BEI INDUSTRIAL ENCODER DIVISION
BEI TECHNOLOGIES, INC.

GALVANICALLY ISOLATED BARRIER

INTRINSICALLY SAFE INDUSTRIAL ENCODER INTERFACE

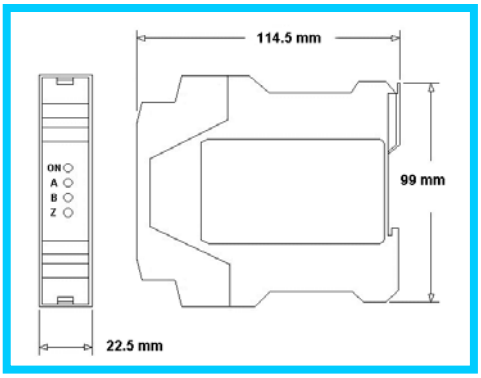
BEI's Galvanically Isolated Intrinsic Safety Barrier is the perfect complement to BEI encoders for hazardous environments. It is electrically compatible with all popular counters, PLC's and controllers, and it features isolation for power and three signal channels, as well as LED indicators for power and data – all in a single package. The BEI Barrier carries CENELEC, UL and $_{c}$UL ratings and is suitable for long cable runs. Since it also carries a nonincendive designation per the National Electrical Code, it can be mounted in Class I, Division 2 areas.

CENELEC EEx ia IIB when used with BEI encoders

U.S. Standards Class 1, Groups C and D, Class II Groups E, F and G

Canadian Standards, Class I, Zone 0, Group IIB, when used with BEI encoders

BEI's Intrinsic Safety Barrier is galvanically isolated and can be mounted in Class I Division 2 areas.



MECHANICAL SPECIFICATION:

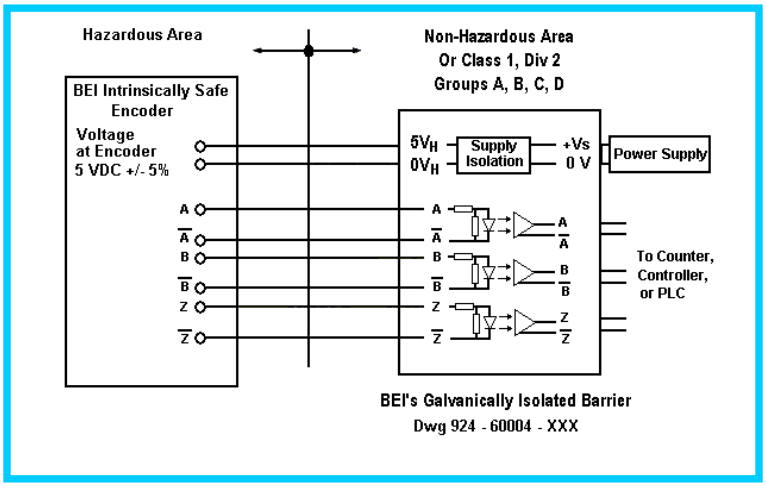
Package dimensions are shown at left. This package mounts to DIN rail type EN 50 022 (35mm X 7.5mm). A 75 mm length of rail is supplied with each module.

SELECTING THE RIGHT PART:

WITH THIS BARRIER SUPPLY VOLTAGE	*AND THIS DESIRED OUTPUT VOLTAGE*	*USE THIS PART NUMBER*	*OUTPUT TYPE (see table below for specifications)*
12 – 24 volts	V_{out} = 5 V	924-60004-002	Line Driver, 4469
12 – 24 volts	V_{out} = $V_{in\ (nominal)}$	924-60004-003	Line Driver, 7272
12 – 24 volts	Open Collector	924-60004-004	NPN Open Collector

ELECTRICAL SPECIFICATIONS:

Power Supply to Encoder	+ 5VDC +/- 5%, 100 mA nominal
Power Supply to Barrier	Voltage: see specifications below; Current, 200 mA nominal, 300 mA Max
Barrier Characteristics Power to encoder (5 V_H to 0 V_H)	Voc = 8.9 V_{DC} Isc = 345 mA Group IIC / Group IIB / Group IIA Ca 5.6 µF / 43 µF / 590 µF La 0.40mH / 0.75mH / 2.0 mH
Barrier Output Specifications: Part Number 924-60004-002 924-60004-003 924-60004-004	 Specification 4469 Line driver, 100 mA source/sink. Input voltage 12 - 24 volts: Vout = 5 Volts (TTL & RS422 compatible) 7272 Line driver, 100 mA source/sink. Input voltage 12 - 24 volts: Vout = Vin 7273 NPN open collector, 40 mA maximum current sink. Input voltage 12 – 24 volts. Current sourced by external pull-up resistor. Output can be pulled up to voltage other than supply voltage--up to 30 Volts, maximum
Input to Barrier from Encoder Input channel impedance Input signal level	A, B, Z, A-, B-, Z- 500 Ohms nominal (A to A-, B to B-, Z to Z-) 4 V_{DC} nominal, 6V_{DC} maximum
Frequency Response	250 kHz maximum



SYSTEM DIAGRAM:

NOTE: This System diagram is for general information only. Installation must be consistent with BEI Installation Drawings 924-08062-002 and 924-08067-001

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