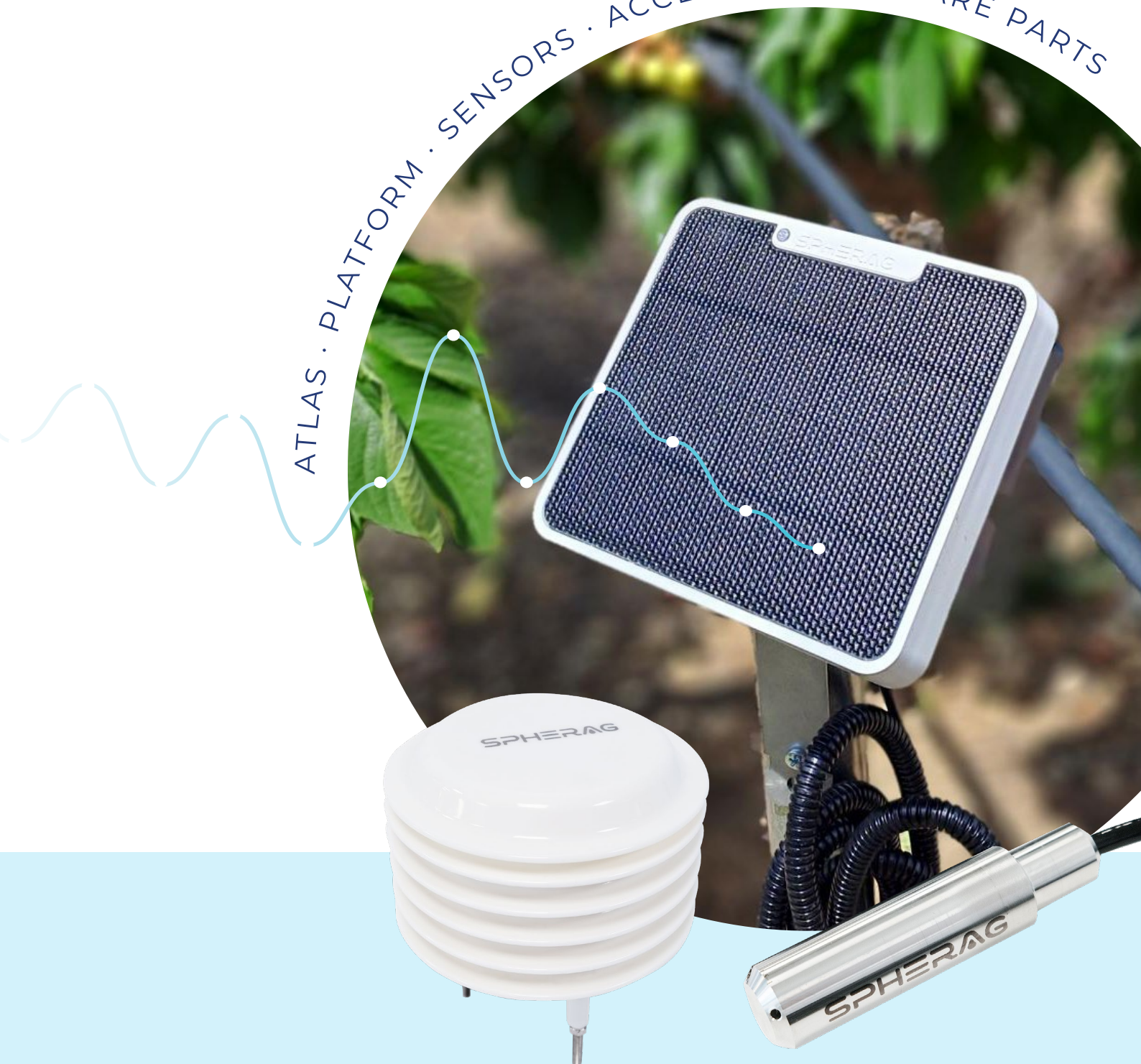


PRODUCT CATALOGUE

SPHERAG

ATLAS · PLATFORM · SENSORS · ACCESSORIES · SPARE PARTS





“Great things are done
by a series of small things
brought together”

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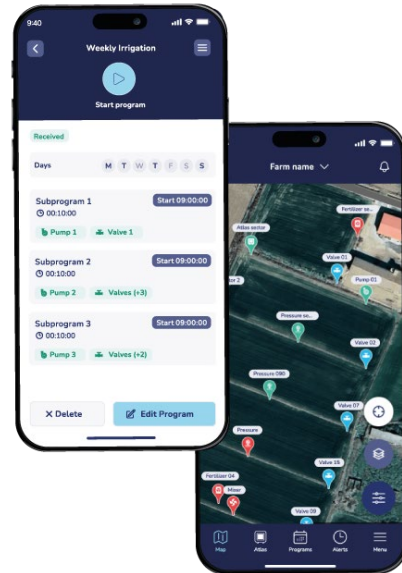
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Who we are

At **SPHERAG**, we make water management simple and sustainable through smart digitalisation systems.

We are an **innovative technology company** that is revolutionising the daily lives of **farmers and irrigation districts** thanks to a comprehensive solution based on a combination of autonomous IoT devices and a cloud-based monitoring and control platform.

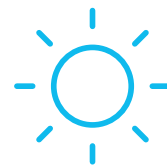
SPHERAG's technology has a **positive impact** on the efficiency and productivity of agricultural businesses, as well as on the **quality of life** of our **customers**.



