

LAT-B2

Leaf-&-Air-Temperature (Broadleaf)



Leaf temperature sensor type LAT-B2 on Crassula spp.

The LAT-B (Leaf-&-Air-Temperature Broadleaf type) is a highly precise sensor for continuous measurements of leaf surface and ambient air temperatures. Absolute air temperature (T_{air}) and leaf temperature (T_{leaf}) are measured via two highly precise micro thermistor probes. Sensor-individual matching of the two probes, ensures high precision of leaf-to-air temperature difference ($\Delta T_{\text{leaf-air}}$). Designed for broad leaves, the sensor is mounted at the leaf by means of a ultra-light-weight carbon frame.

Technical Specifications

Name	LAT-B : Leaf-&-Air Temperature Sensor, broadleaf type
Application position, suitable for leaf size	Leaf surface, standard size for leaves between > 3 to 20 cm length
Range of the sensor	-40 to 125°C
Accuracy	Sensor dependent: T_{air} & T_{leaf} : +/- 0.2 °C $\Delta T_{\text{leaf-air}}$: +/- 0.1 °C (sensor-individual dual-probe matching!) Logger dependent: e.g. CR1000: +/- 0.2 °C
Resolution	Theoretically infinite, depends on data logger (e.g. CR1000-Logger with approx. 12 bits within +/- 2500mV: 0.1°C)
Size and weight	2 cm x 2 cm x 0.1 cm, ca. 2 g
Output signal type	electrical resistance (Ω), or voltage (mV) when using a bridge-circuit (bridge-circuit with 20 k Ω resistor included in standard delivery)
Power supply	Excitation voltage Vex usually 2500 mV, power consumption negligible
Operating conditions	Air temperature: -25 to 70 °C, air humidity: 0 to 100%