

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 4096 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 4096 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
RT1	□□□□	□	□□□□	□	□

Ordering Information							
RT1 RIMTach 1250 Direct Motor Mounting on NEMA 12.5" Flange	0060	0480	L No Index	V04 0.625"	V18 2.500"	1 5-26VDC in, 5-26VDC Line Driver out (IC-WE), Single output	C Latching Industrial Connector with 1/2" NPT F Latching Industrial Con- nector without Mating Connector M 10 pin MS Connector P 18" Pigtail Cable Q Latching Industrial Conne- ctor on 18" Cable R Latching Industrial Con- nector on 18" Pigtail Cable without Mating Connector
	0064	0512	Z With Index Signal Out- put	V05 0.875"	V20 2.625"		
	0075	0600		V06 1.000"	V19 2.875"		
	0120	0960		V07 1.125"			
	0128	1024		V08 1.250"			
	0150	1200		V09 1.375"	CB4 16 mm		
	0240	1920		V10 1.500"	C36 24 mm		
	0256	2048		V11 1.625"	C29 25 mm		
	0300	2400		V12 1.750"	C31 30 mm		
		4096		V13 1.875"	CA4 45 mm		
		V14 2.000"	CA5 45 mm				
		V15 2.125"	C58 60 mm				
		V16 2.250"	C40 80 mm				
		V17 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, 4096.

DIMENSIONS inch [mm]

SHAFT SIZES "D1" Ø.625" THRU Ø2.875"

PPR'S	CHANNELS:		DUAL
	B	A	
60; 120; 240; 480; 960; 1920	7.72 [196]	7.33 [186]	14.66 [372]
64; 128; 256; 512; 1024; 2048; 4096	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:		DUAL
	B	A	
64; 128; 256; 512; 1024; 2048, 4096	8.91 [226]	8.52 [216]	17.81 [452]

