The MT2A is a member of our family of rugged, accurate miniature cable-extension position transducers designed specifically for test applications. One of the major benefits to this sensor is its 2-axis 360° rotating mounting bracket to allow for fast and simple installation in any direction.

The MT2A comes in 5 different measuring ranges: 0-3", 0-9", 0-15", 0-30", 0-50" and features a highly-tensioned heavy-duty measuring cable designed for the high-acceleration demands encountered in flight testing and automotive crash tests.

For extreme impact applications, a new rugged all aluminum sensor cover is now available!

Output Signal

- **Full Stroke Range Options**: 0-3, 0-9, 0-15, 0-30, 0-50 inches, min.
- **Output Signal**: voltage divider (potentiometer)
- **Accuracy**: ± 1.1% to 0.15% full stroke (see ordering information)
- **Repeatability**: ± 0.02% full stroke
- **Resolution**: essentially infinite
- **Measuring Cable**: Ø.019-in. nylon-coated stainless steel
- **Enclosure Material**: anodized aluminum
- **Sensor Cover Options**: aluminum or polycarbonate
- **Sensor**: conductive plastic-hybrid potentiometer
- **Weight**: 0.5 lb. max.

**Electrical**

- **Input Resistance**: 10K ohms (± 10%)
- **Power Rating, Watts**: 2.0 at 158°F (70° C), derated to 0 @ 255°F (125° C)
- **Recommended Maximum Input Voltage**: 30V (AC or DC)
- **Electrical Stroke**: 94% ±4% of input voltage
- **Mating Plug**: LEMO FGG.OB.304.CLAD52

**Mechanical**

- **Measuring Cable Tension Options**: see ordering information
- **Maximum Measuring Cable Acceleration**: 136 g

**Environmental**

- **Operating Temperature**: -65° to 255° F (-55° to 125° C)
Outline Drawing (0-3 to 0-30 inch ranges)

Outline Drawing (0-50 inch range)
Ordering Information

**Model Number:**

```
MT2A - 10K -
```

**Full Stroke Range:**

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Full Stroke Range, min</th>
<th>Potentiometer Cycle Life</th>
<th>Accuracy (% of Full Stroke)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3 inches</td>
<td>2.5 x 10^5</td>
<td>1.1%</td>
</tr>
<tr>
<td>9</td>
<td>9 inches</td>
<td>8.3 x 10^5</td>
<td>.25%</td>
</tr>
<tr>
<td>15</td>
<td>15 inches</td>
<td>5.0 x 10^5</td>
<td>.20%</td>
</tr>
<tr>
<td>30</td>
<td>30 inches</td>
<td>2.5 x 10^5</td>
<td>.15%</td>
</tr>
<tr>
<td>50</td>
<td>50 inches</td>
<td>2.5 x 10^5</td>
<td>.15%</td>
</tr>
</tbody>
</table>

**Measuring Cable Termination:**

- **Order Code:** E
  - Eyelet

- **Order Code:** L
  - Leader Cable (24 in. long)
    - Includes 1-eyelet, 1-snubber, 5-crimps

**Measuring Cable Tension:**

<table>
<thead>
<tr>
<th>Order Code</th>
<th>3, 9, 15, 30-in. Range Options</th>
<th>Max. Cable Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>9 (±2) oz. 99 g</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>14 (±4) oz. 136 g</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>33 (±6) oz. 136 g</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Order Code</th>
<th>50-in. Range Options</th>
<th>Max. Cable Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>9 (±2) oz. 46 g</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>22 (±6) oz. 68 g</td>
<td></td>
</tr>
</tbody>
</table>
Electrical Connection/ Sensor Cover:

