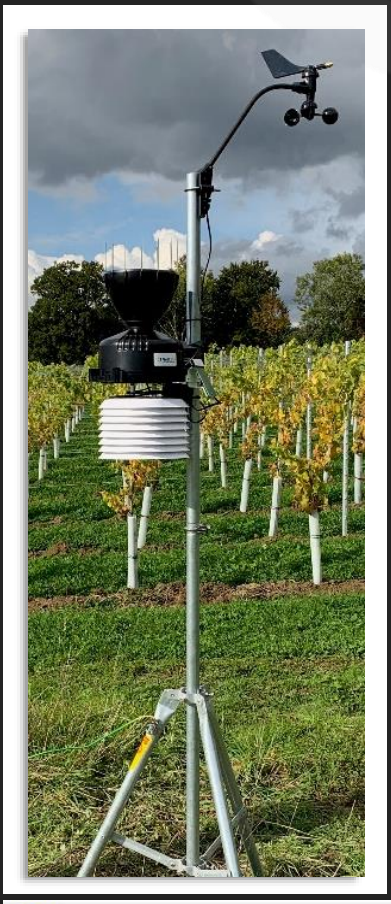
TRAK365

PUTTING YOU IN CONTROL

Agri-Tech Solutions Update 2021



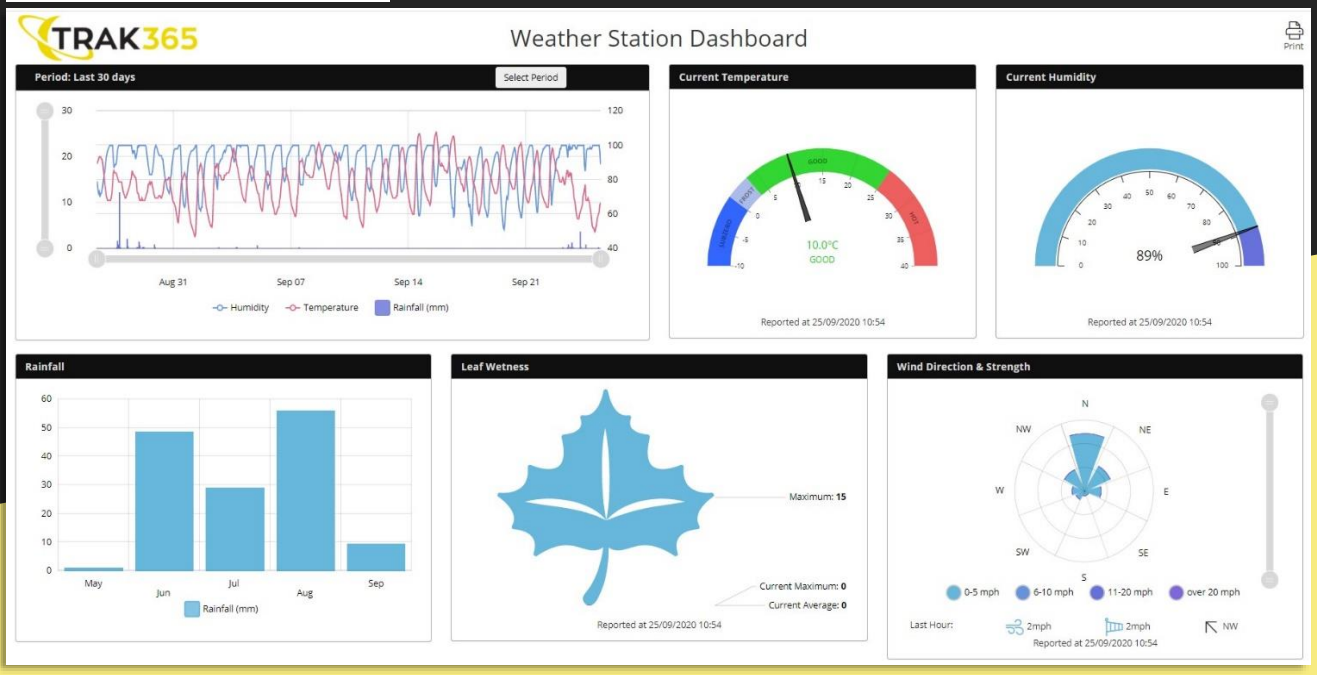
Trak365 Multi I/O Weather Station

A Weather Station combined with multiple 'Microclimate' temperature/ humidity wireless endpoints enables a rich collection of environmental data. Most weather stations are proprietary, and the data collected is only available from 3rd party cloud portals and makes the availability of the data difficult as well as expensive to readily access. (various subscription levels)

Trak365 have the flagship of weather stations provided as OEM sensors and enclosures with our built-in electronics and wireless endpoint which provides a solution powered by a single battery and collects all pertinent data, wirelessly transmitting this information to our gateway and on to our Cloud Platform.

