

### PRODUCT DESCRIPTION

SPECTEC's Intrinsically Safe frequency to current 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:** 9 to 30 Vdc @  $\leq 4$  mA
- Frequency Range:** Low Frequency: 75 Hz to  $> 1100$  Hz  
 High Frequency: 1100 Hz to  $\sim 10$ kHz
- Input Sensitivity:** 50 mVpp or 12 mVpp
- Linearity:** 0.15% Typical (0.5% Max)
- Output Settling:** 100ms to 3 sec to reach 95% of final value from full scale change
- Temp Coefficient:** between 25° and 40°C, 0.13%/°C
- Output Current:** 0.07 mA to 24.1 mA  
 (Full scale, min cal, zero cal @ 4mA)
- Temperature Range:** T4 Ta = -40° to 85°C  
 T5 Ta = -40° to 80°C  
 T6 Ta = -40° to 60°C
- Construction:** Plastic housing  
 Solid Epoxy Encapsulation

### TERMINAL CONNECTIONS

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

### ORDERING INFORMATION

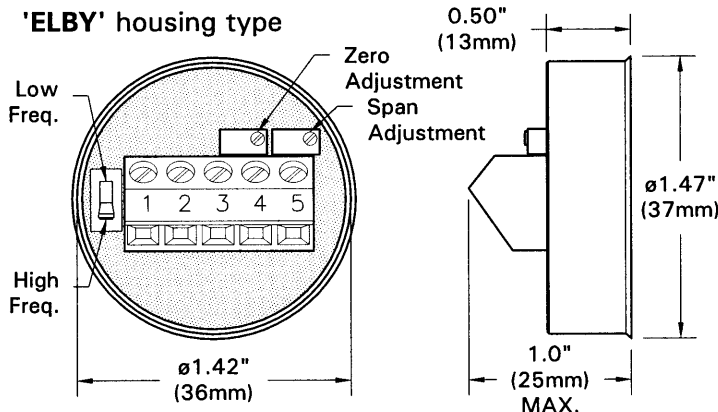
- IS4027-10 Mag Preamplifier 12mV (US & C cert.)
- IS4027-50 Mag Preamplifier 50mV (US & C cert.)
- IS4027A-10 Mag Preamplifier 12mV (ATEX cert.)
- IS4027A-50 Mag Preamplifier 50mV (ATEX cert.)

For 'A' housing type, P/N is IS4027-Axx  
 or for ATEX version P/N is IS4027A-Axx

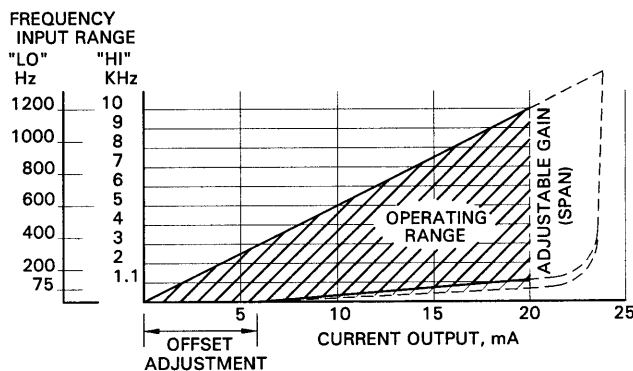
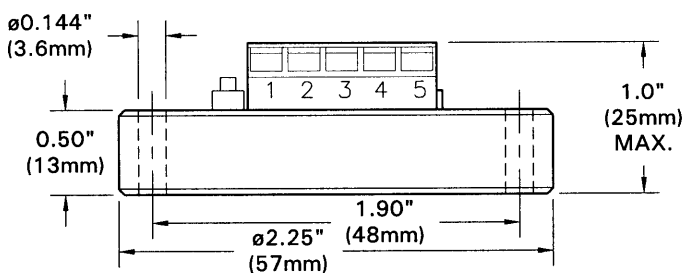
For explosion proof junction box refer to bulletin 4001.

For wiring options see page 2.

