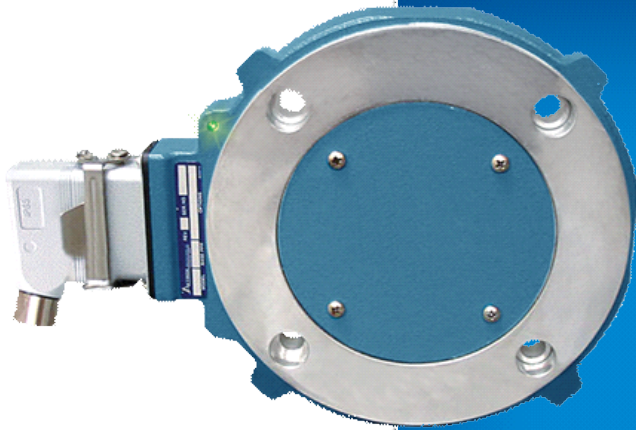


# Avtron AV85 THIN-LINE III™ Encoders



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

### STRONGER and SMARTER

- | Heavy Mill Duty
- | Simple, Secure Installation
- | All models are protected against all short circuits and wiring errors
- | Wide-Gap Technology: No Sensor Scraping or Adjustment
  - | Up to 50000 PPR
  - | No Couplings or Bearings
  - | Sealed Electronics
- | Self-Diagnostic LED and Alarm Output
  - | Universal 5-24V Operation
  - | 3 Year No-Hassle Warranty

### AV85

AV85 THIN-LINE III™ heavy mill duty modular magnetic encoders fit standard 8.5" C-Face motors and 8.5" flanges commonly used for NEMA brake mounting. Other THIN-LINE III models, ranging from 115mm to 6.75", are available to fit other motor sizes, and AV125 is available for 12.5" NEMA brake applications.

The AV85 is perfect for brake motor applications where the encoder is sandwiched between the motor and brake. With a real-world installation history of over 4,500,000 hour MTBF, you don't have to worry about replacing the encoder!

THIN-LINE III encoders feature simple installation, durable construction, and clear diagnostics to eliminate encoder-related downtime: First, the magnetic sensors are fully potted to withstand dirt and liquids. No glass disks, no optics to clog. There are no moving, wearing parts! The patented Wide-Gap™ Cam Screw Rotors™ put an end to sensor damage, are simpler to install, and stay securely mounted to the shaft. The universal 5-24V design drives longer cables and is protected against wiring errors and surges. When you power up an AV85, you know you installed it right: the green light tells you the digital self-tuning has set your AV85 optimally. If at any time the AV85 cannot produce ideal signals, the LED changes to red and the remote alarm contact activates. However, the encoder keeps working to give you time to schedule service. Any time there are wiring errors, the LED changes to orange. AV85 is the ideal solution to keep your motor and drive system running 24/7/365!

# OUTLINE DRAWING

# MORE AV85 ADVANTAGES

- Replaces Avtron M85, Northstar/Dynapar™ D8, D850, S8, S85, S850, SL85, ST85; online cross reference guide available
- Shrugs off dirt, oil, and water contamination
- Highly resistant to electrical and magnetic motor and brake noise
- Patented Cam Screw Rotor™ eliminates rotor slipping
- Built-in motor position guide and diagnostic check
- No air gap adjustment required
- Corrosion-resistant coating on all metal surfaces
- Second C-face included for outboard brake/accessory mount
- Sealed thru-shaft option
- Fits shafts 0.500" - 3.188" [10 - 85 mm]
- 4,500,000+ hour MTBF design

# AV85 SPECIFICATIONS

Operating Power: Volts: 5 - 24 VDC; Current: 100mA, no load  
 Output Format: A Quad B with Marker (A,A-, B,B-, Z,Z-)  
 Second Isolated Output: Optional  
 Frequency Range: @5V, @1m cable, 250 kHz Max  
 @24V, @300m cable, #8 output, 45 kHz Max

Maximum Cable Length: 1000'  
 PPR: 4 - 50000  
 Speed: 5400 RPM Max. std., for higher speeds, consult factory  
 Electronics: Fully Encapsulated, IP67 (see manual for details)  
 Temperature: -40° to 100°C (150°C rotor)  
 Vibration: 18 g's  
 Shock: 1 meter drop test  
 Chemical: Polyurethane enamel paint protects against salt spray, mild acids, and bases.  
 Weight: 2 - 3 lbs [0.9 - 1.36 kg]

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

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

# SELECTION GUIDE

AV85 PART NUMBERS AND AVAILABLE OPTIONS								
Model	Housing Type	Shaft Size (Thru Shaft Rotor)	Cover Style	Line Driver	Single/Left Output (PPR)	Right Output (PPR)	Connector	Modifications
AV85A	1- Single Output 2- Dual Output	C0- Non-std. Shaft Size XX- None Thru Shaft Rotor US- Metric CA- 0.500 D0- 10mm CB- 0.625 DA- 11mm CC- 0.875 DB- 12mm CD- 0.938 DB- 14mm CE- 1.000 DC- 15mm CF- 1.125 DD- 16mm CG- 1.250 D4- 18mm CH- 1.375 DE- 19mm CT- 1.500 DF- 24mm CJ- 1.625 DG- 28mm CK- 1.750 DH- 30mm CL- 1.875 DT- 32mm CM- 2.000 DJ- 38mm CN- 2.125 DK- 38mm CO- 2.250 DL- 42mm CP- 2.375 DM- 45mm CR- 2.500 DN- 48mm TS- 2.625 DP- 52mm TU- 2.875 DR- 55mm TW- 2.750 DS- 60mm TV- 3.000 MU- 65mm* T4- 3.125 MV- 70mm* T7- 3.188 MW- 75mm* TZ- 3.250 MY- 80mm* MZ- 85mm*	E- Extended Shaft Cover F- Flat Cover T- Flat Thru-Hole Cover with Shaft Seal D- Dome Cover	6- 5-24V in/out 8- 5-24 V in, 5-24 V out high power 9- 5-24V in, 5V out	0- Non-std. V- 600 S- 60 J- 960 G- 100 W- 1000 H- 120 Y- 1024 A- 128 Z- 1200 L- 240 3- 2000 N- 256 4- 2048 P- 300 5- 2500 E- 350 D- 4096 B- 480 8- 4800 Q- 500 9- 5000 R- 512 X- None	0- Non-std. V- 600 S- 60 J- 960 G- 100 W- 1000 H- 120 Y- 1024 A- 128 Z- 1200 L- 240 3- 2000 N- 256 4- 2048 P- 300 5- 2500 E- 350 D- 4096 B- 480 8- 4800 Q- 500 9- 5000 R- 512 X- None	W- St. Cable, Sealed	000-No Modification 004-Add Housing Drain (single output only) 005-Super Magnetic Shielding 4xx-Special PPR Enter Ø in the PPR code(s), select the special option code below 9xx-Special Cable Length, xx=length in feet 00W- Connector on 18" cable: Use w/ options "T," "U"

Connector Options					
Mounted on Encoder			Mounted on Flex cable		
10 Pin MS	10 Pin EPIC	10 Pin mini MS	7 Pin MS*	10 Pin MS*	10 Pin EPIC*
Not Available	G- w/ plug Northstar pinout P- w/ plug	R- w/ plug	J- w/o plug	Y- 12" cable w/o plug on conduit box (Large Encoder Pinout)	Q- 18" cable w/o plug on remote mount blade Z- 36" cable w/ plug
					S- 18" cable w/ plug
					T- w/o plug (Turck Pinout) U- w/o plug (US Pinout)

(\*Requires Special option 00W



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.