

# ENC-THS25N- High Resolution Hollow Differential Encoder Without Index



FEATURES

- Tracks 0 to 200,000 Cycles per Second
- Operating Temperature of -40° to + 125° C
- 100 to 2,560 Cycles per Revolution
- Up to 10,000 Pulses per Revolution (PPR)
- 2-Channel Quadrature (Differential Squarewave Outputs)
- NEMA 23 to 42 Compatible
- RoHS Compliant



DESCRIPTION

The THS25 high resolution, Magnetic Hollow-Shaft Incremental Encoder offers reliable performance at an economical price. Available in a large range of resolutions, the THS25 offers superior performance over an optical encoder when placed in high shock and vibration environments. This hollow shaft encoder can handle shaft sizes that range from 2.0" to 3.4", and .25" to 1.125" when using an insulating sleeve. The patented EMI circuitry provides protection from high-frequency electrical noise and background magnetic fields. This low-profile design is perfect for feedback and vector control, robotics, web processing and printing. The THS25 comes enclosed in a rugged IP50 package for protection from debris, with the option of upgrading to an IP66 housing option.

CUSTOM ORDER LAYOUT

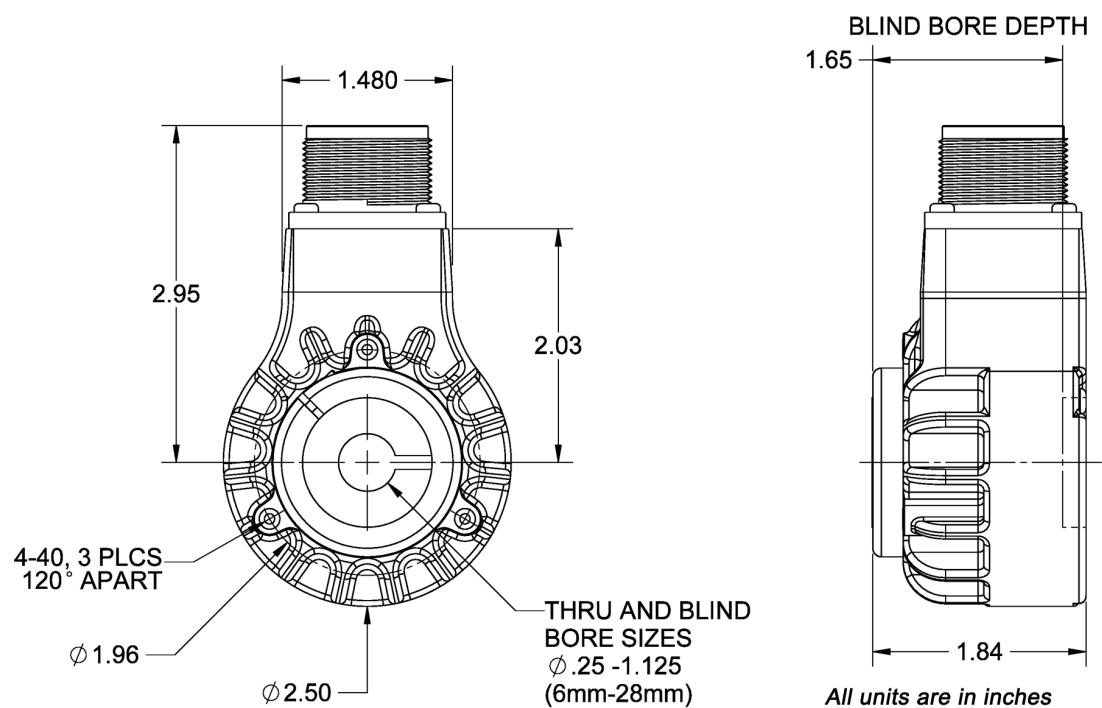
## ENC-THS25N -100 -3 -250 -50 - OC - G

Model		Resolution (Lines)		Mounting		Bore				Electrical		Connections								
I	Index			Type	Block	Type	Diameter	Type	Diameter	OC	Open Collector	G	Gland w/24 in. Cable							
N	No Index	100	600	3	3 Point Flex Mount	250	0.250 in	10mm	10mm	LD	Line Driver	6M	6 Pin MS Style							
		125	640			312	0.3125 in	11mm	11mm			7M	7 pin MS Style							
		128	800			4	4.5 in. C-face Tether Arm	375	0.375 in	12mm	12mm	Seal	50	Through Shaft IP50	1M	10 Pin MS Style				
		160	960	500	0.500 in			14mm	14mm	66	Through Shaft IP66				5M	5 Pin M12				
		200	1000	625	0.625 in			15mm	15mm						B50	Blind Shaft IP50	8M	8 Pin M12		
		240	1024	750	0.75 in			19mm	19mm								B66	Blind Shaft IP66	1B	10 Pin Bayonet
		250	1200	875	0.875 in			20mm	20mm											
		256	1280	8	8.5 in. C-face Tether Arm	1000	1.00 in	24mm	24mm											
		300	1600			1125	1.125 in	25mm	25 mm											
		320	1920			6mm	6 mm	28mm	28mm											
		400	2000	BP	Block & Pin	8mm	8 mm													
		480	2048																	
		500	2400																	
				512	2560															

