

# Avtron AV115 THIN-LINE III™ Encoders



## Heavy Mill Duty Magnetic Modular Encoder 115mm Flange 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
  - | 4 - 50000 PPR
  - | No Couplings or Bearings
  - | Sealed Electronics
- | Self-Diagnostic LED and Alarm Output
  - | Universal 5-24V Operation
  - | 3 Year No-Hassle Warranty
- | Adapters available to fit Euro 85mm B-Flanges

### AV115

AV115 THIN-LINE III™ heavy mill duty modular magnetic encoders fit standard 115mm flange motors. Adapters are available to fit European B-flange (85mm/100mm BC) motors. Other THIN-LINE III models, ranging from 4.5" to 8.5", are available to fit other motor sizes as needed. For Euro B-flange, [AV45](#) is also available.

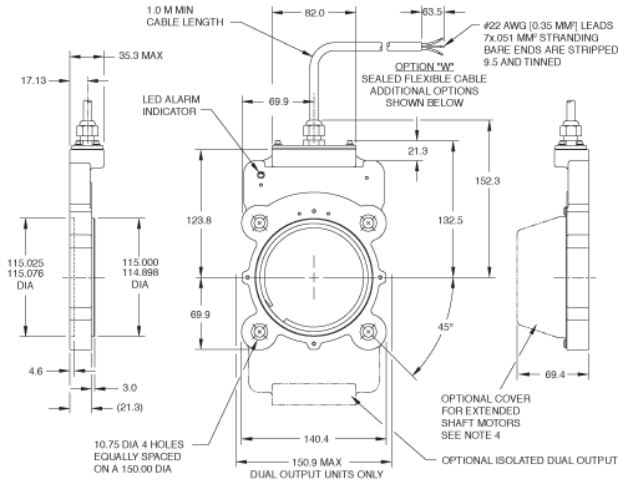
THIN-LINE III encoders feature simple installation, durable construction, and clear diagnostics to eliminate encoder-related downtime:

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 AV115, you know you installed it right: the green light tells you the digital self-tuning has set your AV115 optimally. If at any time, the AV115 cannot produce ideal signals, the light 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.

With a real-world installation history of over 4,500,000 hour MTBF, AV115 encoders will keep your machine running 24/7/365!

# OUTLINE DRAWING



# MORE AV115 ADVANTAGES

- Resists failures from dirt, oil, and water contamination
- Highly resistant to electrical and magnetic motor and brake noise
- If damaged, electronics can be replaced without removing rotor
- Highest rotor holding force available for crane/hoist/brake applications
- No air gap adjustment required
- Fits shafts 11mm - 85mm
- Fits Nidek FEK motors
- 4,500,000+ hour MTBF design
- Thin Profile
- Dual Flange Standard
- Marker Pulse Standard
- 40°C thru +100°C Operation Standard
- Excellent for gear motors and brake applications
- Patented Cam Screw Rotor™ eliminates rotor slipping
- Built-in rotor position guide and diagnostic check

# AV115 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

**Max. Instantaneous Current Output:** 3000 mA

**PPR:** 4 - 50000

**Speed:** 5000 RPM Max. std., for higher speeds, consult factory

**Electronics:** Fully Encapsulated, IP67\*\*

**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:** 0.9kg to 1.36kg.

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

# SELECTION GUIDE

| AV115 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                                                                                                                                                                                                                                                                                     |  |
| AV115                                    | 1- Single Output<br>2- Dual Output | CO- Non. Std. Shaft Size<br>XX- None<br><br>Thru Shaft Rotor<br>D2- 10mm DK- 38mm<br>DA- 11mm DL- 42mm<br>D9- 12mm DM- 45mm<br>DB- 14mm DN- 48mm<br>DC- 15mm DP- 52mm<br>DD- 16mm DR- 55mm<br>DA- 18mm DS- 60mm<br>DE- 19mm MU- 65mm*<br>DF- 24mm MV- 70mm*<br>DG- 28mm MW- 75mm*<br>DH- 30mm MY- 80mm*<br>DT- 32mm MZ- 85mm*<br>DJ- 36mm | E- Extended Shaft Cover<br>F- Flat Cover<br>T- Flat Thru-Hole Cover with Shaft Seal (Seal not available on shafts larger than 75mm)<br>D- Dome Cover | 6- 5-24V in/out<br>8- 5-24 V in, 5-24 V out high power<br>9- 5-24V in, 5V out | 0- Non. Std. J- 960 Y- 1024 Z- 1200<br>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 | 0- Non. Std. J- 960 Y- 1024 Z- 1200<br>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 | W-3 Ft. Cable, Sealed | 000- No Modification<br>004- Add Housing Drain (single output only)<br>005- Super Magnetic Shielding<br>4xx- Special PPR Enter 0 in the PPR code(s), select the special option code below<br>9xx- Special Cable Length, xx=length in feet<br>00W- Connector on 18" cable: Use w/ options "T", "U" |  |

| Connector Options  |                                              |                |               |                       |                      |                      |                                                       |
|--------------------|----------------------------------------------|----------------|---------------|-----------------------|----------------------|----------------------|-------------------------------------------------------|
| Mounted on Encoder |                                              |                |               | Mounted on Flex Cable |                      |                      | 00W                                                   |
| 10 Pin MS          | 10 Pin EPIC                                  | 10 Pin mini MS | 7 Pin MS**    | 10 Pin MS**           | 10 Pin EPIC**        | 10 Pin mini MS**     | (*8 Pin M12)                                          |
| Not Available      | G- w/ plug<br>Northstar pinout<br>P- w/ plug | R- w/ plug     | Not Available | Not Available         | Z- 36" Cable w/ plug | S- 18" Cable w/ plug | T- w/o plug (Turck Pinout)<br>U- w/o plug (US Pinout) |

(\*8 Pin M12)  
(\*)Requires Special option 00W



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.

