



## 3500 SERIES

# MICRO-DIP® PRINTED CIRCUIT BOARD SWITCHES

*The 3500 Series MICRO-DIP® is a low profile, fully sealed rotary DIP switch designed for today's automated soldering and cleaning processes!*

Featuring direct decimal to binary conversion, the 3500 Series Micro-DIP is a user friendly means of addressing PROM's or setting micro-processor controlled devices. The 3500 Series is offered in six binary and decimal codes, with extended shafts and right angle orientations for maximum design flexibility. The 3500 Series is covered by EECO's exclusive **Lifetime Warranty**. All 3500 Series products are **Lead-Free** and fully **RoHS compliant**.



## SPECIFICATIONS

### MECHANICAL

|                             |                                              |
|-----------------------------|----------------------------------------------|
| No. of Switching Positions  | 8, 10 16                                     |
| Life                        | 20,000 Detents at +25°C                      |
| Rotational Torque (Initial) | 1.0-4.5 Inch/Ounces                          |
| Terminal Strength           | Pull 3 Pounds, Push 3 Pounds, for 15 Seconds |

### ELECTRICAL

|                                           |                             |
|-------------------------------------------|-----------------------------|
| Minimum Switching Current                 | 1µA                         |
| Minimum Switching Voltage                 | 30 mVDC                     |
| Maximum Electrical Current, Non-Switching | 1A                          |
| Maximum Rated Load, Switching             | 100 mA at 28 VDC Resistive  |
| Contact Resistance (Initial)              | 100 mΩ Maximum              |
| Insulation Resistance                     | 1,000 MΩ Minimum At 100 VDC |
| Dielectric Withstanding Voltage           | 250 VAC (RMS)               |

### ENVIRONMENTAL

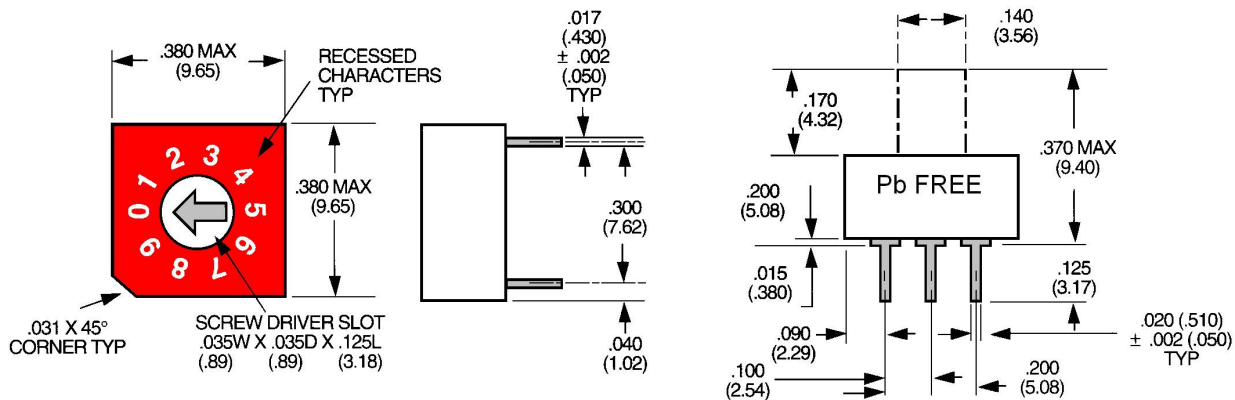
|                       |                                                             |
|-----------------------|-------------------------------------------------------------|
| Operating Temperature | -65°C To +85°C                                              |
| Storage Temperature   | -65°C To +125°C                                             |
| Vibration             | 15g, 10 to 2,000 Hz, Method 204, Condition B of Mil-Std 202 |
| Moisture Resistance   | Method 106, Mil-Std 202, 50 VDC Polarizing Voltage          |
| Seal                  | Top: O-Ring Bottom: Epoxy                                   |
| Solderability         | Method 208 of Mil-Std 202, 95% Coverage                     |
| Solvent Resistance    | Method 215 of Mil-Std 202                                   |
| Humidity              | Method 103B of Mil-Std 202, Test Condition A                |
|                       | 50 VDC Polarizing Voltage                                   |

