Features
• Slim Profile - Only 34.55mm In Depth
• Thru-Bore Design For Easy Mounting
• Incorporates Opto-ASIC Technology
• Resolutions to 4096
• Bore Options to 1.875”

The Thru-Bore Model 776 encoder is designed to fit directly on either a motor or other shaft where position, direction, or velocity information is needed. The advanced Opto-ASIC based electronics provide the superior noise immunity necessary in many industrial applications. The Model 776 conveniently features a clamp type mount for fast and easy mounting over a large range of shaft sizes. An optional anti-rotation flex mount maintains housing stability.

Common Applications
Motor Feedback, Velocity & Position Control, Robotics, Conveyors, Material Handling

Model 776 Ordering Guide
Red type indicates price adder options. Not all configuration combinations may be available. Contact Customer Service for details.

Model 775 PPR Options

Model 776 Large Bore
Slim Thru-Bore

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Model 776 Specifications

**Electrical**

- **Input Voltage**: 4.75 to 28 VCC max for temperatures up to 70º C. 4.75 to 24 VCC for temperatures between 70º C to 100º C
- **Input Current**: 100 mA max with no output load
- **Input Ripple**: 100 mV peak-to-peak at 0 to 100 kHz
- **Output Format**: Incremental - Two square waves in quadrature with channel A leading B for clockwise shaft rotation, as viewed from the mounting face. See Waveform Diagrams below.
- **Output Types**: Push-Pull - 20 mA max per channel
  - Line Driver - 20 mA max per channel (Meets RS 422 at 5 VCC supply)
- **Index**: Once per revolution
  - 0500 to 4096 PPR: Gated to output A
  - 0001 to 0500 PPR: Ungated
  - See Waveform Diagrams below.
- **Freq. Response**: 200 kHz
- **Noise Immunity**: Tested to BS EN61000-4-2; IEC801-3; BS EN61000-4-4; DDENV 50141; DDENV 50204; BS EN55022; BS EN61000-6-2; BS EN50081-2
- **Symmetry**: 180º (±18º) electrical
- **Quad. Phasing**: 90º (±22.5º) electrical
- **Min. Edge Sep.**: 67.5º electrical
- **Rise Time**: Less than 1 microsecond

**Mechanical**

- **Max Shaft Speed**: 6000 RPM. Higher shaft speeds may be achievable, contact Customer Service.
- **Bore Size**: See ordering chart
- **User Shaft Tolerances**
  - **Radial Runout**: 0.15mm TIR
  - **Axial Endplay**: ≤0.70mm with style BA flex-mount
  - **Electrical Conn.**: Gland nut with 2M cable (foil and braid shield, 24 AWG conductors), or 8-pin M12 (12 mm)
  - **Housing**: All metal construction
  - **Mounting**: Thru-Bore with collet clamp or single-screw clamp mount
  - **Weight**: 455 gms
    - Note: All weights typical

**Environmental**

- **Operating Temp**: 0º to 70º C for standard models
  - 0º to 100º C for high temperature option
- **Storage Temp**: -20º to 100º C
- **Humidity**: 98% RH non-condensing
- **Vibration**: 10 g @ 58 to 500 Hz
- **Shock**: 50 g @ 11 ms duration
- **Sealing**: IP50

**Model 776 With Gland**

**Waveform Diagrams**

**Wiring Table**

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<tr>
<th>Function</th>
<th>Gland</th>
<th>Cable</th>
<th>Wire Color</th>
<th>8-pin M12</th>
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<tr>
<td>Com</td>
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<td>Black</td>
<td>13 M12</td>
<td>7</td>
</tr>
<tr>
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<td>Black</td>
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