2.5 x 1.625" ons 2 - 3 2 - 5 2 - 3 2 - 17 2 - 24 ent and Voltage .25A @ 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 ent Carrying Capacity 9A 9A 17A 1A etric Strength 1,000 VAC 1,000 VAC 3,000 VAC 750 VAC etric Strength 750,000 750,000 1,000,000 750,000 (megohms) 0.5A @ 115 VAC 1,000,000 750,000 750,000 etric Resistance 3.5 3.5 3.5 7 N/A |
| cons 2 - 3 2 - 5 2 - 3 2 - 17 2 - 24 Int and Voltage .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 Int Carrying Capacity 9A 9A 17A 1A Strice Strength 1,000 VAC 1,000 VAC 3,000 VAC 750 VAC Ition Resistance 750,000 750,000 1,000,000 750,000 (megohms) 3.5 3.5 3.5 7 N/A |
| cons 2 - 3 2 - 5 2 - 3 2 - 17 2 - 24 Int and Voltage .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 Int Carrying Capacity 9A 9A 17A 1A Strice Strength 1,000 VAC 1,000 VAC 3,000 VAC 750 VAC Ition Resistance 750,000 750,000 1,000,000 750,000 (megohms) 3.5 3.5 3.5 7 N/A |
| 1.5A @ 28 VDC 1.5A @ 28 VDC 1.5A @ 28 VDC 11.0A @ 28 VDC 0.55A @ 28 VDC 11.0A @ 2 |
| Int Carrying Capacity 9A 9A 9A 17A 1A etric Strength 1,000 VAC 1,000 VAC 1,500 VAC 3,000 VAC 750 VAC rition Resistance 750,000 750,000 750,000 1,000,000 750,000 (megohms) 3.5 3.5 3.5 7 N/A |
| ctric Strength 1,000 VAC 1,000 VAC 1,500 VAC 3,000 VAC 750 VAC ction Resistance 750,000 750,000 750,000 1,000,000 750,000 (megohms) Ct Resistance 3.5 3.5 3.5 7 N/A |
| Ition Resistance (megohms) 750,000 750,000 1,000,000 750,000 In the resistance of t |
| (megohms) 3.5 3.5 7 N/A |
| ct Resistance 3.5 3.5 7 N/A |
| ct Resistance 3.5 3.5 7 N/A |
| (milliohms) |
| |
| |
| |
| tion - Glass Epoxy STANDARD STANDARD STANDARD NO STANDARD |
| Ceramic NO NO YES STANDARD NO |
| SOLUTION TO THE STREET THE |
| |
| |
| ıcts - Silver Alloy ★ YES YES YES STANDARD YES |
| Brass/Silver Plate STANDARD STANDARD STANDARD NO STANDARD |
| DIADSIGNIVELLIARE STANDARD STANDARD STANDARD |
| |
| Strength 10 in. lb. 25 in. lb. |
| anical Life 10,000 cycles 25,000 cycles 25,000 cycles 25,000 cycles 25,000 cycles |
| ting Angles: 15° — 15 — 15 |
| 20° – – 20 – |
| 22.5° |
| 30° 30 30 — — |
| 36° |
| 45° – – – – – – – |
| 60° |
| 90° – – – – – |
| Connect NO NO NO NO |
| PC Mount YES YES NO NO |
| al PC Mount ★ NO NO NO YES |
| PC Mount ★ YES NO NO NO |
| Concentric Designs ★ NO NO NO NO |
| ck ★ NO NO NO NO NO |
| |
| g Return ★ NO YES YES NO NO |
| Resistant Seals ★ NO YES YES NO NO |

★ Contact factory



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

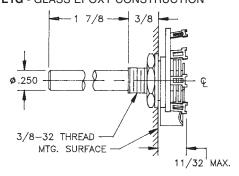
GLASS EPOXY INSULATION

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

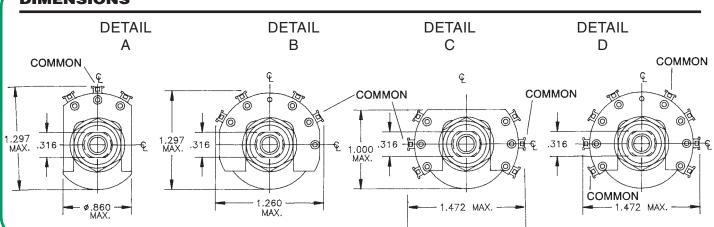
| POLES | ACTIVE POSITIONS | POLES/ SECTION | NO. OF SECTIONS | SHORTING | NON- SHORTING | DETAIL |
|----------|---------------------|-------------------|--------------------|----------------------|----------------------|--------|
| 01 | 02 | 1 | 1 | E1G0102S | E1G0102N | |
| 01 02 | 03 02 | 1 | 1 |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

DIMENSIONS

STANDARD CONSTRUCTION E1G - GLASS EPOXY CONSTRUCTION



DIMENSIONS





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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

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

E

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

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

DIMENSIONS

STANDARD CONSTRUCTION

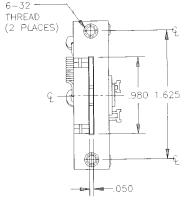
MAX

5/16 MAX 15° OR 30° TRAVEL 7/8 15° OR 30° TRAVEL

MTG. SURFACE

DETAIL E

DETAIL F





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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

