

# Model 760 Commutated Thru-Bore / Blind-Bore



## Features

- Size 25 / 63.5 mm Diameter (Hollow Shaft)
- Up to 12 Pole Commutation Available
- Thru-Bore or Blind-Bore Options
- Simple, Innovative Flexible Mounting System
- Incorporates Opto-ASIC Technology

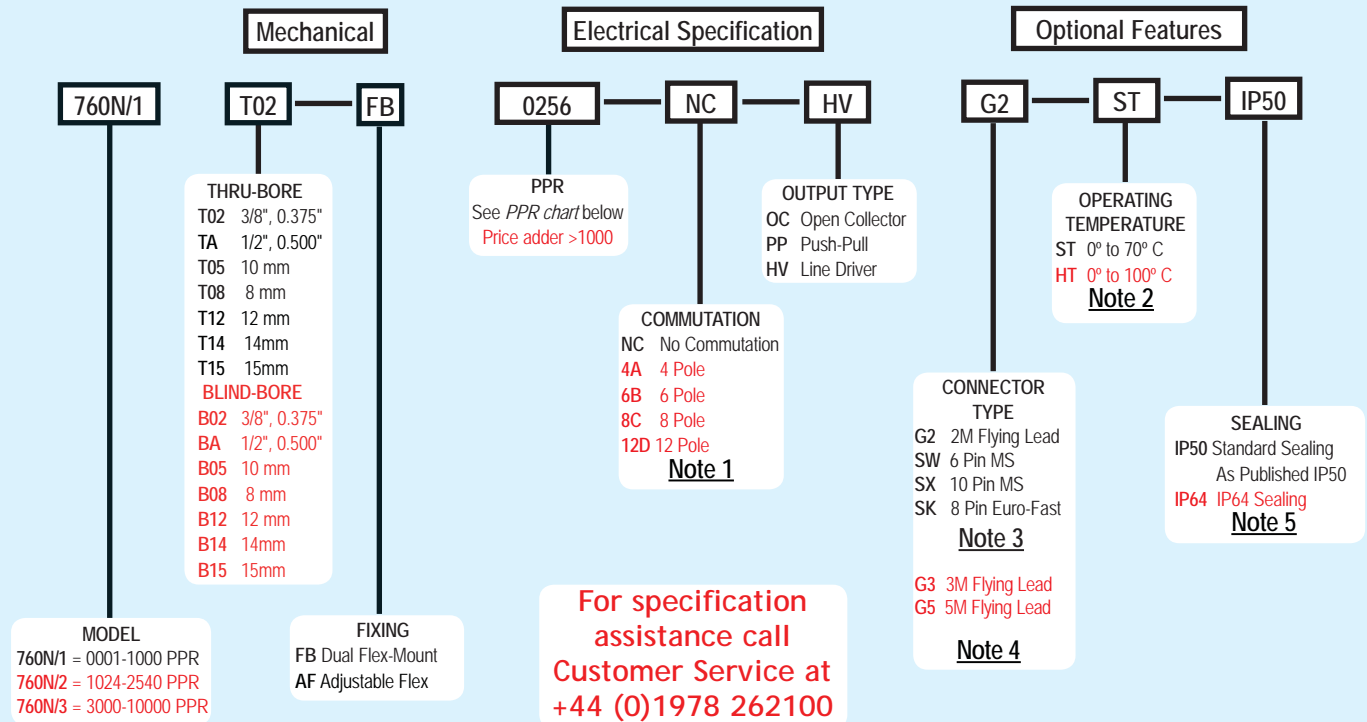
The 760N encoder is configured with either a full thru-bore (which may be fixed at either end of the shaft), or with a blind-bore which uses the front shaft fixing only. The encoder body is retained by means of 2 flexible mountings, or by a single adjustable radius fixing, which compensate for minor shaft misalignment. This encoder can now be provided with commutation signals for use with brushless motor control. Output circuits available include 5-24V RS422, 5-24V push-pull or 5-24V input / NPN open-collector. This encoder also now uses the same pioneering Opto-ASIC technology used in the model 260 encoder.

## Common Applications

Brushless Servo Motor Commutation, Robotics, Motor-Mounted Feedback, Assembly Machines, Digital Plotters, High Power Motors

## Model 760 Ordering Guide

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



## Model 760 PPR Options

|       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|
| 0001* | 0010* | 0011* | 0012* | 0020* | 0025* | 0030* |
| 0040* | 0060  | 0100  | 0120  | 0128* | 0200  | 0250  |
| 0254  | 0256  | 0300  | 0360  | 0400  | 0500  | 0512  |
| 0600  | 0720  | 0800  | 0840  | 1000  | 1024  | 1200  |
| 1220  | 1250  | 1270  | 1500  | 1800  | 2000  | 2048  |
| 2500  | 2540  | 3000  | 4096  | 6000  | 8192  | 10000 |

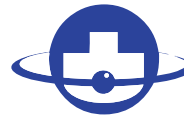
\*Contact Customer service for High Temp option

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

## NOTES:

- 1 Not available in all configurations. Contact Customer Service for availability.
- 2 5 to 16 VCC supply only for HT option.
- 3 For non-standard cable lengths contact sales office for details and cost.
- 4 Not available with commutation.
- 5 Blind-Bore + Flying lead options only

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**BRITISH  
ENCODER**  
PRODUCTS COMPANY



