Controlling motor speed is essential for many production assembly machines or robotic equipment. For tachometer feedback, or motor speed control applications, the Model 225 Accu-Coder™ is the ideal encoder choice. The Model 225 Accu-Coder™ is a thru-bore encoder available in both single channel (225A) and quadrature (225Q) models that provides a cost-effective solution for simple measurement. Features including an all metal housing, a variety of connector options, and easy installation due to the thru-bore design, make the Model 225 Accu-Coder™ ideal for many motion control and manufacturing applications.

**COMMON APPLICATIONS**
Brushless Servo Motor Commutation, Robotics, Motor-Mounted Feedback, Assembly Machines, Digital Plotters, High Power Motors

**MODEL 225A/Q ORDERING GUIDE**
Blue type indicates price adder options. Not all configuration combinations may be available. Contact Customer Service for details.

**MODEL 225A/Q CPR OPTIONS**
225A
1-600 CPR, all resolutions

225Q

<table>
<thead>
<tr>
<th>MODEL</th>
<th>OUTPUT TYPE</th>
<th>CYCLES PER REVOLUTION</th>
<th>MOUNTING</th>
<th>SEALING</th>
<th>BORE SIZES</th>
</tr>
</thead>
<tbody>
<tr>
<td>225A</td>
<td>OC</td>
<td>1 - 600 CPR</td>
<td>N</td>
<td>N</td>
<td>01 1/4&quot;, 0.250&quot;</td>
</tr>
<tr>
<td>225Q</td>
<td>PU</td>
<td>1 - 100 CPR</td>
<td>F</td>
<td>Y</td>
<td>01 1/4&quot;, 0.250&quot;</td>
</tr>
</tbody>
</table>

**NOTES:**
1. Shaft speed limited to 400 RPM.
2. For mating connectors, cables, and cordsets see **Accessories** at encoder.com. For Connector Pin Configuration Diagrams, see Technical Information or see **Connector Pin Configuration Diagrams** at encoder.com.
3. For Non-Standard Cable Lengths add a forward slash (/) plus cable length expressed in feet. Example: S/12 = 12 feet of cable.
**MODEL 225A SPECIFICATIONS**  
**SINGLE CHANNEL**

**Electrical**
- Input Voltage: 4.75 to 24 VDC
- Input Current: 32 mA max with Pull-Up option
- Input Ripple: 100 mV peak-to-peak at 0 to 100 kHz
- Output Format: Square wave 50% duty cycle
- Output Types: Open Collector – 100 mA max
  - Pull-Up – Open Collector with 1.5K ohm internal resistor, 20 mA max per channel

**Mechanical**
- Max Shaft Speed: 4000 RPM
- Bore Tolerance: 6H7 fit for g6 shaft Class LC5 per ANSI B-4.1 Standard
- Running Torque: 10 oz-in typical
- Housing: Black non-corrosive finish
- Bearings: Precision ABEC ball bearings
- Weight: 8 oz typical

**Environmental**
- Storage Temp: -25° to 85° C
- Humidity: 95% RH non-condensing
- Vibration: 3 g @ 5 to 1000 Hz
- Shock: 20 g @ 10 ms duration

**MODEL 225Q SPECIFICATIONS**  
**QUADRATURE**

**Electrical**
- Input Voltage: 4.75 to 24 VDC
- Input Current: 64 mA max with Pull-Up option
- Input Ripple: 100 mV peak-to-peak at 0 to 100 kHz
- Output Format: Square wave 50% duty cycle in quadrature
- Output Types: Open Collector – 100 mA max per channel
  - Pull-Up – Open Collector with 1.5K ohm resistor, 20 mA max per channel

**Mechanical**
- Max Shaft Speed: 4000 RPM
- Bore Tolerance: 6H7 fit for g6 shaft Class LC5 per ANSI B-4.1 Standard
- Running Torque: 10 oz-in typical
- Housing: Black non-corrosive finish
- Bearings: Precision ABEC ball bearings
- Weight: 8 oz typical

**Environmental**
- Storage Temp: -25° to 85° C
- Humidity: 95% RH non-condensing
- Vibration: 3 g @ 5 to 1000 Hz
- Shock: 20 g @ 10 ms duration

**MODEL 225 CONNECTOR OPTIONS**
- 9D 9-pin D-Subminiature
- T Terminal Block
- J 5-pin M12 (12 mm)
- K 8-pin M12 (12 mm)

**MODEL 225 MOUNTING OPTION (F) FLEX ARM KIT**
To order Model 225 Flexible Mounting Arm Kit as an accessory, order part #140106-01. Kit may be mounted in either an up or down orientation.

**WIRING TABLE**
For EPC-supplied mating cables, refer to wiring table provided with cable. Trim back and insulate unused wires.

<table>
<thead>
<tr>
<th>Function</th>
<th>Wire Color</th>
<th>5-pin M12</th>
<th>8-pin M12</th>
<th>Term Block</th>
<th>9-pin D-Sub</th>
</tr>
</thead>
<tbody>
<tr>
<td>Com</td>
<td>Black</td>
<td>3</td>
<td>7</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>+VDC</td>
<td>Red</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>A</td>
<td>White</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>B</td>
<td>Green</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Shield</td>
<td>Bare</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

*Standard cable is 24 AWG conductors with foil and braid shield.*