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

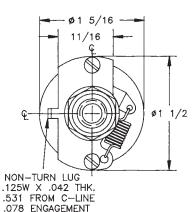
SWITCHES - 30° INDEXING - FIXED STOPS - SOLDER LUG TERMINALS

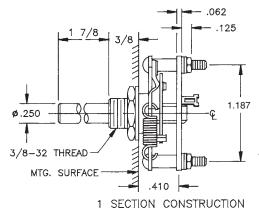
| | ACTIVE | POLES/ | NO. OF | SHORTING | NON- | |
|-------|-----------|---------|----------|------------|------------|--|
| POLES | POSITIONS | SECTION | SECTIONS | | SHORTING | DESCRIPTION |
| 04 | 02 | 4 | 1 | E3G0402S-1 | E3G0402N-1 | SPRING RETURN FROM CLOCKWISE. |
| 06 | 03 | 3 | 2 | E3G0603S-2 | 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. |

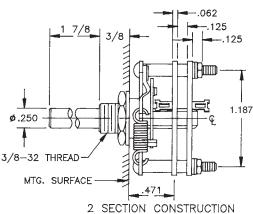
E3G - GLASS EPOXY CONSTRUCTION

DIMENSIONS

STANDARD CONSTRUCTION







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Raleigh, NC 27604

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

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.

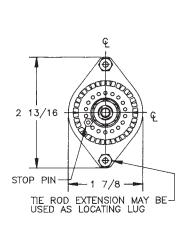
| POLES | ACTIVE POSITIONS | POLES/ SECTION | NO. OF SECTIONS | SHORTING | NON- SHORTING | FIG. ★ | POLES | ACTIVE POSITIONS | POLES/ SECTION | NO. OF SECTIONS | SHORTING | NON- SHORTING | FIG. |
|-------|------------------|-------------------|--------------------|----------|------------------|-----------|-------|------------------|-------------------|--------------------|----------|------------------|------|
| 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.

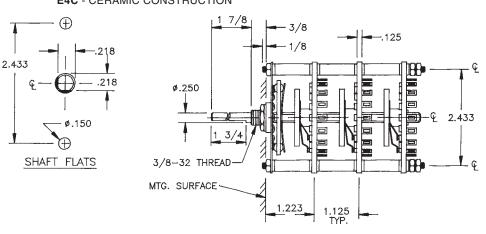
DIMENSIONS

E

STANDARD CONSTRUCTION



E4C - CERAMIC CONSTRUCTION

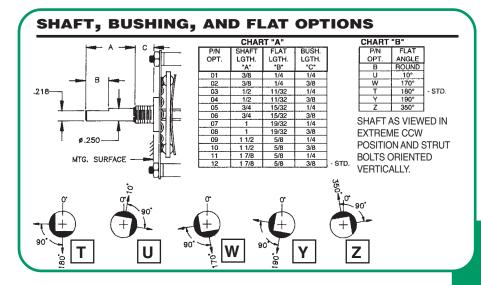




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| | | Н | ow to O | rder Ad | ditional Options: |
|-------------------|--------------------|----------------|-----------------------------|-------------------------------------|--|
| 2 DIGIT SERIES | INSULATION TYPE | TOTAL POLES | ACTIVE POSITIONS | 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" |
| E | MERS SPECIFIE C | D ORDER NU | IMBER FOR STAN (SPECIFY) | DARD OPTIONS (SPECIFY) | ADDITIONAL OPTIONS (SPECIFY) (SPECIFY) (SPECIFY) |



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



SPECIFICATIONS AND ORDERING INFORMATION

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

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/ | NO. OF | SHORTING | NON- | FIG. |
|-------|-----------|--------|--------|----------|----------|------|
| POLES | POSITIONS | DECK | DECKS | | SHORTING | * |
| 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

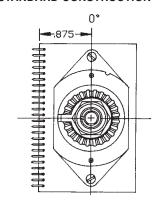
| | ACTIVE | POLES/ | NO. OF | SHORTING | NON- | FIG. |
|-------|-----------|--------|--------|------------|------------|------|
| POLES | POSITIONS | DECK | DECKS | | SHORTING | * |
| 01 | 23 | 1 | 1 | E5G0123S-C | E5G0123N-C | ED |
| 02 | 23 | 1 | 2 | E5G0223S-C | E5G0223N-C | ED |
| 03 | 23 | 1 |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

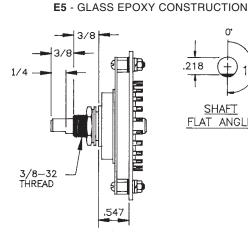
* FIGURES ARE SHOWN ON PAGE 57.

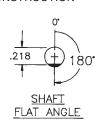
DIMENSIONS

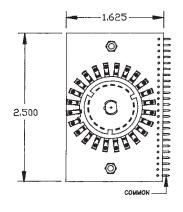
E

STANDARD CONSTRUCTION







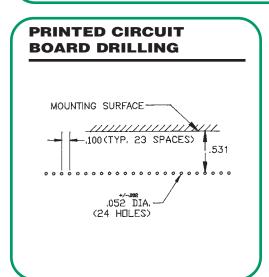


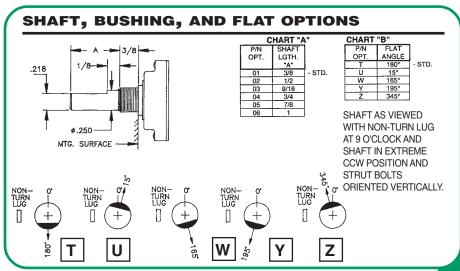
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ORIGINALLY DESIGNED AS MIL. SPEC. SELECTOR GUIDE ROTARY ELECTRONIC SWITCHES











