



PIE 830 Process Calibrator

NEW!

Carry eight single function calibrators *plus* a milliamp calibrator with loop supply in the palm of your hand!

- **Lighten up your toolbox**
Compact calibrator replaces toolbox of single function devices
Milliamp • Voltage • Frequency • pH
Thermocouples • RTDs • Pressure • Troubleshooter
- **First multifunction calibrator with three troubleshooting tools**
Detect 'hidden' loop problems - Quickly diagnose troublesome ground fault & current leakage with patented **Loop Diagnostic** technology. *These problems are undetectable with other instruments!*
Automatically detect 2, 3 or 4 wire RTDs - Trouble shoot sensor connections and find broken wires with patented technology.
Troubleshoot wiring problems - 'Beep' with continuity checker.
- **Accurate to $\leq \pm (0.02 \% \text{ of Reading} + 0.01\% \text{ Full Scale})$**
- **Simulate pH probes & calibrate pH transmitters**
Source from 0.000 to 14.000 pH @ 25°C (77°F) into transmitters & analyzers corresponding to -414.12 to +414.12 mV
- **Technician friendly operation**
Intuitive *EZ-DIAL Double Click Menu* makes it easier to setup than other multifunction calibrators. Same as the single function PIE Calibrators.
- **Calibrate 2 wire transmitters - control input & monitor output**
Simulate transmitter inputs while powering it with the internal isolated 24 V supply & measuring the 4-20 mA output. **Dual display** of transmitter input & output. Simplify HART hookups with built-in 250 Ohm resistor
- **Use it as a milliamp and voltage calibrator**
Source 0 to 24.000 mA, 0 to 10.250 V dc, -20.000 to 99.999 mV and -500.00 to 999.99 mV. Read to 24.000 mA, 60.00 V dc ± 99.999 mV and ± 999.99 mV. Simulate 2-Wire Transmitters.
- **Calibrate directly in temperature to 0.1°C & 0.1°F**
Compatible with the instruments you use including all brands of smart transmitters and PLCs with 14 thermocouple & 9 RTD types.
- **Checkout flow & vibration systems** - to 2000 CPM (Counts-Per-Minute), 999.99 Hz, 9999.9 Hz & 20.000 kHz.
- **Measure pressure with optional modules** - 32 modules for gauge, differential, absolute & compound pressure
- **Easy to read** - Turn on the backlight & easily see the display in dark areas of the plant.
- **Quickly set any three outputs plus automatic stepping & ramping**
Easily set any value with the adjustable "DIAL" plus store any three output settings for instant recall with the EZ-CHECK™ switch. 2, 3, 5 & 11 steps automatically increment output in 100%, 50%, 25% or 10% of span plus continuous ramp. Set step/ramp time to 5, 6, 7, 8, 10, 15, 20, 25, 30 & 60 seconds.
- **Measure temperature sensors, frequency pickups, loop currents, voltage levels & pressures**
Check the values of your process sensors. Instantly recall MAX and MIN values to see process variability.



Actual Size



Practical Instrument Electronics

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pH Simulator

• Simulate pH probes into transmitters & analyzers

Use the pH simulator to verify proper operation of pH devices before you place a probe into a calibrated buffer. Adjusting the pH transmitter or analyzer without a probe allows you to make sure the device is calibrated and doesn't require too much offset with the probe. If the probe requires more than the

manufacturer's recommendations (typically 5%) it is time to replace the probe. The 830 simulates 0.000 to 14.000 pH @ 25°C corresponding to -414.12 to +414.12 mV.



Troubleshoot Loop Problems

• Find current leaks in loops before swapping instruments

Automatic indication Loop Current and Leakage Current (US Patent #7,248,058). Measure ground current leakage from faulty wiring, flooded conduit and corrosion bridges to help you decide if there is a wiring problem in the loop.



830 detects uncontrolled current in the loop due to a flooded junction box.

Evolutionary Design

• Designed for you by experienced calibrator manufacturers

PIE Calibrators are designed and built by members of the same team that designed and built the calibrators manufactured by Fluke* under the Altek* label. The 830 improves upon other brands by including a rubber boot, backlit display with larger digits, troubleshooting tools, higher accuracy and more ranges for flexibility.

* PIE Calibrators are not manufactured or distributed by Fluke Corp or Altek Industries Inc, manufacturers of Altek Calibrators.

Measure Pressure

• **Easily measure pressure with a plug in pressure module** - Choose any of the pressure modules along with one of the 3 hand pumps & tubing kits for a complete pressure calibration system.

Sensor Code	Application	Ranges Available
DNxxxx	Differential, Non-isolated	0 to 0010 [†] , 0028, 0200, 0415, 2000" H2O
DIxxxx	Differential, Isolated	0 to 0001, 0005, 0015, 0030, 0100, 0300, 0500 PSID
GIxxxx	Gauge, Isolated	0 to 0015, 0030, 0050, 0100, 0300, 0500, 1000, 3000 PSIG
CIxxxx	Compound, Isolated	-14.7 to +0015, 0030, 0050, 0100, 0300, 0500, 1000, 3000 PSIG
AIxxxx	Absolute, Isolated	0 to 0017, 0038, 0100, 1000 PSIA

Media Compatibility

Non-isolated DN sensors: clean, dry, non-corrosive, non-condensing gases only

Isolated DI sensors: media compatible with 316L SS & Viton® • Isolated GI, CI & AI sensors: media compatible with 316L SS

Accuracy

±0.025% of full scale including all affects of linearity, repeatability and hysteresis from -20° to +50°C (-4° to +122°F)

[†] The DN0010 sensor accuracy is ±0.050% of full scale

32 Engineering Units:

PSI • inches, feet, mm, cm and meter of H2O @ 4°C, 20°C & 60°F • inches, meter, cm and mm of Hg @ 0°C;
 torr • kg/cm2 • kg/m2 • Pa • hPa • kPa • MPa • Bar • mBar • ATM • oz/in2 • lb/ft2

Pneumatic Scissor Hand Pump

0 to 300 psi



Pneumatic Pressure/Vacuum

0 to 125 psi & 0 to 23 inches vacuum



Hydraulic Scissor Hand Pump

0 to 3,000 psi

