JungleSIM M1S Soil Moisture Sensor - User Manual

Setting up, charging and caring for the M1S wireless soil moisture sensor

Revision 3 · 2026-10-28

M1S-UM-EN

JungleVault

Revisions

Rev	Date	Changes
3	2026-10-28	Numbered step pictures (black and white, drawn from the case CAD) for setting up (marked R3).
2	2026-10-24	Case rev 1.0 (JLC3DP) - pictures, size, placing, battery change steps; blade length below the SOIL LINE corrected to 49 mm.
1	2026-10-24	First issue, for sensor module rev 2.0 and moisture probe rev 1.0. Draft - the case is being designed, so case details and pictures follow in Rev 2.

Sections changed in a revision carry a bar and the revision number in the left margin: **green** for this revision, grey for earlier ones.

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About this manual

This manual is for the **JungleSIM M1S Soil Moisture Sensor** (model M1S, hardware rev 2.0). Read it before you use the sensor and keep it for later. Pass it on if you give the sensor to someone else. The newest version is on thejunglevault.com on the M1S product page.

> **Note.** The moisture screens in the app are still being built, so the names of the calibration buttons may still change.

> **Safety first.** The M1S contains a rechargeable lithium battery. Read the chapter "Safety information", above all the rules for charging.

Item	Details
Manufacturer	JungleVault (Lucas Bohunovsky), Frauenstiftgasse 5/1/11, 1210 Wien, Austria
Contact	contact@thejunglevault.com · thejunglevault.com
Product	JungleSIM M1S Soil Moisture Sensor, model M1S
Serial number	on the label on the case (M1S-YYMM-NNN)

Safety information

Intended use

The M1S measures how moist the substrate of a terrarium, paludarium or plant pot is and sends the reading by radio to a JungleSIM S1M screen module (or C1H control hub). Its probe blade goes into the substrate; the case with the electronics stays above it. It runs on its built-in rechargeable battery and is meant for indoor use by adults. Any other use is not intended.

Warnings

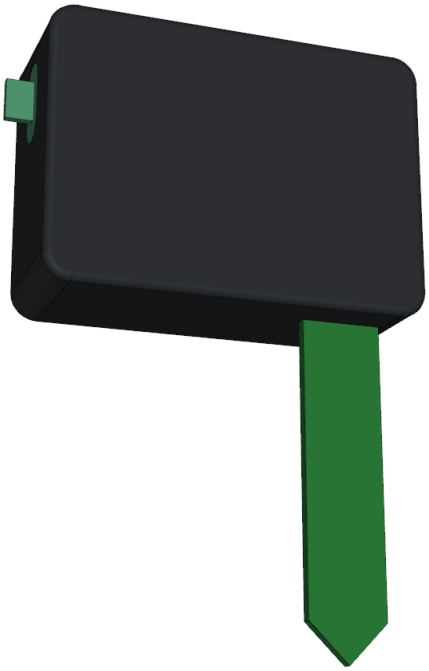
- **Charging.** Take the M1S **out of the terrarium** to charge it, and charge it only when it is dry. Wipe the probe clean first. Charge it at room temperature (0 to 45 °C) with a CE-marked 5 V USB power supply that meets EN IEC 62368-1 and a USB-C cable. Do not leave it charging on a soft or flammable surface, and do not charge it unattended for days.
- **Lithium battery.** Do not puncture, crush, open or heat the M1S, and never throw it into a fire. If the case is swollen, hot or smells, stop using it, put it on a non-flammable surface away from anything that can burn, and contact us. Do not use or charge an M1S that has fallen into water.
- **Only the blade goes into the soil.** Push the probe in up to the **SOIL LINE** mark, never deeper. The case is made for humid air but is **not waterproof**: do not bury it, flood it, put it in a water part or under a rain or misting nozzle.
- **USB-C socket.** Keep the dust plug in the USB-C socket while the M1S is in the terrarium.
- **Heat.** Keep it away from heat lamps, basking spots and heating mats (operating temperature 0 to 40 °C).
- **Children and animals.** Not a toy (small parts: dust plug). Keep the sensor and its packaging away from small children. Place it where animals cannot chew on it.
- **Do not open.** Apart from changing the battery, there is nothing inside you can service. Do not modify the electronics or the firmware.
- **Radio.** The M1S sends short 2.4 GHz radio messages. Keep it at least 20 cm away from implanted medical devices.

Keeping your plants and animals safe

The M1S tells you how wet the substrate is. If the battery runs flat, the probe is pulled out or the calibration is off, the reading can be wrong.

