

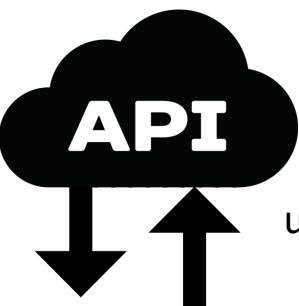
DREAM 2



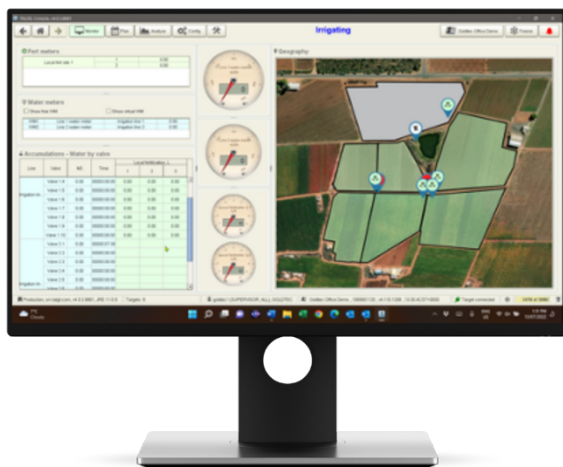
Professional Internet enabled central controller for multiple irrigation heads

The **DREAM 2** is the next generation of central control systems. It allows combining various technologies to suit each projects specific need.

It is an **Internet enabled controller** so the user can control everything from a **PC or Smartphone**.



The **DREAM 2** can handle multiple irrigation heads allowing the user to manage medium to very large projects with many irrigation lines using a single controller.



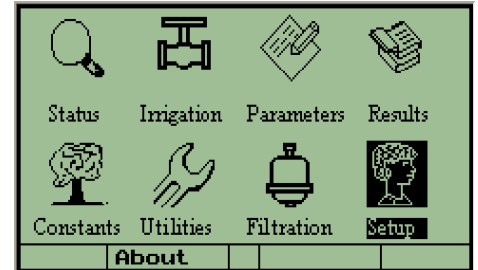
Dream 2 - Features Description

Flexible hardware construction

- Local outputs DC or AC constructed from boards of 16 outputs/ 8 inputs
- Several RTU channels of the following types:
- 2 wired modular RTUs with up to 60 units per channel. 2,4,6,8 outputs, 4 or 8 inputs selectable per RTU
- License exempt radio controlled modular RTUs with up to 60 units per channel. 2,4,6,8 outputs, 4 inputs selectable per RTU
- Modules for remote expansion of I/O channels
- Up to 250 outputs and inputs connectable

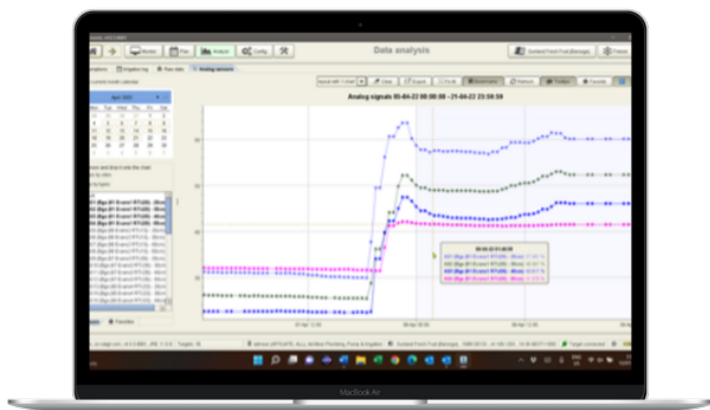
Comfortable programming

- Large graphical LCD with back illumination for good day and night visibility
- Full numeric key pad that serves also for direct jumping into important subjects
- Position dependent Function Keys
- Special keys for movement inside and between screens
- Built in bilingual software. Switching languages by a single key stroke