| | 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 |
| Е | Current and Voltage | 0.35A @ 115 VAC | 2.5A @ 120 VAC | 0.125A @ 115 VAC | 0.125A @ 115 VAC |
| L | • | 1.0A @ 28 VDC | 2.0A @ 28 VDC | 0.5A @ 28 VDC | 0.5A @ 28 VDC |
| Е | Current Carrying Capacity | 10A | 12A | 10A | 10A |
| С | Dielectric Strength | 1,000 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC |
| Т | Insulation Resistance | 10,000 | 100,000 | 1,000,000 | 1,000,000 |
| R | (megohms) | , | , | , , | , , |
| 1 | Contact Resistance | 5 | 5 | 10 | 10 |
| С | (milliohms) | | | | |
| Α | , | | | | |
| L | | | | | |
| М | Insulation - Glass Epoxy | NO | NO | STANDARD | STANDARD |
| Α | Diallyl Phthalate | STANDARD | STANDARD | NO | NO |
| Т | , | | | | |
| E | | | | | |
| R | | | | | |
| 1 | Contacts - Silver Alloy ★ | STANDARD | STANDARD | STANDARD | STANDARD |
| Α | Brass/Silver Plate | NO | NO | NO | NO |
| L | Gold Plate | YES | YES | YES | YES |
| М | Stop Strength | 25 in. lb. | 15 in. lb. | 50 in. lb. | 50 in. lb. |
| Е | Mechanical Life | 25,000 cycles | 25,000 cycles | 25,000 cycles | 25,000 cycles |
| С | Detenting Angles: 7.5° | | | | 7.5 |
| н | 11.25° | _ | _ | 11.25 | _ |
| Α | 15° | _ | _ | 15 | 15 |
| N | 22.5° | _ | _ | 22.5 | _ |
| 1 | 30 ° | 30 | 30 | 30 | _ |
| С | 36 ° | _ | 36 | _ | _ |
| Α | 45° | _ | 45 | _ | _ |
| L | 60° | _ | 60 | _ | _ |
| | 90° | - | 90 | _ | _ |
| 0 | Quick Connect | NO | NO | NO | NO |
| Р | Rear PC Mount | NO | NO | YES | NO |
| Т | Vertical PC Mount ★ | NO | NO | NO | NO |
| 1 | Front PC Mount ★ | NO | NO | NO | NO |
| 0 | Dual Concentric Designs ★ | NO | YES | NO | YES |
| N | Keylock ★ | NO | NO | NO | NO |
| s | Spring Return ★ | NO | NO | YES | NO |
| | Water Resistant Seals ★ | 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



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OPEN FRAME WORKSHEET

SERIES PREFERRED **ELECTRICAL REQUIREMENTS:** SHORTING OR NON-SHORTING CURRENT CARRYING CAPACITY INTERRUPTING CURRENT MAXIMUM WORKING VOLTAGE ADDITIONAL REQUIREMENTS: MAX NON-TURN LUG MTG. SURFACE -YES 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: Sender Information ELECTROSWITCH ELECTRONIC PRODUCTS Date: _____ Time: ____ UNIT OF ELECTRO SWITCH CORP. FAX Numbers: Name: _____ 2010 YONKERS ROAD, RALEIGH, NC 27604 (919) 833-8016Company: (800) 909-9171 Address: FOR ASSISTANCE PLEASE CALL: FAX TRANSMISSION (919) 833-0707 Ph #: _____

(888) ROTARYS

Fax #:____

M4 - SERIES

SPECIFICATIONS AND ORDERING INFORMATION

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.

04

Contact Resistance: Average initial 5 milliohms.

Insulation Resistance: In excess of 10,000 megohms

Hardware: Mounting nut and lockwasher are shipped assembled.

M4D0412S

M4D0412N

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

| | TABLE STOPS S | | | SWITCHES - 30 UG TERMINALS | ° INDEXING | | | R/DECK CON BLE STOPS SE | | - | SWITCHES - 30° I TERMINALS | NDEXING | |
|-------|---------------------|----------------|-----------------|-------------------------------|------------------|-----------|-------|----------------------------|----------------|-----------------|-------------------------------|------------------|------|
| 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 | M4D0212N | MB | 03 | 02-06 | 1 | 3 | M4D0306S | M4D0306N | MA |

MB

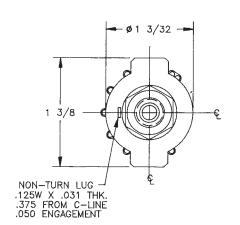
* FIGURES ARE SHOWN ON PAGE 57.

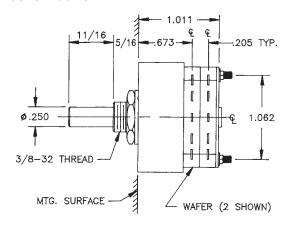
DIMENSIONS

02-12

STANDARD CONSTRUCTION

M4D - DIALLYL PHTHALATE CONSTRUCTION





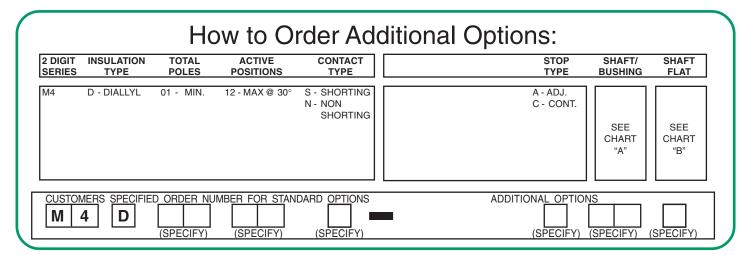


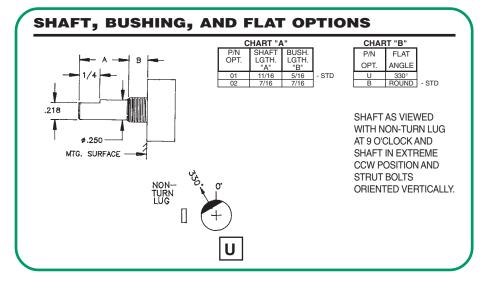
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M4D0406S

