



MCAL 4200 Multi-Function Calibrator

The ecom MCAL 4200 Multi-Function Calibrator provides a feature set unmatched in high accuracy, hand-held calibrators in its price range. The calibrator measures and sources thermocouples, RTDs, current, voltage, frequency and source pulse trains.

A communication port compatible with 700 Series and ecom 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, also 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 MCAL 4200 the single, most indispensable tool available for virtually any calibration task.

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

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 and Read | | 0.000 to 24.000 mA |
| Frequency (1 to 20V 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 10.00 kHz |
| Pulse (Source only; 1 to 20V selectable amplitude) | | |
| Pulses | | 1 to 30.000.0 2 CPM to 10 kHz |
| Ohms | Source | 5.0 to 4000 Ohm |
| | Read | 0.00 to 4000.0 Ohm |
| Thermocouple Read and Source | | J, K, T, E, R, S, B, C, XX, BP, L, U, N |
| RTD Read and Source | | Ni 120, Pt 100, Pt 200, Pt 500, Pt 1000, Cu 10, YSI 400, Cu 50, Cu 100, Pt 385-10, Pt 385-50 |
| 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 supply | | 4x AA; alkaline or optional rechargeable |
| Dimensions | | 221 x 106 x 58 mm |
| Weight | | 863 g |
| Accuracy | Voltage | ±0.015% of reading, ±2 mV |
| | Thermocouple mV | ±0.02% of reading, ±10 µV |
| Thermocouple Errors | | 0.2°C ... 1.2°C (depends on thermocouple) |
| RTD Read and Source | | 0.1°C ... 1.4°C (depends on RTD) |
| Read and Source | | |
| Current (mA) | | ±0.015% of reading, ±2 µA |
| 400 Ohm Range | | ±0.025% of reading, ±0.05 Ω |
| 4000 Ohm Range | | ±0.025% of reading, ±0.5 Ω |



- Pressure module communication port compatible with 700 Series and ecom pressure modules
- Built-in 24V supply can drive 4 – 20 mA loops up to 1000 Ohms
- Direct entry of custom RTD coefficients (R0, 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

Standard delivery:

- MCAL 4200
- Carrying case
- Test leads
- 4-AA alkaline batteries
- NIST Certificate
- Instruction manual

Accessories:

- Protective case