Because Trak365 collect the raw data from all the sensors in the weather station and our 'microclimate' wireless data collection endpoints, we are able to blend and combine the various data sources to provide a wealth of 'analytics', growth and yield prediction metrics. Working with agricultural subject matter experts we can embed a lot of precision data metrics to assist with possible disease control alerts and enhanced fruit production with less impact on the planet.

Read more or get in touch to book a site survey through our website, or just give us a call.



Microclimate Sensor w. built in ambient temperature + humidity

Optional additions:

- Soil moisture
- Soil Temperature
- Leaf wetness

Trak365 Leaf Wetness Sensor

Temperature/Humidity heat map - Weather Watch

Frost prevention system.

When temperature threshold settings are breached (i.e. below 3 degrees C) an SMS alert is sent to the responsible operatives (optional email), when this occurs the colour coded map is updated every 5 minutes. Only the affected areas need treatment saving resources and money.

Precision treatment of events be they frost, or disease warnings are made possible through this collection of operational data.

Temperature/ Humidity graph

Collected data shown here as a graph.

All collected data is processed and available either through download of CSV microclimate endpoint data or can be provided as a live JSON string using our API.

Collaboration/ Joined up thinking/ Knowledge/ One source of the truth/ Holistic

Collaboration with viticulture service providers (outsourced vineyard management) meteorological and environmental data collection, online data management and bespoke repository applications, which include embedded subject matter expertise.

Trak365 Data Collection Components:

- Precipitation
- Wind direction (prevailing) and speed
- Hi/Lo temperature in each 24-hour period
- Historical and current season data
- Soil moisture
- Soil Temperature
- Leaf wetness
- Ambient temperature and humidity (microclimate)

What Trak365 does with your data:

- Collects and retains data safely and securely.
- Provides ability to extract granular data per endpoint into CSV files for download.
- Designs and builds real time data visualisation dashboards, tailored to operational insights required.
- Provide (optional) real time data per JSON feed API for further 3rd party data analysis and management.
- API (Application Programming Interface) available to enable trusted 3rd parties to cherry pick the specific data metrics needed for further blending and analysis to create data assets.

The combination of data from sensors and precision farming endpoints blended with subject matter expertise, will assist in:

- More effective operational management insights/ decisions
- Bud burst prediction within 'X' days based on soil temp/ambient temp/GDD
- Crop yield - blend of precipitation and GDD
- Disease models/warnings for powdery and downy mildew
- Harvest date prediction
- Frost/storm management (real-time heatmaps)
- Preparation for spraying and disease control
- GDD (display of growing degree days) overlayed with phenology
- Phenological predictions

'Exploring the collective power of innovation...'

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Vine-Works

vidacycle

In collaboration with:

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Trak365 has also put its product development into some other relevant areas of Agritech. Below are some examples of what solutions are in our range, but also gives you an idea of the potential behind what we can do for you!

Ruggedized Aquatec Controller Solution

The ruggedized controller differs from the Automated Pond Controller by housing the technology into an industrial strength DIN rail ready IP65 enclosure.

Trak365 have built their wireless Multi I/O expansion board into a DIN rail mountable module providing all the connectivity required to receive input sensor data and drive the relevant output relays.

The module and relays are powered by a 220V AC to 12V DC DIN rail industrial power supply.

The sensors and the DIN rail industrial enclosure communicate wirelessly (LoRaWAN) to the Trak365 cloud platform for visualisation of events and data. This solution can be provided with a mobile phone App for remote monitoring and control.

Automated Pond Controller Solution

Inputs:

- 5V DC USB power
- Single Wire Pond Temp. Probe
- Water Level Float switch
- Spare

Outputs (actuation relays):

- Timed Aeration pump control
- Timed feed hopper control
- Water level filter management
- Back up battery for power fail alert

Irrigation Controller Solution 2+2 (pressure and valve)

Irrigation Controller Solution 4 (valve only)

The '2 +2' models differ from the '4' model in that the former controls 2 solenoid irrigation valves and 2 pressure sensors while the latter controls 4 solenoid irrigation valves without the pressure sensors for flow verification.

The 2+2 model is typically used for the management of outside higher-pressure irrigation systems whereas the 4 model will typically be used inside greenhouses where low pressure drip irrigation or hydroponics might be controlled using 4 independently timed valve actuators.

Irrigation events can be either be timed or based on business rule decisions based on soil moisture, precipitation etc...

Either model can be powered form the power provided to drive the solenoid valves. (typically, 12V -24V)

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