M4D0406N

MA





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M5 - SERIES

SPECIFICATIONS AND ORDERING INFORMATION

1" DIAMETER 2.0 AMPS @ 28 VDC

The M5 Series was orignally 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

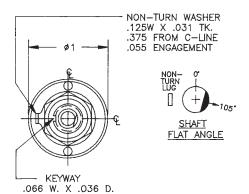
SWITCHES - 30° INDEXING - STOPS SET @ 2 POS. - SOLDER LUG TERMINALS

| 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 | C1 |
| 08 | 02-06 | 2 | 4 | M5D0806S - A | M5D0806N - A | C1 |

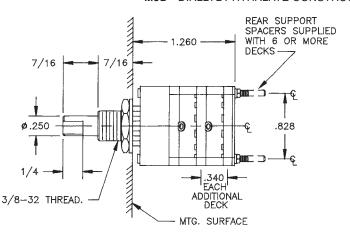
* FIGURES ARE SHOWN ON PAGE 55.

DIMENSIONS

STANDARD CONSTRUCTION



M5D - DIALLYL PHTHALATE CONSTRUCTION

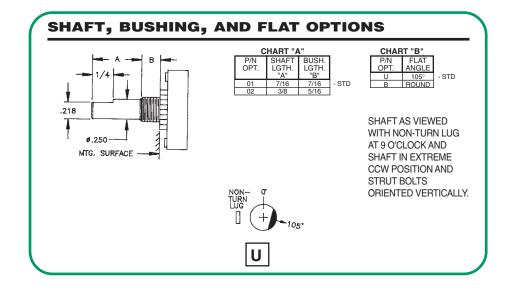




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| 2 DIGIT SERIES | INSULATION TYPE | TOTAL POLES | ACTIVE POSITIONS | CONTACT TYPE | | INDEX ANGLE | STOP TYPE | SHAFT/ BUSHING | SHAFT FLAT |
|-------------------|--------------------|----------------|--|-------------------------------------|---------------------|-----------------------------------|---|---------------------|---------------------|
| 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 S | HORTING | | | |



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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

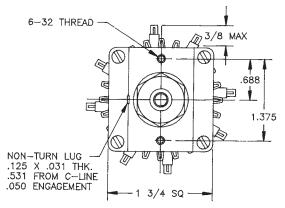
| POLES | ACTIVE POSITIONS | POLES/ SECTION | NO. OF SECTIONS | SHORTING | NON- SHORTING | FIG. |
|-------|---------------------|-------------------|--------------------|----------|------------------|------|
| 01 | 02-12 | 1 | 1 | M6G0112S | M6G0112N | MC |
| 02 | 02-12 | 1 | 2 | M6G0212S | M6G0212N | 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 |

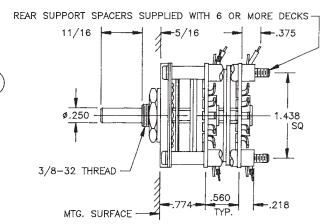
* FIGURES ARE SHOWN ON PAGE 57.

DIMENSIONS

STANDARD CONSTRUCTION

M6G - GLASS EPOXY CONSTRUCTION







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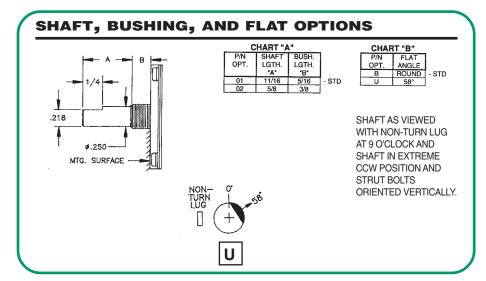
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How to Order Additional Options:

| 2 DIGIT SERIES | INSULATION TYPE | TOTAL POLES | ACTIVE POSITIONS | CONTACT TYPE |
|-------------------|--------------------|----------------|------------------------------------|--------------------------------------|
| M6 | G - GLASS | 01 - MIN. | 12 - MAX @ 30° 16 - MAX @22.5° | N - NON- SHORTING S - SHORTING |
| M6 | G - GLASS | 01 - MIN. | 32 - MAX @ 11.5° 24 - MAX @ 15° | S - SHORTING |

| TERMINAL | INDEX | STOP | SHAFT/ | SHAFT |
|---------------------------------|------------------------------|-----------------------|---------------------|---------------------|
| TYPE | ANGLE | TYPE | BUSHING | FLAT |
| L - SOLDER LUG R - REAR P.C. | 11.5° 15° 22.5° 30° | A - ADJ. C - CONT. | SEE CHART "A" | SEE CHART "B" |

| CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS | | | | | ADDITIO | NA <u>L OP</u> TIO | NS | |
|---|-----------|-----------|-----------|-----------|-----------|--------------------|-----------|-----------|
| M 6 G | | | | | | | | |
| | (SPECIFY) | (SPECIFY) | (SPECIFY) | (SPECIFY) | (SPECIFY) | (SPECIFY) | (SPECIFY) | (SPECIFY) |



PRINTED CIRCUIT BOARD OPTIONS P.C. BOARD MOUNTING PATTERN R LOCATION OF TERMINALS VARY WITH CONTACT CONFIGURATION & INDEXING .10 EFFECTIVE PIN INSERTION LENGTH 11/16 TERM. #1 0 ø.250 1.438 SQ. Ø1.510 26 0 THREAD 0 ø.760 (COMM. TERM'S) 0 MTG. SURFACE Ø.150 MTG. HOLES 26°

