

# Data Sheet

## Talgil - Dream 2 - Professional Irrigation Controller



Description: Dream 2 Professional Irrigation Controller  
Product Code: TG-DREAM2AC



## Product Description

The Talgil DREAM is a professional, Cloud-enabled irrigation management system that combines various hardware, software and communication components together with analytical tools and an advanced user interface into one all-inclusive and powerful centralized crop management system.

The DREAM2 is designed to provide farmers with an expandable, modular, efficient and versatile crop management system that makes efficient use of water, energy, chemicals and manpower resources while increasing yields, produce quality, and profitability.

The DREAM2 can manage irrigation, fertilization and backflush control in the DREAM2 vicinity to irrigation heads connected to end units that are far away from the controller. In addition, the DREAM can read digital, analog and SDI-12 sensors and act according to what was received by them.

The DREAM2 can handle up to 999 outputs. An output can be defined as a Main valve, secondary valve, fertilizer valve, filter, pump or Satellite.

Moreover, the DREAM2 can read hundreds of digital, analog or SDI-12 sensors like water meters, fertilization meters, DP sensors, pressure sensors, humidity, temperature, and so forth.

The DREAM2 is an independent controller that enables it to be programmed by the user using an LCD and keyboard. When there is no reception, the DREAM2 will continue with the planned irrigation program.

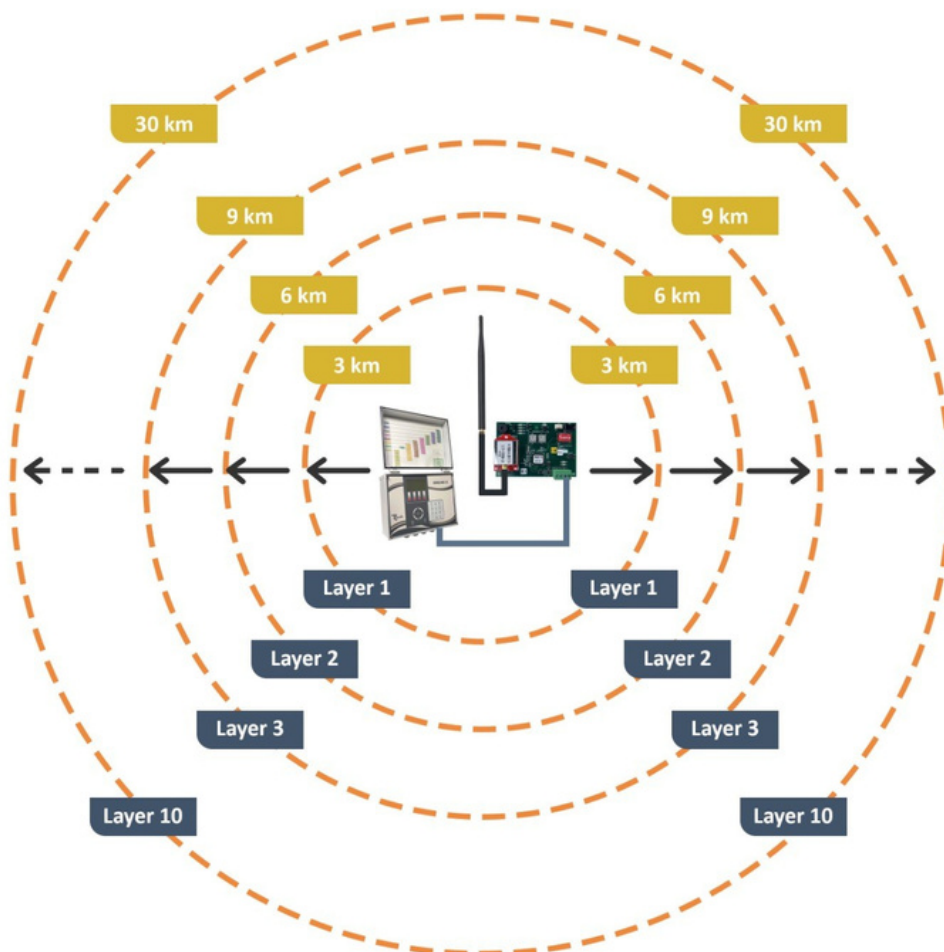
The controller can be accessed via the 'Console' PC Software and the 'SPOT' Phone App.

This is our premium controller that has many capabilities and can suit most water/irrigation applications.



## Features and Benefits

- The DREAM2 can run several irrigation programs at the same time, which means that you can run several pumping systems, blocks, and/or properties from one controller and a cloud-based dashboard.
- The DREAM2 is adapted to large properties and farms with multiple blocks and properties currently run by several controllers and wants to standardize and simplify their irrigation system.
- The DREAM2 can run many communication technologies available on the market at the same time from the same single unit:
  - Hardwired/Multiwired
  - Radio (3km radius that can be repeated 10 times, so up to 30km radius range).