<table>
<thead>
<tr>
<th>order code</th>
<th>M1</th>
<th>M1A</th>
<th>M2</th>
<th>M2A</th>
<th>M3</th>
<th>M3A</th>
</tr>
</thead>
<tbody>
<tr>
<td>sensor cover</td>
<td>polycarbonate</td>
<td>aluminum</td>
<td>polycarbonate</td>
<td>aluminum</td>
<td>polycarbonate</td>
<td>aluminum</td>
</tr>
<tr>
<td>electrical connection</td>
<td>end-mount connector*</td>
<td>side-mount connector*</td>
<td>side-mount connector*</td>
<td>top-mount connector*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>order code</th>
<th>C1</th>
<th>C1A</th>
<th>C2</th>
<th>C2A</th>
<th>C3</th>
<th>C3A</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>sensor cover</td>
<td>polycarbonate</td>
<td>aluminum</td>
<td>polycarbonate</td>
<td>aluminum</td>
<td>polycarbonate</td>
<td>aluminum</td>
<td>none**</td>
</tr>
<tr>
<td>electrical connection</td>
<td>end-mount, instrumentation cable (15-ft. long, 24 ga., shielded)</td>
<td>side-mount, instrumentation cable (15-ft. long, 24 ga., shielded)</td>
<td>top-mount, instrumentation cable (15-ft. long, 24 ga., shielded)</td>
<td>solder terminals</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Accessories

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9603957-0015</td>
<td>15 ft. long cordset. Includes mating connector with 15 ft., 24 gauge, shielded multiconductor cable</td>
</tr>
</tbody>
</table>

*Additional blank sensor covers can be ordered separately. This cover comes without electrical wiring access holes so customer can drill to their requirements. Includes screws and gasket.*

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9604197-0000</td>
<td>Aluminum sensor cover</td>
</tr>
<tr>
<td>9603958-0000</td>
<td>Polycarbonate sensor cover</td>
</tr>
</tbody>
</table>
GAM EG 13 Certification (0-3 to 0-30 inch ranges only)

QUALIFICATION LEVEL FOR CLIMATIC AND THERMAL ENVIRONMENT

External Overpressure, operating (GAM EG 13 Fasc.21)
5 cycles: 1...4.5 Bar in 3 min., 4.5 Bar for 12 hours, 4.5...1 Bar in 1 min.
1 cycle: 1...3.2 Bar in 7.5 min., 3.2 Bar for 2 min., 3.2...8 Bar in 5 sec., 8 Bar for 2 hours, 8...1 Bar in 2 Bar/sec.
1 cycle: 1...4.5 Bar in 20 msec. 4.5 Bar for 5 sec., 4.5...1 Bar in 20 msec.

Thermal Vacuum Transitory, operating (GAM EG 13 Fasc.10)
Room pressure and temperature (1 Bar A; 20°C ±2°C)
1...10-3 mBar in 100 seconds
Vacuum (10-3 mBar) for 10 min.

Climatic Cycles (GAM EG 13 Fasc.8)
Dry heat: 24 hours @ 70°C ±2°C Relative Humidity < 50%
Wet heat: 24 hours @ 70°C ±2°C Relative Humidity = 50%
Cold: 24 hours @ -10°C ±2°C Relative Humidity < 50%
Wet heat: 24 hours @ 70°C ±2°C Relative Humidity = 100%

Dry Heat (Relative Humidity <50%)
Room temperature to 70°C in 30 mins
70°C for 5 hours, non-operating
70°C for 5 hours, operating
70°C to room temperature in 20 minutes

QUALIFICATION LEVEL FOR MECHANICAL ENVIRONMENT

Random Vibrations (GAM EG 13 Fasc.42 mod. Op1)
20...2000 Hz, 3 min. per axis, operating, 34 g.
20...2000 Hz, 20 sec. per axis, operating, 45 g.

Random Vibrations (GAM EG 13 Fasc.41 mod. Op3)
Compensated Levels, short duration
3...500 Hz @ .2 – .002 g2/ Hz.

Research Critical Frequency
Logarithmic Run, 1 octave / min., 1...2000 Hz.

Steady Acceleration, operating (GAM EG 13 Fas.45)
37 g, 3 min. per direction (2 directions per axis)

Sinusoidal Vibrations, operating (GAM EG 13 Fasc.41 mod. Op3)
Logarithmic run, 1 octave/min. on 3 axis
3...50 Hz. 9 hours per axis @0.6...1.25 g

Sinusoidal Vibrations, operating (GAM EG 13 Fasc.41 mod. Op3)
Logarithmic run, 1 octave/min. on 3 axis
5...2 KHz. 3 axis @12...25 g.

Average Shock (GAM EG 13 Fasc.43 Mode Op1)
1 shock, 1/2 sinusoidal, 100g. 6 msec. operating, with longitudinal and back direction

Free Fall (GAM EG 13 Fasc.43 Mode Op4)
6 consecutive drops on wood table, height = 100mm