

## Type M Series

### Key Features

- Cermet Element
- Proven Reliability
- 2W Power Rating
- Strong Construction
- Sealed to Military Standard
- Panel Sealed (MC1)
- Rugged Terminations



This is one of TE Connectivity's most popular ranges and is available with cermet resistance elements. This choice means that components offer excellent electrical and thermal stability, reliability, low noise and long life which makes them most suitable for the majority of professional applications.

The MC Series is used in the Tornado Project and is the standard single turn general purpose panel control used for most military applications in the UK and in Europe.

### Characteristics - Electrical

|                                   | MC1                          | MCU                          |
|-----------------------------------|------------------------------|------------------------------|
| <b>Element Technology:</b>        | Cermet                       | Cermet                       |
| <b>Std. Resistance Range:</b>     | 100 Ohms to 2M2              | 10 Ohms to 1M Ohm            |
| <b>Law:</b>                       | Linear                       | Linear                       |
| <b>Resistance Values:</b>         | 1,2,2 and 4.7 in each decade | 1,2,2 and 4.7 in each decade |
| <b>Selection Tolerance:</b>       | ± 10%                        | ± 10%                        |
| <b>Rated Dissipation at 70°C:</b> | 2W                           | 2W                           |
| <b>Limiting Element Voltage:</b>  | 315 Vdc                      | 315 Vdc                      |
| <b>Isolation Voltage:</b>         | 450 Vdc                      | 450 Vdc                      |
| <b>Electrical Rotation:</b>       | 210°                         | 210°                         |
| <b>Terminal Resistance:</b>       | < 3 Ohms                     | < 3 Ohms                     |
| <b>Noise (E.N.R.):</b>            | 3% Max.                      | 3 Ohms or 3%                 |
| <b>Insulation Resistance:</b>     | > 5 G Ohms                   | > 1 G Ohms                   |
| <b>Voltage Proof:</b>             | 630 V ac peak                | 630 V ac peak                |

### Characteristics - Mechanical

|                             |          |          |
|-----------------------------|----------|----------|
| <b>Starting Torque:</b>     | < 85 mNm | < 40 mNm |
| <b>Mechanical Rotation:</b> | 270°     | 270°     |
| <b>End Stop Torque:</b>     | 800 mNm  | 800 mNm  |

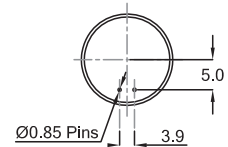
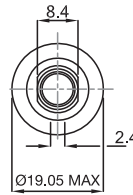
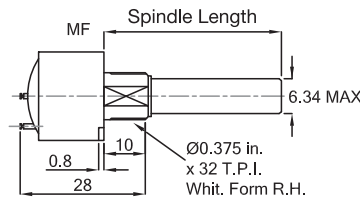
## Type M Series

### Characteristics - Environmental

|                                     |                                   |                                   |
|-------------------------------------|-----------------------------------|-----------------------------------|
| <b>Limits of Resistance Change:</b> | 3% (after 1000 hrs)               | 3% (after 1000 hrs)               |
| <b>Temperature Coefficient:</b>     | 0.5%                              | 0.75%                             |
| <b>Bump Severity:</b>               | 390 m/s <sup>2</sup> , 4000 bumps | 245 m/s <sup>2</sup> , 4000 bumps |
| <b>Vibration Severity:</b>          | 10-500 Hz 98 m/s <sup>2</sup>     | 10-150 Hz 98 m/s <sup>2</sup>     |
| <b>Climatic Category:</b>           | 55/125/56                         | 55/125/21                         |
| <b>Mechanical Endurance:</b>        | 25000 operations Min.             | 25000 operations Min.             |
| <b>Sealing:</b>                     | Panel sealed                      | Fully enclosed                    |

### Dimensions

### MC1/MCU Wire Terminations



| Type | Standard Spindles |            |         |
|------|-------------------|------------|---------|
|      | Plain             | Slotted    | Drilled |
| MC1  | 25                | 16, 20, 25 | 25      |
| MCU  | 25                | 16, 20, 25 | 25      |

| Standard Spindles |                      |
|-------------------|----------------------|
| Slotted           | Drilled              |
| 1.53 Deep         | Hole 3.18, Dia. 5.08 |
| x1.53 Wide        | From End of Spindle  |

### How to Order

Please specify type, resistance value, tolerance and spindle details. Add inspection requirement where appropriate. **e.g. MC1 10K  $\pm$  10% PLAIN 25 mm**  
We will advise a Tyco part number against this description.