### MATERIALS

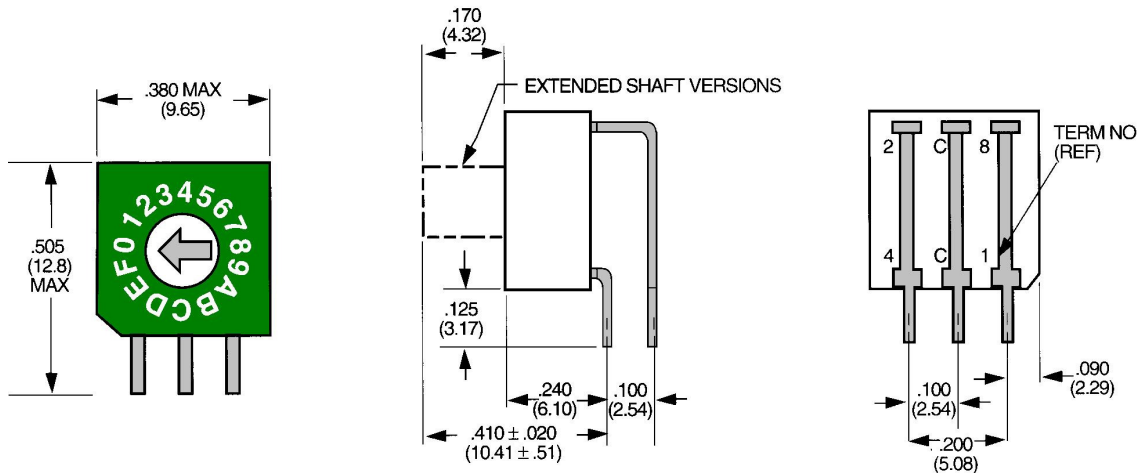
|                  |                                                       |
|------------------|-------------------------------------------------------|
| Housing and Base | Glass Reinforced High Temperature 4/6 Nylon, UL 94 V0 |
| Rotor            | Glass Reinforced 6/6 Nylon UL 94 V0                   |
| O-Ring           | Silicon Rubber                                        |
| Contact          | Copper Alloy Base, Gold Over Nickel Plate             |
| Terminal         | Matte Tin With Whisker Inhibitors Over Nickel Plate   |
| Weight           | 0.03 Oz (.86G)                                        |
| Knobs            |                                                       |
| Type B           | ABS, UL 94 V0 (Black)                                 |
| Type K           | Glass Reinforced Polyester, 94 V0 (White)             |
| Type V           | Glass Reinforced 6/6 Nylon, 94 V0 (Black)             |

