

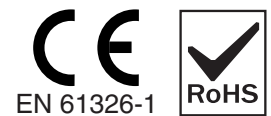
# NexGen RIM Tach 1250 NorthStar™ brand

## Bearingless Encoder

### Key Features

- **New Sensor Provides up to 0.075" of Air Gap, Over 50% More Than Competitive Models**
- **Expanded Resolution up to 2400 PPR**
- **Redesigned Circuitry for On-Board Diagnostics with LED and Alarm Output**
- **Wide -40° to +100°C Temperature Range**
- **Optimized Pulse Wheel for Greater Shaft Holding Force and Ease of Assembly**
- **Available Shaft Sizes From 0.625" to 5.000"**

**HD**  
Heavy Duty



## SPECIFICATIONS

### STANDARD OPERATING CHARACTERISTICS

**Code:** Incremental, Magnetic  
**Pulses per Revolution:** 60 to 2400 PPR  
**Phasing Sense:** A leads B for Counter-Clockwise rotation (CCW) viewing male C-face end  
**Quadrature Phasing:** 90° ± 45°  
**Symmetry:** 50% ± 15%  
**Number of Output Modules:** Single or Dual

### ELECTRICAL

**Input Power Requirements:** 5-26VDC, 95mA typical per sensor module, plus line driver load  
**Output Signals:** IC-WE Differential Line Driver: 150mA, sink or source  
**Frequency Response:** 0 - 180kHz Data & Index  
**Noise Immunity:** Tested to EN61326-1  
**Electrical Immunity:** Reverse polarity and short circuit protected  
**Connector:** 10 pin industrial duty latching, sealed NEMA 4 & 12, IP65. Optional MS3102 10 pin, Pigtail Cable, or Latching connector on cable extension

### MECHANICAL

**Bore Size:** 0.625" to 5.000"  
**Mounting Configuration:** 12.5" C-Face Mount for NEMA MG1 Standards  
**Shaft Speed:** 7,000 RPM, max.  
**Shaft Length Required:** 2.88" min  
**Allowable Shaft Runout:** 0.005" TIR  
**Radial Air Gap:**  
*1200 PPR or lower:*  
 0.075", +0.015" / -0.070"  
*Above 1200 PPR:*  
 0.050", +0.015" / -0.040"  
**Allowable Shaft End-Play:** ±0.150"  
**Acceleration Rate:** 3600 rpm/sec max  
**Housing Material:** Cast Iron  
**Sensor Module Material:** Stainless Steel  
**Weight:** 38.5 lbs

### ENVIRONMENTAL

**Operating Temperature Range:** -40°C to +100°C  
**Storage Temperature Range:** -40°C to +125°C  
**Shock:** 200 G's Min.  
**Vibration:** 18 G's @ 5-2000 Hz spectrum  
**Humidity:** Up to 98% (non-condensing)

### 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
Alarm †	5	n/a	F
Vcc (5-26 VDC)	6	Red	B
B̄	7	Yellow	H
Ā	8	Gray	G
Z*	9	Orange	I
Shield	10	Braid	J

\* Index (Z) Optional. See Ordering Information

† Alarm not available with Pigtail cable. See Ordering Information

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## Ordering Information

To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: PPR	Code 3: Index	Code 4: Wheel Bore	Code 5: Electrical	Code 6: Termination
<b>RT1</b>	□□□□	□	□□□□	□	□

Ordering Information							
<b>RT1</b> RIMTach 1250 Direct Motor Mounting on NEMA 12.5" Flange	<b>0060</b>	<b>0480</b>	<b>L</b> No Index	<b>V04</b> 0.625"	<b>V18</b> 2.500"	<b>1</b> 5-26VDC in, 5-26VDC Line Driver out (IC-WE), Single output	<b>C</b> Latching Industrial Connector with 1/2" NPT <b>F</b> Latching Industrial Con- nector without Mating Connector <b>M</b> 10 pin MS Connector <b>P</b> 18" Pigtail Cable <b>Q</b> Latching Industrial Connec- tor on 18" Cable <b>R</b> Latching Industrial Con- nector on 18" Pigtail Cable without Mating Connector
	<b>0064</b>	<b>0512</b>	<b>Z</b> With Index Signal Out- put	<b>V05</b> 0.875"	<b>V20</b> 2.625"		
	<b>0075</b>	<b>0600</b>		<b>V06</b> 1.000"	<b>V19</b> 2.875"		
	<b>0120</b>	<b>0960</b>		<b>V07</b> 1.125"			
	<b>0128</b>	<b>1024</b>		<b>V08</b> 1.250"	<b>CB4</b> 16 mm		
	<b>0150</b>	<b>1200</b>		<b>V09</b> 1.375"	<b>C36</b> 24 mm		
	<b>0240</b>	<b>1920</b>		<b>V10</b> 1.500"	<b>C29</b> 25 mm		
	<b>0256</b>	<b>2048</b>		<b>V11</b> 1.625"	<b>C31</b> 30 mm		
	<b>0300</b>	<b>2400</b>		<b>V14</b> 2.000"	<b>CA4</b> 45 mm		
				<b>V15</b> 2.125"	<b>C58</b> 60 mm		
		<b>V16</b> 2.250"	<b>C40</b> 80 mm				
		<b>V17</b> 2.375"					
				For additional bore sizes up to 5.000" maximum, please consult factory.			

**Note:** See ACCESSORIES Section For Connectors, Grounding Brushes, Spare Parts and Pulse Wheels  
 For additional bore sizes up to 5.000" maximum, please consult the factory.  
 Sizes above 2.875" are only available with 64, 128, 256, 512, 1024, 2048 PPR.

## DIMENSIONS

### SHAFT SIZES "D1" Ø.625" THRU Ø2.875"

PPR'S	CHANNELS:	SINGLE		DUAL
	B	A	D	
60; 120; 240; 480; 960; 1920	7.72 [196]	7.33 [186]	14.66 [372]	
64; 128; 256; 512; 1024; 2048	7.87 [200]	7.48 [190]	14.96 [380]	
75; 150; 300; 600; 1200; 2400	8.28 [210]	7.89 [200]	16.55 [420]	

### SHAFT SIZES "D1" > 2.875" THRU Ø5.000"

PPR'S	CHANNELS:	SINGLE		DUAL
	B	A	D	
64; 128; 256; 512; 1024; 2048	8.91 [226]	8.52 [216]	17.81 [452]	

