

Soil sensor (WET150)

Measures volumetric water content (VWC), electrical conductivity (EC), and temperature of soil. This device, belonging to the PRO sensor series, includes Aranet Sub-GHz ISM band radio which wirelessly transmits sensor measurements to the Aranet PRO base station.



Product numbers

European Union	TDSPHW02
United States	TDSPHWU2
Asia	TDSPHWU2

Sensor performance

General notes

- 95 % of the sensors perform within the specified accuracy limits at the time of purchase, assuming they are in an equilibrium state.
- Device has been carefully optimized to provide accurate readings in soils and substrates. Readings taken in water or air may not meet the full specification.

Volumetric water content

Range	0–100 %
Resolution	0.1 %
Accuracy	±3 %

- The VWC range is dependent on the media the sensor is calibrated to. A custom calibration will accommodate the necessary ranges for most substrates.
- Given accuracy figure is typical for mineral soils that have solution electrical conductivity of <8 dS/m. The VWC accuracy is dependent on the media the sensor is calibrated to. A custom calibration can improve the accuracy up to 1 % of VWC reading.

Apparent dielectric permittivity

Range	1–80	
Resolution	0.01	
Accuracy	±3 % (in range 1–40)	±5 % (in range 40–80)

Bulk electrical conductivity

Range	0–12 dS/m	
Resolution	0.001 dS/m	
Accuracy	±(6 % + 0.1 dS/m)	

Temperature

Range	-20–60 °C	-4–140 °F
Resolution	0.1 °C	0.1 °F
Accuracy	±0.7 °C	±1.3 °F

General specifications

Ingress protection rating	IP68	
Operating temperature range	-20–60 °C	-4–140 °F
WET150 dimensions (incl. prongs)	∅40×143 mm	∅1.6×5.6 in
WET150 prong dimensions	∅2.5×51 mm	∅0.1×2.0 in
Aranet transmitter dimensions	∅35×120 mm	∅1.4×4.7 in
Cable length	5 m	16.4 ft
Total weight (incl. battery, cable)	409 g	14.4 oz
Packaging includes	1 pc AA alkaline battery	

Aranet radio parameters

Line of sight range	3 km	1.9 mi
Transmitter power	14 dBm	25 mW
Data transmission interval	1, 2, 5 or 10 min	
Data protection	XXTEA encryption	

Battery lifetime

Measurement interval	Alkaline battery lifetime	Lithium battery lifetime
1 min	0.8 years	1.0 years
2 min	1.5 years	2.0 years
5 min	3.4 years	4.6 years
10 min	5.8 years	8.2 years

- Battery lifetime data has been obtained by mathematical extrapolation and is provided for descriptive purposes only and is not intended to make or imply any guarantee or warranty.
- Battery lifetime tests and calculations performed assuming device is at 20 °C (68 °F) and using *Fujitsu Premium LR6G07* (alkaline) and *Energizer Ultimate Lithium L91* (lithium) AA batteries as reference.
- The operating temperature range may vary based on the battery type used. Generally, the range for alkaline batteries is between -20–50 °C (-4–122 °F), whereas for lithium batteries, it is -20–60 °C (-40–140 °F).

Compliance information



Conformité Européenne



Federal Communications Commission (USA)



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