# Avtron HS40 Absolute Encoder

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## Severe Mill Duty Magnetic Hollow Shaft Absolute Encoder, 5/8"-1 1/8" [16-30mm]

### Magnetic Durability in a Compact Encoder

Fits Shafts 5/8"-1 1/8" [16mm-30mm]

Up to 27 Bit Resolution

Moisture-Proof, Shock Resistant Sensor

Singleturn or Multiturn

IP65 Rating

Massive Bearings, Severe Duty Seals

No Batteries or Gears!

-40° to 85°C Operation

3 Year No-Hassle Warranty

## HS40

HS40 hollow shaft severe duty magnetic absolute rotary encoders offer unequaled durability. HS40 features massive bearings and the best shaft sealing system in the industry to keep your process running, through temperature cycling and liquid sprays. Moreover, the magnetic sensor can see through oil, dust and dirt that disable ordinary optical absolute encoders.  Also available:  solid shaft model (AV30), absolute+incremental combo units (AV45, HS45), as well as optical models (AV6A, HS6A) for ultra-precision applications.
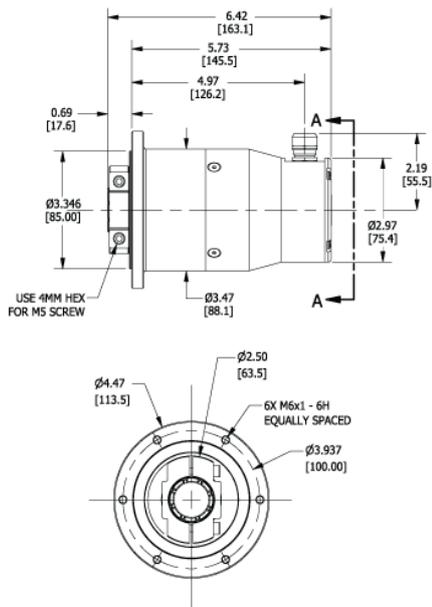
By utilizing Wiegand wire energy harvesting technology combined with magnetic sensors, Avtron has created an absolute encoder design which requires no batteries, long-term capacitors, glass disks, or gears!

Unlike other absolute encoders, HS40 allows a full size shaft fit; this allows it to easily fit on both NEMA and IEC frame motors with no special modification needed. Isolation from shaft currents is standard, and the interchangable bore sizing inserts allow easy modification.

The HS40 features a broad range of industry standard communication protocols: from analog outputs to CANopen, Profibus, J1939, and SSI, you will find the communication protocol you need.

Get the absolutely best hollow shaft encoder available for your positioning application--pick HS40!

# OUTLINE DRAWING



6.42 [163.1]
5.73 [145.5]
4.97 [126.2]
0.69 [17.6]
A
2.19 [55.5]
Ø3.346 [85.00]
Ø2.97 [75.4]
USE 4MM HEX FOR M5 SCREW
Ø3.47 [88.1]
A

Ø4.47 [113.5]
Ø2.50 [63.5]
6X M6x1 - 6H EQUALLY SPACED
Ø3.937 [100.00]

Check out our website for more detailed specifications, drawings, and installation instructions. www.avtronencoders.com

# MORE HS40 ADVANTAGES

- No internal gearbox to wear out
- No coupling needed-mounts directly on motor shaft
- Zero-Position set button for SSI output
- Optional factory-programmable cam limits
- Optional 5V operation

# MORE HS40 SPECIFICATIONS

Operating Power:
SSI: 5-30VDC; 30mA @ 24VDC, 125mA @ 5VDC
Analog V Out: 12-30VDC; 15mA @ 24V
Analog I Out: 15-30VDC; 40mA @ 24V
Output Format: Analog, Profibus, SSI, CANopen, J1939
Accuracy: +/-0.35° (+/-21 arc-min)
Temperature: -30°C to +85°C
Environmental: IP65
Vibration: 10-1000Hz, 10G
Shock: 200G, 3mSec
Weight: 4.8 lb [2200g]
Certifications: CE