## Full integration, monitoring, and command of:

### Water Systems - Water sources 0 to 6, each with up to 6 pumps

- Pumps - On/Off Control (Including duty selection), Mainline Pressure Monitoring, and Pump/System Faults.
  - Solenoid Field Valves - On/Off Control, High/Low Water Flow, Water Usage.
    - Irrigation valves - No limit (0 - 999)
  - Flow Meter - High/Low Water Flow, Water Usage (per Zone/Meter/Specified Area), Leak/Burst Alerts.
  - Tank/Dam Level - Including automatic filling. With volume optimization based on resource consent limitations.
  - Irrigation Scheme Offtake/Turn-Out - On/Off Control of Solenoid Valve, Flow Meter, and Main Pressure Monitoring.
  - Spray/Stock/Domestic Water - On/Off Control of Pump, High/Low Water Flow, Water Usage, Leak/Burst alerts.
- **Frost Systems**
    - Automated frost protection system triggered by a temperature sensor or switch.
  - **Filtration Systems**
    - Backwash Valve control, Pressure Differential monitoring.
    - Local Filters - 0 to 99 (Per irrigation line)
    - Central filter site - 0 to 6 (Per filter site)
  - **Fertigation Systems**
    - pH / EC, fertilizer meters, proportional dosing, bulk/time injection. - Including NPK calculations and usage based on specific valve/area/zone
    - Local fertilizer injector - 0 to 6 (Per irrigation line)
    - Central fertilizer injector - 0 to 6 (Per fertilizer site)
  - **Waste Water**
    - Waste Water disposal via irrigation based on tank/ pond level, Tank Level monitoring, and pH level monitoring.

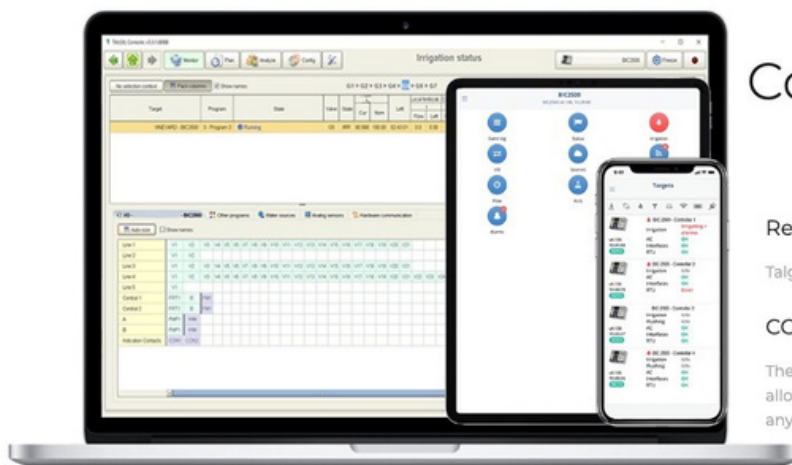


- **4-20mA, 0-5V, SDI Sensors and Weather Stations**
  - Including soil moisture, air temperature, complete weather stations and many more.
  - Automated irrigation based on soil moisture sensor thresholds or ET
  - Davis Weather Station Integration - Extended data collection including:
    - Atmospheric pressure
    - Temperature
    - Humidity
    - Wind Speed, Wind Direction
    - Radiation
    - Daily Rain, Rain Rate
    - UV Radiation
    - Evapotranspiration
    - Dew Point

DREAM2 can read up to 256 Analog Sensors; all above have automated reports available.

## Additional Features & Accessories

- Advanced PC and Mobile Software - Console Software & Spot App
- Powerful Analytical Tools
- Operator's Interface (LCD Screen with Control).
- Modular hardware
- API ready – communicates with all 3rd Decision-making systems
- and much more!



Control your site  
**everywhere.**

Ready to go **mobile**

Talgil Console app is available for iOS and Android.

