Bio Instruments S.R.L.

SENSORS AND SYSTEMS
FOR MONITORING GROWING PLANTS

LT-IRz

Infrared Leaf Temperature Sensor

Introduction

The LT-IRz infrared temperature sensor offers intelligence in a rugged, easy-to-use package. Every sensor is individually tested and calibrated within the measurement range.

The LT-IRz probe comes a holder, and a weatherproof box with electronics, which combines signal conditioner, primary datalogger, RF 2.4 GHz transceiver, , and power supply (3x AA Alkaline batteries).

Communication
The LT-IRz communicates over the radio 2.4 GHz channel with a network data logging unit.

Power
The LT-IRz is powered by 3 AA Alkakine batteries.

Installing the sensor

Install LT-IRz as close as practical to view target foliage to be measured. Use the sensors's holder to mount the LT-IRz.

Please note that the LT-IRz may have either 2:1 or 5:1 field of view depending on the order. The field of view is the ratio of the distance to the object being measured, and the diameter of the temperature measurement area. For example, if the thermometer has a field of view specification of 5:1, holding the thermometer 5 meters from the target will result in a 1 meter diameter spot size (measurement area) on the target.   Holding the thermometer 10 meters from the target will result in a measurement area of 2 meters, and so on.

Activation of the sensor and measurement settings are described in the 'PM-11z Phytomonitor Quick Start Guide'

Readings

LT-IRz represents average value of leaf temperature measurements made 10 times evenly during the measurement time interval.   For instance, at 30 min time interval, the LT-IRz measures leaf temperature every 3

minutes and, then, calculates and records the average of those ten values measured.

Measurement settings are described in the 'PM-11z Phytomonitor Quick Start Guide'.

Maintenance:

The sensor's lens is protected by a special crystal window. Please maintain it clear for best accuracy of the sensor. Clean it with the use of soft cloth and a glass cleaning agent, if necessary.

Specifications:

Measurement range: 0 to 60 °C
Absolute accuracy: ± 1.0 °C
Repeatability: ± 0.1 °C
Field of view: **2: 1 or 5:1**
Emissivity setting: 0.9
Spectral response: 5.5 to 14 μm
Ambient temperature: 0 to 50 °C
Sensors's dimensions (w/holder): 140H x 90W x 150D mm
Sensor's weight (approximate):   400 g
Protection index of the probe: IP 54
Datalogger Compatibility: Bio Instruments S.R.L.: PM-11z Phytomonitor and/or USB Gateway

Customer Support

If you ever need assistance with your LT-IRz, or if you just have questions or feedback, please e-mail at support@phyto-sensor.com. Please include as part of your message your name, address, phone, and fax number along with a description of your problem.

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