Multi-device



Wireless



Solar Energy



Sustainable



Data in the cloud



Quick and easy



About us

Atlas IoT devices

Real-time information and control

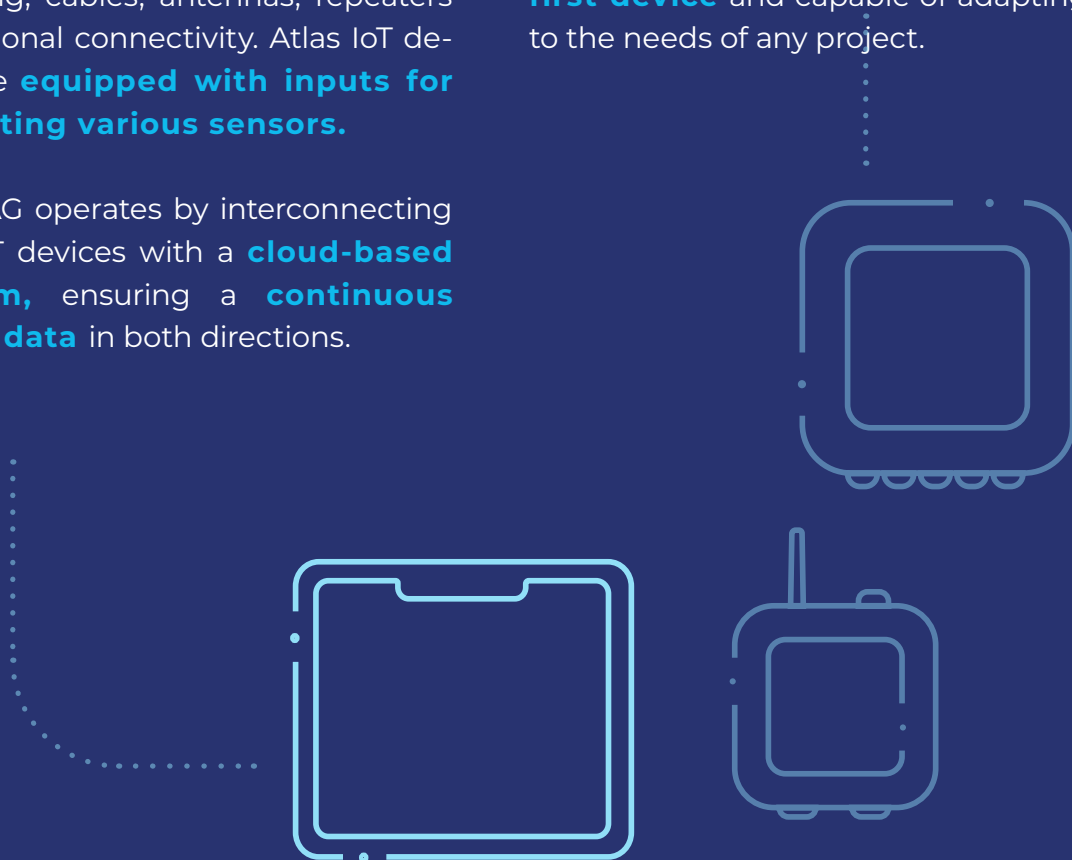
Atlas is a range of **autonomous, robust and connected IoT** devices designed to enable **easy management** of irrigation systems and optimal water use.

They are **sustainably powered** by an integrated solar panel and connect to the mobile network autonomously. **Installation is very simple** and does not require pre-installation of electrical wiring, cables, antennas, repeaters or additional connectivity. Atlas IoT devices are **equipped with inputs for connecting various sensors**.

SPHERAG operates by interconnecting Atlas IoT devices with a **cloud-based platform**, ensuring a **continuous flow of data** in both directions.

From this digital tool, you can **programme and activate irrigation elements remotely and in real time**. Our agricultural management software also provides comprehensive, accessible information to help you **make better decisions**.

Our technology is flexible, versatile and scalable: **efficient from the very first device** and capable of adapting to the needs of any project.



ATLAS X

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More power, more intelligence, more autonomy.

Atlas X is a new generation IoT device capable of **maximising water digitalization performance**. With an even more robust design, it incorporates an enlarged solar panel and battery that **maximise its energy autonomy**.

In terms of communication, it guarantees an **uninterrupted and flexible connection**, allowing you to choose the best coverage between LTE-M, NB-IoT and GPRS networks.

This cutting-edge device **integrates Artificial Intelligence** for proactive management, generating local alerts in real time and performing **predictive maintenance**.

ATLAS X

Reference	ATLAS X
TH-ATXL	ATLAS X Lite
TH-ATX2	ATX2
TH-ATX4	ATX4
TH-ATX8	ATX8

ATLAS X



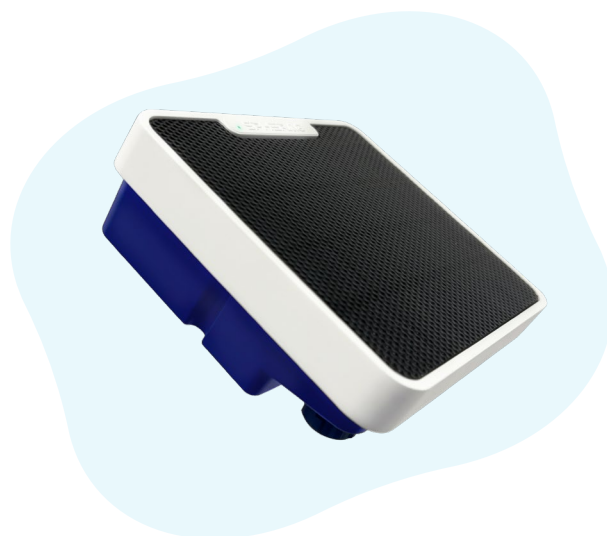
Atlas X has **up to 8 inputs** (counter or digital input) and **up to 8 outputs** (relay or solenoid interlock) and an input to connect **up to 4 I2C, SDI-12 and/or 4-20 mA sensors** (pressure, level, ambient temperature and humidity, electroconductivity and soil temperature and humidity from a single point or multiple levels).