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

M7 - SERIES

SPECIFICATIONS AND ORDERING INFORMATION

2 1/2" SQUARE 0.5 AMPS @ 28 VDC

The M7 Series was orginially 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

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

| | Y GLASS INS TABLE STOPS S | | SOLDER LUC | SWITCHES - 15 G TERMINALS | ° INDEXING | | | GLASS INSUI BLE STOPS SE | | | WITCHES - 7.5° TERMINALS | INDEXING |
|-------|------------------------------|---------|------------|------------------------------|------------|------|-------|-----------------------------|---------|----------|-----------------------------|----------|
| | ACTIVE | POLES/ | NO. OF | SHORTING | NON- | FIG. | | ACTIVE | POLES/ | NO. OF | SHORTING | NON- |
| POLES | POSITIONS | SECTION | SECTIONS | | SHORTING | * | POLES | POSITIONS | SECTION | SECTIONS | | SHORTING |
| 01 | 02-24 | 1 | 1 | | M7G0124N | ME | 01 | 02 - 48 | 1 | 1 | M7G0148S-7 | 5 |
| 02 | 02-24 | 1 | 2 | | M7G0224N | ME | | | | | | |

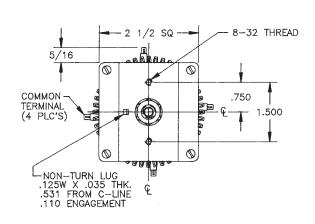
| I OLLO | 1 001110110 | OLOTION | OLOTIONO | onomina | ** |
|--------|-------------|---------|----------|--------------|----|
| 01 | 02-24 | 1 | 1 | M7G0124N | ME |
| 02 | 02-24 | 1 | 2 | M7G0224N | ME |
| 02 | 02-12 | 2 | 1 | M7G0212N | MF |
| 03 | 02-24 | 1 | 3 | M7G0324N | ME |
| 04 | 02-12 | 2 | 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 |
| | | | | | |

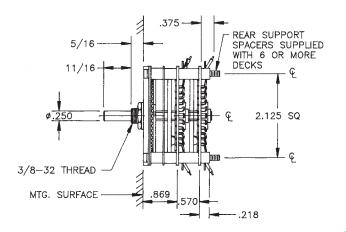
^{*} FIGURES ARE SHOWN ON PAGE 57.

DIMENSIONS

STANDARD CONSTRUCTION

M7G - GLASS EPOXY CONSTRUCTION







2010 Yonkers Road Raleigh, NC 27604

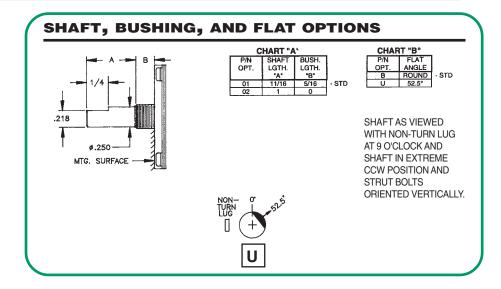
FIG.

*

| 2 DIGIT SERIES | INSULATION TYPE | TOTAL POLES | ACTIVE POSITIONS | CONTACT TYPE |
|-------------------|--------------------|----------------|------------------|----------------------|
| M7 | G - GLASS | 01 - MIN. | 48 - MAX @ 7.5° | S - SHORTING |
| M7 | G - GLASS | 01 - MIN. | 24 - MAX @ 15° | N - NON- SHORTING |

| TERMINAL | INDEX | STOP | SHAFT/ | SHAFT |
|----------|-------------|-----------------------|---------------------|---------------------|
| TYPE | ANGLE | TYPE | BUSHING | FLAT |
| | 7.5° 15° | A - ADJ. C - CONT. | SEE CHART "A" | SEE CHART "B" |

| CUSTOMERS SPECIFIED ORDER NUMBER FOR STANDARD OPTIONS M 7 G | | | |
|--|-----------------------------|----------------------------|-------------------------------|
| | CUSTOMERS SPECIFIED ORDER N | JMBER FOR STANDARD OPTIONS | ADDITIONAL OPTIONS |
| (SPECIFY) (SPECIFY) (SPECIFY) (SPECIFY) (SPECIFY) (SPECIFY) | M 7 G (SPECIFY) | (SPECIFY) (SPECIFY) | (SPECIFY) (SPECIFY) (SPECIFY) |



