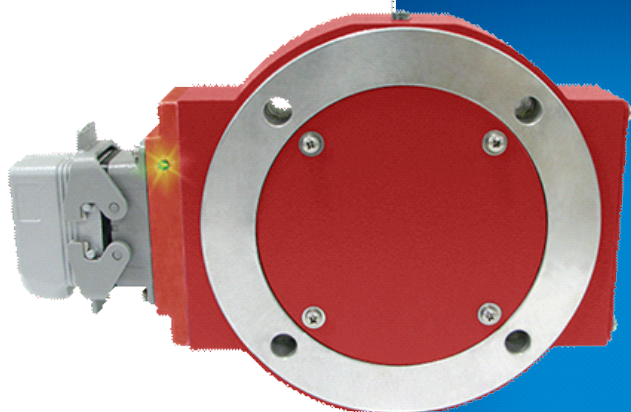


# Avtron SV850 SAFETach™ Encoder



**SIL 2 Evaluated Modular  
Magnetic Encoder, 8.5" FC-  
Face Mount**

## The World's First No-Bearing Safety Encoder!

- | Meets IEC 61508 SIL 2 at HFT 0
  - | Installation in Minutes!
    - | Up to 5000 PPR
    - | Removable Sensors
  - | Mounts Securely to Motor
    - | No Rotating Seals
    - | No Optics
    - | Sealed Electronics
- | Self-Diagnostic LED & Alarm Output
  - | 3 Year No-Hassle Warranty

## SV850

The SV850 is the world's first safety rated no-bearing encoder for SIL 2 applications. Often, optical encoders fail because of dust or water contamination that prevents the sensor from seeing the optical disk. The SV850 advanced magnetic technology sees through contamination and the fully sealed circuit design ensures your machine keeps working, even in mill environments. The SV850 offers magnetic performance and moisture resistance!

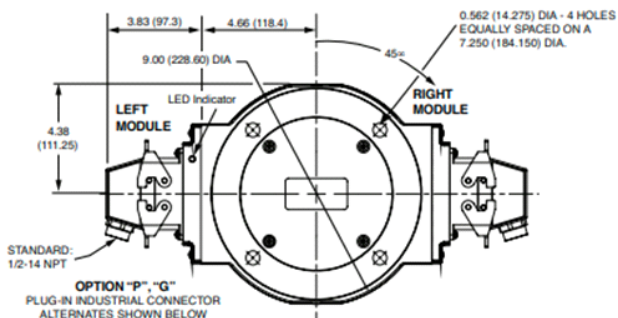
SV850 SAFETach™ III safety modular magnetic encoders fit standard 8.5" FC-Face motors. Quite simply, the SV850 is designed to eliminate encoder failures. All SV850 electronics are fully encapsulated. There are no moving wearing parts.

Miswiring an encoder is common— and it shouldn't cost you time or money. Wiring errors and short circuits that cause an over-temp situation will be detected and indicated by changing the LED to orange. The SV850 has full output short circuit and reverse voltage protection, plus surge protection. SV850 SAFETach III sensors digitally self-tune the outputs to eliminate drive trips caused by poor encoder signals. The universal 5-24V design drives longer cables and is protected against wiring errors and surges.

Adaptive Electronics: At power-up you know you installed it right! The green LED tells you your SV5 Sensor is aligned with the rotor and reading signal. If at any time, the SV5 cannot produce consistent signals, the LED changes to red and the optional remote alarm contact activates. However, the encoder keeps working to give you time to schedule service.

What good is a competitors "safety" encoder if it's optical and fails? Pick the SV850 for safety and reliability!

## OUTLINE DRAWING



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

## MORE SV850 ADVANTAGES

- Resists motor and brake interference noise
- Full protection against short circuits, reverse voltage, phase-to-phase shorts
- PPR can be factory reprogrammed
- High resolution up to 5000 PPR

## SV850 SPECIFICATIONS

Operating Power (Each Sensor): 5-24V  
 Current: 100mA  
 Output Format: A Quad B with marker (A, A, B, B, Z, Z)  
 Maximum Cable Length: 1000' @ 5V, 500' @ 12V, 200' @ 24V  
 PPR: 4 - 50000\*\*\*  
 Speed: 6000 RPM Max\*\*\*\*  
 Rotor Positioning: Up to +/-0.100" movement/misalignment  
 Sensor-Rotor Gap: 0.045", +0.015/-0.040" [1.14mm+0.38/-1.0]  
 Temperature: -40° to 100°C (rotor -40° to 150°C peak)  
 Electronics: Fully Encapsulated, IP67\*\*  
 Vibration: 18G  
 Shock: 1 meter drop test  
 Weight: 9lbs. [4kg]; 11lbs. [5kg] dual  
 Safety Level: Evaluated for IEC 61508 SIL 2 metrics at HFT 0

\*\* 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.

## SELECTION GUIDE

SV850 Selection Guide								
Model	Rotor Bore Size	Cover Plate	Left Output Line Driver	Left Output PPR	Right Output Line Driver	Right Output PPR	Connector Options	Modifications
SV850	KB- 0.625" Thru-shaft keyway cam screw rotor KE- 1.000" Thru-shaft keyway cam screw rotor	X- No cover plate B- Both inboard & outboard covers for thru-shaft w/ v-ring seals D- Domed cover F- Flat outboard cover N- Inboard seal plate w/ v-ring seal, flat outboard cover T- Outboard seal plate for thru-shaft w/ v-ring seal	6- 5-24V in/out (7272) 9- 5-24V in, 5V out (7272)	X- None F- 60 C- 64 G- 100 H- 120 A- 128 L- 240 N- 256 P- 300 E- 360 B- 480 Q- 500 R- 512 S- 600 U- 720 V- 900 J- 960 W- 1000 Y- 1024 Z- 1200 2- 1500 6- 1800 3- 2000 4- 2048 5- 2500 D- 4096 8- 4800 9- 5000 0- Special	6- 5-24V in/out (7272) 9- 5-24V in, 5V out (7272)	X- None F- 60 C- 64 G- 100 H- 120 A- 128 L- 240 N- 256 P- 300 E- 360 B- 480 Q- 500 R- 512 S- 600 U- 720 V- 900 J- 960 W- 1000 Y- 1024 Z- 1200 2- 1500 6- 1800 3- 2000 4- 2048 5- 2500 D- 4096 8- 4800 9- 5000 0- Special	G- Large EPIC (Northstar™ Pinout) with Plug P- Large EPIC with Plug T- Terminal box	000- None 004- Super magnetic shielding 007- Mechanically sealed housing & super magnetic shielding 076- Outboard sealing 077- Mechanically sealed housing & super magnetic shielding, outboard sealing 400- Special PPR (see chart)



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 All dimensions approximate.