

## DATA LOGGER MICROPOWER



Data Logger MICROPOWER 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. RS-232 and optional RS-485 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. Inputs and alerts configuration is done remotely within the System.

Extremely high level of power efficiency (power consumption of  $<250\mu\text{W}$  in sleep mode) makes Data Logger MICROPOWER perfect for off-grid applications and for long-term measurements. Optional battery case and additional 3W PV panel can extend the lifetime of the logger and eliminate the need for battery replacement.

### FEATURES

**Extreme energy efficiency**

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

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

**RS-232 and RS485 (optinal) with MODBUS RTU protocol**

**Integrated GSM/GPRS modem for data transmission**

**Integrated PV charger with MPPT**

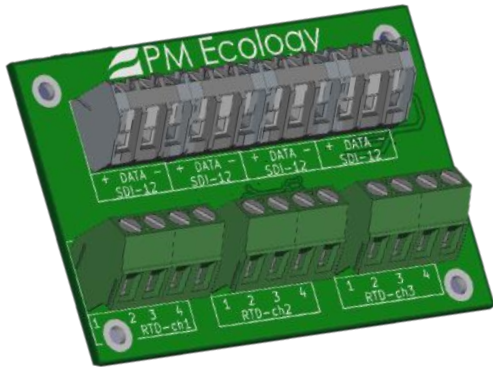
**Full online configuration**

**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

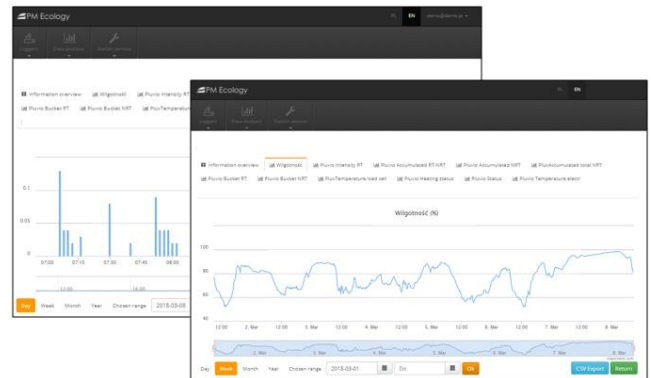


For applications with higher number of sensors Data Logger MICROPOWER can be equipped with an extension board with additional inputs of analogue or SDI-12 signal. The configuration of the channels is fully customized and depends on the application the logger is used for. The extension board also enables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

## ONLINE SYSTEM FOR DATA ANALYSIS

Cloud based Online System allows detailed and intuitive analysis of big data 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.



## EXEMPLARY USE

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	180 000 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	0,5kg
Compliance information	Declaration of conformity (CE)