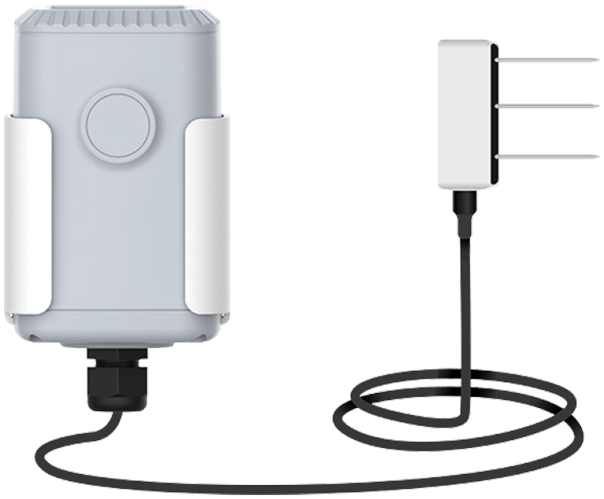
urbana
SMART SOLUTIONS

v. 1.0.0

DATASHEET

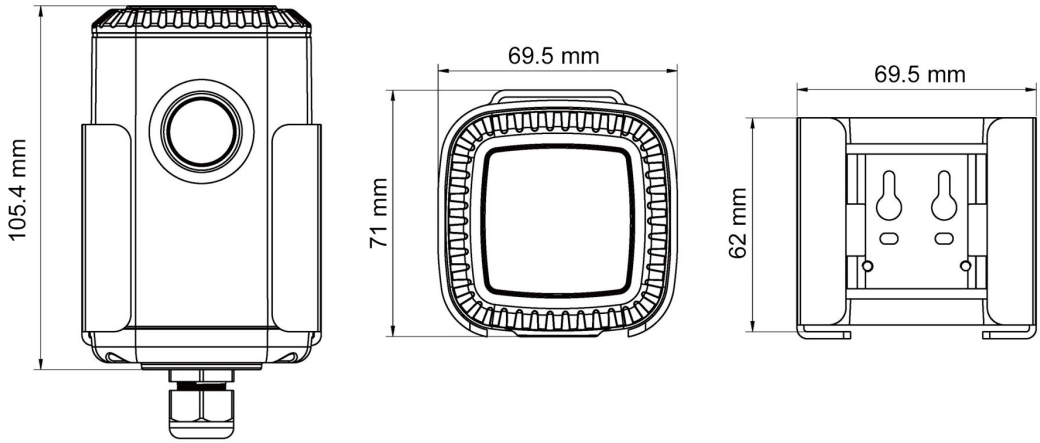
SOIL MOISTURE

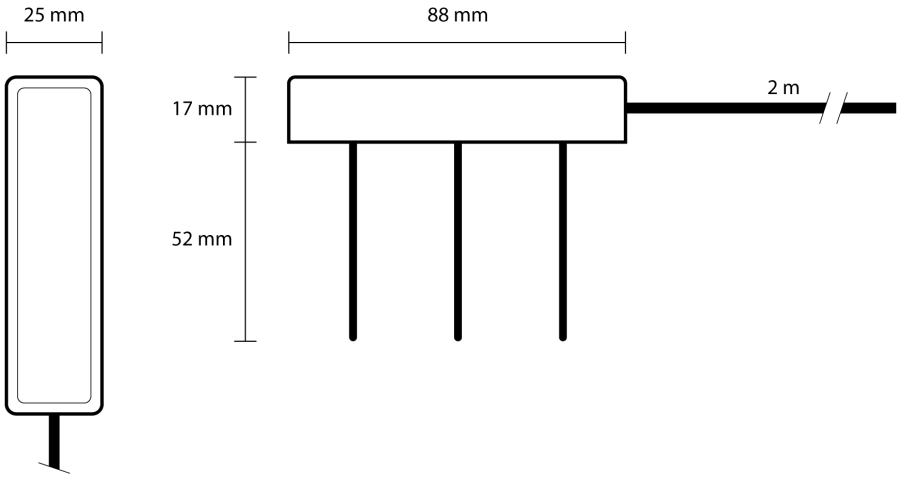


Soil Moisture Sensor is designed for measuring soil moisture, temperature and electrical conductivity in harsh environments and transmitting data using LoRaWAN® technology. With this low power consumption technology, the device can work up to 10 years with 19000 mAh battery.

Combining with Urbana LoRaWAN® gateway and Urbana IoT Platform, users can manage all sensor data remotely and visually. Soil Moisture is widely used for outdoor applications like smart
agriculture, smart horticulture, etc.

