

API-Cecom Group *n'fo*

Technical & Application Note A171

Application: Isolate and convert the signal from a positive displacement gas meter

Type of Company: Natural Gas Equipment Supplier Distribution Company

Location: Ohio

Problem: The customer offers a wide range of rotary, turbine, and diaphragm meters, along with metering instrumentation and test equipment for the global natural gas distribution and transmission industry. Natural gas companies rely on the durability and flexibility of these meters and instruments for the custody transfer of natural gas in residential, commercial and industrial applications around the globe. The customer offers a rotary type positive displacement type meter designed to measure the volume of gases and gas mixtures with a very high degree of accuracy. This “Roots” meter has a pulse output for cubic feet of gas flow but their customer requires a unit which will provide an isolated 4-20 mA signal ranged for the “application specific” rate of gas flow as the input for their PLC.

Note: for additional information on this process see http://en.wikipedia.org/wiki/Positive_displacement_meter

Solution: API furnished the customer an API 7010 G D. The API 7010 G D is a factory calibrated unit that accepts the pulsed output from the gas meter and converts it to a range specific 4-20 mA signal for the end users PLC. The unit also provides full 3 way isolation so the end result is more accurate monitoring of the gas flow.

Note: An alternate solution is to use the range specific APD 7010 D



API 7010 G

Frequency to DC Isolated Transmitter



API Unique Feature



LoopTracker

The API *LoopTracker* LEDs indicate the level of the input and/or output signal by varying its intensity. As the process signal increases, the brightness of the LED increases, and as the signal decreases the LED brightness decreases. Should a problem develop in the loop, such as a faulty device in the loop causing an incomplete path for current, the *LoopTracker* detects this and ceases to illuminate. This function works on both the input and output loop allowing the technician to diagnose the cause of the problem quickly and efficiently therefore minimizing system down time.

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