## STANDARD MODELS AND OPTIONS

### TOP ADJUST MODEL

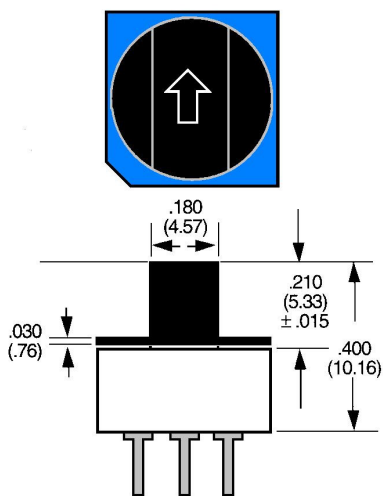


### SIDE ADJUST MODEL



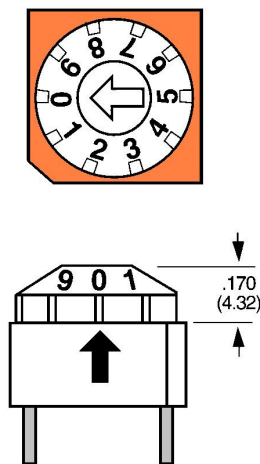
### KNOB OPTION B

Available with Extended Shaft Models only



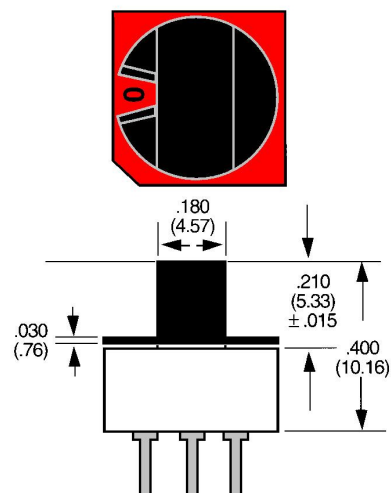
### KNOB OPTION K

Available with Extended Shaft Models only



### KNOB OPTION V

Available with Extended Shaft Models only



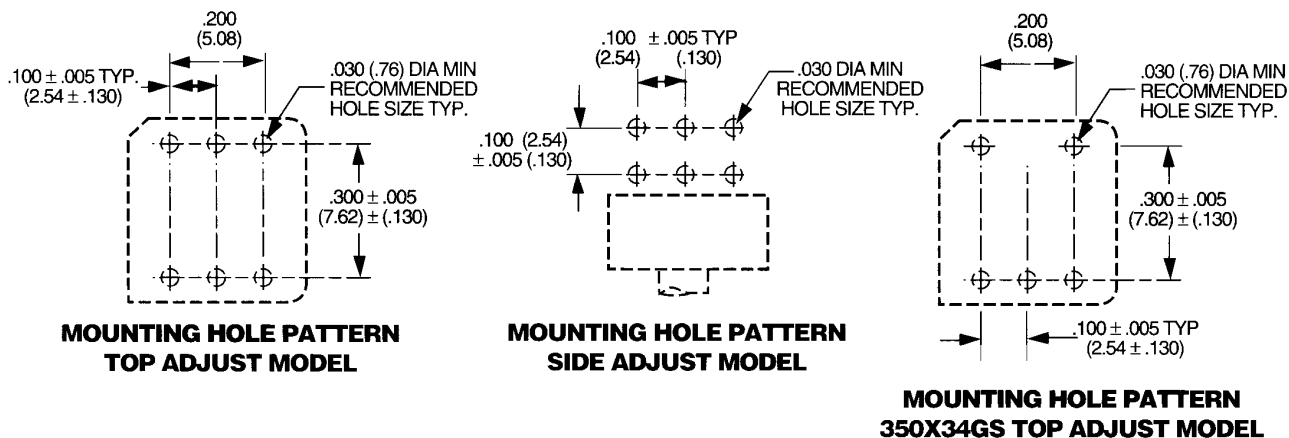
NOTE: Tolerances on all dimensions  $\pm .010$  unless otherwise specified.

All switches set to 0 position.  
Consult factory for custom knobs.

NOTE: "B" and "V" Knobs are Black, "K" Knob is White

# PCB DESIGN INFORMATION

## PRINTED CIRCUIT BOARD LAYOUT As viewed from bottom of switch



## TERMINAL I.D. AS VIEWED FROM BOTTOM OF SWITCH

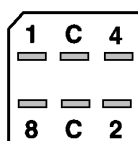


FIG. 1

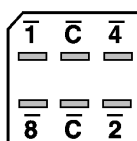


FIG. 2

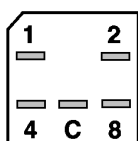


FIG. 3

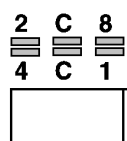


FIG. 4

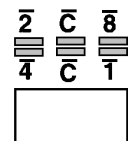


FIG. 5

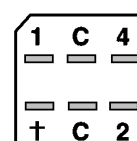


FIG. 6

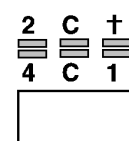
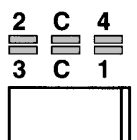
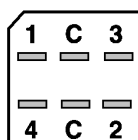


