

RIM Tach 1250

Mill Duty Digital Tachometer



northstar

Features:

- Accepts shaft diameters up to 8" through the tachometer making it ideal for crane & hoist applications.
- Mounts directly on motor frame, non-contact design with flexible couplings or bearings.
- Rugged cast iron pancake construction has a double C face which can be sandwiched between the motor and a brake.
- Rugged zero speed, magneto-resistive sensors are unaffected by grease, salt water, dirt or other common contaminants.
- Modular design offers replaceable sensor/electronic modular for fast, easy field service.
- Resolutions up to 2048 pulses per revolution with optional Index pulse.



NorthStar's RIM Tach® 1250 digital tachometer provides position and velocity feedback from both AC & DC electric motors. The Model 1250 is designed for 12.5 inch diameter type C face motor frames and accessory mounts. This tachometer provides precise, reliable speed signals for many monitoring and control applications and is a standard feedback device for AC & DC variable speed drives. The RIM Tach® 1250 is the process industry's answer to a large thru-shaft option for precise speed control.

Rugged Enclosure

The RIM Tach® 1250 enclosure is constructed of ductile cast iron. This ensures maximum strength and endurance for possible exposure to acid wash down in pulp and paper applications. The enclosure accommodates both end-of-shaft and thru-shaft mountings and is universally machined to accommodate all sensor modules, regardless of the desired pulse count.

Reliable Magneto-resistive Technology

The RIM Tach® 1250 sensor module which has been engineered to provide a non-contact sensor and electronics in one interchangeable hermetically sealed package. Each patented magneto-resistive sensor module has encapsulated surface mount electronics. The protected electronics provide resistance to water, oil, dirt, high temperatures, shock and vibrations and overall harsh environments. The Model 1250 can accommodate up to 2048 pulses per revolution and is bidirectional providing square wave outputs.

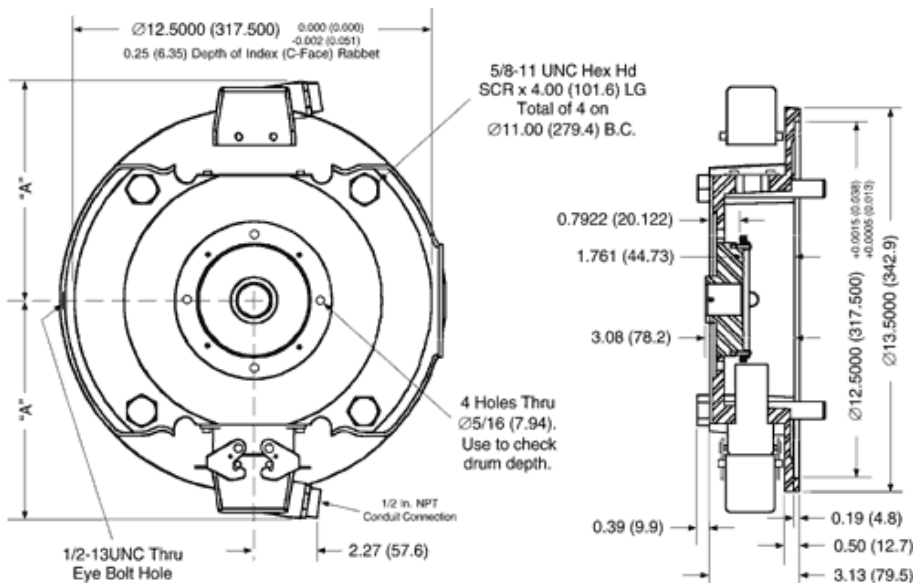
Easy Installation

The non-contact magneto-resistive sensor and rugged magnetized drum are designed and machined to function properly without any adjustments when assembled to NEMA C face (12.5 inch diameter) motor frames and accessory mounts. There are no bearings to fail or requirements for flexible couplings because the magnetized drum assembly is attached directly to the shaft. The mill duty latching connectors are standard. These sealed connectors are a snap to wire by simply inserting the stripped conductor in the plug and tightening the screw terminals. There is no need to field solder or to struggle with a crimp pin. The pulse count output is very simple to change, just remove four screws and slide the desired pulse count sensor module in place.

