

## FEATURES

The MM P/Rel Series represents the best in contemporary rotary technology, and reflects the high standards of reliability which have made OakGrigsby rotary devices known worldwide. At only .865" square, these compact switches have up to 36 positions and adapt to numerous design requirements. Strong, electron-welded PC terminations permit easy insertion into printed circuit boards.

Stainless steel detents provide long term performance and increased stop strength. Durable construction and an enclosed, high-temperature-resistant design make the MM P/Rel Series ideal for wave solder applications. Contacts are insert molded in place for lifetime registration and switching accuracy.

Precious metal contacts ensure a long service life of over 50,000 cycles. Available options include concentric shafts and metric shafts and bushings. Highly versatile and economically customized, the MM P/Rel Series is the cost-effective solution for a wide range of applications.

### Applications

Defibrillators Voltage control

Oscilloscopes Scale input control

Avionics Radio channel select, Auto pilot select

GPS (Global Position System) Co-ordinates input

Commercial & Military Radio Channel select

Voltage Regulators Limit set device

Agricultural Combine platform height select

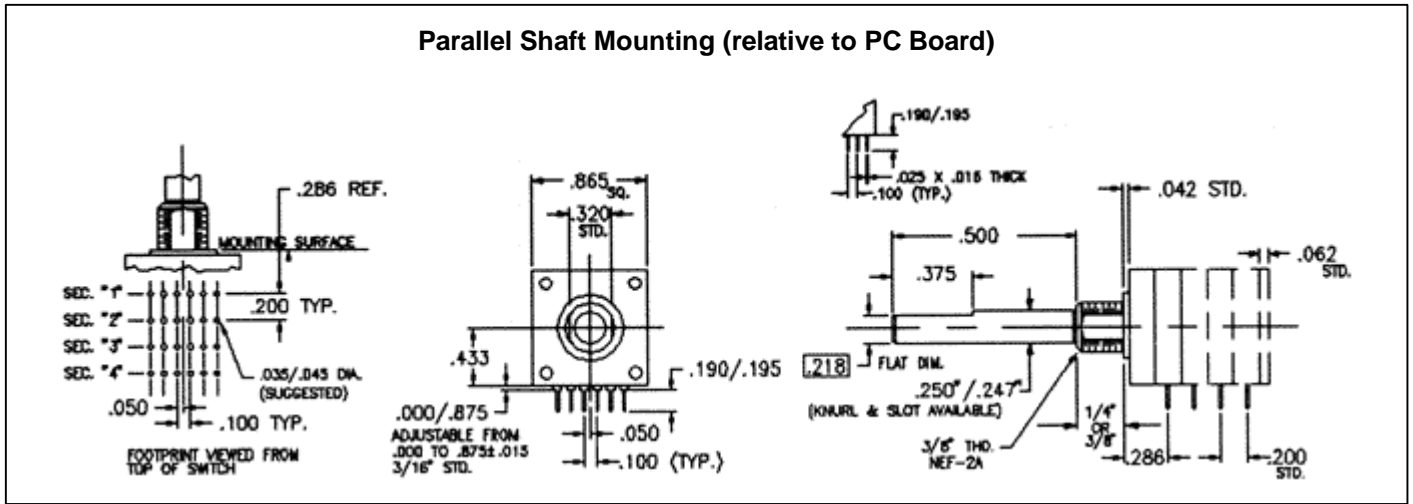
Postage Meter Selectors input

X Ray Intensity input

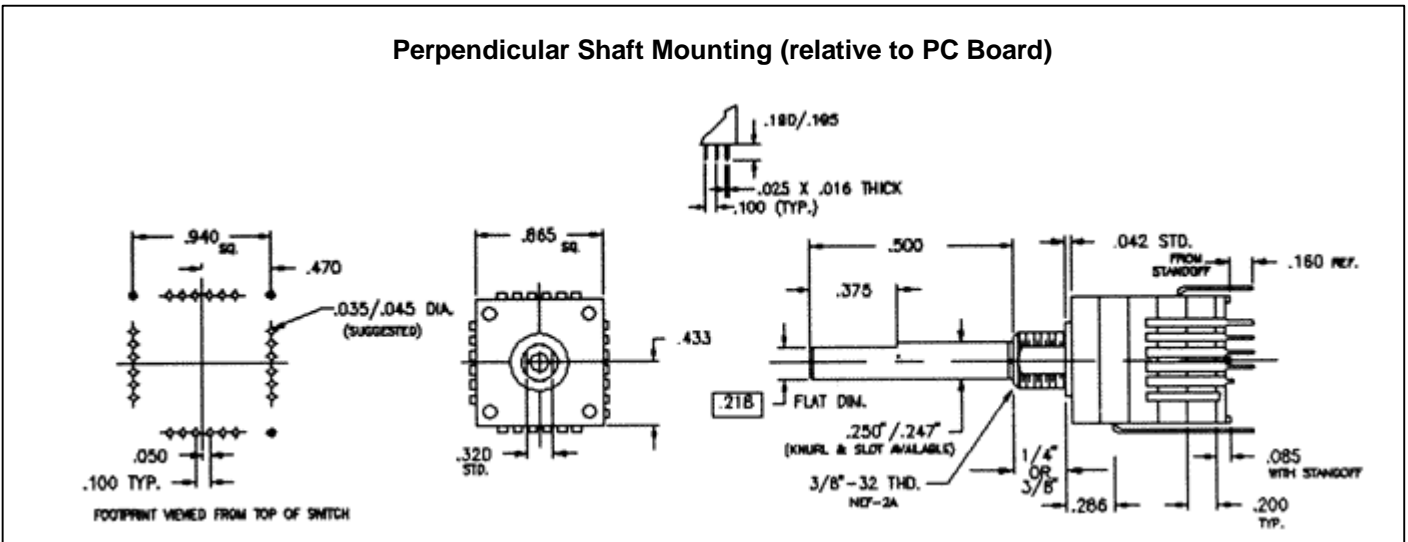
**See Page 2 for Configurations**  
**See Page 3 for Specifications**