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



2010 Yonkers Road Raleigh, NC 27604

SECTION ASSEMBLIES AVAILABLE SEPARATE

INDEX ASSEMBLIES AVAILABLE SEPARATE

| POLES | NO. OF POSITIONS | POLES/ | INDEX ANGLE | SHORTING | NON- SHORTING | FIG. |
|-----------------|---------------------|------------|----------------|------------------|------------------|----------|
| L | | 32011014 | ANGLE | PART NUMBERS | PART NUMBERS | |
| D2D - SI | ERIES | DIALLYL PI | HTHALATE I | NSULATION | | |
| 01 | 02-12 | 1 | 30° | D2D-50 | D2D-51 | DE |
| 01 02 | 02-12 | 2 | 30° | D2D-50 D2D-52 | D2D-51 D2D-53 | DL |
| 03 | 2-05 | 3 | 30° | D2D-54 | D2D-55 | DO |
| 05 | 2-03 | 5 | 30° | D2D-56 | D2D-57 | DR |
| D2C - SI | ERIES | CERAMIC I | INSULATION | I | | |
| 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 |
| <u>D3C - SI</u> | ERIES | CERAMIC I | INSULATION | l | | |
| 01 | 2-11 | 1 | 30° | D3C-80 | D3C-81 | DA |
| 02 | 2-05 | 2 | 30° | D3C-82 | D3C-83 | DH |
| D4C - SI | ERIES | CERAMIC I | INSULATION | I | | |
| | | | | | | |
| 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 06 | 02-03 02 | 5 6 | 30° 30° | D4C-6 D4C-8 | D4C-7 D4C-9 | DR DS |
| 01 | 02-06 | 1 | 60° | D4C-20 | D4C-9 D4C-17 | DJ |
| D4G - SI | ERIES | GLASS EP | OXY INSULA | ATION | | |
| | | | | | | |
| 01 | 2-11 | 1 | 30° | D4G-30 | D4G-31 | DA |
| 02 03 | 2-05 2-03 | 2 3 | 30° 30° | D4G-32 D4G-34 | D4G-33 D4G-35 | DG DM |
| 03 | 2-03 | 4 | 30° | D4G-36 | D4G-35 | DP |
| D7C - Si | FRIES | CERAMIC I | INSULATION | I | | |
| 270 0. | | 02.0.000 | | | | |
| 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 |
| D7G - SI | ERIES | GLASS EP | OXY INSULA | ATION | | |
| 01 | 2-11 | 1 | 30° | D7G-BD | D7G-JD | DB |
| 02 | 2-05 | 2 | 30° | D7G-SKD | D7G-KD | DH |
| <u>E4C - SE</u> | ERIES | CERAMIC I | INSULATION | l | | |
| 01 | 2-17 | 1 | 20° | E4C-8 | E4C-N8 | EA |
| 01 | 2-17 | 2 | 20° | E4C-8 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 |
|---------------------------------|---|----------------------------------|--|--|
| D2 - SER | IES | | | |
| 30° 30° | 02-12 02-12 | 1-2 3-5 | D2-512 D2-513 | 20, 21 20, 21 |
| D3 - SER | IES | | | |
| 30° | 02-11 | 1-4 | D3-600 | 22, 23 |
| <u>D4 - SER</u> | IES | | | |
| 30° 30° 30° 60° 60° | 02-12 02-12 02-12 02-06 02-06 | 1-3 4-6 7-9 1-3 4-6 | D4-300 D4-301 D4-302 D4-304 D4-305 | 24, 25 24, 25 24, 25 24, 25 24, 25 24, 25 |
| <u>D7 - SER</u> | IES | | | |
| 30° 30° 30° 60° 60° | 02-11 02-11 02-11 02-06 02-06 | 1-3 4-5 6-10 1-2 3-8 | D7-270 D7-271 D7-272 D7-273 D7-275 | 30, 31 30, 31 30, 31 30, 31 30, 31 |
| <u>E4 - SER</u> | IES | | | |
| 20° | 02-17 | 1-6 | E4-7 | 40, 41 |



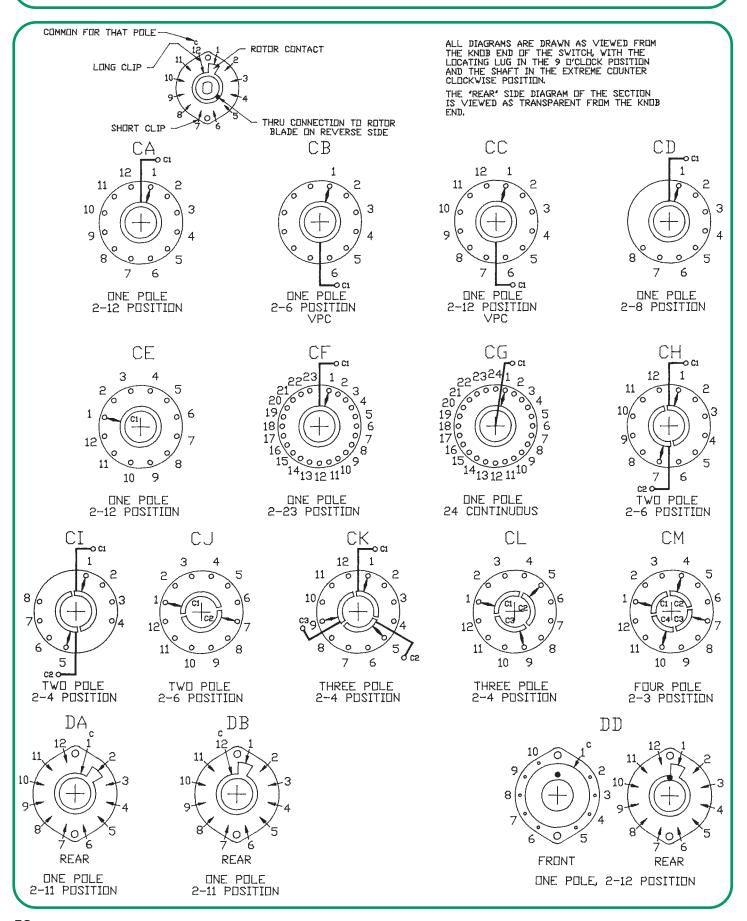
KNOBS AND DIAL PLATES

| KNOBS | | | | | | 41 |
|----------------|---|---------------------------------|---|---|--|--|
| 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 | | | | 8 | | |
| 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. | | |

