



Severn WLD

Datasheet

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Introduction



Severn WLD is LAIER's water leak detection device. It consists of a printed sensor that is split into 12 sections or electrodes, which gets connected to the Severn WLD hardware. Upon powering up with a single AA Li-SOCl₂ cell battery, the device connects to the LoRaWAN® network via OTAA. After running through a self-test, the device enters its run mode.

Within the run mode, the device checks for water on each electrode every minute. It sends a regular or "heartbeat" uplink message by default every 4 hours via LoRaWAN. In its default mode, when it detects the presence of water on 4 or more electrodes, the device sends an emergency uplink message via LoRaWAN.

The threshold, the number of electrode segments that have to be wet to trigger an emergency message, and the regular message time interval can be changed via a LoRaWAN downlink message.

The Severn WLD device also contains a temperature sensor, to report the ambient temperature; and an accelerometer, to report whether the device has been moved.

Features

- Unique form factor: self-adhesive, thin, conformable, and robust
- Installed within minutes: installed within a minute by an untrained professional
- High sensitivity: detects as little as two drops of water
- Pinpoint location: locates where on the sensor the leak is occurring
- False positive reduction: using the 4 electrodes, you can reduce the number of false positives by reclassifying what constitutes as a leak

Specifications

Hardware Dimensions	95 x 58 x 24 mm
Hardware Weight	82g
Operating Temperature Range	-20°C to 60°C
Operating Humidity Range	<90%RH (non-condensing)
Battery Type	AA Li-SOCl ₂ cell*
Operating Voltage	3.6V
Peak Current Drawn	105mA
Active Battery Lifetime	4 years**
Enclosure	Nylon, splash-proof, not currently IP rated
Mounting	Self-adhesive
Sensor Dimensions	883 x 50mm
Sensitivity	Maximum resolution of 0.1ml of water
Wireless Communication Protocol	LoRaWAN 1.0.3 OTAA
LoRaWAN Frequency Plans	EU868 and US915
Read Range	Up to 2km***
Radio Compliance	Canada, EU, UK, USA

* **Using incorrect batteries can damage the device!** If you are unsure, please contact us at support@laiier.io.

** The device has a 4-year battery life when operating at room temperature, a good distance from a LoRaWAN gateway, and when sending a regular message every 4 hours.

*** The surrounding of the device can influence the read range.



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