

RTD Probes, Elements and Assemblies

Dry Block Precision Temperature Calibrator



38160

DESCRIPTION

RTD means Resistance Temperature Detector which operates on the principle of the change in electrical resistance in wire as a function of temperature. RTDs consist of an element and probe. An element is the actual temperature sensing unit whereas probe is an assembly composed of an element, a sheath, a lead wire and a termination or connection.

Probes may be terminated in a connector head, quick disconnect, terminal block or extension wire.

Lead styles are offered in generally four configuration namely :

- Two wire Element Input :** This construction is suitable where the resistance of the run of the lead wire may be considered as an additive constant in the circuit and particularly where the changes in the lead resistance due to ambient temperature changes can be ignored.

**STYLE 1**
- Three Wire Element Input :** In this configuration compensation is achieved for lead resistance and temperature change in lead resistance. This is the most commonly used configuration.

**STYLE 2**
- Four Wire Element Input :** Here two connections to each end of the sensor are given. This construction is used for measurements of the highest precision.

**STYLE 3**
- Four Wire Element Input (Lead Resistance Loop) :** Here a separate pair of wires is provided as a loop to provide compensation for lead resistance and ambient temperature changes in lead resistance.

**STYLE 4**

The standard RTD probe is made with a 100 ohm platinum European curve element (alpha = 0.00385). Standard RTD probe assemblies are rated for use in temperatures upto 600°C. The maximum temperature rating is available on special order is 750°C.

Where accuracy over a wide temperature range is a crucial factor in industry, platinum RTDs are unequalled in performance. Stability over long periods of continued use makes them unmatched for reliability.

TECHNICAL SPECIFICATION

Temperature range	: -30°C to 160°C
Tolerance	: +/-0.1°C up to 100°C then 0.1 % of the measured value
Stability	: 0.01°C to 0.05°C
Resolution	: 0.01°C
<b>DISPLAY</b>	
Version	: Monochrome, graphic display
Displays	: Block and set temperature, difference, variance, min. and max. temperatures
Languages switchable	: German / English / French / Spanish
Unit	: °C / °F / K / Ω / mV / mA
Operating elements	: Membrane keyboard
Additional displays	: Test piece temperature including the physical values & Temperature of the external calibration reference sensor
<b>BLOCK</b>	
Block material	: Aluminium
Block bore	: 28 mm
Immersion depth	: 150 mm
Adapter sleeves	: Inside dia 1.5 to 25mm in 0.5mm steps
<b>EQUIPMENT FEATURES</b>	
Temperature steps	: Step tests, calibration runs
Gradient control	: Implementation of ramp functions
Computer interface	: Serial RS 232 C including transmission protocol
Logger function	: 9 data sets with 6 values each
Precision measuring reference instrument	: RTD, TC, mA switch, calibration sensors
<b>GENERAL DATA</b>	
Power supply	: 100...240 VAC, ± 10%, 50/60 Hz
Power consumption	: approx. 400 W
Dimensions (D x W x H)	: approx. 348 x 153 x 347 mm
Weight	: approx. 12 kg

OPTIONS

Service case, software, certificate, external calibration reference sensor.