In addition, the **remote firmware update system** (FOTA) ensures that you always enjoy the latest features.

New generation IoT device for water digitisation

The **Atlas X** IoT device is the perfect solution for **irrigation districts** and **large farms** that require extended autonomy and comprehensive water control.

ATLAS X



Mechanical specifications

Dimensions	140 x 125 x 45 mm
Weight	490 g
Material	ASA, ETFE
Working temperature	-10°C a 50°C
Accessories	2 I/O cables (1,5 m) Quickstart guide

General specifications

Inputs	8 (Flowmeter or digital input)
Outputs	8 (Latch relay or latch solenoid)
Output voltage	12 ~ 18 VDC
Remote configuration	Spherag Platform
Visual indicator	LED (status)
Sample time	[5 min - 1 h]
Uplink communications (sensors)	[15 min - 24 h]
Uplink communications (events)	[15 min - 24 h]
Downlink communications	< 10"
Programmes	200

Power specifications

Power supply	Embedded 2,5 W solar panel
Internal battery	LiPo 8000 mAh
External Power Supply	5 ~ 24 Vdc

Certifications

Europe	CE Marking
IP rating	IP68
IK rating	IK-07

Connectivity

Network	GPRS, NB-IoT, LTE-M
Antenna	Internal External*
SIM card	Inside the device

Sensors

Pressure sensor	I ² C (30 bar)
Soil sensor	I ² C (Soil temperature, VWC) SDI-12 (Sentek) (T, H, EC) SDI-12 (Enviropro) (T, H, EC)
Ambient	I ² C
EC sensor	SDI-12 (EC ES2)
Level sensor	I ² C (10 m) I ² C (50 m)
Generic Sensor	4-20 mA

Capabilities

Alarm Sources	Flowmeter External Sensor Internal Sensor Digital inputs
Remote Diagnosis	BLE
Firmware	FOTA
Internal Sensors	Battery level Solar panel voltage Temperature Humidity

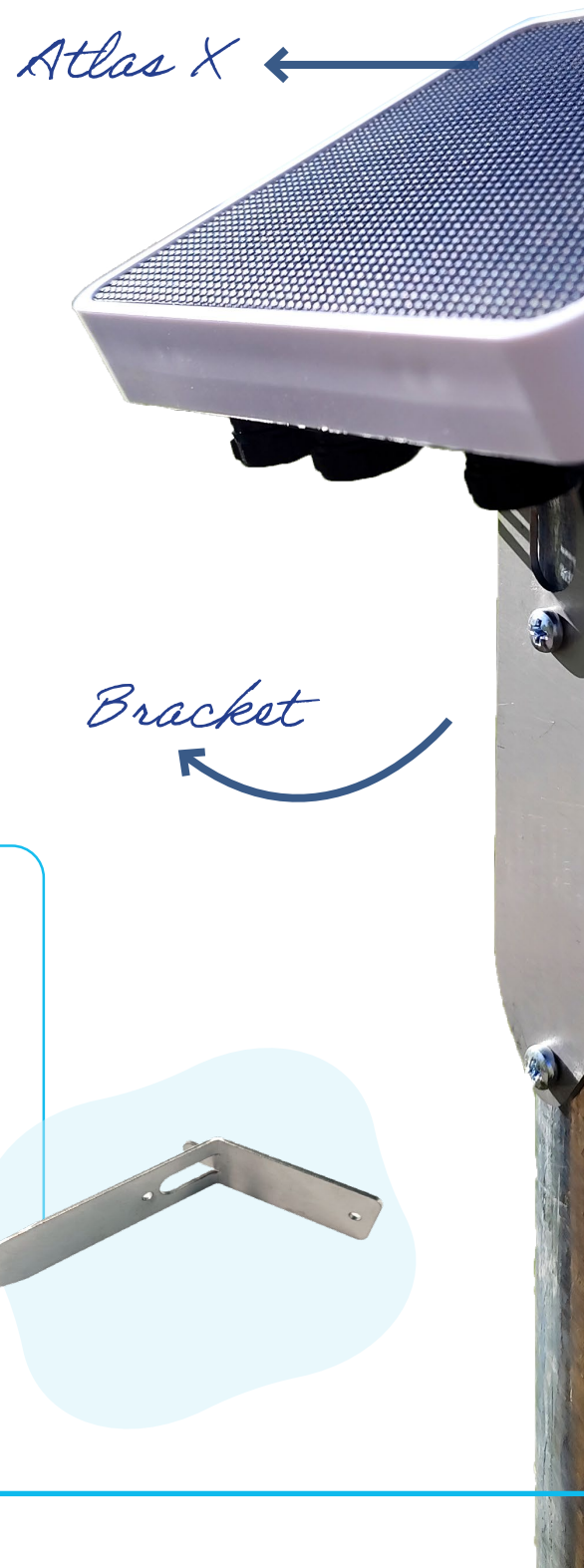
* See conditions



Installation kit

We recommend installing the device using **official Spherag components**: bracket, pole, clamp and screws.

