The Martel MC-1200 Multi-Function Calibrator provides a feature set unmatched in high accuracy, hand-held calibrators in its price range. The MC-1200 Calibrator provides the functions and accuracy associated with fixed-installation, laboratory instruments, and has everything needed for virtually any calibration task. Measure and source thermocouples, RTDs, current, voltage, and frequency, and source pulse trains. A communications port compatible with Fluke® 700 Series pressure modules is provided, as is an isolated mA/V read-back circuit. Arrow keys, direct numeric keypad entry, and three software-driven function buttons, plus a large backlit, menu-driven graphics display combine to provide a highly intuitive, simple yet powerful operator interface. Built-in 250 Ohm resistor for Hart™ compatibility, compatibility with smart transmitters and PLCs, full fuseless protection, and a serial communications port for full control with ASCII commands, are just some of the additional features that make the MC-1200 the single, most indispensable tool available for virtually any calibration task. The MC-1200 is supplied in a tough, rubber boot; a carrying case is also available as an option.

Features:
- Measure and source T/Cs (13 types), RTDs (13 types), Ohms, current, voltage, frequency; source pulse trains
- Isolated mA/V read-back circuit for complete transmitter calibration
- Communication port compatible with Fluke 700 Series pressure modules
- Built-in 24 V supply can drive 4 – 20 mA loops up to 1000 Ohms
- Direct entry of custom RTD coefficients \( R_0, A, B, C \)
- All source modes can be programmed with dedicated setpoints to speed calibration and linearity tests
- Highest accuracy in class to 0.015% of reading
- Meets CE requirements and is designed to IEC 1010 safety standards
Specifications (23 °C ±5 °C unless otherwise noted)

**Voltage Read and Source**
- **Source**: 0.000 to 20,000 VDC
- **Read**:
  - **Isolated**: 0.000 to 30,000 VDC
  - **Non-isolated**: 0.000 to 20,000 VDC

**Thermocouple**:
- **mV**
  - **Read and Source**: -10.000 to +75.000 mV
- **Current (mA)**
  - **Source**: 0.000 to 24.000 mA
  - **Read**:
    - **Isolated**: 0.000 to 24.000 mA
    - **Non-isolated**: 0.000 to 24.000 mA
- **Frequency (1 to 20 V selectable amplitude)**
  - **CPM Source and Read**: 2.0 to 600.0 CPM
  - **Hz Source and Read**: 1.0 to 1000.0 Hz
  - **kHz Source and Read**: 1.0 to 10.0 kHz
- **Pulse** (Source only; 1 to 20 V selectable amplitude)
  - **Pulses**: 1 to 30,000.0

**Ohms**
- **Source**: 5.0 to 4000 Ohms
- **Read**: 0.00 to 4000.0 Ohms

**Thermocouple Read and Source**
- **J Thermocouple**: -200.0 to +1200.0 °C
- **K Thermocouple**: -200.0 to +1370.0 °C
- **T Thermocouple**: -200.0 to +400.0 °C
- **E Thermocouple**: -200.0 to +950.0 °C
- **R Thermocouple**: -20.0 to +1750.0 °C
- **S Thermocouple**: -20.0 to +1750.0 °C
- **B Thermocouple**: +600.0 to +1800.0 °C
- **C Thermocouple**: 0 to +2316.0 °C
- **XK Thermocouple**: -200.0 to +800.0 °C
- **BP Thermocouple**: 0 to +2316.0 °C
- **L Thermocouple**: -200.0 to +900.0 °C
- **U Thermocouple**: -200.0 to +400.0 °C
- **N Thermocouple**: -200.0 to +1300.0 °C

**RTD Read and Source**
- **Ni120 (672)**: -80.0 to +260.0 °C
- **Pt100 (385)**: -200.0 to +800.0 °C
- **Pt100 (3926)**: -200.0 to +630.0 °C
- **Pt100 (3916)**: -200.0 to +630.0 °C
- **Pt200 (385)**: -200.0 to +630.0 °C
- **Pt500 (385)**: -200.0 to +630.0 °C
- **Pt1000 (385)**: -200.0 to +630.0 °C
- **Cu10**: -100.0 to +260.0 °C
- **Cu100**: -180 to +200 °C
- **Cu50**: -180 to +200 °C
- **Cu100**: -180 to +200 °C
- **PC385-10**: -200 to +800.0 °C
- **PC385-50**: -200 to +800.0 °C

**Environmental**
- **Operating Temperature**: -10 °C to +50 °C
- **Storage Temperature**: -20 °C to +70 °C
- **Stability**: ±0.005% of reading / °C outside of 23 °C ±5 °C
- **Power Requirements**: 6 VDC
- **Batteries**: 4 AA; alkaline or optional rechargeable
- **Physical (includes rubber boot)**
  - **Dimensions**: 8.7”H x 4.2”W x 2.3”D (220.9 x 106.6 x 58.4 mm)
  - **Weight**: 30.5 ounces (863 gms)
- **Accessories Included**: Test leads, 4 AA alkaline batteries, NIST Certificate, and instruction manual
- **Optional Accessories**: Carrying Case, Model CC572

**Accuracy**
- **Voltage**: ±0.015% of reading, ±2 mV
- **Thermocouple mV**: ±0.02% of reading, ±10 µV
- **Thermocouple Errors** (in °C; add 0.2 for Cold Junction Compensation error)
  - **Type J**: 0.2 °C
  - **Type K**: 0.3 °C
  - **Type T**: 0.2 °C
  - **Type E**: 0.2 °C
  - **Type R**: 1.2 °C
  - **Type S**: 1.2 °C
  - **Type B**: 1.2 °C
  - **Type C**: 0.6 °C
  - **Type XK**: 0.2 °C
  - **Type BP**: 0.9 °C
  - **Type L**: 0.2 °C
  - **Type BP**: 1.4 °C
  - **Type N**: 0.4 °C

**Fluke® Pressure Modules**
The MC-1200 is compatible with Fluke 700 Series pressure modules. Fluke pressure modules are 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.)