

# Model 25T Thru-Bore Encoder



**BRITISH  
ENCODER**  
PRODUCTS COMPANY



## Features

- 63.50mm Opto-Asic Encoder with a low profile (50mm)
- Bore Sizes Ranging From 0.50" to 28mm
- Resolutions to 10,000 PPR
- Versatile Flexible Mounting Options
- RoHS Compliant

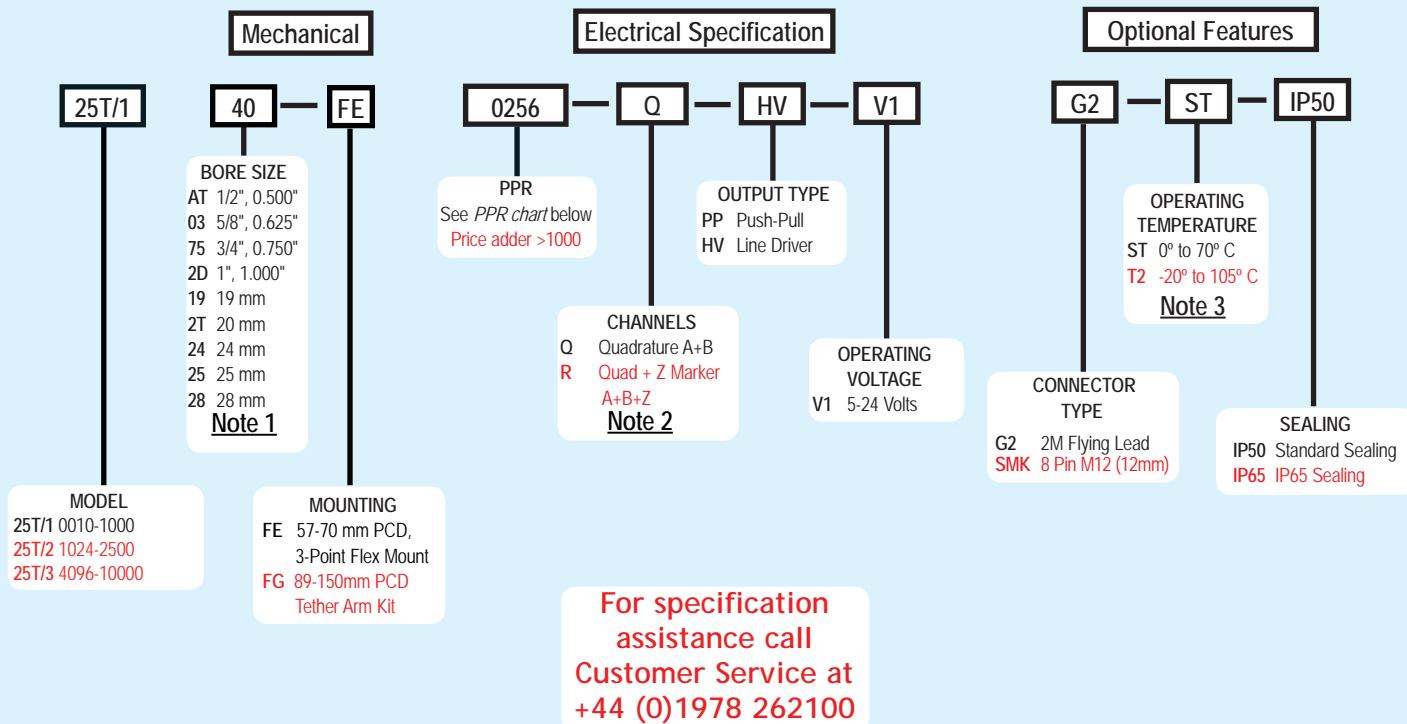
Introducing the next generation of high performance encoders - the Model 25T. As contemporary as its appearance, the Model 25T features the largest thru-bore available in a 63.50mm encoder, mounting directly on shafts as large as 28 mm. With resolutions of up to 10,000 PPR, and frequencies of up to 1MHz this industrial strength encoder is perfect for fast revolving motors. The 25T features the next generation of proprietary Opto-ASIC sensor which provides superior accuracy and precision counts. The injection molded housing, made from a blend of nylon composites, is grooved with "cooling fins" and can take the extreme heat of the motion control industry. With sealing available of up to IP65 and many new rugged flexible mounting options, the Model 25T can perform in demanding industrial environments.

## Common Applications

Motor-Mounted Feedback and Vector Control, Specialty Machines, Robotics  
Web Process Control, Paper and Printing, High Power Motors

## Model 25T Ordering Guide

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



## Model 25T PPR Options

0010	0060	0100	0120	0240	0250	0256
0300	0360	0500	0512	0600	1000	1024
1200	2000	2048	2500	4096	5000	10,000

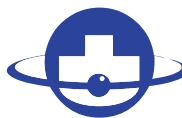
\*Contact Customer Service For Availability

New PPR values are periodically added to those listed. Contact Customer Service to determine all currently available values. Special disc resolutions are available upon request and may be subject to a one-time NRE fee.