DEVICE DIMENSION





TECHNICAL SPECIFICATION

MECHANICAL

Housing:	Solid Case
Material:	Plastic
Dimension:	Transceiver: 105.4 × 71 × 69.5 mm Soil Sensor: 88 × 68 × 26 mm
Mounting:	Pole or Wall

ELECTRICAL

Power Supply:	19000 mAh Li-SOCL2 Battery (ER34615)
Battery Life:	4 years (10 min Interval, SF12) >10 years (10 min Interval, SF7)
Power On & Off:	NFC, Power Button (Internal)

ENVIROMENTAL

Temperature Range:	-30°C ~ 70°C
Operating Relative Humidity (Max):	0% to 100% (non-condensing)
IP Rating:	Transceiver: IP66 Soil Sensor: IP68

LORAWAN® INTERFACE

Frequency:	LoRaWAN®1.0.3 Regional Parameters
Modulation:	LoRa®
Stack:	LoRaWAN® 1.0.3
Sensitivity:	-147dBm @300bps
Output Power (Max):	+20dBm

MEASUREMENT

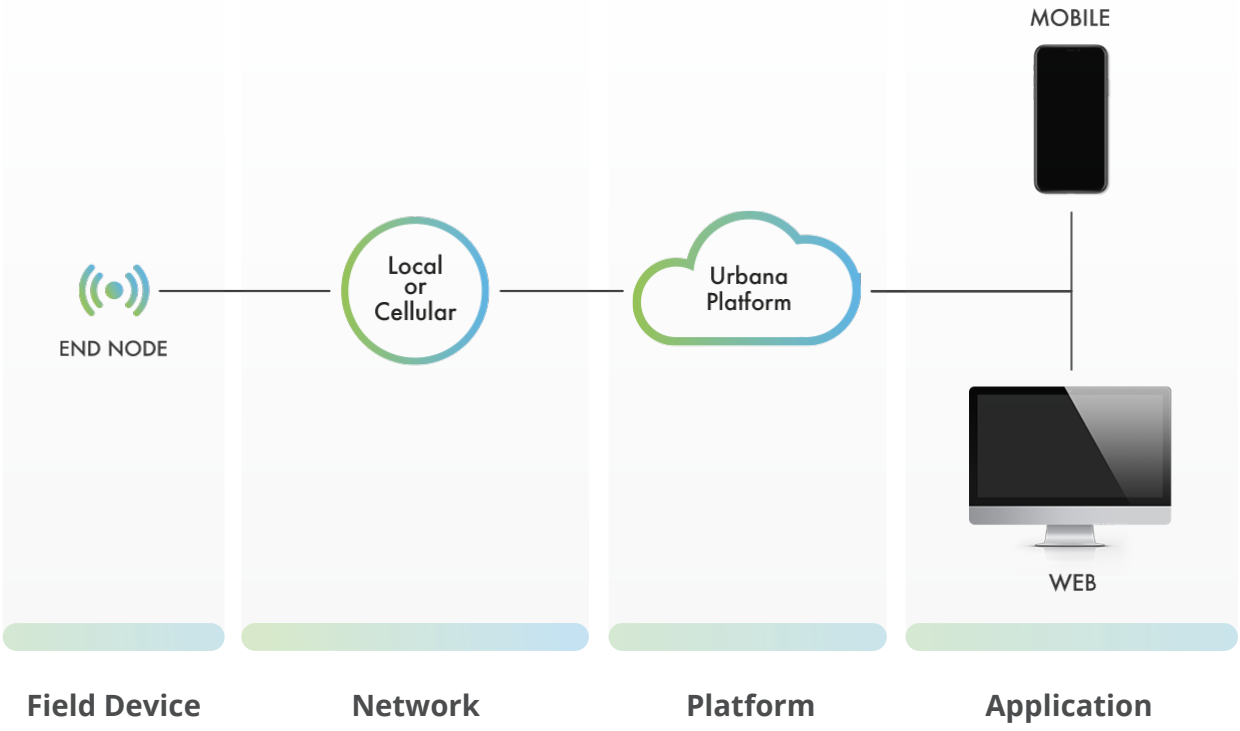
Moisture	*Range*	0% ~ 100% RH
	Accuracy	±2% (0~50%), ±3% (50%~100%)
	Resolution	0.5%
Conductivity	*Range*	0~20000 µs/cm
	Accuracy	±3% (0~10000 µs/cm), ±5% (10000~20000 µs/cm)
	Resolution	1 µs/cm
Temperature	*Range*	-40°C ~ 80°C
	Accuracy	±0.5°C
	Resolution	0.1°C

CONFIGURATION

Mobile APP (via NFC) or PC Software (via USB Type-C)

URBANA IoT PLATFORM

Urbana platform is designed to provide end-to-end IoT solutions from hardware to software. The core structure of the platform is based on a scalable distributed and containerised infrastructure maintaining the requirements of clients to scale up whenever needed. The tech stack used in Urbana allows us to have no restriction based on number of devices, features, users and availability. With use of these highly scalable and available databases, Urbana IoT Platform is able to provide advanced reporting and fallback mechanism to provide high level of reliability. One of the most important components of the Urbana IoT Platform is the MQTT broker (server). The MQTT layer is the gate that connects the cloud-based part of the infrastructure to the local field network of devices. It plays a critical role both in terms of security and scalability but also in terms of interoperability. Urbana infrastructure can interface with any device compliant with LoRaWAN® network protocol as standardized by the LoRa Alliance®. Urbana Smart Solutions, being an end-to-end provider, have in-house LoRaWAN® gateways readily for the clients if needed, which are Plug&Play compliant with all the Urbana devices.



CONTACT US

info@urbanasmart.com

urbanasmart.com

EUROPE

Italy
Via Bruno Maderna 7
30174 Mestre
Venice - Italy
Tel. +39 041 2689294

ASIA

Singapore
6 Shenton Way # 22-00 OUE
Downtown 068809
Tel : (+65) 6562255055
Fax : (+65) 6562255303

urbana
SMART SOLUTIONS