**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 @ ≤ 4 mA

Frequency Range:
- Low Frequency: 75 Hz to >1100 Hz
- High Frequency: 1100 Hz to ~10kHz

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
2 - Common
3 - Output Signal
4 - Mag Sensor (IS only)
5 - Mag Sensor (IS only)

(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.

**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
Voltage Mode (3 wire)
For use with long wire runs
Resistant to line losses & EMI

\[
R \text{ Load} \leq \frac{V_{s} - 9 \text{ V}}{0.02 \text{ A}}
\]

\[
\begin{array}{cc}
V_{s} & R \text{ Load} \\
12 \text{ V} & \leq 150 \ \Omega \\
24 \text{ V} & \leq 750 \ \Omega
\end{array}
\]

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.