

SLIM Tach[®] SL1250

Bearingless Heavy Duty Incremental Encoder

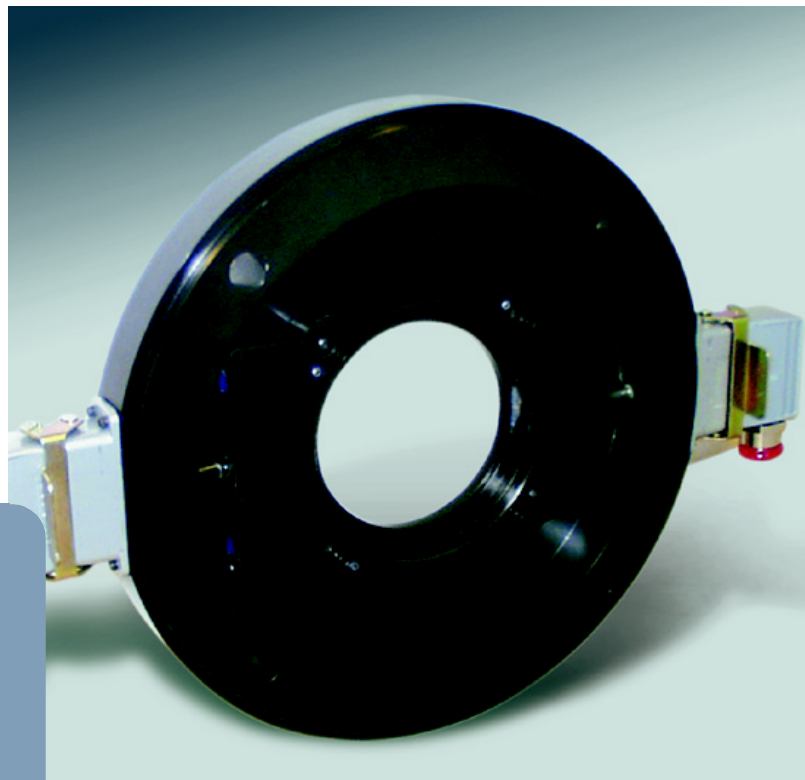
NorthStar's SLIM Tach 1250 is an economical, bearingless, heavy duty encoder designed for 12.5 inch C face motors. With resolutions up to 2048 PPR and NorthStar's innovative magneto-resistive technology, this dependable product combines high accuracy with reliable service. Made of anodized aluminum and with a net thickness of only 1.4 inches, the SL1250 comes with one or two electrically independent and totally isolated output modules and a high temperature version for operation needs up to 120° C.

Benefits

The SLIM Tach 1250 assembly is imprinted with magnetic poles, providing higher pulse counts than traditional encoders. Its totally encapsulated electronics make it immune to machine vibration and contaminants. It is resistant to dirt, grease, water, oil, fibers, and dust, making it reliable in hot, wet environments. A high power line driver comes standard. Clean, crisp signals are ensured over long cable lengths, decreasing the need for signal repeaters and saving on total installation costs.

Application

The SLIM Tach 1250's pulse wheels are available in thru-shaft sizes from 0.625 inch to 3.75 inches. The pulse wheels are keyless and very easy to align. The SL1250's thin profile leaves plenty of room on the motor shaft for a brake or pulley and it mounts without bearings, adapter plates, or couplings, eliminating a common source of mechanical problems.



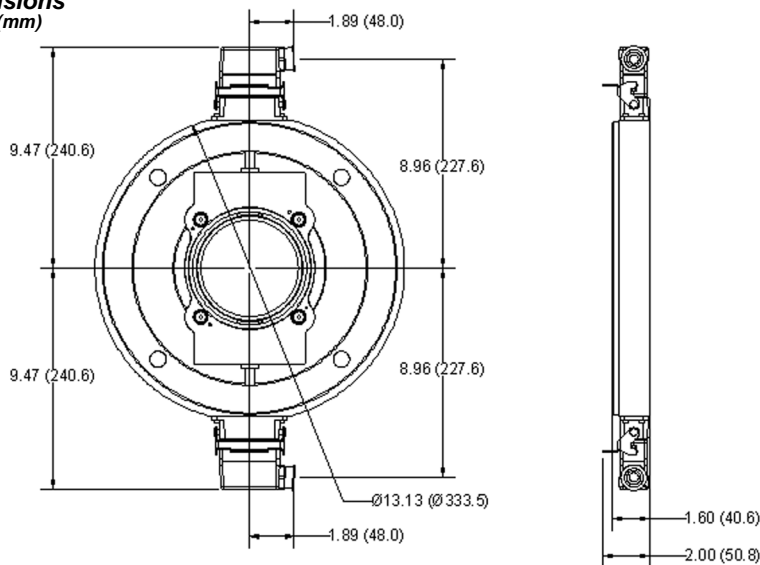
Features:

- Mounts to NEMA 12.5 inch C face motor*
- Thin, compact, and occupies only 1.4 inches of motor shaft*
- Rugged, reliable, magneto-resistive technology*
- Easy installation with no brackets or couplings*
- Hard, anodized aluminum construction*



