



SAFETY ALERT

ISA (Intrinsically Safe Alarm) burden

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ISSUE

The user manual for the programmable ISA (Part # 121603) depicts a 1.9V DC voltage drop across the ISA when used in 4-20mA mode.

The user manual should state a voltage drop range of 1.9V – 4.3V DC.



IMMEDIATE ACTION

Users should consider the updated voltage drop information and review their applications of the programmable ISA accordingly.

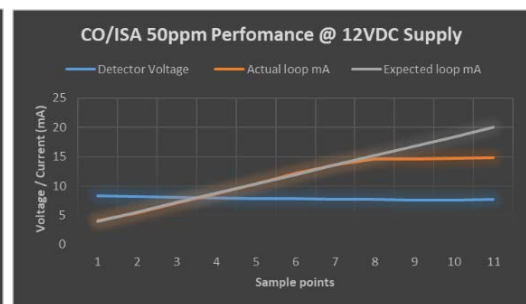
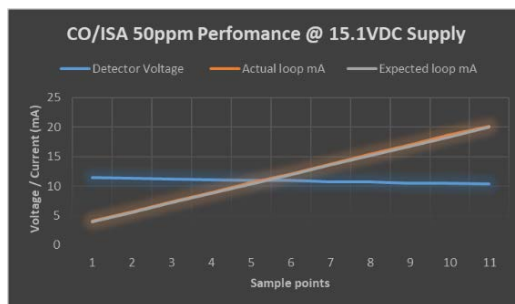


POSSIBLE CONSEQUENCES

The voltage drop across the ISA on a loop powered system may impact the ability for instrumentation to operate to full scale. It is recommended that the operational parameters be verified for any system incorporating a programmable ISA.

Example:

The below graphs depict a CO two wire sensor's response at different supply voltages



Recommendations

1. System designers should verify the ISA voltage drop has been allowed for within the system design and ensure that instruments can operate to design parameters of the system.
2. Verify the supply voltage at any loop powered instrument is within its operating parameters.

Options

1. Reduce system impedance (shorter cabling or relocate power supply)
2. Replace the ISA with a lower impedance version.
3. Increase supply voltage (Replace power supply if feasible)

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