

# LT-1T-SDI12

## *Leaf Temperature Sensor Manual*



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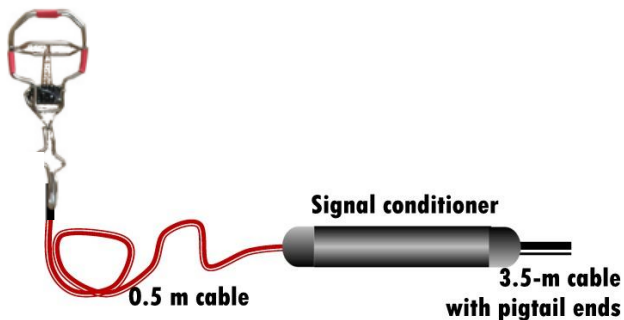
[info@edaphic.com.au](mailto:info@edaphic.com.au)

Ph: 1300 430 928

## ***Introduction***

The LT-1 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 0.5-meter cable to the waterproof in-cable signal conditioner inside. The output cable standard length is 3.5 m, and it is customizable at ordering. Every sensor is tuned and calibrated within the measurement range. The tolerance range is  $\pm 0.08$  °C .



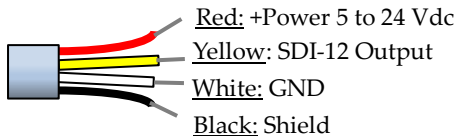
## ***Installation***

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 from sensor to TBS04 junction box**

The connection diagram is shown below. The shield shall be grounded at the data loggers side or connected to the ‘minus’ contact of the power source.



## **Connection from TBS04 junction box to logger**

Red: - SW12V (power supply)

Yellow: - C1, C3, C5 or C7 (data line)

White/Blue: - GND (ground)

Black: - GND (ground)

## **Data logging**

### **SDI-12 :**

In accordance with SDI-12 Standard (version 1.3)

## ***Specifications***

Measurement range	-5 to 50 C
Instrumental accuracy	< 0.15 C
Tolerance range	±0.08 C
Probe weight	1.6 g
Contact area of thermistor	About 1 mm <sup>2</sup>
Supply voltage	5 to 24 Vdc 5 mA approx.
Probe dimensions, mm	50 × 20 × 10
Excitation time	0.15s
Protection index	IP 64
Cable length	Customized (4 m total standard length)

### ***Customer Support***

If you ever need assistance with your sensor, or if you just have questions or feedback, please e-mail [info@edaphic.com.au](mailto:info@edaphic.com.au)

### Contact Details:

Edaphic Scientific Pty Ltd

[www.edaphic.com.au](http://www.edaphic.com.au)

[info@edaphic.com.au](mailto:info@edaphic.com.au)

Ph: 1300 430 928