

# ES-2 Sensor

EC, salinity & temperature measurements

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## overview

- Continuous EC measurements in a pipe or tank
- Ideal for irrigation nutrient monitoring
- Check your EC values anywhere with an internet connection

The ES-2 Electrical Conductivity Sensor is designed to measure the electrical conductivity of water in a pipe or tank. When you pair the new ES-2 with a [TEROS-12](#) in the soil, you'll begin to develop a complete picture of the salts that are going into your system as well as the salts remaining in your soil or substrate.

### continuous or portable measurements

The ES-2 can connect to one of [our range of data loggers](#) for continuous, unattended measurements. Data can be downloaded in the field or sent wireless via LoRaWAN or over the internet to be downloaded anywhere in the world with an internet connection.

The ES-2 can also be a portable sensor with the [PROCHECK handheld meter](#). Simply dip the sensor into the solution you want to measure, press measure and read the values on the LCD screen.

### irrigation control and alarms

Edaphic Scientific can connect the ES-2 to the [Spider](#) or [microSpider](#) range of data loggers/controllers for irrigation control and/or alarms. When EC reaches a critical level, irrigation pumps can be turned off automatically. Once EC returns

to a safe level, irrigation can be turned back on. It is all automated and you can even receive SMS and email alerts.

An alarm can also be triggered when EC reaches a critical level. Receive an SMS, email or Twitter alert so that you can take immediate management action.

#### **whole system monitoring solutions**



Edaphic Scientific is a one-stop shop for a whole system monitoring solution. We provide plant and soil monitoring systems for researchers and growers.

Our systems not only support ES-2 salinity sensors, but related sensors such as water level, temperature, dissolved oxygen, pH, drainage, soil moisture, weather parameters, and more.

At Edaphic Scientific we want to work with you from the start of your project through to its completion. We can provide:

- Assistance with project and experimental design
- Procurement of all monitoring equipment, including sensors, data loggers and data management software. Edaphic Scientific is a one-stop shop where we can source and find any necessary equipment for your project from our preferred suppliers or third party suppliers
- Installation and training
- On-going assistance with data interpretation and equipment maintenance
- Data correction and analysis, including statistical analysis with the R-package

- Report and publication preparation including tables, figures, graphs, and manuscript writing

**advanced data collection and management solutions**



Edaphic Scientific recognises the need for flexible and adaptable sensor and [data logging solutions](#) for experimental or environmental monitoring projects.

Data can be downloaded directly in the field from data loggers. A direct connection between the data loggers and your computer, via a USB cable, can be used for manual downloading of data.

Alternatively, data can be [downloaded over the internet](#) on your iPhone, iPad or desktop computer with the Eagle.io cloud-based, data management software solutions. Through this remote based downloading capabilities, you can download, view and manage your data, and system, anywhere in the world and at anytime.

## specifications

| <b>feature</b>          | <b>specification</b> |
|-------------------------|----------------------|
| measurement range       |                      |
| Electrical Conductivity | 0 to 120 dS/m        |
| Temperature             | -40 to 50°C          |
| measurement resolution  |                      |
| Electrical Conductivity | 0.001 dS/m           |



| feature                            | specification   |
|------------------------------------|---|
| Temperature measurement accuracy   | 0.1°C   |
| Electrical Conductivity            | ± 0.01 dS/m or ± 10 % (whichever is greater)                      |
| Temperature general specifications | ± 1°C   |
| Operating Temperature              | -40° to 60°C  |
| Power Requirements                 | 3.6 - 15 VDC, 0.03 mA quiescent, 0.5 mA during 300 ms measurement |
| Dimensions                         | 2.2 cm Diameter, 11 cm length                                     |
| Thread Requirements                | 1/2 inch NPT thread   |
| Measurement Time                   | 300 ms (milliseconds)   |
| Output                             | SDI-12  |
| Cable Length                       | 5 m standard; custom lengths available upon request               |
| Compatible Data Loggers            | Any SDI-12 enabled data logger                                    |

## manual & docs

- [ES-2 EC & Salinity Sensor Manual](#)

## related products

- [Data loggers for ES-2 sensor](#)
- [PROCHECK portable, handheld meter](#)
- [Soil EC sensors & meters](#)
- [Soil moisture sensors, probes and meters](#)
- [Pore water samplers](#)
- [Soil CO2 concentration](#)
- [Soil nutrient analyzer](#)
- [Soil pH meter](#)
- [Weather stations](#)