

MagCoder® HS35M

Flexible Mount Hollow Shaft Encoder

The new MagCoder HS35M from NorthStar Technologies is a hollow shaft digital encoder which is ideal for motor and machine applications. It has been designed with flexible mounting and an adjustable anti-rotation arm, allowing it to tolerate shaft vibration. Its advanced electronics ensure excellent performance up to resolutions of 1200 PPR. It fits a wide variety of motor shaft sizes and is a perfect choice for use in applications requiring accurate velocity feedback.

Benefits

The shaft mounted MagCoder incorporates magneto-resistive technology making it immune to common contaminants such as grease, oil, water, and dirt. Its short circuit protection and reverse polarity protection prevent common causes of encoder failure. The HS35M offers a variety of output voltage options, including the choice of regulated output, making it compatible with devices that accept only a specified voltage. An optional high powered line driver is available for further assurance of clear signals over long cable lengths. This unique driver is the strongest offered in the encoder industry.

Application

The entire MagCoder rides on large motor style bearings, maximizing its operational life. Its flexible design allows the encoder to move axially, radially, and at a tangent. It is toughly constructed of stainless steel and epoxy coated zinc alloy. The simple design of the HS35M is prealigned, does not require user adjustments, and mounts without accessory hardware, further reducing installation cost and time.



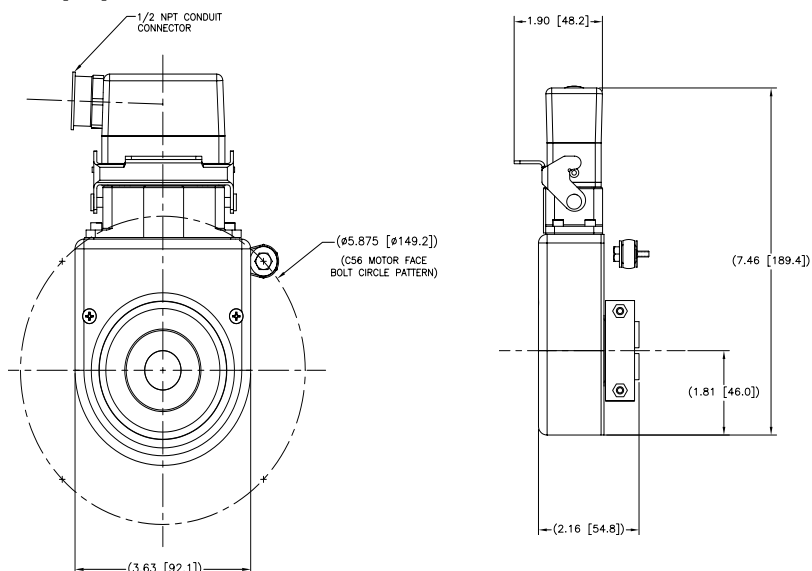
Features:

- Fits a wide variety of shaft types and sizes*
- Fast, easy, flexible mounting*
- Reliable magneto-resistive sensor technology*
- 60 - 1200 PPR available*
- Reverse polarity protected*
- Short-circuit protected*



For more information on this product, visit www.northstarencoders.com and enter: HS35M

Dimensions inches [mm]