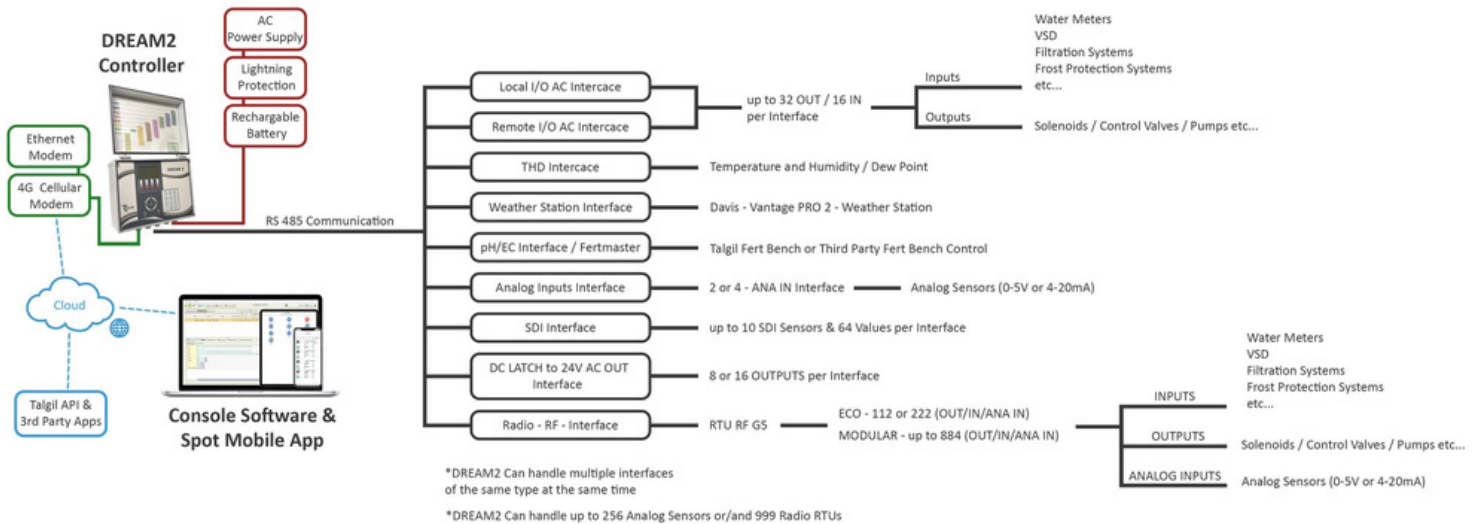
**CONSOLE Software**

The CONSOLE is java based PC software which allows controlling multiple controllers from anywhere at any time via the internet.



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## The Various I/O Options



### Interface for local I/O AC or DC

- The local I/O interface may control 1 or 2 I/O boards of 16 outputs and 8 digital inputs. It is meant for reading digital inputs and activating outputs, which are close enough to be directly connected to the control unit.

### I/O Expansion and Remote I/O

- External / Remote I/O is available with the same configuration of outputs and inputs inside an enclosure and is limited to 32 (2 x 16) outputs and 16 (2 x 8) digital inputs. Using multiple Remote I/Os at the same time is possible.

### Radio - RF - Interface

- When remote I/O devices cannot be reached by cable, radio-communicated RTUs will be used. The RF INTERFACE will communicate with the RF RTUs through an RF MASTER receiver/ transmitter located on top of a high pole next to the RF INTERFACE. In the field, the RTUs will be placed next to the I/O devices to be controlled.
- The RF RTUs can read digital and analog inputs and activate DC latching outputs. We can have several channels of RF RTUs with up to 60 RTUs per channel. One RF Master can operate 999 RTUs at the same time.



### **Interfaces for Local Analog Inputs**

- Analog inputs can be read through the RF RTU system. However, analog sensors located in the close vicinity of the DREAM 2 controller can be directly connected to the controller by using special interfaces for analog inputs. For that purpose, we may use two types of analog input interfaces: the compact one can handle 2 or 4 inputs, and the modular one can read up to 64 analog inputs, divided into batches of 8.

### **Interface pH/EC (Fertmaster)**

- When the system is required to measure/control the pH (acidity) and the EC (Electro Conductivity) of the water, a special interface will be used. Apart from reading the analog values of the pH and EC electrodes, the pH/EC interface is capable of handling 6 injectors of fertilizers and a booster pump; it is equipped with a display and a keyboard which enable calibrations, parameters setting and monitoring to be done directly at the interface. During the injection process, it receives from the DREAM2 controller all the details and the requirements of the particular process, and it executes the injection accordingly. All along the injection process, the DREAM2 is updated continuously about the status and the results.

### **THD Interface**

- The THD interface is meant to measure the ambient Temperature and Humidity, calculate the actual Dew point, and report the three values back to the controller. The values can then be used for frost protection or conditioning of cooling programs. During the configuration process when defining the hardware in use, the THD interface will be defined as an analog interface of the type THD. Like any other interface, it has an address switch that has to be set according to what has been defined in the configuration process.
- Weather Station Interface
- The Weather station interface enables the connection of a “Davis - Vantage pro2” weather station to the system and many more!







