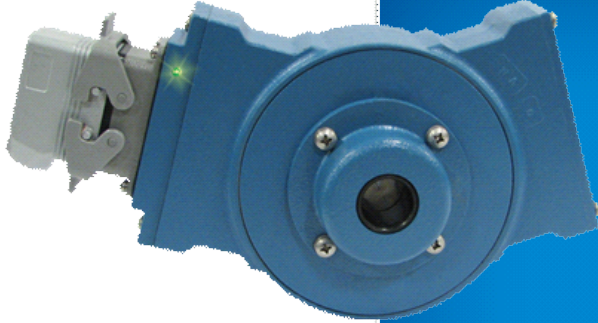


Avtron XR685 SMARTSafe™ Encoders



Severe Duty Magnetic Encoder for Hazardous Applications, 1 1/8" Hollow Shaft Mount

Severe Duty Hollow Shaft Encoder for Hazardous Applications

- Severe Duty
 - Up to 5000 PPR
 - ATEX/IECEx Rated for Zone 1, 2, 21 & 22 Applications
 - IP66 Enclosure
 - Replaces Competitive Models Without Rewiring
 - Fully Potted Electronics
 - Self-Diagnostic LED and Alarm Output
 - 1 Year No-Hassle Warranty
 - cULus Class I Div 1 Groups A, B, C, D
 - cULus Class I Zone 0 Group IIC
 - cULus Class I Div 2 Groups A, B, C, D

XR685

XR685 SMARTSafe hollow shaft incremental quadrature rotary encoders are a breakthrough in hazardous duty encoders. They are ATEX/IECEx and UL approved and offer huge bearings for maximum life. SMARTSafe encoders can be used in ATEX/IECEx gas and dust and UL gas hazardous environments. Also available: hollow shaft models in other bore sizes (XR45), shafted models (XR4F, XR485), no-bearing modular encoders (XR56, XR85, XR115, XR125, XR850), and modular sensors (XR5, XR12).

For applications requiring ATEX/IECEx Zone 2 or 22 or UL Class I, Division 2, Groups A,B,C,D use the XR685 directly in your application, with no barrier, isolator or cable gland required.

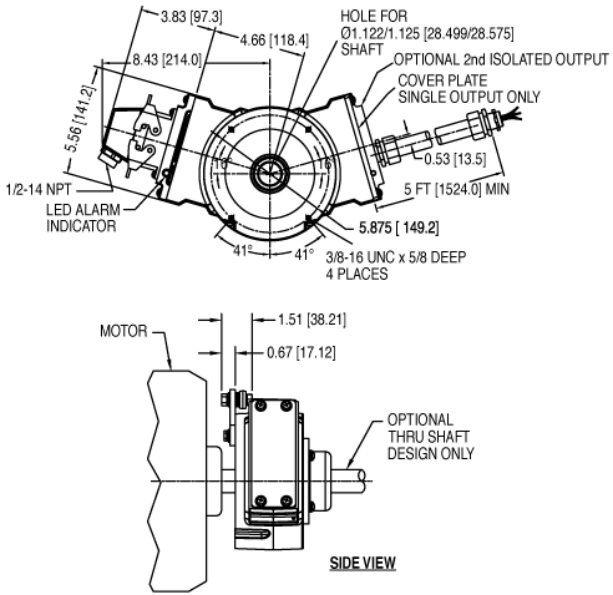
For applications requiring UL Division 1, ATEX/IECEx Zone 1 or 21 use the XRB3 isolator in your control cabinet which permits the use of intrinsically safe wiring instead of explosion proof conduit or glands. XRB3 Isolator Systems enable use in Class I Div 1 and Class I Zone 0 applications.

Unlike the competition, Avtron SMARTSafe encoder systems are fully protected against short circuits, power-to-output wiring, and output-to-ground faults at every point. Wiring errors won't harm this system!

Instead of depending on a tiny optical encoder with weak bearings use XR685. Vibration, shock, liquids, dust and dirt won't harm SMARTSafe XR685 encoders! Paint booths, draw works, coil tubing rigs...XR685 can keep them all working 24/7/365.

