The DR738 is designed to provide a digital encoder signal format to replace traditional Tacho style feedback devices. The heavy duty bearings and mechanical assembly make the DR738 perfect for those applications requiring a rugged and dependable encoder. Typically replaces encoders from Hubner, Baumer, Tekel, etc. EPC provides fast delivery, technical support, and repair services.

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

Features:
- Standard REO 444 Style, 115 mm Diameter Flange
- Up to 30,000 CPR
- Two Standard Shaft Sizes
- IP64 Sealing Available
- Extended Life Disk Technology

Model DR738 CPR Options

<table>
<thead>
<tr>
<th>CPR Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-800-366-5412</td>
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</table>
Model DR738 Specifications

**Electrical**
- **Input Voltage**: 4.75 to 28 VDC for temperatures up to 70°C (100°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**: Open Collector – 100 mA max per channel Pull-Up, 100 mA max per channel
- **Line Driver** – 20 mA max per channel
- **PDF**: 20 mA max per channel (Meets RS 422 at 5 VDC supply)
- **Index**: Occurs once per revolution. The index for units >3000 CPR is 90° gated to Outputs A and B. See Waveform Diagrams below.
- **Max Frequency**: Up to 1 kHz
- **Noise Immunity**: Tested to BS EN61000-4-2; IEC61000-4-3; EN61000-4-4; EN61000-4-6; EN61000-4-8; EN61000-4-9; with European compliance option; BS EN61000-6-2; BS EN50081-2
- **Symmetry**: 1 to 6000 CPR 180° (+18°) electrical at 100 kHz output
- **Quad Phasing**: 1 to 6000 CPR 90° (+22.5°) electrical at 100 kHz output
- **Min Edge Sep**: 1 to 6000 CPR 67.5° electrical at 100 kHz output
- **Rise Time**: <20,480 CPR 50° electrical
- **Accuracy**
  - Instrument and Quadrature Error: For 200 to 1999 CPR, 0.01° (0.01° mechanical error) from one cycle to any other cycle. For 2000 to 3000 CPR, 0.01° (0.6 arc minutes) from one cycle to any other cycle. Interpolation error (units > 3000 CPR) only within 0.05° mechanical. (Total Optical Encoder Error = Instrument + Quadrature + Interpolation)
- **Mechanical**
  - **Max Shaft Speed**: 6000 RPM. Higher shaft speeds may be achievable, contact Customer Service.
  - **Shaft Size**: 11 mm or 12 mm (both have keyways)
  - **Shaft Material**: 303 stainless steel
  - **Shaft Rotation**: Bi-directional
  - **Radial Shaft Load**: 27 lb max
  - **Axial Shaft Load**: 27 lb max
  - **Starting torque**: 1.0 oz-in in typical with IP64 seal
  - **Moment of Inertia**: 5.2 oz-in sec²
  - **Max Acceleration**: 1 x 505 rad/sec²
  - **Electrical Conn**: 6-, 7-, or 10-pin MS Style, 5- or 8-pin M12 (12 mm), 9-pin D-subminiature, or gland with 24 inches of cable (foil and braided shield, 24 AWG conductors)
  - **Housing**: Black non-corrosive finish
  - **Bearings**: Precision ABEC ball bearings
  - **Mounting**: 444 Tach Style Flange
  - **Weight**: 22 oz typical

**Environmental**
- **Operating Temp**: 0° to 70°C for standard models
- **Storage Temp**: 0° to 100°C for high temperature option (0° to 85°C for certain resolutions, see CFP Options.)
- **Humidity**: 95% RH non-condensing
- **Vibration**: 10 g @ 50 to 500 Hz
- **Shock**: 50 g @ 11 p duration
- **Sealing**: IP64

**Model DR738 REO 444 Style 115 mm Diameter**

**Dr738 Wiring Table**

For EPC-supplied mating cables, refer to wiring table provided with cable.

**Note**: All degree references are electrical degrees.

**DR738 Output Waveform**

**DR738 Pole Options**

**DR738 Output Waveform**

**Model DR738 Wiring Table**

<table>
<thead>
<tr>
<th>Function</th>
<th>5-pin M12 Wire Color</th>
<th>5-pin M12 Wire Color</th>
<th>5-pin MS Wire Color</th>
<th>5-pin MS Wire Color</th>
<th>6-pin MS Wire Color</th>
<th>6-pin MS Wire Color</th>
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1. CE Option: Cable shield (bare wire) is connected to internal case
2. CE Option: Read Technical Bulletin TB111