

# Model 25T Thru-Bore Encoder Model 25H Hollow Blind Bore



## Features

- 63.50mm Opto-Asic Encoder with a low profile (50mm)
- Bore Sizes Ranging From 0.250" to 1.125" and 6mm to 28mm
- Resolutions to 10,000 PPR, Frequencies up to 1MHz
- Single Replacement Solution For 50.80mm to 88.90mm Encoders
- Versatile Flexible Mounting Options
- RoHS Compliant



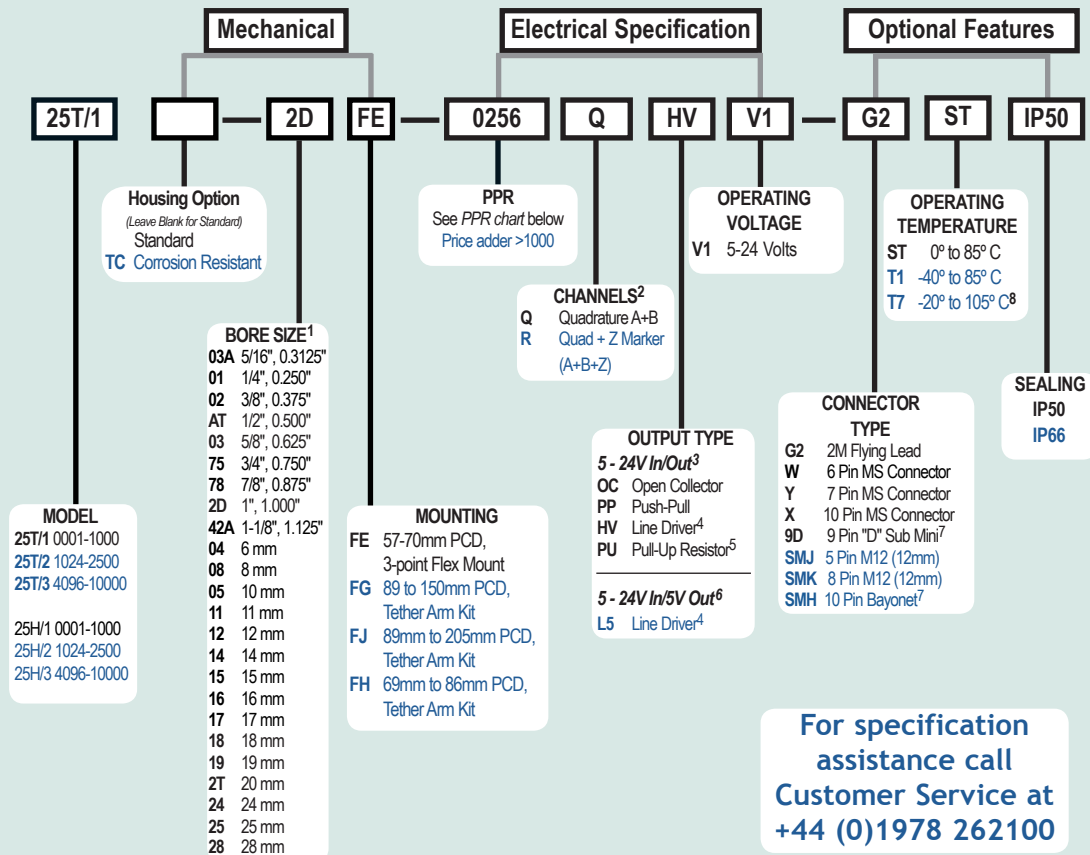
Introducing the next generation of high performance encoders - the Model 25T/H. As contemporary as its appearance, the Model 25T/H features the largest bore available in a 63.50mm encoder, mounting directly on shafts as large as 28 mm. With resolutions of up to 10,000 PPR, and frequencies of up to 1MHz this industrial strength encoder is perfect for fast revving motors. The 25T/H features the next generation of proprietary Opto-ASIC sensor which provides superior accuracy and precision counts. The injection moulded 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 up to IP65 and many new rugged flexible mounting options, the Model 25T/H can perform in demanding industrial environments.

