Model 86F Extra Heavy Duty Machine Tool Encoder

Features
- Transverse Slotted Shaft
- Up to 3000 PPR, Opto-Asic Technology
- 90mm Round Flange with 3 4.5mm Dia fixing holes at 120° on 82mm PCD
- Double O-Ring Sealed

Model 86F is an extra heavy duty unit which employs a highly reliable Opto-Asic encoder module mounted within a rugged mechanical housing. The heavy duty sealed bearings, together with double O-Ring sealing makes this encoder a serious and reliable alternative to a wide range of machine tool encoders, and at an advantageous price.

Common Applications
Motion Control Feedback, Conveyors, Elevator Controls, Machine Control, Food Processing, Process Control, Robotics, Material Handling, Textile Machines

Model 86F Ordering Guide
Red type indicates price adder options. Not all configuration combinations may be available. Contact Customer Service for details.

Model 86F PPR Options
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<tr>
<th>PPR</th>
<th>0500</th>
<th>0512</th>
<th>1000</th>
<th>1024</th>
<th>1250</th>
<th>2000</th>
<th>2048</th>
<th>2500</th>
<th>2540</th>
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Model 86F Extra Heavy Duty Machine Tool Encoder

For specification assistance call Customer Service at +44 (0)1978 262100

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Model 86F Specifications

**Electrical**

- **Input Voltage**: 4.75 to 24 VCC max for temperatures up to 70º 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 encoder mounting face. See Waveform Diagrams below.
- **Output Type**: Line Driver - 20 mA max per channel (Meets RS 422 at 5 VCC supply)
- **Index**: Occurs once per revolution. See Waveform Diagrams below.
- **Freq Response**: Up to 200 Khz
- **Noise Immunity**: Tested to BS EN61000-4-2; IEC801-3; BS EN61000-4-4; DDENV 50141; DDENV 50204; BS EN55022 (with European compliance option); BS EN61000-6-2; BS EN50081-2
- **Symmetry**: 180º (±18º) electrical at 100 kHz output
- **Quad Phasing**: 1 to 2540 PPR: 90º (±22.5º) electrical at 100 kHz output
- **Min Edge Sep**: 1 to 2540 PPR: 67.5º electrical at 100 kHz output
- **Rise Time**: Less than 1 microsecond
- **Accuracy**: Instrument and Quadrature Error: For 0500 to 2540 PPR, 0.017º mechanical (1.0 arc minutes) from one cycle to any other cycle.

**Mechanical**

- **Max Shaft Speed**: 3600 RPM. Higher shaft speeds may be achievable, contact Customer Service.
- **Shaft Type**: Transverse Slotted
- **Shaft Material**: 303 stainless steel
- **Shaft Rotation**: Bi-directional
- **Axial Shaft Load**: 35kg max
- **Starting Torque**: 2.118 x 10^-2 typical.
- **Max Acceleration**: 1 x 10^5 rad/sec^2
- **Electrical Conn**: 17-pin MS Style
- **Housing**: Anodised Aluminium
- **Bearings**: Precision ABEC ball bearings
- **Mounting**: 90mm Round Flange with 3 x 4.5mm Dia Holes at 120 o On an 82mm PCD
- **Weight**: 800gms typical

**Environmental**

- **Operating Temp**: 0º to 70º C for standard models
- **Storage Temp**: 0º to 100º C for high temperature option
- **Humidity**: 95% RH non-condensing
- **Vibration**: 10 g @ 58 to 500 Hz
- **Shock**: 50 g @ 11 ms duration
- **Sealing**: IP50, IP64

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**Model 86F Round Flange**

**Waveform Diagrams**

**Wiring Tables**

**17 Pin Connector**

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<th>Option C</th>
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