

# NexGen RIM Tach 8500 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 2400PPR**
- **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**



## SPECIFICATIONS

### STANDARD OPERATING CHARACTERISTICS

**Code:** Incremental  
**Pulses per Revolution:** 240 to 2400  
**Phasing Sense:** A leads B for Counter-Clockwise rotation (CCW) viewing male C-face end  
**Quadrature Phasing:** 90° ± 45°  
**Duty Cycle:** 50% ±15%

### ELECTRICAL

**Input Power Requirements:** 5-24VDC, 95mA typical per sensor module, plus line driver load  
**Output Signals:** Line Driver, 150mA source/sink  
**Frequency Response:** 0 - 180kHz Data & Index  
**Electrical Immunity:** 2kV ESD, Reverse Polarity, Short Circuit. Powered Short  
**Connector:** 10 pin industrial duty latching, sealed NEMA 4 & 12, IP65. Optional MS3102 10 pin, Pigtail Cable, or Latching connector on cable extension

### 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 (5-24 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

### MECHANICAL

**Shaft Speed:** 7,000 RPM, max.  
**Mounting Configuration:** 8.5" 180C face mount for NEMA MG1 standards  
**Housing Material:** Cast Iron  
**Sensor Module Material:** Stainless Steel  
**Acceleration Rate:** 3600 rpm/sec max  
**Shaft Length Required:** 2.5" min  
**Radial Air Gap:**  
*1200PPR or lower:*  
 0.075", +0.015" / -0.070"  
*Above 1200PPR:*  
 0.050", +0.015" / -0.040"  
**Allowable Shaft End-Play:** ±0.150"  
**Allowable Shaft Runout:** 0.005" TIR

### ENVIRONMENTAL

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

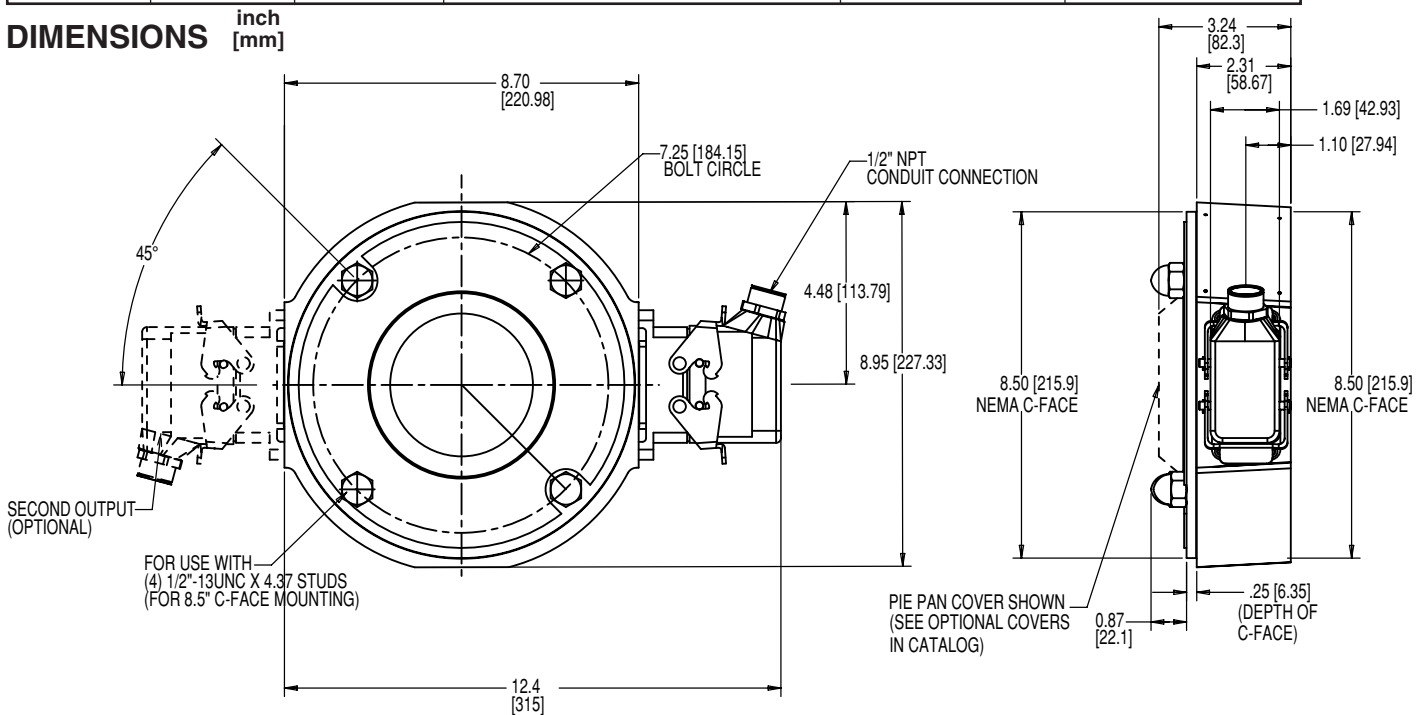
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## Ordering Information

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 Output	Code 6: Termination	
<b>RT8</b>	□□□□	□	□□□□	□	□	
Ordering Information						
<b>RT8</b> RIMTach 8500 Heavy Duty Encoder	<b>0060</b>	<b>0480</b>	<b>L</b> No Index	<b>V04</b> 5/8"	<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>0064</b>	<b>0512</b>	<b>Z</b> With Index Signal Output	<b>V05</b> 7/8"		
	<b>0075</b>	<b>0600</b>		<b>V06</b> 1.00"	<b>2</b> 5-26VDC in, 5-26VDC Line Driver out (IC-WE), Dual output	<b>M</b> 10 pin MS Connector
	<b>0120</b>	<b>0960</b>		<b>V07</b> 1-1/8"		
	<b>0128</b>	<b>1024</b>		<b>V09</b> 1-3/8"	<b>P</b> 18" Pigtail (Not available with Alarm output)	<b>Q</b> Latching industrial connector on 18" cable
	<b>0150</b>	<b>1200</b>		<b>V10</b> 1-1/2"		
	<b>0240</b>	<b>1920</b>		<b>V11</b> 1-5/8"		
	<b>0256</b>	<b>2048</b>		<b>V12</b> 1-3/4"		
	<b>0300</b>	<b>2400</b>		<b>V13</b> 1-7/8"		
				<b>V14</b> 2.00"		
				<b>V15</b> 2-1/8"		
				<b>V16</b> 2-1/4"		
				<b>V17</b> 2-3/8"		
				<b>V18</b> 2-1/2"		
				<b>V19</b> 2-7/8"		
				<b>V20</b> 2-5/8"		
			Additional shaft sizes available, consult factory			
			<b>End Of Shaft</b>			
			<b>F01</b> 1-1/8" EOS	<b>F44</b> 4400 Series Motors		
			<b>F06</b> 2-1/8" EOS	<b>F47</b> 4700 Series Motors		
			<b>F08</b> 2-3/8" EOS	<b>F60</b> 6000 Series Motors		
			<b>F10</b> 2-7/8" EOS	<b>F68</b> 6800 Series Motors		

## DIMENSIONS



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