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**Features**
The JMF potentiometeric joystick controller has been designed for use in Mobile and Industrial Field application. The potentiometer in use, available with 3 or 4 pins configuration, grants precision and a long working life. When coupled with an M range of ergonomic multi-function handles, up to 5 proportional axes and 9 on-off push buttons can be integrated in the same joystick. Power directional switches are available.

**Available Joystick Movements**
- **Option L1S**: Single axis control / Uni-Directional
- **Option L2S**: Single axis control / Bi-directional
- **Option L4C**: Cross axis control / Bi-directional
- **Option L4D**: Multi-axis control / Bi-directional

* Friction lock option available for L1S and L2S

**Mechanical Specifications**
- Lever deflection angle: $\pm 25^\circ \pm 1^\circ$
- Electrical angle: $\pm 25^\circ \pm 1^\circ$
- Operating temperature range: $-25^\circ C / +80^\circ C$
- Protection class (above panel): up to IP 67, depending on grip
- Life: 3 million cycles

**Potentiometer & Switches Options (Y-Y and X-X Axis)**

<table>
<thead>
<tr>
<th>Reference codes</th>
<th>Output signal S=50% Vin</th>
<th>S=90% Vin</th>
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</thead>
<tbody>
<tr>
<td>3-pin Pot A</td>
<td>C</td>
<td>F (Std)</td>
</tr>
<tr>
<td>3-pin Pot &amp; Bi-Dir. Switches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-pin Pot G</td>
<td>I</td>
<td>N (Std)</td>
</tr>
<tr>
<td>4-pin Pot &amp; Bi-Dir. Switches</td>
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<td></td>
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* Shown with IC grip

**Panel Cut-Out**

**Ordering Information**: see page 17

Available grips: see page 34
Complete joystick examples: see page 22

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### JOYSTICKS

**JMF Heavy Duty Multi-Axis Potentiometric Joystick** (joystick base only)

#### Electrical Specifications

<table>
<thead>
<tr>
<th>Directional Switches (electromechanical type)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Contacts</td>
<td>Silver Plated</td>
</tr>
<tr>
<td>Max. operating input voltage</td>
<td>48 V or +/-24V</td>
</tr>
<tr>
<td>Max. operating current</td>
<td>3 A / inductive</td>
</tr>
<tr>
<td>Neutral position switch threshold angle:</td>
<td>+4°</td>
</tr>
<tr>
<td>Pot. connector type:</td>
<td>0= none (solder type) 1= AMP Modu I / 4 poles</td>
</tr>
<tr>
<td>Protection class:</td>
<td>IP55 (specials available on request)</td>
</tr>
</tbody>
</table>

- **Rotary potentiometer**
  - Electrical power rating: 0.25 W @ 25°C
  - Ohmic resistance: A=50% of Vin / D=90% of Vin / G=40% of Vin / L=100% of Vin (4-pins version)
  - Max. operating input voltage (Vin): 48 V or +/-24V
  - Min. load impedance on pin 2 (Signal): 50 kOhm
  - Max. operating current on pin 2: 1 mA
  - Output voltage: See GRAPHS
  - Linearity (resistive track): 2% or better
  - Protection class: IP67

#### Output Signal Control Characteristics

<table>
<thead>
<tr>
<th>3-pins pot. configuration</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Leverage Angle</td>
<td>% of Vin</td>
</tr>
<tr>
<td>Lever Deflection Angle</td>
<td>% of Vin</td>
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#### Ordering Information

- Available grips: see page 34
- Complete joystick examples: see next page

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**JMF Heavy Duty Multi-Axis Potentiometric Joystick**

**JMF joystick with grips - configuration examples with overall dimensions**

**JMF base with IL handle.**
Complete code: **JMF-L4C/NN-IL 000**

**JMF base with IC handle.**
Complete code: **JMF-L4C/NN-IC 0200**

**JMF base with IE type handle.**
Complete code: **JMF-L4C/NN-IE A3P9 000**

**JMF base with IE type handle.**
Complete code: **JMF-L4C/NN-IE A1P9 1PR**
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JOYSTICKS

JMF Heavy Duty Multi-Axis Potentiometric Joystick

JMF joystick with grips - configuration examples with overall dimensions

JMF base with MS type handle. Complete code: JMF-L4C/NN-MS A6P9 R3P9

JMF base with MS type handle. Complete code: JMF-L4C/NN-MS A2P9 2FPR R1P9

JMF base with MG type handle. Complete code: JMF-L4C/NN-MG A4P9 R1P9

JMF base with MG type handle. Complete code: JMF-L4C/NN-MG A2P9 1FPR R1P9

Phone +39 059 254895 • Fax +39 059 253512 • E-mail: tecnord@tecnord.com

JOYSTICKS