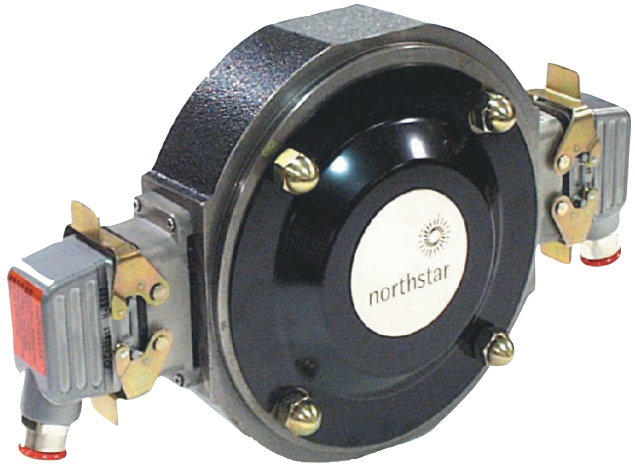
SERIES RIM Tach 8500 NorthStar™ brand

Bearingless Encoder

Key Features

- **Compact, Bearingless Design Mounts to 180-C Face Motors**
- **Sensor Modules are Removable On-The-Fly and Require No Gapping**
- **Stainless Steel and Ductile Cast Iron Construction for Harsh Mill Environments**
- **Magneto-Resistive Technology Resists Dust, Dirt, Oil, Water and Other Common Contaminants**
- **New Model Available with Larger Air Gap and Diagnostic LED. See NexGen RT8**



CE EN 61326-1 RoHS

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental, Magnetic
Pulses per Revolution: 60-1200 PPR
Phasing Sense: A leads B for Counter-Clockwise rotation (CCW) viewing encoder-mounted end
Quadrature Phasing: 90° ± 22°
Symmetry: 180° ± 54°
Index: 270°, ungated (optional gated to falling B edge)
Number of Output Modules: Single or Dual

MECHANICAL

Bore Sizes: 5/8" to 3.75"
Mounting Configuration: 8.5" 180 C-Face Mount for NEMA MG1 Standards
Shaft Speed: 7,000 RPM
Shaft Length Required: 2.5" min
Allowable Shaft End-Play: ± 0.050"
Allowable Shaft Runout: 0.003" TIR
Acceleration Rate: 3600 rpm/sec max
Housing Material: Cast Iron/Stainless Steel
Weight: 26.5 lbs

ENVIRONMENTAL

Operating Temperature Range:
Standard: -40°C to +90°C
Extended: -40°C to +100°C
Storage Temperature Range: -40°C to +120°C
Shock (Sensor Module): 30 G's Min
Vibration: 18 G's @ 5-2000 Hz spectrum
Humidity: Up to 98% (non-condensing)

ELECTRICAL

Input Power Requirements: 5-15 VDC, 15-26 VDC, 45 mA typical per sensor module plus line driver load
Output Signals:
4428 Differential Line Driver: 150mA, sink or source
Frequency Response: 0 - 120kHz 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

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
$\overline{B}$	7	Yellow	H
$\overline{A}$	8	Gray	G
$\overline{Z}$ *	9	Orange	I
Shield	10	Braid	J

