



Avtron HS4 Encoders



Magnetic Light Mill Duty Hollow Shaft Encoder, [36, 42, 58mm body size]

Magnetic Durability in a Programmable Encoder

Bore Sizes Include 6-15mm and 3/8", 1/2" and 5/8"

No Optical Glass Disk

Resists Dust, Dirt, and Liquids: IP69K Available

Up to 16384 PPR

Drop-in Mechanical Replacement for Any Optical Encoder

Compatible Pinouts: No Rewiring

-40°C to +85°C Operation

2 Year No-Hassle Warranty

HS4

Avtron HS4 encoders are setting THE industry standard for incremental quadrature hollow shaft rotary encoders. This versatile lineup fits the same mounting patterns on all motors and machines as competitor units, but that's where the similarities end. We've incorporated Avtron magnetic sensing technology to this affordable set of encoders! This makes HS4 more resistant to dust, dirt, oil and other liquids that make ordinary optical encoders fail.

Our Wide-Gap technology provides for 10-20X larger air gap between sensor and rotor than ordinary optical encoder designs. Consider the resistance to vibration when you compare our 0.060" air gap to the typical 0.004" clearance from the thin, often flexible, optical disk spinning at full motor speeds. Our high-accuracy magnetic sensors provide high quality quadrature signals for precise velocity and position control with the durability of magnetic sensing technology.

Our magnetic HS4 encoders are setting a new standard for quality, durability, and performance. Select an Avtron HS4 today!

OUTLINE DRAWING

Technical drawing of a hollow shaft assembly. The drawing includes a side view and a cross-sectional view. Dimensions are provided in inches [mm].

Side View Dimensions:

- Shaft diameter: $\varnothing 1.2$ [30.5]
- Shaft length: 1.50 [38]
- Shaft height: 1.21 [30.6]
- Shaft hole diameter: $\varnothing 0.42$ [10.7]
- Shaft hole length: 0.42 [10.7]
- Shaft hole depth: 0.02 [0.5]
- Shaft hole width: 0.04 [1]
- Shaft hole diameter: $\varnothing 0.51$ [12.9]
- Shaft hole length: 0.75 ± 0.02 [18.9 ± 0.5]

Cross-sectional View Dimensions:

- Shaft diameter: $\varnothing 1.27$ [32]
- Shaft hole diameter: $\varnothing 0.47$ [12.1]
- Shaft hole length: 0.42 [10.7]
- Shaft hole width: 0.02 [0.5]
- Shaft hole diameter: $\varnothing 0.51$ [12.9]
- Shaft hole length: 0.75 ± 0.02 [18.9 ± 0.5]

Notes:

- HOLLOW SHAFT DEPTH
- MAX. Allowable: 12.5mm

MORE HS4 ADVANTAGES

- Digital mapping technology for high accuracy
- All-digital design, no trim pots or adjustments for longer life
- Advanced magnetic sensor technology

MORE HS4 SPECIFICATIONS

Weight: 0.44-1.76 lbs [200-800g]

AVTRON™
ENCODERS *ANALOG BRAND*

CE

Features and specifications are subject to change without notice. EU-SMART™, SMARTSafe™, SMARTTach™, THIN-LINE™, WIDE-GAP™, SAFETach™, and BULLSEYE32™ are trademarks of Nidec Industrial Solution. All other trademarks and registered trademarks are the property of their respective owners. Nidec Industrial Solutions' standard warranty applies. All dimensions approximate.