## Common Applications

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

## Model 25T/H Ordering Guide

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



## Model 25T PPR Options

0001	0002	0003	0005	0008	0010	0011
0012	0024	0025	0030	0032	0050	0060
0064	0070	0080	0100	0105	0115	0120
0125	0150	0180	0192	0200	0240	0250
0256	0300	0336	0360	0500	0512	0600
0625	1000	1024	1200	1250	1800	2000
2048	2400	2500	4096	5000	7200	8192
10,000						

Contact Customer Service For other disc resolutions.

## NOTES:

- 1 [More Bore Sizes Available](#) - Contact Customer Service for additional options not shown.
- 2 Contact Customer Service for non-standard index gating.
- 3 24Vcc Max for T2 temperature option.
- 4 Not available with 5-pin M12 or 6-pin MS style connectors. Available with 7-pin MS style connector without index Z.
- 5 With Input Voltage above 16 Vcc, operating temperature is limited to 85° C max.
- 6 Standard operating temperature only.
- 7 Not available with corrosion resistant option.
- 8 Contact Sales for availability on resolutions < 360 PPR.

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## Model 25T/H Specifications

### Electrical

Input Voltage.....	5 to 24 Vcc max
Input Current.....	100 mA max (65mA 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 mounting face. See <i>Waveform Diagram</i> .
Output Types.....	Open Collector- 20 mA max per channel Pull Up - Open Collector with 2.2K ohm resistor, 20 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.....	Once per revolution. 361 to 10,000 PPR: Gated to output A 1 to 360 PPR: Ungated See <i>Waveform Diagram</i> .
Max Frequency.....	250 kHz for 1 to 2500 PPR 500 kHz for 2501 to 5000 PPR 1 MHz for 5001 to 10,000 PPR
CE Testing.....	Emissions tested per EN61000-6-3:2001 as applicable. Immunity tested per EN61000-6-2: 2005 as applicable
Min. Edge Sep.....	45° electrical min, 63° electrical or better typical
Quad Phasing.....	90° (±22.5°) electrical
Symmetry.....	180° (±18°) electrical
Rise Time.....	Less than 1 microsecond
Accuracy.....	Within 0.1° mechanical from one cycle to any other cycle, or 6 arc minutes.

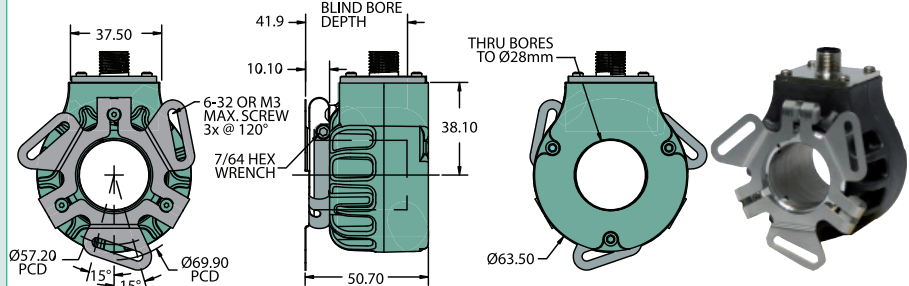
### Mechanical

Max Shaft Speed.....	6000 RPM, 8000 RPM intermittent 4000 RPM for IP66 seal option
Bore Size.....	0.250" through 28mm
Bore Tolerance.....	-0.00mm/+0.02mm
User Shaft Tolerances	
Radial Runout.....	0.127mm max
Axial Endplay.....	±1.27mm max
Starting Torque.....	IP50 sealing: $7.0 \times 10^{-3}$ Nm IP66 sealing: $28.0 \times 10^{-3}$ Nm Note: Add $7.0 \times 10^{-3}$ for -20° C operation
Electrical Conn.....	6-, 7-, or 10-pin MS Style, 5- or 8-pin M12 (12 mm), 10-pin Bayonet or gland with 2 Metres of cable (foil and braid shield, 24 AWG conductors), 9-pin D-Sub
Housing.....	Proprietary nylon composite
Mounting.....	57.1mm to 69.8mm PCD 3-point flex mount 88.9mm to 149.8mm PCD tether arm kit, 88.9mm to 205.7 PCD tether arm kit and 69mm to 86.8mm PCD tether arm kit. See mechanical drawing for dimensions
Weight.....	226 grams typical

