



AVTRON™ ENCODERS

Avtron XP5 SMARTSafe™ Sensor



Severe Duty Magnetostrictive Sensor with Flameproof and Explosion Proof Ratings

Explosion-Proof Bearingless Encoder SMARTSafe™ Sensor

- | No Barrier or Isolator Needed
- | No Intrinsic Safety Ground Required
- |  Class I Div 1 Groups C, D Listed
 - | AEx Zone 1 Certified
- |  Zone 1 & 2 Certified
 - | Fits Shafts Up to 2" [52mm]
- | Fully Protected Against Shorts and Wiring Errors
 - | Up 100000 PPR
 - | Fully Potted Electronics
- | Wide Sensor-Rotor Gap: No Shimming
 - | 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 ([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.

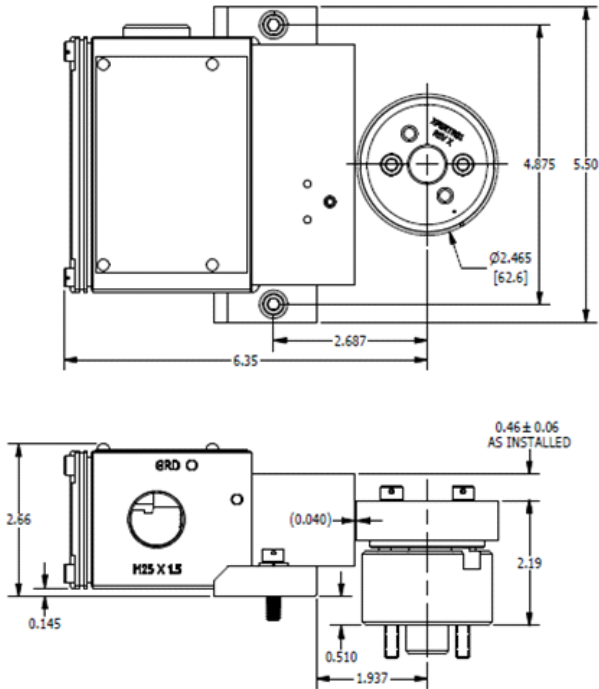
Unlike the competition, Avtron SMARTSafe encoder systems are protected against short circuits, power-to-output wiring, and output-to-ground faults.

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



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: Volts: 5-24VDC in/out; Current: 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)

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



*See installation drawings for Warnings and Limitations

SELECTION GUIDE

XP5 Sensor Part Numbers															
Model	Style	Line Driver	PPR		Connection Options Terminal Box	Modifications									
XP5-	1- w/bottom mount bracket, compatible with 64mm rotor	6- 5-24V in/out (7272)	BC-50	A3-2000	<table border="0"> <tr> <td>Left Exit</td> <td>Right Exit</td> <td>Phasing</td> </tr> <tr> <td>A- M25 Thread</td> <td>Blanking Plug</td> <td>A->B</td> </tr> <tr> <td>B- Blanking Plug</td> <td>M25 Thread</td> <td>A->B</td> </tr> </table>	Left Exit	Right Exit	Phasing	A- M25 Thread	Blanking Plug	A->B	B- Blanking Plug	M25 Thread	A->B	000- none
	Left Exit	Right Exit	Phasing												
A- M25 Thread	Blanking Plug	A->B													
B- Blanking Plug	M25 Thread	A->B													
	2- w/side-mount brackets, compatible with 222mm rotor, 12.5" C-face housing	8- Hi Power 5-24V in/ 5-24V out (Hx)	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	A4-2048 A5-2500 AT-3072 A7-3600 AD-4096 A8-4800 A9-5000 00-Special											



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All other trademarks and registered trademarks are the property of their respective owners. Nidec Industrial Solutions' standard warranty applies.
All dimensions approximate.