



The Practical Instrument Electronics' Model 532 is the best tool for calibration, testing, and diagnosing process loops. The Model 532 brings all the features you would expect from a loop calibrator as well as timesaving new ones. Make adjustments with the EZ-Dial™ Knob or test limits with the dual action EZ-Check™ Switch. Powerful ramping functions are only a button away on the model 532. Save potentially hours of troubleshooting time on problem loops with the 532's unique Loop Diagnostic Mode. In Loop Diagnostic Mode, the loop current, voltage, resistances, AC voltage, and mode of operation are all displayed simultaneously; without the need of multiple DMM connections. Loop diagnostic is available in every mode of operation and truly is a diagnostic monitor, as parameters are continuously updated in real time. The smart diagnostic tool even indicates the most likely cause of loop failure!

MODEL 532

4-20 MILLIAMP/VOLTAGE LOOP CALIBRATOR WITH LOOP DIAGNOSTIC

Features

- **4 to 20 mA Loop Functions**

Source and Read 0.000-24.000 mA.
Simulate 2-Wire Transmitters 0.000-24.000mA.
Power 2-Wire Transmitters and Read 0.000-24.000 mA.
Display current in mA or -25.00-125.00 % of 4-20 mA.

- **Read & Source Voltage Function**

Read 0.00 to ± 30.00 VDC with 4X over range ability.
Source 0.000 to 24.000 VDC with up to 20mA output.
Direct calibration 1.000V to 5.000V.

- **Full 5 Digit Display**

True ±0.012% of reading accuracy.
Bar graph for quick reference of input and output levels.
High contrast graphic display viewable in all lighting conditions and angles.

- **Loop Diagnostic**

Displays loop current, voltage, resistance, AC voltage and mode of operation simultaneously eliminating multiple DMM connections. Make DYNAMIC loop readings under actual

DC mA	DC V	DC Ω
00.37	24.0	01423

leakage = 00.16mA
AC V = 00.0

POWER MEASURE DIAG

operating conditions. Included in the loop diagnostic features is its ability to measure ground current leakage from faulty wiring, flooded conduit, and corrosion bridges. This leakage subtracts from the signal current sensed by the receiving system (i.e. DCS), causing a measurement error.

- **EZ-Dial™ Knob**

Change the speed of dialing your test point by just pushing down on the knob.
Easily adjust output by 0.001 mA (0.01 %) or 0.100 mA (1.00 %).

- **EZ-Check™ Switch with EZ-Step™ Button**

3 position tactile switch with push button for true one handed calibrations. Push button for stepping through calibration points. 16 different step sizes.

- **Hands free auto step and auto ramp modes**

Selectable soak and step time for working with valves.

- **Uses a standard 9V Alkaline Battery**

Superior battery life of 40 hours under typical continuous usage. Easy access to battery compartment.

- **240 VAC Tolerant**

Fuse-less protection from accidental misuse.

- **Lightweight and rugged with a solid feel**

Convenient Velcro® hand strap allows for a firm confident grip or attachment to pipes and ladders.

- **HART® protocol compatibility mode**

User selectable 250Ω resistor in series with the output for compatibility with HART® protocol enabled devices.



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General Specifications

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

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	7.00 x 3.30 x 2.21 inches (177.8 x 83.8 x 56.1mm)
Weight	12.0 oz (340g)
Battery	9V Alkaline Optional 120 VAC 50Hz AC adaptor available
Miscellaneous	Low battery indication with nominal 1 hour of operation left Over-voltage protection to 120 Vrms (rated for 30 seconds) or 240 Vrms (rated for 15 seconds) Bar graph display with 1% resolution of 4-20 mA signal scale High contrast graphic liquid crystal display with 0.45" (11.4 mm) high digits

Common Specifications for all Current Modes

Ranges	0.000 to 24.000 mA, -25.00 to 125.00% of 4-20 mA
Accuracy	± (0.012 % of Reading + 0.002 mA)
Temperature Effect Resolution(s)	± 50 ppm/°C of Range 0.001 mA and 0.01 %

Source/Power and Measure 2-Wire Transmitter Specifications

Loop Compliance Voltage	≥ 24 Volts
Loop Drive Capability	1200 Ω at 20 mA for entire battery life, 950 Ω W/HART® mode enabled
Miscellaneous	Open loop or out of compliance conditions are indicated by appropriate error display Battery life in: Source mode ≥ 18 hrs at 12mA typical (HART® disabled) Power measure ≥ 10 hrs at 12mA typical. HART® protocol mode is a selectable option at turn on. HART® protocol mode places a 250Ω resistor in series with the output. Selectable EZ-Step(s) for Source Mode/2-Wire Transmitter Simulation: 2 to 16 selectable step settings Step size is determined by the selected high and low ranges Selectable time settings for stepping and soak: STEP: 5 to 900 seconds SOAK: 0 to 900 seconds

Read mA Specifications

Voltage Burden	≤ 2V at 20 mA
Overload/Current Limit Protection	nominal ≤ 24 mA
Battery Life	Typical ≥ 40 Hours

Authorised Representative:

2-Wire Transmitter Simulation Specifications

Voltage Burden	≤ 2V at 20 mA
Overload/Current Limit Protection	nominal ≤ 24 mA
Loop Voltage Limits	2-60 VDC
Miscellaneous	Open loop or out of compliance conditions are indicated by appropriate error display Battery life ≥ 40 hour typical Selectable EZ-Step(s) for Source Mode/2-Wire Transmitter Simulation: 2 to 16 selectable step settings Step size is determined by the selected high and low ranges Selectable time settings for stepping and soak: STEP: 5 to 900 seconds SOAK: 0 to 900 seconds

Voltage Specifications (Read Range)

Read Range	0.000 to 24.000 VDC then 24.01 to 30.00 (with 4X over range)
Resolutions	Auto Ranging 0.001 V up to 24V, 0.01V up to 30.00V
Temperature Effect	≤ ± 100 ppm/°C of range
Input Resistance	≥ 1 MΩ
Accuracy	0.000 to 24.000 VDC ≤ ± (0.012% RDG + 0.004 V) 24.01 to 30.00 VDC ≤ ± (0.025% of reading ±0.04 V)

Voltage Specifications (Source Range)

Source Range	0.000 to 24.000 VDC
Output Resistance	≤ 0.3 Ω
Source Current	≥ 20.000 mA with indicator for over range
Accuracy	≤ ± (0.012% RDG + 0.004 V) ±50ppm/°C of range
Battery Life	> 40 hour typical

Available Options

Option:	Part Number:
AC Adaptor	020-0101 - 50 HZ
Carrying Case	020-0200
UKAS Calibration Certificate	

Warranty

Practical Instrument Electronics (PIE) equipment is guaranteed against defective material and workmanship (excluding batteries) for a period of three years from the date of shipment. Claims under guarantee can be made by returning the equipment prepaid to Haven Automation Ltd. The equipment will be repaired, replaced or adjusted at our option. The liability of Practical Instrument Electronics (PIE) is restricted to that given under their guarantee. 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. or Haven Automation Ltd. be liable for any special, incidental or consequential damage.



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