

# Model 7RP Extra Heavy Duty Thru-Shaft



Incremental Shaft Encoders



## Features

- Extra Heavy Duty Mechanical Assembly
- Single Ended or Double Ended Shaft
- Reversible Face Fixing Option
- Incorporates Opto-ASIC Technology

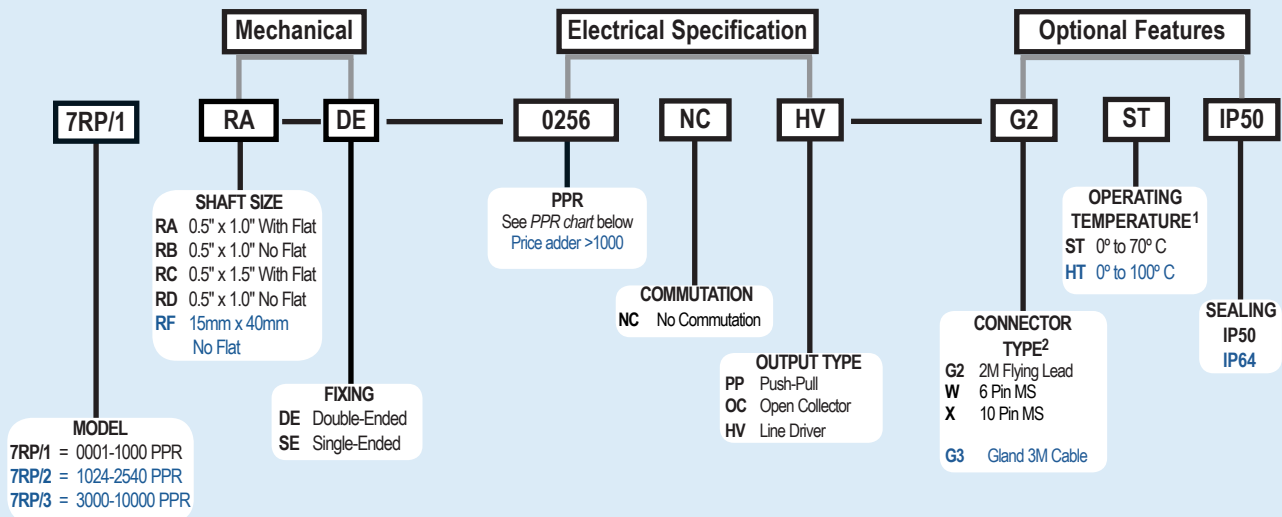
The Model 7RP provides yet another extra heavy duty encoder which has the advantage of a double-ended male shaft together with a totally reversible mounting configuration. This arrangement will allow for the fixing of measuring wheels on both shafts, thus ensuring secure and error free contact with conveyor, or moving product, during length measurement applications. A single-ended shaft configuration is also available. This encoder employs our highly reliable Opto-ASIC technology.

## Common Applications

Robotics, Motor-Mounted Feedback, Assembly Machines, High Power Motors

## Model 7RP Ordering Guide

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



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

### Model 7RP PPR Options

|                 |      |       |      |       |
|-----------------|------|-------|------|-------|
| 0001 thru 0189* | 0200 | 0250  | 0254 | 0256  |
| 0300            | 0360 | 0400* | 0500 | 0512  |
| 0720            | 0800 | 0840  | 1000 | 1024  |
| 1220            | 1250 | 1270  | 1500 | 1800* |
| 2048            | 2500 | 2540  | 3000 | 3600* |
| 4096            | 5000 | 6000  | 8192 | 7200* |
| 10,000          |      |       |      | 8192  |

### NOTES:

- 1 5 to 16 VCC supply only for HT option.
- 2 For Non-Standard cable length please contact the sales office.

\* Contact customer service for availability

Contact Customer Service for other disc resolutions; not all disc resolutions available with every commutation option.

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## Model 7RP Specifications

### Electrical

Input Voltage.....4.75 to 24 VCC for temperatures up to 70° C  
5 to 16 VCC for 0° to 100° C operating temperature

Input Current.....100 mA max with no output load

Output Format .....Incremental- Two square waves in quadrature with channel A leading B for clockwise shaft rotation, as viewed from the mounting face.  
See *Waveform Diagrams* below.

Output Types .....Push-Pull- 20 mA max per channel  
Line Driver- 20 mA max per channel (Meets RS 422 at 5 VCC supply)

Index .....Once per revolution gated to channel A.  
See *Waveform Diagrams* below.

Freq. Response.....200 kHz standard

Noise Immunity.....Tested to BS EN61000-6-2; BS EN50081-2; BS EN61000-4-2; BS EN61000-4-3; BS EN61000-4-6, BS EN55011

Symmetry .....180° (±18°) electrical

Quad. Phasing.....90° (±22.5°) electrical

Min. Edge Sep.....67.5° electrical

Accuracy.....Within 0.01° mechanical from one cycle to any other cycle, or 0.6 arc minutes.

Commutation .....Up to 12-pole. Contact Customer Service for availability.

Comm. Accuracy.....1° mechanical

### Mechanical

Max Shaft Speed.....3600 RPM. Higher shaft speeds may be achievable, contact Customer Service.