FIG. 7



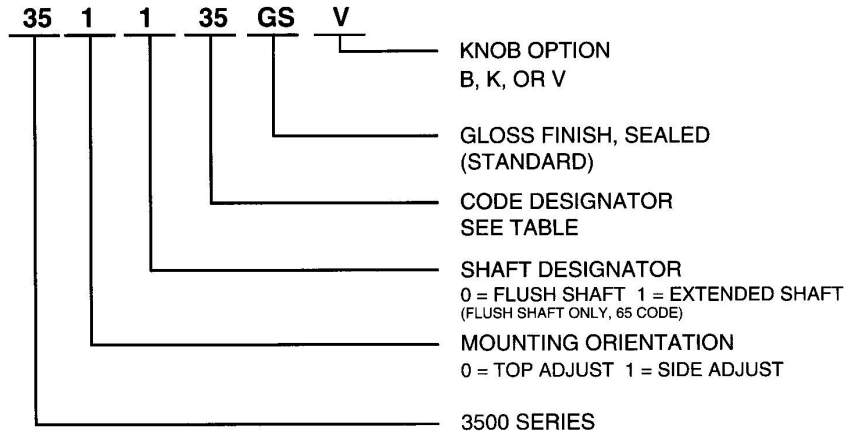
NOTE: "C" terminals must be connected together external to switch. † Not used.

Refer to EECO Switch document "Soldering and Cleaning Specifications" for processing information.

## RoHS COMPLIANCE

EECO Switch is fully committed to complying with the European Lead-Free and RoHS directives. All EECO 3500 Series switches marked with the "Pb-Free" logo on the body of the part are Lead-Free and RoHS compliant.

# ORDERING INFORMATION



| Code Number | Truth Table | Color Code | No. of Positions | Top Adjust | Side Adjust | Terminal I.D. Fig. |
|-------------|-------------|------------|------------------|------------|-------------|--------------------|
| 02          | B02         | Red        | 10               | X          |             | 1                  |
| 02          | B02         | Red        | 10               |            | X           | 4                  |
| 08          | B01         | Brown      | 8                | X          |             | 6                  |
| 08          | B01         | Brown      | 8                |            | X           | 7                  |
| 12          | C12         | Orange     | 10               | X          |             | 2                  |
| 12          | C12         | Orange     | 10               |            | X           | 5                  |
| 34          | B07         | Black      | 16               | X          |             | 3                  |
| 35          | B07         | Green      | 16               | X          |             | 1                  |
| 35          | B07         | Green      | 16               |            | X           | 4                  |
| 41          | C16         | Blue       | 16               | X          |             | 2                  |
| 41          | C16         | Blue       | 16               |            | X           | 5                  |
| 65          | S24         | Turquoise  | 10               | X          |             | 8                  |
| 65          | S24         | Turquoise  | 10               |            | X           | 9                  |