These are specifically designed to ensure optimal integration. Our bracket comes with the ideal angle of inclination as standard, which simplifies the installation process, reduces installation time and ensures correct positioning from the outset.



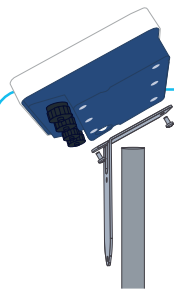
BRACKET

Material	304 Stainless Steel
Thickness	2 mm
Width	20 mm (min.)
Atlas X	2 holes x 5 mm
Pole	2 holes x 5 mm
Angle	30°

Screws

Material	Stainless steel
Dimensions	M3 x 10 mm
Quantity	2

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POLE

Installation of ATLAS X on a pole with the bracket.

WALL

Mounting Atlas on a wall with the bracket.





CLAMP

Wall pole clamp

Material	304 Stainless Steel
Diameter	40 mm (min.)
Thickness	1 mm (min.)
Screws	M4 (Not included)



POLE

Material	Galvanised Steel
Diameter	40 mm
Length	1.2 m, 1.8 m, 2.4 m, 3.0 m

Screws

Material	Galvanised Steel
Dimensions	M4 x 50 mm
Quantity	2

Nuts

Material	Galvanised Steel
Dimensions	M4
Quantity	2

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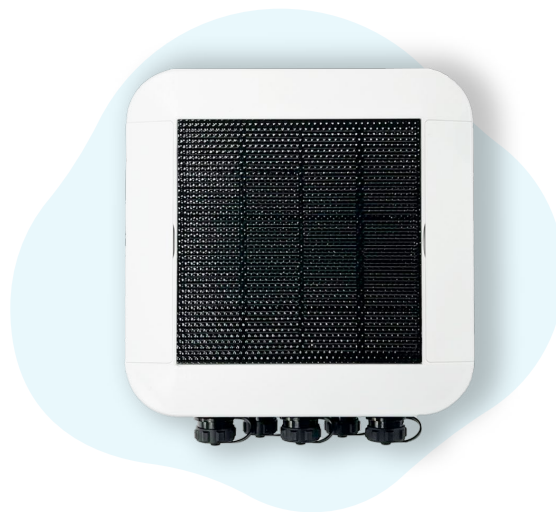


Robust, autonomous and versatile

The **Atlas+** IoT device comes equipped as standard with three connectivity options (GPRS, NB-IoT and LTE-M). In addition, its **enlarged solar panel** allows for optimal adaptation to environments with irregular sunlight.

It is compatible with **I2C and SDI-12 sensors** and has 4 inputs for meters or digital devices (pressure switches, flow switches, etc.) and 8 outputs for actuators (valves, pumps, fertilisers, etc.). **It is the ideal solution for the digitalisation of complex irrigation projects.**

ATLAS 



Reference	ATLAS +
TH-AT2P	ATLAS PLUS 2
TH-AT4	ATLAS PLUS 4
TH-AT8	ATLAS PLUS 8

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Mechanical specifications

Dimensions	165 x 150 x 55 mm
Weight	490 g
Material	ASA, EFTE
Working temperature	-20°C to 50°C
Accessories	3 cables IO (1 m) Quickstart guide

General specifications

Inputs	4 (Flowmeter)
Outputs	8 (Latch relay or latch solenoid)
Output voltage	14 V
Sensor inputs	Up to 4 I ² C with HUB, 1 (SDI-12)
Remote configuration	Spherag Platform
Visual indicator	LED (status)
Programmes	200

Power specifications

Power supply	Integrated 1.5 W solar panel
Internal battery	LiPo 5000 mAh

Connectivity

Network	GPRS, NB-IoT, LTE-M
Antenna	Internal
SIM card	Inside the device

Sensors

Pressure sensor	I ² C
Soil sensor	I ² C / SDI-12 (multinivel)
EC sensor	SDI-12
Level sensor	I ² C

Certifications

Europe	CE Marking
IP rating	IP68





Real-time information and control



The **Atlas 2** IoT device is designed to provide intelligence to any irrigation system and facilitate optimal water management. **It is easy to install and configure, and provides a flexible, reliable and efficient solution for irrigation management.**

It **allows I2C sensors** to be connected and has two inputs for meters or digital devices (pressure switch, flow switch, etc.) and two outputs for actuators (valves, pumps, fertilisers, etc.).



Reference	ATLAS 2
TH-AT2G	ATLAS 2 2G
TH-AT2N	ATLAS 2 NB

14 Mechanical specifications

Dimensions	130 x 100 x 40 mm
Peso	320 g
Weight	ASA, ETFE
Working temperature	-20°C to 50°C
Accessories	Quickstart guide

General specifications

Inputs	2 (Flowmeter or digital input))
Outputs	2 (Latch relay or latch solenoid)
Output voltage	14 V
Sensor inputs	Up to 4 I2C with HUB
Remote configuration	Spherag Platform
Visual indicator	LED (status)

