

# Avtron HS45 Encoders



**Heavy Mill Duty Magnetic  
Hollow Shaft Encoder, 5/8"-1  
1/8" [16-30mm]**

## Magnetic Durability, Worldwide Compatibility

- | No fragile optics, no glass disks
- | All electronics fully potted/encapsulated
- | Cast aluminum heavy duty housing
  - | 3-5X heavier duty bearings
- | Insulated from motor shaft currents
- | Immune to magnetic and electrical interference from motors and brakes
- | Mechanical Overspeed Switch Option
  - | 3 Year No-Hassle Warranty

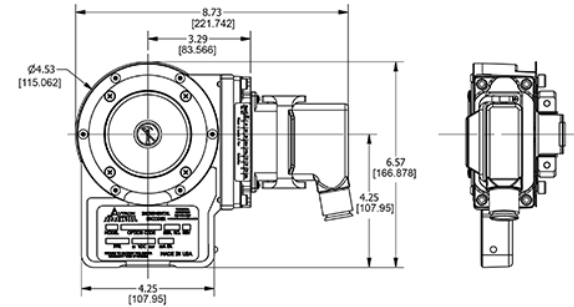
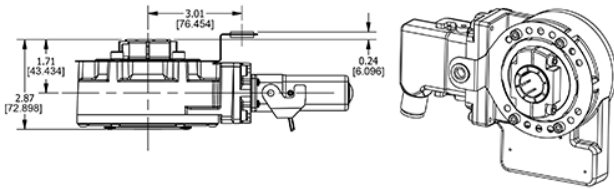
## HS45

Avtron HS45 EU-SMART Encoders are magnetic, hollow shaft, heavy duty encoders (incremental rotary quadrature encoders) for any mounting application including NEMA motors (incl. GE, Marathon, US Motors) and European-style motors such as ABB and Siemens. Also available: AV45 solid shaft encoder to fit European B-flanges (85mm), and foot mount applications and severe duty AV685 encoders.

The HS45 offers clamp-style and (rear) center-bolt mounting options. Clamp-style fits shafts from 5/8" to 1 1/8" [16mm-30mm]; center-bolt mounting is available for 16mm (straight) and 17mm (cone/taper shaft). Clamp-style mounting utilizes a convenient field-changable sizing sleeve and provides shaft current isolation. Center-bolt styles feature insulated ceramic ball bearings to prevent shaft current damage.

The HS45 is designed for use in rough environments with constant exposure to temperature extremes, water, oil, and dirt. Its high-power output circuits with universal 5-24V power are fully protected against surges and wiring errors. The onboard diagnostics warn of any signal quality issues before these problems cause downtime on your machine.

# OUTLINE DRAWING



# MORE HS45 ADVANTAGES

- Direct replacement for Hubner HOG8, 9, 10, Leine & Linde 861, 862, 865, and many others
- Fits US motors with shafts from 5/8" to 1 1/8"
- Fits European motors with 16mm straight and 17mm taper shaft center-bolt systems
- Full protection against wiring errors and short circuits, surges and reverse voltage
- High-power outputs for long cable runs
- Diagnostic LED & alarm output contact option
- Dual isolated output option (mix and match PPRs as needed)

# HS45 SPECIFICATIONS

**Operating Power:** Volts: 5-24VDC; 100mA, no load  
**Output Format:** A Quad B with marker (A,A, B,B, Z,Z)  
**Second Isolated Output:** Optional  
**Frequency Range:** 0 to 165 KHz  
**Maximum Instantaneous Current Output:** 3000mA\*  
**PPR:** 8-5000  
**Speed:** 5000 RPM Max. std., for higher speeds, consult factory  
**Enclosure:** IP65  
**Electronics:** Fully Encapsulated, IP67\*  
**Temperature:** -40° to +100°C\*  
**Vibration:** 18Gs  
**Shock:** 100Gs  
**Chemical:** Polyurethane enamel paint protects against salt spray, mild acids, and bases.

