

SERIES RL67

NorthStar™ brand

Bearingless Encoder

Key Features

- Designed for Reliance Motors (6.75" fit and 56 and 140 C-Face)
- Magneto-Resistive Technology Resists Dust, Dirt, Oil, Water and Other Contaminants
- Anodized Aluminum Housing With Field-Serviceable Connector



SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental
Pulses per Revolution: 64-2048
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)

ELECTRICAL

Input Voltage Requirement: 5-15 or 5-26 Volts DC
Current Requirement:
 With Electrical Option L or H: 45 mA typical per sensor module plus line driver load
 With Electrical Option V or 5: 65 mA typical per sensor module plus line driver load
Output Signals:
 With Elec Option L or H: 5-15 V Line Driver, 150mA
 With Elec Option V: 5-26 V Line Driver, 100mA
 With Elec Option 5: 5V Line Driver, 150mA
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
Mounting Configuration: 4.5" diameter, 56 C motor face or accessory flange to meet NEMA MG1-4 standards or mounts directly in the 6.75" machined accessory recess of the 4.5" accessory flange found on Reliance RPM™ motors
Housing Material: Cast Aluminum
Acceleration Rate: 12,000 rpm/sec max
Shaft Length Required: 2.5" min
Allowable Shaft End-Play: ± 0.045"
Allowable Shaft Runout: 0.003" TIR

ELECTRICAL CONNECTIONS

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

* Index (Z) optional. See Ordering Information

ENVIRONMENTAL

Operating Temperature Range: -40°C to +90°C
Storage Temperature Range:
 Standard: -40°C to +90°C
 Extended: -40°C to +100°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

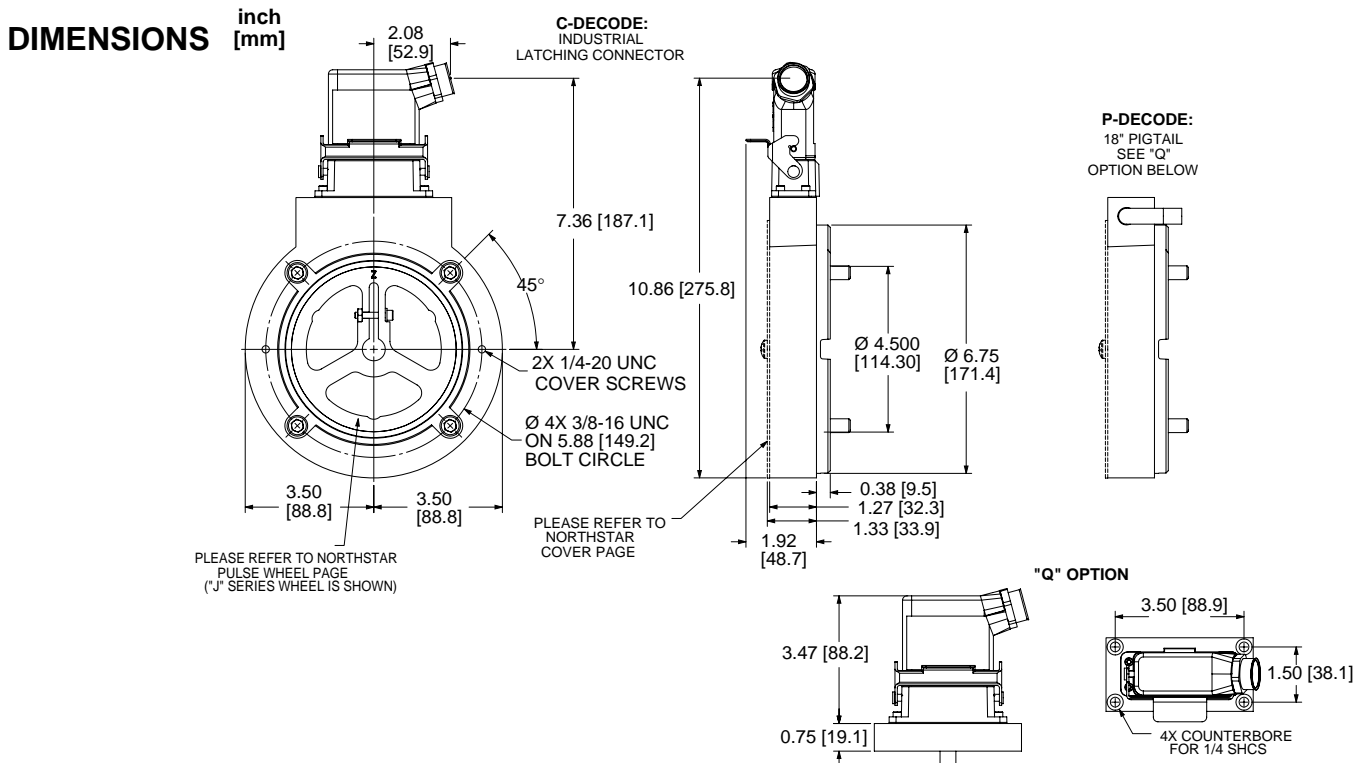
Ordering Information

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: Termination | Code 6: Electrical | Code 7: Cover |
| S6 | □□□□ | □ | □□□ | □ | □ | □ |

| Ordering Information | | | | | | |
|--|-------------|--|------------------------|---|--|-------------------------------|
| S6 Motor Mount Ring, for 4 1/2" NEMA 56-C C-Face Motors or Reliance Electric Style 6.75" Recess | 0064 | L No Index | J04 5/8" bore | C Latching Industrial Connector with 1/2" NPT | L 5-15V in, 5-15V Line Driver (4428) out | C Standard cover |
| | 0128 | Available when Code 2 is 0512, 1024 or 2048 | J05 7/8" bore | M 10 pin MS Connector | H Same as L with extended temp. to 100°C | F Flat Thru-hole cover |
| | 0256 | | J06 1.00" bore | | | |
| | 0512 | G Gated Index (Z, Z̄) | J07 1-1/8" bore | P 18" pigtail cable Q Latching Industrial Connector on 18" pigtail cable | V 5-26V in, 5-26V Line Driver (IC-WE) out 5 5-15V in, 5V Line Driver (4428) out Differential, bidirectional signals (A, Ā, B, B̄) | |
| | 1024 | Z Differential Index (Z, Z̄) | K09 1-3/8" bore | | | |
| | 2048 | | K10 1-1/2" bore | | | |
| | | | K11 1-5/8" bore | | | |
| | | | K12 1-3/4" bore | | | |
| | | | K13 1-7/8" bore | | | |
| | | | K14 2.00" bore | | | |
| | | K15 2-1/8" bore | | | | |
| | | K16 2-1/4" bore | | | | |
| | | K17 2-3/8" bore | | | | |
| | | K18 2-1/2" bore | | | | |
| | | K19 2-7/8" bore | | | | |
| | | Additional Shaft Sizes Available Up to 3.75" Maximum | | | | |

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



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