Power specifications

Power supply	Integrated 0.5 W solar panel
Internal battery	LiPo 5000 mAh

Connectivity

Network	GPRS, NB-IoT,
Antenna	External
SIM card	Inside the device

Sensors

Ambient	I2C
Pressure	I2C
Soil	I2C
Level	I2C

Certifications

Europe	Marcado CE
IP rating	IP68



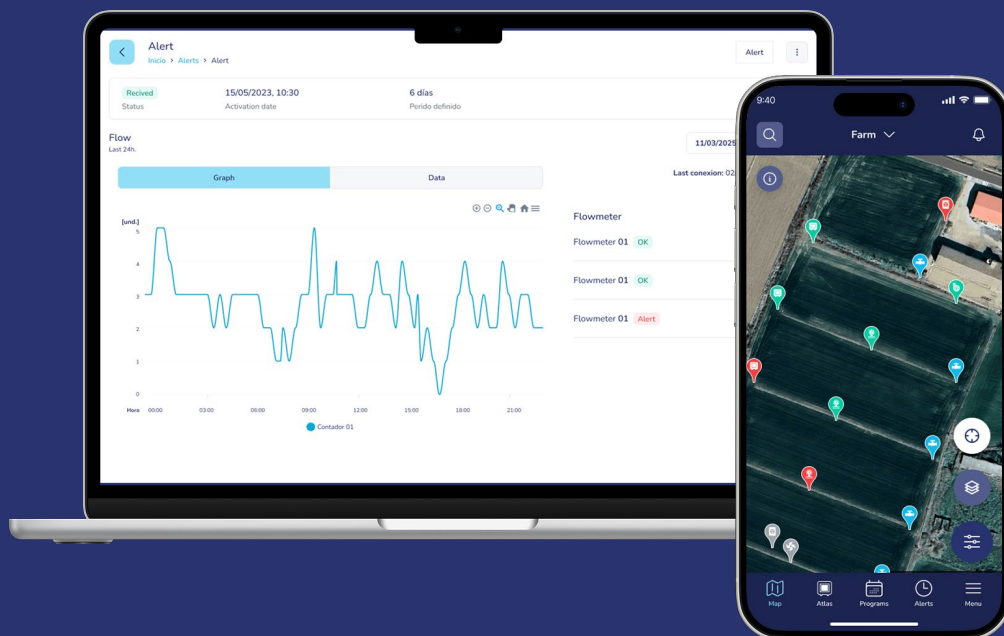
Platform

Integrated with **Atlas devices**, the platform offers **real-time control and monitoring** of sensors, meters and actuators, providing a comprehensive overview of the operation and status of the hydraulic infrastructure.

The SPHERAG platform centralises information and **facilitates data-driven decision-making**.

The system incorporates **automatic email and SMS alerts** for leaks, over-pressure, breaks or other anomalies, facilitating a rapid response that minimises the severity of incidents and reduces maintenance costs.

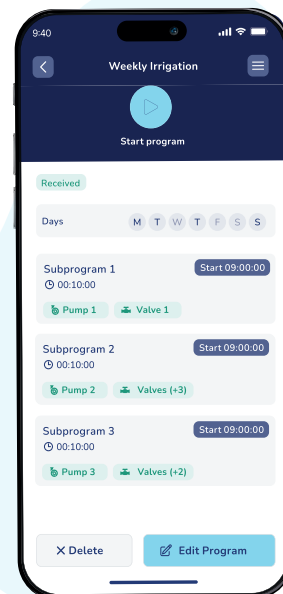
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Agriculture platform

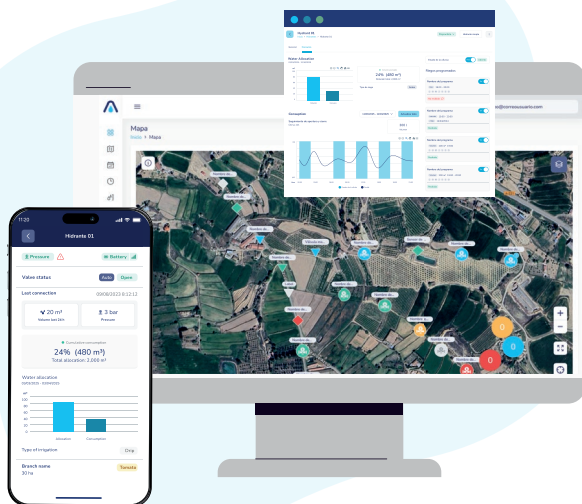
It is a **simple platform** designed to **optimise water use and improve agricultural profitability** without digital barriers.

- Geolocation of farms, devices and irrigation elements on an interactive map.
 - Management of multiple farms and irrigation sectors from a single application.
 - Remote and live control and monitoring of sensors, meters and actuators.
 - Real-time email and SMS alerts.
 - Automatic irrigation programmes by days, time windows or intervals.
 - Advanced logic with smart irrigation programmes.
- *LITE: Monitoring and programming functions only.



Irrigation districts platform

The platform is designed **to work collaboratively**, allowing **multiple users** and **different levels of access** depending on the role assigned to each person.



- Creation, grouping and visualisation of hydrants and branches on an interactive map.
- Creation and allocation of water supplies.
- Efficient management of irrigation shifts.
- Real-time monitoring.
- Instant detection of leaks, breaks or inappropriate water use.
- Comprehensive control through customisable and downloadable reports.

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API integration / third-party devices

API integration makes SPHERAG a flexible solution, as it allows the platform to be **easily connected to applications, corporate systems, and analysis tools**.

This functionality allows you to create fully customised experiences, accelerate innovation, and adapt the solution to any sector or need, unlocking new opportunities for automation and efficiency.

Sensors

Monitor and take control

We have our own range of **sensors that collect and send real-time data readings** to the platform via Atlas IoT devices.

Working together, sensors, Atlas and the platform constitute an **essential tool for monitoring and automating** water management systems.

