SensorData LoRaWAN™

Data-Logger with SDI-12, I²C, Digital Inputs, Analogue Input, GPS, Ultra-long Battery Life, in a Waterproof Housing

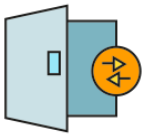
APPLICATIONS

Soil moisture probes

Temperature / cold-chain

Asset location

Tank levels



Door open / close

Meter pulse counting

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The SensorData is a battery-powered data communicator that interfaces to a range of sensors, GPS, inputs and outputs, and uploads data via a LoRaWAN network. Great for agriculture and remote sensor monitoring applications.

FEATURES

- SDI-12 interface to soil moisture probes, temperature, EC and others
- I²C interface for a wide range of sensors including: temperature, humidity and many others
- GPS for location updates
- 1 x Analogue Input with auto range
- 2 x Digital Inputs
- Configuration via USB cable or downlink messages

Rev 2.0 – 13 November 2018

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 183 x W 145 x H 40 mm
Operating Temperature	-20°C to +60°C[1] 1) For operation in extreme temperatures, the device must be fitted with 1.5V Lithium Batteries

POWER

Input Voltage	4-6V
4 x C Cell Batteries	The SensorData is ultra-low power and is designed to run off a set of 4 x “C” cell Alkaline batteries for a full season. This includes powering the sensors and SDI-12 probes. 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

CONNECTIVITY

LoRaWAN Device	The LoRaWAN network allows the SensorData device to communicate over long range and have long battery life. The SensorData supports all global LoRaWAN regions across 866-928MHz:
Supported Regions	India 865, Europe 868, ANZ 915, US 915, Korea 920, Asia 923
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 applications.
Configuration	Via USB for firmware updates. Parameters can be changed via USB or Over-The-Air (OTA) via downlink messages.

GPS TRACKING

GPS/GLONASS tracking	UBLOX MAX-M8Q GPS Module The GPS module allows the SensorData to periodically update its location and time. This is very handy to know the exact position of your sensors If GPS is not required units can be produced without a GPS module fitted, lowering the device cost

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.
Switched Sensor Power (6V or 12V)	Used to control the battery power to external sensors and peripherals. Load limited and short circuit protected. 12V capable boost is available to supply SDI-12 sensors, especially over long cable runs.
I²C Interface	I2C (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. Contact Digital Matter about sensor support.
3.3V Switched Power	Used to control the 3.3V power to external sensors and peripherals. Load limited and short circuit protected.
2 x Digital Inputs	Configurable for Pull-up/Pull-Down 1 can be used for low power pulse counting Max input voltage 48V Thresholds: 'Low' below 1.0V, 'High' above 2.6V (approx.)
1 x Analogue Input	Input range 0-30V with Auto Ranging 12 bit ADC 0-5V range: 1.22mV precision 0-30V range: 7.32mV precision