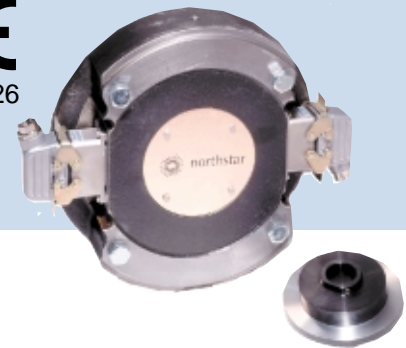


# RIM Tach 1250

- *Accepts shaft diameters up to 8" - ideal for crane & hoist applications*
- *Non-contact design mounts directly on motor frame*
- *Double C face can be sandwiched between motor and brake*
- *Zero speed sensors are unaffected by grease, salt water, dirt or other common contaminants.*



**APPLICATION/INDUSTRY**  
 NorthStar's RIM Tach® 1250 digital tachometer provides position and velocity feedback from both AC & DC electric motors, providing precise, reliable speed signals for many monitoring and control applications

**DESCRIPTION**  
 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.

Constructed of ductile cast iron, it 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.

The RIM Tach® 1250 sensor module is engineered to provide a non-contact sensor and electronics in one interchangeable hermetically sealed package. Encapsulated surface mount 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. The sensor module is very simple to change, just remove four screws and slide the new module in place.

There are no bearings to fail or requirements for flexible couplings because its magnetized drum assembly is attached directly to the shaft. The mill duty latching connectors are easy to wire with no need to field solder or to struggle with a crimp pin.

- FEATURES AND BENEFITS**
- Rugged Mill Duty Construction
  - Reliable Magnetoresistive Technology
  - Easy Installation
  - Modular design for fast, easy field service.
  - Resolutions to 2048 PPR - optional Index

## SPECIFICATIONS

### STANDARD OPERATING CHARACTERISTICS

**Code:** Incremental  
**Pulses per Revolution:** 60-2048  
**Phasing Sense:** A leads B for Counter-Clockwise rotation (CCW) viewing encoder-mounted end  
**Quadrature Phasing:** 90° ± 22°  
**Symmetry:** 180° ± 54°  
**Index:** 270° gated to falling B edge

### ELECTRICAL

**Input Power Requirements:** 5-15 Volts DC, 45 mA typical per sensor module plus line driver load  
**Output Signals:** Line Driver, 150mA source/sink  
**Frequency Response:** 0 - 120kHz Data & Index  
**Electrical Immunity:** 2kV ESD, Reverse Polarity, Short Circuit  
**Connector:** 10 pin industrial duty latching, sealed NEMA 4 & 12, IP65

### MECHANICAL

**Shaft Speed:** 7,000 RPM (J or K wheels); 3600 RPM (TL wheels)  
**Mounting Configuration:** 12.5" face mount for NEMA MG1 standards  
**Housing Material:** Cast Iron/Stainless Steel  
**Acceleration Rate:** 3600 rpm/sec max  
**Shaft Length Required:** 3.0" min  
**Allowable Shaft End-Play:** ± 0.050"  
**Allowable Shaft Runout:** 0.003" TIR

### ENVIRONMENTAL

**Operating Temperature Range:** -40°C to +80°C  
**Storage Temperature Range:** -40°C to +120°C  
**Humidity:** to 98% RH (non-condensing)  
**Shock (Sensor Module):** 1 meter drop test, 30 G's Min  
**Vibration:** 18 G's @ 5-2000 Hz spectrum

### ELECTRICAL CONNECTIONS

Signal	Connector Pin	Pigtail Cable	MS 3102E18-IT#
Common	1	Black	A
B	2	Green	E
A	3	Blue	D
Z *	4	Violet	C
No Connection	5	—	—
Vcc	6	Red	B
B̄	7	Yellow	H
Ā	8	Gray	G
Z̄ *	9	Orange	I
Shield	10	Braid	J

