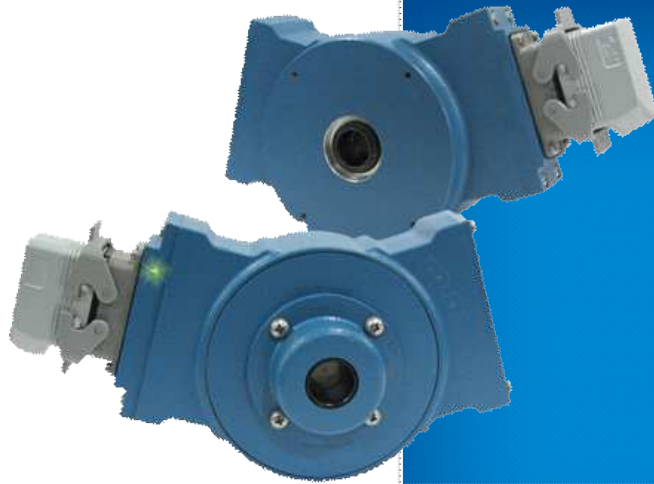


# Avtron AV685 SMARTach II™ Encoders



## Severe Mill Duty SMARTach II Magnetic Encoder, 1 1/8" Hollow Shaft Mount

### The Toughest Hollow Shaft Encoder Built!

- | Severe Mill Duty
- | Up to 5000 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

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

AV685 hollow shaft encoders survive the worst conditions: dust, dirt, liquid sprays, and temperature extremes from -40°C\* to +120°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!

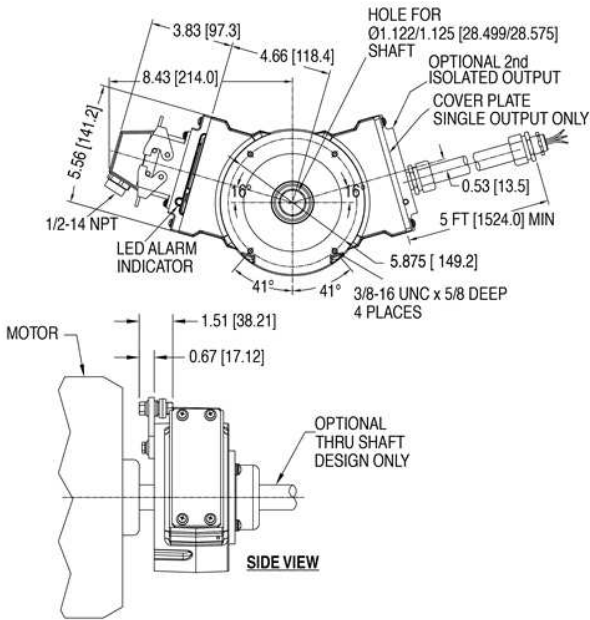
The green diagnostic LED on the sensors assure you that the encoder is outputting ideal signals—no more false drive trips.

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 mill, select AV685.

# OUTLINE DRAWING



# MORE AV685 ADVANTAGES

- SMARTach II sensors find problems before they cause failures
- Replaces Avtron M585, M685; Dynapar HS56, HS85 models
- Optional K661 signal converter for direct replacement of analog tachs (BC42, 46, etc.)
- 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 motor brands

# AV685 SPECIFICATIONS

**Operating Power (Each Sensor):** 5-24V, 100mA  
**Output Format:** A Quad B with marker (A,A-, B,B-, Z,Z-)  
**Frequency Range:** 0 to 165 KHz  
**Maximum Cable Length:** 2000' [600m] \*\*\*  
**PPR:** 8 - 5000  
**Speed:** 4000 RPM Max  
**Temperature:** -40\* to 120°C\*  
**Environmental:** IP66\*\*; Nema 4, 13 Rating  
**Weight:** 15 lbs. [6.4 kg]; 17lbs [7.7kg] dual output

Pending

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

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

\*-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	X- none 1- B32809 threaded rod	E- standard (EOS) T- through shaft G- grounding O- over speed switch	X- none 6- 5-24V in/out 7272 8- 5-24V in/ 5-15V out, 4125 hi-power 9- 5-24V in, 5V out 7272	X- none F- 60 G- 100 H- 120 A- 128 L- 240 N- 256 P- 300 E- 360 B- 480 Q- 500 R- 512 S- 600	U- 720 V- 900 J- 960 Y- 1024 Z- 1200 6- 1800 3- 2000 4- 2048 5- 2500 D- 4096 8- 4800 9- 5000 0- special	X- none 6- 5-24V in/out 7272 8- 5-24V in/ 5-15V out, 4125 hi-power 9- 5-24V in, 5V out 7272	X- none F- 60 G- 100 H- 120 A- 128 L- 240 N- 256 P- 300 E- 360 B- 480 Q- 500 R- 512 S- 600	U- 720 V- 900 J- 960 Y- 1024 Z- 1200 6- 1800 3- 2000 4- 2048 5- 2500 D- 4096 8- 4800 9- 5000 0- special	003- Include analog signal converter (K661) 004- Super magnetic shielding 028- Include Spanner Wrenches 4xx- Special PPR (see table below) 9xx- Special Cable Length, XX= Length in Feet	
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 1- 10 Pin Mini Epic With Plug (M3 & M4 Replacement)	Z- with Plug Q- 18" flex cable, with Remote Base	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				
SPECIAL PPR OPTION CODES											
OPTION CODE	LEFT PPR	RIGHT PPR									
401	1270	None									
402	150	None									
403	50	None									
404	None	16									
405	16	None									
406	6000	None									
407	2800	None									
408	1400	None									
409	30	None									
410	None	6000									



Nidec-Avtron Makes the Most Reliable Encoders in the World  
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 E-MAIL: [tachs@nidec-avtron.com](mailto:tachs@nidec-avtron.com) • WEB: [www.avtronencoders.com](http://www.avtronencoders.com)

All dimensions are in inches [millimeters].  
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