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All SPHERAG sensors share the same **quick-connect** watertight system, and their **plug & play** design makes them very **easy to install**.



I2C pressure sensor

The pressure sensor is a key element for the active management of irrigation systems and for **ensuring infrastructure safety**. It allows real-time monitoring of the installation, checking whether irrigation is being carried out correctly, instantly detecting peaks or drops, and preventing mechanical failures in key components such as pumps or pipes.

By maintaining pressure within the optimum design **ranges, the useful life of the infrastructure is maximised** and the even distribution of water and fertilisers is guaranteed.



General specifications

Working temperature	-10 ~ 50 °C
Supply voltage	3.3 Vdc
Interface	I ² C

Pressure measurement

Medium	Water
Range	0 ~ 30 bar
Resolution	0.01 bar
Accuracy	0.5% FS

Mechanical specifications

Sensor dimensions	Ø28 x 56 mm
Cable length	2 m
Weight	200 g
Material	Stainless steel
IP rating	IP68
Thread	1/2" BSPP (Gas)

4-20mA pressure sensor

This practical 4-20 mA pressure transducer is easy to integrate and provides accurate readings (0-16 bar) **to ensure the irrigation system is working properly**.

It measures pressure in pipes, helping to prevent breakages and overpressures letting you know if the irrigation is working correctly.



General specifications

Working temperature	0 ~ 70 °C
Supply voltage	10 a 24 VDC
Interface	4-20 mA

Pressure measurement

Medium	Water
Range	0 ~ 16 bar
Accuracy	± 1% FS

Mechanical specifications

Dimensions	Ø24 x 48.5 mm
Cable length	3 m (extendable)
Weight	60 g
Material	304 stainless steel
Thread	G 1/4"
IP rating	IP68

Ambient temperature and relative humidity sensor

Hyperlocalised weather information

This sensor collects **temperature and relative humidity readings** to provide **accurate geolocated meteorological information**. Thanks to this information, it is possible to adjust irrigation to soil evaporation and crop transpiration conditions, take preventive measures against potential pest development, or maintain optimal conditions in a greenhouse.

General specifications

Working temperature	-40 ~ 75 °C
Supply voltage	3.3 Vdc
Interface	I ² C

Humidity measurement

Range	0% ~ 100%
RH Resolution	0.1% RH
Accuracy	±2% RH

Mechanical specifications

Sensor dimensions	Ø138 x 150 mm
Cable length	2 m
Weight	300 g
Material	ABS / PE
IP rating	IP65

Temperature measurement

Range	-40 ~ 125 °C
Resolution	0.1 °C
Accuracy	±0.3 °C

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TH-MS-0003



Level sensor

Monitor water reserves

The SPHERAG submersible level sensor, with durable waterproof protection, **allows for precise control of water levels in ponds, reservoirs or wells**, up to a depth of 50 metres.

Monitoring water levels facilitates efficient **planning of water reserves** and prevents unexpected supply interruptions. By generating early warnings of critical levels (emptying or overflowing), it helps **prevent water wastage and maintain the necessary pressure and flow** throughout the network.



TH-WS-0001

General specifications

Working temperature	-30 ~ 85 °C
Supply voltage	3.3 Vdc
Interface	I ² C
Preassure compensation	Yes

Mechanical specifications

Sensor dimensions	Ø27 x 114 mm
Cable length	10 m
Weight	1.4 Kg
Material	Stainless steel
IP rating	IP68

Level measurement

Type	Submersible
Range	0 ~ 10 m
Resolution	0.01 m
Accuracy	0.5% FS

TH-WS-0051

General specifications

Working temperature	-10 ~ 70 °C
Supply voltage	3.3 Vdc
Interface	I ² C
Preassure compensation	Yes

Mechanical specifications

Sensor dimensions	Ø26.2 x 125 mm
Cable length	60 m
Weight	6,5 Kg
Material	Stainless steel
IP rating	IP68

Level measurement

Type	Submersible
Range	0 ~ 50 m
Resolution	0.01 m
Accuracy	0.25% FS

Multilevel soil sensor

Adjust irrigation, reduce costs and improve productivity

SPHERAG offers **two different models of multi-level probes** that measure soil **temperature and volumetric water content** (VWC) with high precision at different depths (every 10 cm up to 160 cm) and, optionally, salinity.

Parametrising the soil using precision sensors is an invaluable aid in **making irrigation and fertigation decisions tailored to actual needs**.



EnviroPro multi-level sensor

Reference	Enviropro
TH-SS-0040	Soil Sensor EnviroPro 40
TH-SS-0040EC	Soil Sensor EnviroPro 40 + EC
TH-SS-0080	Soil Sensor EnviroPro 80
TH-SS-0080EC	Soil Sensor EnviroPro 80 + EC

General specifications

22	Working temperature	-20 ~ 60 °C
	Supply voltage	12 Vdc
	Interface	SDI-12

Mechanical specifications

Sensor dimensions	Ø33.5 mm +/- 0.2mm
Cable length	5 m
IP rating	IP68

Soil temperature measurement

Range	-20 ~ 60 °C
Resolution	0.01 °C
Accuracy	±1 °C @ 25 °C

VWC measurement

Range	0 ~ 100%
Resolution	0.01%
Accuracy	2%
Salinity accuracy	±5% @ 0-4 dS/m y 10%-30% VWC

