



PIECAL 334

4-20 mA Loop Calibrator

New
Backlit Display

- **Easy to use**

With the PIECAL 334 you can check, calibrate and measure all your current signal instruments in a 4 to 20 milliamp DC loop. It can be used at any access point in your loop. Source & Read 0.00 to 24.00 mA, Simulate a 2 Wire Transmitter or use the PIECAL 334 to simultaneously power your 2 Wire Transmitter and measure its output.

- **Easy to read**

Always on backlight & easily see the display in dark areas of the plant.

- **Source milliamps**

Calibrate recorders, digital indicators, stroke valves or any instruments that get their input from a 4 to 20 mA loop. Easily set any value quickly to within 0.01 mA with the adjustable digital potentiometer "DIAL" or use preset **4.00 mA (0.0%)** and **20.00 mA (100.0%)** EZ-CHECK™ settings.

- **Calibrate using loop power**

Check loop wiring and receivers by using the PIECAL 334 in place of a 2 Wire transmitter. Uses any loop power from 2 to 100 V DC.

- **Read loop current**

Check controller outputs or measure the milliamp signal anywhere in the loop. The PIECAL 334 measures 0.00 to 52.00 mA (-25.0 to 300.0%) signals with greater accuracy than a typical multimeter.

- **Power & measure 2 wire transmitters**

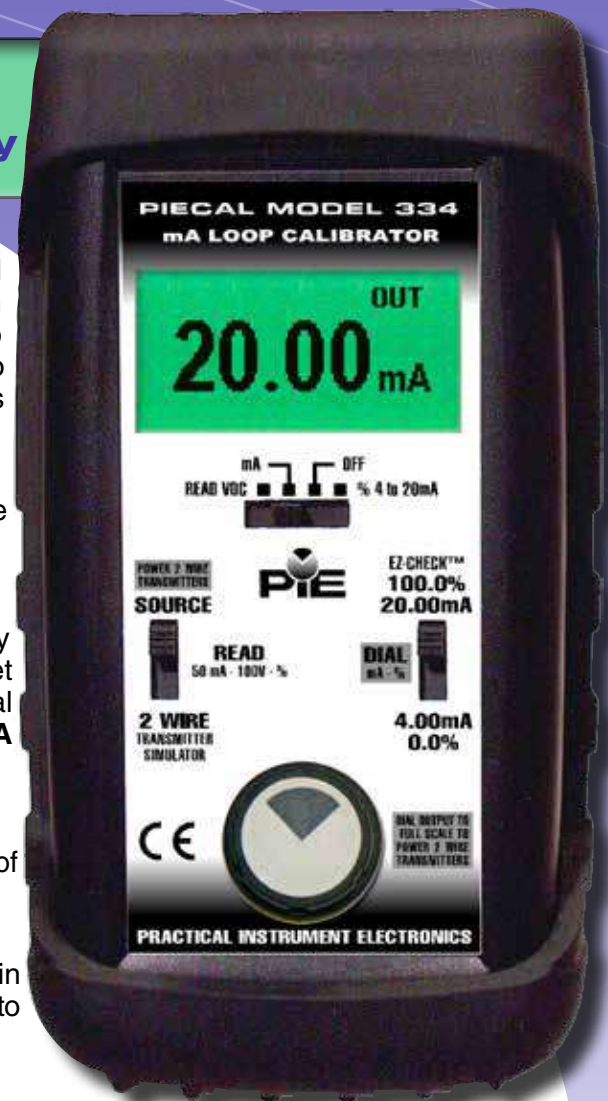
The PIECAL 334 can simultaneously output 24V DC to power any and all devices in a process loop using the internal batteries and internal switching power supply, while measuring the output of a 2 Wire Transmitter and any other loop devices.

- **Read DC volts**

The PIECAL 334 can measure from -99.99 to +99.99 VDC with 0.01 Volt resolution. Use it to check loop power supplies, I/V converters, 1 to 5 Volt signals, and other voltages making it unnecessary to carry a multimeter.

- **Evolutionary design**

PIECAL 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 PIECAL 334 improves upon other brands by including a rubber boot, tilt stand, backlit display with larger digits, rugged switches and a battery compartment for fast battery changes.



