

MODEL 25T/H – INCREMENTAL ENCODER



Ø2.5"

FEATURES

- 2.5" Opto-ASIC Encoder with a Low Profile (2.0")
- Standard Bore Sizes Ranging from 0.625" to 1.125"
- Metric Bore Sizes Ranging from 6 mm to 28 mm
- Single Replacement Solution For 2.0" to 3.5" Encoders
- Resolutions to 10,000 CPR; Frequencies to 1 MHz
- Versatile Flexible Mounting Options
- RoHS Compliant

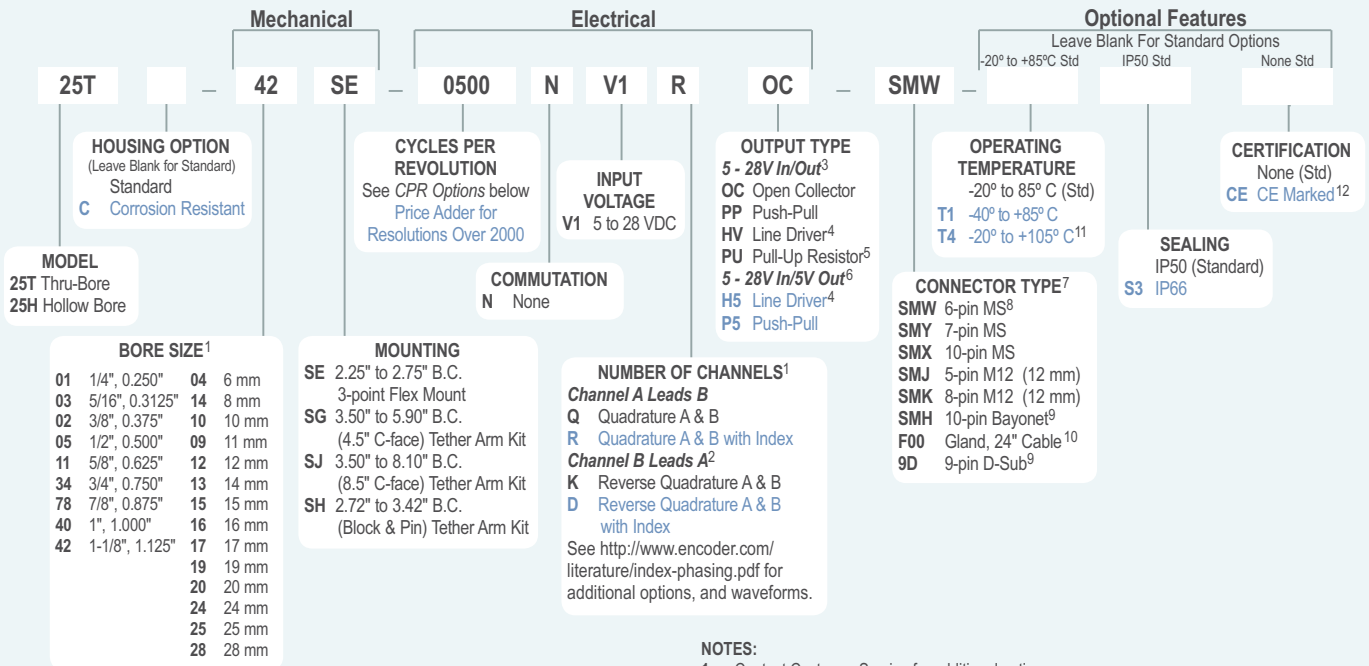
Representing the next generation of high performance encoders, the Model 25T features the largest thru-bore available in a 2.5" encoder, mounting directly on shafts as large as 1.125" or 28 mm. With resolutions of up to 10,000 CPR, and Frequencies of up to 1MHz this industrial strength encoder is perfect for fast revving motors. The 25T features the next generation of EPC's proprietary Opto-ASIC sensor which provides superior accuracy and precision counts. The injection molded housing, made from EPC's custom 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 IP66 and many new rugged flexible mounting options, the Model 25T can perform in demanding industrial environments. This revolutionary new 2.5" encoder truly is unlike any other.

COMMON APPLICATIONS

Motor-Mounted Feedback and Vector Control, Specialty 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/H CPR 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	2500	3600	4096	5000	7200
8192	10,000						

Contact Customer Service for other disk resolutions.

NOTES:

- Contact Customer Service for additional options.
- Reverse Quadrature not available with PU output type.
- 24 VDC max for T4 temperature option.
- Not available with 5-pin M12 or 6-pin MS style connectors. Available with 7-pin MS style connector without index Z.
- With Input Voltage above 16 VDC, operating temperature is limited to 85° C max.
- Standard operating temperature only.
- For mating connectors, cables, and cordsets see Encoder Accessories on page 102 or visit www.encoder.com. For Pin Configuration Diagrams, see page 107 or visit www.encoder.com.
- Not available with CE option.
- Not available with corrosion resistant option.
- For non-standard English cable lengths enter 'F' plus cable length expressed in feet. Example: F06 = 6 feet of cable.
- Contact Customer Service for availability on resolutions < 360 CPR.
- Please refer to **Technical Bulletin TB100: When to Choose the CE Option** at www.encoder.com. Contact Customer Service for availability.

