**MM Series Applications**

**Avionics:**
- Radio Channel Select
- Auto Pilot Select
- Fuel / Air data systems
- Flight Simulators

**Communication Equipment:**
- GPS—Co-ordinates Input
- Military and Commercial Radio Channel Select

**Medical:**
- Defibrillators — Voltage Control
- X-Ray Equipment—Intensity Input

**Construction / Agricultural Equipment**
- Combine Platform Height Select
- HVAC Cab Controls

**Test Equipment**
- Oscilloscopes—Scale Input Control

---

**Electroswitch MM Series**

- **Dual Concentric with optional Pushbutton**

The MM Series represents the best in contemporary rotary technology and reflects the high standards of reliability that have made Electroswitch rotary devices known worldwide. At only .86” 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 MM Series ideal for wave solder applications. Contacts are inset molded in place for lifetime performance and switching accuracy.

Available options include concentric shafts as well as shaft and panel seals. These switches are highly versatile and economically customized. These options help make the MM Series a cost effective solution for a wide range of applications.

---

**Features:**
- Robust .865” Square Package
- Strong Electron Welded PC Terminations
- Dual and Tri-Concentric Shaft Option
- Enclosed High Temperature Design
- Push Button Feature Option
- Precious Metal Contacts
- Contacts Insert Molded

**Benefits:**
- Compact Size
- Easy Insertion into PCB
- Multiple Functions Save Panel Space
- Wave Solder Applications
- Addition of Push button allows Scroll and Select Function
- Long Service Life of over 50,000 cycles with Low Contact Resistance
- Maximum Switch Position Accuracy

---

**Front facing PC terminals option**

Electroswitch Electronic Products • 2010 Yonkers Road • Raleigh, North Carolina 27604
Phone: 888-768-2797 • Fax: 800-909-9171 • sales@electro-nc.com
WWW.ELECTRO-NC.COM

All Information subject to change without notice
Filer EEP–MM RevA ©Copyright Electroswitch 2010
### Electrical / Mechanical Specifications

#### Electrical Specifications

- **Current Carrying Capacity:** Resistive Load 250 mA at 28 VDC; Switching Loads 1.5 mA at 115VAC; 150 mA at 14 VDC
- **Contact Design:** 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:** Gray, Quadrature, BCD and Hexadecimal
- **Contact Design:** 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.

#### Environmental Specifications

- **Operation Temperature:** -55°C to +85°C (105°C optional)
- **Shock / Humidity:** MIL STD 202E Method

#### Mechanical Specifications

- **Operational Forces:** (Torque over detents): 7 to 20in/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 bushing .375” dia. X .320”, double “D” Concentric Shafts
- **Life:** 50,000 minimum cycles at rated load
- **Detent Angles:** 90°, 60°, 45°, 36°, 30°, 22.5°, 20°, 18°, 15°, 12.5°, 11.25°, 10°

### Ordering Information

- **Code Output:**
  - G = Gray
  - Q = Quadrature
  - H = Hexidecimal *
  - B = BCD *
  - * = optional

- **Index Angle:** 90°, 60°, 45°, 36°, 30°, 22.5°, 20°, 18°, 15°, 12.8°, 11.25°, 10°

- **Sealing:**
  - S = Standard (No Seals)
  - P = Shaft and Panel

- **Termination:**
  - F = Front PC
  - R = Rear PC
  - P = Perpendicular PC
  - L = Solder Lug

- **Shaft and Bushing Options**

<table>
<thead>
<tr>
<th>Code</th>
<th>Shaft Diam.</th>
<th>Shaft Length</th>
<th>From End of Bushing</th>
<th>Bush Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>.125&quot;</td>
<td>.375&quot;</td>
<td>.250&quot;</td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>.125&quot;</td>
<td>.375&quot;</td>
<td>.375&quot;</td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>.125&quot;</td>
<td>.500&quot;</td>
<td>.250&quot;</td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>.125&quot;</td>
<td>.500&quot;</td>
<td>.375&quot;</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>.125&quot;</td>
<td>.750&quot;</td>
<td>.250&quot;</td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>.125&quot;</td>
<td>.750&quot;</td>
<td>.375&quot;</td>
<td></td>
</tr>
<tr>
<td>07</td>
<td>.125&quot;</td>
<td>.1.00&quot;</td>
<td>.250&quot;</td>
<td></td>
</tr>
<tr>
<td>08</td>
<td>.125&quot;</td>
<td>.1.00&quot;</td>
<td>.375&quot;</td>
<td></td>
</tr>
<tr>
<td>09</td>
<td>.250&quot;</td>
<td>.375&quot;</td>
<td>.250&quot;</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>.250&quot;</td>
<td>.375&quot;</td>
<td>.375&quot;</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>.250&quot;</td>
<td>.500&quot;</td>
<td>.250&quot;</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>.250&quot;</td>
<td>.500&quot;</td>
<td>.375&quot;</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>.250&quot;</td>
<td>.750&quot;</td>
<td>.250&quot;</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>.250&quot;</td>
<td>.750&quot;</td>
<td>.375&quot;</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>.250&quot;</td>
<td>.1.00&quot;</td>
<td>.250&quot;</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>.250&quot;</td>
<td>.1.00&quot;</td>
<td>.375&quot;</td>
<td></td>
</tr>
</tbody>
</table>

*Consult Factory for Additional Available Options*