\*see manual for specification details

Check out our website for more detailed specifications, drawings, and installation instructions. [www.avtroncoders.com](http://www.avtroncoders.com)

# SELECTION GUIDE

HS45 PART NUMBERS AND AVAILABLE OPTIONS

Model	Shaft Size	Left PPR	Right PPR	Line Driver Output	Connector Option	Tether/Anti-rotation Arm	Output Channels	Modifications
<b>HS45</b>	<b>Clamp Style</b> Metric USA S- 16mm C-5/8" V- 19mm D-3/4" W- 20mm E- 7/8" Y- 25mm F- 1" 3- 30mm G- 1 1/8" Z- All U-All Metric USA Sizes Sizes "S, V, "C, D, W, Y, E, F, 3" G* <b>Center-Bolt*</b> L- 16mm M- 17mm	AF- 60 AY- 1024 AG- 100 AZ- 1200 AH- 120 A3- 2000 AL- 240 A4- 2048 AN- 256 A5- 2500 AP- 300 AD- 4096 AE- 360 A8- 4800 AB- 480 A9- 5000 AQ- 500 A0- AR- 512 Special AS- 600 AV- 900 AJ- 960 AW- 1000	XX- None AW- 1000 AF- 60 AY- 1024 AG- 100 AZ- 1200 AH- 120 A3- 2000 AN- 256 A5- 2500 AP- 300 AD- 4096 AE- 360 A8- 4800 AB- 480 A9- 5000 AQ- 500 A0- AR- 512 Special AS- 600 AV- 900 AJ- 960	8- 5-24V in 5-15V out 4125 hi-power		x- None <b>Tether Style</b> D- Fan Cover, ALL E- 4.5" & 6.75" C-face F- 8.5" C-face H- "D" & "F" M- "D" & "E" <b>Arm Style</b> G- Adjustable arm, 110-300mm P- 70mm arm T- "G" w/fan cover T-bolt U- All tethers "A"- "T" arm	A- A, Ā, B, B̄, Z, Z̄ <b>For 6,7 pin                      conns only</b> B- A, Ā, B, B̄ E- A, B, Z F- A, B	500- 100°C rating for clamp styles C, D, E, F 600- Add mechanical overspeed switch 9xx- Special cable length xx=length x 0.3m (use w/ Connector Option "W")

Connector Options

Mounted on Encoder Body

Global Styles			North American Styles				Sealed Cable	
M12 8 pin	M23 12 pin	Terminal Box	Industrial Connector	MS 10 pin	MS 6 pin	MS 7 pin		Mini MS TwistLock
T- Global pinout without plug U- USA pinout without plug	2- Leine & Linde pinout without plug 3- Hubner pinout without plug	L- box with term's & cord grip H- box with term's & US 1/2" conduit	P- w/plug G- Northstar™ pinout w/o alarm w/plug	A- HS35 pinout without plug B- Dynapar™ HS35 pinout without plug C- HS35 pinout w/plug D- Dynapar™ HS35 pinout w/plug 4- Large encoder (M3/4) pinout w/plug	E- w/plug F- Dynapar™ HS35 pinout w/plug	J- w/plug K- Dynapar™ HS35 pinout w/plug	R- w/plug	W- 0.45m cable Q- 0.45m cable w/ remote base w/ind1 conn w/plug S- 0.45m cable w/ twistlock conn without plug

\* Requires special shaft length & center-tapped hole. See manual for details. All dimensions are in inches [millimeters]. Specifications and features are subject to change without notice.

CE Pending



Nidec-Avtron Makes the Most Reliable Encoders in the World  
 8901 E. PLEASANT VALLEY ROAD • INDEPENDENCE, OHIO 44131-5508  
 TELEPHONE: (1) 216-642-1230 • FAX: (1) 216-642-6037  
 E-MAIL: [tachs@nidec-avtron.com](mailto:tachs@nidec-avtron.com) • WEB: [www.avtroncoders.com](http://www.avtroncoders.com)

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