

FYTA Sphere – Smart Climate Sensor



FYTA Sphere is a distributed environmental sensor designed for monitoring microclimate conditions across plant groups and aggregated planting contexts. It measures multi-directional light (PPFD/DLI), temperature, and air humidity, providing contextual environmental data that complements soil measurements captured by other FYTA sensors. The sensor features a magnetically adjustable dome with a 180° range of orientation, allowing the sensing geometry to be aligned with the dominant light direction for optimized light capture in complex or variable lighting environments. Sphere integrates with the FYTA App or optional FYTA Hubs for automated data collection and synchronization.

Parameter	Technical Specification
Body dimensions	Dome: 38 mm Body: 40 x 30 x 26 mm
Measurement range	Temp.: -5 °C to +50 °C PPFD: 0–2000 $\mu\text{mol}/\text{m}^2/\text{s}$ Relative air humidity: 0-100% RH
Accuracy	Temp.: $\pm 2^\circ\text{C}$ PPFD: $\pm 5\%$ Relative air humidity: $\pm 2\%$
Resolution (default)	Temp.: 0.1 °C PPFD: 1 $\mu\text{mol}/\text{m}^2/\text{s}$ RH: %
Sensing frequency	15 min (default), configurable upon request
Data transmission frequency	15 min (default) via FYTA Hub, configurable upon request
Data storage	Measurement data and conversion parameters are stored locally on the device for up to 10 days. Data are synchronized with the FYTA Cloud for long-term storage, time-series analysis, and system-wide interpretation over the full duration of usage.
Weight (incl. battery)	39 g
Operating temperature	0 °C to +50 °C
Bits per sample	Temp: 12-bit (up to 20 possible) PPFD: 16-bit RH: 8-bit (up to 20 possible)
Number of data channels	1
Connectivity	Bluetooth Low Energy (BLE) 5.4 (integrated); indirect Wi-Fi / LTE connectivity via FYTA Hubs
Ingress protection	IP 53
Power supply	Replaceable coin cell battery (CR2450 / LIR2450), run time: 9-12 months
Typical runtime	9-12 months