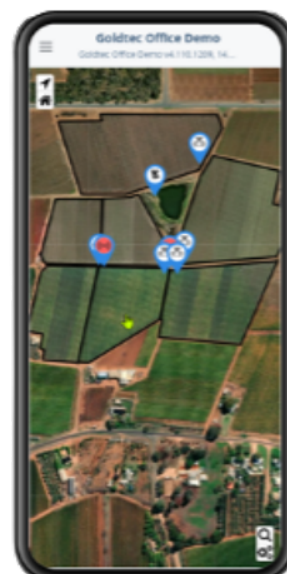


General features

- Handling multiple irrigation lines
- Flexible and user changeable network definition
- A large pool of irrigation programs, each program contains the sequence of participating valves, water and fertilizer dosage, operation timing and conditions
- Valves can be irrigated individually or in groups defined as library groups or single use groups
- Handling various water sources
- Cyclical irrigation with constant cycle of days or RUN LIST based. Cycles within the irrigation day, with large number of repetitions, intervals specified in hours: minutes: seconds.
- Irrigation by Soil Moisture, Rain Accumulation and Evapotranspiration.
- Flushing automatic filters by time and/or by pressure differential
- Conditions for starting, stopping, waiting and continuing programs, based on sensors' statuses, flow rates, states of system components etc. the conditions can be combined by OR/ AND connections
- Detailed events report with date and time stamps, can be scanned by various categories
- System STOP TIME or individual stop time per program may force operation stop at a desired time
- Protection and alarming mechanisms detect problems in the irrigation system, in the water supply, in the fertilization system, in the filtration, and in the control system itself
- Optional satellite outputs and optional grouping of inputs
- Accumulation of water and fertilizers, including special accumulation of last irrigation
- Main valves operation- delayed, advanced or simultaneously with the irrigation valves
- Battery backup for the memory of the variable data
- Special tools for the dealer to enable / hide features according to the specific needs, to set up default values, to define the resources allocation



Multi-sensors data analysis graph.



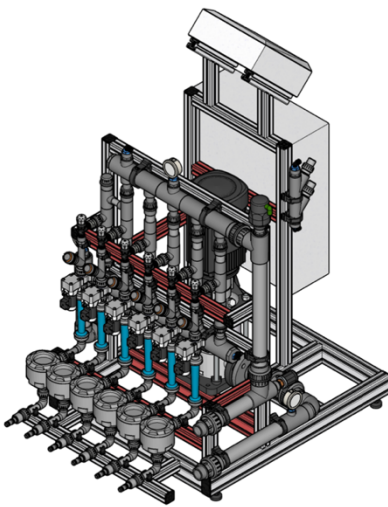
Site geographical map on a phone.

API

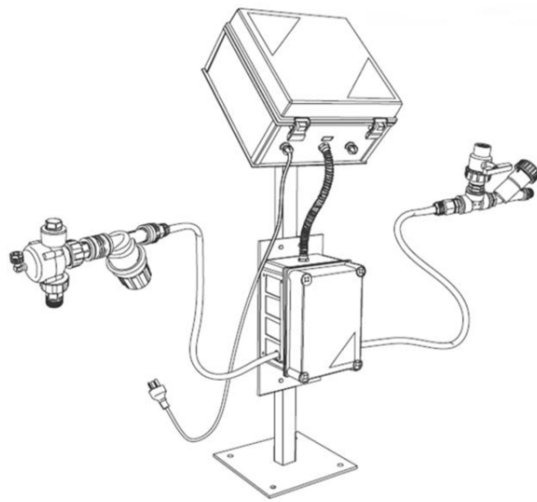
Goldtec's controllers are API enabled, allowing for the integration with a third-party service provider which collects data and/or translates into a functioning command.

Fertilization

- Handling two types of fertilization sites, local sites which serve individual irrigation lines, and central sites that serve multiple irrigation lines
- Fertilizing in three stages: pre-watering, fertigation and post- watering
- Fertilizer dosage modes:
 - Continuous - Time (h:m:s), Volume (liters)
 - Concentration – L/m³, L/min:sec, sec/min, min:sec/L
 - Proportional - proportion calculated from amount of water and fertilizer.
- A special "water before" value for the first local fertilizer, separately from the other fertilizers
- Handling fertilizer injectors with and without fertilizer meters
- Handling booster pumps of venturi injectors



