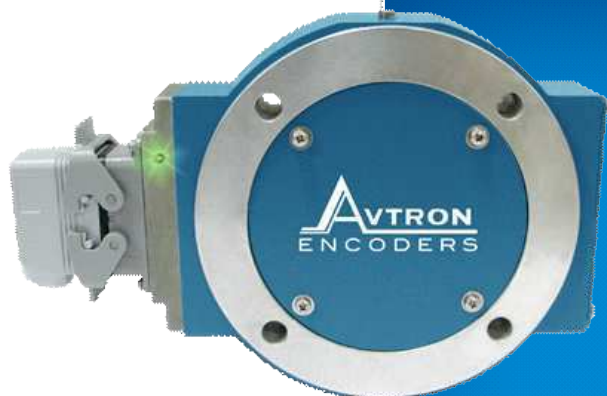




# Avtron AV850 SMARTach II Encoders



## Heavy Mill Duty Magnetic Modular Encoder, 8.5" C-Face Mount

### Ultra-Reliable! AV850

- | Heavy Mill Duty
- | Installation in Minutes!
- | Up to 5000 PPR
- | Removable Sensors
- | Wide-Gap Technology, No Air Gap Adjustment Required
- | Mounts Securely to Motor
- | Outputs Fully Short Circuit Protected
- | Self-Diagnostic LED & Alarm Output
  - | Sealed Electronics
  - | -40°C to +100°C Operation
  - | 3 Year No-Hassle Warranty
- | Excellent for Gear Motors and Brake Applications

SMARTach II™ Magnetic, Modular Encoder, 8.5" C-Face Mount

AV850 SMARTach II heavy mill duty modular magnetic encoders fit standard 8.5" FC-Face motors. Other models, from 115mm to 12.5", are available to fit other motor sizes, and hazardous duty models: [XR850](#) are also available.

Quite simply, the AV850 is designed to eliminate encoder failures.

All AV850 electronics are fully encapsulated. There are no moving wearing parts. AV850 sensors locate over 4X farther from the rotor than the competition; no more sensor/rotor grinding!

The AV850's high-power outputs have over 50X more capacity.

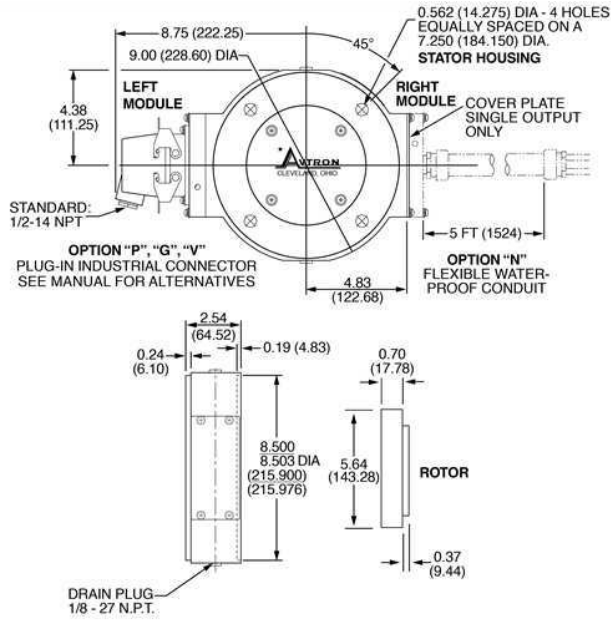
Miswiring an encoder is common— and it shouldn't cost you time or money. The AV850 has full output short circuit and reverse voltage protection, plus surge protection.

AV850 SMARTach II sensors digitally self-tune the outputs to eliminate drive trips caused by poor encoder signals.

AV850 sensors feature unsurpassed diagnostics. If the encoder signal is not ideal, the alarm output and LED inform the machine operator that the encoder should be checked, before a failure occurs! The AV850 even checks the rotor position before you start running!

If you think you need to replace your drives to end your encoder failures, try a better encoder instead. Specify AV850!

# OUTLINE DRAWING



# MORE AV850 ADVANTAGES

- SMARTach II sensors find problems before they cause failure
- Replaces Northstar/LakeShore RIM8500™, NexGen 8500; Avtron M193B, M285; GE AN-DG models
- Resists motor and brake interference noise
- Reverse voltage protection
- Mix and match any PPRs with any rotor
- Permits axial movement up to +/-0.100" [+/-2.54mm]
- Universal rotor for all GE CD style and many Reliance motors.
- Optional overspeed switch
- Optional shaft grounding

# AV850 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 Instantaneous Current Output:** 3000mA\*  
**PPR:** 8 - 5000  
**Speed:** 6000 RPM Max\*\*\*  
**Rotor Positioning:** Up to +/-0.100" movement/misalignment  
**Sensor-Rotor Gap:** 0.045", +0.015/-0.040" [1.14mm+0.38/-1.0]  
**Temperature:** -40° to 100°C (rotor -40° to 150°C peak)  
**Electronics:** Fully Encapsulated, IP67\*\*  
**Vibration:** 18 g's  
**Shock:** 1 meter drop test  
**Weight:** 9lbs. [4kg]; 11lbs. [5kg] dual

