

### PRODUCT DESCRIPTION

SPECTEC's Non-Incendive / Increased Safety 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 #85049N.**

### SPECIFICATIONS

- Supply Voltage:** 9 to 30 Vdc @ ≤ 4 mA
- Input Sensitivity:** 50 mVpp or 12 mVpp
- Frequency Range Adjustment (Fmax):** Low Freq: 75 Hz to >1100 Hz  
High Freq: 1100 Hz to ~10kHz
- Frequency to Output Correlation:** 0 Hz input yields 4 mA signal  
Fmax input yields 20 mA signal
- Output Current:** 0.07 mA to 24.1 mA  
(Full scale, min cal, zero cal @ 4mA)
- 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
- Construction:** Plastic housing  
Solid Epoxy Encapsulation

### TERMINAL CONNECTIONS

- 1 - Supply Voltage
- 2 - Common
- 3 - Signal
- 4 - Mag Sensor
- 5 - Mag Sensor (see N40 & N41)

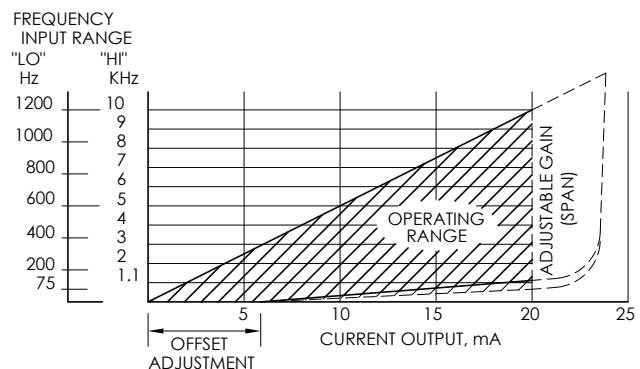
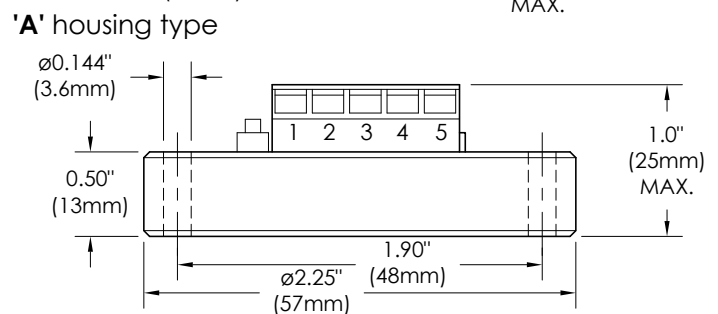
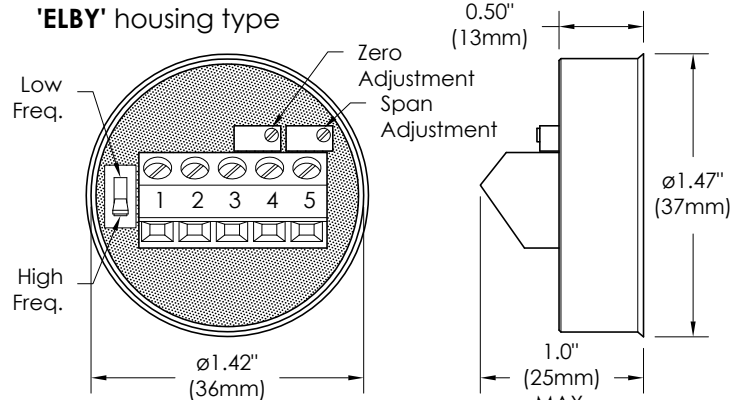
### FEATURE SELECTION

- N4027-10** Mag Preamplifier 12mV
- N4027-50** Mag Preamplifier 50mV

For 'A' housing type add 'A' as a prefix to the P/N suffix: (e.g. N4027-Axx)

For explosion proof junction box refer to bulletin 4001.

For wiring options see page 2.



