

# AVTRON™ ENCODERS

## Avtron HS35M Encoders



### Mill Duty Magnetic Hollow Shaft Encoder

#### Magnetic Durability at a Great Price!

- | Fits shafts 1/2" to 1 1/8"
  - | Simple Installation
  - | Up to 3072 PPR
- | Replaces Competitive Models without Rewiring
- | No Solder Industrial EPIC Connector Available
- | Fits end of shaft and through shaft applications
  - | High Power Outputs Available
  - | -20°C to +85°C Operation
  - | Optional Dual Isolated Outputs
  - | Fully Insulated from Motor Shaft Currents
- | 2 Year No-Hassle Warranty

#### HS35M

HS35M encoders fit shafts from 1/2" to 1 1/8" [12mm to 30mm] easily, using a durable shaft insert. Models from 1/2" to 1" [12mm to 20mm] may be resized by replacing the insert, enabling our factory, distributors, and customer stockrooms to swiftly meet any need. The engineered resin housing is immune to most chemicals, and eliminates any possibility of shaft current or grounding problems.

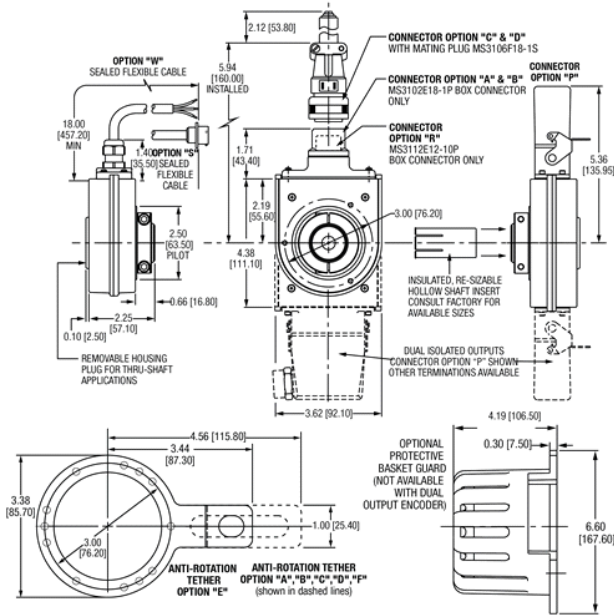
Avtron encoders have superior shaft seals and bearings that stay sealed to keep out contamination caused by temperature cycling and liquid sprays. The HS35M offers high power outputs that can drive cables over 1000' [300m] with full short circuit and overvoltage protection!

The HS35M features two large bearings, one at each end of the enclosure for strength and resistance to damage. Many competitors use only a single bearing, or two tiny bearings side by side.

Often, optical encoders fail because of dust or water contamination that prevents the sensor from seeing the optical disk. The HS35M advanced magnetic technology sees through contamination and the fully sealed circuit design ensures your machine keeps working, even in mill environments.

The HS35M offers magnetic performance and moisture resistance, in a compact package, and for a great price. Select an Avtron HS35M and upgrade your machine today!

# OUTLINE DRAWING



# MORE HS35M ADVANTAGES

- ▮ All digital, design; no adjustments or potentiometers
- ▮ Innovative shaft ring retains collar during installation
- ▮ Advanced sensor technology
- ▮ Dual bearings, spaced farther apart, with synthetic lubricant for longer life
- ▮ No extra charge for signal complements and marker pulse (A,A-, B,B-, Z,Z-)
- ▮ Fully insulated from motor shaft currents
- ▮ Models 1/2" to 1" [12mm-20mm] can be resized by interchanging inserts
- ▮ Optional basket guard adds even more protection

# HS35M SPECIFICATIONS

**Operating Power:** Volts: 5 - 24 VDC; Current: 80mA, no load  
**Output Format:** A Quad B with marker (A,/A, B,/B, Z,/Z)  
**Frequency Range:** 0 to 165 KHz  
**PPR:** 1 - 3072 standard (for other PPR needs, consult factory)  
**Speed:** 4700 RPM Max., (for higher speeds, consult factory)  
**Temperature:** -20° to 85°C  
**Environmental:** IP65; NEMA 13 Rating  
**Vibration:** 5-2000Hz, 20Gs  
**Shock:** 50G, 11mS duration  
**Weight:** Single: 1.4 lbs. [635 g] Dual: 2.0 lbs. [905 g]  
**Certifications:** CE

All dimensions are in inches [millimeters].

