I and E technician expedites pressure switch calibration with multi-faceted tool

Professional Review

Name: Senior Instrumentation and Electrical (I and E) Technician

Company: Oil and gas processor in the Southwest United States.

Tool: Fluke 721 Precision Pressure Calibrator

Application: Pressure switch calibration and troubleshooting for natural gas processing operation

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Background

Properly functioning pressure switches are critical to the safety and efficiency of natural gas processing operations. We recently heard from a senior I and E technician about how he uses the Fluke 721 Precision Pressure Calibrator to help keep those operations running smoothly.

Review

I'm responsible for calibrating and maintaining about 100 pressure switches across two plants, covering an area of about a half square mile. If anything electrical or instrumentation-related comes up I'll be contacted to either troubleshoot or maintain that piece of equipment. Using the Fluke 721 I can either identify a switch problem or confirm that the switch is working correctly and move down the line to determine the real cause.

In the past, for pressure switch calibrations, I would have to get out my multimeter, hand pump or nitrogen bottle with regulator, and two pressure gauges (0–30 PSI and 0–2000 PSI). All I need now is the 721 pressure calibrator with its dual pressure ports, and the hand pump or nitrogen bottle with regulator. The 721 has replaced my two digital gauges, and I can test the electrical parameters of a switch at the same time as pressure if I need to. Its large backlit display makes it easy to see the result in even dim light.

Automatic logging

The 721 is excellent for calculating deadband. Before, I had to do that manually. I would hook up a process meter to the pressure switch to measure ohms and then hook up my pump and my gauge. I'd have to watch the gauge until I would think the switch would trip and then quickly look at the process meter to see when the switch actually tripped. If I didn't catch it right away I might miss the exact pressure at the trip point.

Accurate and repeatable

I've run that test several times just to test repeatability of the 721 and of the switches and it's very accurate. Also, if you know what the deadband should be for that type of switch you can quickly determine if maybe that switch is going bad.

The 721 saves four to five minutes per switch, which saves about five or six hours a year at one facility just on preventive maintenance. But even more important, when you're troubleshooting in the middle of the night, it's nice to be able to grab the 721, your hoses, and your hand pump and you're ready to go.