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Seal Options:	Description
50-Option	Through Shaft IP50
66-Option	Through Shaft IP66
B50-Option	Blind Shaft IP50
B66-Option	Blind Shaft IP66

Connection Options:	Description
G	Gland w/24 in. Cable
6M	6 Pin MS Style
7M	7 Pin MS Style
1M	10 Pin MS Style
5M	5 Pin M12
8M	8 Pin M12
1B	10 Pin Bayonet

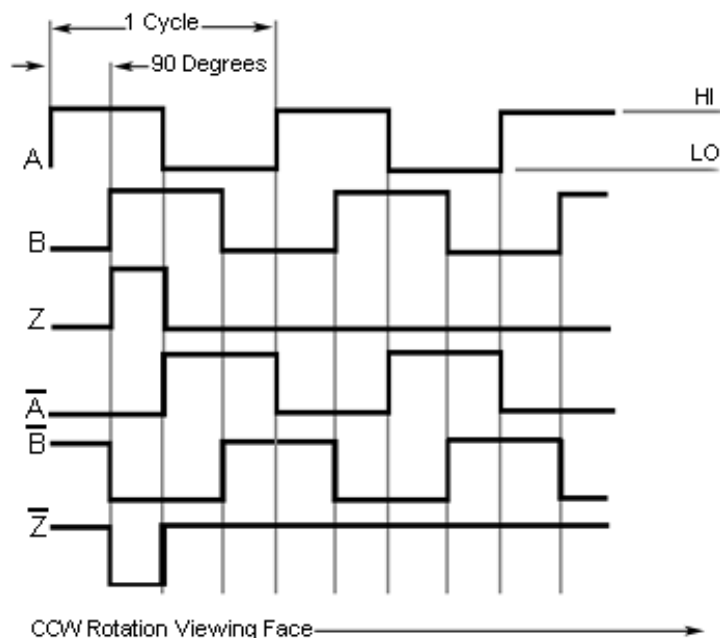


**WIRING TABLE**

Function	Gland Cable Wire Color	5-pin M12	8-pin M12	10-pin MS	7-pin MS LD	7-pin MS OC	6-pin MS	10-pin Bayonet
Com	Black	3	7	F	F	F	A,F	F
+VDC	White	1	2	D	D	D	B	D
A	Brown	4	1	A	A	A	D	A
A'	Yellow	---	3	H	C	---	---	H
B	Red	2	4	B	B	B	E	B
B'	Green	---	5	I	E	---	---	J
Z	Orange	5	6	C	---	C	C	C
Z'	Blue	---	8	J	---	---	---	K
Case	---	---	---	G	G	G	---	G
Shield	Bare	--	---	---	---	---	---	---

Model #	Description
CPR(N):	The Number of Cycles Per Revolution
One Shaft Rotation:	360 mechanical degrees, N cycles
One Electrical Degree (°e):	1/360th of one cycle
One Cycle (C):	360 electrical degrees (°e). Each cycle can be decoded into 1 or 4 codes, referred to as X1 or X4 resolution multiplication
Symmetry:	A measure of the relationship between (X) and (Y) in electrical degrees, nominally 180 °e
Quadrature (Z):	The phase lag or lead between channels A and B in electrical degrees, nominally 90°e
Index (CH I):	The index output goes high once per revolution, coincident with the low states of channels A and B, nominally 1/4 of one cycle (90°e)

Parameter	Max	Units
Vibration ( 5 to 2kHz)	30	gs
Shock	100gs for 6ms	gs for ms
Allowable Misalignment on mating shaft	0.005	in.
Allowable Misalignment from shaft end	0.75	in.

**Encoder Output**


Parameter	Max	Units
Supply Current	65	mA
Output Load	15	mA
Total Max Current	80	mA

Recommended Operating Conditions	Min	Max	Units
Operating Temperature	-20	105	°C
Supply Volatage	5	28	Volts
Count Frequency	-	200	kHz