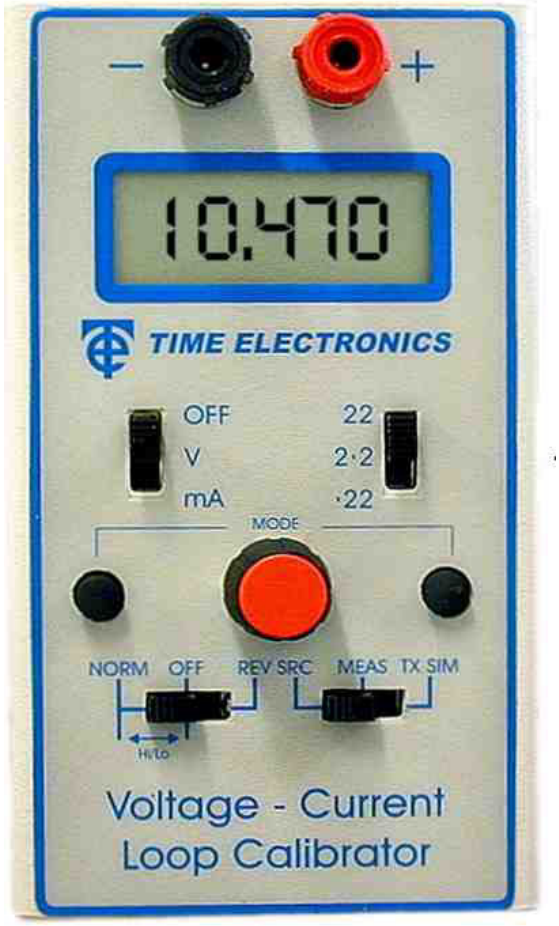
1048 Current - Voltage - Loop Calibrator

- **Source & Measure - Current & Volts**
- **3 Source ranges 0 - 22mA & 0 - 22V**
- **3 Measure ranges 0 - 70mA & 0 - 50V**
- **Transmitter Simulator/Sink**
- **Output Steps and Ramps**
- **Fine adjustment (Inching)**
- **Accuracy 0.02% of span**
- **4.5 digit display**
- **9V internal battery or mains power**
- **Hand Held /Rugged**
- **Easy to use**



A current, voltage, and process loop calibrator that covers the needs of an R&D lab and process control engineer. Source and measure in three current and voltage ranges plus a transmitter simulator/sink function. It has 4.5 digit (0.005% of span) resolution.

Output functions include step, ramp and inching. There are no key press menus to learn, just switches and buttons. A multi-turn potentiometer controls the output with up/down incrementing buttons for fine control. The output can be reversed (+/-) and zeroed at the flick of a switch. The front panel features a large easy-to-read 4.5 Digit LCD display which auto-ranges. Manual reset of the ramp function is also provided for quick restore.

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SPECIFICATION

DC CURRENT - Source and Measure
Span: 0 - 22mA, over-range to 70mA for measure only
Accuracy: 0.02% of span
Resolution: 1uA (0-19.999mA), 10uA (above 20mA)

Span: 0 - 2.2mA
Accuracy: 0.02% of span
Resolution: 0.1uA (0-1.9999mA), 1uA (above 2mA)

Span: 0 - 220uA
Accuracy: 0.05% of span
Resolution: 10nA (0-199.99uA), 0.1uA (above 200uA)

Max source load: 1.1Kohms @ 20mA. Max drive: 22V
Measure load: 1K,110,16 ohm for 0.22, 2.2, 22 mA

DC VOLTS - Source and Measure
Span: 0 - 22V, over-range to 50V for measure only
Accuracy: 0.02% of span
Resolution: 1mV (0-19.999V), 10mV (above 20V)

Span: 0 - 2.2V
Accuracy: 0.02% of span
Resolution: 100uV (0-1.9999V), 1mV (above 2V)

Span: 0 - 220mV
Accuracy: 0.05% of span
Resolution: 10uV (0-199.99mV), 0.1mV (above 200mV)

Output resistance: Approx <2 ohms. Max current 50mA
Measure load: 1Mohm on all ranges

SINK (TX SIM)
2 wire transmitter simulation: External excitation voltage, 3V min, 50V max. The current sink levels are adjustable, with accuracies as in the 3 source ranges shown above.