# CONFIGURATIONS

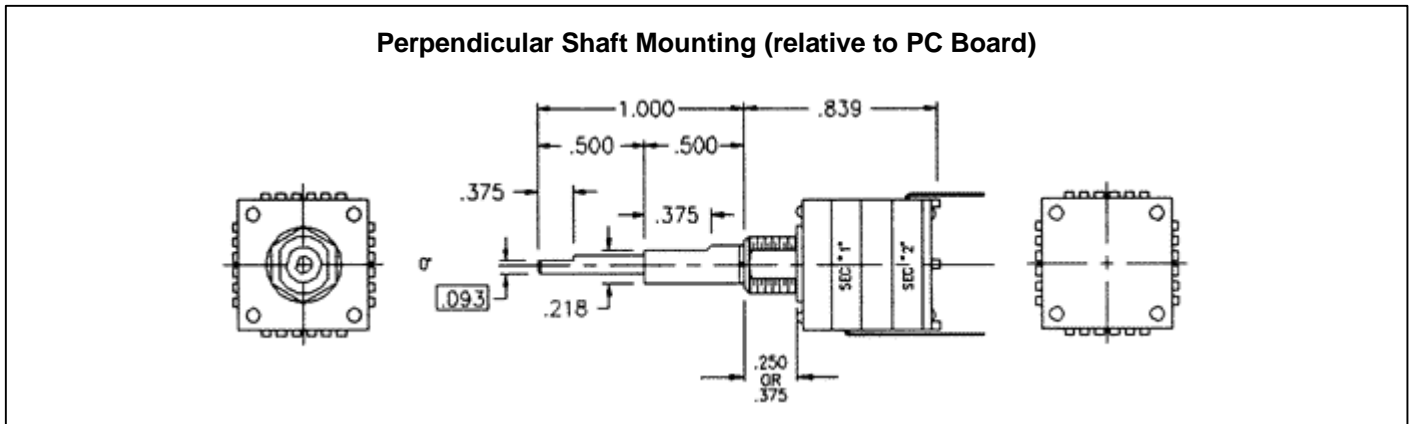
Parallel Shaft Mounting (relative to PC Board)



Perpendicular Shaft Mounting (relative to PC Board)



Perpendicular Shaft Mounting (relative to PC Board)



## SPECIFICATIONS

### Electrical/Mechanical Characteristics

Current Carrying Capacity	Resistive load 250 MA at 28 VDC
Shock Humidity	MIL-STD 202E
Code Program	Shorting or non shorting (non-shorting versions, up to 16 positions only)
Dielectric Strength	From pole to shaft 1,000 volts minimum
Contact Resistance	75 milliohms maximum, over lifetime
Contacts	Phosphor-bronze with silver inlay at interface with program disc. Gold inlays available upon request. External terminals are solder (60-40) plated except on die cut edges.
Codes	Hexadecimal, B.C.D., Gray and others on special order
Switching Loads	1.5 MA at 115 VAC 150 MA at 14 VDC
Operating Forces	(torque over detents): 7 to 20 in./oz. $\pm 25\%$
Life	50,000 minimum cycles at rated load
Stop Strength	15 in./lb. minimum
Operating Temperature Range	-55°C to +85°C (105°C optional)
Sealing	Terminals are insert molded into housing. Front and rear molded sections of module are interlock construction. Ideally suited for wave soldering.
Shafts and Hardware	Shafts and hardware are steel, cadmium plated and chromate treated. Detent parts, including stops, are stainless steel.
Anti-Rotation Device	Flatted mounting bushing .375" dia x .320", double "D"
Concentric Shafts	Available
Detent Angles	90°, 60°, 45°, 36°, 30°, 22.5°, 20°, 18°, 15°, 12.8°, 11.25°, 10°
Molded Construction	Molded parts are Ryton R4 and Polyester PBT, chosen for heat resistance and electrical characteristics. Rated 94 V-0 or better.
Disc Construction	Program disc is glass epoxy, copper clad with silver plating standard. Gold upon request.