Fertiliser Bench with Fertmaster



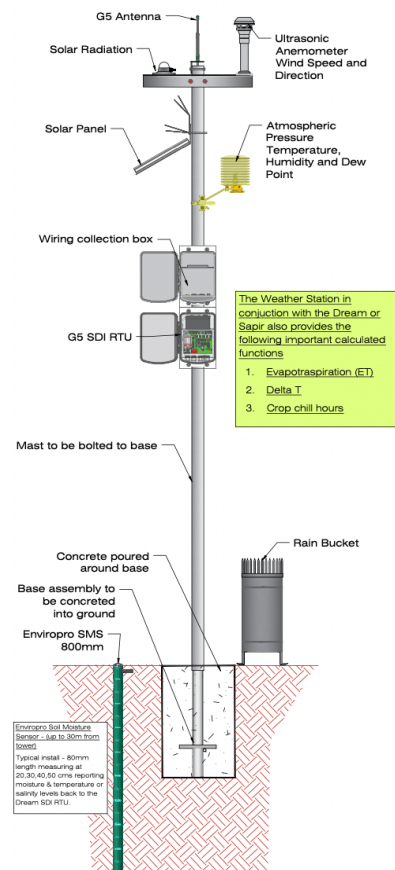
Smart Fertiliser Pump

Weather Sensors

- The Weather Sensors features the following

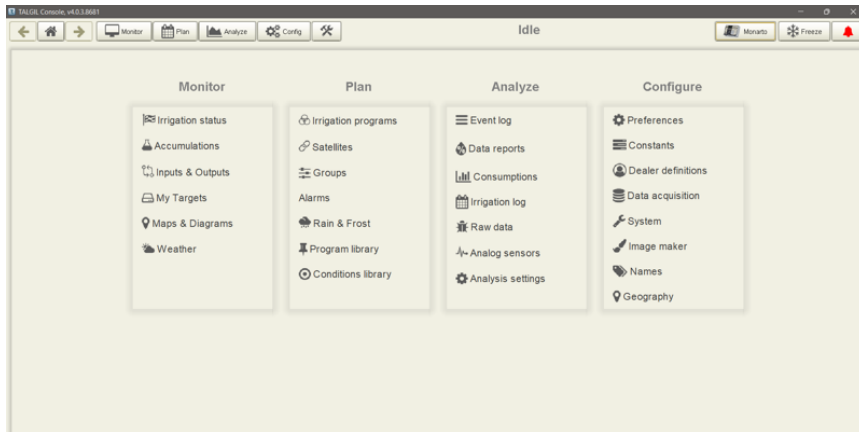
Evapo-transpiration	Temperature
Solar Radiation	Humidity
Dew point	
Barometric Pressure	Wind Speed
Wind Direction	Daily Rain

- Rain delay feature with its own designated screen
 - Feature will suspend irrigation for a planned period dependent on accumulated rain period and planned number of rain days.
 - Email message will be triggered when rain delay is activated.
- Evapo-transpiration (ET) feature with its own designated screen
 - ET values automatically downloaded from weather station daily.
 - If ET feature selected then irrigation will be enabled based on ET value.
- Frost Protection feature with its own designated screen.
 - Frost protection will be enabled when critical plant temperature (user defined) is reached.
 - On activation of frost protection all other irrigation will be suspended.
 - Manual activation option.
 - Email message will be sent when temperature crosses a particular point and when frost protection is activated.



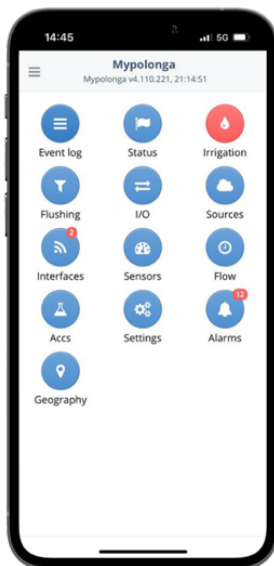
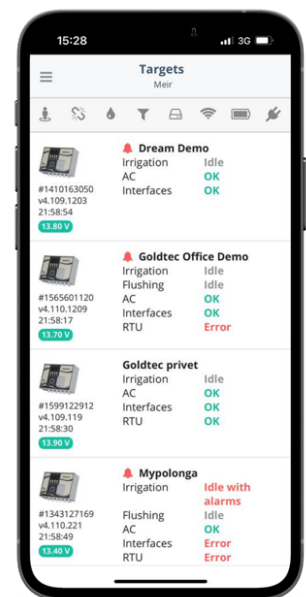
Communication

- New PC software, Java based-DREAM CONSOLE. Simple to use, powerful and modern.
- Smartphone application- DREAM SPOT. From any device on any application.
- Communication channels: Netstick, 3G modem, Ethernet cable, radio, cable.
 - Email alarm notifications.

