RIM Tach 1250

Mill Duty Digital Tachometer



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, magnetoresistive 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.



orthStar'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 Magnetoresistive 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 magnetoresistive 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 magnetoresistive 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.

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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	$50\% \pm 15\%$ (within the defined mechanical specs)		
Quadrature Accuracy	$90^{\circ} \pm 22^{\circ}$ (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



1 UNC Hex Hd 4.00 (101.6) LG otal of 4 on 00 (279.4) B.C.	
0.7922 (20.122) 1.761 (44.73)	0 - 0005 (0013) - 0005 (0013) - 40.005 (0013)
3.08 (78.2)	2.5000 (317.500
Thru .94). neck pth.	
0.39 (9.9) -	- 0.19 (4.8) - 0.50 (12.7) - 3.13 (79.5)

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
В	Pulse Count	
	60, 64, 75, 120, 128, 150, 240, 256, 480Z, 512, 512Z, 600, 600Z, 960, 96 1024Z, 1200, 1200Z, 2048, 2048Z	300, 480, 60Z, 1024,
C	Shaft Size	
	1.125" Thru-shaft set screw style 1.375" Thru-shaft set screw style 1.625" Thru-shaft set screw style 1.875" Thru-shaft set screw style 2.000" Thru-shaft set screw style 2.125" Thru-shaft set screw style 2.250" Thru-shaft set screw style 2.375" Thru-shaft set screw style 2.500" Thru-shaft set screw style 2.500" Thru-shaft set screw style 2.500" Thru-shaft set screw style 2.875" Thru-shaft set screw style 3.875"	T01 T02 T03 T04 T05 T06 T07 T08 T09 T10 TXX
D	Number of Sensor Modules	
	Single module Second isolated module	1 2
Ε	Output Circuit Type	
	Line drive Open collector	LD OC
Ex RI	ample: M125 1024 TO4 2	LD

Also From NorthStar:

В

С



A

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,

D

Ε

high power line driver outputs, cabinet mount.

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)