Note: Accuracies in all measure modes are +/-1 digit

OUTPUT STEPS
5 fixed 4mA steps for current output 4, 8, 12, 16 & 20 mA
11 fixed 1V steps for voltage output 0,1,2...10V
21 fixed steps 1V/1mA for V & I output 0,1,2…...20
Stepping can be done manually or automatically(Autostep)
Stepping speed is adjustable (1-9 sec/step). Dwell time (top and bottom) is one step period. In step mode the accuracy is limited to 0.05% of span +/-1digit for both 1047 and 1048.

OUTPUT RAMP
Current Ramp 4 to 20, or 0 to 20 on all ranges.
Voltage Ramp 0 to 10, or 0 to 20 on all ranges.
Ramp time 7sec. Dwell (top/bottom) 5sec. Manual restart.
Ramp operation is also available in Sink (TX SIM).

OUTPUT ADJUSTMENT
A ten turn potentiometer is provided for quick positioning with fine adjust using up/down incrementing buttons.

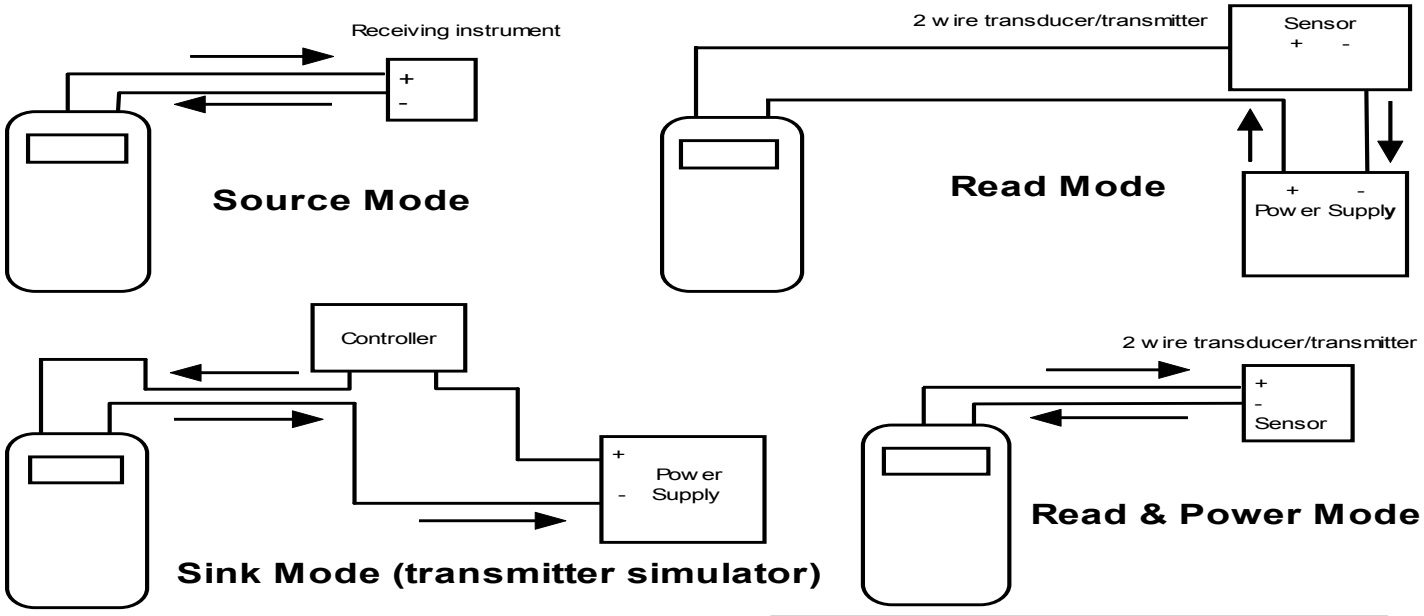
Power: A single internal 9V PP3 size battery or an optional external mains power supply. Battery life: Typically about 15hrs use. Continuous operation in current source mode will shorten the battery life. A 15 min inactivity auto-power down feature is also included to conserve the battery.

Operating temperature: -10 to 50 degC (14 to 120 degF)
Storage temperature: -30 to 70 degC (-22 to 160 degF)
Operating humidity: 10-90% non-condensing at 25 degC

Dimensions: 14x8x5cm (5.5x3x2in) , 280gm (10oz)

Housing: A rugged pocket sized hard ABS case in a leatherette carrying case. Leads can be stored inside of the case.

2 WIRE TRANSMISSION APPLICATIONS



Order Information:

V - I - Loop Calibrator 0.02% 1048

Options:

Mains power supply 230V AC	7643
NPL traceable calibration cert. (1048)	9176
UKAS calibration certificate (1048)	9138
Mains power supply 115V AC	7652