



GrowSphere™ ONE

Field Monitoring Unit

GrowSphere™ ONE is a stand-alone monitoring unit that can be connected to a wide range of sensors to collect real-time data from the field, enabling optimal irrigation management

Quick Setup Guide

May 2024



Precision
Agriculture





Technical Assets

Technical specifications

Solar panel	5.5 Watt
Battery rechargeable li-ion pack	3.7V 5200mAh
Outdoor installation	IP65, UV protected
Standard compliance	CE & FCC*

* Certification in process

Environmental specifications

- Working temperature -10°C to 55°C (14°F to 131°F)
- Storage temperature -20°C to 60°C (-4°F to 140°F)
- Air humidity 0% to 95%

Supported sensors

- Analog input (X3)
- Serial input (X1)
- Digital input (X2)

Two configurations available:

1



GrowSphere™ ONE
integrated solar panel

2



GrowSphere™ ONE
external solar panel

What's in the box

		GrowSphere™ ONE integrated solar panel	GrowSphere™ ONE external solar panel
	ONE monitoring unit + bracket		✓
	ONE monitoring unit	✓	
	External solar panel 5.5W + 5m extension cable		✓
	Integrated solar panel 5.5W	✓	
	Antenna	✓	✓
	Charging cable	✓	✓
	Base plate	✓	✓
	Bird spikes	✓	✓
	Metal cable ties	✓	✓
	Plastic bands	✓	✓
	Magnetic screwdriver 2.0 x 50mm	✓	✓
	Activation magnet	✓	✓
	Technician USB cable	✓	✓