## NOTES:

- 1 Contact Customer Service for additional options not shown.
- 2 Contact Customer Service for non-standard index gating.
- 3 With Input Voltage above 16 Vcc, Operating Temperature is limited to 85°C max.

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## Model 25T/H Specifications

### Electrical

Input Voltage	4.75 to 24 VCC max
Input Current	100 mA max (65 mA typical) 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 encoder mounting face. See <i>Waveform Diagrams</i> 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. 361 to 10000 PPR: Gated to output A 1 to 360 PPR: Ungated See <i>Waveform Diagrams</i> 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 EN500811
Symmetry	180° (±18°) electrical
Quad. Phasing	90° (±22.5°) electrical
Min. Edge Sep	45° electrical
Accuracy	Within 0.1° mechanical or 6 arc-minutes from any other cycle

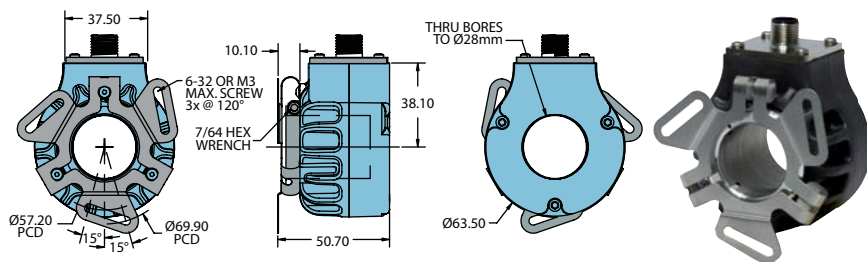
### Mechanical

Max Shaft Speed	6000 RPM (4000 RPM for IP65)
Bore Size	0.50" through 28 mm
Bore Tolerance	H7 (Sliding fit for g6)
User Shaft Tolerances	
Radial Runout	0.10mm max
Axial Endplay	±0.75mm max
Starting Torque	IP50 Thru-Bore: $7.0 \times 10^{-3}$ Nm IP65: $28.0 \times 10^{-3}$ Nm (Note: Add $7.0 \times 10^{-3}$ Nm for 20°C Operation)
Max Acceleration	$1 \times 10^5$ rad/sec <sup>2</sup>
Electrical Conn	2M cable (foil and braid shield, 24 AWG conductors), 8-pin M12 Eurofast
Mounting	57.15mm to 69.85mm PCD 3-Point Flex Mount Tether Arm Kit 88.90mm to 150mm PCD (See mechanical drawings for dimensions)
Weight	400 grams typical

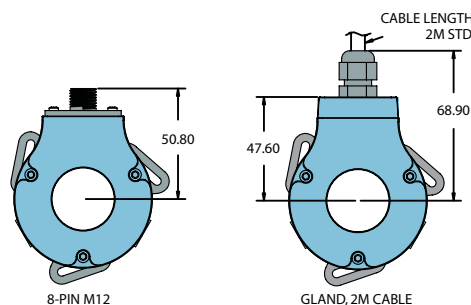
### Environmental

Operating Temp	-20° to +85° C standard models -20° to +105° C for high temperature option
Storage Temp	-25° to +85° C
Humidity	98% RH non-condensing
Vibration	20 g @ 5 to 2000 Hz
Shock	80 g @ 11 ms duration
Sealing	IP50 standard; IP65 with Seals

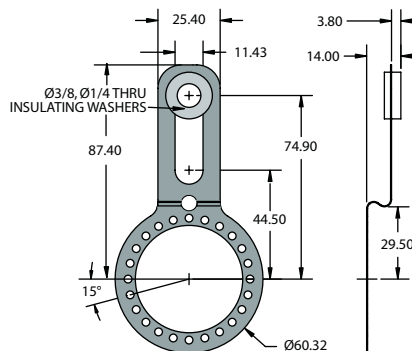
## Model 25T



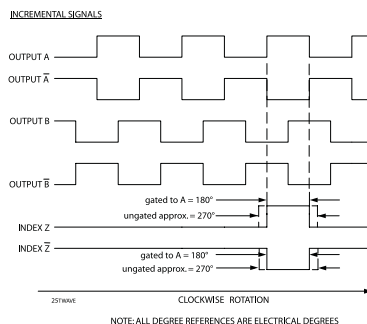
## Model 25T Connector Options



## Model 25T Tether Arm Kit



## Waveform Diagrams



## Wiring Table

Function	Cable Wire Color	8-pin M12**
Com	Black	7
+VDC	White	2
A	Brown	1
A'	Yellow	3
B	Red	4
B'	Green	5
Z	Orange	6
Z'	Blue	8
Shield	Bare *	--