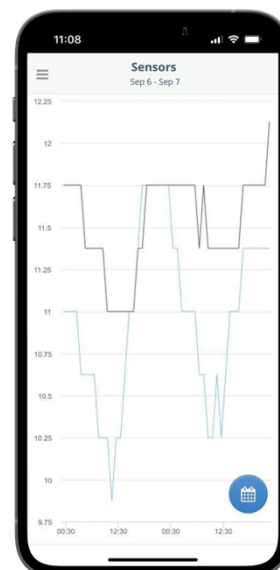


Dream Console PC Main Menu

Customer Controller List
[on the SPOT App]



SPOT App Controller
Main Menu



Multi-sensors data graph

Radio RTU system (decoder)

G5 Radio RTU – the next generation: The G5 RADIO RTU system was launched in 2018, it is based on all the accumulated experience in TALGIL of thousands of wireless systems installed and supported during about 20 years.

It has several major advantages over previous generations:

- Self-healing network – If an RTU loses communication to the master antenna, it will find an alternative route automatically.
- Automatic frequency selection – In case the frequency used by the system becomes too noisy due to interferences, the system will switch automatically to a different frequency.
- Communication retries – In case interference occurred exactly at a time an RTU was trying to communicate, the system will retry to send the message up to 3 times more.

The system is built from three main parts:

- Interface RF + Master antenna – Communicates with the controller unit on one side and with the G5 RTUs on the other side.
- RF RTU – The RF RTU (**R**emote **T**erminal **U**nit) is basically a small simple controller that performs whatever the Interface RF tells it to.

Each RF RTU is capable of:

- Controlling:
 - Pumps
 - Valves
 - Fertilizer injectors
 - Filters
- Monitoring:
 - Water meters
 - Fertilizer meters
 - Water floats (Reservoirs and tanks)
 - Pressure sensor
 - Differential pressure sensor
 - Analog sensor – Temperature, humidity, tensiometers, radiation, CO2, water level and etc..

The maximum range between the controller and the furthest RTU is 3km (with line of sight). The G5 is capable of 10 levels of repetition, which means a single RF Interface can control & monitor elements in a 30km radius!

Each Interface RF is capable of communicating with up to 500 RF RTUs. The communication with all the RTUs by default is updated every 10 seconds, this can be more or less depending on the number of RTUs.

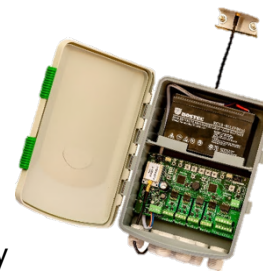
Energy options:

Modular RTUs: 4 X "D" type alkaline batteries [6vDC] OR 3.2Am/hr rechargeable battery [12vDC] and 5W solar panel.

ECONOMICAL RTUs: 4 X "C" type alkaline batteries [6vDC] OR 1.3Am/hr rechargeable battery [12vDC] and 5W solar panel

240vAC-12vDC are available.

The RF system uses one out of eight channels in the band of 915-928MHz. It is a LICENSE FREE SYSTEM.
The outputs can control 12V DC latch solenoids.



There are several RTU RF models:

