A compact, inductive joystick with a life in excess of 15 million operations and EMC immunity of 50V/m, the JC200 offers fingertip control in two axes.

Designed for use with an electronic controller, the inductive circuit inside the JC200 generates analogue signals proportional to the distance over which the handle is moved in either axis. This output is configured to provide signals for fault detection circuits within the controller, whilst a center tap provides an accurate voltage reference for the center position.

The inductive circuit can be mounted at 45° to the normal axis to provide reference signals for dual channel motor controllers. The output voltage range can be further restricted in one or more directions, by the selection of the correct gate geometry. This can be used to limit, for example, the maximum speed of a vehicle when reversing around a corner.

Typical applications include the control of wheelchairs, fork lift trucks and agricultural machinery.

**ORDER CODE**

<table>
<thead>
<tr>
<th>Mounting</th>
<th>B</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Four hole square flange</td>
<td>Two hole bezel flange</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gates</th>
<th>S</th>
<th>R</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shape</td>
<td>Square</td>
<td>Round</td>
<td>Notch</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Voltage Swing</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Voltage (Vs)</td>
<td>10Vdc</td>
<td>12Vdc</td>
<td>12Vdc</td>
</tr>
<tr>
<td>Output Voltage Swing</td>
<td>±10%Vs</td>
<td>±8.3%Vs</td>
<td>±10%Vs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Handles</th>
<th>K0</th>
<th>K1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shape</td>
<td>No handle</td>
<td>Standard knob</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coil Orientation</th>
<th>Y</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal to Axis</td>
<td>45° to Axis</td>
<td></td>
</tr>
</tbody>
</table>
Specifications

**Mechanical**
- Breakout Force: 1N
- Operating Force: 2N
- Maximum Applied Force: 50N
- Mechanical Angle of Movement: ±18º
- Expected Life (Operations): >15 million
- Mass: 120g
- Mechanical Angle of Movement: On axis with square gate fitted
- Maximum Applied Force: 50N flange with square gate

**Environmental**
- Operating Temperature Range: -25°C to +65°C
- Storage Temperature Range: -40°C to +70°C
- Environmental Sealing Above the Flange: IP66 BSEN60529
- EMC Immunity Level: 10MHz to 1GHz, 1kHz 80% sine wave modulation
- ESD Immunity Level: ±25kV

**Electrical**
- Supply Voltage Range (Vs): 0-8V, 0-10V or 0-12v
- Maximum: 14Vdc
- Output Impedance: 1k8Ω
- Output Voltage Swing: ±10%Vs, ±8.3%Vs with respect to the center tap
- Error Signal: > ±25%Vs
- Center Tap Voltage: 50%Vs ±1%
- Center Tap Impedance: 0.4kΩ
- Return to Center Voltage: ±0.03Vs or 30mV, whichever is less
- Resolution: Infinite
- Connection: Flying Leads 200mm long (14 x 0.12 pvc)

**Termination Details**
- Description
  - Positive voltage supply: Red
  - Center tap: Green
  - Zero voltage supply: Black
  - X-axis output voltage signal: Blue
  - Y-axis output voltage signal: Yellow
- Wire color
  - Positive voltage supply: Red
  - Center tap: Green
  - Zero voltage supply: Black
  - X-axis output voltage signal: Blue
  - Y-axis output voltage signal: Yellow
- Note: Output signals should be referenced to the center tap voltage

**Gate Options**
- Square
- Round
- Notch

Alternative gate geometery can be developed to meet the needs of your potential application