

# SensorData Sigfox v2

Sigfox Data-Logger with SDI-12, I<sup>2</sup>C, Digital Inputs, Analogue Inputs, GPS, Ultra-long Battery Life, in a Waterproof Housing



## APPLICATIONS



Soil moisture probes



Temperature / cold-chain



Asset location



Tank levels



Door open / close



Meter pulse counting

SensorData is a battery-powered data communicator that interfaces to a range of sensors, GPS, inputs and outputs, and uploads data via the Sigfox network. Sensors can be powered and controlled by the SensorData to provide optimal battery life and the extended voltage range caters for all sorts of battery types. Great for agriculture and remote sensor monitoring applications!

## FEATURES

- Up to 10 years once daily update
- Up to 3 years of hourly updates
- SDI-12 interface to soil moisture probes, temperature, EC and others
- I<sup>2</sup>C interface for a wide range of sensors including: Temperature, Humidity, Vibration, CO<sub>2</sub> gas and many others
- Configuration via USB cable and over-the-air Sigfox downlink messages
- 2 x Analogue Inputs with auto range
- 3 x Digital Inputs
- Power supply takes up to 16V allowing for LTC or lead-acid batteries for maximum battery life in extreme temperatures
- New battery meter allows for better battery life predictions

## MECHANICAL SPECIFICATIONS

### Low-profile IP67 rugged housing

The IP67 rated housing is made of sturdy ABS/Polycarbonate plastic to survive bumps and knocks and many years in the sun and weather. It is low-profile and caters for a number of cable glands to allow for waterproof cable entry to the housing. The housing screws together for easy assembly, and has convenient mounting tabs.

### Dimensions

L 183 x W 145 x H 40mm

### Operating Temperature

The SensorData PCB is rated from -30°C to + 65°C.  
If you use Alkaline batteries then be aware of the temperature range for them, typically -18°C to +55°C

## POWER

### Multiple Power Options

The SensorData is ultra-low power and is designed to easily run off a set of batteries for a full season. This includes powering the sensors and SDI-12 probes. The extended power supply means that it can operate off a variety of batteries or even a DC wall socket if permanently installed in a location with power.

### Line Power

4-16V input range

### LTC Batteries

The wide input range enables the use of Lithium Thionyl Chloride (LTC) batteries, for super long life and extended temperature tolerance

### Alkaline Batteries

Readily available and low cost alkaline batteries can be used with the SensorData.

### Battery Meter

A coulomb counter acts as a battery meter, tracking the energy consumption of the SensorData. This enables an accurate battery percentage to be reported.

## CONNECTIVITY

### Network

Sigfox (LPWAN) -Sigfox Zone RCZ4

### External antenna

External ISM band antenna provides for maximum link budget with the flexibility to install a high-gain antenna if needed. Especially important for long range in rural agriculture applications.

### Configuration

Via USB cable for firmware updates.  
Via over the air (OTA) downlinks for configuration

## GPS

### GPS

The GPS module allows the SensorData to periodically update its location and time. Know the exact position of your sensors, and obtain an accurate time update.

## IOs AND INTERFACES

### SDI-12

This interface is commonly used in agricultural sensors and measurement devices for soil moisture probes, temperature, electrical conductivity (EC) of soils, water levels / pressures, other SDI-12 probes and sensors.

### I<sup>2</sup>C Interface

I<sup>2</sup>C (inter-IC communications) is an interface commonly used in sensor modules. This allows the SensorData to talk to a wide range of sensors including: temperature, humidity, vibration, CO2 gas and many others. Speak to Digital Matter about sensor support.

### Switched Sensor Power (V<sub>batt</sub>)

Used to control the battery power to external sensors and peripherals. Load limited (500mA) and short circuit protected.

### 3.3V Switched Power

Used to control the 3.3V power to external sensors and peripherals. Load limited and short circuit protected.

### 3 x Digital Inputs

Pulse counting available on all inputs  
1 x input supports high frequency/low power pulse counting (counting is done by microcontroller so device can stay in 'sleep')  
48V max input  
Configurable pull up/pull down.  
Pull down enabled 2.6V on/off threshold  
Pull up enabled 1.0V on/off threshold

### 2 x Analogue Inputs

0 - 30V with auto-ranging  
12 bit ADC  
0-5V range: 1.22mV precision  
0-30V range: 7.32mV precision  
Built in battery voltage monitoring