'ELBY' housing type



'A' housing type



### CERTIFICATIONS for IS4027

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

**Canada:** Intrinsically Safe  
 Class I, II, III, Division 1  
 GROUP ABCD  
 Class I, Zone 0, Ex ia IIC

### CERTIFICATIONS for IS4027A

**ATEX:** II 1 G Ex ia IIC  
 FM08ATEX0068X

**CE:** Compliance with  
 EN55011, EN50022-2

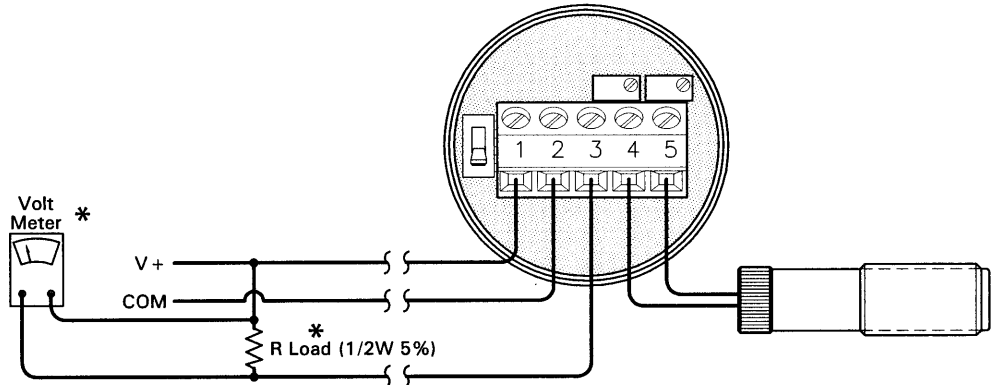
# IS4027 & IS4027A FTC Converter Wiring Options

## Voltage Mode (3 wire)

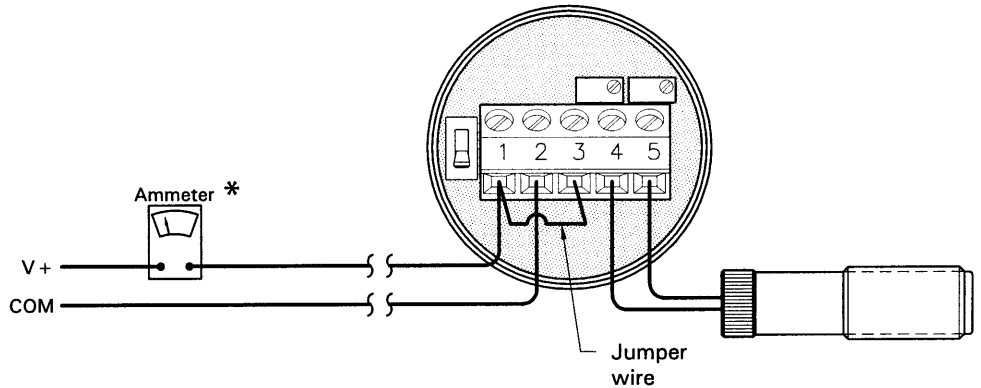
For use with long wire runs  
Resistant to line losses & EMI

$$R \text{ Load} \leq \frac{V_s - 9 \text{ V}}{0.02 \text{ A}}$$

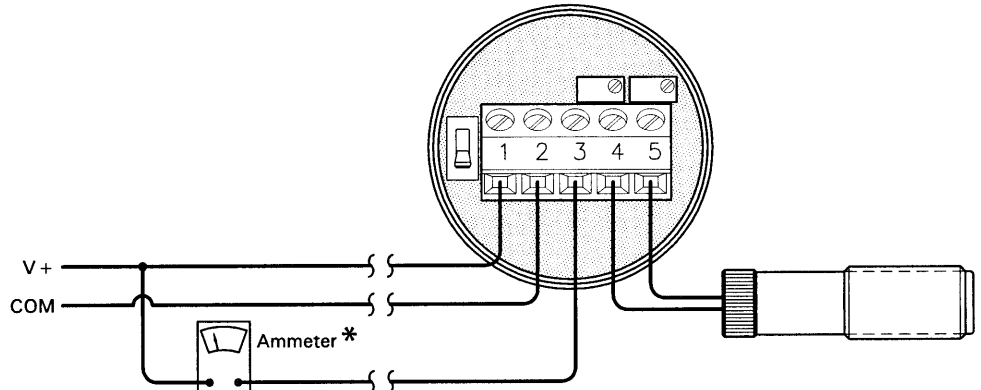
$V_s$	R Load
12 V	$\leq 150 \Omega$
24 V	$\leq 750 \Omega$



## Current Mode 1 (2 wire)



## Current Mode 2 (3 wire)



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