



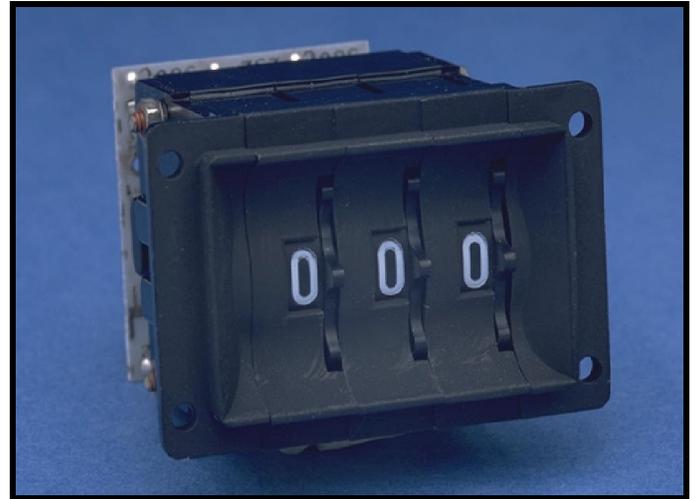
# THUMB POT™ SERIES

## THUMB POT VOLTAGE DIVIDERS

*EECO's THUMB POT™ is a digital voltage divider which allows the user to set varying voltages while maintaining a constant resistance within the circuit.*

Sharing many of the features and options of our 1776 and 1976 Series switches, the THUMB POT is available in 2, 3, or 4 decade models, with resistance values from 1,000 to 100,000 ohms. The THUMB POT is based on a proprietary circuit developed by EECO, using matched resistor pairs. Unlike rotary or dial potentiometers, the THUMB POT offers exact setting repeatability, with setting accuracy as precise as ± 0.05% of full scale voltage.

The THUMB POT is covered by EECO's one-year warranty.



### SPECIFICATIONS

#### MECHANICAL

No. of Switching Positions	10
Life	Minimum 1,000,000 Detents @ 10 mA, 5VDC, +25°C
Tangential Operating Force	5-18 Oz.
Weight	(Approx.) 0.4 Oz Per Decade

#### ELECTRICAL

Standard Resistance Range	1,000 to 100,000Ω
Standard Resistance Tolerance	± 1%
Setting Accuracy	To 0.05% of Full Scale Voltage
Standard Input Voltages (Function Of Input Impedance)	
1,000 To 5,000 Ω Input Impedance	16 Volts @ 25°C
10,000 To 50,000 Ω Input Impedance	50 Volts @ 25°C
100,000 Ω Input Impedance	150 Volts @ 25°C
Insulation Resistance	1,000M Ω Minimum
Dielectric Withstanding Voltage	500 VAC (RMS)

#### ENVIRONMENTAL

Operating Temperature	-20°C To +75°C
Seal	Dust Resistant

#### MATERIALS

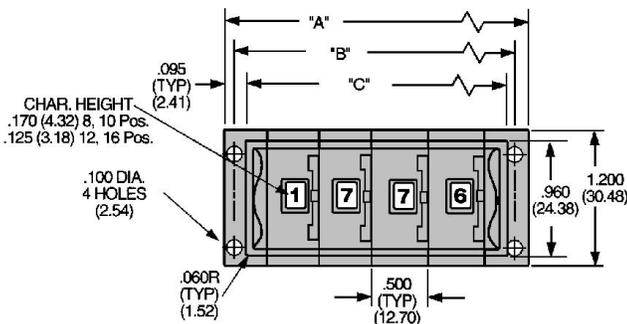
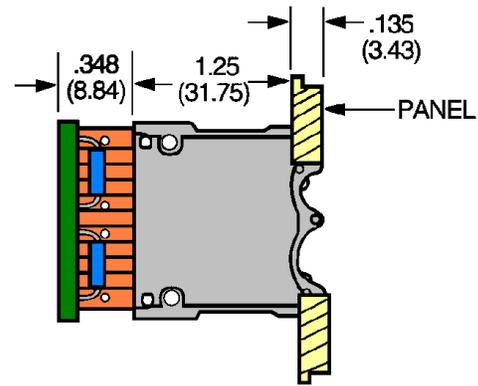
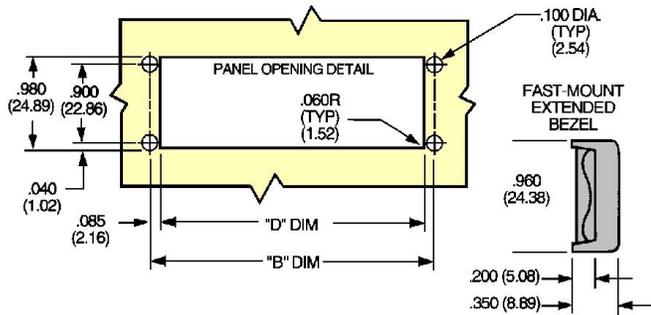
Plastic	Polycarbonate per Federal Spec LP-393A
Metals	Corrosion Resistant
Circuit Disc - Material	Glass Epoxy
Plating	Gold Over Nickel Plating
Terminals	Copper Alloy, Plated for Soldering
Contacts	Copper Alloy, Gold Over Nickel Plating

#### RoHS COMPLIANCE

EECO Switch is fully committed to complying with the European Lead-Free and RoHS directives. Consult the factory for the RoHS status of this product.

