

# Saturn 923-2 MHz



LoRa radio node for DeepWave wireless system: large ePaper screen (ebook type), 2 connectors for Smart Sensor to choose from those available (temperature, humidity, differential pressure, light), local acoustic alarms with buzzer. The **Smart Sensors** (not included) are **supplied with an ISO calibration certificate (Accredia traceable)** and allow immediate, economic and simple recalibration of the system. Saturn has an external antenna and power supply (the batteries have a backup function), as well as a relay output to connect if the instrument has to be activated when an alarm occurs. For example, it is possible to connect flashing lights, sirens or other. DeepWave is based on LoRa radio protocol (Long Range) for a very long distance transmission that allows to have only one Helios receiver to cover all the sensors. **Batteries are easily replaceable by the user.**



## Main features

- Lora radio module for long distances transmission (up to 3 km in open field)
- Supports up to two Smart Sensors of temperature, humidity, differential pressure, light
- 2.9" wide ePaper display
- External power connector (power adapter not included)
- External antenna included
- 4-buttons for display screen scrolling
- User replaceable batteries
- Certificate traceable to a national standard included with the Smart Sensors
- Relay output to activate lights, alarms, phone dialers etc.

## Plus

- Easy to install and configure
- Quick recalibration with the Smart Sensors
- With the external antenna you increase the transmission by 50%
- Wide and low energy display
- Local alarm for immediate intervention
- Thanks to the external power you forget to change the batteries
- Covers long transmission distances
- Validatable DeepWave LoRa system in pharmaceutical and healthcare environment
- Connect whatever you want to be activated also trigger of an alarm

## The system

LoRa Wan DeepWave system, which Saturn is part of, is made up by:

- DeepWave radio modules (LoRa nodes)
- Helios receiver (LoRa gateway)
- TSLog 21 software

## Applications



Healthcare



Pharmaceutical



Cosmetics



Medical



Cold Chain



Warehouses



Environment



Food & Beverages



Laboratories



Constructions



Validation

## Accessories

- TSLog 21
- Helios - LoRa Gateway
- Surface Support for DeepWave Node
- Wall Mounting support for DeepWave Node
- Temperature Smart Sensor
- -80°C temperature Smart Sensor
- 200 temperature Smart Sensor
- Temperature Smart Sensor with thin cable
- Temperature and humidity Smart Sensor
- Differential Pressure Smart Sensor
- Light Smart Sensor (On/Off)
- Temperature Smart Sensor with internal sensor
- Smart Sensor / ZED IT adapter cable extensions
- Flat DeepWave Node / Smart Sensor cable extension
- LoRa Node / Smart Sensor cable extensions

## Technical specifications

Dimensions	159.6 X 88 x 33 (mm) (with connectors) / 146.6 X 88 X 33 (mm) (without connectors)
Weight	280 g
Materials	ABS, Rubber
Sensors	2 X Smart Sensor inputs
Temperature range	-20 °C ÷ +50 °C (non condensing)
Memory (n. of acquisitions)	16.383
Acquisition step	From one every 5 minutes up (in steps of 1 minute)
Display size	
Display and functions	Current values, Alarms, Diagnostics, Radio Signal Strength
Alarms	Local (acoustic)
Functions	Data recording, transmission, alarm
Communication	Radio
Protocollo Radio	LoRa
Available frequencies	868 MHz, 915 MHz, 920 MHz, 923-2 MHz
Frequency	923-2 MHz
ERP	Tx Power up to 18.5 dBm (40mW)
Antennae	External
Battery type	3 X AA 1,5 V batteries
Battery life	12 months with 15 minutes transmission step and 2 sensors connected
Power supply	6-26 V (adapter not included)
Protection degree	IP65
Relais output	✓
Software&Mobile App	TSLog 21
Regulation compatibility	CE, ROHS
Regulation compatibility	FDA 21 CFR Part 11, Annex 11, GAMP 5