



PIE Calibrators

Troubleshooting Tools Help Detect Hidden Loop Problems

Bring your plant up safely and quickly by detecting moisture contamination in 4 to 20 mA loop wiring

When your process control plant has experienced a flood, or whenever you suspect that water has gotten into the conduits or junction boxes, there are a few courses of action you can take.

High risk, no up front costs or time

The easiest thing to do is to ignore the issue and bring up the process without checking for the presence of water in the control loops.

Low risk, high up front cost & lots of time

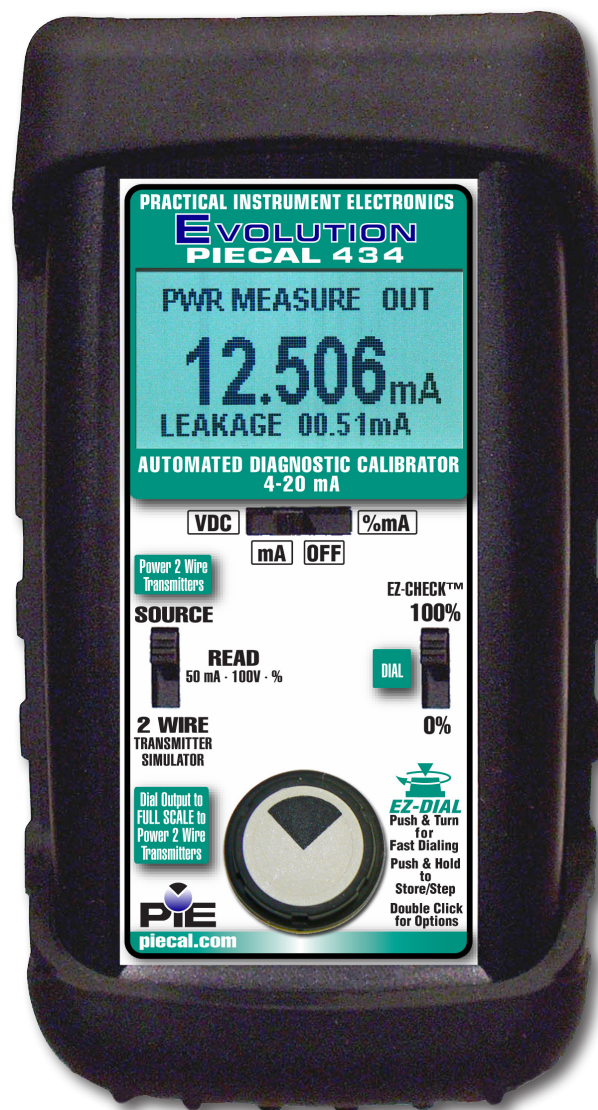
The hardest and most time consuming preventive maintenance is to open up every junction box and raceway to look for water. Some junction boxes may be missed, or there may be moisture lurking elsewhere in the wiring causing undetected problems.

No risk, low up front cost & time saving

You can grab a PIE diagnostic calibrator with patented leak detection to find hidden problems due to moisture in flooded junction boxes or in the loop wiring. Simply disconnect the PLC or loop power supply and replace it with the PIE Calibrator. The PIE will power up the loop and **instantly display any leakage current in the loop that is uncontrolled by the transmitter** (see photo).

Once you have determined which loops have moisture problems you can then proceed to open junction boxes and raceways, only in the problem loops, and dry them out. This saves you manpower and time, helping you bring the plant back online quickly and safely.

Call now to get one in your plant to simplify your flood recovery.



Actual Size

PIE Diagnostic Calibrators with Leak Detection



Milliamper

Multifunction

Multifunction

Thermocouple

RTD

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PIE Calibrators Find Moisture in Loops - Rev A 6 September 2017

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Prevent Small Problems from Becoming Major Plant Failures

PIE diagnostic calibrators offer powerful troubleshooting tools that offer visibility to the health of your loop that is not possible with any calibrator brand on the market. Ground Leak Detection allows technicians to find and fix undetected problems before they cause quality issues or become catastrophic failures - ending in poor product, injury, loss of life, or equipment damage. Common loop problems caused by moisture, corrosion and contamination left unchecked can lead to dangerous conditions that are easily avoided with the innovation technology in the PIE diagnostic calibrators.