**OUTLINE DIMENSIONS AND PANEL MOUNTING INFORMATION**

**1776 MODEL**

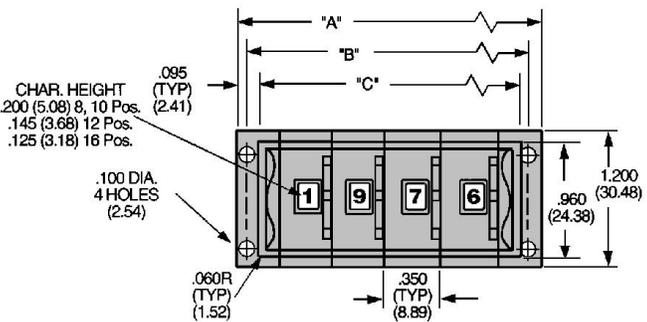
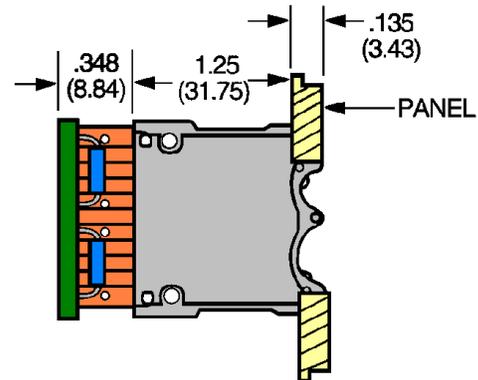
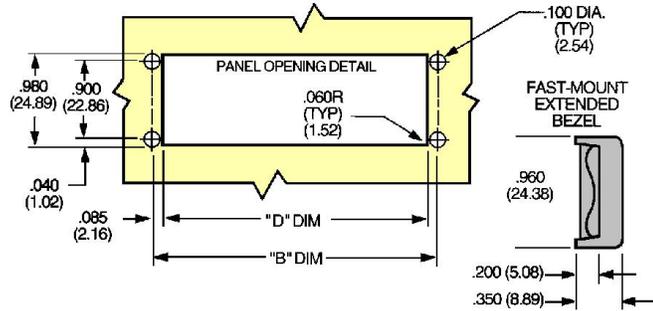


**MOUNTING DIMENSIONS 76 SERIES**

NO. OF DECADES	A	B	C	D
2	1.76 (44.7)	1.59 (40.4)	1.40 (35.6)	1.42 (36.1)
3	2.26 (57.4)	2.09 (53.1)	1.90 (48.3)	1.92 (48.8)
4	2.76 (70.1)	2.59 (65.8)	2.40 (61.0)	2.42 (61.5)

Assembly dimensions may exhibit expansion of 0.003" per station before installation, but will adjust to recommended panel dimensions shown once installed.  
Tolerances .XXX ± 0.010", .XX ± 0.030.  
( ) Metric equivalents in mm.