Eliminate encoder failures in your hazardous environment application-select XR685 today!

OUTLINE DRAWING



MORE XR685 ADVANTAGES

- Optional K661 signal converter for direct replacement of analog tachs (BC66, etc.)
- Shrugs off dirt, oil, and water contamination
- Huge range of stub shaft adapters available to fit shafts from 1 3/8" to 12" & most major motor brands
- Protected against: power-to-phase, short circuits, and reverse voltage wiring problems
- No glass disks to break or optics to fail
- End of shaft and thru shaft models available

XR685 SPECIFICATIONS

Operating Power: (add cable drive current as req'd)
 Division 1, Zone 1 (XRB3): 12-24VDC In, 10.6V Out, 150mA
 Division 2, Zone 2: 5-24VDC In/Out, 100mA

Output Format: A Quad B with marker (A,/A, B,/B, Z,/Z)

Frequency Range: 0 to 165 KHz

PPR: 8-5000

Speed: 4000 RPM Max. (contact factory for higher speeds)

Maximum Cable Length:
 Division 1, Zone 1: 400' [120m]
 Division 2, Zone 2: 500' [150m] @ 5-12V; 200' [60m] @ 24V

Temperature: -40°C to 80°C (Storage -40°C to 100°C)

Environmental: Electronics-IP67, IP66 overall (see manual for details)

Vibration: 5-2000Hz, 18G; 100G Shock

Weight: 15 lbs. [6.4 kg]; 17lbs [7.7kg] dual output

Certifications:
 ATEX/IECEx Zone 1 & Zone 21 Group IIC
 cULus Class I, Division 1 and Zone 0 Group A,B,C,D*
 ATEX/IECEx Zone 2 & 22 Group IIC
 cULus Class I, Division 2 Group A,B,C,D

*See installation drawings for Warnings and Limitations

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

SELECTION GUIDE

XR685 PART NUMBERS AND AVAILABLE OPTIONS									
Model	Temp Rating	Tether	Style	Left Module		Right Module		Connector Options	Modif-cations
				Line Driver	PPR	Line Driver	PPR		
XR685	N- -20°C to 80°C C- -40°C to 80°C	X- none 1- B21968 threaded rod	E- Standard (EOG) T- Thru Shaft	X- none See chart at right	X- none V-900 F-60 J-960 G-100 Y-1024 H-120 Z-1200 A-128 3-2000 L-240 4-2048 N-256 5-2500 P-300 D-4096 E-360 8-4800 B-480 9-5000 Q-500 0-special R-512 S-600	X- none See chart at right	X- none V-900 F-60 J-960 G-100 Y-1024 H-120 Z-1200 A-128 3-2000 L-240 4-2048 N-256 5-2500 P-300 D-4096 E-360 8-4800 B-480 9-5000 Q-500 0-special R-512 S-600	See chart at right	000- none 003- w/ K961 analog converter 004- super magnetic shielding 018- w/ Isolator XRB3 for cabinet mount 40c- special PPR (see chart) 80c- spec1 cable length (xcell)

Line Driver Code				Connector Options
Level 1	Level 2			
Class 1 Div 1	Zone 1 & 21 (Ia)	Class 1 Div 2	Zone 2 & 22	
F	H	n/a	7	A-10 pin MS W/O Plug B-10 pin MS with Plug
F	H	n/a	7	*- 7 Pin MS
F	H	n/a	7	R- 10 Pin mini twist lock
F	H	n/a	7	W- Flexible cable with Gland
F	H	n/a	7	G-10 Pin Industrial with Plug
F		G		4-Conduit Box, Terminal Block 1/2" NPT
F		G		5-Conduit Box, Terminal Block 3/4" NPT
F		G		6-Conduit Box, Terminal Block 1" NPT
F		G		7-Conduit Box, Terminal Block 25mm PT
XRB3	XRB3	None	None	Required Isolator: order separately or with option code 018

*= E, F, J, K, S, T, U, V,
 Units with connector options 4, 5, 6, or 7 are dual labeled for for both cULus Class / Div and ATEX / IECEx Zones



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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.