\* Index (Z) optional. See Ordering Information

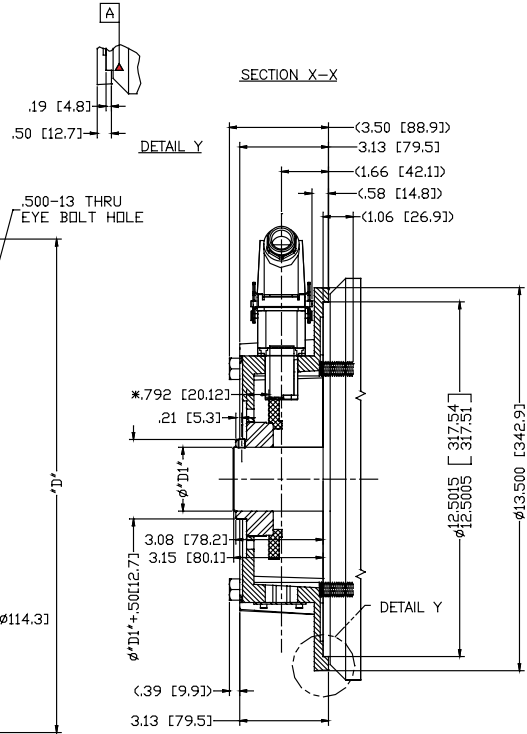
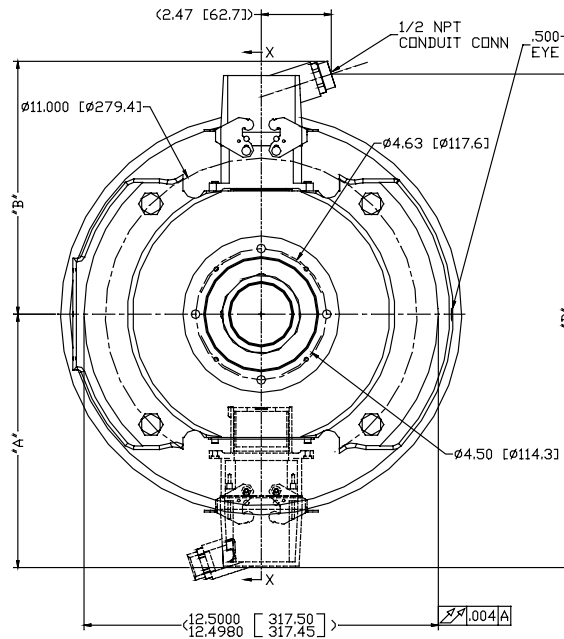
Specifications are for base models with standard features only unless otherwise noted. Specifications subject to change without notice in accordance with our DBS policy of continuous improvement. All product and brand names are trademarks of their respective owners. All rights reserved.

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**DIMENSIONS**

APPROXIMATE DIMENSIONS (REF): inch [mm]  
SHAFT SIZES: D1" ±0.025" THRU #3.250"

PPR's	CHANNELS:		
	SINGLE	DUAL	
	B	A	D
60; 120; 240; 480-Z; 960-Z	7.72 [196.1]	7.33 [186.2]	14.66 [372.4]
64; 128; 256; 512-Z; 1024-Z	7.87 [199.9]	7.48 [190.0]	14.96 [380.0]
75; 150; 300; 600-Z; 1200-Z	8.28 [210.3]	7.89 [200.5]	16.55 [420.4]



**ORDERING INFORMATION**

Code 1: Model	Code 2: PPR	Code 3: Index	Code 4: Wheel Bore	Code 5: Output	Code 6: Electrical	Code 7: Termination
<b>R1</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ordering Information							
<b>R1</b> Motor Mount Ring, for 12-1/2" C-Face Motors	<b>0060</b>	<b>0300</b>	<b>L</b> No Index	<b>J04</b> 5/8" bore	<b>1</b> Single	<b>L</b> 5-15V in, 5-15V Line Driver (4428) out	
	<b>0064</b>	<b>0480</b>	Available when Code 2 is 0480, 0512, 0600, 0960, 1024, 1200 or 2048	<b>J05</b> 7/8" bore	<b>2</b> Dual (Isolated)	<b>R</b> 15-26V in, 15V Line Driver (4428) out	
	<b>0075</b>	<b>0512</b>		<b>J06</b> 1.00" bore			
	<b>0120</b>	<b>0600</b>	<b>Z</b> Differential Index (Z, Z)	<b>J07</b> 1-1/8" bore	Differential, bidirectional signals (A, $\bar{A}$ , B, $\bar{B}$ )	<b>M</b> 10 pin MS Connector	
	<b>0128</b>	<b>0960</b>		<b>J09</b> 1-3/8" bore			
	<b>0150</b>	<b>1024</b>	<b>J10</b> 1-1/2" bore	<b>5</b> 5-15V in, 5V Line Driver (4428) out			<b>P</b> 18" Pigtail
	<b>0240</b>	<b>1200</b>	<b>K11</b> 1-5/8" bore				
	<b>0256</b>	<b>2048</b>	<b>K12</b> 1-3/4" bore				
			<b>K13</b> 1-7/8" bore				
			<b>K14</b> 2" bore				
			<b>K15</b> 2-1/8" bore				
			<b>K16</b> 2-1/4" bore				
			<b>K17</b> 2-3/8" bore				
			<b>K18</b> 2-1/2" bore				
			<b>K19</b> 2-7/8" bore				
			Additional Shaft Sizes Available Up to 8.00" Maximum				

Spare sensor module: Use "NS" followed by Code 1 (Model) & Code 2 (PPR) & Code 3 (Index) & Code 6 (Electrical) & Code 7 (Termination). Example: NSR10512ZLC  
 Spare Pulse Wheel: Use "NS" followed by Code 2 (PPR) & Code 3 (Index) & Code 4 (Bore Size). Example: NS0512ZK11  
 Spare Mating Connector: Use "NS" followed by Code 1 (Model) & Code 7 (Termination). Example: NSR1C  
 5 foot Interface Cable: RIMCABLEDB10005. Other Length: final 4 digits is length in 5 ft increments. Example RIMCABLEDB10065 is 65 feet.



**Gordy's Sensors**

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