**1976 MODEL**

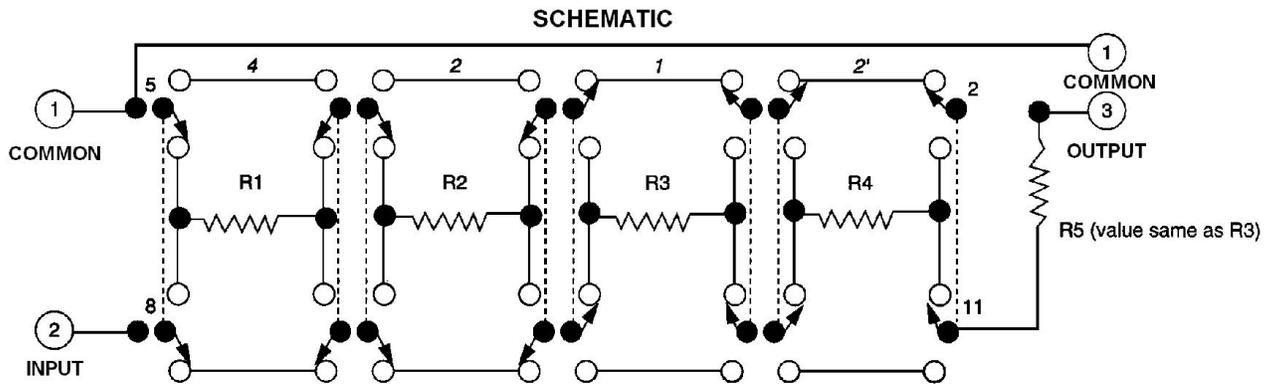


**MOUNTING DIMENSIONS 96 SERIES**

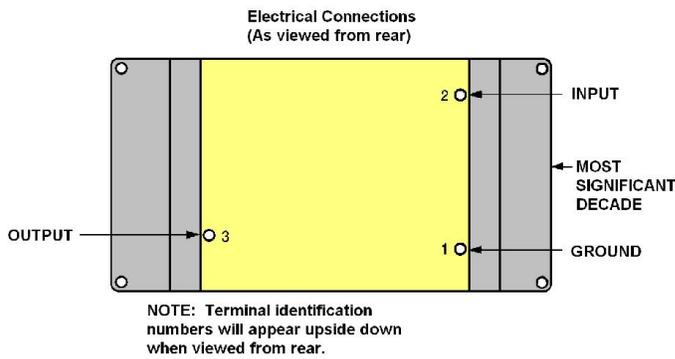
NO. OF DECADES	A	B	C	D
2	1.46 (37.1)	1.29 (32.8)	1.10 (27.9)	1.12 (28.4)
3	1.81 (46.0)	1.64 (41.7)	1.45 (36.8)	1.47 (37.3)
4	2.16 (54.9)	1.99 (50.5)	1.80 (45.7)	1.82 (46.2)

Assembly dimensions may exhibit expansion of 0.003" per station before installation, but will adjust to recommended panel dimensions shown once installed.  
Tolerances .XXX ± 0.010", .XX ± 0.030.  
( ) Metric equivalents in mm.

**SCHEMATIC AND TERMINAL INFORMATION**



Dial set at position 6  
 Schematic pin numbers in circles are located on motherboard. Other numbers refer to switch terminals. Italic numbers refer to resistor values.



**S21**

EECO Thumbpot Voltage Divider 10 Position								
D I A L	Resistors in circuit between terminals 2 and 5				Resistors in circuit between terminals 8 and 11			
	4 R1	2 R2	1 R3	2' R4	4 R1	2 R2	1 R3	2'' R4
0					●	●	●	●
1			●		●	●		●
2		●			●		●	●
3			●	●	●	●		
4	●					●	●	●
5	●		●			●		●
6	●	●					●	●
7	●	●	●					●
8	●	●		●			●	
9	●	●	●	●				

**OPTIONS AND ORDERING INFORMATION**

**AVAILABLE OPTIONS**

- D** Decimal Point
- G** Gloss Finish (Standard)
- M** Spray Matte Finish
- P** +/- Rotor Marking
- T** Alphabet Marking
- U** EMI/RFI Shielding
- Y** Fast Mount Hardware (applies to assembly part number)  
Stop Pins  
Consult Factory for Custom Rotor Marking or Other Special Requests

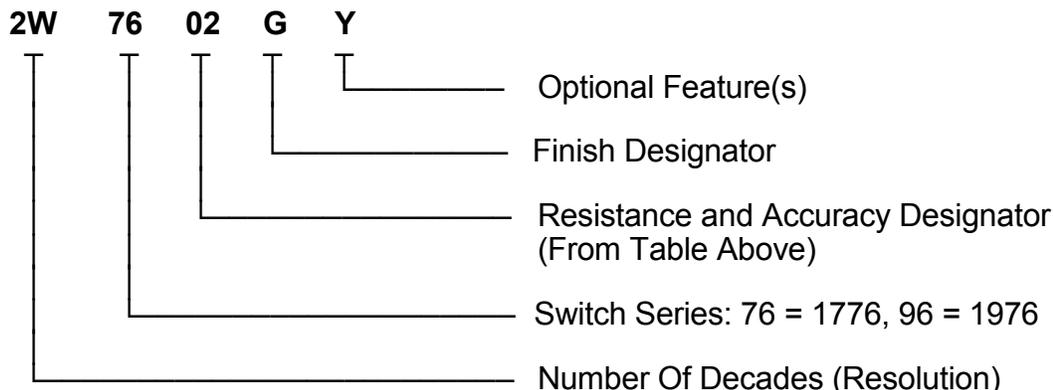
INPUT RESISTANCE	RESISTANCE AND ACCURACY DESIGNATORS				
	SETTING ACCURACY (AS % OF FULL SCALE INPUT VOLTAGE)				
	1%	.5%	.25%†	.10%†	.05%†
100,000 Ω ± 1%	01	05	09	13	17
50,000 Ω ± 1%	29	32	35	38	41
10,000 Ω ± 1%	02	06	10	14	18
5,000 Ω ± 1%	30	33	36	39	42
1,000 Ω ± 1%	03 <sup>1</sup>	07 <sup>1</sup>	11 <sup>1</sup>	15 <sup>1</sup>	19 <sup>1</sup>

DEVICE RESOLUTION	PART NO. PREFIX
1.0 (2 Decades)	2W76 or 2W96
0.1 (3 Decades)	3W76 or 3W96
0.01 (4 Decades)	4W76 or 4W96

**THUMBPOW ORDERING NOTES**

- 1.<sup>1</sup> Not available on 4 decade models.
2. † Models are limited availability. Consult factory for additional information.
3. Values shown above are for linearity as defined by VRCl-P-100A. "Terminal-based", "Zero-based" and "Independent" linearity specifications are available. Consult factory for additional information.

**ORDERING EXAMPLE - THUMBPOW ASSEMBLY**



Certain combinations of options may require a special part number. Consult factory for additional information.