

# SensorNode LoRaWAN™

Remote Sensor Node in a Rugged Waterproof Housing



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 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

## MECHANICAL SPECIFICATIONS

### 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.

### Dimensions

L 135 x W 90 x H 35 mm

### Operating Temperature

-20°C to +60°C<sup>1</sup>

1) For operation in extreme temperatures the device must be fitted with lithium batteries

## POWER

### Line Power

4-6 V Line Power enables the SensorNode to be powered by a USB 5V wall socket if permanently installed in a location with power.

### Battery Power

The SensorNode also has the option to use 3 x AA Alkaline or Lithium batteries if power is not available. These are low-cost and readily available

## CONNECTIVITY

### LoRaWAN

All 868MHz and 915MHz regions supported.

### Internal Antenna

The internal ISM band antenna provides a compact device that is easy to install

## GPS

### GPS

The GPS module allows the SensorNode to periodically update its location and time. This is very handy to know the exact position of your sensors, and to obtain an accurate time update. There is the option to order the SensorNode without a GPS module fitted, saving on cost.

### Internal Antenna

Internal GPS antenna for easy installation

## I/Os AND INTERFACES

### Digital Inputs

2 x Digital inputs with pulse counting capability

### Analogue Inputs

2 x 0-30V Analogue Inputs with auto-ranging  
Built-in battery voltage monitoring

### 3.3V Switched Power

Used to control the 3.3V power to external sensors and peripherals. Load limited and short circuit protected.  
Max current output: 500mA

### I2C Interface

I2C (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, CO2 gas and many others. Contact Digital Matter about sensor support.

### Configuration

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

### Status LED

Visual feedback in the field for testing