

CRUDE OIL FLOW CONTROL IN PIPELINES



Industry
MIDSTREAM OIL & GAS

CHALLENGE:

Crude oil pump stations are vital to maintaining reliable flow in midstream pipelines, but they face persistent challenges such as pressure fluctuations, cavitation, accelerated equipment wear, and leaks or spills risks. Effective flow control and accurate monitoring are essential to ensure safety, efficiency, and compliance.

In the Permian Basin, a midstream operator sought to modernize legacy instrumentation at multiple pump stations. The existing solution - mechanical pressure switches - lacked accurate signal transmission and could not communicate directly with the PLC/DCS via the same 2-wire loop. This limited the operator's ability to monitor suction and discharge pressure in real-time and impeded proactive maintenance planning. A solution that could integrate directly into the existing control infrastructure - without incurring the cost and delay of running new wiring typically required for transmitters - was essential to keeping upgrade timelines and budgets on track.



ONE SERIES
1XSWLLP18



SOLUTION:

Unlike traditional transmitters, the One Series 1XSWLL, a 2-wire, solid-state electronic pressure switch integrates sensing, switching, and digital communication in a compact, rugged housing, providing:

- **Accurate pressure measurement and configurable set points**
- Reliable **loop-powered signal communication** to PLCs/DCS systems
- **Cost-Effective Digital Upgrade:** The One Series 1XSWLLP18 provided comparable functionality to a pressure transmitter at a lower cost, while offering a drop-in replacement of mechanical switches using the same 2-wire loop.
- **Operational Continuity & Maintenance Optimization:** With real-time digital communication to the control system and configurable alerts, the operator gained improved visibility into process conditions. This enabled proactive maintenance scheduling, reduced unplanned downtime, and supported safer crude oil transport.

The unit's **programmability, ease of installation, and online availability** from a well-established and trusted brand enabled quick integration into the customer's architecture.



COST EFFECTIVE UPGRADE



ONLINE PURCHASING & FAST DELIVERY



OPERATIONAL RELIABILITY

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