Sentek multi-level sensor

Reference	Sentek
TH-SS-0010	Soil Sensor Sentek 10
TH-SS-0010EC	Soil Sensor Sentek 10 + EC
TH-SS-0030	Soil Sensor Sentek 30
TH-SS-0030EC	Soil Sensor Sentek 30 + EC
TH-SS-0060	Soil Sensor Sentek 60
TH-SS-0060EC	Soil Sensor Sentek 60 + EC
TH-SS-0090	Soil Sensor Sentek 90
TH-SS-0090EC	Soil Sensor Sentek 90 + EC

General specifications

Working temperature	-20 ~ 60 °C
Supply voltage	12 Vdc
Interface	SDI-12

Mechanical specifications

Sensor dimensions	Ø30 mm +/- 0.2mm
Cable length	5 m
IP rating	IP68

Soil temperature measurement

Range	-20 ~ 60 °C
Resolution	0.3 °C
Accuracy	±2 °C @ 25 °C

VWC measurement

Range	0 ~ 100%
Resolution	0.01%
Accuracy	2%
Salinity accuracy	±5% @ 0-4 dS/m y 10%-30% VWC



Intrusion sensor

Equipment theft and deliberate sabotage can result in significant financial losses due to replacement costs, service interruptions, and potential damage to crops.

The intrusion sensor is essential for **detecting unauthorised access or tampering with the installation**. It provides a layer of security that translates into peace of mind for farmers and irrigation community managers.



TH-IS-0001

General specifications

Working temperature	-40 ~ 105 °C
Interface	Digital input

Status detection

Type	Pallet
Contact	Normally Open
Distance d'activation (D)	15 mm

Mechanical specifications

Magnet Dimensions	29 x 19 x 6 mm
Sensor Dimensions	29 x 19 x 6 mm
Wire length	3 m
Connection	Wire (2 x 20AWG)
Magnet Weight	20 g
Weight Sensor	160 g
Grade IP	IP67

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Soil tensiometer irrometer

The tensiometer measures the **tension of the water in the soil, reflecting the actual effort made by the roots to absorb it**. It works by means of a porous ceramic tip that interacts directly with the soil and generates a vacuum proportional to the dryness, without the need for electronics, batteries or calibrations.

Available in different lengths depending on root depth, it is a durable and reliable solution in the field that helps optimise irrigation, avoid water stress and improve water use efficiency.



TH-TS-0015
TH-TS-0030
TH-TS-0045
TH-TS-0060
TH-TS-0090

General specifications

Working temperature	-0.5 ~ 65 °C
Supply voltage	9 ~ 30 Vdc
Interface	4-20 mA

Measurement of water tension in soil

Type	Direct measurement
Range	0 ~ 1 bar
Precision	3% FS

Mechanical specifications

Tank dimensions	Ø55 x 130 mm
Tube Dimensions	Ø22 x 15 ~ 90 mm
Sensor Dimensions	Ø35 x 100 mm
Connection	Terminal block
Weight	440 g
Material	CAB, Stainless Steel
Grade IP	IP67



Pressure switch

The adjustable diaphragm pressure switch allows you to **monitor the water pressure in the network and activate or deactivate a digital input** when the configured threshold is reached, reliably closing the circuit.

This continuous monitoring facilitates the early detection of over-pressures helping to protect the installation, prevent breakages and ensure stable operation of the irrigation or water supply system.



TH-PS-0001

General specifications

Working temperature 0 ~ 60 °C
Interface Digital input

Status detection

Type Palette
Contact Normally Open
Configurable activation pressure 1 ~ 10 bar

Mechanical specifications

Magnet dimensions 29 x 19 x 6 mm
Material Stainless steel, silicone
Electrical connection Faston 1/4"
Mechanical connection PT 1/4"
Sensor weight 140 g
IP protection rating IP54

Flow switch

The flow sensor provides **real-time data on water flow in pipes**, enabling continuous control of the irrigation system.

Its use helps to drastically reduce response times to incidents such as leaks, blockages or breaks, minimise water waste and ensure continuity and reliability of service, both at plot level and for the irrigation community as a whole.



TH-FS-0001

General specifications

Working temperature 0 ~ 65 °C
Interface Digital input

Status detection

Type Paddle
Contact Normally open
Activation distance (D) 15 mm

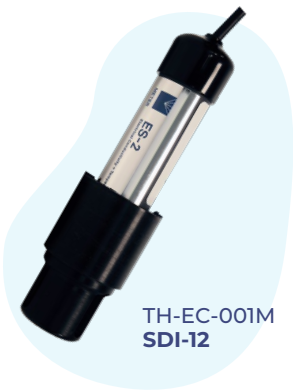
Mechanical specifications

Magnet imensions 29 x 19 x 6 mm
Material ABS, Brass
Electrical connection Terminal block
Mechanical connection 1/2" BSP (Gas)
Weight sensor 740 g

EC Sensor

The ES-2 electrical conductivity and temperature sensor is **designed to measure the electrical conductivity of water in a pipe or tank**. Irrigation salinity can be a limiting factor that reduces the plant's ability to absorb water and nutrients.

Monitoring this parameter helps you prevent salinisation problems, adjust your fertigation plan and detect changes in water quality that could affect your crop.



