

## Avtron AV56A THIN-LINE III<sup>™</sup> Encoders



**Heavy Mill Duty Magnetic Modular Encoder 4.5" C-Face Mount**

### Magnetic Durability in a Compact Encoder

- Heavy Mill Duty
- Simple, Secure Installation
- 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

All models are protected against all short circuits and wiring errors

### AV56A

AV56A THIN-LINE III<sup>™</sup> heavy mill duty modular magnetic encoders fit standard 4.5" C-Face motors such as Marathon Blue and Black Max, as well as Baldor Reliance models. The stainless steel AV56S is designed for washdown and marine duty. Other THIN-LINE III models, ranging from 115mm to 8.5", are available to fit other motor sizes.

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<sup>™</sup> Cam Screw Rotors<sup>™</sup> put an end to sensor damage, are simpler to install, and stay securely mounted to the shaft.

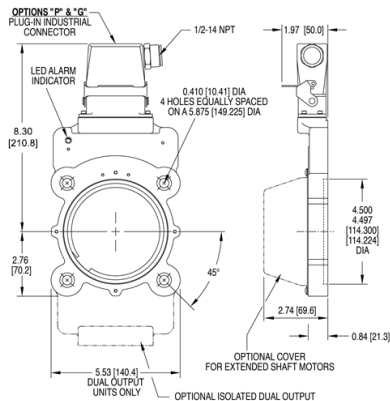
The universal 5-24V design drives longer cables and is protected against wiring errors and surges.

When you power up an AV56A, you know you installed it right: the green LED tells you the digital self-tuning has set your AV56A optimally.

If at any time, the AV56A cannot produce ideal signals, the LED changes to red and the remote alarm contact activates. Even wiring errors and short circuits are detected and indicated by changing the LED to orange. However, the encoder keeps working to give you time to schedule service.

With a real-world installation history of over 4,500,000 hour MTBF, AV56A encoders will keep your machine running 24/7/365!

## OUTLINE DRAWING



## MORE AV56A ADVANTAGES

- Replaces Avtron M56, Northstar/Dynapar™ D5, D560, SL56, ST56, Wind56; online cross reference guide available
- Shrugs off dirt, oil, and water contamination
- Highly resistant to electrical and magnetic motor and brake noise
- If damaged, electronics can be replaced without removing rotor
- Patented Cam Screw Rotor™ eliminates rotor slipping
- Built-in motor position guide and diagnostic check
- No air gap adjustment required
- Sealed thru-shaft option
- Fits shafts 0.500" - 3.188" [10 - 85 mm]
- 4,500,000+ hour MTBF design

