

TEKTELIC KIWI

LoRaWAN® Soil and Ambient Environment Sensor

The **TEKTELIC KIWI Agriculture Sensor** delivers continuous, real-time monitoring of critical **soil and environmental parameters**, including soil moisture, soil temperature, ambient temperature, humidity, and light intensity, through LoRaWAN®-enabled connectivity. **Designed for rugged outdoor environments** with an IP67 enclosure and up to **10 years of battery life**, KIWI supports scalable deployment across precision agriculture, irrigation management, crop performance monitoring, and landscaping applications. **Leveraging LoRaWAN® connectivity**, it provides long-range, low-power communication for reliable data transmission.



Sensing Functions



SOIL WATER TENSION



SOIL TEMPERATURE



AMBIENT TEMPERATURE



AMBIENT RELATIVE HUMIDITY



MOUNTING ORIENTATION STATUS



MOVEMENT OR ORIENTATION CHANGE DETECTION

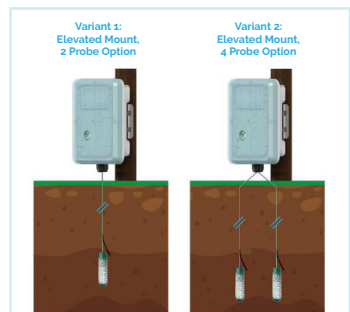
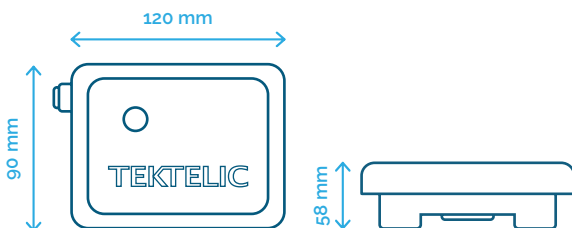


AMBIENT LIGHT

Features

- ✓ **11 year battery life*** enabled by an optimized low-power design for extended maintenance-free operation
- ✓ **Quick and easy device onboarding & data viewing** using TEKTELIC LeapX™ mobile application
- ✓ **Rugged IP67 enclosure** for reliable outdoor performance in agriculture and landscaping zones
- ✓ **Battery status indicator** for referencing battery life and fleet management
- ✓ **Soil water tension and Soil temperature** sensing through 2-probe or 4-probe options
- ✓ **TEKTELIC Kona Atlas™ support** for payload encoding and decoding
- ✓ **Ambient temperature and humidity monitoring** for comprehensive environmental insight
- ✓ **Locus™ integration** for centralized device, data, and fleet management
- ✓ **Compatible with standard LoRaWAN® gateways and network servers** for broad interoperability
- ✓ **Accelerometer for orientation and motion detection** notifying the user if device is impacted
- ✓ **Light (lux) measurement** to support crop and irrigation decision-making
- ✓ **Rapid deployment** for scalable industrial asset-tracking applications

* Actual battery life varies based on configuration, data rate, and operating temperature.



Technical and Functional System Specifications

General System Parameters			
Operational Temperature	-20°C to +60°C		
Storage Temperature	-40°C to +75°C		
Operational Relative Humidity	0% - 100%, Condensing		
Ingress Protection	IP67		
Size	120 x 90 x 58 mm (Sensor)		
	1.5 m (Probe)		
Weight (including batteries)	224 g		
Battery	1 x C Cell LTC (8500 mAh)		
Battery Life			
Reporting Period = 15 min @SF7	11 Years		
Reporting Period = 15 min @SF10	7 Years (EU868), 5 Years (US915)		
Wireless Parameters			
RF Power (Max)	22 dBm		
RF Sensitivity	-137 dBm (SF12, 125 kHz)		
Channel Plans	EU868, US915, AU915, AS923-1,-2,-3,-4, IN865, KR920		
Antenna	Internal		
LoRa Device Class	Class A		
Specification Version	1.0.2		
Sensor Specifications	Range	Accuracy	Resolution
Ambient Temperature	-20°C to 0°C	± 0.5°C	0.1°C
	0°C to 60°C	± 0.3°C	
Ambient Relative Humidity	0-100%	+/- 4%	0.5%
	20-80%	+/- 2%	
Ambient Light	0 to 65,535 lux	N/A	1 Lux
MCU Temperature	-20°C to 60°C	± 5°C	0.1°C
Soil Temperature (Thermistor Probe)	-15°C to +60°C	± 2°C	0.1°C
Soil Water Tension (Watermark Probe)	0 to 239 kPa	± 1 kPa	1 kPa
Certifications & Compliance			
Regulatory	FCC, ISED, CE (RED)		
Product Safety	IEC 62368-1		
Environmental	RoHS		
Product Variants			
Product Variant 1	Includes two 1.5 m probes: 1x Irrrometer® Watermark Soil Moisture Sensor and 1x Thermistor		
Product Variant 2	Includes four 1.5 m probes: 2x Irrrometer® Watermark Soil Moisture Sensors and 2x Thermistors		
Extension Cable	1.5 m cable between Kiwi and Probe connector		

TEKTELIC Communications is a premier supplier of complete LoRaWAN® IoT solutions. Our end-to-end systems combine network infrastructure, devices, and applications to enable easy, fast, and cost-effective deployment for the most demanding IoT challenges.