

WaterForce Monitoring & Sentek TriSCAN®

Continually tracking fertiliser salts and water at multiple depths in the soil profile



Product Description:

TriSCAN® sensors coupled with WaterForce Monitoring software, makes this solution one of the most comprehensive irrigation and fertigation management tools available today.

TriSCAN® sensors are available in both the EnviroSMART® and EasyAG® probe formats making it ideal for deep installations as well as shallow-rooted crops. The EnviroSMART® probes have the flexibility to be able to combine standard Sentek sensors with TriSCAN® sensors at any 10cm depth interval. EnviroSMART® probes can be manufactured and installed at depths up to and in some cases greater than 30m. An economical alternative is the EasyAG® which is pre-assembled and has fixed TriSCAN® sensors at 10cm intervals on either a 30 or 50cm length probe. These probes are designed for fertiliser and salinity management in research, agriculture and environmental applications. The TriSCAN® sensor is optimised for one of agriculture's most common soil texture of sands and sandy loams, and is currently not suitable for clays.

The probes are connected to the WaterForce online monitoring system where telemetry is utilised via either conventional radio or cell phone/GPRS to send site data back to the WaterForce web portal where it is displayed for management use. If required the WaterForce monitoring system can send text messages or email notification to the user at certain trigger points in the soil profile.

TriSCAN® Sensor

The TriSCAN® sensors utilise Frequency Domain Reflectometry (FDR) to measure soil water (moisture) and salinity. A high frequency electrical field, created around each sensor, extends through the access tube into the soil, to provide an extremely accurate soil moisture and salinity measurement.

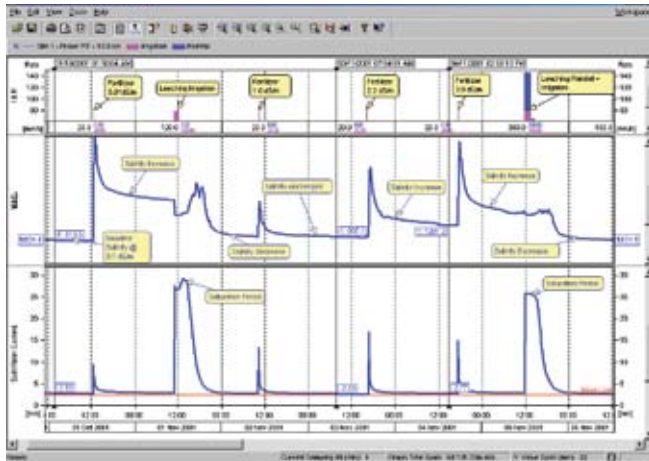
By employing a patented measurement technique the TriSCAN® sensor is able to distinguish between soil water content and salt content. This information is then processed using a Sentek derived model to calculate soil volumetric ion content (VIC).



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How is TriSCAN® data displayed?

The data provided by TriSCAN® sensors is displayed by logging onto your own WaterForce monitoring site. You are issued with a username and password and this will allow you or your irrigation manager to access up to date salinity and fertiliser data in conjunction with soil moisture data at any time of the day from wherever you may be in the world.



Integration

Integration is the ability to connect and bring on-farm technologies together. With the TriSCAN® probe and WaterForce monitoring, you can use the world's best soil moisture and salinity monitoring technology and link this with your choice of:

- Irrigation Controller
- Weather Station
- Programmable Logic Controller (PLC)
- A range of connectivity is available: SDI-12, RS232 (Modbus) and RS485 (Modbus).



Features and benefits:

- Increase profit – improve your crop yield and quality with informed irrigation decisions.
- Save money – be it water, power and fertiliser efficient
- Flexibility – to create a farm management system to suit your individual requirements.
- Reliability and accuracy – with proven technology used by the world's leading research agencies.
- Reduce wasteful leaching – multiple depth readings allows management of irrigation to reduce drainage through the soil profile, keeping moisture and fertilisers in the root zone.
- Applications – available in both EnviroSMART® and EasyAG® making it ideal for use in a range of crop types and industries around the world.
- Environmental monitoring – ability to reduce pollution by specifically monitoring fertiliser inputs.
- Settling down period – the installation process disturbs very little soil so accurate readings can be obtained within 2-3 weeks of installation.

Developer – Sentek Sensor Technologies

Sentek Sensor Technologies is an Australian-based company that has been developing leading soil moisture monitoring technology for over 12 years. Sentek's products are currently used in agriculture, horticulture, viticulture, wastewater management, research, mining and environmental industries around the world. WaterForce is Sentek's licensed distributor for New Zealand.

Installation

EasyAG® Installation – A standard soil auger is used in conjunction with Sentek-designed tools. The standard installation technique enables EasyAG® probes to be installed across a wide variety of soils types with ease and accuracy.

In some soils a modified soil auger is used to make a defined hole into which a liquid slurry is poured to completely surround and embed the Sentek probe. The technique enables the probe to be installed at greater depth across a wide range of soil types with ease and accuracy.

Easy Servicing – Servicing can be conducted in-field, without disturbance to the surrounding soil and roots.