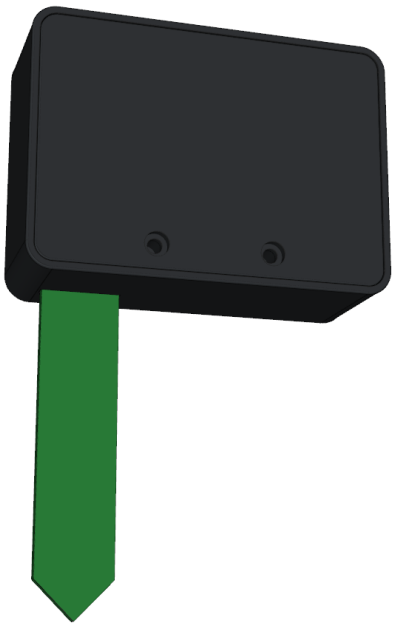
- Do not rely on the M1S alone to water plants or keep a humid hide wet: check the substrate yourself now and then.
- Turn on the **app alerts** (too dry, too wet, sensor lost) and keep the battery charged.

The M1S at a glance



The M1S from the front: USB-C socket (with its dust plug) on the left, the probe blade below the case

- **Case** with the sensor module and the battery. It stands on the substrate: its bottom edge is level with the probe's **SOIL LINE** print.
- **Probe blade,** 49 mm long below the case. It measures capacitively through its coating: no bare metal touches the soil, so it does not corrode. A TPU seal closes the case where the blade leaves it.
- **USB-C socket** on the left side, for charging. A TPU dust plug closes it in the terrarium.
- **Back** with the lid, held by two screws at the bottom.



The back: the lid with its two screws

- **Battery:** rechargeable lithium polymer cell, 500 mAh, inside.

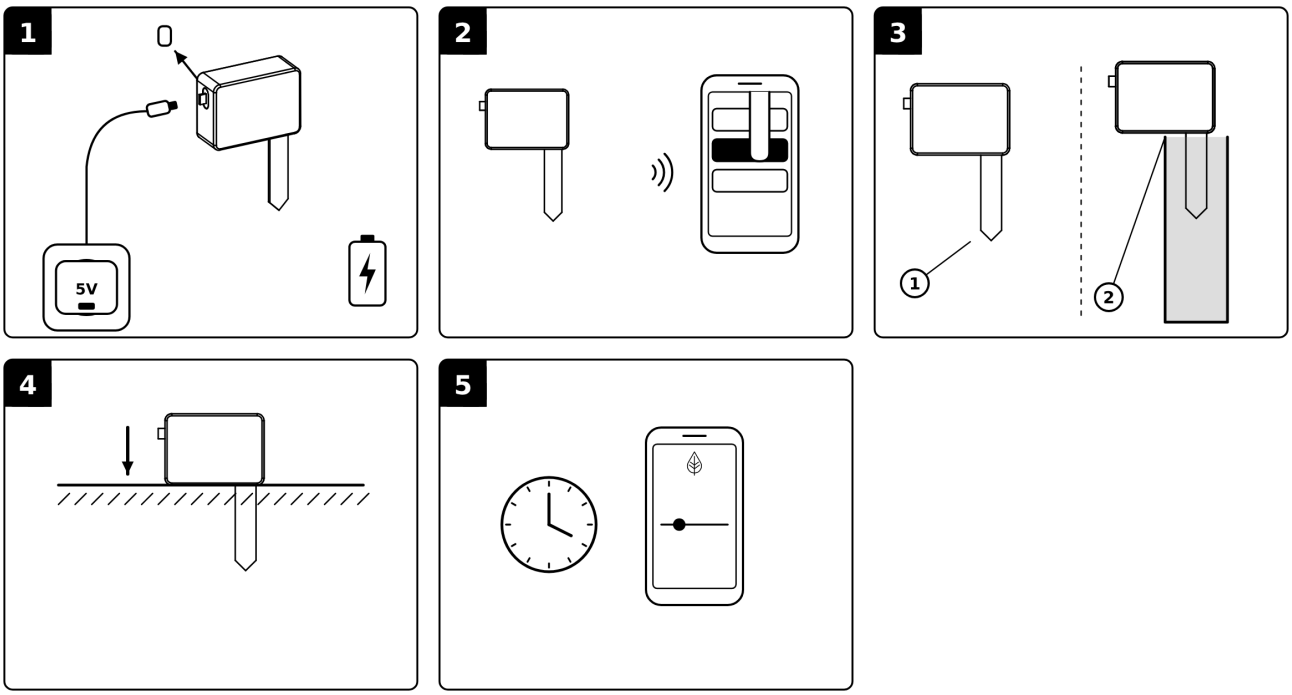
What's in the box

- M1S Soil Moisture Sensor with its battery, in its case, probe fitted, dust plug fitted
- This manual (short version) and the safety information sheet

A USB-C cable and power supply are not included. Use a 5 V USB power supply as described under "Warnings".

Setting up

R3



1. Charge it

Charge the M1S fully before the first use (see "Charging").

2. Add it to your S1M

1. Your S1M must be set up and online (see the S1M manual).
2. Wake the M1S: plug it into USB power for a moment, or wait up to two minutes.
3. In the JungleSIM app open **Settings › Sensors**. The M1S appears under **Found nearby** with its ID (it looks like `aa:bb:cc:dd:ee:ff`). Tap it, give it a name and choose its terrarium.

Keep it in the same room as the S1M, ideally within a few metres; walls, metal and wet soil shorten the range.