## TRUTH TABLES

| B01                                                                                   | B02                                                                                      | B07                                                                                              | C12                                                                                                      | C16                                                                                                         | S24                                                                                                          |
|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| BCD 1 Pole 8 Position<br>Common (C) connected to terminals indicated<br>D I A L 1 2 4 | BCD 1 Pole 10 Position<br>Common (C) connected to terminals indicated<br>D I A L 1 2 4 8 | Binary Code 1 Pole 16 Position<br>Common (C) connected to terminals indicated<br>D I A L 1 2 4 8 | BCD Complement Only 1 Pole 10 Position<br>Common (C) connected to terminals indicated<br>D I A L 1 2 4 8 | Binary Complement Only 1 Pole 16 Position<br>Common (C) connected to terminals indicated<br>D I A L 1 2 4 8 | 1 Pole 5 Position repeating no output on 0<br>Common (C) connected to terminals indicated<br>D I A L 1 2 3 4 |
| 0 0 0 0 0 0 0 0                                                                       | 0 0 0 0 0 0 0 0                                                                          | 0 0 0 0 0 0 0 0                                                                                  | 0 0 0 0 0 0 0 0                                                                                          | 0 0 0 0 0 0 0 0                                                                                             | 0 0 0 0 0 0 0 0                                                                                              |
| 1 1 1 1 1 1 1 1                                                                       | 1 1 1 1 1 1 1 1                                                                          | 1 1 1 1 1 1 1 1                                                                                  | 1 1 1 1 1 1 1 1                                                                                          | 1 1 1 1 1 1 1 1                                                                                             | 1 1 1 1 1 1 1 1                                                                                              |
| 2 2 2 2 2 2 2 2                                                                       | 2 2 2 2 2 2 2 2                                                                          | 2 2 2 2 2 2 2 2                                                                                  | 2 2 2 2 2 2 2 2                                                                                          | 2 2 2 2 2 2 2 2                                                                                             | 2 2 2 2 2 2 2 2                                                                                              |
| 3 3 3 3 3 3 3 3                                                                       | 3 3 3 3 3 3 3 3                                                                          | 3 3 3 3 3 3 3 3                                                                                  | 3 3 3 3 3 3 3 3                                                                                          | 3 3 3 3 3 3 3 3                                                                                             | 3 3 3 3 3 3 3 3                                                                                              |
| 4 4 4 4 4 4 4 4                                                                       | 4 4 4 4 4 4 4 4                                                                          | 4 4 4 4 4 4 4 4                                                                                  | 4 4 4 4 4 4 4 4                                                                                          | 4 4 4 4 4 4 4 4                                                                                             | 4 4 4 4 4 4 4 4                                                                                              |
| 5 5 5 5 5 5 5 5                                                                       | 5 5 5 5 5 5 5 5                                                                          | 5 5 5 5 5 5 5 5                                                                                  | 5 5 5 5 5 5 5 5                                                                                          | 5 5 5 5 5 5 5 5                                                                                             | 5 5 5 5 5 5 5 5                                                                                              |
| 6 6 6 6 6 6 6 6                                                                       | 6 6 6 6 6 6 6 6                                                                          | 6 6 6 6 6 6 6 6                                                                                  | 6 6 6 6 6 6 6 6                                                                                          | 6 6 6 6 6 6 6 6                                                                                             | 6 6 6 6 6 6 6 6                                                                                              |
| 7 7 7 7 7 7 7 7                                                                       | 7 7 7 7 7 7 7 7                                                                          | 7 7 7 7 7 7 7 7                                                                                  | 7 7 7 7 7 7 7 7                                                                                          | 7 7 7 7 7 7 7 7                                                                                             | 7 7 7 7 7 7 7 7                                                                                              |
| 8 8 8 8 8 8 8 8                                                                       | 8 8 8 8 8 8 8 8                                                                          | 8 8 8 8 8 8 8 8                                                                                  | 8 8 8 8 8 8 8 8                                                                                          | 8 8 8 8 8 8 8 8                                                                                             | 8 8 8 8 8 8 8 8                                                                                              |
| 9 9 9 9 9 9 9 9                                                                       | 9 9 9 9 9 9 9 9                                                                          | 9 9 9 9 9 9 9 9                                                                                  | 9 9 9 9 9 9 9 9                                                                                          | 9 9 9 9 9 9 9 9                                                                                             | 9 9 9 9 9 9 9 9                                                                                              |
| A 10                                                                                  | A 10                                                                                     | A 10                                                                                             | A 10                                                                                                     | A 10                                                                                                        | A 10                                                                                                         |
| B 11                                                                                  | B 11                                                                                     | B 11                                                                                             | B 11                                                                                                     | B 11                                                                                                        | B 11                                                                                                         |
| C 12                                                                                  | C 12                                                                                     | C 12                                                                                             | C 12                                                                                                     | C 12                                                                                                        | C 12                                                                                                         |
| D 13                                                                                  | D 13                                                                                     | D 13                                                                                             | D 13                                                                                                     | D 13                                                                                                        | D 13                                                                                                         |
| E 14                                                                                  | E 14                                                                                     | E 14                                                                                             | E 14                                                                                                     | E 14                                                                                                        | E 14                                                                                                         |
| F 15                                                                                  | F 15                                                                                     | F 15                                                                                             | F 15                                                                                                     | F 15                                                                                                        | F 15                                                                                                         |

## EECO SWITCH

880 Columbia St.  
Brea, CA 92821-2916  
Tel: (714) 835-6000  
Fax: (714) 482-9429  
E-Mail: sales@eecoswitch.com



8/12/08

## EECO EUROPE

Unit 5, Hazlewell Court  
Bar Road, Lolworth  
Cambridgeshire, CB23 8DS England  
TEL: +44 (0) 1954-781818  
FAX: +44 (0) 1954-789305  
E-mail: sales@eecoswitch.co.uk