DR738

Direct replacement encoder for 444 Tach Style encoders

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.

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 SPECIFICATIONS**

### Electrical
- **Input Voltage**: 4.75 to 28 VDC for temperatures up to 70° 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
- **Output Types**: Open Collector – 100 mA max per channel; Pull-Up – 100 mA max per channel; Push-Pull – 20 mA max per channel
- **Line Driver**: - 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 MHz
- **Noise Immunity**: Tested to BS EN61000-4-2; IEC801-3; BS EN61000-4-4; DDENV 50141; DDENV 50204; BS EN50081-2 (with European compliance option); BS EN 61000-6-2; BS EN50081-2 (certain resolutions, see CPR Options.)
- **Symmetry**: 1 to 600 CPR: 180° (±18°) electrical at 100 kHz output
  - 6001 to 20,480 CPR: 180° (±36°) electrical
- **Quad Phasing**: 1 to 600 CPR: 90° (±22.5°) electrical at 100 kHz output
  - 6001 to 20,480 CPR: 90° (±36°) electrical
- **Min Edge Sep**: 1 to 600 CPR: 67.5° electrical at 100 kHz output
  - 6001 to 20,480 CPR: 54° electrical
  - >20,480 CPR: 50° electrical
- **Rise Time**: Less than 1 microsecond
- **Accuracy**: Instrument and Quadrature Error: For 200 to 1999 CPR, 0.017° mechanical (1.0 arc minutes) from one cycle to any other cycle. For 2000 to 3000 CPR, 0.01° mechanical (0.6 arc minutes) from one cycle to any other cycle. Interpolation error (units > 3000 CPR only) within 0.005° 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 with IP64 seal
- **Moment of Inertia**: 5.2 x 10⁻⁶ oz-in²/sec
- **Max Acceleration**: 1 x 10⁵ rad/sec²

### Environmental
- **Operating Temp**: 0° to 70° C for standard models
  - 0° to 100° C for high temperature option (0° to 85° C for certain resolutions, see CPR Options.)
- **Storage Temp**: -25° to 85° C
- **Humidity**: 95% RH non-condensing
- **Vibration**: 10 g @ 50 to 500 Hz
- **Shock**: 50 g @ 11 d duration
- **Sealing**: IP64

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**CONNECTOR PIN-OUTS**

**DR738 Wiring Table**

**DR738 Output Waveform**

**DR738 REO 444 Style 115 mm Diameter**

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