Wireless humidity sensor user guide

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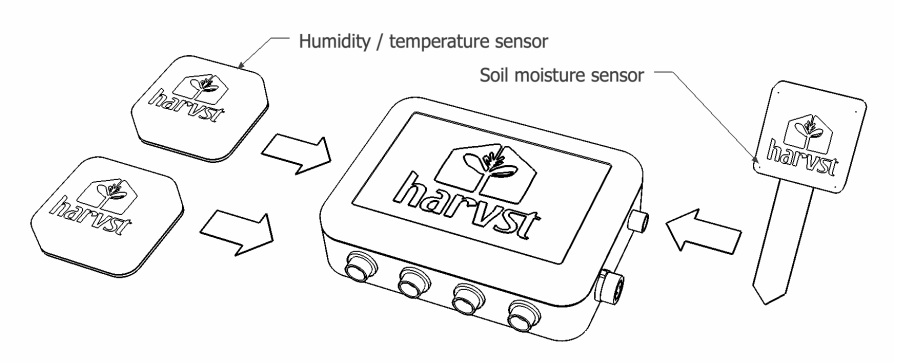
Choose your operation mode

Harvst wireless sensors can be used either **paired** with a Harvst control unit to activate watering, heating or lighting, or they can be used **stand-alone** connected to a WiFi network as environmental monitors, via the Harvst web app.

Paired mode



Up to four sensors can be wirelessly paired with a Harvst control unit, to control your irrigation. The control unit can be operating in either online mode (connected to your home wifi) or offline mode.

If the control unit is in online mode, data from the sensors will be relayed to your Harvst web account, and email alerts can be sent when sensor data goes out of your defined range.

Stand alone mode

Sensors are connected to a WiFi network and send data directly to your Harvst web account. Email alerts can be sent when values go out of range.

There is no limit to the number of sensors that can be linked to a web account.

Sensors do not communicate with each other.

Paired mode : setting up

The first thing you need to do is **pair** the sensor with the control unit. This process performs a “handshake” between one control unit and the sensor, so that they can operate together without interference from other wireless devices in the area.

Step 1 : prepare the control unit

1. Ensure the control unit is turned on, and awake if it’s a solar unit.
2. On your phone, search for a WiFi network similar to “harvst-**A4D3**” where the bold characters depend on your serial number. Connect to this network.
3. When connected, most phones will automatically direct you to the control panel.

> **Tip :** If your phone doesn’t redirect you, click “log in to wifi network” or open a web browser and go directly to http://192.168.4.1 after joining the network.

4. Click the green settings button.
5. Click “Wireless sensors”

The next two steps will need to be done within 60 seconds of each other.

6. **On your phone**, click the green “pair” button next to the device you want to pair. Choose the first unpaired device. The control unit will start beeping fast, looking for a device.
7. **On the sensor**, press the button and hold it down. It will start by flashing slowly, and then flash faster (after approx 6 seconds). Let go when it’s flashing faster. It is now trying to pair.
8. After a few seconds, the WaterMate control unit will do two long beeps, indicating that the devices are now paired.
9. The sensor will go to sleep, and will wake on a regular basis to send data to the control unit.

How do I know it's working?

You will see the control unit showing sensor data on the dashboard, along with the time the sensor last sent data to the control unit..

To manually push a data reading from the sensor to the control unit, press the sensor button once. You will get a green flash on a successful update.

The control unit dashboard will update every second with the latest data from the sensor.

You can turn on "Wireless test mode" on the control unit, which will cause it to beep once when a message has been received from a sensor. This is useful when testing the sensor is within range of the control unit.

Range (paired sensors)

Sensors will operate up to 40m line-of-sight from the control unit. If the sensor is buried low in the soil or behind equipment or a shed, range may be reduced.

To test the range:

1. Ensure the sensor is paired with the controller first.
2. Turn on Wireless test mode on the control unit via the dashboard.
3. Open the sensor and press the button to send a reading to the control unit. You will get a single beep to confirm the control unit has received the message.

How to use sensor data

Wireless sensors will be asleep most of the time, and will send data periodically to your control unit (usually every half hour). When the control unit receives the data, it will decide if any action needs to be taken as a result of the data, and then perform that action.

Stand alone mode - setting up

The sensor will need to be told your WiFi details so that it can send information to the Harvst web app.

Step 1 - Turn on configuration mode

- Open the sensor and press the button under the battery; hold it down until it starts flashing slowly (after 4 seconds), then let go.
- The sensor is now waiting for you to connect to its WiFi network.

