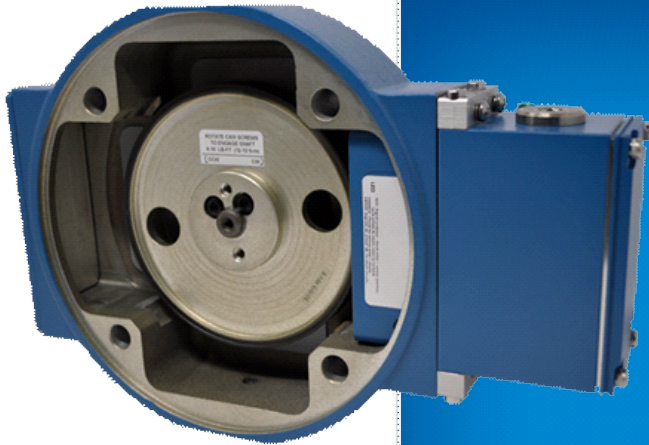




# Avtron XPH8 SMARTSafe™ Encoder



**Severe Duty Encoder for 8.5" C-Face Mount with Flameproof and Explosion Proof Ratings**

## Explosion Proof Bearingless Encoder

- | 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 4.5" [115mm]
- | Fully Protected Against Shorts and Wiring Errors
- | Adapters available to fit GEB20, 22, 28, GE 752 Motors
- | Wide Sensor-Rotor Gap: No Shimming
  - | Up 100000 PPR
  - | -50°C to +85°C Operation
  - | 2 Year No-Hassle Warranty

## XPH8

XPH8 SMARTSafe™ encoders are the world's first explosion-proof encoders with removable electronics and no external barrier! They are cULus, ATEX, AEx & IECEx certified and offer incredibly reliable no-bearing construction! SMARTSafe XPH8 encoders can be used in ATEX/IECEx, cUL AEX, and UL gas hazardous environments. Also available: no-bearing modular sensors ([XP5](#)), as well as intrinsically safe models ([XR5](#), [XR12](#), [XR56](#), [XR125](#), [XR485](#), [XR685](#), [XR850](#)) and hollow shaft models [M6C](#).

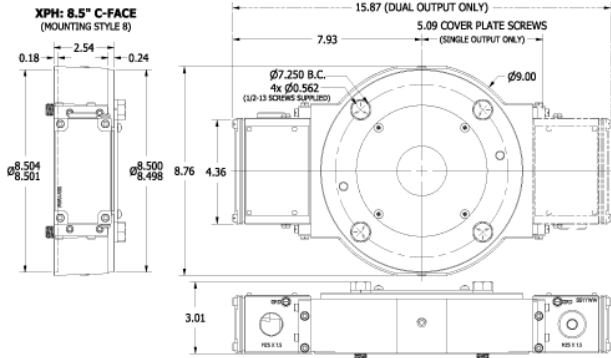
For applications requiring ATEX/IECEx Zone 1 or 2 or cULus Class I, Division 1 or 2, Groups C & D use the XPH8 directly in your application with no barrier or isolator required.

Unlike the competition, Avtron SMARTSafe encoder systems are protected against short circuits, power-to-output wiring, and output-to-ground faults. They feature full diagnostics: it's easy to determine that signal quality is good—just look for the green LED. Worried about wiring short circuits and errors? XPH8 will indicate any short circuit conditions with an orange LED and will survive this condition!

No encoder bearing failures, no more sealing problems. Mount XPH8 directly on your motor. 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 XPH8 encoders!

Eliminate the biggest cause of hazardous duty encoder failure--eliminate the bearings with XPH8 hazardous duty encoders.

# OUTLINE DRAWING



# MORE XPH8 ADVANTAGES

- | All-digital design, no trim pots or adjustments for longer life
- | Superior line drivers withstand short circuits and reverse voltage wiring errors
- | Fully potted electronics
- | SMARTSafe sensors find problems before they cause failure
- | Mix and match any PPRs with any rotor
- | Allows gland or conduit connections
- | Full protection against motor shaft currents

# XPH8 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" [1mm+0.38/-0.76]  
**Temperature:** -50°C to 85°C  
 (rotor -50°C to 100°C continuous, +135°C intermittent)  
**Environmental:** IP65 fully potted sensors  
**Vibration:** 5-2000Hz, 18G; 100G Shock  
**Weight:** 10-14 lbs. [4.5-6.4kg]  
**Certifications:**

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

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 Limitation

# SELECTION GUIDE

XPH8 Encoder Part Numbers										
Model	Rotor Style/Bore		Cover	Output	PPR		Connection Options Terminal Box			Modifications
XPH8- 8.5 C-Face mount	XX- No Rotor		X- No Cover F- Flat Cover T- Thru Shaft Cover (No Seals)	8- Hi Power 5-24V in/ 5-24V out (Hx)	Left PPR	Right PPR	Left Exit A- M25 thread	Right Exit Blanking Plug	Phasing A->B CW	000- none 004- Super Magnetic Shielding
	US CB- 0.625 CA- 0.750 CC- 0.875 CE- 1.000 CF- 1.125 CG- 1.250 CH- 1.375 C8- 1.500 CJ- 1.625 CK- 1.750 CL- 1.875 CM- 2.000 CN- 2.125 CQ- 2.250 CP- 2.375 CR- 2.500 CT- 2.625 C2- 2.875 C4- 3.000 CW- 3.250 C3- 3.500 TD- 3.625 TG- 3.750 T4- 3.875 T5- 4.125 T7- 4.250 T6- 4.500	Metric DB- 14mm DE- 19mm DF- 30mm DJ- 42mm DP- 60mm DS- 70mm DY- 80mm D2- 90mm M4- 95mm M5- 100mm								
					XX-None 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 AV-900 AU-720 AW-1000 AJ-960 AZ-1200 AY-1024 CX-1500 A3-2000 A4-2048 A5-2500 AD-4096 A8-4800 A9-5000 00-Special XX-None	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 AV-900 AJ-960 AZ-1200 CX-1500 A3-2000 A5-2500 A7-3600 AD-4096 A8-4800 A9-5000 00-Special XX-None				



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