



PRODUCT DESCRIPTION

SPECTEC's Intrinsically Safe frequency to voltage converter and preamplifier for passive magnetic VRS sensors is designed for installation in hazardous locations. The 'ELBY' housing type will fit in ELBY50 and ELBY75 explosion proof junction boxes. The 'A' housing type will fit in a GAUL-16 or similar standard explosion proof junction box.

INSTALLATION

CAUTION: This sensor MUST be installed with an FM approved barrier and following the details specified in the Installation Instruction Document #85049.

SPECIFICATIONS

- Supply Voltage:** 12 to 30 Vdc @ ≤ 5 mA
- Input Sensitivity:** 50 mVpp or 12 mVpp
- Frequency Range:** Low Freq: 75 Hz to >1100 Hz
- Adjustment (Fmax):** High Freq: 1100 Hz to ~10kHz
- Frequency to Output Correlation:** 0 Hz input yields 0V signal
 Fmax input yields 10V (or 5V) signal
- Output Voltage:** 30mV to 12V for 0-10V out
 20mV to 6V for 0-5V out
 (Full scale, min cal, zero cal @ ZeroV)
- Output Settling:** 100ms to 3 sec to reach 95% of final value from full scale change
- Linearity:** 0.15% Typical (0.5% Max)
- Temp Coefficient:** between 25° and 40°C, 0.13%/°C
- Construction:** Plastic housing
 Solid Epoxy Encapsulation

TERMINAL CONNECTIONS

- 1 - Supply Voltage
 - 2 - Common
 - 3 - Output Signal
 - 4 - Mag Sensor (IS only)
 - 5 - Mag Sensor (IS only)
- (see IS40 & IS41)

FEATURE SELECTION

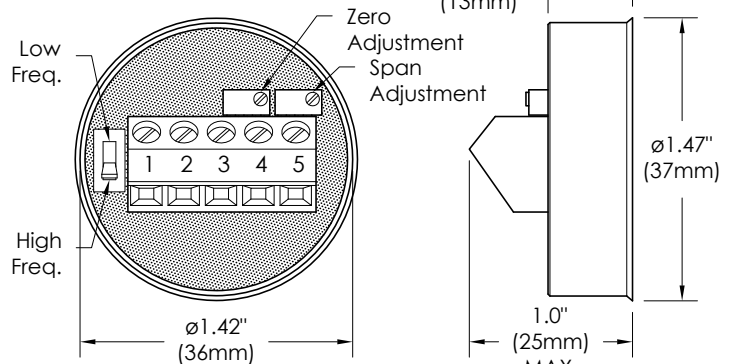
- IS4028-01** Mag Preamp 12mV 0-10V (US & C cert.)
- IS4028-02** Mag Preamp 12mV 0-5V (US & C cert.)
- IS4028-05** Mag Preamp 50mV 0-10V (US & C cert.)
- IS4028-06** Mag Preamp 50mV 0-5V (US & C cert.)
- IS4028A-01** Mag Preamp 12mV 0-10V (ATEX & IECEx)
- IS4028A-02** Mag Preamp 12mV 0-5V (ATEX & IECEx)
- IS4028A-05** Mag Preamp 50mV 0-10V (ATEX & IECEx)
- IS4028A-06** Mag Preamp 50mV 0-5V (ATEX & IECEx)

For 'A' housing type add 'A' as a prefix to the P/N suffix:
 (e.g. IS4028-Axx)
 Similarly for the ATEX & IECEx version:
 (e.g. IS4028A-Axx)

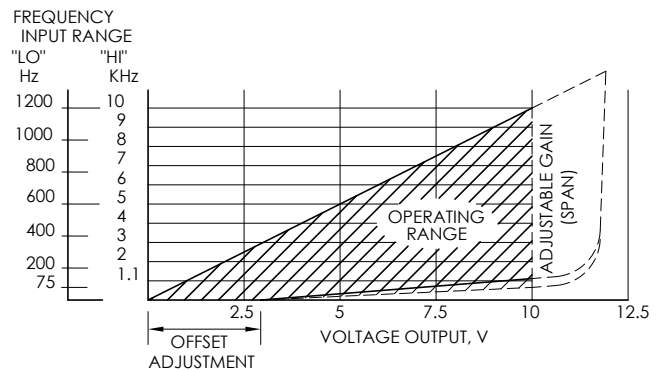
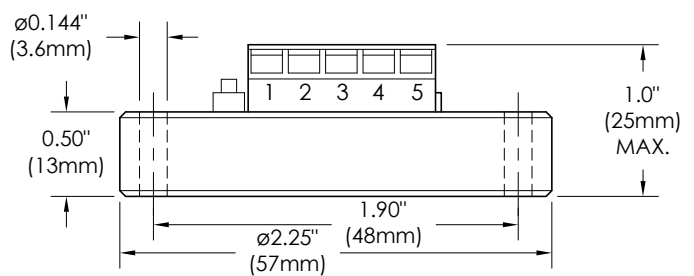
For explosion proof junction box refer to bulletin 4001.

