

# Milliamp Loop Calibrators

## CL309A



- ✓ All 4 to 20 mA Loop Functions
- ✓ Accuracy to Better Than 0.025%
- ✓ Large High Contrast Graphic Display
- ✓ Battery Life Up to 70 Hours
- ✓ Rechargeable Battery Optional
- ✓ 3 Position Slide Switch
- ✓ Unit Displays Either Milliamp or Percent
- ✓ Compact, Lightweight and Rugged
- ✓ Overload Protected

The CL309A is a state of the art, highly reliable, rugged and easy-to-use milliamp calibrator. It has the functions necessary to perform all the required maintenance and calibration tasks of virtually any 4 to 20 mA loop. It provides source and read milliamp functions along with power, measure, and 2-wire transmitter simulations. In addition, it can measure DC Voltage for troubleshooting power supplies.

CL309A shown larger than actual size.



## 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:** 14.30 x 7.62 x 4.06 cm  
(5.63 x 3.00 x 1.60")

**Weight:** 12.1 ounces

**Batteries:** 4 "AA" alkaline (included) 1.5V (Duracell MN1500 or equivalent); optional 120 Vac 50/60 Hz AC adaptor available; NiMH rechargeable battery kit available

### Miscellaneous:

Low battery indication with nominal 1 hour of operation left; over-voltage protection to 135 vrms (rated for 30 seconds) or 240 vrms (rated for 15 seconds); high contrast graphic liquid crystal display with 10.5 mm (0.413") high digits

## Specifications

**Source/power and measure 2-wire transmitters/simulate 2-wire transmitters**

**Ranges and Resolution:** 0.00 to 24.00 mA full span or -25.0 to 125.0% of 4 to 20 mA

**Accuracy:** EZ check(s) at 4 and 20 mA(\*) ±0.025% at 4.00 mA and 20.00 mA (±0.005 mA) 0.0 to 24.00 mA ±0.05% of 24.00 mA (±0.01 mA)

**Noise:** ± 0.005 mA of reading

**Temperature Effect:** ± 0.005%/°C of FS  
(\*) These are internal calibrated cardinal reference points and source/power and measure 2-wire transmitter

**Loop Compliance Voltage:**

24 Vdc @ 20.00 mA

**Loop Drive Capability:**1200  $\Omega$  at 20 mA for 15 hours nominal**Battery Life:** Source and power measure mode  $\pm 30$  hrs at 12 mA nominal**Read mA Specifications:****Ranges:** 0.00 to 52.00 mA full span  
OR -25.0 to 300.0% of 4 to 20 mA**Accuracy:****Below 24.01 mV:**  $\pm 0.05\%$  of  
24.00 mA ( $\pm 0.01$  mA)**Above 24.00 mV:**  $\pm 0.05\%$   
of 52.00 mA ( $\pm 0.02$  mA)**Voltage Burden:** 2V at 50 mA**Overload/Current Limit Protection:**  
24 mA nominal**Battery Life:** Typical 125 hours  
nominal**2-Wire Transmitter  
Simulation Specifications****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  
Specifications****Range and Resolution:**

-99.99 to 99.99 Vdc full span (FS)

**Accuracy:**  $\pm 0.05\%$  of FS**Temperature Effect:**  $\pm 100$  ppm/ $^{\circ}$ C of FS**Input Resistance:**  $> 2$  M $\Omega$ **Battery Life:**  $> 125$  hours nominal

CL309A.

**To Order**

Model No.	Description
CL309A	Milliamp loop calibrator

Comes complete with test leads, operator's manual, 4 "AA" batteries and NIST calibration certificate.

**Ordering Example:** CL309A, milliamp loop calibrator.**Accessories**

Model No.	Description
CL530-ADAPTOR	110 Vac adaptor
CL530-ADAPTOR-230	220 Vac adaptor
SC-530	Soft carrying case
CL307A-RBK	Rechargeable battery