

FEATURES

- ✦ Simulates / measures 9 T/Cs & 3 RTD s.
- ✦ Built-in cold Junction Compensation.
- ✦ $\pm 0.05\%$ Accuracy.
- ✦ Potentiometer free Digital setting.
- ✦ Bold, Back lit LCD Display.
- ✦ User configurable ranges/output steps.
- ✦ Stepping up/down feature.
- ✦ Powered by AA (1.5V) batteries.
- ✦ Carrying pouch for Hands-off field work.



About T 7542.....

Companion T range of Calibrators from MCIH are designed for calibration/testing of temperature instruments at field. The microcontroller based hardware of the calibrator paves way for full digital setting and easy configuration. Companion series calibrators do not use potentiometers inside or outside, and hence offer drift free long term performance even in harsh environments.

Companion has an elegant LCD display panel with bold characters to increase viewing and the LED backlighting enhances visibility in poor ambient light. The instrument is powered by four 1.5V AA type batteries inside an easily accessible battery compartment.

Model T7542 can simulate 9 types of T/Cs and 3 types of RTD signals which can be used to calibrate temperature instruments. Alternatively the T7542 can measure mV, ohms signals or signals from T/Cs, RTDs. Linearisation and CJC are built in features.

Companion has versatile operational features aimed at simplifying the field calibration work. Single key stroke range zero and full scale, stepping up/stepping down of source outputs, user configurable range limits, direct percentage setting for source output and configuration of meter readings in terms of user defined Engg. Units are some of the operational features of the calibrator.

GENERAL SPECIFICATIONS

Display : 8 character Alpha Numeric LCD
6.45x10.75mm character size.
Backlight : LED Backlight (Pulsed 2 secs)
Signal I/O : 4 mm Banana sockets
Power supply : By four AA cells of 1.5V each

Dimensions : 180mm x 100mm x 40mm
Material : Industrial ABS enclosure
Operating Temp. : 0 to 45°C
Storage Temp. : 0 to 55°C
Humidity : 0 - 95% Non condensing

PERFORMANCE SPECIFICATIONS

Model T7542

SOURCE

Range	Resolution	Accuracy ¹
Milli volt -10 to 75 mV	0.01 mV	±0.05% of FS
Ohms 0 to 400Ω	0.01 Ω	±0.05% of FS ²
T/C Types ³ J, K, E, T , R, S, B, C, N.	0.1 °C	± 0.04 mV ⁴
RTDs ³ Pt100 (385), Pt100 (392), Ni 120.	0.1 °C	±0.2 Ω

Note1 : Accuracy specifications include effect of non-linearity, hysteresis and repeatability at ambient temperatures from 25°C to 30°C.

Note2 : At an excitation current of 1mA.

METER

Range	Resolution	Accuracy ¹
Milli volt -10 to 75 mV	0.01 mV	±0.05% of FS
Ohms 0 to 400Ω	0.01 Ω	±0.05% of FS
T/C Types ³ J, K, E, T , R, S, B, C, N	0.1 °C	± 0.04 mV ⁴
RTDs ³ Pt100 (385) Pt100 (392) Ni 120	0.1 °C	±0.2 Ω

Note3 : Thermo couple and RTD types not mentioned in the table can also be incorporated . Please contact factory.

Note4 : add CJC error of ±0.5 °C.

OPERATIONAL SPECIFICATION

SOURCE MODE

Output impedance

T/C and mV mode : 200 mΩ.

Excitation limits

RTD / Ohms mode : 100µA to 2mA.

Output Protection

Voltage output : upto ± 10 V DC max.

METER MODE

Input Impedance

T/C and mV mode : 10 MΩ.

Excitation current

RTD / Ohms mode : 400µA

Input Protection

Voltage mode : upto ±10V DC max.

USER CONFIGURABLE FEATURES

SOURCE

Range minimum (zero) and maximum (full scale).

Setting in percentage.

5 point manual & Auto output stepping.

Automatic Cold junction compensation.

METER

Range minimum (zero) and maximum (full scale).

Indication in percentage.

Indication in Engineering units.

Automatic Cold junction compensation.

STANDARD ACCESSORIES

◆ PROBES

◆ AA DRY CELLS (4 NOS)

◆ MAINS ADAPTOR

◆ CARRYING POUCH

RELATED INSTRUMENTS

Model **INTCAL SM-10**

0.01% Accurate documenting Calibrator for mA/V signals

Model **INTCAL TM-10**

0.01% Accurate documenting Calibrator for T/C, RTD signals

Model **Companion H**

Handheld mA & Voltage simulator & meter

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Specifications are subject to change without any notice due to continuous development.