

Avtron AV125 SMARTach II™ Encoders



Heavy Mill Duty Magnetic Modular Encoder, 12.5" C-Face Mount

Our Largest Encoder! AV125

- ┆ Heavy Mill Duty
 - ┆ Up to 7.88" [200mm] Shafts
 - ┆ Up to 8192 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 Brake Applications

AV125 SMARTach II™ heavy mill duty modular magnetic encoders fit 12.5" motor and NEMA brake flanges. Other models, from 115mm to 8.5", are available to fit other motor sizes.

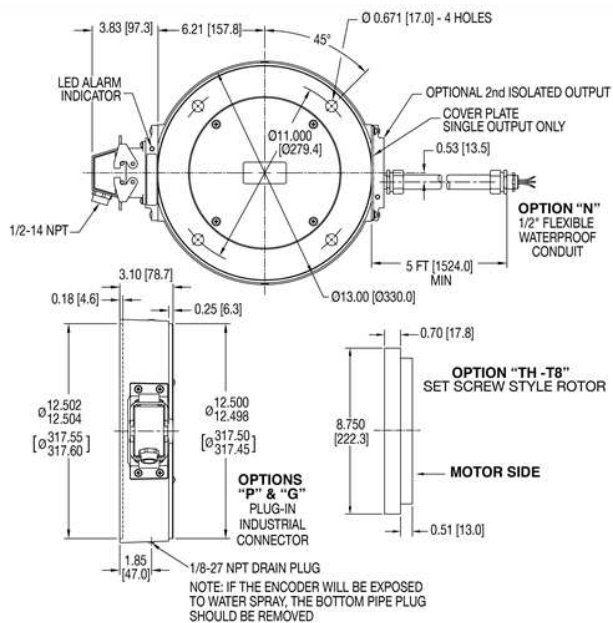
AV125 is ideal for large motor and brake applications where a large diameter through-shaft is needed. It permits shafts up to 7 7/8" [200mm] to pass through the encoder, facilitating motor-encoder-brake sandwich construction, as well as hollow shafts for water or air cooling systems to pass through the encoder. Because AV125 is super-reliable and features removable sensors, you can install it in hard-to-access configurations and locations without risk of downtime.

Quite simply, the AV125 is designed to eliminate encoder failures: All AV125 electronics are fully encapsulated. There are no moving wearing parts. AV125 sensors locate over 4X farther from the rotor than the competition; no more sensor/rotor grinding! The AV125's high-power outputs have over 50X more capacity. Miswiring an encoder is common – and it shouldn't cost you time or money. The AV125 has full output short circuit and reverse voltage protection, plus surge protection.

AV125 SMARTach II sensors digitally self-tune the outputs to eliminate drive trips caused by poor encoder signals. AV125 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 AV125 even checks the rotor position before you start running!

Forget tiny optical encoders perched precariously behind your large motor or brake. Specify a heavy duty AV125 encoder!

OUTLINE DRAWING



MORE AV125 ADVANTAGES

- SMARTach II sensors find problems before they cause failure
- Replaces Northstar/LakeShore RIM1250™, NexGen 1250, SL1250™; Avtron M1250 models
- Resists motor and brake interference noise
- Reverse voltage protection
- Mix and match any PPR with any rotor
- Permits axial movement up to +/-0.100" [+/-2.54mm]

AV125 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: 8-8192
Speed: 5000 RPM Max. (contact factory for higher speeds)
Rotor Positioning: Up to +/-0.100" movement/misalignment
Sensor-Rotor Gap: 0.050", +0.015/-0.040" [1.27mm+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

*Output option 8; see manual for details.

**Connector options may reduce IP rating.

Check out our website for more detailed specifications, drawings, and installation instructions. www.avtronencoders.com

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

Northstar/LakeShore RIM1250™ and SL1250™ are trademarks of Dynapar.

Spare sensors, rotors, through-shaft cover plates, and shaft grounding kits can be ordered separately.

SELECTION GUIDE

AV125 PART NUMBERS AND AVAILABLE OPTIONS									
Model	Thru Shaft Rotor Bore, US Sizes		Inboard & Outboard Cover Plates	Left Module		Right Module		Connector Options	Modifications
				Line Driver	PPR	Line Driver	PPR		
AV125	XX- no rotor CE- 4.690" CH- 1.375" CA- 4.875" CJ- 1.625" CG- 5.000" CL- 1.875" CK- 5.250" CM- 2.000" C7- 5.375" CN- 2.125" C3- 6.000" CQ- 2.250" CF- 6.250" CP- 2.375" TU- 6.375" CR- 2.500" C8- 6.750" CT- 2.625" T9- 7.875" C2- 2.875" DG- 25mm CV- 3.125" DY- 85mm CW- 3.250" D4- 90mm CY- 3.375" M1- 100mm C4- 3.875" DC- 110mm C1- 4.000" DE- 120mm** CB- 4.125" DF- 160mm C5- 4.250" M8- 170mm** CC- 4.375" DE- 120mm** C6- 4.500" DF- 160mm CD- 4.625" M8- 170mm*	X- none F- no inboard, flat outboard T- no inboard, thru outboard	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 V- 900	J- 960 Y- 1024 Z- 1200 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 V- 900	000- none 003- Include analog signal converter (K661) 004- Super magnetic shielding 005- 6000 RPM top speed 006- Super magnetic shielding w/sealed/marine housing 4xx-Special PPR (see table)	

Connector Options						Spare sensors, rotors, through-shaft cover plates, and shaft grounding kits can be ordered separately. Cam screw rotors patented. * rotors above 6.75" bore are set screw, all others cam screw style ** m6 tolerance, all other metric rotors are h7	
Mounted on Encoder Body			3' Cable				5' Flexible Conduit
Industrial Connector	10 pin MS (LARGE ENCODER PINOUT)	Other	Industrial Connector	Mini MS	Other		
P- with Plug G- (Northstar™ Pinout) 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/ Twist Lock with Plug	Z- with Plug	S- Baldor Twist Lock with Plug	W- Leads only	N- Leads only T- Terminal box	

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* rotors above 6.75" bore are set screw, all others cam screw style

** m6 tolerance, all other metric rotors are h7

Nidec

AVTRON
ENCODERS

Nidec-Avtron Makes the Most Reliable Encoders in the World

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All dimensions are in inches [millimeters]. Specifications and features are subject to change without notice. EU-SMART™, SMARTSafe™, SMARTach II™, THIN-LINE™, THIN-LINE II™, WIDE-GAP™, and BULLSEYE32™ are trademarks of Nidec Avtron Automation. All other trademarks and registered trademarks are the property of their respective owners.