

LORAWAN SOIL MOISTURE SENSOR

daviteq

SKU: WSLRW-SMT

LoRaWAN SOIL MOISTURE SENSOR WSLRW-SMT

LoRaWAN



WSLRW-SMT-H1.PNG



WSLRW-SMT is LoRaWAN Soil Moisture Sensor, can be used to measure the Soil Moisture, Fertilizer and Soil Erosion, too. It is powered by a single C-type battery can last up to 10 years. The Moisture sensor utilize the Frequency Domain measuring technique to deliver high accuracy and stable measurement of Soil moisture. The Moisture value is not affected by fertilizer content and temperature like other simple Capacitance Moisture Sensor on the market. The sensor will transmit data in kilometers distance to LoRaWAN gateway, any brand on the market. The typical applications are Smart farm, Smart Agriculture, Automatic Irrigation System, Soil Quality Measurement, Soil Erosion Monitoring...



LORAWAN COMMUNICATION

LoRaWAN communication standard to allow sensor connect to any LoRaWAN Gateway on the market



10 YEAR BATTERY

Ultra-low power sensing technology from Daviteq with Ultra-low power wireless technology allow the sensor can last up to 10 years with a single battery C.



PRE-CALIBRATED

Sensors are pre-calibrated at factory to deliver high accuracy and quick installation



HIGH ACCURACY

Utilize advanced technology, Frequency Domain Reflectometry to deliver high accuracy and stable measurement of Soil Moisture, not affected by Fertilizer contents and Temperature like the simple Capacitance Moisture Sensor on the market



IP68

Ingress Protection IP68 allow sensor can be buried in the soil in long time

SOIL MOISTURE SENSOR INSTALLATION



WSLRW-SMT-H2.PNG

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SPECIFICATION

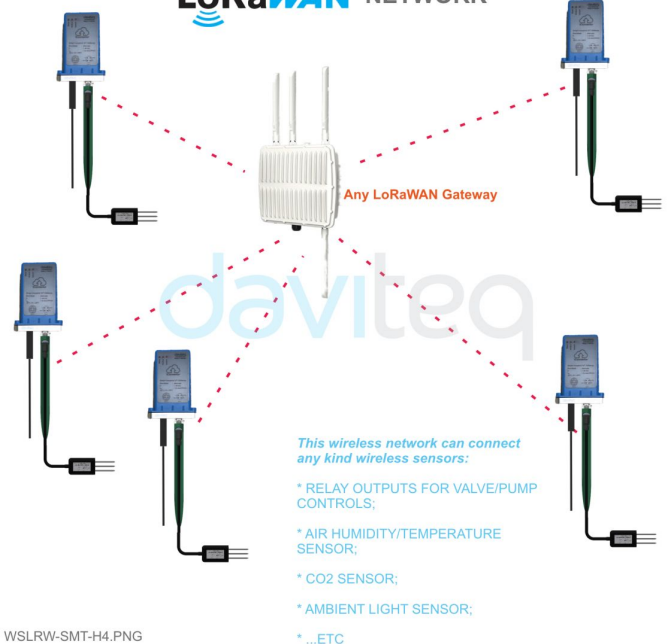
SENSORS SPECIFICATION :	
Moisture & EC Sensors	Advanced technology - Frequency Domain Reflectometry, Pre-calibrated at factory
Moisture range / accuracy / resolution	0 .. 100 %, acc +/- 3.0% , res 0.01%
Temperature range / accuracy / resolution	-30 .. + 70 oC, acc +/- 0.3 oC, res 0.1 oC
EC range / accuracy / resolution	0 .. 20 mS/cm, acc +/- 2.0% span, res 0.1 mS/cm
Response Time	< 1s
Measurement Volume	Dia. 70mm x Height 70mm
Wetted materials	316L SS & thermoplastic
Sensor Dimensions	71x45x16mm with probes 70mm and signal cable 2m
Optional Soil Erosion Sensor	Clinometer type
Soil Erosion Probe	Dia. 10mm x Length 300mm with signal cable 2m, SS304 material
LoRaWAN SPECIFICATION :	
Data rate	625bps .. 50kbps
Antenna	External Antenna 0 dbi
Battery	01 x C 1.5 - 3.6VDC, working time up to 10 years (depends on configuration)
RF Frequency and Power	860..930Mhz, +14 .. +20 dBm
Protocol	LoRaWAN
RF Module complies to	ETSI EN 300 220, EN 303 204 (Europe) FCC CFR47 Part15 (US), ARIB STD-T108 (Japan)
Vietnam Type Approval	
Working temperature	-40oC..+85oC (using LS26500 battery)
Dimensions	H106xW73xD42 (Wireless part only)
Netweight	190 grams (Wireless part only)
Housing	Aluminum + Polycarbonate plastic, IP67.