G5 RTU Radio- Economical

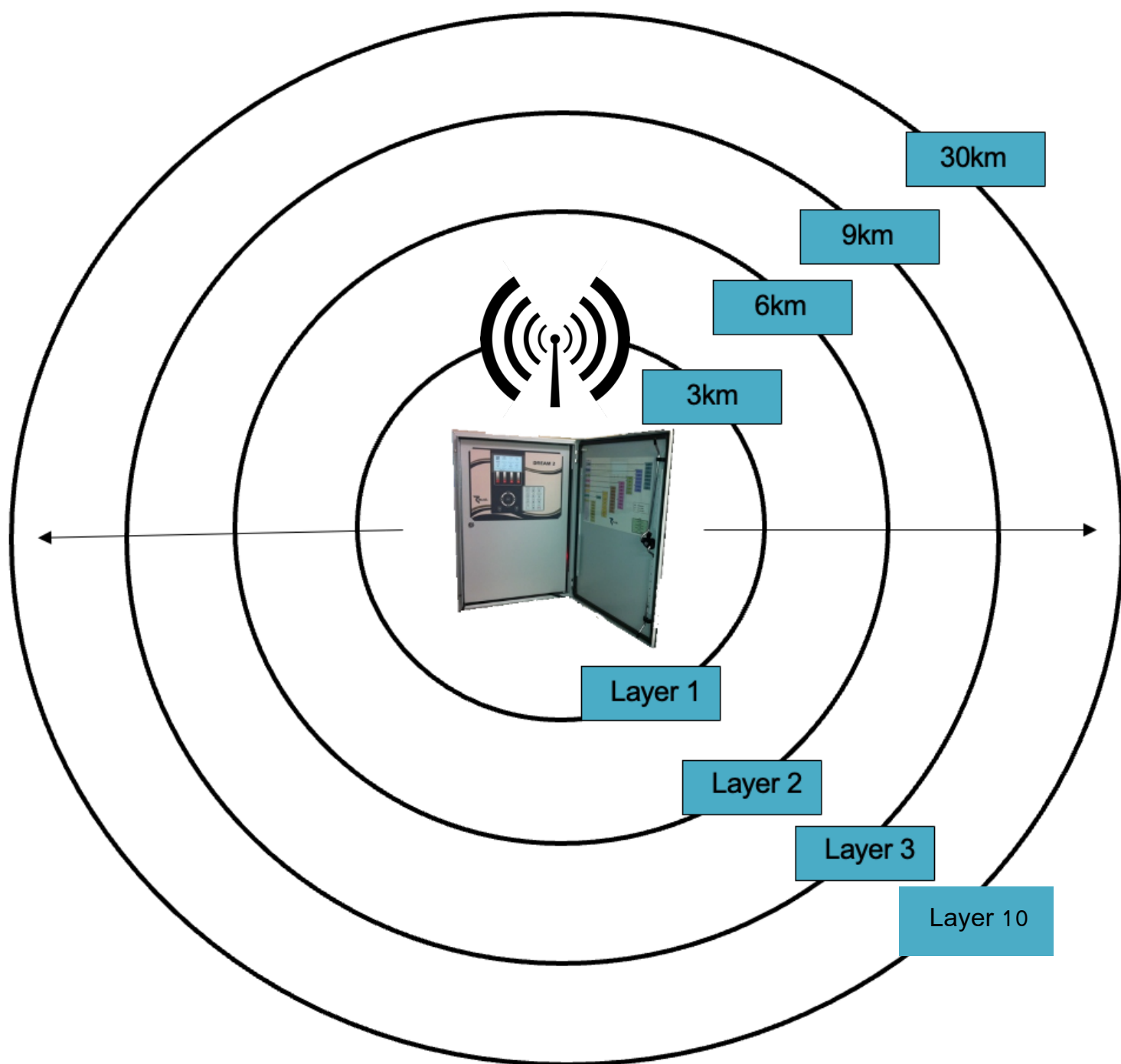
- An Economical non-modular solution, is to be used where devices in the field are far away one from another and future expansion is not likely.

Economical (4-20mA / 0-5V)	
1x 12v DC latch output	
1x Digital input	
2x Analog input	
Economical (4-20mA / 0-5V)	
2x 12vDC latch output	
2x Digital input	
2x Analog input	
4ANA	4x Analog input
SDI	SDI-12 input

G5 RTU – Modular

- A modular solution, to be used where devices are grouped together, or a future expansion is possible.

2,4,6,8	12v DC latch output 24v AC
4,8	Digital input
4+1	4x Digital input 1x Analog input
LIN Expansion	4x Analog input
LIN Expansion	SDI-12 input
LIN Expansion	EC/pH monitor
THD [temperature, humidity, dewpoint]	Built in sensor



G5 Radio: Layers of Signal Repetitions



Website: <https://goldtecsystems.com.au/>



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