Step 2 - Connect to sensor wifi

- Connect to the "sensor-*ABCD*" network on your phone or tablet (where *ABCD* is a code unique to your sensor).
- When connected, you should be prompted to "log into Wifi network" or similar, and be automatically directed to the device control panel.

  If you are not redirected to the WiFi setup page when you connect to "sensor-ABCD" then you will need to open an internet browser (eg Safari, Chrome) and go to **http://192.168.4.1**

Step 3 - Note the device ID

- Write down (or copy) the 12-digit device ID. You'll need this later to assign the sensor to your web account.

Step 4 - Enter wifi details

- Click the green button "Setup wifi"
- Wait while the device scans local networks.
- Choose your network from the list. If it's not there, click *Re-scan* at the top of the screen.
- Enter your WiFi password, if you have one.
- Click Save.
- The sensor will try to connect to your network. If it succeeds, you will get a green message on screen..

Step 5 - Assign device to your app account

- Log in to your Harvst web app at https://grow.harvst.co.uk
- Create a new garden location for the sensor, or use an existing one.
- Click "add device" and enter the device ID.

How do I know it's working?

To test the sensor:

1. Ensure the sensor is configured for your WiFi network first.
2. Turn on the sensor in configuration mode (press and hold the button for 4 seconds until the green light flashes once per second then let go).
3. Log onto the sensor wifi network.
4. Press the "send data" button on the control panel.

Check your web app for the sensor, and refresh the screen to see the time that data was last received from this device.

If the sensor **cannot** connect to your WiFi network, you will get 3 red flashes.

If the sensor **can** connect to your WiFi network, but cannot get a message through to the Harvst servers, you will get 2 red flashes.

Range (direct to router)

Sensors will operate up to 40m line-of-sight from your WiFi router. If the sensor is buried low in the soil or behind equipment or a shed, range may be reduced.

When configuring the sensor for your home WiFi network, you will get a choice of networks with their signal strength. 20% is the minimum that will work, but a better signal will give more reliable connectivity.

Alerts and notifications

For sensors connected to the Harvst cloud (either in stand-alone mode OR paired with an online control unit) you can receive email notifications when any sensor goes out of an expected range of values.

Choose notification settings for the relevant sensor in the web app.

Battery and charging

A rechargeable battery is supplied with the sensor. To recharge the battery, open the case and plug a USB cable in.

Yellow	=	battery is charging
Blue	=	battery is full

Paired mode

Battery life will be 6-12 months depending on temperature, usage and other factors.

When the sensor battery runs low, you will see a warning message on the control unit dashboard. If your control unit is connected to your home WiFi network, running in "online mode" you will also receive an email to let you know.

Stand alone mode

Battery life will be up to 3 months depending on the update interval you choose and the WiFi strength at the sensor location.

You will see battery information on the sensor dashboard in the Harvst web app, and will receive an email when it runs low and needs recharging.

Compatibility (paired mode)

All *mains* powered Harvst control units are compatible with wireless sensors. Solar powered control units from V5 and above (Autumn 2021 onwards) are compatible. Firmware version must be 2022012600 or later. To upgrade firmware version, see http://www.harvst.co.uk/setup

Wireless sensors can operate with more than one control unit in the vicinity; only sending data to the control unit they are paired with.

LED sequence

The following is the sequence of green LED flashes. Let go at the appropriate time to trigger that action.

Press on	**Flashing slowly**	**Flashing fast**	**On, no flashing**
First pressed	Hold > 4 seconds	Hold > 6 seconds	Hold > 9 seconds
LED comes on.	Release to enter configuration mode. LED will keep flashing slowly while device WiFi is available.	Release to enter pairing mode. LED will keep flashing fast while the device is attempting to pair.	Release to exit without doing any other action. LED will stay on then go off when the device goes to sleep. Start the process again if you need.

Troubleshooting

Sensor light flashes once briefly every second, then stops after 11 times.
The sensor is trying to send data to a control unit but is not being received. Check the control unit is turned on, and if it's a solar powered unit, make sure it's awake.

Control unit periodically does a triple beep.
The control unit is receiving sensor data from a sensor which it's not paired with. The sensor is hunting for a control unit to pair with. Start the pairing process.

No data appearing in the web app for stand-alone sensors.
Confirm that the WiFi network the sensor is connecting to is right, using the steps for configuring a stand-alone sensor. Also check that you have assigned the sensor to your web app account, with the correct 12-digit device ID.

No green flash when sending data from a stand-alone sensor
Try again closer to the router (press the button briefly to send a message).
If that does not work, reset the WiFi username and password from the configuration screen, following the instructions for stand-alone mode.