Shaft Size .....10mm through 15mm

Shaft Tolerance.....g6 (SLIDING FIT FOR H7)

Starting Torque .....IP50:  $7.0615 \times 10^{-3}$  Nm  
IP64:  $2.0118 \times 10^{-2}$  Nm

Electrical Conn .....cable (foil and braid shield, 24 AWG) or 6-pin or 10-Pin MS connector

Housing.....Anodised Aluminium

Weight.....800 grams typical

### Environmental

Operating Temp.....0° to 70° C for standard models  
0° to 100°C for high temperature option

Storage Temp .....-40° to +100° C

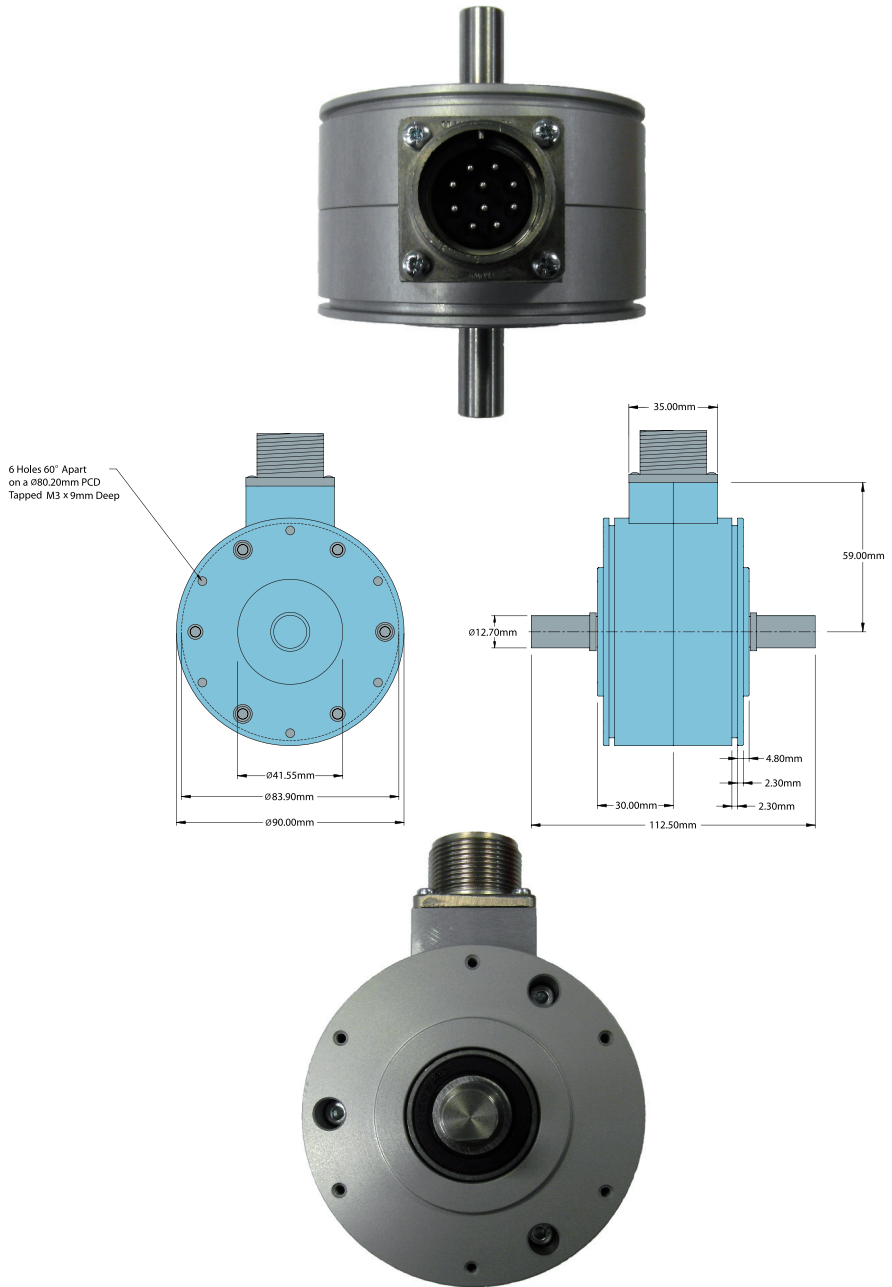
Humidity.....98% RH non-condensing

Vibration.....10 g @ 58 to 500 Hz

Shock.....50 g @ 11 ms duration

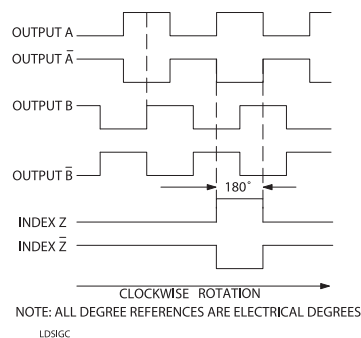
Sealing.....IP50; IP64 available

## Model 7RP Double-Ended w/10 Pin



Incremental Shaft Encoders

### Waveform Diagrams



### Wiring Tables

| Function | Gland Cable Wire Color | 10-pin MS HV | 6-pin MS PP,OC |
|----------|------------------------|--------------|----------------|
| Com      | Black                  | C            | C              |
| +VCC     | White                  | E            | E              |
| A        | Brown                  | B            | B              |
| A'       | Yellow                 | G            | —              |
| B        | Red                    | D            | D              |
| B'       | Green                  | H            | —              |
| Z        | Orange                 | A            | A              |
| Z'       | Blue                   | I            | —              |
| Case     | —                      | F            | F              |
| Shield   | Screen                 | —            | —              |