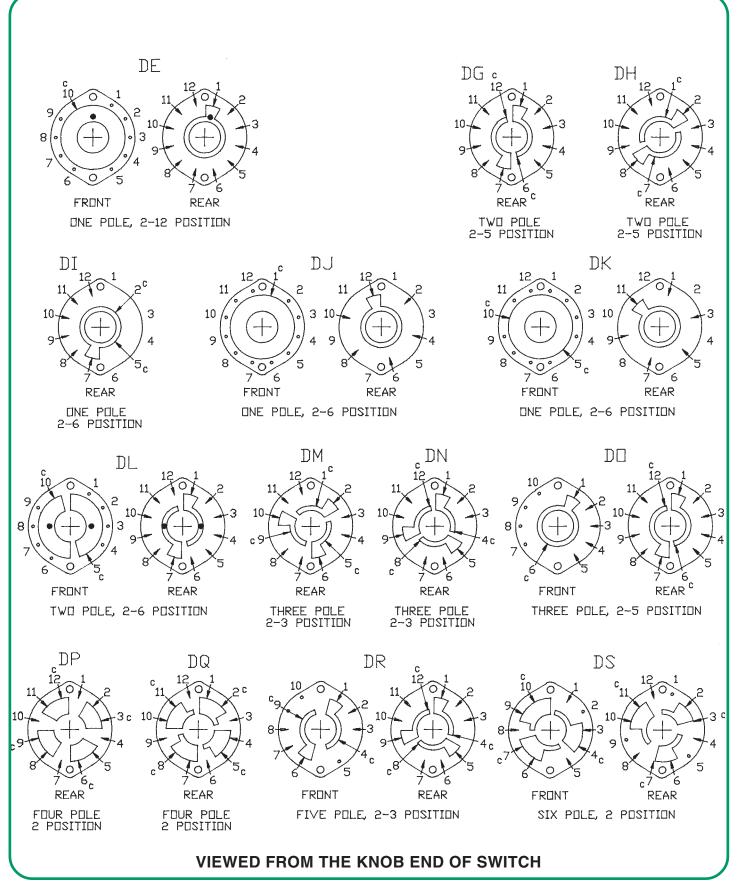
| DIAL PLATES | 5 16 17 18 5 19 4 20 4 3 2 1 23 22 21 | | \odot | 5 12 14 15 15 17 18 | \odot | 3 8 2 9 | 3 9 2 10 | 4 9 10 2 11 12 11 12 11 11 11 11 11 11 11 11 1 |
|--------------------------|---------------------------------------|------|---------|---------------------------------|---------|------------|-------------|--|
| 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

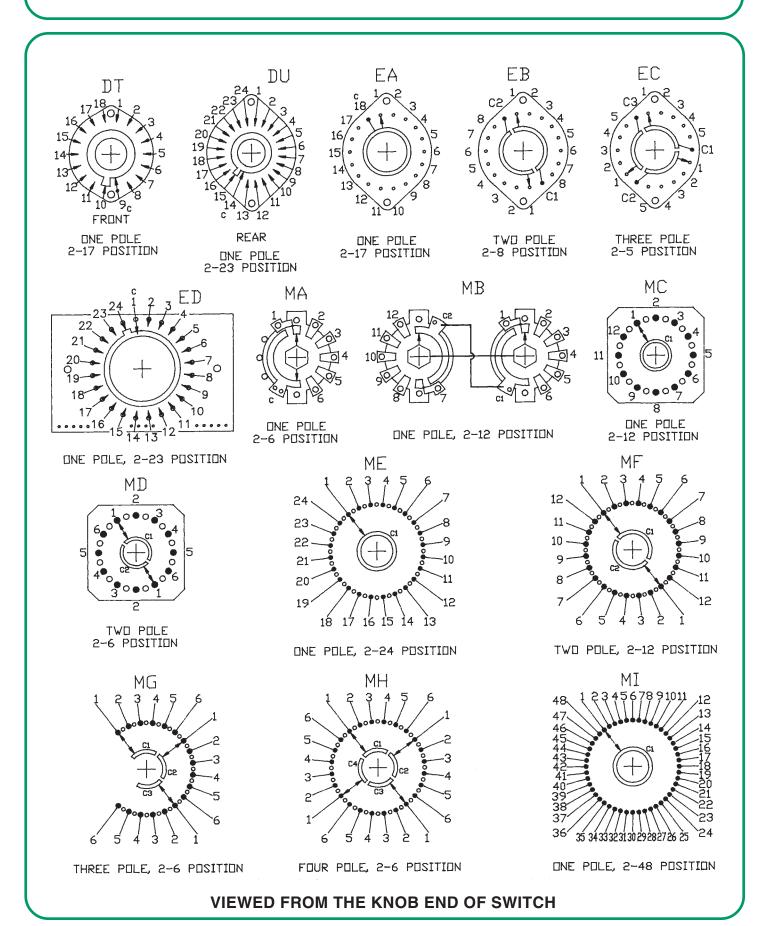
FIGURES/CIRCUIT DIAGRAMS



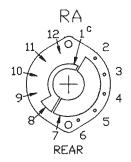
FIGURES/CIRCUIT DIAGRAMS



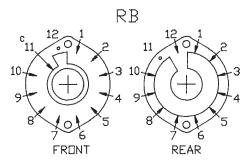
FIGURES/CIRCUIT DIAGRAMS



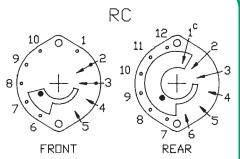
REFERENCE FIGURES/CIRCUIT DIAGRAMS



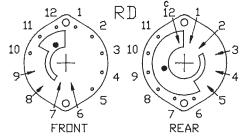
ONE POLE, 2-5 POSITION.
UNUSED CLIPS ARE PROGRESSIVELY
SHORTED BY SEPARATE CONTACT
WITH CW ROTATION.