General specifications

Working temperature	-40 ~ 60 °C
Supply voltage	12 Vdc
Interface	SDI-12

Temperature measurement

Range	-40 ~ 60 °C
Resolution	0.1 °C
Accuracy	±1 °C

Mechanical specifications

Sensor dimensions	Ø24 x 109 mm
Cable length	5 m
Weight	300 g
IP rating	IP68

Bulk EC measurement

Range	0 ~ 120 dS/m
Resolution	0.001 dS/m
Accuracy	± 0.01 dS/m
(whichever is greater)	or ±10%



Alert System



Sensor alerts

Pressure alert	Pressure sensor	Detects overpressure or low pressure, enabling the detection of breaks and leaks. It can also act automatically by stopping the actuators.
Level alert	Level sensor	Sends a notification when the water in the tank or reservoir reaches a maximum or minimum level.
Digital input alert	Digital input	Notify a change of status
Digital input alert (Pressure 4-20)	Analogue input	It is configured using a selectable high threshold and low threshold, always within the specified range of the sensor.

Flowmeter alerts

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Flow alert	Flowmeter	Define two thresholds (high and low) to limit the maximum flow rate or detect an opening fault, respectively.
Detection of misuse	Flowmeter	After a configurable time following valve closure, a counter pulse generates the event. You can configure a message and/or a valve closure command.
Escape alert	Flowmeter	A warning is generated when the configured time elapses after the valve is opened, if the flow rate does not exceed the minimum threshold.
Volume alert	Flowmeter	An event is generated when the available volume for a user is exhausted. Events can also be generated to monitor counters without records.

Device alerts

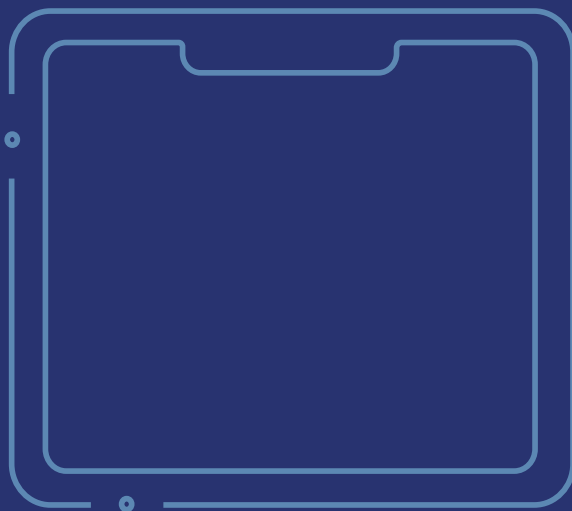
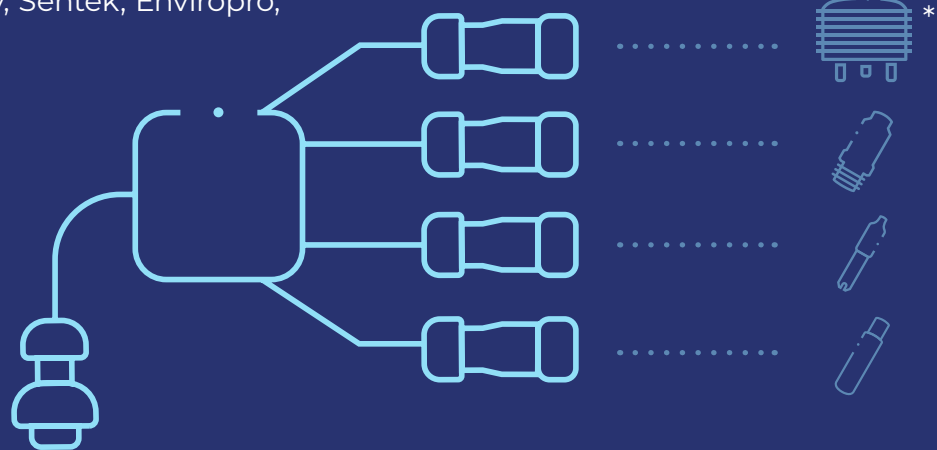
Device alert	Device	Indicates low battery level (power problem) and very low battery. Includes Coverage Alert (by RSSI level).
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HUB

Environment, level, pressure and soil.

Our I2C HUB accessory allows you to connect **up to four sensors to an Atlas X device**, thereby **expanding the monitoring possibilities**.

You can connect one sensor of each type: Pressure, level, ambient temperature and relative humidity, Sentek, Enviropo, EC, 4-20 mA.





What we do



defines us



ADVANCED SENSOR TECHNOLOGY

Hindarkh, Aghjabadi, Azerbaijan

500 ha



Dynamic control of fruit trees, wheat, and maize. We replace manual irrigation with intelligent sensor-based automation, ensuring operational precision even in areas with difficult connectivity.



spherag.com

IRRIGATION DISTRICT

Penone, Bolzano, Italia

86
AUTOMATED
ELEMENTS

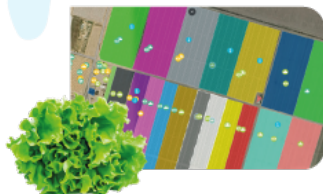


Transformation of traditional infrastructure into a smart, real-time connected system. Efficient and safe use of water with precise control from the pump to the valve with an advanced alert system.

PRECISION AGRICULTURE

Grupo G's, Murcia, España

Automation and adaptation of irrigation to reduce water and fertiliser consumption. Higher quality and uniformity of products. Real-time monitoring of height, level and EC of more than 50 reservoirs.



HIGH-VALUE VINEYARDS

Margaret River, Australia

Adjust water supply with millimetre precision according to the soil, microclimate and actual condition of the vine. The result is a perfect balance between sustainability and excellence in an area with proven viticultural experience.



SIMPLY DIGITALIZING WATER



SPHERAG

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