SELECTION GUIDE

MODEL	PPR	LINE DRIVER	HOLLOW SHAFT BORE SIZE	CONNECTOR OPTIONS	SEALS	HOUSING SIZE	PROTECTIVE BASKET	TETHER	CHANNELS	MODIFICATION NS
HS4	A0 - Special PPR BB - 1 PPR BH - 7 PPR BN - 8 PPR BD - 10 PPR BF - 25 PPR BA - 30 PPR BG - 40 PPR BJ - 42 PPR AF - 60 PPR AK - 80 PPR BC - 100 PPR AH - 120 PPR AC - 128 PPR AM - 200 PPR AL - 240 PPR A2 - 250 PPR AN - 256 PPR AE - 360 PPR AG - 400 PPR AB - 480 PPR AQ - 500 PPR AR - 512 PPR AS - 600 PPR AP - 720 PPR AJ - 960 PPR AW - 1000 PPR AY - 1024 PPR AZ - 1200 PPR CL - 1250 PPR BQ - 1270 PPR BK - 1365 PPR AV - 1440 PPR BE - 1500 PPR AU - 1800 PPR A3 - 2000 PPR A4 - 2048 PPR B4 - 2160 PPR BP - 2450 PPR B5 - 2500 PPR A5 - 2540 PPR CG - 3000 PPR AT - 3072 PPR A6 - 3600 PPR AD - 4096 PPR A8 - 4800 PPR A9 - 5000 PPR CE - 6000 PPR CD - 8192 PPR CB - 10000 PPR CA - 12700 PPR CF - 15000 PPR BL - 16384 PPR ZZ - Programmable PPR (1024PPR Default) Must purchase D52986 Programming Tool & Cable	2 - 5-30V In/out Open Collector 6 - 5-30V In/out Line Driver (7272) 9 - 5-30V In, 5v Out Regulated Line Driver (7272)	D - 1/4" (0.25 in.) L - 6mm M - 8mm Clamping Collar F - 8mm, Set Screw N - 10mm 2 - 11mm P - 12mm Q - 14mm R - 15mm Z - All Metric Hollow Shaft Sizes 6-15mm A - 3/8" (0.375 in.) B - 1/2" (0.5 in.) C - 5/8" (0.625 in.) Y - US Shaft Inserts 1/4"-1/2" (15mm Bore Native)	A - 10 pin MS style No Plug, Avtron Phasing B - 10 pin MS style No Plug, Reverse Phasing C - 10 pin MS style with Plug, Avtron Phasing D - 10 pin MS style with plug, Reverse Phasing E - 6 pin MS style No Plug, Avtron Phasing F - 6 pin MS style No Plug, Reverse Phasing G - 6 pin MS style with Plug, Avtron Phasing H - 6 pin MS style with Plug, Reverse Phasing J - 7 pin MS style No Plug, Avtron Phasing K - 7 pin MS style No Plug, Reverse Phasing M - 7 pin MS style with plug, Avtron Phasing N - 7 pin MS style with plug, Reverse Phasing P - 4-pin DIN Form A, 18mm spacing R - 10 pin Mini-MS Twist-Lock style No Plug, Avtron Phasing T - M12 8 Pin, Turck pin out, Avtron Phasing 7 - M12 8 Pin, Turck pin out, Reverse Phasing U - M12 8 Pin, USA pin out, Avtron Phasing W - Cable (1m or special length) 2 - M23 12 Pin CCW pin out, Avtron Phasing 3 - M23 12 Pin CCW pin out, Reverse Phasing 5 - M12 5 Pin	A - Shaft Seals, IP65, Aluminum Housing G - Shaft Seals, IP67, Aluminum Housing K - Shaft Seals, IP69K, Stainless Steel Housing X - No Shaft Seals, IP54, NOT RECOMMENDED	3 - 36mm OD with 18mm Hollow Shaft Depth 4 - 42mm OD with 22mm Hollow Shaft Depth 5 - 58mm OD with 28mm Hollow Shaft Depth	0 - No Basket 1 - Protective Basket	X - No Tether A - Dual Tab Tether, 1.65 in. BC, 0.14 in. slot, fits 36mm housings B - Dual-Tab Tether; 2.48 in. BC, 0.14 in. slot, fits 58mm housing C - Dual-Tab Tether; 1.65 in. - 2.48 in. BC, 0.14 in slot, 36mm & 42mm housings D - Fan Cover Tether, 1.57 in. to 2.95 in. BC, 0.45" Slot, fits 58mm housing E - Extended Fan Cover Tether: 4.05" [102.8mm] BC, 0.45" [11.4mm] slot, fits 58mm housing F - Single Tab Tether, 2.48 in. BC, 0.14 in. slot, fits 36mm housings w/ set screw shaft bores	A - All Signals A, /A, B, /B, Z, /Z B - A, /A, B, /B, No Marker Pulse E - A, B, Z No Complements F - A, B No Complements, No Marker Pulse	000 - No Special Features 905 - 5 ft./1.5m Cable Built into Encoder 910 - 10 ft./3m Cable Built into Encoder 915 - 15 ft./4.5m Cable Built into Encoder 933 - 33 ft./10m Cable Built into Encoder 00W - Connector on Cable, 1m