Actual Size

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



Practical Instrument Electronics

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PIECAL 334 Specifications

(Unless otherwise indicated all specifications are rated from a nominal 23°C, 70% RH for 1 year from calibration)

| General | |
|--|---|
| Operating Temperature Range | -20 to 60 °C (-5 to 140 °F) |
| Storage Temperature Range | -30 to 60 °C (-22 to 140 °F) |
| Relative Humidity Range | 10 % ≤RH ≤90 % (0 to 35 °C), Non-condensing 10 % ≤RH ≤ 70 % (35 to 60 °C), Non-condensing |
| Size | 5.63 x 3.00 x 1.60 in, 143 x 76 x 41mm (LxWxH) |
| Weight | 12.1 ounces, 0.34 kg (including boot & batteries) |
| Batteries | Four "AA" Alkaline 1.5V (LR6) |
| Optional AC Adaptors | 120 VAC 50/60 Hz [Part # 020-0100] 240 VAC 50/60 Hz [Part # 020-0101] |
| Optional NiMh Rechargeable battery kit | 120 VAC for North America Only; charger, four NiMh batteries, AC & DC cords [Part # 020-0103] |
| Low Battery | Low battery indication with nominal 1 hour of operation left |
| Protection against misconnection | Over-voltage protection to 135 vrms (rated for 30 seconds) or 240 vrms (rated for 15 seconds) |
| Display | High contrast graphic liquid crystal display with 0.315" (8.0 mm) high digits. |

| Read mA | |
|-----------------------------------|--|
| Ranges and Resolution | 0.00 to 52.00 mA or -25.0 to 300.0% of 4-20 mA |
| Accuracy | |
| Below 24.010 mA | ≤ ± (0.05 % of 24.00mA) (±0.01 mA) |
| Above 24.010 mA | ≤ ± (0.05 % of 52.00mA) (±0.03 mA) |
| Voltage burden | ≤ 2V at 50 mA |
| Overload/Current limit protection | 54 mA nominal |
| Battery life | ≥ 125 Hours nominal |

| Source/Power & Measure Two Wire Transmitters | |
|--|--|
| Ranges and Resolution | 0.00 to 24.00 mA or -25.0 to 125.0% of 4-20 mA |
| Accuracy | |
| EZ-Checks at 4 & 20 mA ¹ | ≤ ± (0.025 % of Span at 4 mA & 20 mA) (±0.005mA) |
| 0.000 to 24.000 mA | ≤ ± (0.05 % of 24 mA Span) (±0.012mA) |
| Noise | ≤ ± 1/2 Least Significant Digit |
| Temperature effect | ≤ ± 0.005 %/°C of FS |
| Loop compliance voltage | ≥ 24 DCV @ 20.00mA |
| Loop drive capability | 1200 Ω at 20 mA for 15 hours nominal |
| Battery life | ≥ 30 hrs at 12 mA nominal |

¹These are internal calibrated cardinal reference points and accuracy is not defined or limited by display resolution

| 2-Wire Transmitter Simulation | |
|-----------------------------------|--|
| Accuracy | Same as Source/Power & Measure |
| Voltage burden | ≤ 2V at 20 mA |
| Overload/Current limit protection | 24 mA nominal |
| Loop voltage limits | 2 to 100 VDC (fuse-less protected from reverse polarity connections) |
| Battery life | ≥ 125 hours nominal |

| Voltage Read | |
|----------------------|-------------------------------------|
| Range and Resolution | -99.99 to +99.99 VDC Full Span (FS) |
| Accuracy | ≤ ± 0.05 % of FS |
| Temperature effect | ≤ ± 100 ppm/°C of FS |
| Input resistance | ≥ 2 MΩ |
| Battery life | ≥ 125 hours nominal |

Accessories

INCLUDED:

Rubber Boot, Four "AA" Alkaline batteries, Certificate of Calibration, Attached Test Leads with Alligator Clips

OPTIONAL:

| | |
|--|-------------------|
| Small Carrying Case with PIE Logo | Part No. 020-0205 |
| AC ADAPTOR (200 to 240 VAC) | Part No. 020-0100 |
| AC ADAPTOR (100 to 120 VAC) | Part No. 020-0101 |
| Ni-MH 1 Hour Charger with 4 Ni-MH AA Batteries | Part No. 020-0103 |
| (100-120 V AC input for North America Only) | |

Additional Information

PIE Calibrators are manufactured in the USA. This product is calibrated on equipment traceable to NIST and includes a Certificate of Calibration. Test Data is available for an additional charge.

Practical Instrument Electronics recommends a calibration interval of one year. Contact your local representative for recalibration and repair services.

Warranty

Our equipment is warranted against defective material and workmanship (excluding batteries) for a period of three years from the date of shipment. Claims under warranty can be made by returning the equipment prepaid to our factory. The equipment will be repaired, replaced or adjusted at our option. The liability of Practical Instrument Electronics (PIE) is restricted to that given under our warranty. No responsibility is accepted for damage, loss or other expense incurred through sale or use of our equipment. Under no condition shall Practical Instrument Electronics, Inc. be liable for any special, incidental or consequential damage.



Available From:

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