3. Calibrate it

Every capacitive probe reads a little differently, and every substrate too. In the app, under the M1S's settings:

1. Hold the M1S in the air with a dry probe and tap **Dry**.
2. Push the probe up to the SOIL LINE into substrate that is as wet as it should ever get (or a glass of water, up to the SOIL LINE only) and tap **Wet**.

The M1S then shows moisture from 0 % (dry) to 100 % (wet). This is a relative value for your substrate, not a laboratory measurement.

4. Put it in the terrarium

Push the probe straight down into the substrate until the case stands on it (the case bottom is the SOIL LINE), where the plants' roots are, away from the water part. Press the substrate lightly round the blade so there is no air gap. Do not push on the case to force it into hard ground: make a slot with a stick first. Place it out of direct spray, sun and heat lamps, with the USB-C side where you can reach it.

5. Choose the reading interval

In the app under **Settings › Sensors** you can set how often the M1S sends: from 30 seconds to 10 minutes. Substrate changes slowly; 10 minutes is plenty and makes the battery last longest.

Everyday use

- The M1S wakes up, measures, sends the reading and sleeps again.
- If the S1M hears nothing from it for 10 minutes or three intervals, the app shows a **sensor lost** alert.
- **Firmware updates** reach the M1S through the S1M by themselves.
- Fertiliser and salts change the reading over time. Calibrate again after you change the substrate.

Charging

1. Pull the M1S out of the substrate by its case, wipe the blade and let it dry if it is wet.
2. Pull out the dust plug and connect a USB-C cable from a 5 V USB power supply.
3. Charging takes about 3 hours from empty; it stops by itself when the battery is full.
4. Unplug it, put the dust plug back in and return it to the terrarium.

A full charge lasts for several months (to be confirmed on the first units).

Care and maintenance

- Wipe the case and the blade with a damp cloth. No cleaning agents or solvents.
- Do not scratch the blade: its coating keeps the soil off the copper. A probe with a damaged coating reads wrongly; contact us.
- **Battery.** The cell lasts a few hundred charges. When a full charge lasts much less than at the start, or if the case bulges, replace the battery (type LiPo 503035, 3.7 V, 500 mAh, JST PH 2.0 plug, with its own protection; available from us): take out the two screws at the bottom of the back, lift the lid out by its screw holes, unplug the old cell, plug in the new one (check: red wire to the + mark), and put the lid back top edge first until both catches click, then screw it in. Do not pull the probe out of the case. Take the old cell to a battery collection point.

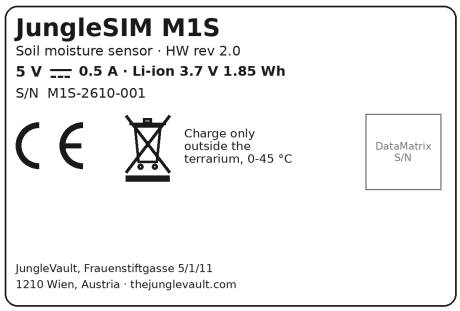
Troubleshooting

What you see	What to do
The M1S does not appear in the app	Charge it, then unplug it near the S1M; it sends right after starting. Check that the S1M is online.
"Sensor lost"	Charge the battery; move the S1M closer or lift the case clear of the wet substrate.
The value hardly changes	Press the substrate round the blade; calibrate again.
The value is always 100 %	The case or the SOIL LINE is under water or wet substrate: pull it out, let it dry, put it in less deep.
The case is swollen or hot	Stop using it, put it on a non-flammable surface and contact us.

Technical data

Item	Details
Measurement	Capacitive, about 920 kHz, electrode under solder mask; 0-100 % relative after a dry / wet calibration
Sensing depth	about 49 mm (blade below the SOIL LINE)
Reading interval	30 s to 10 min, set in the app
Radio	ESP-NOW (IEEE 802.11 based), 2400-2483.5 MHz, to the S1M or C1H
Battery	Lithium polymer, 3.7 V, 500 mAh (1.85 Wh), built-in protection
Charging	5 V DC via USB-C, about 0.25 A, 0 to 45 °C, about 3 h
Size	case 57.2 x 41.2 x 21.2 mm; 90.6 mm tall with the probe (blade 12 x 1.6 mm)
Case	PA12 nylon, black; TPU seals
Operating conditions	0 to 40 °C; case in humid air, only the blade in the soil; not waterproof
Storage	-10 to 40 °C, battery half charged for long storage

Disposal



The crossed-out wheelie bin means: electrical devices and batteries must not go in household waste. Take the M1S to a collection point for electrical waste (in Austria free of charge at municipal collection points); take the battery to a battery collection point separately if you can take it out safely. Remove the M1S from your app first.

Declaration of conformity and warranty

Hereby, JungleVault declares that the radio equipment type JungleSIM M1S is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at: thejunglevault.com (M1S product page, Downloads).

You have the statutory warranty of two years. Contact us at contact@thejunglevault.com with the serial number from the label.