



Bio Instruments S.R.L.

SENSORS AND SYSTEMS
FOR MONITORING GROWING PLANTS

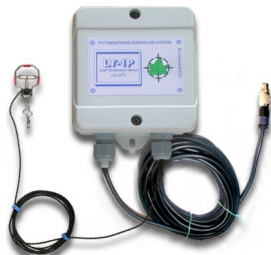
LT-1P

Leaf Temperature Sensor



Introduction

The LT-1P sensor is a subminiature touch probe that measures absolute temperature of a leaf. The lightweight stainless steel wire clip holds a high precision glass encapsulated thermistor, which is about a millimeter in diameter. Small size of the probe and its special design provide almost negligible disturbance of the natural leaf temperature. The thermistor is connected to the clip by thin 0.15 mm leads to minimize heat conduction and response time. All conductors are proofed to avoid corrosion under the wet operating conditions.



The probe is connected by a standard 1-meter cable to the waterproof box with the signal conditioner inside. Standard cable length between signal conditioner and monitor is 4 meters. Every sensor is tuned and calibrated within the measurement range. The tolerance range is ± 0.08 °C only.

Installation

Open the clip and attach the sensor to a leaf. Thermistor should be placed at the lower shady side of the leaf.

Secure the sensor's cable on plant stem with adhesive band in order to prevent occasional movement of the sensor.

Connection

Plug the sensor into any analog input of the PM-11 Phytomonitor or the PTM-48A Photosynthesis Monitor. In the PC program, specify the input number where the sensor is connected to.

If you use the sensor for the first time, please make the appropriate record in the Sensors Database as described on page 5 of the PM-11 Phytomonitor Terminal Emulator software Guide or on page 11 of the PTM-48A Photosynthesis Monitor User's Guide.

#	Coefficient
C0	-9.90000e-003
C1	2.65420e+001
C2	-4.50480e+000
C3	1.86490e+000
C4	0.00000e+000
C5	0.00000e+000

Sensors Database Window in PM-11 / PTM-48A

Specifications

Measurement range	0 to 50 °C
Instrumental accuracy	< 0.15 °C
Tolerance range	±0.08 °C
Probe dimensions, mm	50 W × 20 H × 10 D
Probe weight	1.6 g
Contact area of thermistor	About 1 mm ²
Protection index	IP 64



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