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  
 \*Output option 8; see manual for details.  
 \*\*Connector options may reduce IP rating.  
 \*\*\*Max RPM may be limited  
 For PPR > 2500 contact factory

# SELECTION GUIDE

AV850 PART NUMBERS AND AVAILABLE OPTIONS																																						
Model	Rotor Bore Size/Mounting			Inboard & Outboard Cover Plates	Left Module		Right Module		Connector Options	Modifications																												
	Thru Shaft	End of Shaft (GE Motors)			Line Driver	PPR	Line Driver	PPR																														
AV850	XX- no rotor US- 0.625" CB- 0.625" CA- 0.750" CC- 0.875" CE- 1.000" CF- 1.125" CH- 1.375" CJ- 1.625" CK- 1.750" CL- 1.875" CM- 2.000" CN- 2.125" CQ- 2.250" CP- 2.375" CR- 2.500" CT- 2.625" CS- 2.771" C2- 2.875" CW- 3.250" CY- 3.375" CZ- 3.421" C3- 3.500" TD- 3.625 TG- 3.750 T4- 3.875 T1- 4.000 T6- 4.500 C0- special	METRIC MF- 30mm MJ- 42mm MP- 60mm MY- 80mm** MZ- 80mm*** M4- 95mm MO- special	XX- no rotor w/o Ground UF- CD180-32x UN- CD36x UP- CD4xx UQ- CD444/505E* U2- CD5xx UR- CD507, 509 UV- CD43xx 44xx, 54xx, 64xx, 65xx* UW- CD45xx 75xx, 76xx* UY- CD46xx, 47xx 85xx, 86xx* UZ- CD68x* U9- CD6xx-62xx, 67xx-69xx U4- ABB 95mm UU- Universal; CD180-CD86xx Q*- Quad Stacking	w/ Ground GF- "JF" GN- "JN" GP- "JP" GQ- "JQ" G2- "J2" GV- "JV" GW- "JW" GY- "JY" GZ- "JZ" G9- "J9"	X- none B- inboard, thru outboard** F- no inboard, flat outboard N- inboard, flat outboard** T- no inboard, thru out, board** * Large motor stator adapter required if not previously installed ** N/A with T6 rotor ^ CB rotor is also "Universal" rotor used in all UF-UU and GF-G9 kits. > N/A for End of Shaft rotor styles	X- none 8- 5-24V in/ 5-15V out, hi power 9- 5-24V in, 5V fixed out L- 240 N- 256 P- 300 E- 360 B- 480 Q- 500 R- 512 S- 600 V- 900 J- 960 Y- 1024	Z- 1200 A*-1270 4- 2048 5- 2500 D- 4096 8- 4800 9- 5000 0-special	X- none 8- 5-24V in/ 5-15V out hi power 9- 5-24V in, 5V fixed out L- 240 N- 256 P- 300 E- 360 B- 480 Q- 500 R- 512 S- 600 V- 900 J- 960 Y- 1024	Z- 1200 A*-1270 4- 2048 5- 2500 D- 4096 8- 4800 9- 5000 0-special	000- none 002*-select alternate PPR assignment code 700- Large Motor Stator Adapter* 004- Super magnetic shielding																												
<table border="1"> <thead> <tr> <th colspan="7">Connector Options</th> </tr> <tr> <th colspan="4">Mounted on Encoder Body</th> <th colspan="2">3' Cable</th> <th rowspan="2">5' Flexible Conduit</th> </tr> <tr> <th>Industrial Connector</th> <th>5 pin MS</th> <th>10 pin MS</th> <th>Other</th> <th>Industrial Connector</th> <th>TwistLock</th> <th>Other</th> </tr> </thead> <tbody> <tr> <td>P- with Plug G- (Northstar™) without Plug Pinout with Plug</td> <td>E- (M737 Pinout) without Plug F- "E" with Plug H- (M727 Pinout) without Plug J- "H" with Plug</td> <td>A- without Plug B- with Plug C- with Plug &amp; Flex, Conduit Adapter L- with Right Angle Plug</td> <td>K- Condulet with Leads R- Mini MS TwistLock with Plug 3- 6 Pin MS (M940)</td> <td>Z- with Plug Q- 18" flex Cable, with Plug on remote base</td> <td>S- Mini MS without Plug</td> <td>W- Leads only</td> <td>N- Leads only T- Terminal box</td> </tr> </tbody> </table>										Connector Options							Mounted on Encoder Body				3' Cable		5' Flexible Conduit	Industrial Connector	5 pin MS	10 pin MS	Other	Industrial Connector	TwistLock	Other	P- with Plug G- (Northstar™) without Plug Pinout with Plug	E- (M737 Pinout) without Plug F- "E" with Plug H- (M727 Pinout) without Plug J- "H" with Plug	A- without Plug B- with Plug C- with Plug & Flex, Conduit Adapter L- with Right Angle Plug	K- Condulet with Leads R- Mini MS TwistLock with Plug 3- 6 Pin MS (M940)	Z- with Plug Q- 18" flex Cable, with Plug on remote base	S- Mini MS without Plug	W- Leads only	N- Leads only T- Terminal box
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CE Pending

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



8901 East Pleasant Valley Road  
 Independence | Ohio 44131  
 P: 216.642.1230  
[www.avtronencoders.com](http://www.avtronencoders.com)



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