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GSM/GPRS DATA LOGGER RADIO

GSM/GPRS Data Logger RADIO is a universal device used for accurate and cost-effective measurement applications. Thanks to the various configurable inputs of current, voltage, pulse or SDI-12 signal, the logger supports the majority of the most popular sensors available on the market.

The device has been designed for wide use in meteorological, agricultural, hydrological and industry related installations where precision, reliability and easy data access are key factors. Constant data transmission in 1 or 10 minute intervals is ensured by a built-in GSM/GPRS modem. All measurements are accessible through the intuitive web-based Data Analysis System.

FEATURES

- **GSM/GPRS data transmission in 1 or 10 minute intervals**
- **4 fully configurable inputs (0-3V, 0-10V, 4-20mA, pulse counter)**
- **SDI-12 input for up to 4 additional sensors**
- **One second data sampling**
- **High accuracy analog measurements**
- **Inlogger battery backup ensure fail-safe operation**
- **Web-based system for data visualization**
- **User configurable alarms**
- **Offline software for configuration and diagnostics**

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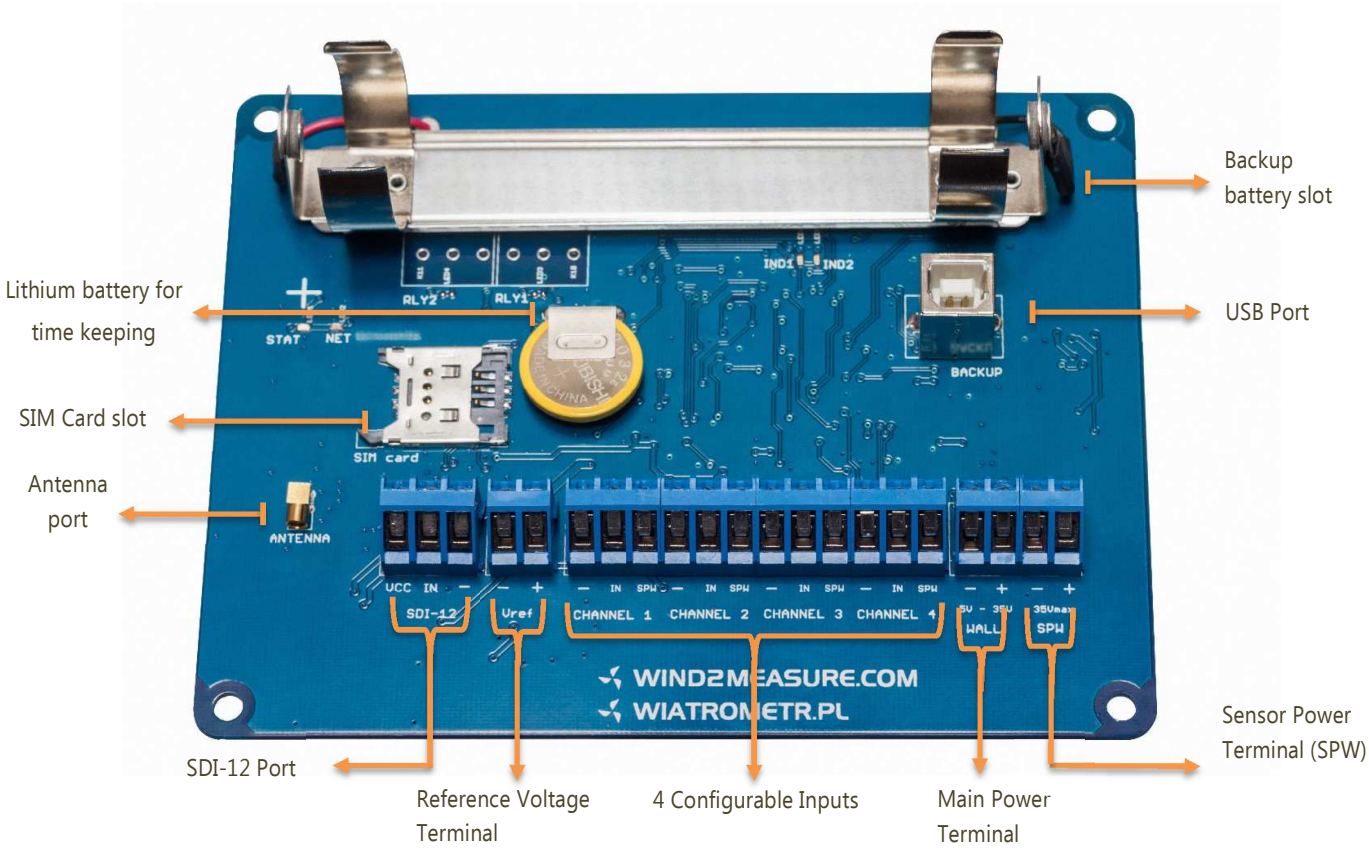

4 CONFIGURABLE INPUTS

Inputs can operate with the following signal types:

0-3V or 0-10V

Software selectable two voltage ranges let you take full advantage of the data logger's resolution. Parameters measured by voltage configuration include barometric pressure, ambient temperature, relative humidity, solar radiation, etc.

0-20 mA

Allows the use of sensors with 4 – 20 mA or 0 – 20 mA current output. The main advantage of this kind of signal is that its accuracy is not affected by the voltage drop.

Pulse counter

With pulse counter port configuration the logger detects and counts electric pulses generated by switch closures. The most common sensors using this signal type are anemometers, flow meters and rain gauges.

The configuration of every port is possible with the dedicated PC application.

SDI-12 PORT

SDI-12 is a digital port which supports up to 4 different measurements. The sensor's address is defined with the use of the dedicated PC application.

USB PORT

USB port together with PC application allow the direct download of the backup data stored in the memory unit. They are also used for the initial configuration of the logger's channels and SDI-12 address, SIM card and APN settings.

REFERENCE VOLTAGE TERMINAL

The reference voltage is dedicated to potentiometric sensors. Both terminal ends of the resistance element should be connected to this port. The wiper terminal must be connected to channel with the 0 – 3 V configuration.

MAIN POWER TERMINAL

The terminal is used for powering the data logger. The input voltage must be between 5 - 35V.

SENSOR POWER TERMINAL (SPW)

In order to power the sensors, the appropriate power source must be connected to this terminal. Supplied voltage is conveyed to the individual SPW connector of each channel for 100ms (millisecond) before each measurement.

BACKUP BATTERY SLOT

The battery slot operates with two D-type batteries. It will automatically switch to the battery backup power supply when the voltage of the main power source will drop below 5V. Depending on the data upload interval, the logger can fully operate for up to 10 days on back up batteries.

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TECHNICAL SPECIFICATION

Sensor Inputs

4 configurable inputs

Possible configurations of 0-3V, 0-10V, 4-20mA or pulse counter.

Analog configurations

0-3V accuracy: ±(0.05% of reading +1mV).

0-10V accuracy: ±(0.5% of reading +1mV),

0-20mA accuracy: ±(0.5% of reading +10µA),

1-second sampling.

Direct interface for potentiometer sensors.

Pulse counter configuration

Frequency range – DC to 100 Hz.

3–second count integration.

Special hardware filter for reed-switches closures.

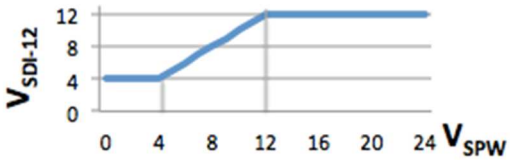
Sensor power terminals

Each of the four sensor inputs is equipped with individual power terminal (SPW). The chosen voltage is switched on for 100ms (millisecond) before each measurement.

SDI-12 input

One terminal for up to 4 measurements.

By default the terminal voltage is 4V. Higher voltage up to 12V possible with the use of SPW terminal. Refer to the chart below:



Reference Voltage Terminal

Dedicated to potentiometric sensors. Max current draw 0,2A.

Math functions

Average, minimum and maximum value based on 1 second samples for analog configurations and 3 second sums for pulse counter configuration.

Average wind direction calculation - Modulo 360°

Recording intervals

1 minute or 10 minutes depending on the logger type

Power supply

Power consumption

0,2W with 1 minute data sending interval

0,1W with 10 minute data sending interval

Main power source

5–35V DC input from external primary or rechargeable batteries, external DC power supply, or regulated solar panel

Solar

Optional power supply system with charging regulator, 12V 18Ah battery and 30W solar panel in external enclosure.

Inlogger battery backup

The logger has a slot for two D-type batteries that are used in case of main power malfunction.

Physical

Operating temperature

−30° to 60°C

Time keeping

Automatic cell modem (internet) time corrections keeps time base accurate to ±5 seconds in normal operation.

Backed up by Lithium coin cell battery (10 year life)

Enclosure

Integrated polycarbonate, IP66.

7x PG7 gland for environmentally sealed sensor connections, antenna and power cables.

191 x 125 x 60 mm, 490g (without batteries)

Other features

Build-in GSM 2G modem with standard antenna.

1 minute and 10 minute data sending intervals.

Monitoring of 4 additional technical parameters:

main power voltage, backup battery voltage, internal temperature and GSM signal strength.

Internal memory backup for min. 30 days depending on the no. of sensors.

Dedicated on-line system for data view, storage and download.

Customized alarms.

Dedicated PC application for logger setup and backup data download.

Available Options

Separate Power Enclosure system, including solar charge controller and 12V 18Ah lead acid battery with 30W solar panel and all mast mountings.

Aluminium telescopic masts from 2m up to 20 m height with different types of bases and sensor mountings.

Wide range of environmental sensors produced and distributed by PM Ecology.

Contact and orders

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