CE

# SELECTION GUIDE

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| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| MODEL | COMMUNICATION BUS | HOUSING | HOLLOW SHAFT BORE SIZE | TURNS/BIT/MT | PPR / BITS PER TURN/ST | CONNECTOR | MOUNTING STYLE | SIGNAL CODING | ANTI-ROTATIONAL TETHER | SPECIAL OPTIONS |
| HS40 | A - Analog Output (field-scalable) <br> P - Profibus DP <br> S - SSI Communication | X - Standard Aluminum Housing with standard paint <br> 1 - Aluminum Housing with Steel-IT® stainless paint | C - 5/8" bore via insert <br> D - 3/4" bore via insert <br> E - 7/8" bore via insert <br> F - 1" bore via insert <br> G - 1 1/8" bore via insert <br> S - 16mm bore via insert <br> T - 18mm bore via insert <br> V - 19mm bore via insert <br> W - 20mm bore via insert <br> Y - 25mm bore via insert <br> 4 - 28mm bore via insert <br> 3 - 30mm bore via insert <br> U - 5/8" thru 1-1/8" bore insert sizes included (Universal USA) <br> Z - 16mm thru 30mm bore insert sizes included (Universal Metric): | X - 0 Turns/0 bits- Single Turn <br> A - 16 Turns/4 bits- (Field-Scalable for Analog 0.03 to 65536 turns) <br> 2 - 4096 Turns/12 bits <br> 3 - 8192 Turns/13 bits <br> 4 - 16384 Turns/14 bits <br> 5 - 32768 Turns/15 bits | 2 - 4096 Counts per Revolution/12 bits <br> 3 - 8192 Counts per Revolution/13 bits | A - 1xM12/5 pin w/o Plug <br> B - 2xM12/5 pin w/o Plugs <br> C - 3xM12 (4/5/5 or 4/4/4) pin w/o Plugs <br> D - 2xM12/4/5 pin w/o Plugs <br> E - M12/8 pin w/o Plug <br> F - M23/12 pin w/o Plug <br> G - M27/26 pin w/o Plug <br> H - RJ45 (on 1m cable) <br> S - 1x Cable Entry (rear terminal box w/side exit cord grip) <br> J - 2x Cable Entry (rear terminal box w/2 side exit cord grips) <br> K - 3x Cable Entry (rear terminal box w/3 side exit cord grips) <br> W - 1m Cable, side exit <br> M - M23/8 pin Hengstler w/o Plug <br> N - M23/8 pin Stegmann w/o Plug <br> Q - M23/8 pin Kubler w/o Plug <br> R - M23/16 pin w/o Plug | E - End of Shaft (EOS) Mounting | 1 - Binary Bit Coding <br> 2 - Gray Coding (SSI Only) <br> 3 - 0-5V (Analog Only) <br> 4 - 0-10V (Analog Only) <br> 5 - 4-20mA (Analog Only) <br> 6 - 0-20mA (Analog Only) <br> 7 - 0.5-4.5V (Analog Only) <br> 8 - 0.5-9.5V (Analog Only) | D - T-bolt Fan Cover Tether (NEMA style) <br> E - 4.5" NEMA C-Face Tether <br> F - 8.5" NEMA C-Face Tether <br> G - Threaded rod arm kit, adjustable 70-500mm (4.25"-12") <br> H - Fan cover T-bolt and 8.5" NEMA C-face tethers <br> M - Fan cover T-bolt and 4.5"/6.75" NEMA C-face tethers <br> P - Threaded rod arm kit, fixed 70mm length <br> T - Threaded rod arm kit, adjustable 70-500mm w/T-bolt for fan cover <br> U - Universal Tether/Arm Kit (includes all) <br> X - No Tether | 000 - No Special Features <br> 901 - 1'/0.3m Cable <br> 902 - 2'/0.6m Cable <br> 903 - 3'/0.9m Cable <br> 905 - 5'/1.5m Cable <br> 910 - 10'/3m Cable <br> 915 - 15'/4.5m Cable <br> 920 - 20'/6m Cable <br> 925 - 25'/7.5m Cable <br> 930 - 30'/9m Cable <br> 933 - 33'/10m Cable |

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