Model DR86A is an extra heavy duty unit that 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 economical price.

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

**Replaces**
Fanuc, Sumtak, Tamagawa, Koyo, Kwangwoo

**Price: $750**
Additional discounts available for volume orders.

**Features:**
- Rugged All Metal Housing
- 68 mm Flange Mount
- 1024 CPR*
- 17-Pin MS Style Connector
- IP65 Double O-ring Seal
- Line Driver Output
- 15 mm Stainless Steel Shaft

*Other CPRs may be available. Contact Customer Service.

**The Accu-Coder™ Advantage**
- Get this encoder FAST – you’ll get your encoders in days, not weeks.
- Huge savings in price comparison — the DR86A is your economical solution
- The accuracy, reliability, and quality that only come from an Accu-Coder™
- Industry Best 3-year warranty!
Model DR86A 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 Types**: Line Driver — 20 mA max per channel (Meets RS 422 at 5 VCC supply)
- **Index**: Occurs once per revolution. The index is Ungated. See Waveform Diagrams below.
- **Freq Response**: Up to 100 Khz
- **Noise Immunity**: Tested to BS EN61000-4-2; IEC801-3; BS EN61000-4-4; DDENV 50141; DDENV 50204; BS EN65022 (with European compliance option); BS EN61000-6-2; BS EN55022 (with European compliance option); BS EN61000-6-2; BS EN55022 (with European compliance option)
- **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 1024CPR, 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 Size**: 15 mm
- **Shaft Material**: 303 stainless steel
- **Shaft Rotation**: Bi-directional
- **Radial Shaft Load**: 35 kg max
- **Axial Shaft Load**: 35 kg max
- **Starting Torque**: 2.118 x 10^-2 Nm typical
- **Max Acceleration**: 1 x 105 rad/sec²
- **Electrical Conn**: 17-pin MS Style
- **Housing**: Anodized Aluminium
- **Bearings**: Precision ABEC ball bearings
- **Mounting**: Square Flange with 4 Holes 5.50 mm Dia on a 71.19 mm Bolt Circle (B.C.)
- **Weight**: 800 gms typical

**Environmental**
- **Operating Temp**: 0º to 70º C
- **Storage Temp**: 25º to 85º C
- **Humidity**: 95% RH non-condensing
- **Vibration**: 10 g @ 58 to 500 Hz
- **Shock**: 50 g @ 11 ms duration
- **Sealing**: IP65

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**DR86A Dimensions**

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**DR86A Waveform Diagram**

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**DR86A Wiring Table**

<table>
<thead>
<tr>
<th>17-Pin Conn</th>
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**NOTE**: All degree references are electrical degrees. Note: INDEX is Positive Going