

# Avtron Model AV685

SMARTach II Magnetic Encoder, 1 1/8" Hollow Shaft Mount



## The Toughest Hollow Shaft Encoder Built!

- Severe Mill Duty
- Up to 4096 PPR
- Replaces Competitive Models Without Rewiring
- Self-Diagnostic LED & Alarm
- Outputs Fully Short Circuit Protected
- Removable Sensors
- End of Shaft and Thru Shaft Models Available
- IP66 Enclosure
- High-Power Output Standard
- Optional Dual Isolated Outputs
- 1 Year No-Hassle Warranty

**AV685** hollow shaft encoders survive the worst conditions: dust, dirt, liquid sprays, and temperature extremes from  $-40^{\circ}\text{C}^*$  to  $+120^{\circ}\text{C}^*$ !

The dual, replaceable sensors are interchangeable between AV485, AV685, and AV850 and feature high-power outputs that drive long cable lengths easily. These AV5 SMARTach II sensors have the best protection of any encoder—from surges, wiring

outputs to power, ground, between phases, or even short circuits!

The green diagnostic LED on the sensors assure you that the encoder is outputting ideal signals—no more false drive trips.

If for any reason, the signal is not ideal, the light turns red, and an alarm contact notifies the operator. However, the AV685 keeps working. This enables maintenance to be

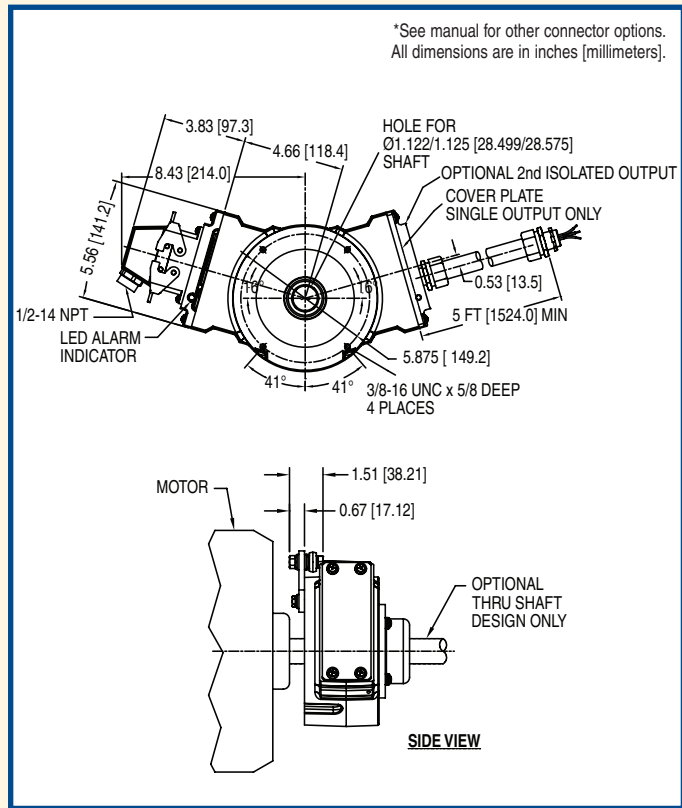
scheduled, and unscheduled downtime is eliminated!

The durable hollow shaft design tolerates huge axial movements, and withstands more shaft runout than any other encoder available.

So, if you want the highest reliability, most durable encoder in your mills, select AV685.

# AV685 Magnetic Hollow Shaft Encoder (1 1/8") [28.58mm]

## OUTLINE DRAWING



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

## MORE AV685 ADVANTAGES

- SMARTach II sensors find problems before they cause failures
- Replaces Avtron M585, M685; Dynapar HS56, HS85 models
- Mix and match any PPR's
- No sensor shimming required
- Dual oversize bearings, spaced farther apart
- Synthetic bearing lubricant for longer life
- Optional overspeed switch
- Optional shaft grounding
- Huge range of stub shaft adapters available to fit shafts from 1 3/8" to 12" & most major motor brands

## AV685 SPECIFICATIONS

**Operating Power (Each Sensor):** 5-24V, 100mA  
**Output Format:** A Quad B with marker (A,  $\bar{A}$ , B,  $\bar{B}$ , Z,  $\bar{Z}$ )  
**Frequency Range:** 0 to 165 KHz  
**Maximum Cable Length:** 2000' [600m] \*\*\*  
**PPR:** 8 - 4096  
**Speed:** 4500 RPM Max  
**Temperature:** -40°\* to 120°C\*  
**Environmental:** IP66\*\*; Nema 4, 13 Rating  
**Weight:** 15 lbs. [6.4 kg]; 17lbs [7.7kg] dual output  
**CC Pending**

\*-20°C to 80°C Standard.

\*\*Connector options may reduce IP rating.

\*\*\*Hi-power outputs; may be limited by RPM & PPR; see manual for details.

## SELECTION GUIDE

AV685 PART NUMBERS AND AVAILABLE OPTIONS INCLUDING AV5 SENSORS									
Model	Temp Rating	Tether	Style	Left Module		Right Module		Connector Options	Modifications
				Line Driver	PPR	Line Driver	PPR		
AV685	N- -20°C to 80°C C- -40°C to 80°C H- -20°C to 120°C <sup>+</sup>	X- none 1- B21958 threaded rod	E- standard (EOS) T- through shaft G- grounding O- over speed switch	X- none 8- 5-24/5-15 VDC	X- none L- 240 A- 128 N- 256 B- 480 P- 300 D- 4096 R- 512 E- 360 S- 600 F- 60 V- 900 G- 100 Z- 1200 H- 120 4- 2048 J- 960 5- 2500	X- none 8- 5-24/5-15 VDC	X- none L- 240 A- 128 N- 256 B- 480 P- 300 D- 4096 R- 512 E- 360 S- 600 F- 60 V- 900 G- 100 Z- 1200 H- 120 4- 2048 J- 960 5- 2500		000- none
Connector Options									
Mounted on Encoder Body									
3' Cable									
5' Flexible Conduit									
Industrial Connector	5 pin MS	10 pin MS	Other	Industrial Connector	Twist Lock	Other			
G- (Northstar™ Pinout) with Plug P- with Plug V- with Plug, w/insulated adapter	E- (M737 Pinout) without Plug F- "E" with Plug H- (M727 Pinout) without Plug J- "H" with Plug	A- without Plug B- with Plug & clamp C- with Plug & Flex. Adapter L- with Right Angle Plug	K- Condulet R- Twist Lock Mini MS with Plug	X- without Plug Z- with Plug	S- Mini MS with Plug	W- Leads only	D- 10 pin MS w/ins. adapter M- w/ins. adapter N- In Flextight T- Terminal box on 5' Flextight Y- "T" w/ins. adapter		



All dimensions are in inches [millimeters].  
Specifications and features are subject to change without notice.