

RTD Sensor and Transmitter Assembly

Fits Standard Electrical Outlet Box

Splash Resistant Front Panel

4/20 mA Temperature Output

True 2-Wire Operation

Push-Button Configuration



GENERAL DESCRIPTION

The Model d-RTTI Digital, Room-Temperature, Transmitter-Indicator is designed to accurately sense ambient room temperature and provide a 4 to 20 mA output signal that is linear to the measured temperature to within $\pm 0.1^{\circ}\text{F}$.

The d-RTTI provides a 0.4-inch high, seven-segment, red, LED display to indicate the ambient room temperature across an operating range of -40°F to 180°F (-40°C to 82°C) with a display resolution of 0.1 degrees. The 4 to 20 mA output signal can be configured to represent any temperature span within the operating range of the instrument. The milliamp output range can be specified when ordering, or can be easily configured in the field using the push buttons on the backside of the device.

A high precision 1000 ohm RTD sensor is used to detect the ambient temperature.

The sensor is attached to the backside of the black anodized aluminum heat sink visible on the front of the instrument. An option is also available that accepts an input from an external 1000 ohm platinum RTD sensor.

These are true two-wire devices with signal and power being provided over a single pair of wires. The required operating voltage for the d-RTTI ranges from 10 to 28 Volts DC.

The d-RTTI is housed inside of a flat plastic, splash resistance panel that is mounted on a gray painted, cast aluminum, water tight junction box. The front panel can also be mounted on any single gang electrical box. Front panels are fitted with a rear gasket seal and can be safely mounted in areas requiring periodic wash down.

SPECIFICATIONS

GENERAL

Display: 4 Digit LED with 0.4 inch high, red characters
Housing: Splash resistant faceplate with rear gasket seal
Material: ABS Plastic faceplate with polycarbonate window and black anodized aluminum heat sink
Sensor: 1000 Ohm Platinum RTD, Conforms to DIN Standard EN 60751, Class A
Open RTD: Output goes upscale
Temp. Range: -40°F to 180 °F or -40°C to 82 °C
RFI Immunity: Rated class 3-C

DISPLAY

Range: -40.0°F to 180 .0°F or -40.0°C to 82 1°C
Accuracy: ± 0.5 °F (± 0.3 °C) at 77 °F (25 °C)
Thermal Effect: Zero Shift: $\pm 0.002 \times (\text{Reading} - 77 \text{ °F})$
Span Shift: $\pm 0.004 \times (\text{Reading} - 77 \text{ °F})$

MILLIAMP OUTPUT

Range: 4 to 20 mA
Accuracy: ± 0.7 °F (± 1.3 °C) + 0.1% of Span
Thermal Effect: Zero: Display Shift $\pm 0.01\%$ of Span per °F
Span: Display Shift $\pm 0.01\%$ of Span per °F
Supply: 10 to 28 VDC
Max Load: $R_{\text{ohms}} = (V_{\text{supply}} - 10V) / 0.020A$
Supply effect: 0.01% of Span per Volt
Load Effect: 0.05% of Span per 300 Ohm Change

STANDARD CALIBRATION

Displayed Temperature Range: -40 to 180 °F
4 to 20mA Output Represents: 0 to 100 °F

FIELD CALIBRATION

Display: -40 to 180 °F or -40 to 82°C
Output Loop: Milliamp output can be set to represent any temperatures within the displayable range
Caution: The recommended minimum span for the Milliamp output is 35 °F (20 °C). Narrower spans will degrade system performance.
Method: Push buttons on back of panel

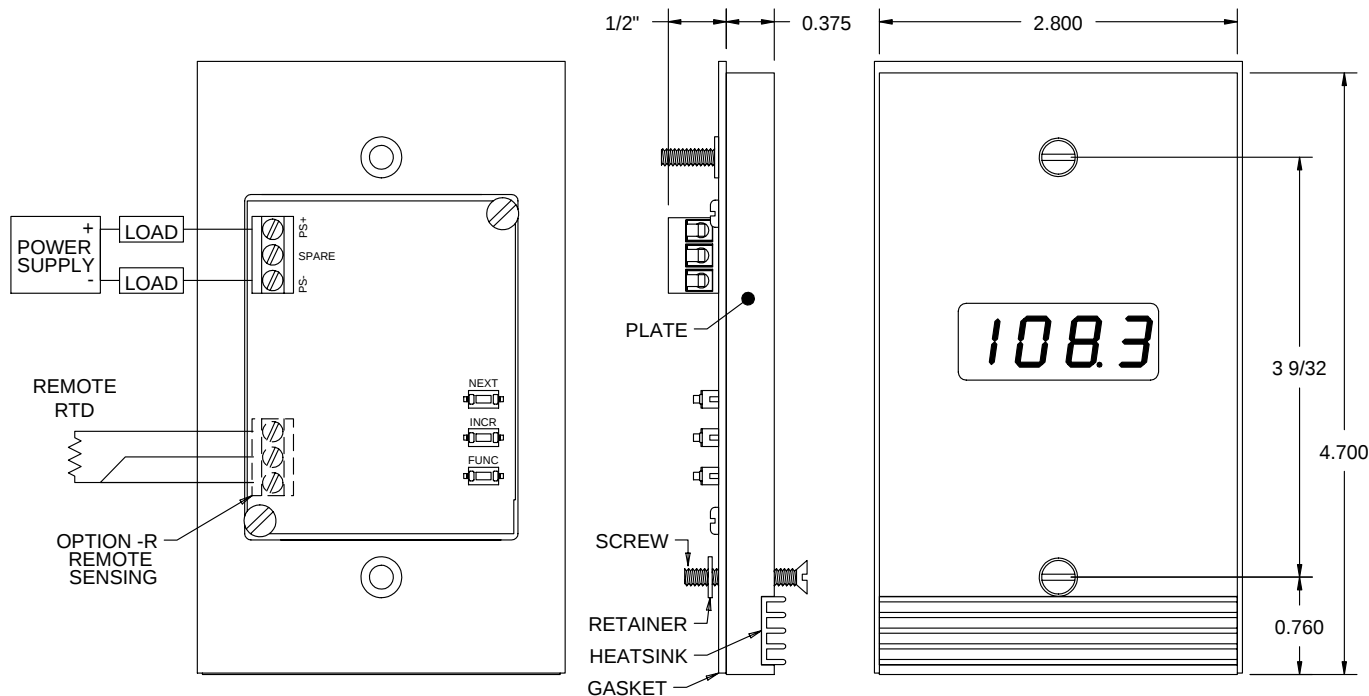
ORDERING

Standard Cal: d-RTTI
Custom Cal: d-RTTI [Temp at 4 mA / Temp at 20 mA] (e.g. d-RTTI -30/120 °F)
Options: -R Replace internal sensor with external 1000 ohm platinum RTD input (e.g. d-RTTI-R-0/85 °F)

WARRANTY: 2 YEARS, *Made in USA*

DIMENSIONS:

Front Panel without junction box shown below. Dimensions with junction box are H 4.7" × W 2.8" × D 2.5"



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