

MC-1000

High Accuracy Multi-Function Calibrator

The Martel MC-1000 Multi-Function Calibrator

provides the combination of a high accuracy calibrator and common DMM functions. This single instrument will calibrate virtually any process device — read and source thermocouples, RTDs, Ohms, Voltage, current, frequency, pressure — and

test continuity as well. The MC-1000 is compatible with 29 Fluke® 700 Series pressure modules with the addition of a simple connector/adaptor. The MC-1000 features a simple user interface, large display, and an RS232 interface.

Features

- ▲ ± 0.4 °C thermocouple/ ± 0.3 °C RTD accuracy
- ▲ $\pm 0.015\%$ of reading electrical accuracy
- ▲ Ten (10) T/C types and eight (8) RTD types, plus YSI 400
- ▲ Read and source modes
- ▲ Full function 4 to 20 mA read, source, simulate, and read/power modes with $\pm 0.015\%$ of reading accuracy
- ▲ Source or read 0 to 20 Volts ($\pm 0.015\%$ of reading accuracy)
- ▲ Measure 0 to 250 VDC or VAC
- ▲ Direct keyboard entry enables quick output changes
- ▲ Store up to nine (9) setpoints for each output function
- ▲ RTD function compatible with all pulsed transmitters
- ▲ RS232 interface
- ▲ Supplied in full rubber boot



Fluke® Pressure Modules

The MC-1000 is compatible 29 with Fluke 700 Series pressure modules, available from Martel Electronics. Please refer to the separate Pressure Modules data sheet for ranges and model numbers. (Pressure modules require accessory Model 700MA Module Adapter.)

Specifications (23 °C ±5 °C unless otherwise noted)

Pressure Ranges	Various ranges in 29 different pressure modules – see separate Pressure Module data sheet	
T/C Ranges	J, K, T, E, R, S, N, B, L, U including – 10 to 75 mV	
RTD Ranges	Pt 385 (100, 200, 500, 1000 Ohms) Pt 392, JIS, Ni120, Cu10, YSI400	
Ohms Ranges	0 to 400.00 and 400.0 to 3,200.0	
mA Range	0 to 24.000 mA	
Voltage		
(Low) Read	0-20.000 VDC	
Source	0-20.000 VDC	
(High) Read only	0-250 VDC or VAC	
Frequency		
	Source	Measure
CPM	2.0 - 1,000.0	0.0 - 1,000.0
Hz	0 - 1,000	0.0 - 1,000.0
kHz	1.0 -10.0	0.00 -10.00
Continuity	0 to 400.0 Ohms, audible tone when under 10 Ohms	
Accuracy	T/C Type J: ±0.3°C ±10 µV (±0.4°C total error) RTD Pt 100: ±0.1°C ±0.75 Ω (±0.3°C total error) Ohms (400): ±0.1 Ω Ohms (3,200): ±1.0 Ω	
mA Compliance	Up to 1,000 Ω load	
Voltage Drive Capability	1 mA	
RTD IEX-Range	0.01 mA to 3 mA	
RTD Frequency Response	10 ms – works with all pulsed transmitters	
Operating Temperature	-10°C to 50°C	
Storage Temperature	-20°C to 70°C	
Loop Power	4 AA alkaline batteries, 25 hours typical operating time	
Size	7.5" x 4.0" x 1.5"	
Accessories Included	Test leads, 4 AA alkaline batteries, NIST Certificate, and instruction manual	
Optional Accessories	Carrying Case, Model CC572 Pressure Module Adapter, Model 700MA	

Need more performance and features in the field?

Try Martel's MC-1200 Multi-Function Calibrator

Measure and source 13 T/C types, 13 RTD types, Ohms, current, Voltage, frequency, and source pulse trains. Calibrate transmitters with the isolated mA/V read-back circuit. Measure pressure with Fluke® 700 Series pressure modules. Drive 4-20 mA loops up to 1000 Ohms with the built-in 24 V supply. Directly enter custom RTD coefficients. Program dedicated setpoints in all source modes. Calibrate almost anything with the highest accuracy in its class — ±0.015% of reading!



Need even more performance in a lab standard?

If your calibration needs extend to the laboratory, the Martel M2001 Bench Calibrator provides all of the performance, functionality, and ease of use of the MC-1000 Multi-Function Calibrator, in a laboratory standard. The M2001 sources and measures thermocouples, RTDs, Ohms, pressure modules, voltage, and current, with calibration accuracy to ±0.0025% of reading. The Martel M2001 is truly a calibration laboratory in a box!