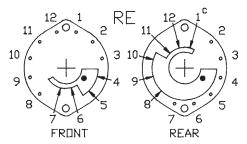
TWO POLE, 2-11 POSITION ALL UNUSED CLIPS CONNECTED AND SHORTED OUT.



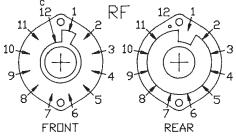
ONE POLE, 2-10 POSITION, NINE ACTIVE CLIPS, ALL OPEN IN FULL CCW POSITION AND PROGRESSIVELY PICKED UP AND SHORTED TO COMMON CONTACT WITH CW ROTATION.



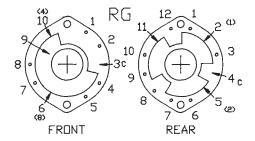
ONE POLE, 2-10 POSITION. NINE ACTIVE CLIPS, ALL OPEN IN FULL CCW POSITION AND PROGRESSIVELY PICKED UP AND SHORTED TO COMMON CONTACT WITH CW ROTATION.



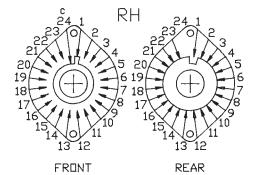
ONE POLE, 2-10 POSITION. NINE ACTIVE CLIPS, ALL SHORTED TO COMMON CONTACT IN FULL CCW POSITION AND PROGRESSIVELY OPENED AND DROPPED WITH CW ROTATION.



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



BCD OR COMPLEMENT



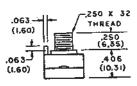
TWO POLE, 2-23 POSITION. ALL UNUSED CLIPS CONNECTED AND SHORTED OUT.

VIEWED FROM THE KNOB END OF SWITCH

PANEL CUTOUTS

C1 SERIES

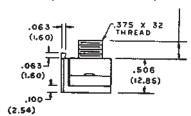
STANDARD - TW0 PIECE (FOR .125" DIA. SHAFT)



,110 DIA-

(\$ 2.79) - () (+

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

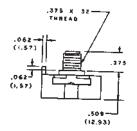


.141 DIAT (Ø 9.93) (Ø 3.58) (+)

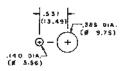
375 ±.003 (9.53 ±0.08)

C4 SERIES

STANDARD - ONE PIECE

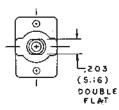


ONE PIECE DIE CAST



C2/C3 SERIES

STANDARD - 1/4 - 32 THD.



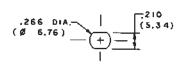
-. 266 DIA -

(ø 6.76)

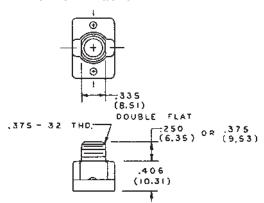
250 1.003

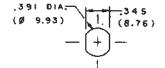
(6.35 ± 0.08)

.250 32 UNEF 24 THD.-7 .312 (7.92)



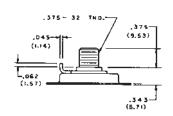
OPTIONAL - 3/8 - 32 THD.





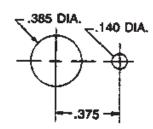
C7 AND E5 SERIES

STANDARD

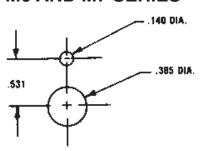


BRASS BUSHING/STEEL HSG.

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: | <u>NKK</u> E Series M Series | Electroswitch A Series A Series | Encoders: | Grayhill 62 Series 61A, B, C | Electroswitch OE2 Series OE2 Series |
|--------------|--|--|----------------------|--|-------------------------------------|
| | M2T Series WT Series | A Series WT Series | | 61S, K, R 63K, R 25 Series | 900 Series 900 Series MMP/REL |
| Rockers: | M. Series M2T Series WR Series | B Series WR Series WR Series | Rotaries: | 25L Series 42, 43 | 700 Series M5/C4 |
| Pushbuttons: | EB Series FB Series | PS Series SA1 Series | | 44, 45, 54 <u>Clarostat</u> | M5/C4 <u>Electroswitch</u> |
| Toggles: | Carling 2M1 Series 2MS Series | Electroswitch A Series WT Series | Encoders: | 510 Series 600 | 700 Series 900 Series |
| Rockers: | 1M1 Series 1MS Series | B Series WR Series | Indicator Lights: | Dialight 252-9951-270-1930- | Electroswitch LHC82 MS25010A |
| Pushbuttons: | 3MN Series 3MA Series | PS Series PS Series | | 800-1030- 804-1710- 128-09 | MS25041 MS25331 LC35 |
| Toggles: | Grayhill 34A Series 34B Series | Electroswitch A Series WT Series | | 178-03 162-09 230-03 162-14 | LC11 LC12 LC25 LC29 |
| Rockers: | 47A Series 47B Series | B Series WR Series | | 130-09 | LC33 |
| Pushbuttons: | 39-2 Series | SA1 Series | Solenoids | Tubular, Box | Frame, and Rotary |
| Toggles: | APEM 5000 Series S / ST Series | Electroswitch A Series WT Series | | Guardian Deltrol Controls Ledex SAI Burgess Dormeyer | |
| Rockers: | 7000 Series S / SR Series | B Series WR Series | | | |
| Pushbuttons: | 1800 Series 800 PB | PS Series PS PB | | | |
| Encoders: | Bourns EN Series ECW Series EAW Series | Electroswitch 900 Series 700 Series 700 Series | | | |

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 ship-board 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.

