## **NUVATHINGS**



# **HELIUS-TSL**



- First DATALOGGER for AGRONOMY, with triple connectivity, Terrestrial, Satellite (NTN) and LORA, for precision agriculture applications, and with option for solenoid valve control for irrigation applications.
- Integrated GNSS receiver.
- Bluetooth 5.2, triple radio in smart enclosure, to communicate, positioning and wireless sensing.
- IP65 enclosure..
- Autonomous solar power.
  - Solar panel 12V 5 W.
  - LiFePO4 9.9V 10Ah battery. Up to 3000 charge/discharge cycles.
  - Master mode battery life: 15 days.
  - Low power battery life: 6 month.
  - Configurable communication/logging cadence.
- · SIMCARD VPN, with global service.
- 6 JACK connectors for direct connection of METER GROUP probes.

#### Models:

- HELIUS-TSL, NB-IOT / LTE-CAT-M1 / NB-IOT
   NTN and LORA Connectivity, can connect with
   LORAWAN networks where they are available or
   with master dataloggers that have an active SIM
   using the NIOT-MESH protocol. Real-time data
   update to cloud. Bluetooth and GNSS receiver for
   automatic positioning.
- HELIUS-TSL+,

Same feature as above with irrigation control plugin.

- 4 extra analog inputs/counters expansion.
- 4 Latching Electro-Valve actuators.

### Sensors

- 6 jacks for connecting probes, with a total of 3
   analog ports + 2 digital ports + 1 port for flowmeter.
  - 0-3V Sensors.
    - Humidity, salinity, PH.
    - Dendómenters
  - TEROS 10, TEROS 12.PHYTOS, probes
  - Meteo stations such ATMOS41 / DAVIS
  - o 2 SDI12 / RS485 input ports.
- 1 x I2C ports for SHT4x/BME280 temperatur2 / humidity.
- Bluetooth sensors ( temperature/humidity/track and security sensors )

#### datalogging

Up to 126K measures of 32 bits.

#### comsumption

- 45uA average consumption in low power mode
- 18mA average consumption in full online mode,



### **WIRELESS RADIO**

where available there is option for LORAWAN INNOVATIVE

**FEATURES:** 

In combination with other devices of Nuvathings ecosystem, a full range of IOT and industry 4.0 system can be achieved with options for:

- BLE asset tracking
- EDGE alarm triggers processed in the device.
- GPS machinery trackers.
- Cold chain monitoring
- Security and access control.
- Water management solutions
- Custom devices available on request.

For more information on any of our products or services please visit us on the Web at:

www.nuvathings.com

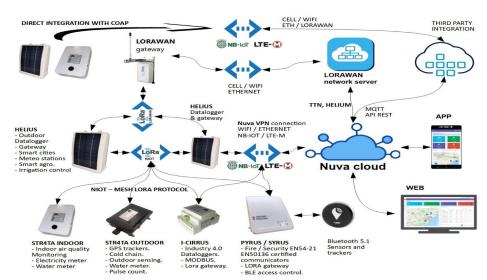
or simply e-mail us at info@nuvathings.com

C/Murcia 35F 08830, Sant Boi de Llobregat Barcelona, Spain phone: +34 93 018 51 34 www.nuvathings.com

## Tech features summary

GNSS receiver	GPS Frequency	1575.42 MHz
	GLONASS frequency	1601.71 MHz
Bluetooth	Bluetooth 5.2 @ 2.4GHz	-99 dBm sensitivity / 6 dBm output power.
NB-IOT / CAT-M1	Bands	B1/B2/B3/B4/B5/B8/B12(B17)/B13/B18/ B19/B20/B25①/B26*/B28/B39 (B39 for Cat M1 only)
	Power	+23dBm
NB-IOT NTN ( Satellite)	Bands	n255, n256
LORA	Freq / Power	869.525 MHz / 17dBm
Accelerometer Sensor	Internal 4G range.	Configurable trigger
Mechanical and electrical	Battery	9.9V 10000mAh LiFePO4 pack.
	Size	240 x 170 x 100mm
	Weigth	2.5Kg aprox with battery
	Operating temperature	-30°C / +85°C (-22°F/5°F)
	Operating humidity	0 - 90% HR, no condensation.
Rules and normatives	EN 12830,EN 13485	Dec conformity
	Wellmec	Class C
	EN 62368-1	Notified Body certification on progress
	EMC	Notified Body certification on progress
	RED	Notified Body certification on progress
	FCC	Notified Body certification on progress

# Wide range of connectivity options



In the standard configuration, a datalogger with insolation of > 4 hours per day can work as a master of the rest of the farm's equipment, providing them with LORA-MESH communication to the server, data updating is carried out in real time.