Model 858 Ordering Guide

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

**Mechanical**
- **SHAFT SIZE**
  - 60 mm No Flat
  - 6F mm + Flat
  - 10 mm - No Flat
  - 16F mm + Flat

- **BODY STYLE**
  - 20 Servo Clamp Spigot Style 420
  - 26 Servo Flange Style 426

**Electrical Specification**
- **PPR**
  - See PPR chart below
  - Price adder >1000

- **OUTPUT TYPE**
  - OC Open Collector
  - PP Push-Pull
  - HV Line Driver
  - LS 24V in 5V out

- **CHANNELS**
  - A Single Channel
  - Q Quadrature A+B
  - R Quad + Z Marker
  - A+B+Z

**Optional Features**
- **CONNECTOR TYPE**
  - EG2 End Gland + 2M Cable
  - EG3 End Gland + 3M Cable
  - EG5 End Gland + 5M Cable

**Sealing Type**
- IP64

**Operating Temperature**
- ST 0º to 70º C
- HT 0º to 100º C

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

**Model 858 PPR Options**  See Note 3

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<th>PPR</th>
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* Contact Customer Service for High Temperature Option.

a High Temperature Option (H) limited to 85º C maximum for these PPR options.

New PPR values are periodically added to those listed. Contact Customer Service to determine all currently available PPR options. Special disk resolutions are available upon request. A one-time NRE (Non Recurring Engineering) fee may apply.

**Features**
- Standard Size 58 Mounting (58 mm Diameter)
- Up to 30,000 PPR
- 36Kg Max. Axial and Radial Shaft Loading
- High Temperature Option (100º C)
- Manufactured in Food Grade Stainless Steel

The Model 858 is a heavy duty, Stainless Steel, extremely rugged, reliable, yet compact European standard 58 mm diameter encoder, designed for harsh factory and Food Industry environments. Shaft loading is no problem for the double-shielded ball bearings; their 36Kg load rating ensures a long operating life. If fitted with the optional heavy-duty shaft seal, the Model 858 is rated IP65. Two standard mounting options are available: Clamping Flange (20 type) or Synchro Flange (26 type). The Model 858 is the perfect Encoder for food industry, wash-down, or marine environments.

**Common Applications**
- Food Processing, Oil, Gas & Chemical Processing, Material Handling, Conveyors, Robotics, Lift Controls, Textile Machines.
Model 858 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 encoder mounting face. See Waveform Diagrams below.
Output Types: Open Collector - 50 mA max per channel
Push-Pull - 20 mA max per channel
Line Driver - 20 mA max per channel (Meets RS 422 at 5 Vcc supply)
Index: Occurs once per revolution. The index for units >3000 PPR is 90º gated to Outputs A and B. See Waveform Diagrams below.
Freq Response: Up to 1 MHz
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 EN61000-4-5; BS EN60081-2
Symmetry: 1 to 6000 PPR: 180º (±18º) electrical at 100 kHz output
Quad Phasing: 1 to 6000 PPR: 90º (±22.5º) electrical at 100 kHz output
Min Edge Sep: 1 to 6000 PPR: 67.5º electrical at 100 kHz output
6001 to 20,480 PPR: 54º electrical
6001 to 20,480 PPR: 50º electrical
Rise Time: Less than 1 microsecond
Accuracy: Instrument and Quadrature Error: For 200 to 1999 PPR, 0.017º mechanical (1.0 arc minutes) from one cycle to any other cycle. For 2000 to 3000 PPR, 0.01º mechanical (0.6 arc minutes) from one cycle to any other cycle. Interpolation error (units > 3000 PPR only) within 0.005º mechanical. (Total Optical Encoder Error = Instrument + Quadrature + Interpolation)

Mechanical

Max Shaft Speed: 8000 RPM. Higher shaft speeds may be achievable, contact Customer Service.
Shaft Size: 6 mm, 10 mm
Shaft Rotation: Bi-directional
Radial Shaft Load: 36 Kg max. Rated load of 10 to 20 Kg for bearing life of 1.5 x 10^7 revolutions
Axial Shaft Load: 36 Kg max. Rated load of 10 to 20 Kg for bearing life of 1.5 x 10^7 revolutions
Starting Torque: 7.081 x 10^-3 Nm typical with IP64 seal or no seal
Max. Acceleration: 1 x 10^5 rad/sec^2
Electrical Conn: Gland with 2M cable
Housing: STAINLESS STEEL
Bearings: Precision ABEC ball bearings
Mounting: European Standard Clamping Flange (20 Type) and Synchro Flange (26 Type)
Weight: 750 gms typical

Environmental

Operating Temp: 0º to 70º C for standard models
0º to 100º C for high temperature option (0º to 85º C for certain resolutions, see PPR Options.)
Storage Temp: -25º to +65º C
Humidity: 98% RH non-condensing
Vibration: 20 g @ 58 to 500 Hz
Shock: 75 g @ 11 ms duration
Sealing: IP64 shaft seal or IP65 shaft seal

Model 858 Clamping Flange 20 Type

Model 858 Synchro Flange 26 Type

Waveform Diagrams

Wiring Table

CAUTION - Always check wiring colour code against Encoder Label due to changes in specification since September 2006