Even the most common small errors caused by loop wiring issues can lead to inferior product, lost production time and risk to personnel. Intrinsically safe loops are protected by barriers only against extreme overvoltage and over current conditions but allowing significant ground faults to go undetected. PIE's unique and powerful Ground Leak Detection technology quickly and easily finds a fault that would otherwise go undetected. These undetected faults could lead to potentially disastrous outcomes.

Have you ever replaced a "faulty" transmitter only to find the problem was somewhere else in the loop? And did you end up throwing the transmitter away after you fixed the other problem "just in case" the transmitter was faulty?

If you find a loop where the transmitter is calibrated correctly but all the readings elsewhere in the loop have a fixed offset this is due to a Zero Shift. This Zero Shift is typically caused by some of the current in the loop bypassing the transmitter. If you have some loops that are erratic after it rains there may be moisture present in a junction box or where insulation has broken down.

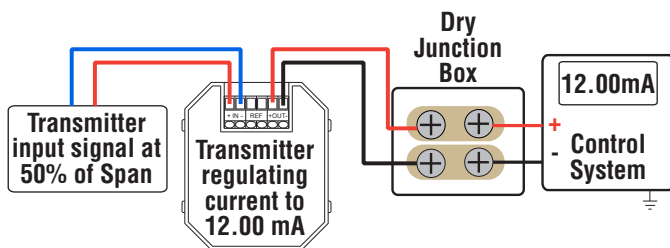
Only a PIE Calibrator with patented Ground Leak Detection can find all these hidden problems. Turn on Ground Leak Detection and use the PIE diagnostic calibrator to power up the loop. Any current that isn't controlled by the transmitter or other current control element will be clearly indicated as leakage on the PIE calibrator display.

Ground Leak detection allows technicians to troubleshoot loop problems with ease and confidence - minimizing risk and maximizing process uptime.

Hidden Problem Found with Ground Leak Detection

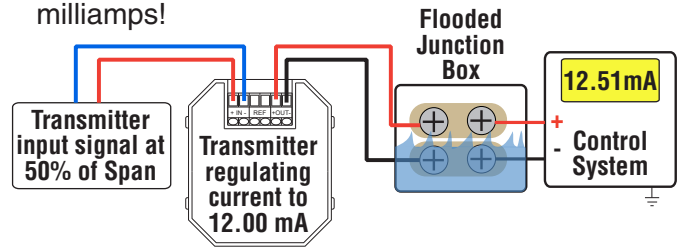
Safe loop

Sealed junction box is dry and the control system is operating within parameters.



Dangerous loop

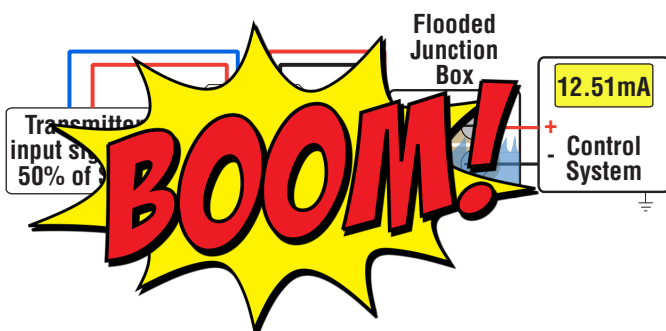
Sealed junction box is wet* and the control system is operating with a fixed offset of 0.51 milliamps!



* The value of the current leak increases when the water in the junction box is contaminated with rust, salt or process chemicals.

Dangerous loop left undetected

The flooded junction box goes undetected and the control system potentially goes further out of control until...



OR

Disaster averted

Hidden problem is detected by the PIE diagnostic calibrator. The flooded sealed junction box is emptied and the control system is once again operating within parameters. The product, equipment, and personnel are safe!