Initial setup

1 GrowSphere™ ONE integrated solar panel

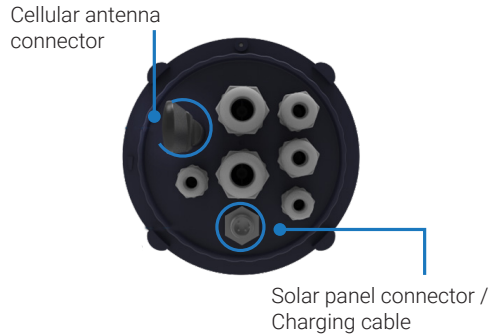
A

Connect the unit to the panel



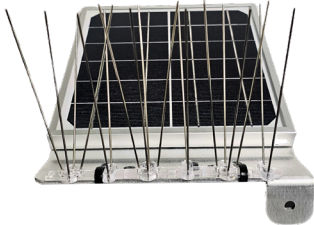
B

Connect the antenna and solar panel to the **ONE** unit



C

Connect the bird spikes to the solar panel if required



2 GrowSphere™ ONE external solar panel

A

Connect the antenna and solar panel to the **ONE** unit

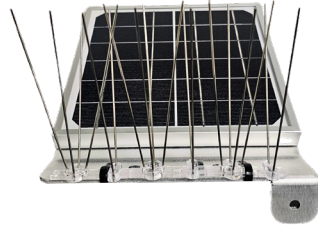
Cellular antenna connector



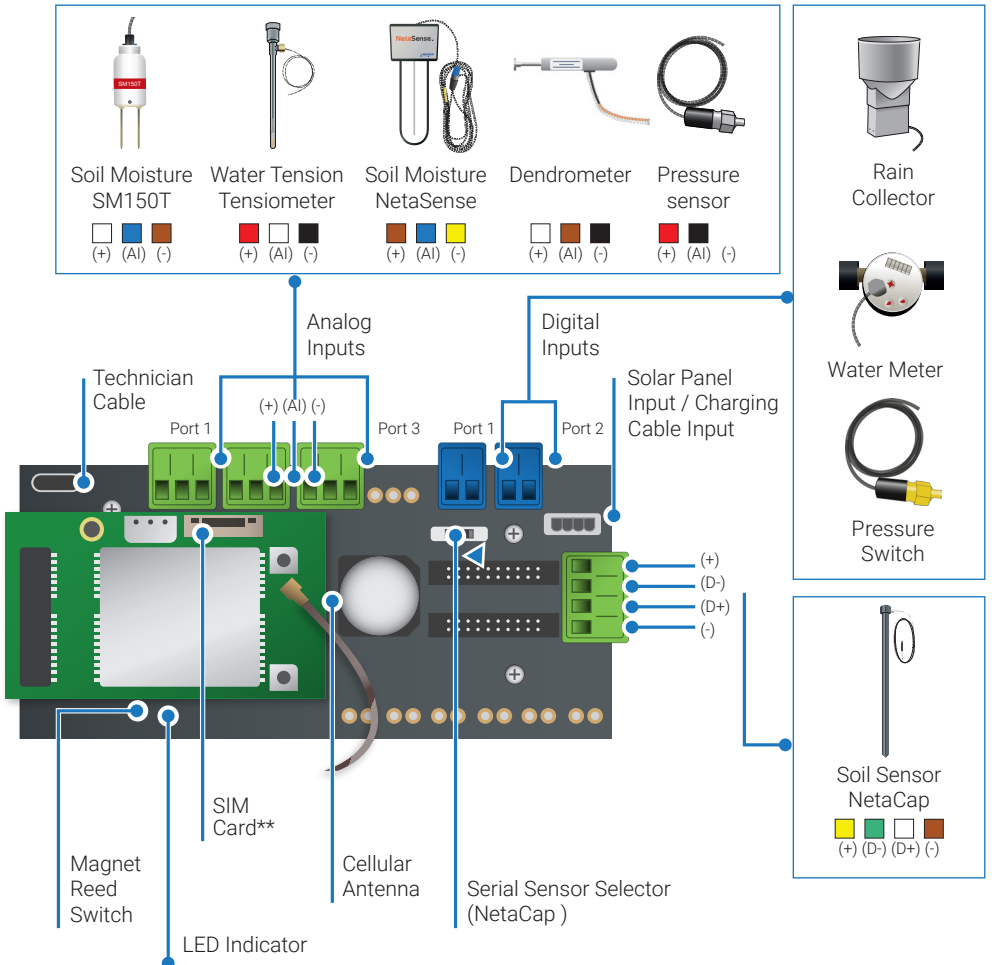
Solar panel connector /
Charging cable

B

Connect the bird spikes to the solar panel if required



Sensor Wiring Diagram



Number of flashes	Meaning
1	Modem not responding
2	SIM error
3	Network error
4	IP error
5	Certificate error
6	DPS code error

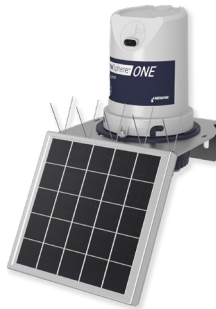
* Stay updated with your Netafim representative for sensor compatibility.

** The unit is provided with a SIM card

Prior to configuration



- 1 Ensure the unit is charged for a minimum of 5 hours, by using the provided charging cable (as demonstrated in the diagram above).



- 2 A blue led will indicate battery charging.
After charging, disconnect the cable and connect the solar-panel cable instead.

ONE installation

Integrated solar panel



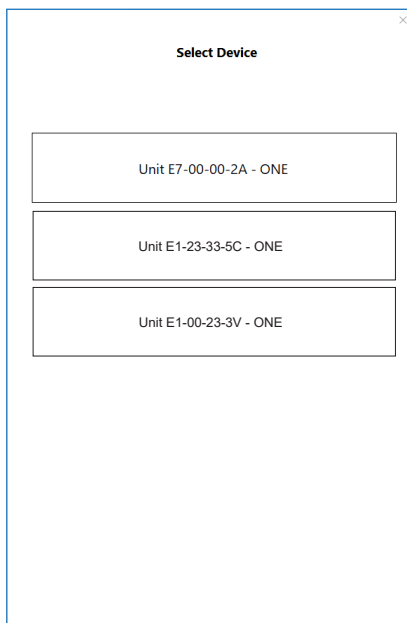
External solar panel, 5m cable



In the App folder, click on the EXE. file. The user-name and password are not required. Instead, click on the 'Login'

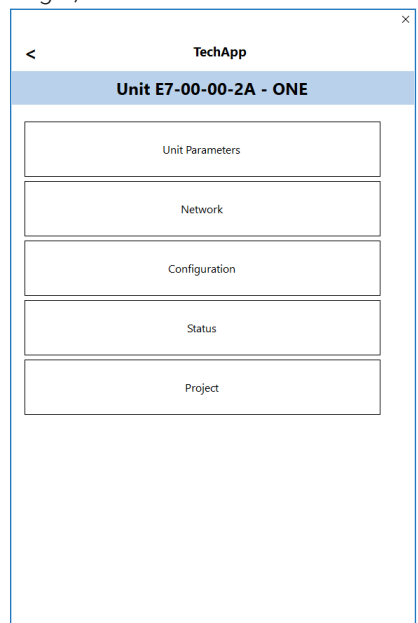
Select Device

Select your device



TechApp

Configure your unit by following the instructions below, based on the sensors you wish to connect. To begin, select Unit Parameters



Unit Parameters

The parameters are read-only.

