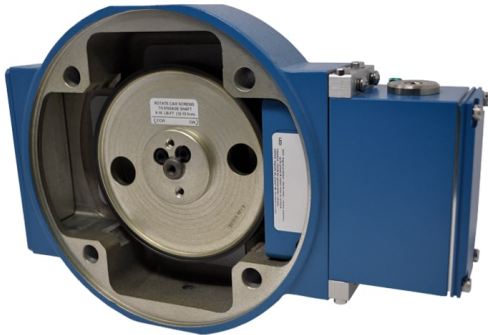


Avtron XPH8 SMARTSafe™ Encoder



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
Up 100000 PPR
Wide Sensor-Rotor Gap: No Shimming
2 Year No-Hassle Warranty
-50°C to +85°C Operation
Adapters available to fit GEB20, 22, 28, GE 752 Motors

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, XR56A, XR125, XR485, XR685, XR850) and hollow shaft models M6C.

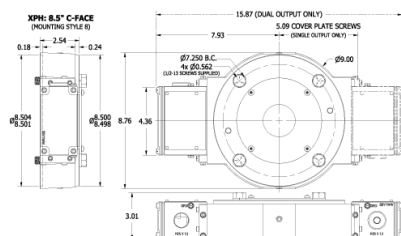
For applications requiring ATEX/IECEx Zone 1 or 2 or cULus Class I, Division 1 or 2, Groups C & D use the XPH8 directly in your application with no barrier or isolator required.

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

MORE XPH8 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" [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:

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

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



Nidec Industrial Solutions
243 Tuxedo Avenue - Cleveland, Ohio 44131
encoderhelpdesk@nidec-industrial.com
+1 216-642-1230 - www.avtronencoders.com



Features and specifications are subject to change without notice. EU-SMART™, SMARTSafe™, SMARTTach™, THIN-LINE™, WIDE-GAP™, SAFETach™, and BULLSEYE32™ are trademarks of Nidec Industrial Solution. All other trademarks and registered trademarks are the property of their respective owners. Nidec Industrial Solutions' standard warranty applies. All dimensions approximate.

SELECTION GUIDE

☐	☐	☐	☐	☐	☐	☐	☐
MODEL	ROTOR STYLE	COVER STYLE	OUTPUT	LEFT OUTPUT PPR	RIGHT OUTPUT PPR	CONNECTION OPTIONS	MODIFICATIONS
XPH8	XX - No Rotor 00 - Special Rotor CB - 0.625 in. Thru-Shaft Rotor CA - 0.750 in. Thru-Shaft Rotor CC - 0.875 in. Thru-Shaft Rotor CE - 1.000 in. Thru-Shaft Rotor CF - 1.125 in. Thru-Shaft Rotor CG - 1.250 in. Thru-Shaft Rotor CH - 1.375 in. Thru-Shaft Rotor C8 - 1.500 in. Thru-Shaft Rotor CJ - 1.625 in. Thru-Shaft Rotor CK - 1.750 in. Thru-Shaft Rotor CL - 1.875 in. Thru-Shaft Rotor CM - 2.000 in. Thru-Shaft Rotor CN - 2.125 in. Thru-Shaft Rotor CQ - 2.250 in. Thru-Shaft Rotor CP - 2.375 in. Thru-Shaft Rotor CR - 2.500 in. Thru-Shaft Rotor CT - 2.625 in. Thru-Shaft Rotor C2 - 2.875 in. Thru-Shaft Rotor C4 - 3.000 in. Thru-Shaft Rotor CW - 3.250 in. Thru-Shaft Rotor C3 - 3.500 in. Thru-Shaft Rotor TD - 3.625 in. Thru-Shaft Rotor TG - 3.750 in. Thru-Shaft Rotor T4 - 3.875 in. Thru-Shaft Rotor T5 - 4.125 in. Thru-Shaft Rotor T7 - 4.250 in. Thru-Shaft Rotor T6 - 4.500 in. Thru-Shaft Rotor DB - 14mm Thru-Shaft Rotor DH - 40mm Thru-Shaft Rotor for ISO h7 DE - 19mm Thru-Shaft Rotor DF - 30mm Thru-Shaft Rotor DJ - 42mm Thru-Shaft Rotor DP - 60mm Thru-Shaft Rotor DS - 70mm Thru-Shaft Rotor DZ - 80mm Thru-Shaft Rotor, ISO F6 bore tolerance DY - 80mm Thru-Shaft Rotor D2 - 90mm Thru-Shaft Rotor MD - 93mm Thru-Shaft Set Screw Rotor, g6 Bore Tolerance M4 - 95mm Thru-Shaft Rotor M5 - 100mm Thru-Shaft Rotor M8 - 110mm Thru-Shaft Set Screw Rotor, g6 Bore Tolerance U4 - 95mm ABB Fit with Universal 5/8" rotor	X - No Cover F - Flat Cover T - Flat, through hole, no seal	8 - 5-24VDC in/out Hi-Powered, Protected, HX Line Driver	XX - None BC - 50 PPR AF - 60 PPR AK - 80 PPR AG - 100 PPR AH - 120 PPR AA - 128 PPR AM - 200 PPR AL - 240 PPR AN - 256 PPR AP - 300 PPR AE - 360 PPR AC - 400 PPR AB - 480 PPR AQ - 500 PPR AR - 512 PPR AS - 600 PPR AV - 900 PPR AJ - 960 PPR AW - 1000 PPR AY - 1024 PPR AZ - 1200 PPR CX - 1500 PPR A3 - 2000 PPR A4 - 2048 PPR A5 - 2500 PPR AD - 4096 PPR A8 - 4800 PPR A9 - 5000 PPR A0 - Special PPR	XX - None BC - 50 PPR AF - 60 PPR AK - 80 PPR AG - 100 PPR AH - 120 PPR AA - 128 PPR AM - 200 PPR AL - 240 PPR AN - 256 PPR AP - 300 PPR AE - 360 PPR AC - 400 PPR AB - 480 PPR AQ - 500 PPR AR - 512 PPR AS - 600 PPR AV - 900 PPR AJ - 960 PPR AW - 1000 PPR AY - 1024 PPR AZ - 1200 PPR CX - 1500 PPR A3 - 2000 PPR A4 - 2048 PPR A5 - 2500 PPR AD - 4096 PPR A8 - 4800 PPR A9 - 5000 PPR A0 - Special PPR	A - Terminal Box w/screw-type terminal block, M25 Thread on left exit, Blanking Plug installed on right side, A Leads B with CW Rotation B - Terminal Box w/screw-type terminal block, M25 Thread on right exit, Blanking Plug installed on left side, A Leads B with CW Rotation	000 - No Special Options D00 - Penlink Only Special Option D01 - Penlink Only Special Option 091 - Special 3.125" Threaded Bore Rotor