

DATA LOGGER MICROPOWER



The MICROPOWER Data Logger is a universal device used for accurate, cost-effective and energy efficient applications. Remotely configurable inputs include voltage (0-10V), current (4-20mA) and pulse type signals as well as SDI-12 standard which is widely used in meteorological and hydrological applications. RS232 and optional RS485 ports can either be used as additional sensor inputs or for direct data transmission in MODBUS RTU protocol.

Constant data transmission with user-selectable rate (1min – 24h) is ensured by a built-in GSM/GPRS modem. All measurements can be accessible through the intuitive web-based System or sent directly to user's server. Channels/ Inputs and alerts configuration is done remotely within the System.

A PV panel can extend the lifetime of the logger and eliminate the need for battery replacement.

FEATURES

Excellent energy efficiency

4 configurable inputs (0-10V, 4-20mA, pulse)

SDI-12 port for additional sensors (up to 15)

RS-232 and RS485 (optional) with MODBUS RTU protocol

Integrated GSM/GPRS modem for data transmission

Integrated PV charger with MPPT

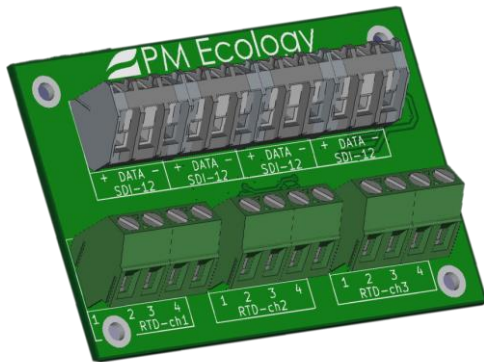
Full online configuration

Optional board with additional SDI-12, PT100, 0-10V, 4-20mA and pulse inputs.

Direct data transmission to user's server

Threshold text and email alerts

EXTENSION BOARD

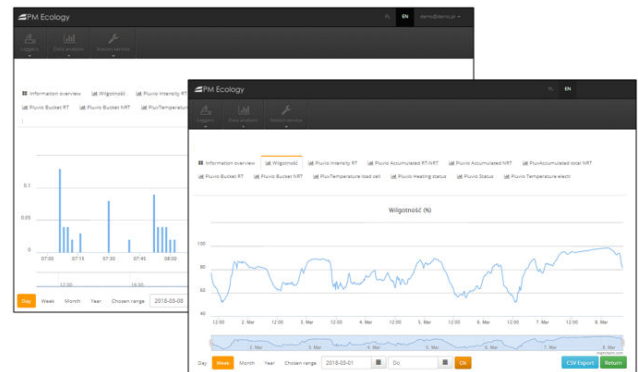


For applications with a higher number of sensors, the MICROPOWER Data Logger can be equipped with an extension board with additional inputs for analogue or SDI-12 signals. The configuration of the channels is fully customized and depends on the application the logger is used for. The extension board also enables connection of sensors not supported by the main channels (e.g. pt100, RS485) plus other components and functionalities that may in the future include other technologies such as WiFi, LoRa, Bluetooth, etc., LCD, OLED, e-paper screen and relay outputs.

ONLINE SYSTEM FOR DATA ANALYSIS

The Cloud based Online System allows detailed and intuitive analysis of large sets of data. All measurements are presented on multifunctional graphs and diagrams with a customized view for each sensor. The full analysis can be done via any web browser without additional software. Alarms will alert you by sending an email or text message when a selected parameter exceeds critical value. The system also monitors power supply voltage, internal temperature and GSM network signal level.

Logged data can be also sent directly to the user's server and viewed through 3rd party systems.



EXAMPLE APPLICATIONS

HYDROLOGY



METEOROLOGY



RAIN MONITORING



TECHNICAL SPECIFICATION

DATA INPUT

4 x analogue/digital	0-3V, 0-10V, 4-20mA, pulse counter
1 x SDI-12	up to 15 values
1 x serial	RS232, MODBUS RTU
Extension board (optional)	additional analogue, digital, SDI-12, pt100 inputs additional functionalities and components (LCD screen, WiFi, Bluetooth, etc.)

DATA OUTPUT

Built-in modem	2G (GSM/EDGE)
4 band frequencies	850/900/1800/1900MHz
Antenna connector	MMCX
Transmit Time Interval (TTI)	defined by user in range: (1min.....24h)
GSM network APN	user configurable
modem working time	20...30s typically
Serial communication	RS232, Modbus RTU
USB	USB-B for data retrieval and APN settings

DATA LOGGING

Measuring Time Interval (MTI)	defined by user in range: (1min...24h)
Internal memory	up to 50 000 records
Logged maintenance parameters	Electronics' temperature, power supply voltage, GSM signal, modem activity during last data transfer, cabinet door open (optional)
Alarms (SMS, email)	For all measured parameters and maintenance parameters

POWER

Input range	5-30V
Required input current	0,2A
Protection	OVP, OCP, reverse polarity, EMI/EMC filter
Power consumption (measured at 12V)	Standby mode: $\leq 250\mu\text{W}$ Measurement mode: $\leq 20\text{mW}$ (sensors' power consumption not included) Transmission mode: $\leq 360\text{mW}$ (depends on network signal strength)
PV panel charger	Built-in solar charger enables direct connection of a PV panel up to 5W
Approx. working time without battery (35Ah) replacement/recharging	TTI – 60min, MTI – 10min >5 years TTI – 10min, MTI – 10min >2 years

PHYSICAL

Working temperature	-40°...+60°C
Enclosure	ABS, IP65, IP67 (optional), IP68 (optional)
Dimensions	176x150x58mm
Weight	TBA
Compliance information	Declaration of conformity (CE)