## Model 760 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, Typical
- 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.....Open Collector- 20 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.....Once per revolution gated to channel A. See *Waveform Diagrams* below.
- Freq. Response.....200 kHz standard (up to 1MHz)
- 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

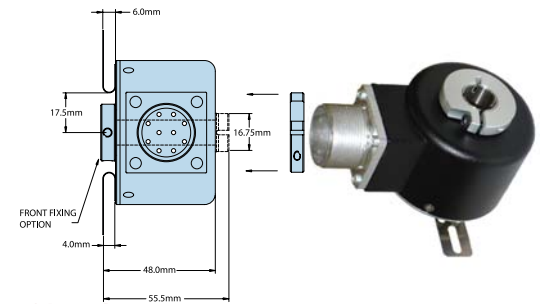
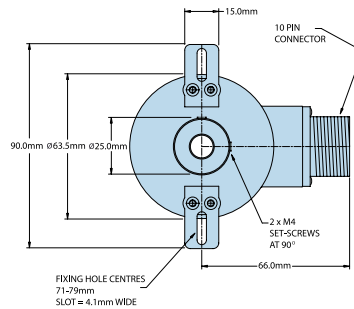
### Mechanical

- Max Shaft Speed.....6000 RPM.
- Bore Size.....8mm through 15mm
- Bore Tolerance.....H7 (SLIDING FIT FOR g6)
- User Shaft Tolerances  
Radial Runout.....0.2mm max TIR  
Axial Endplay.....0.75mm max
- Starting Torque.....IP50 Thru-Bore:  $3.53 \times 10^{-3}$  Nm  
IP64 Thru-Bore:  $1.765 \times 10^{-2}$  Nm
- Max Acceleration..... $1 \times 10^5$  rad/sec<sup>2</sup>
- Electrical Conn.....2M cable (foil and braid shield, 24 AWG conductors non-commutated, 28 AWG commutated), 6-pin MS, 10 Pin MS, or 8 Pin Euro-Fast
- Housing.....Black non-corrosive finish
- Mounting.....Dual adjustable radius Flex Mount standard, or single adjustable radius options.
- Weight.....600 gms typical

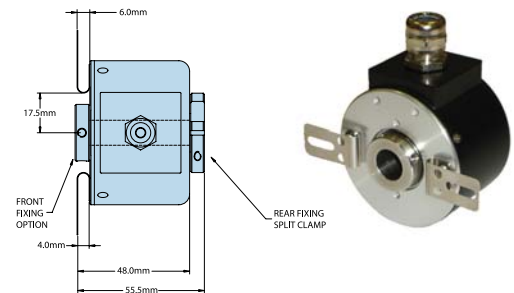
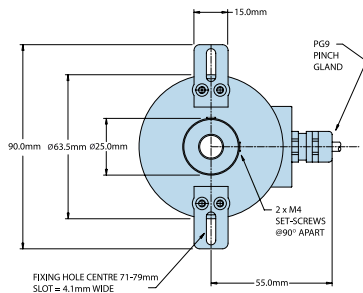
### Environmental

- 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

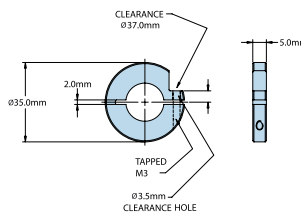
## Model 760 With 10 Pin Connector



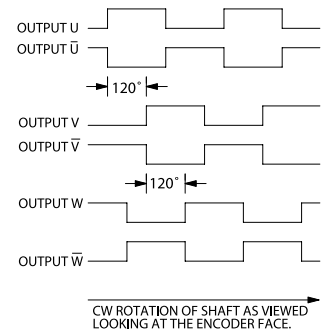
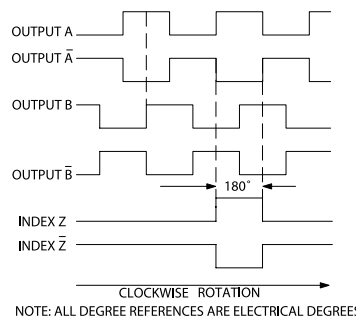
## Model 760 With PG9 Pinch Gland



## Rear Fixing Clamp



## Waveform Diagrams



## Wiring Table - With Commutation

| Function | Cable Wire Color |
|----------|------------------|
| Com      | Black            |
| +VDC     | White            |
| A        | Brown            |
| A'       | Yellow           |
| B        | Red              |
| B'       | Green            |
| Z        | Orange           |
| Z'       | Blue             |
| U        | Violet           |
| U'       | Gray             |
| V        | Pink             |
| V'       | Tan              |
| W        | Red/Green        |
| W'       | Red/Yellow       |
| Shield   | Bare             |

## Wiring Table - Non-Commutation

| Function | Gland Cable Wire Color | 8-pin HV | 10-pin MS HV | 6-pin MS PP, OC |
|----------|------------------------|----------|--------------|-----------------|
| Com      | Black                  | 7        | F            | F               |
| +VDC     | White                  | 2        | D            | D               |
| A        | Brown                  | 1        | A            | A               |
| A'       | Yellow                 | 3        | H            | —               |
| B        | Red                    | 4        | B            | B               |
| B'       | Green                  | 5        | I            | —               |
| Z        | Orange                 | 6        | C            | C               |
| Z'       | Blue                   | 8        | J            | —               |
| Case     | —                      | —        | G            | —               |
| Shield   | Screen                 | —        | —            | —               |