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
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 Voltage: 30mV to 12V for 0-10V out
20mV to 6V for 0-5V out
(Full scale, min cal, zero cal @ ZeroV)
Temperature: T4 Ta = -40° to 85°C
Range: T5 Ta = -40° to 80°C
Range: 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
IS4028-01 Mag Preampl 12mV 0-10V (US & C cert.)
IS4028-02 Mag Preampl 12mV 0-5V (US & C cert.)
IS4028-05 Mag Preampl 50mV 0-10V (US & C cert.)
IS4028-06 Mag Preampl 50mV 0-5V (US & C cert.)
IS4028A-01 Mag Preampl 12mV 0-10V (ATEX cert.)
IS4028A-02 Mag Preampl 12mV 0-5V (ATEX cert.)
IS4028A-05 Mag Preampl 50mV 0-10V (ATEX cert.)
IS4028A-06 Mag Preampl 50mV 0-5V (ATEX cert.)

For ‘A’ housing type, P/N is IS4028-Axx
or for ATEX version P/N is IS4028A-Axx

For explosion proof junction box refer to bulletin 4001.
For wiring options see page 2.

CERTIFICATIONS for IS4028
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 IS4028A
ATEX: II 1 G Ex ia IIC
FM08ATEX0068X

CE: Compliance with
EN55011, EN50022-2
IS4028 & IS4028A FTV Converter
Wiring Options

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

\[
R_{\text{Load}} \geq \frac{V_s - 2 \, V}{0.05 \, A}
\]

\[
\begin{array}{c|c}
V_s & R_{\text{Load}} \\
12 \, V & \geq 200 \, \Omega \\
24 \, V & \geq 440 \, \Omega \\
\end{array}
\]

Current Mode (3 wire)

\[
V_{\text{out}} \quad R_{\text{Load}}
\]

\[
\begin{array}{c|c}
0-5V & = 250 \, \Omega \\
0-10V & = 500 \, \Omega \\
\end{array}
\]

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