

# SensorNode using LoRaWAN™ Technology

Remote Sensor Node in a Rugged Waterproof Housing



**LoRaWAN™**



The SensorNode is a battery-powered data communicator that interfaces to a range of sensors, GPS, inputs and outputs, and uploads data via LoRaWAN Low Power Wide Area Networks (LPWANs). Great for agriculture and remote sensor monitoring applications.

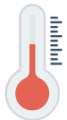
## FEATURES

- Up to 5 years once daily update
- Up to 2 years of hourly updates
- Rugged waterproof housing
- I<sup>2</sup>C interface for a wide range of sensors including: Temperature, Humidity, Vibration, CO<sub>2</sub> gas and many others
- On-board GPS option for location
- 2 x Analogue Input with auto range
- 2 x Digital Inputs

## APPLICATIONS



Run Hour  
Monitoring



Temperature  
/ cold-chain



Tank  
levels



Door open  
/ close



Meter pulse  
counting

[www.digitalmatter.com](http://www.digitalmatter.com)

## MECHANICAL FEATURES

### Low-profile IP67 rugged housing

The IP67 rated housing is made of sturdy ABS/Polycarbonate plastic to survive bumps and knocks and to survive 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.

### Operating temperature

-20°C to +60°C  
For operation in extreme temperatures the device must be fitted with Lithium batteries

### Dimensions (mm)

L 135 x W 90 x H 35

## INTERFACES

### 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 SensorNode to talk to a wide range of sensors including: temperature, humidity, vibration, CO<sub>2</sub> gas and many others. Contact Digital Matter about sensor support.

### Digital Inputs

2 x digital inputs, 0-48V  
Optimised for low power pulse counting

### Analogue Inputs

2 x analogue inputs, 0-30V with auto-ranging

## SPECIFICATIONS

### Network

LoRaWAN, 868 and 915MHz

### Antenna

Tuned PCB antenna

### Power

The SensorNode is ultra-low power and is designed to run off a set of 3 x AA cell Alkaline batteries. The off-the-shelf batteries are low cost and readily available. It can also be powered by a USB 5V wall socket if permanently installed in a location with power.

### Sleep Current

10µA (micro-amps)

### 3.3V Switched Power

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

### GPS

Option to fit to PCB at manufacturing time. GPS module allows the SensorNode to periodically update its location and time.

### Configuration

Via USB cable for firmware updates and parameters  
Future firmware will cater for parameter updates over-the-air (OTA) via downlink messages

### Test Button

Conveniently test installation and wiring.

### Status LED

Visual feedback in the field for testing