Check out our website for more detailed specifications, drawings, and Specifications and features are subject to change without notice. installation instructions. [www.avtronencoders.com](http://www.avtronencoders.com)

# SELECTION GUIDE

| HS35M PART NUMBERS AND AVAILABLE OPTIONS |  |  |  |  |  |  |  |                        |   |  |   |
|--|--|--|--|--|--|--|--|------------------------|---|--|---|
| Model                                    | Left & Right Output PPR  |  | Line Driver  | Bore Size  |  | Connector Options  | Mounting Style                         | Protection             | Anti-Rotation Tether Options  | Channels   | Special Features                                  |
| HS35M                                    | F- 60<br>T- 80<br>G- 100<br>H- 120<br>K- 200<br>L- 240<br>M- 250<br>N- 256<br>P- 300<br>E- 360<br>Q- 500<br>R- 512<br>S- 600<br>U- 720<br>V- 900<br>W- 1000<br>Y- 1024 | Z- 1200<br>1- 1250<br>2- 1440<br>B- 1500<br>3- 2000<br>4- 2048<br>5- 2500<br>C- 3072<br>X- None (NA for left output)<br>0- Special "See Special PPR Table" | 6- 5-24V (7272)<br>8- 5-15V (4125)<br>9- 5-24V in, 5V out (7272) | 0- Non-Std.<br>P- 12mm<br>Q- 14mm<br>B- 1/2"<br>R- 15mm<br>C- 5/8"<br>P- 12mm<br>D- 3/4"<br>S- 16mm<br>E- 7/8"<br>V- 19mm<br>F- 1"<br>W- 20mm<br>G- 1 1/8"<br>Y- 25mm*<br>3- 30mm* | U- U.S. Universal (all inserts, 1/2"-1")<br>Z- Metric (all inserts, 12mm-20mm) | W- 18" flex. cable<br><br>** Not applicable on dual output.<br>* No insert used for Options "F", "G", "Y", "3".<br>" Only available with 0W special feature. | U- Universal End-of-Shaft & Thru Shaft | 0- None<br>1- Basket** | X- None<br>A- Fan cover, 1/4-20<br>B- Fan cover, 5/16-18<br>C- Fan cover, 3/8-16<br>D- Fan cover, all<br>E- 4.5" or 6.75" C-Face<br>F- 8.5" C-Face<br>G- 12" [300mm] Threaded Rod Tether<br>M- 4.5" C-Face or Fan Cover<br>U- Universal (all tether options, excluding "G")<br>P- 4.5" [115mm] Threaded Rod Tether, replaces Northstar HS35M, HSD35 | A- A, A-bar, B, B-bar, Z, Z-bar<br>B- A, A-bar, B, B-bar<br>D- A, A-bar<br>E- A, B, Z<br>F- A, B<br>4- Special PPR Enter codes under special features<br>9- All. Enter specific cable length xx=feet under Special Features (Use w/ Connector Option "W"). | 00- None<br>0W- Connector on 18" cable: See Below |

| Connector Options  |                           |                |                        |  |  |   |                          |                             |                                 |
|--|---------------------------|----------------|------------------------|--|--|---|--------------------------|-----------------------------|---------------------------------|
| Mounted on Encoder   |                           |                |                        | Mounted on 18" cable (0W)  |  |   |                          |                             |                                 |
| 10 Pin MS  | 10 Pin EPIC               | 10 Pin mini MS | 10 Pin MS <sup>a</sup> | 6 Pin MS <sup>a</sup>  | 7 Pin MS <sup>a</sup>  | 8 Pin M12 <sup>a</sup>                                | 10 Pin EPIC <sup>a</sup> | 10 Pin mini MS <sup>a</sup> | 12 Pin M23                      |
| A- w/o plug (std. phasing)<br>B- w/o plug (Dynapar HS35 phasing)<br>C- "A" w/ plug<br>D- "B" w/ plug | P- w/ plug<br>V- w/o plug | R- w/ plug     | Y- w/o plug            | E- w/o plug (std. phasing)<br>F- w/o plug (Dynapar HS35 phasing)<br>G- "E" w/ plug<br>H- "F" w/ plug | J- w/o plug (std. phasing)<br>K- w/o plug (Dynapar HS35 phasing)<br>M- "J" w/ plug<br>N- "K" w/ plug | T- w/o plug (Turck Pinout)<br>U- w/o plug (US Pinout) | Z- w/ plug               | S- w/ plug                  | 2- w/o plug (L&L Hubner pinout) |



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