Click 'Save'

The screenshot shows a mobile application window titled "Unit Parameters" for "Unit E7-00-00-19 - ONE". The interface includes the following fields and controls:

- Unit ID:** E7-00-00-19
- Unit Type:** ONE
- Device Time:** 16/05/2023 12:06:10
- Version:** 3.1.9
- Battery:** (empty field)
- Sample Interval:** 15 Minutes (dropdown menu)
- Transmission Interval:** (empty field)

At the bottom of the screen, there are three buttons: "Read", "Cancel", and "Save".

Sensors Configuration

Select the sensors you wish to connect

Sensors Configuration

Unit E7-00-00-2A - ONE

AI1 - Tensiometer
AI2 - NetaSense
AI3 - PressureSensor
DI1 - Water Meter
DI2 -
SERIAL1 - NetaCap20

Table View Send Topology

Port Config for Serial sensors

Define the Sensor Type and Sensor Depth. Check the Active box and then click Save

Port Config

Unit E7-00-00-7A - ONE

SERIAL1 -

Active

Sensor Type

NetaCap20

Select Depth

0 CM

Read Cancel Save

* It is recommended at this stage to physically connect the sensors to the device

Port Config for Digital sensors

Define the Sensor Type, Sensor Name and Pulse Volume. Check the Active box and then click Save.

Please note: Metric / Imperial units can be selected

Port Config

Unit E7-00-00-7A - ONE

DI1 -

Active Metric Imperial

Sensor Type
Water Meter

Sensor Name

Pulse Volume(liter)
1

Nominal Flow (m³/h)
0.000

Read Cancel Save

Port Config for Analog sensors

Define the Sensor Type, Sensor Name and Sensor Depth.

Check the Active box and then click Save

Port Config

Unit E7-00-00-7A - ONE

AI1 - NetaSense

Active

Sensor Type
Tensiometer

Sensor Name
avi meter

Select Depth

Read Cancel Save

Quick check-list:

- Ensure the serial sensor selector is in the proper position (please see Wiring Diagram)
- Ensure the Active box is checked
- Activated ports should be highlighted in blue

Network

Now you can disconnect the cable, the unit is ready for field installation.

Please note, from the moment the unit is activated, it will stay active for 15 minutes. If Modem Status is "Not connected", you can use the magnet or select 'Read' and then 'Connect' to activate it

The screenshot displays a web-based configuration interface for a device. At the top, there is a navigation bar with a back arrow and the title "Network". Below this, a header identifies the device as "Unit E7-00-00-1A - ONE". The main content area contains several configuration sections, each with a label and a text input field:

- APN:** fcolive.net
- ID-Scope:** 0ne006BA13B
- IoT Hub:** stag-netbeatx-iotHub-weu.azure-de
- Modem Status:** Connected
- Process:** Done (9/9)
- Error:** (empty field)

At the bottom of the interface, there are four buttons: "Connect", "Read", "Cancel", and "Save".

Sign-up to GrowSphere™ Cloud

Create your GrowSphere™ account or log in to an existing account.



A link was sent to you by your Netafim representative

GrowSphere™

Hey! Welcome

Join us and start growing

[I'm already a member](#)



First name

Last name

Username

Phone number

E-mail

Country

Unit system

Company

Password

Confirm password

Yes, I'd like to receive product updates and exclusive offers from Netafim. I can unsubscribe at a later time.

