Avtron XP5 SMARTSafe™ Sensor

Severe Duty Magnetoresistive Sensor with Flameproof and Explosion Proof Ratings

Explosion-Proof Bearingless Encoder SMARTSafe™ Sensor

ı No Barrier or Isolator Needed

ı No Intrinsic Safety Ground Required

ı c**UL**us Class I Div 1 Groups C, D Listed

ı AEx Zone 1 Certified

ı IECEx Zone 1 & 2 Certified

ı Fits Shafts Up to 2" [52mm]

ı Fully Protected Against Shorts and Wiring Errors

ı Up 100000 PPR

ı Fully Potted Electronics

ı Wide Sensor-Rotor Gap: No Shimming

ı 2 Year No-Hassle Warranty

XP5

XP5 SMARTSafe™ sensors power the world's first explosion-proof encoder with removable electronics and no external barrier!

They are cULus, ATEX, AEx & IECEx certified and offer incredibly reliable no-bearing construction!

SMARTSafe XP5 sensors can be used in ATEX/IECEx, cUL, AEX, and UL gas hazardous environments.

Also available: no-bearing modular encoders (XPH1, XPH8), as well as intrinsically safe models (XR5, XR12, XR56, XR125, XR485, XR685, XR850), and hollow shaft models (M6C).

For Level 1 applications requiring ATEX/IECEx Zone 1 or cULus Class I, Division 1, Groups C & D use the XP5 directly in your application with no barrier or isolator required.
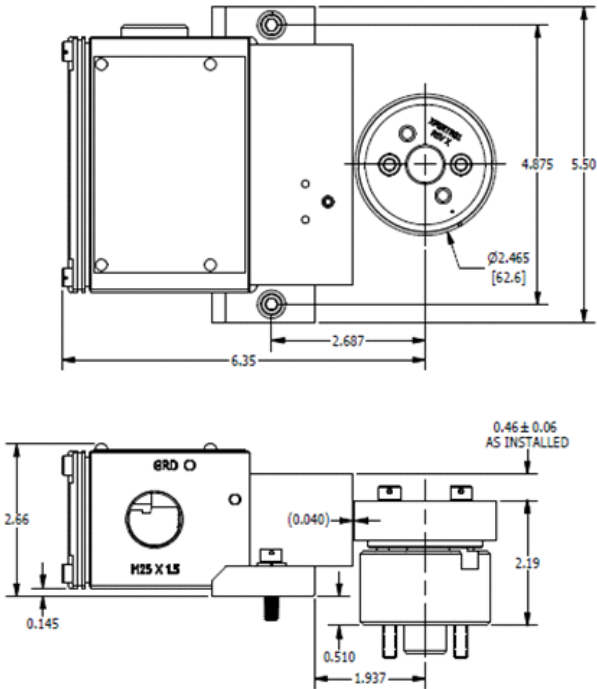
Unlike the competition, Avtron SMARTSafe encoder systems are protected against short circuits, power-to-output wiring, and output-to-ground faults.

XP5 features full diagnostics: it's easy to determine that signal quality is good, and that there are no wiring short-circuits.

Instead of mounting a tiny optical encoder with weak bearings on a wobbling stub shaft mount XP5 directly on your machine and install the rotor on your main application shaft. Top drives, draw works, coil tubing, paint lines...so many applications benefit from a more reliable no-bearing encoder. Vibration, shock, liquids, dust and dirt won't harm SMARTSafe XP5 encoders!

Eliminate the biggest cause of hazardous duty encoder failure--eliminate the bearings with XP5 hazardous duty encoder sensors.

OUTLINE DRAWING

Check out our website for more detailed specifications, drawings, and installation instructions. www.avtronencoders.com

MORE XP5 ADVANTAGES

- Sensor PPR can be factory reprogrammed
- Shrugs off dirt, oil and water
- No glass disks to break or optics to fail
- Detects, indicates, and survives wiring errors: Short circuits, phase-to-ground, phase-to-V
- Direct machine-mount
- Self-Diagnostic LED: Red/Orange/Green
- Full protection from motor shaft currents

XP5 SPECIFICATIONS

Operating Power: 5-24VDC in/out
  400mA max @ 5V; 200mA max @ 12V; 100mA max @ 24V (plus cable load)
Output Format: A Quad B with marker (A,A–, B,B–, Z,Z–)
Frequency Range: 0 to 250 KHz
PPR: 8-100000
Speed: 6000 RPM Max. (contact factory for higher speeds)
Maximum Cable Length: 1000 ft (305m) (contact factory for longer distances)
Rotor Positioning: Up to +/-0.100" [+/-2.54mm] movement/misalignment
Sensor-Rotor Gap: 0.040", +0.015/-0.030" [1.14mm+0.38/-0.76]
Temperature: -50°C to 85°C
  (rotor -50°C to 100°C continuous, +135°C intermittent)
Environmental: IP65
Vibration: 5-2000Hz, 18G; 100G Shock
Weight: 4.6 lbs. [2.1kg] (no rotor)
Certifications:
  Class I Div 1, Groups C and D
  Class I Zone 1, Ex db ia IIB T4 Gb
  Class I Zone 1, AEx db ia IIB T4 Gb
  Ex db ia IIB T4 Gb (ATEX/IECEx)

*See installation drawings for Warnings and Limitations

SELECTION GUIDE

Model	Compatible w/	Line Driver	PPR		Connection Options Terminal Box			Modifications
XP5-	1- 64mm rotor (XPH1) 2- 222mm rotor (XPH2, XPHD) 8- 143mm rotor (XPH8)	8- Hi Power 5-24V in/ 5-24V out (Hx)	BC-50 AF-60 AK-80 AG-100 AH-120 AA-128 AM-200 AL-240 AN-256 AP-300 AE-360 AC-400 AB-480 AQ-500 AR-512 AS-600	AU-720 AV-900 AJ-960 AW-1000 AY-1024 AZ-1200 CX-1500 A3-2000 A4-2048 A5-2500 AT-3072 A7-3600 AD-4096 A8-4800 A9-5000 00-Special	**Left Exit** A- M25 thread	**Right Exit** Blanking Plug Left-Right orientation is viewed with terminal box facing up	**Phasing** A->B CCW	000- none 004- Super Magnetic Shielding

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