SOIL MOISTURE & SOIL EROSION SENSOR INSTALLATION



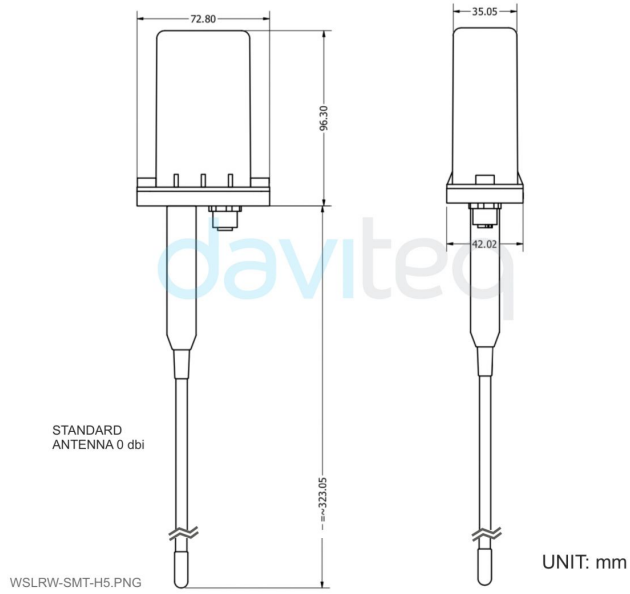
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LoRaWAN NETWORK

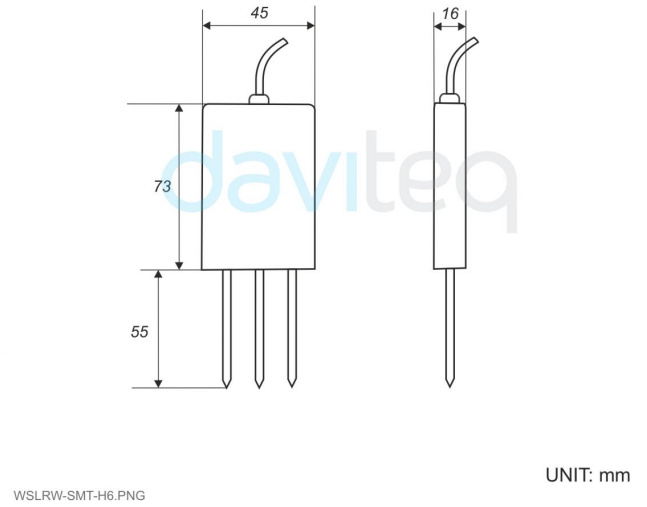


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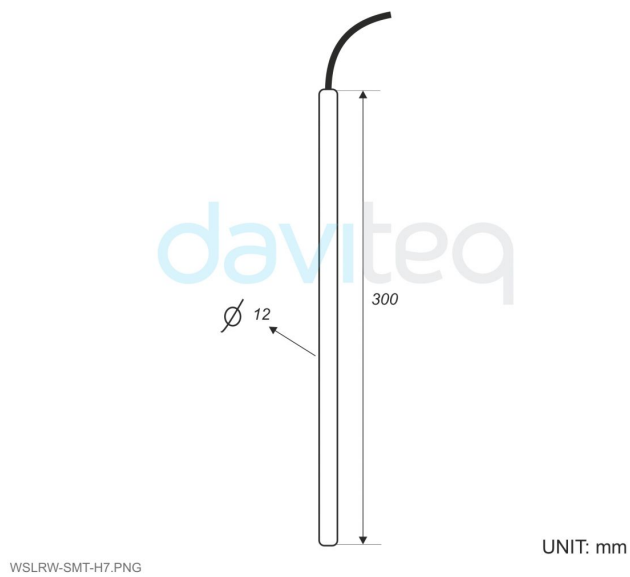
DIMENSION DRAWING OF WIRELESS TRANSMITTER



DIMENSION DRAWING OF SOIL MOISTURE SENSOR



DIMENSION DRAWING OF INCLINOMETER SENSOR



RECOMMENDED BATTERIES FOR LoRaWAN SENSOR

E93 C type
Alkaline battery 1.5VDC



- 18 .. + 55 oC working temperature
- 10-year shelf life
- 12.000 mWh Capacity
- Price: 1X

Ls26500 C type
Li-SOCl₂ battery 3.6VDC



- 60 .. + 85 oC working temperature
- 20-year shelf life
- 27.700 mWh Capacity
- Price: 8X

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ORDERING INFORMATION

ITEM CODES	DESCRIPTIONS
SOIL MOISTURE & TEMPERATURE SENSORS	
WSLRW-SMT-01	LoRaWAN Soil moisture and temperature sensor, pre-calibrated, Type C battery 1.5 - 3.6VDC, IP67/IP68, sensor cable 2m
SOIL MOISTURE & SOIL EC SENSORS	
WSLRW-SMT-02	LoRaWAN Soil moisture and EC sensor, pre-calibrated, Type C battery 1.5 - 3.6VDC, IP67/IP68, sensor cable 2m
SOIL MOISTURE & SOIL EROSION SENSORS	
WSLRW-SMT-AG	LoRaWAN Soil moisture and erosion sensor, pre-calibrated, Type C battery 1.5 - 3.6VDC, IP67/IP68, sensor cable 2m