## Technical Specifications

- Construction Materials: UV Resistant ABS
- Temperatures: Ambient: -17 to +60°C; Storage: -30 to +70°C
- Protection Rating: IP67
- Dimensions: Length: 400 mm, Height: 300 mm, Width: 180mm
- Weight: 6 Kg

## Configuration Options

Primary Feature	Secondary Feature	Accessories	SAPIR2 Controller		DREAM2 Controller	
			AC/DC	Radio	AC/DC	Radio
Form of Irrigation	Time		Y	Y	Y	Y
	Volume		Y	Y	Y	Y
SMART Control	Weather Station		Y	Y	Y	Y
	Sensors		Y	Y	Y	Y
	Flow Monitoring		Y	Y	Y	Y
	Pressure Monitoring		Y	Y	Y	Y
	E.T		Y	Y	Y	Y
	Volume / Area		Y	Y	Y	Y
Output Type (Valves, Pumps, etc...)	AC		Y	Y	Y	Y
	DC (LATCH)	Radio	N	Y	N	Y
		Controller Direct	Y	N	Y	N
Input Type (Sensors, Water Meters, etc...)	Local	Dry Contact	Y	Y	Y	Y
		Analog	Y	Y	Y	Y
Power Source	220VAC		Y	Y	Y	Y
	Solar + Battery		Y	Y	Y	Y
Cloud Control - PC Software			Y	Y	Y	Y
Cloud Control - Mobile App			Y	Y	Y	Y
Number of OUTPUTS			4-32	4-32	16-999	16-999
Number of Digital Inputs			8	8	8-999	16-999
Number of Analog Inputs			4	4-16	2-256	2-256



## Technical Data

Connectivity with the field's control components

- Connectivity with the field's control components:
- Local AC or DC digital and analog I/Os
- Radio RTU
- RTUs with various digital, analog, and SDI-12 I/Os

Connectivity with the Cloud

- 4G Cellular Modem or ETHERNET Modem

## Dream 2 Versions & I/O

AC version – Can be powered directly from mains, using the internal 220V / 110V to 24V AC transformer and 9AH rechargeable battery.

DC version - can be powered via a 20W Solar panel and 40aH rechargeable battery.

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- Outputs:
  - The maximum number of outputs is 999.
  - 16 / 32 / 48 / 64 / 80 / 96..... Local outputs:

AC version – 24V AC solenoids

DC version – 12V DC latch solenoids

- Digital Inputs:
  - The maximum number of digital inputs is 999.
  - 8 / 16 / 24 / 32 ... Local inputs
- Analog inputs:
  - The maximum number of analog inputs is 256
  - 4 / 8 / 12 / 16... Local analog inputs
  - 4-20 mA / 0-5V / SDI-12

Additional Outputs / Digital inputs / Analog inputs can be added using radio RTU.



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In order to suit many applications - the setup is flexible:

- Water sources – 0 to 6, each with up to 6 pumps
- Main valve – Yes / No (Per irrigation line)
- Local fertilizer injector – 0 to 6 (Per irrigation line)
- Local Filters – 0 to 99 (Per irrigation line)
- Central fertilizer injector – 0 to 6 (Per fertilizer site)
- Central filter site – 0 to 6 (Per filter site)
- Irrigation valves – No limit (0 – 999)

A single DREAM2 can control up to 999 irrigation lines!

Programming is done easily:

- Locally using the big graphical LCD and keyboard with numeric pad.
- Remotely via the internet using the SPOT App
- Remotely via the internet using the CONSOLE PC software.

Connection to the internet is done through:

- Cellular modem
- Ethernet router.

## Specification Table

Specification	Description
<b>CPU (Central Processing Unit)</b>	Arm9
<b>Operating System</b>	Linux
<b>Memory</b>	32 MB RAM 256 MB Flash
<b>RS 485 Channels</b>	2
<b>Supported Interfaces</b>	16 (8 Addresses for each RS 485 Channel)
<b>Supported Interfaces</b>	<ol style="list-style-type: none"> <li>1. AC Interface</li> <li>2. DC Interface</li> <li>3. RF Interface</li> <li>4. Analog Interface</li> <li>5. THD Interface</li> <li>6. Davis Weather Station Interface</li> <li>7. PH/EC Interface and PH/EC Plug-in</li> <li>8. SDI Plug-in Interface</li> </ol> and more
<b>Internet Connection</b>	Cellular(4G Modem) Ethernet(via RJ45) Starlink Satellite
<b>Smartphone Application</b>	Spot3
<b>PC Software</b>	Dream Console
<b>Maximum of online users</b>	50
<b>Firmware Upgrade Options</b>	USB or Network

## Specification Table

<b>Back up Options</b>	USB or Network
<b>Ambient Temperature</b>	0-60 Degree Celsius
<b>Ambient Relative Humidity</b>	0-90%
<b>Power Supply</b>	220VAC or 24VAC
<b>Operational Input</b>	Dry Contact. 4-20mA, 0-5V and SDI-12
<b>Maximum Outputs</b>	999
<b>Maximum Digital Inputs</b>	999
<b>Maximum Analog Inputs</b>	256
<b>Maximum Number of Irrigation Lines</b>	1000
<b>Scanning Rate</b>	1 second