For wiring options see page 2.

'ELBY' housing type



'A' housing type (mountable)



CERTIFICATIONS for IS4028

USA:
 Intrinsically Safe
 Class I, II, III, Division 1
 GROUP ABCDEFG T6...T4
 Class I, Zone 0, AEx ia IIC T6...T4

Canada:
 Intrinsically Safe
 Class I, Division 1
 GROUP ABCD T6...T4
 Class I, Zone 0, Ex ia IIC T6...T4
 T4 @ -40°C ≤ T_{amb} ≤ +85°C
 T5 @ -40°C ≤ T_{amb} ≤ +80°C
 T6 @ -40°C ≤ T_{amb} ≤ +60°C

CERTIFICATIONS for IS4028A

ATEX:
 II 1 G Ex ia IIC T6...T4 Ga
 FM08ATEX0068X

IECEx:
 Ex ia IIC T6...T4 Ga
 IECEx FMG 16.0003X
 T4 @ -40°C ≤ T_{amb} ≤ +85°C
 T5 @ -40°C ≤ T_{amb} ≤ +80°C
 T6 @ -40°C ≤ T_{amb} ≤ +60°C

CE:
 Compliance with
 EN55011, EN50082-1

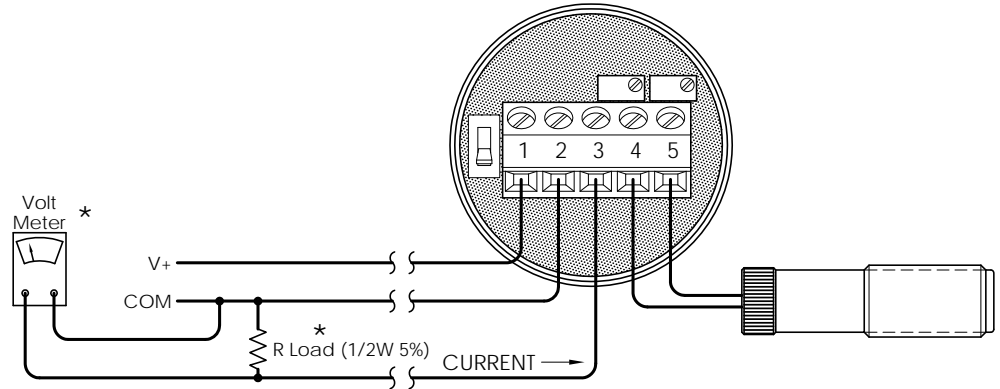
IS4028 & IS4028A FTV Converter Wiring Options

Voltage Mode (3 wire)

For use with long wire runs
Resistant to line losses & EMI

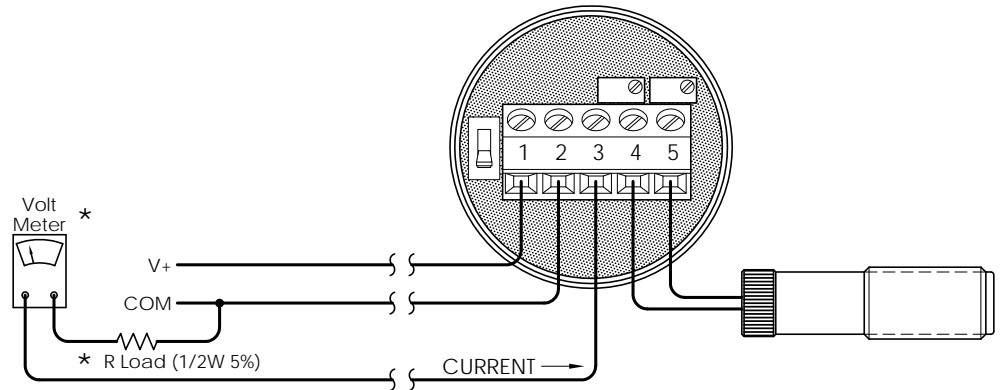
$$R \text{ Load} \geq \frac{V_s - 2 \text{ V}}{0.05 \text{ A}}$$

V_s	R Load
12 V	$\geq 200 \Omega$
24 V	$\geq 440 \Omega$



Current Mode (3 wire)

V_{out}	R Load
0-5V	$= 250 \Omega$
0-10V	$= 500 \Omega$



- * Note: 1. Load resistor to be installed outside the hazardous area.
2. Conduct measurements outside the hazardous area.