

Milliamp Calibrator

- ✓ NIST Traceable
- ✓ Simulates and Measures 0 to 21 mA
- ✓ ±0.05 % of Range
- ✓ Ramp/Step Function
- ✓ Simulates 2-Wire Transmitters
- ✓ Reads mA or Percent



Model CL28MA
\$495

Shown smaller than actual size, scaling the Model DP24-E Process Indicator

Combination milliamp simulator and meter has numerous pre-programmed operating modes making this a versatile and time-saving instrument. It has user-programmable setups backed up with non-volatile memory for repeated special tests. Both the simulation and measurement modes operate with external loop power supplies or with an internal 24 V power source. The CL28MA can be programmed with either mA or percent-of-scale data. When operating, the unit can toggle between mA or percent modes with the touch of one button. Instead of fuses, the CL28MA is protected with PTC resistors. These devices automatically reset when a fault condition is corrected. Protection is provided between any combination of terminations in the input and output connectors.

See Section M for Process Indicators



Specifications

Simulator Output and Measure Input Connectors: Female SMP

Simulator Output and Measure Input Current: 0.00 to 21.00 mA

Accuracy (64°F to 82°F ambient, 1 year): ±0.05% of range

Temp. Coefficient: 64 to 82°F; included in accuracy specifications; from 14 to 64°F and 82 to 122°F; ±0.0015% of range per °F

SIMULATOR SELECTIONS

Range: 0.00 to 21.00 mA/0.0% to 105.0%; 4.00 to 21.00 mA/0.0% to 106.3%

Loop Power Source: External: (56 Vdc max.); Internal: (24 Vdc nom.)

Fixed Outputs: Keypad entered and memory recalled value/power source (5 locations)

Pre-Set Ramp/Step Outputs

4:1 Linear Steps: 4, 8, 12, 16, 20 mA (4-20 mA); 0, 5, 10, 15, 20 mA (0-20 mA)

4.2 Square Root Steps: 4, 5, 8, 12, 20 mA (4-20 mA); 0, 12.5, 5, 11.25, 20 mA (0-20 mA)

User-Programmed Ramp/Step Outputs (5 memory locations):

Step size, start point, high limit, low limit, dwell time

Ramp Stepping: Manual and automatic

MEASURE SELECTIONS

Range: 0.00 to 21.00 mA/0.0% to 105.0%; 4.00 to 21.00 mA/0.0% to 106.3%

Loop Power Source: External (56 Vdc); internal (24 Vdc nom.)

Store/Recall Measurements: 5 memory locations

Run/Hold

Simulator Drive Capability: 900 ohms max.

Measure Input Resistance: 10 ohm shunt in series with 1Ω (nom.) PTC resistor for overload protection

Power: 9 V alkaline battery (supplied), lithium, or NiCd (rechargeable) battery

Battery Life, Continuous:

Alkaline: External loop: 30 hrs typical; Internal loop: (12 mA) 7 hrs typical; (20 mA) 4 hrs typical

Lithium:

Approx. twice life of alkaline battery

NiCd: Approx. 1/3 life of alkaline battery

Error Messages: LO (under range current), HI (over range current), -POL (input current reversed), and OL (output loop overload)

Operating Temp. Range:

-10 to 50°C (14 to 122°F), <90% RH; reduce RH by 1.7%/°F from 95 to 122°F

Storage Temp. Range: -22 to 60°C (-30 to 140°F), <95% RH up to 95°F, reduce RH limit by 1.7%/°F from 95 to 140°F

Dimensions:

17.8 H x 7.4 W x 2.8 cm D (7.0 x 2.9 x 1.1")

Weight: 284 g (10 oz)

OMEGACARESM extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order.

To Order (Specify Model No.)		IN STOCK FOR FAST DELIVERY
Model Number	Price	Description
CL28MA	\$495	0-21 mA Simulator/Meter

Supplied with calibration cable, 9 V battery, carrying case, NIST Certificate, protective rubber boot and complete operator's manual.

Ordering Example: CL28MA simulator, meter, \$495. OCW-1 OMEGACARESM extends standard 3-year warranty to a total of 4 years (\$49), \$495 + 49 = \$544.

omega.co.uk[®]

Your One-Stop Source for Process Measurement and Control!

Freephone 0800 488 488 | International +44(0) 161 777 6622 | Fax +44(0) 161 777 6622 | Sales@omega.co.uk

www.omega.co.uk



UNITED STATES

www.omega.com

1-800-TC-OMEGA
Stamford, CT.

UNITED KINGDOM

www.omega.co.uk

Manchester, England
0800-488-488
+44-(0)161-777-6611

CANADA

www.omega.ca

Laval(Quebec)
1-800-TC-OMEGA

FRANCE

www.omega.fr

0800-466-342

GERMANY

www.omega.de

Deckenfronn, Germany
0800-8266342

BENELUX

www.omega.nl

0800-099-33-44



More than 100,000 Products Available!

• Temperature

Calibrators, Connectors, General Test and Measurement Instruments, Handheld Instruments for Temperature Measurement, Ice Point References, Indicating Labels, Crayons, Cements and Lacquers, Infrared Temperature Measurement Instruments, Recorders, Relative Humidity Measurement Instruments, PT100 Probes, PT100 Elements, Temperature & Process Meters, Timers and Counters, Temperature and Process Controllers and Power Switching Devices, Thermistor Elements, Probes and Assemblies, Thermocouples, Thermowells and Head and Well Assemblies, Transmitters, Thermocouple Wire, RTD Probes

• Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

• pH and Conductivity

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

• Data Acquisition

Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485, Ethernet and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

• Pressure, Strain and Force

Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Pressure Transmitters, Strain Gauges, Torque Transducers, Valves

• Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters