SensorData v2

Sigfox Data-Logger with SDI-12, I^{2}C, Digital Inputs, Analogue Inputs, GPS, Ultra-long Battery Life, in a Waterproof Housing
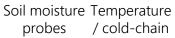
digital MATTER

CONNECTED DEVICES

sigfox ready

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^{2}C interface for a wide range of sensors including: Temperature, Humidity, Vibration, CO_2 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

APPLICATIONS

| Soil moisture probes | Temperature / cold-chain | Asset location | 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 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.
I²C Interface	I^2C (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$_{batt}$)	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 (up to 1kHz)/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