

# Model 760 Commutated Thru-Bore / Blind-Bore



# Principle Engineering



## 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

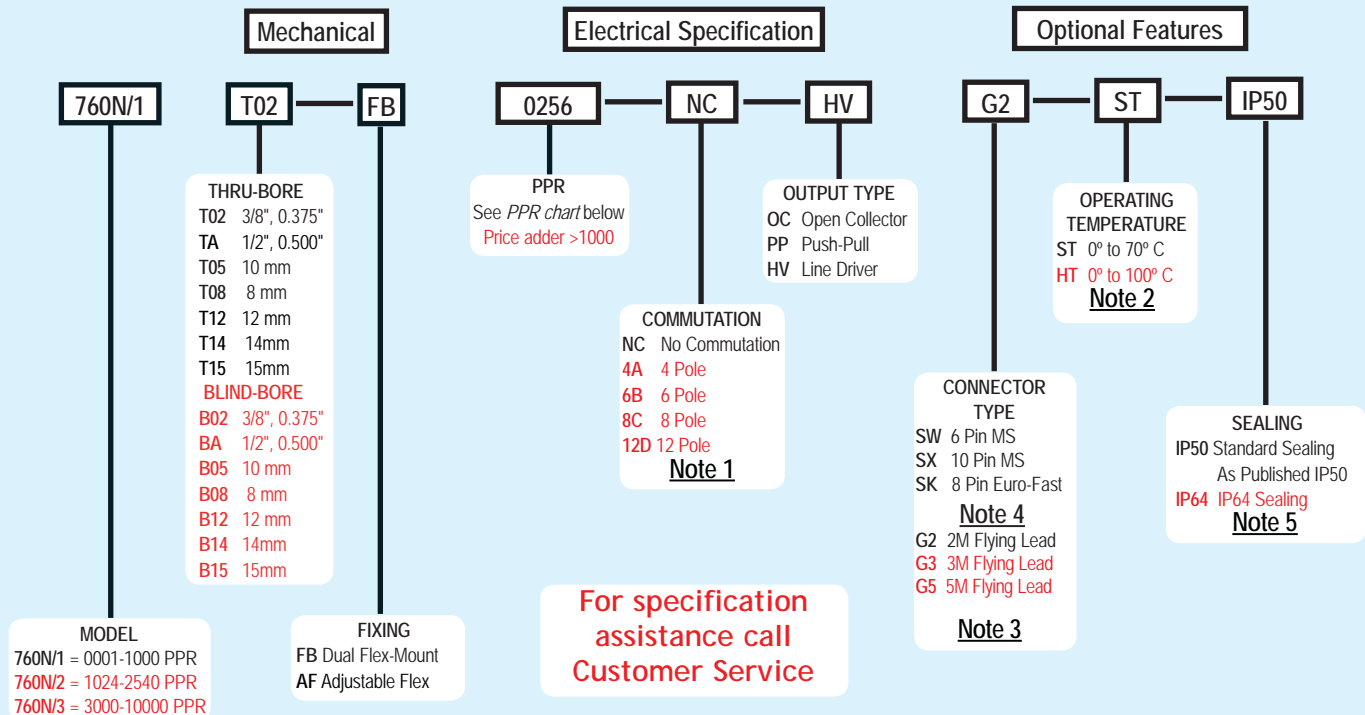
The 760N encoder is configured with either a full thru-bore (which may be fixed at either end of the shaft), or with a blind-bore which uses the front shaft fixing only. The encoder body is retained by means of 2 flexible mountings, or by a single adjustable radius fixing, which compensate for minor 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	5000	6000	8192
10000						

\*Contact Customer service for High Temp option

Contact Customer Service for other disc resolutions; not all disc

## 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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## 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

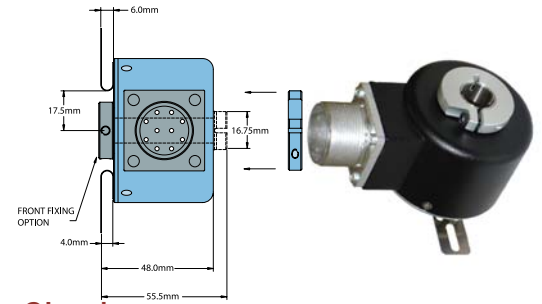
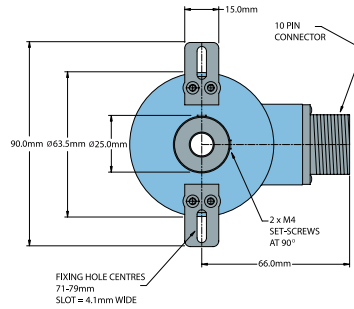
### Mechanical

- 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

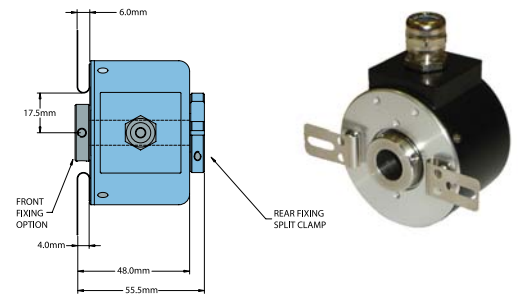
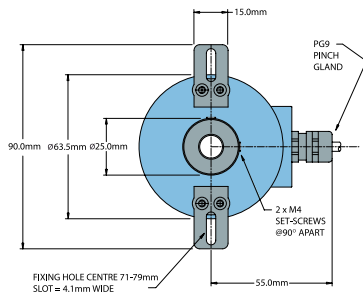
### Environmental

- 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

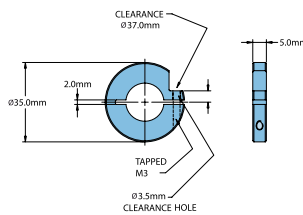
## Model 760 With 10 Pin Connector



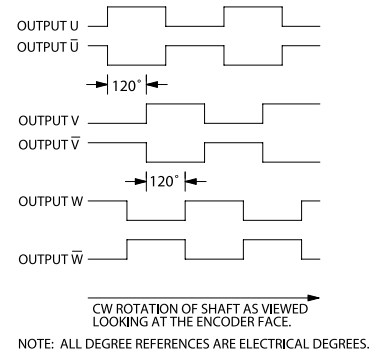
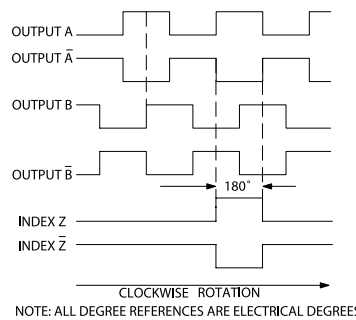
## Model 760 With PG9 Pinch Gland



## 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'	Turquoise
W	Red/Green
W'	Red/Yellow
Shield	Bare *

## Wiring Table - Non-Commutation

Function	Gland Cable Wire Color	8-pin HV M12	10-pin HV MS	6-pin PP, OC MS
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	—	—	—