For more information on this product, visit www.northstarencoders.com and enter: SL1250

Dimensions inches(mm)



SLIM Tach SL1250 Specifications

Electrical	
Pulses Per Revolution (Resolution)	64, 128, 256, 512, 512Z, 1024, 1024Z, 2048, 2048Z
Frequency Response	0 - 120 kHz
Output Format	A, B phase @ quadrature, Z (index) phase once per rev (gated), and complements (\bar{A} , \bar{B} , \bar{Z})
Pulse Duty Cycle	50 ± 15% (within defined mechanical specifications)
Quadrature Accuracy	90° ± 22° (within defined mechanical specifications)
Output Type	High speed, differential line driver
Rise and Fall Time	Less the 500 ns @ 10,000 pf typical load with 5-15 VDC line driver OR Less than 1 µs @ 10, 000 pf typical load with 5-24 VDC line driver
Supply Voltage	5-24 VDC
Current Consumption	40 mA typical plus line driver load with 5-15 VDC line driver OR 65 mA typical plus line driver load with 5-24 VDC line driver
Current Output	150 mA with 5-15 VDC line driver OR 250 mA with 5-24 VDC line driver
Output Voltage Levels	Differential output: (Supply Voltage less 0.6V) during on cycle, ground during off cycle
Connector	18" Pigtail, Latching industrial connector, Industrial connector on 18" cable
Suggested Cable	22-16 AWG, 10 conductor, shielded, twisted pair
Output Circuit Type	5-15 VDC Line Driver (standard) OR 5-24 VDC Line Driver (optional)
ESD Protection	2 kV
Electrical Protection	Reverse polarity and short circuit protected
Mechanical	
Maximum Operational Speed	6,000 RPM
Available Shaft Sizes	0.625" to 3.750" thru-shaft and end of shaft style available. See ordering table for sizes.
Shaft Axial End Play	Up to ± 0.045" (1.14 mm)
Acceleration Rate	12,000 RPM/sec
Shaft Radial Runout	0.002" (0.05 mm) Total indicated runout
C Face Runout (Mounting Flange)	0.004" (0.1 mm) Total indicated runout
Air Gap	0.019" (0.48 mm) ± 0.008" (0.2 mm)
Mechanical Options	No cover (standard), Flat thru-hole cover, Flat cover without hole
Number of Encoder Outputs	Single (standard), Dual (optional)
Nominal Encoder Diameter	18" (457.2 mm)
Enclosure Material	Anodized Aluminum
Enclosure Configuration	12.5" diameter motor face to meet NEMA MG1-4 standards (excluding C face runout)
Unit Weight/Unit Dimensions	11 lbs. (5 kg) / 13.13" (333.5 mm) x 18.94" (481 mm) x 2.0" (51 mm)
Boxed Unit Weight/Boxed Unit Dimensions	17 lbs. (7.7 kg) / 12" (305 mm) x 17" (432 mm) x 17" (432 mm)
Environmental	
Operating Temperature Ranges	- 40° C to 90° C OR -40° C to 120° C
Storage Temperature	- 40° C to 120° C OR -40° C to 120° C
Operational Humidity	98% condensing
Vibration	5 to 2000 Hz at 18 Gs
Shock	1 meter drop tested, minimum 30Gs
Environmental Rating	IP65, NEMA 4 & 12 (sensor, electronics, connector)
Chemical Resistance	Salt spray, most solvents, mild acids and bases
*Specifications subject to change without notice	

SL1250 Ordering Information

Call 877.311.4190 for Assistance

A Encoder Types	Single Sensor Output SL1250	S125
	Dual Sensor Output SL1250	D125
B Pulses Per Revolution	64, 128, 256, 512, 512Z, 1024, 1024Z, 2048, 2048Z	
C Shaft Sizes	0.625" thru-shaft	J04
	0.875" thru-shaft	J05
	1.000" thru-shaft	J06
	1.125" thru-shaft	J07
	1.250" thru-shaft	J08
	1.375" thru-shaft	K09
	1.500" thru-shaft	K10
	1.625" thru-shaft	K11
	1.750" thru-shaft	K12
	1.875" thru-shaft	K13
	2.000" thru-shaft	K14
	2.125" thru-shaft	K15
	2.250" thru-shaft	K16
	2.375" thru-shaft	K17
	2.500" thru-shaft	K18
	2.875" thru-shaft	K19
	End-of-shaft and custom bore shaft sizes 0.500" to 3.750" available. Contact NorthStar for ordering number.	
D Connectors	18" pigtail cable	P
	Latching industrial connector	C
	Industrial connector on 18" cable	Q
E Temperature Ranges	-40° C to 90° C Operation	L
	-40° C to 120° C Operation	H
F Options	5-24 VDC Line Driver	V
	Flat thru-hole cover	F
	Flat cover without hole	T

Example					
A	B	C	D	E	F
S125	1024Z	J18	P	L	VF



What is Straight Shot? Straight Shot directs you to the web portal where you can quickly access the product information you need. Straight Shot codes, such as RIM6200, exist for each product or class of product. Go to our web site (www.northstarencoders.com) and type the appropriate product code in the clearly defined box and hit "GO".

