



The MMP/Rel Series represents the best in contemporary rotary technology, and reflects the high standards of reliability which have made Electroswitch rotary devices known worldwide. At only .865' square, these compact switches have up to 36 positions and adapt to numerous design requirements.

Durable construction and an enclosed, high-temperature-resistant design make the MMP/Rel Series ideal for wave solder applications. Contacts are insert molded in place for lifetime performance and switching accuracy.

Available options include concentric shafts, metric shafts and bushings. These switches are highly versatile and economically customized; the MMP/Rel Series is a cost-effective solution for a wide range of applications.

FEATURES

- **Compact, Robust .865 sq. inch package**
- **Up to 36 Positions and a wide range of detent angles**
- **Precious metal contacts for long life**
- **Strong, electron-welded PC terminations**
- **Dual and Tri-Concentric shafts Available**
- **High Temperature Range**
- **Push Button Features**
- **Digital Codes Available: Hexadecimal, B.C.D., Gray**

BENEFITS

- **Compact Size**
- **Long service life of over 50,000 cycles**
- **Strong terminals permit easy insertion into printed circuit boards**
- **Concentric shafts allow dual and triple function in one switch**
- **Ideal for wave solder applications**
- **Push button allows dual function (scroll and select)**

APPLICATIONS

Medical

- Defibrillators- Voltage control
- X-Ray Equipment – Intensity Input

Test Equipment

- Oscilloscopes – Scale Input Control

Avionics

- Radio Channel Select
- Auto Pilot select
- Fuel / Air data Systems
- Flight Simulators

Communication Equipment

- GPS – Co-ordinates Input
- Commercial / Military Radio – Channel Select

Construction / Agricultural Equipment

- Combine Platform Height Select
- HVAC Controls

Specifications

Electrical Specifications:

Current Carrying Capacity	Resistive load 250 mA at 28 VDC Switching Loads 1.5 mA at 115 VAC 150 mA at 14 VDC
Code Program	Shorting or non-shorting (non-shorting version, up to 16 positions only)
Dielectric Strength	From pole to shaft 1,000 volts minimum
Contact Resistance	75 milliohms maximum over lifetime
Codes	Hexadecimal, B.C.D., Gray and others for special order

Environmental Specifications:

Operating Temperature Range	-55°C to +85°C (105°C optional)
-----------------------------	---------------------------------

Mechanical Specifications:

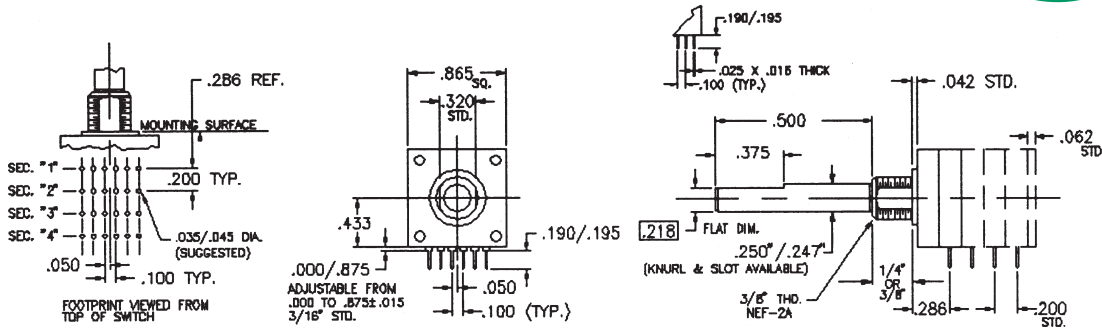
Shock Humidity	MIL-STD 202E
Operating Forces	(Torque over detents): 7 to 20 in /oz. ±25%
Stop Strength	15 in/lb. minimum
Sealing	Terminals are insert molded into housing. Front and rear molded sections of module are interlock construction and ideally suited for wave soldering.
Anti-Rotation Device	Flatted 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°
Life	50,000 minimum cycles at rated load

Materials:

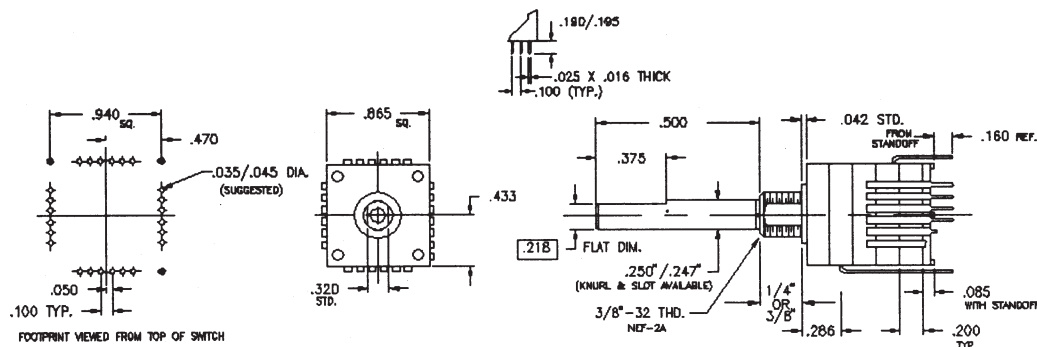
Shafts and Hardware	Shafts and hardware are steel, zinc and chromate treated.
Molded Construction	Molded parts are Ryton R4 and Polyester PBT, chosen for heat resistance and electrical characteristics. Rated UL 94 V-O or better.
Disc Construction	Program disc is glass epoxy, copper clad with silver plating standard. Gold upon request.
Contacts	Phosphor-bronze with silver inlay at interface with program disc. Gold inlays available upon request. External terminals are tin plated except on die cut edges.

Representative Configurations

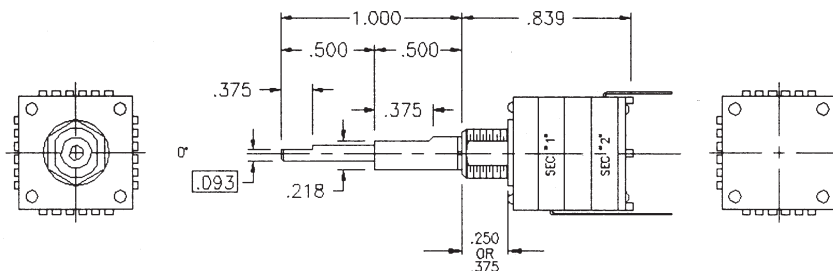
Contact factory with your custom requirements



Parallel Shaft Mounting (relative to PC Board)



Perpendicular Shaft Mounting (relative to PC Board)



Perpendicular Shaft Mounting (relative to PC Board)