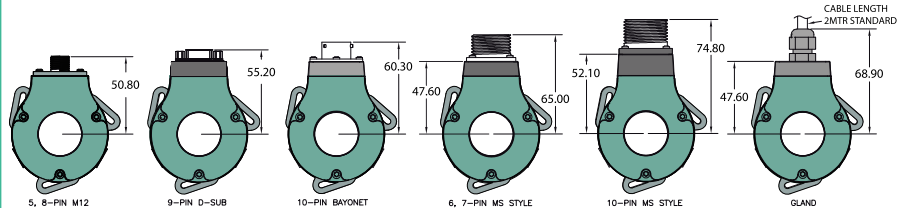
### Environmental

Operating Temp.....	-20° to 85° C for standard models -20° to 105° C for high temperature option
Storage Temp.....	-20° to +85° C
Humidity.....	98% RH non-condensing
Vibration.....	20 g @ 5 to 2000 Hz
Shock.....	80 g @ 11 ms duration
Sealing.....	IP50, IP66 with shaft seals at both ends

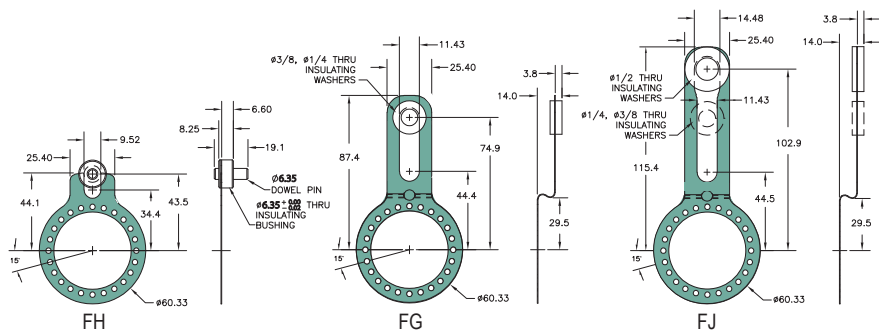
## Model 25T/H



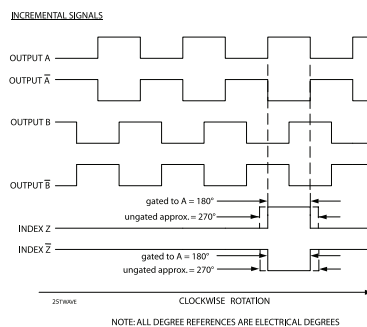
## Model 25T/H Connector Options



## Model 25T/H Mounting Options



## Waveform Diagrams



## Wiring Table

Function	Gland Cable Wire Color	5-pin M12	8-pin M12	10-pin MS	7-pin MS HV, L5	7-pin MS PU, PP, OC	6-pin MS PU, PP, OC	9-pin D-sub	10-pin Bayonet HV, L5, OD PU, PP, OC
0 Volts	Black	3	7	F	F	F	A, F	9	F
+VCC	White	1	2	D	D	D	B	1	D
A	Brown	4	1	A	A	A	D	2	A
A'	Yellow	—	3	H	C	—	—	3	H
B	Red	2	4	B	B	B	E	4	B
B'	Green	—	5	I	E	—	—	5	J
Z	Orange	5	6	C	—	C	C	6	C
Z'	Blue	—	8	J	—	—	—	7	K
Case	—	—	—	G	G	G	—	8	G
Shield	Bare <sup>1</sup>	—	—	—	—	—	—	—	—

<sup>1</sup> Cable shield (bare wire) is connected to internal case

Incremental Thru-Bore  
& Motor Mount Encoders