System Studies Incorporated

Barometric Pressure Transducer

Increasing the accuracy of pressure measurement

In air pressure systems where alarm thresholds are set tight due to the critical nature of the cables in the system, there is absolutely no room for monitoring inaccuracies or variables. Responsive and accurate pressure monitoring dictates whether you can actually use your alarm information or if you have to ignore it.

Field personnel and analyzers know what happens when a major storm front moves into an area. The storm causes a drop in barometric pressure and reduces air dryer output. With cable pressure transducer alarm levels set tight because of the critical service requirements of the cables, the reduced delivery pressure to the system often results in a deluge of alarms —ones that are understandably disregarded as nuisance alarms.

Problem is, if there are 150 to 200 alarms generated by a major storm front, there's no way to tell if all of them are nuisance alarms or if one or more of them is the result of a serious cable leak.

That's why System Studies Incorporated developed the High Resolution Barometric Pressure Transducer™ (Part Number 9800-4050). One barometric pressure transducer installed in a central office at the air dryer will compensate for drops in dryer output due to storm activity. This device serves two important functions: it improves monitoring analysis and dispatching, and reduces nuisance alarms.

Here's how it works

The High Resolution Barometric Pressure Transducer is a solid-state device which is zero calibrated to a fixed reference at sea level and vented to atmosphere. Unlike a mechanical transducer that has a fixed resistor scale and wiper arm, the barometric transducer's electronic design makes it possible to expand its reading range below the zero calibration point.

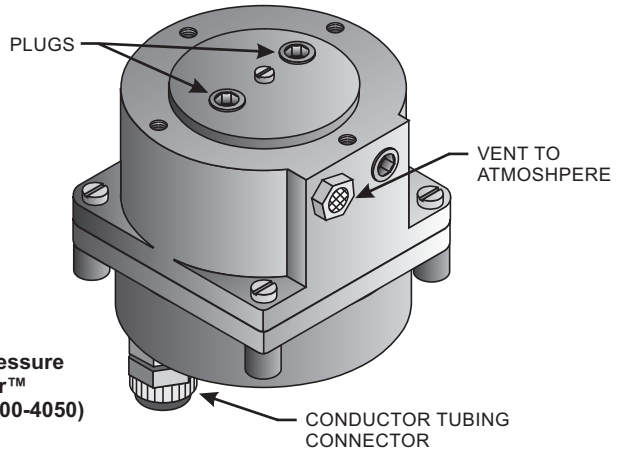
If a large storm passes through an area, the transducer measures the barometric pressure drop and makes the information available to PressureMAP. The software then compensates all of the other High Resolution Transducers installed in the office so that true cable pressure readings can be obtained.

For example, a typical storm passing through an area could change barometric pressure by as much as 30 millibars. This equates to nearly a half pound (.5 PSI) drop in pressure. PressureMAP would read the High Resolution Barometric Pressure Transducer and subtract its value from the readings provided by all of the other High Resolution Transducers. If a High Resolution Pressure Transducer monitoring an underground cable provided an output of 6.5 PSI and the High Resolution Barometric Pressure read -0.5 PSI (below zero), the actual cable pressure reading would be 7.0 PSI (6.5 minus a negative 0.5).

This type of reading accuracy and barometric pressure correction effectively eliminates nuisance alarms caused by storm activity and provides accurate data for dispatching and alarming. It enables you to maintain generally tight alarm levels, setting them as low as 0.03 PSI for high priority devices if desired.

Model Specifications

Electrical Loop Type:	Central office dedicated pair
Measurement Voltage:	10 to 48 volts DC
Measurement Pair:	Blue/white conductors
Spare Pair:	Orange/white conductors
Measurement Output:	4 to 20 milliamperes, 20.6 to 35.0 inches of Hg
Measurement Resolution:	0.01 PSI
Construction:	Nickel-plated brass, mineral filled nylon center barrier plate
Physical Dimensions:	2.5 inches x 2.625 inches (excluding conductor fitting)
Operating Temp. Range:	0 to +150 degrees F
PressureMAP Device Type:	AB
Transducer Type:	Baro/35
Monitor Compatibility:	289H Loop Surveillance System (LSS)



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