MagCoder HS35M Specifications

| Electrical | |
|--|--|
| Pulses Per Revolution (Resolution) | 60, 100, 120, 125, 128, 150, 200, 256, 300, 500, 512, 600, 1000, 1024, 1200 (Optional Z at PPR > 1000) |
| Frequency Response | 0 - 120 KHZ |
| Output Format | A, B phase @ quadrature, Z (index) phase once per rev, and complements (A,B,Z) |
| Pulse Duty Cycle | 50 ± 15% (within defined mechanical specifications) |
| Quadrature Accuracy | 90 ± 22° (within defined mechanical specifications) |
| Output Type | Differential line driver |
| Rise and Fall Time | Less than 1 µs @ 1,000 pf typical load OR Less than 1.5 µs @ 10,000 pf typical load @ 26 V with optional high power line driver |
| Supply Voltage | 5 - 26 VDC |
| Current Consumption | 40 mA typical plus line driver load (with either line driver) |
| Current Output | 80 mA with differential line driver (maximum) OR 200 mA peak load with optional high power line driver |
| Output Voltage Levels | 5 - 26 VDC output OR regulated output |
| Connector | 18" pigtail OR military style OR 10 pin EPIC NEMA 12 latching industrial connector with half-inch NPT OR other styles |
| Suggested Cable | 24 AWG, 8 conductor, shielded, twisted pair |
| ESD Protection | 4 kV |
| Electrical Protection | Reverse polarity and short circuit protected |
| Mechanical | |
| Maximum Operational Speed | 3600 RPM |
| Available Shaft Sizes | 6 mm to 1.25" thru-shaft style available. See ordering table for sizes. |
| Shaft Axial End Play | Up to ± 0.15" (3.8 mm) |
| Shaft Radial Runout | 0.015" (0.4 mm) total indicated runout (subject to RPM limitation) |
| Mechanical Options | Customer supplied OR Standard tether OR 56 C tether OR 180 C tether |
| Nominal Encoder Diameter | 3.5" (89 mm) |
| Enclosure Material | Stainless steel and epoxy coated zinc alloy |
| Unit Weight/Unit Dimensions | 3 lbs. (1.36 kg) / 7.46" (189 mm) x 2.33" (59 mm) x 3.63" (92 mm) |
| Boxed Unit Weight/Boxed Unit Dimensions | 3.6 lbs. (1.63 kg) / 9" (229 mm) x 7" (178 mm) x 3" (76 mm) |
| Environmental | |
| Operating Temperature | -20° C to + 80° C |
| Storage Temperature | -40° C to +120° C |
| Operational Humidity | 98% non-condensing |
| Vibration | 5 - 2000 Hz at 18Gs RMS |
| Shock | 50Gs for 11ms |
| Environmental Rating | IP65, NEMA 4 & 12 |
| Chemical Resistance | Salt spray, most solvents, mild acids and bases |
| *Specifications subject to change without notice | |

HS35M Ordering Information

Call 877.311.4190 for Assistance

| | | |
|---------------------------------------|---|--|
| A Encoder Type | MagCoder HS35M | MH |
| B Pulses Per Revolution | 60, 100, 120, 125, 128, 150, 200, 250, 256, 300, 500, 512, 600, 1000, 1024, 1200 (Optional Z at PPR > 1000) | |
| C Shaft Sizes (All thru-shaft) | 6 .00 mm 0.250" 0.375" 10.0 mm 12.0 mm 0.500" 14.0 mm 0.625" 16.0 mm 0.750" 25.0 mm 1.000" 1.125" 24.0 mm 28.0 mm 0.875" 1.250" Custom sizes available. Contact NorthStar for ordering number. | 0A 0B 0C 1D 1E 1F 1G 1H 1I 1J 1K 1L 1M 1P 1R 1T 1U |
| D Connectors | 18" pigtail Latching industrial connector with half-inch NPT 10 pin military style connector MS3102 Other styles available. Contact NorthStar for ordering number. | 0 2 6 |
| E Temperature Range | -20 to 80° C | S |
| F Output Voltage Options | 5-26 VDC output following 5-26 VDC input Regulated 5 VDC output, 5-26 VDC input 5-26 VDC output with high current line driver, following 5-26 VDC input | 0 1 2 |
| G Mechanical Options | Customer supplied Standard tether 56 C tether 180 C tether 56 C with protective guard 180 C with protective guard | 0 1 2 3 9 10 |

Example

| A | B | C | D | E | F | G |
|----|------|----|---|---|---|---|
| MH | 1024 | 1M | 6 | S | 1 | 0 |



What is Straight Shot? Straight Shot directs you to the web portal where you can quickly access the product information you need. Straight Shot codes, such as RIM6200, exist for each product or class of product. Go to our web site (www.northstarencoders.com) and type the appropriate product code in the clearly defined box and hit "GO".