## MORE AV56A 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 - 5000

**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)



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# SELECTION GUIDE

MODEL	HOUSING TYPE	ROTOR BORE SIZE	COVER STYLE	LINE DRIVER	LEFT OUTPUT PPR	RIGHT OUTPUT PPR	CONNECTOR OPTIONS	MODIFICATIONS
AV56A	1 - Single Output 2 - Dual, Isolated Outputs	XX - No Rotor CA - 1/2" Thru-Shaft Cam Screw Rotor CB - 5/8" Thru-Shaft Cam Screw Rotor CC - 7/8" Thru-Shaft Cam Screw Rotor CD - 15/16" Thru-Shaft Cam Screw Rotor CE - 1" Thru-Shaft Cam Screw Rotor CF - 1.112" Thru-Shaft Cam Screw Rotor CG - 1 1/8" Thru-Shaft Cam Screw Rotor CH - 1 1/4" Thru-Shaft Cam Screw Rotor CI - 1 3/8" Thru-Shaft Cam Screw Rotor CJ - 1 1/2" Thru-Shaft Cam Screw Rotor CK - 1 5/8" Thru-Shaft Cam Screw Rotor CL - 1 3/4" Thru-Shaft Cam Screw Rotor CM - 1 7/8" Thru-Shaft Cam Screw Rotor CN - 2" Thru-Shaft Cam Screw Rotor CO - 2 1/8" Thru-Shaft Cam Screw Rotor CP - 2 1/4" Thru-Shaft Cam Screw Rotor CQ - 2 1/2" Thru-Shaft Cam Screw Rotor CR - 2 3/8" Thru-Shaft Cam Screw Rotor CS - 2 1/2" Thru-Shaft Cam Screw Rotor CT - 2 5/8" Thru-Shaft Set Screw Rotor CU - 2 3/4" Thru-Shaft Set Screw Rotor CV - 2 7/8" Thru-Shaft Set Screw Rotor CW - 3" Thru-Shaft Set Screw Rotor CX - 3 1/8" Thru-Shaft Set Screw Rotor CY - 3 1/4" Thru-Shaft Set Screw Rotor CZ - 3 1/2" Thru-Shaft Set Screw Rotor D1 - 10mm Thru-Shaft Cam Screw Rotor D2 - 11mm Thru-Shaft Cam Screw Rotor D3 - 12mm Thru-Shaft Cam Screw Rotor D4 - 14mm Thru-Shaft Cam Screw Rotor D5 - 15mm Thru-Shaft Cam Screw Rotor D6 - 16mm Thru-Shaft Cam Screw Rotor D7 - 18mm Thru-Shaft Cam Screw Rotor D8 - 19mm Thru-Shaft Cam Screw Rotor D9 - 20mm Thru-Shaft Cam Screw Rotor D10 - 24mm Thru-Shaft Cam Screw Rotor D11 - 25mm Thru-Shaft Cam Screw Rotor D12 - 26mm Thru-Shaft Cam Screw Rotor with 8x7mm Keyway D13 - 28mm Thru-Shaft Cam Screw Rotor D14 - 30mm Thru-Shaft Cam Screw Rotor D15 - 32mm Thru-Shaft Cam Screw Rotor D16 - 36mm Thru-Shaft Cam Screw Rotor D17 - 38mm Thru-Shaft Cam Screw Rotor D18 - 42mm Thru-Shaft Cam Screw Rotor D19 - 45mm Thru-Shaft Cam Screw Rotor D20 - 48mm Thru-Shaft Cam Screw Rotor D21 - 52mm Thru-Shaft Cam Screw Rotor D22 - 55mm Thru-Shaft Cam Screw Rotor D23 - 60mm Thru-Shaft Cam Screw Rotor D24 - 15/16" Thru-Shaft Cam Screw Rotor for ADC Pitch Motor D25 - 1 1/8" Thru-Shaft Cam Screw Rotor for Wolong/GE Pitch Motor D26 - 1.375" Thru-Shaft Cam Screw Rotor for Wolong Pitch Motor D27 - 65mm Thru-Shaft Set Screw Rotor D28 - 70mm Thru-Shaft Set Screw Rotor D29 - 75mm Thru-Shaft Set Screw Rotor D30 - 80mm Thru-Shaft Set Screw Rotor D31 - 85mm Thru-Shaft	E - Extended (Pie-Pan Style) Cover G - Extended (Pie-Pan Style) Cover with Gasket for High-Dust Environments T - Thru-Shaft Outboard Seal Plate with V-Ring Seal F - Flat Outboard Cover, Low-Profile X - No Cover Plate D - 1/4 inch Domed cover for rear motor/brake sealing	6 - 5-24v in, 5-24v out (7272) recommended for single-ended wiring (A,B,Z, no A/B/Z) 8 - 5-24V In/Out (HX) Hi-Power Line Driver, Fully Protected Outputs 1 - 5-24V In/Out For Special Option Code 007 & 015 Only, No Diagnostics 9 - 7-24V In, 5v fixed outputs (7272) T - 5-24V In, 5-15V Out	F - 60 PPR G - 100 PPR H - 120 PPR A - 128 PPR L - 240 PPR N - 256 PPR P - 300 PPR E - 360 PPR B - 480 PPR Q - 500 PPR R - 512 PPR S - 600 PPR V - 900 PPR J - 960 PPR W - 1000 PPR Y - 1024 PPR Z - 1200 PPR 3 - 2000 PPR 4 - 2048 PPR 5 - 2500 PPR D - 4096 PPR 8 - 4800 PPR 9 - 5000 PPR 0 - Special PPR	X - No Right Output, Single Output Only F - 60 PPR G - 100 PPR H - 120 PPR A - 128 PPR L - 240 PPR N - 256 PPR P - 300 PPR E - 360 PPR B - 480 PPR Q - 500 PPR R - 512 PPR S - 600 PPR V - 900 PPR J - 960 PPR W - 1000 PPR Y - 1024 PPR Z - 2000 PPR 3 - 2000 PPR Z - 1200 PPR 4 - 2048 PPR 5 - 2500 PPR D - 4096 PPR 8 - 4800 PPR 9 - 5000 PPR 0 - Special PPR	A - 10 Pin MS Style w/o Plug Avtron BEI HS35 Pin out B - 10 pin MS style w/o Plug, Danaher HS35 Pin out C - 10 pin MS style w/ Plug, Avtron/BEI HS35 Pin out D - 10 pin MS style w/ Plug, Danaher HS35 Pin out J - 7 pin MS style w/o Plug, A, /A, B, /B, No Marker Pulse P - Industrial (EPIC Style) w/mating plug & remote alarm contact G - Ind1 w/Northstar Pinout (EPIC Style connector), w/mating plug, LED diagnostics Q - EPIC connector w/Remote Base Mount for Baldor TEFC/BC Motors 18" Cable w/LED Diagnostics + alarm output Z - Ind1 on 36 inch Cable (side entry) (EPIC Style) w/LED diagnostics + alarm output W - 36 inch Cable w/LED diagnostics + alarm output contact R - 10 pin Mini-MS style (Bayonet) w/LED diagnostics S - 10 pin Mini-MS style (Bayonet) on 12" cable w/LED diagnostics Y - 10 pin MS style connector on 12 in. cable w/LED diagnostics T - M12 8 Pin Euro Connector on Sealed Cable, (Turk pinout) U - M12 8 Pin Euro Connector on Sealed Cable, (USA Pin out)	000 - None 005 - Super Magnetic Shielding Added 016 - Modification to a 6" cable to remote "O" connector base 050 - Primed Model Only for GE Motor, upgraded model including diagnostic LED & cam screw rotor and super magnetic shielding P50 - Special options for GE Motor, upgraded model including diagnostic LED & cam screw rotor and super magnetic shielding 051 - Primed Model Only Special options for ADC Motor, upgraded model including diagnostic LED & cam screw rotor and super magnetic shielding P51 - Special options for ADC Motor, upgraded model including blue paint, diagnostic LED & cam screw rotor and super magnetic shielding 058 - Primed Model Only for GE Motor, upgraded model including diagnostic LED & cam screw rotor and super magnetic shielding P59 - Special options for Next ERA Energy on GE Motor, upgraded model including diagnostic LED & cam screw rotor and super magnetic shielding P60 - Special options for Next ERA Energy on ADC Motor, upgraded model including paint, diagnostic LED & cam screw rotor and super magnetic shielding P79 - Special options for ADC Motor, upgraded model including black paint, diagnostic LED & cam screw rotor and super magnetic shielding



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