

# Gas Pipeline Company Reduces Instrumentation Costs by 70% with Multivariable Transmitter

## RESULTS

- Reduced the number of field transmitters and associated wiring and labor costs
- Reduced calibration and maintenance costs
- Simplified gas flow measurement with digital technology

## APPLICATION

Gas Transportation

## CUSTOMER

Texas-Based Pipeline Company

## CHALLENGE

The gas transportation business can be extremely costly and competitive. A vast network of maintenance intensive pipelines is required to transport the gas to locations all across the country. For one such pipeline company, if a way could be found to reduce the cost of gas transportation for a potential client, they would be able to secure the customer's business and gain a competitive edge.

An important aspect of gas flow transportation is measuring flow throughout the pipe. Gas flow is traditionally measured with differential pressure transmitters and orifice plates, as regulated per the American Gas Association Report No. 3 (AGA-3). However, to get an accurate gas measurement, additional pressure and temperature compensation is required.

The pipeline company had been using individual differential pressure, line pressure, and temperature transmitters that were tied into a Bristol RTU. Because the transmitters in use were analog, they were forced to use a more expensive RTU with additional I/O cards to read the 4-20 signals. While this method of measuring gas flow did work, it required a lot of instrumentation and relied on older analog technology.

## SOLUTION

The pipeline company upgraded their network with the Rosemount 3095FB MultiVariable™ Transmitter. The 3095FB was an ideal solution that helped them improve the quality of their gas flow measurement and drive down associated costs. The 3095FB measures differential pressure, line pressure, and temperature, which eliminated the need for individual transmitters. Because one 3095FB replaced 3 transmitters, there was also a reduction in conduit, wiring, maintenance, and calibration costs.



*The pipeline company reduced the average cost of each gas flow measurement point by 70%, which stemmed from reduced instrumentation, conduit, wiring, and labor costs.*

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Process Management

The Rosemount 3095FB uses MODBUS™ protocol, which allows for easy integration with RTUs, flow computers, and other SCADA devices. Being that MODBUS is entirely digital, the pipeline company was able to switch to the Bristol 3305 RTU, which did not have all of the additional analog I/O cards. And, the Bristol 3305 has a NEMA 4X rating, which eliminated the need for an enclosed shack at the measurement point.

In the end, the Rosemount 3095FB MultiVariable Transmitter proved to be a valuable solution that was the catalyst for significant cost savings. The pipeline company reduced the average cost of each gas flow measurement point by 70%, which stemmed from reduced instrumentation, conduit, wiring, and labor costs. Furthermore, they were able to secure their customer's business and build a foundation for a more profitable method of transporting gas.

**COST SAVINGS**

SAVINGS	REASON
\$1000	Use of one transmitter instead of three
\$500	Use of a less expensive direct-mount manifold — no longer a need for the stabilizer bar for the gage pressure transmitter
\$4000	Use of a Bristol 3305 instead of a 3330 — no need for all the I/O — no longer a need for analog inputs, only a serial port
\$500	Use a smaller batter charger — less power is needed.
\$4500	No longer need for a building because the Bristol 3305 is NEMA 4X rated
\$800	Less conduit, wiring, and labor
<b>\$10,300</b>	<b>TOTAL SAVINGS</b>

**RESOURCES**

**Rosemount 3095 Multivariable™ Transmitter w/ Modbus™ Protocol**

<http://www.emersonprocess.com/rosemount/products/pressure/m3095fb.html>

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