

09/15/25



## Avtron AV485 SMARTach™ III Encoders



**Severe Mill Duty Magnetic Encoder;  
Foot or NEMA 56C Face Mount, 5/8"  
Solid Shaft**

### **Magnetic Durability in a Compact Encoder**

Severe Mill Duty Up to 50000 PPR

Replaces Competitive Models  
Without Rewiring

Self-Diagnostic LED & Alarm  
Output

Foot or NEMA 56C Face Mount  
Removable Sensors IP66 Enclosure

High-Power Output Standard

Outputs Fully Short Circuit  
Protected

Optional Dual Isolated Outputs

1 Year No-Hassle Warranty

### **AV485**

The AV485 is designed to withstand the worst environments: buried in slag, coated in pulp, sprayed with salt water or cutting coolants, it keeps working. The modular, gull-winged design makes it easy to install and service; the base can be bolted in place without removing the encoder, and the AV5 wide-gap removable sensors require no adjustment or shimming. The sensors are fully potted to protect against liquids, and are interchangeable between AV850, AV485, and AV685 encoders. The universal 5-24V design drives longer cables and is protected against wiring errors and surges. A second backup output is available with the same or different PPR, and offers completely separate electronics for maximum uptime.

OUTLINE DRAWING



MORE AV485 SPECIFICATIONS

Operating Power: Volts: 5 - 24 VDC\*  
Current: 100mA nom, 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: 5000 RPM Max\*\*\*\*  
Electronics: Fully Encapsulated, IP67\*\*  
Temperature: -40° to 120°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: 14 lbs. [6.4 kg] / 16 lb [7.3 kg] dual output

\* Electrical specifications for SMARTach III model (serial #30,000 or higher), consult Nidec Industrial Solutions for earlier model specifications.  
\*\* Certain connector options may reduce IP rating.  
\*\*\* (PPR) Standard maximum PPR is 5000. Consult Factory with your application for PPRs up to 50,000.  
\*\*\*\* (Speed) Maximum RPM may be limited for PPR > 2,500. Consult Factory with your application.  
^ -20°C to 80°C Standard, requires high-temperature model and instrument air feed for 120°C rating

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  
AV485NXS8A8AG000

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MODEL	TEMPERATURE RATING	FOOT MOUNTING	SHAFT MOUNTING	LEFT OUTPUT LINE DRIVER	LEFT OUTPUT PPR	RIGHT OUTPUT LINE DRIVER	RIGHT OUTPUT PPR	CONNECTOR OPTIONS	MODIFICATIONS
AV485	N - -20°C to +80°C (Standard)	X - Standard NEMA 56C 4.5 in. Face Mount (No Foot Mount Included)	S - Standard Single Ended 5/8 in. x 2 in. Stainless Steel Shaft, with 3/16 in. Key way & Key	8 - 5-24v in, 5-24v out hi-power standard (HX)	A - 128 PPR	8 - 5-24v in, 5-24v out hi-power standard (HX)	A - 128 PPR	G - Industrial EPIC Style w/Lakeshore Pinout	000 - No Special Options