MODEL 25T/H SPECIFICATIONS

Electrical

Input Voltage.....	4.75 to 28 VDC max for temperatures up to 85° C 4.75 to 24 VDC max for temperatures between 85° and 105° C
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 <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 VDC supply)
Index.....	Once per revolution. 1 to 360 CPR: Ungated 361 to 10,000 CPR: Gated to output A See <i>Waveform Diagram</i> .
Max Frequency	250 kHz for 1 to 2500 CPR 500 kHz for 2501 to 5000 CPR 1 MHz for 5001 to 10,000 CPR
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
Rise Time.....	Less than 1 microsecond
Accuracy.....	Within 0.1° mechanical from one cycle to any other cycle, or 6 arc minutes.

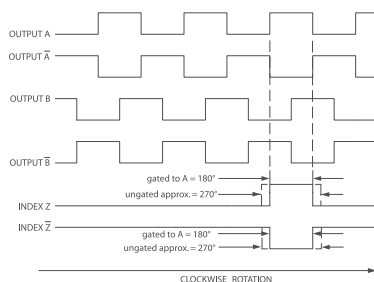
Mechanical

Max Shaft Speed	6000 RPM, 8000 RPM intermittent 4000 RPM for IP66 seal option
Bore Tolerance	-0.0000"/+0.0008"
User Shaft Tolerances	
Radial Runout	0.005" max
Axial Endplay.....	±0.050" max
Starting Torque	IP50 sealing: 1.0 oz-in typical IP66 sealing: 4.0 oz-in typical Note: Add 1.0 oz-in typical for -20° C operation
Moment of Inertia ...	7.6 x 10 ⁻⁴ oz-in-sec ²
Max Acceleration	1x10 ⁵ rad/sec ²
Housing	Proprietary nylon composite
Weight.....	8 oz typical

Environmental

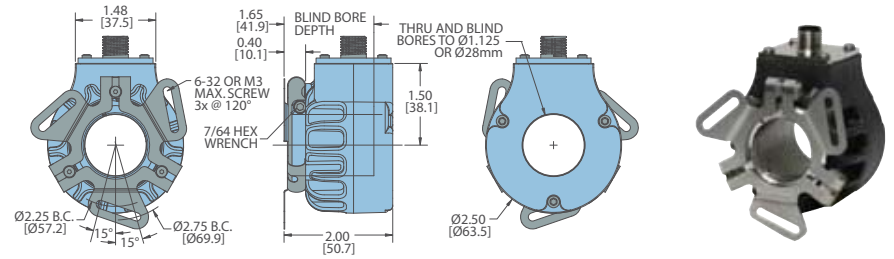
Storage Temp.....	-20° to +85° C
Humidity.....	98% RH non-condensing
Vibration.....	20 g @ 5 to 2000 Hz
Shock.....	80 g @ 11 ms duration
Sealing.....	IP50, IP66 with shaft seals at both ends

WAVEFORM DIAGRAM

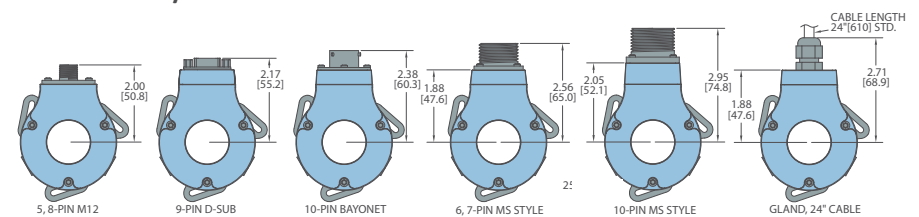


NOTE: ALL DEGREE REFERENCES ARE ELECTRICAL DEGREES. WAVEFORM SHOWN WITH OPTIONAL COMPLEMENTARY SIGNALS \bar{A} , \bar{B} , \bar{Z} FOR HV OUTPUT ONLY.

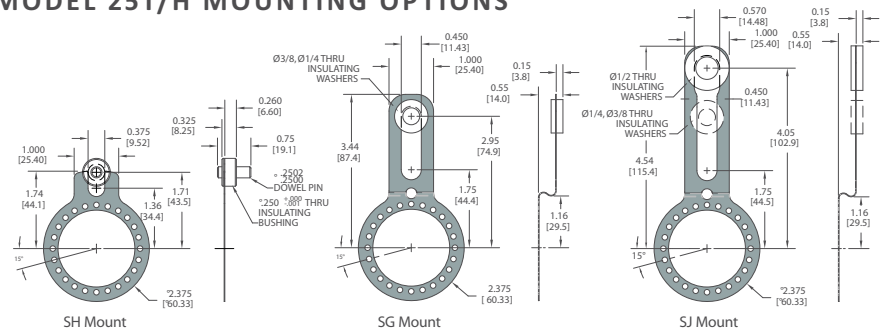
MODEL 25T/H



MODEL 25T/H CONNECTOR OPTIONS



MODEL 25T/H MOUNTING OPTIONS



All dimensions are in inches with a tolerance of ±0.005" or ±0.01" unless otherwise specified.

WIRING TABLE

Function	Gland Cable [†] Wire Color	5-pin M12**	8-pin M12**	10-pin MS	7-pin MS HV, HS	7-pin MS PU, PP, OC, PS	6-pin MS PU, PP, OC, PS	9-pin D-sub	10-pin Bayonet HV, HS, OD, PU, PP, OC, PS
Com	Black	3	7	F	F	F	A, F	9	F
+VDC	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	--	--	--	J	K
Case	--	--	--	G	G	G	--	8	G
Shield	Bare*	--	--	--	--	--	--	--	--

*CE Option: Cable shield (bare wire) is connected to internal case.

**CE Option: Read Technical Bulletin TB111. Available at encoder.com

†Standard cable is 24 AWG conductors with foil and braid shield.