Electrical Specifications	
Resolution	60, 64, 75, 120, 128, 150, 240, 256, 300, 480, 480Z, 512, 512Z, 600, 600Z, 960, 960Z, 1024, 1024Z, 1200, 1200Z, 2048, 2048Z
Frequency Response	0 - 120 kHz
Pulse Code	Incremental, marker, quadrature, complements
Output Phases	A Phase, B phase: 90° phase gap; Z phase: Once per rev (480 PPR and greater only)
Pulse Duty Cycle	50% ± 15% (within the defined mechanical specs)
Quadrature Accuracy	90° ± 22° (within the defined mechanical specs)
Output Type	High speed, differential line driver
Rise and Fall Time	Less than 1 μs at 10,000 pf typical
Current Consumption	45 mA typical plus line driver load
Output Current Capability	150mA maximum continuous
ESD Protection	2kV
Mechanical Specifications	
Maximum Operational Speed	7,000 RPM
Available Axial End Play	0.016" ±0.008"
Enclosure Configuration	Standard NEMA 12.5 inch C face or accessory flange to meet NEMA MG1-4 standards
Enclosure Material	Ductile iron casting
Environmental Specifications	
Operating Temperature	-40° to +80°C
Operating Humidity	MIL-STD-810E
Vibration	Minimum 18 g's RMS, 5 - 2000 Hz
Chemical Resistance	Salt spray, most solvents, mild acids and bases
Shock (SensorModule)	1 meter drop tested, min 30 g's shock spectrun
Interface Specifications	
Power	+5.0 to +15.0 VDC
Output	Differential output swinging between Vcc-0.6 and Gnd
Connector	10 pin industrial latching connector w/ 1/2" NPT fitting
Cable	22 - 14 AWG, 6 conductor (8 conductor for index modules)

* Specifications subject to change without notice.

Dimensional Drawing



PPR	Channels	"A" Single	"A" Dual
60, 120, 240, 480, 960-Z		7.33 (186.2)	7.33 (186.2)
64, 128, 256, 512, 1024-Z		7.48 (190.0)	7.48 (190.0)
75, 150, 300, 600, 1200-Z		7.89 (200.5)	7.89 (200.5)

When ordering the RIM Tach® 1250 digital tachometer, it is necessary to specify the options of pulse count, shaft size, number of sensor modules, and output circuit type. Use the table below to construct the model number.

Ordering Information

A Encoder Type	Ordering Code	RIM125
B Pulse Count	60, 64, 75, 120, 128, 150, 240, 256, 300, 480, 480Z, 512, 512Z, 600, 600Z, 960, 960Z, 1024, 1024Z, 1200, 1200Z, 2048, 2048Z	
C Shaft Size	1.125" Thru-shaft set screw style	T01
	1.375" Thru-shaft set screw style	T02
	1.625" Thru-shaft set screw style	T03
	1.875" Thru-shaft set screw style	T04
	2.000" Thru-shaft set screw style	T05
	2.125" Thru-shaft set screw style	T06
	2.250" Thru-shaft set screw style	T07
	2.375" Thru-shaft set screw style	T08
	2.500" Thru-shaft set screw style	T09
	2.875" Thru-shaft set screw style	T10
	Shaft sizes 4.5 in to 8 in available in 2048, 1024, 512, and 256 only.	TXX
D Number of Sensor Modules	Single module	1
	Second isolated module	2
E Output Circuit Type	Line drive	LD
	Open collector	OC

Example:

RIM125	1024	TO4	2	LD
A	B	C	D	E

Also From NorthStar:



Ideal use with NorthStar's **HS56™** Dual Output Unit, the **Intellitach™** continuously monitors and controls encoder feedback to eliminate downtime from loss of encoder signals. Powered from 115 or 230VAC with dual isolated, short circuit protected encoder power supplies. LED indicator, high power line driver outputs, cabinet mount.