



PLATINUM RTD METERS

These Digital Panel Meter (DPM) models provide highly accurate, stable, and repeatable temperature indication for signals from 100-Ohm Platinum Resistance Temperature Detectors (RTD's) with DIN "alpha" of 0.00385 or ANSI "alpha" of 0.003925. The model numbering system is as follows:

Model #	RTD Type	Temp. Units
2118-1	DIN	°C
2118-2	DIN	°F
2119-1	ANSI	°C
2119-2	ANSI	°F

Thermocouple range and resolution (1° or 0.1°) are selectable from the front panel or via special commands issued over the optional serial interface. Data display in units of degrees Kelvin or Rankine can be selected by offsetting the Celsius or Fahrenheit range, respectively. Open sensor indication is standard, and may be set to indicate either upscale or downscale.

RTD excitation of 0.2 mA is provided by the meter, and is monitored to make ratiometric corrections for excitation-supply variations.

RTD connections can be of the 2-, 3-, or 4-wire type, with appropriate compensation for load resistance of the sensor. Thus, in a 2-wire hookup, the meter senses the voltage drop across the 100-Ω RTD and both lead wires. The effect of the lead wires can be measured and subtracted by shorting out the RTD during meter setup. For 3- and 4-wire connections, the meter senses the voltage drop across the 100- Ω RTD and both lead wires, as well as the voltage drop across the RTD and one lead wire. This allows it to determine the effect of one lead wire and mathematically subtract the effect of both lead wires.

All ranges for all temperature sensor types are digitally calibrated at the factory to IEC or NIST standards, thus eliminating the need to recalibrate in the field for potentiometer-related drift errors.

PANEL METER

PLATINUM RTD METERS

[2000 SERIES]

SPECIFICATIONS

PT100

Type	Range	Error at 25°C
DIN*	-202° C to +850° C	0.01% full scale ± 0.03° C
DIN*	-331° F to +1562° F	0.01% full scale ± 0.05° F
ANSI**	-202° C to +850° C	0.01% full scale ± 0.04° C
ANSI**	-331° F to +1562° F	0.01% full scale ± 0.07° F

Calibration, DIN: IEC 751 (IPTS-68)

Calibration, ANSI: NIST Monograph 126

Configuration: 2-, 3-, or 4-wire connection

Excitation Current: 0.2 mA

Span Temperature Coefficient: ±0.003% of reading/°C

Zero Temperature Coefficient: ±0.03 deg/deg

Sensor Lead Resistance Temperature Coefficient

Per Conductor:

2-Wire: 10 mdeg/Ω/deg up to 10Ω

3- and 4-Wire: 10 μdeg/Ω/deg up to 100 Ω

Overvoltage Protection: 125 V-AC

Normal-Mode Rejection at 50/60 Hz: 80 dB plus selectable digital filter from 80 ms to 9.6 s time constant

Common-Mode Rejection from DC to 60 Hz: 120 dB with 500 Ω imbalance

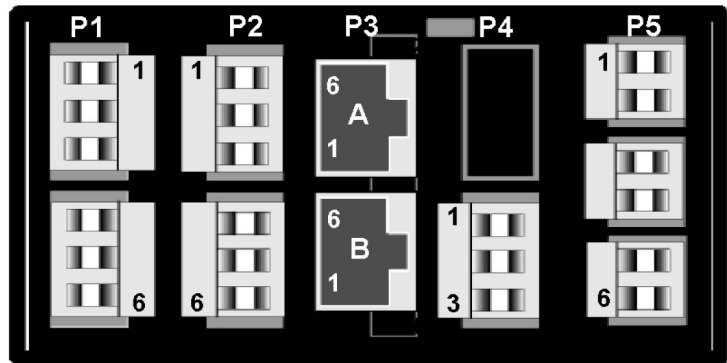
Common-Mode Voltage from DC to 60 Hz: 250 V-AC from power and earth ground

Open Sensor Indication: Flashes full-scale

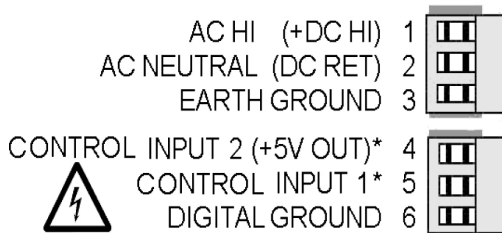
* a = 0.00385 ** a = 0.003925

CONNECTORS

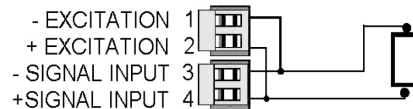
Connectors for signal and power are U/L rated screw-clamp terminal blocks that plug into mating jacks on the printed circuit board. Communication connectors are a single RJ11 plug for RS232, dual RJ11 plugs for RS485, dual RJ45 plugs for RS485 Modbus, and a 30-pin, mass termination connector for parallel BCD.



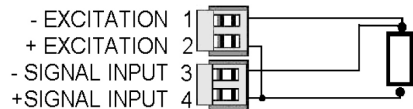
P1 - POWER AND DIGITAL CONTROLS



RTD (2-WIRE)



RTD (3-WIRE)



RTD (4-WIRE)

