

Universal Temperature Probe MODEL EI-1022

Instruction Manual

Description

The EI-1022 is a universal temperature probe that consists of a National Semiconductor temperature sensor mounted in a plastic tube with a current limiting resistor. This probe when connected to 5 volts DC will output a nominal 3.0 volts at room temperature. The probe is suitable for air and surface applications.

The instruction manual for this unit shows how to configure the LJ Logger program to read out temperature in either degrees C or F. Instructions are also included to show the user how to calibrate the unit by adjusting the constants in the LJ Logger program.

The EI-1022 is intended to be connected to the Labjack for 5 volt power but can be used as a stand alone temperature sensor when connected to a DVM and a 5 volt source.

Multiple probes can be connected to the Labjack so that up to 8 sensors can be connected to one Labjack.

Electrical Connections

Three wires require connections; they are +5 volts (red), ground (black) and output (white). These wires can be connected to the appropriate terminal on the Labjack or other power supply in the case of using the sensor as a stand-alone unit. The output wire will normally output a voltage of approximately 3 volts at room temperature.

Labjack Setup

Once the temperature probe is connected to a channel on the Labjack it may be desirable to use the LJ Logger program to display temperature in degrees F or C. In order to make the LJ Logger readout in degrees C simply enter 100 for the multiplier and -273.15 for the offset in the appropriate row corresponding to the temperature sensor. In order to make the LJ Logger readout in degrees F simply enter 180 for the multiplier and -459.67 for the offset. The temperature will appear in the "scaled data" column.

Specifications

Range: -40°C to 100°C (-40°F to 212°F)

Output to Labjack or Meter: 10 mV per °C

Resolution: 0.1°C on the 4V range

Accuracy uncalibrated: +/- 3 °C at 25 °C, typical +/- 1 °C

Accuracy calibrated: +/- 1 °C, typical +/- 0.5 °C

Sensor device in probe: LM335A

Cable length: 6 ft

Probe length: 4 in

Power: +5 VDC at .001 Amp

Output Load: 50K or greater or 100 uA max

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