By creating an account, you agree to Netafim's GrowSphere™ [terms and conditions](#)

Log-in to your GrowSphere™ Cloud account



GrowSphere™

Username

Password

[Forgot password](#)

Setup your Farm

GrowSphere by **NETAFIM** Lab Culiacan 🔔 ☁️ 15 88% Sun 12 Feb 4:53 AM FS

Farm Management / Irrigation Blocks Crop Units **Farm**

Farm name
Lab Culiacan

Farm location Click on the map to manually locate your farm
Avenida Javier Calvo 114, 80199 Culliacán Rosales, Sinaloa, Mexico

Country Mexico **State / District** Sinaloa

Time zone (UTC-07:00) Chihuahua, La Paz, ... **First day of week** Sunday Monday

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Navigate to 'Add device'

GrowSphere by **NETAFIM** Lab Culiacan 🔔 ☁️ 15 88% Sun 12 Feb 4:54 AM FS

Devices Management Map Table Graph **Add device**

23168163





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Add Device

- Choose 'ONE'
- Input your unit's MAC address
- Click 'Connect'


Add device


Which source would like to add?

 Controller / PLC  rLink  ONE  3rd Party Service

Please check that your ONE device is turned on, You can use a magnet to initiate.

MAC address









Device is active and connected


Add device

Which source would like to add?

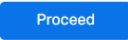
 Controller / PLC  rLink  ONE  3rd Party Service

Please check that your ONE device is turned on, You can use a magnet to initiate.

MAC address

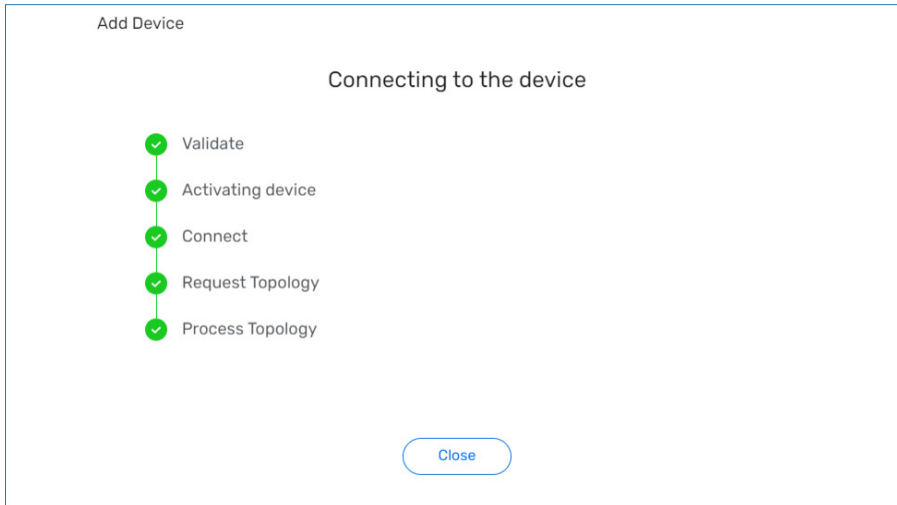


Device is active and connected



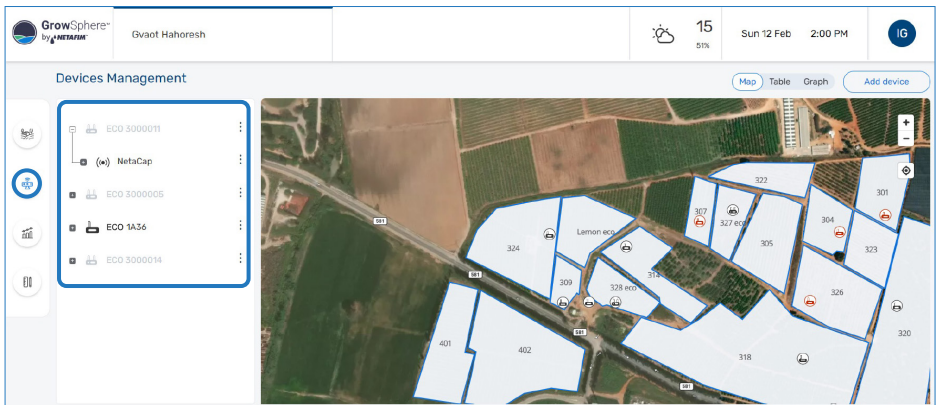
Process completed

Congratulations! The set-up process is now completed



View your Device

Your device and the connected sensors will appear on the menu, in the 'Devices Management' screen



Recommended next steps

- You can name each device - By default, the device name will be its serial number
- Define thresholds for relevant sensors according to your preferences
- Create Irrigation Blocks and Crop Units
- Assign the devices to their relevant Irrigation Block
- Define a leading sensor, that ultimately represents your Irrigation Block's status



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