* Index (Z) optional. See Ordering Information

NorthStar™ brand SERIES RIM Tach 8500

Ordering Information

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

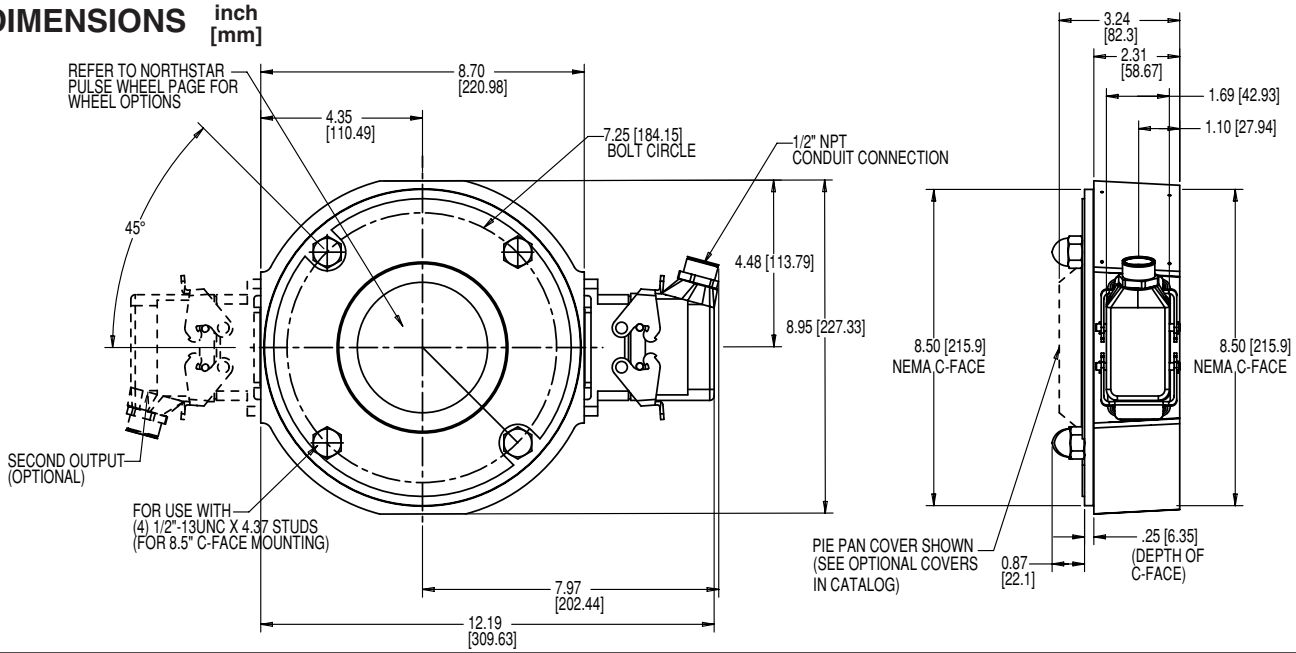
Code 1: Model	Code 2: PPR	Code 3: Index	Code 4: Wheel Bore	Code 5: Output	Code 6: Electrical	Code 7: Termination
R8	□□□□	□	□□□	□	□	□

Ordering Information

Code 1: Model	Code 2: PPR	Code 3: Index	Code 4: Wheel Bore	Code 5: Output	Code 6: Electrical	Code 7: Termination
R8 Motor Mount Ring, for Nema 8 1/2" C-Face Motors (180C)	**0060** **0300** **0064** **0480** **0075** **0512** **0120** **0600** **0128** **0960** **0150** **1024** **0240** **1200** **0256**	**L** No Index Available when Code 2 is 0480, 0512, 0600, 0960 1024 or 1200 **G** Gated Index (Z, $\bar{Z}$) **Z** Differential Index (Z, $\bar{Z}$)	**J04** 5/8" **J05** 7/8" **J06** 1.00" **J07** 1-1/8" **K09** 1-3/8" **K10** 1-1/2" **K11** 1-5/8" **K12** 1-3/4" **K13** 1-7/8" **K14** 2" **K15** 2-1/8" **K16** 2-1/4" **K17** 2-3/8" **K18** 2-1/2" **K19** 2-7/8" For additional bore sizes up to 3.75" maximum, please consult factory. **End of shaft mounting for GE & Emerson Motors** E01 1.125" EOS E06 2.125" EOS E08 2.375" EOS E10 2.875" EOS	**1** Single Output **2** Dual Output, (Isolated) Differential, Bidirectional signals (A, $\bar{A}$, B, $\bar{B}$)	**L** 5-15V in, 5-15V Line Driver (4428) out **H** Same as L with extended temp. to 100°C **R** 15-26V in, 15V Line Driver (4428) out **5** 5-15V in, 5V Line Driver (4428) out	**C** Latching Industrial Connector with 1/2" NPT **F** Latching Industrial Connector without Mating Connector **M** 10 pin MS Connector **P** 18" Pigtail **Q** Latching Industrial Connector on 18" Cable **R** Latching Industrial Connector on 18" Pigtail Cable without Mating Connector

Note: See ACCESSORIES Section For Connectors, Grounding Brushes, Spare Parts and Pulse Wheels

DIMENSIONS inch [mm]



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DYNAPAR™
INNOVATION - CUSTOMIZATION - DELIVERY

WWW.DYNAPAR.COM

Headquarters: 1675 Delany Road • Gurnee, IL 60031-1282 • USA

Customer Service:
Tel.: +1.800.873.8731
Fax: +1.847.662.4150
custserv@dynapar.com

Technical Support
Tel.: +1.800.234.8731
Fax: +1.847.662.4150
northstar.techsupport@dynapar.com

European Sales Representitive
Hengstler GmbH
Uhlandstrasse 49, 78554 Aldingen
Germany
www.hengstler.com

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