### CERTIFICATIONS for N4027

- ATEX:** II 3 G Ex ec IIC T6...T4 Gc  
FM08ATEX0069X
- IECEX:** Ex ec IIC T6...T4 Gc  
IECEX FMG 16.0003X  
T4 @ -40°C ≤ T<sub>amb</sub> ≤ +85°C  
T5 @ -40°C ≤ T<sub>amb</sub> ≤ +80°C  
T6 @ -40°C ≤ T<sub>amb</sub> ≤ +60°C
- USA:** Class I, II, III, Division 2  
GROUP ABCDEFG T6...T4  
Class I, Zone 0, AEx nC IIC T6...T4
- Canada:** Class I, Division 2  
GROUP ABCD T6...T4  
Class I, Zone 0, Ex nL IIC T6...T4  
T4 @ -40°C ≤ T<sub>amb</sub> ≤ +85°C  
T5 @ -40°C ≤ T<sub>amb</sub> ≤ +80°C  
T6 @ -40°C ≤ T<sub>amb</sub> ≤ +60°C
- CE:** Compliance with  
EN55011, EN50082-2

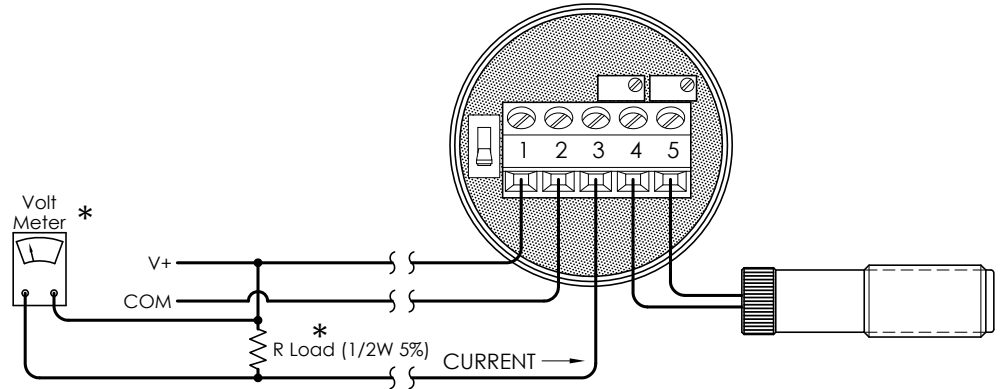
# N4027 FTC Converter Wiring Options

## Voltage Mode (3 wire)

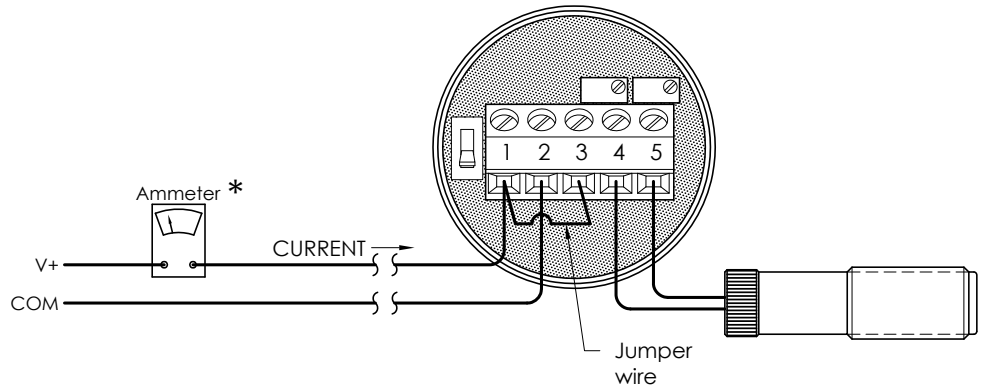
For use with long wire runs  
Resistant to line losses & EMI

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

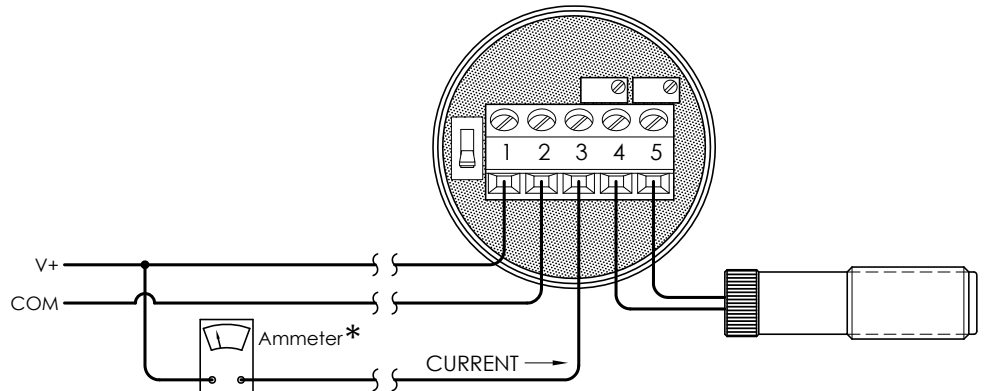
$V_s$	R Load
12 V	$\leq 150 \Omega$
24 V	$\leq 750 \Omega$



## 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.