

# MB LOGGER 1000 Pro

## Industrial Grade Dataloggers

Specially tailored for Meteorological Applications

## Overview

The MBLogger 1000 Pro is the Flagship Datalogger of the MBMET Range of Meteorological Solutions. The Datalogger's reliability and performance makes it ideal for Critical applications such as Meteorology, Renewable Plant Monitoring, Hydrological Systems, Agriculture and Research, etc. The MBLogger 1000 Pro uses a Powerful 32-Bit Processor and 2 x 24-Bit ADCs to Ensure accurate and reliable Data Capture from various sources. The Battery Backed up Real Time Clock (RTC) along with a Built-In GPS ensure accurate Time Stamping of Data. The Datalogger has a Built-In Webserver for Quick and Easy Configuration. The On-Board Cellular Modem ensures Stable Data Telemetry and Connectivity to the Cloud.



## Highlights

- Operational in Extreme environments of  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- OLED Display for quick Troubleshooting
- Built-in Webserver with Libraries for easy and efficient Datalogger Configuration
- Data Telemetry via MODBUS, FTP, MQTT
- Built-In GPS for Time Synchronisation and Geo Location Tagging
- Configurable Data Logging and Update Rates
- Internal Lithium Battery for RTC
- Broad Input Voltage Range of 9 – 32 VDC
- High-resolution data acquisition using a 32-bit ARM processor and 24-bit ADC
- Provides Easy Sensor integration with RS-232, RS-485 and ETH Ports
- Measures and Captures Rapidly changing Data with up to 10Hz Sampling Rate for Analog Channels and 100Hz Input Frequency for Pulse Inputs
- Calculates Sunrise & Sunset, Daily Sunshine Duration, Albedo Ratio, Daily Rainfall
- Expansion Modules available for Greater Monitor-ing and Control
- Control of Pyranometer Ventilation Units
- Supports multiple input types (4–20 mA, 0–1 V, 0–10 V, pulse) for flexible integration

## Technical Specifications

### GENERAL SPECIFICATIONS

Micro-Processor	32 bits ARM Processor
RTC	Temperature Compensated RTC
ADC	2 x 24-Bit

### ELECTRICAL

Voltage Input	9-32VDC
Power Consumption	With Cellular Model : 4.10 Watt at 12VDC
	Without Cellular Model : 2.75 Watt at 12VDC

### INPUTS

Analog Inputs	<b>13</b>	
	<b>4-20mA</b> (24 bits)	<b>4</b>
	<b>mV</b> (0-10,000mV - differential - 24 bits)	<b>4</b>
	<b>mV</b> (0-1,000mV - differential - 24 bits)	<b>4</b>
	<b>PT100 / PT1000</b>	<b>1</b>
Sampling Rate	10Hz	
Accuracy	±0.1%	
Statistics	Avg, Min, Max, Std Deviation, Integration etc.	
<b>Digital Inputs</b>	4 (Optically Isolated)	
Max Input Frequency	<100Hz	
Statistics	Totalisation, Wind Speed calculation etc.	

### PORTS

Serial Ports	1 RS-485 Port
	1 RS-485 and RS-232 Port (software configurable)
Configurable Baud Rate	9,600 and 19,200 bps
Optical Isolation	2.5KV RMS
Ethernet Port	1
Protocols Supported	MODBUS TCP/IP Master and Slave, MODBUS RTU Master/Slave, SNTP Client, SFTP, HTTP, HTTPS, FTP, MQTT, UDP, TCP, IPv4, TLS *DavisTalk, *Gill Protocol
Datalogger Config./Diagnostics	via in-built web server

### DATA LOGGING

Datalogging Time Period	Site Configurable
Expandable Memory	4GB EMMC or 16GB SD Card

### INBUILT MODEM/GPS

Network	Quad-Band 4G Modem
Frequency Band	LTE CAT 4
	GSM : 900/1800

### COLOR OLED DISPLAY AND KEYS

Display Parameters	IED, Sensors, Alarm Conditions, Display Parameters ETH Gateway status, File transfer status, Modem Signal Strength, Communication Status etc.
Display	Graphic Color 160 × 120 pixel resolution
Keypad	Four buttons capacitive keypad

### ADD ON MODULE

Model	MBMET-404
Function	Digital Output Module
Number of Outputs	4

### ENVIRONMENTAL

Operating Temperature	-40°C to +70°C
Storage Temperature	-50°C to +80°C
Humidity	95% max – noncondensing

### PHYSICAL

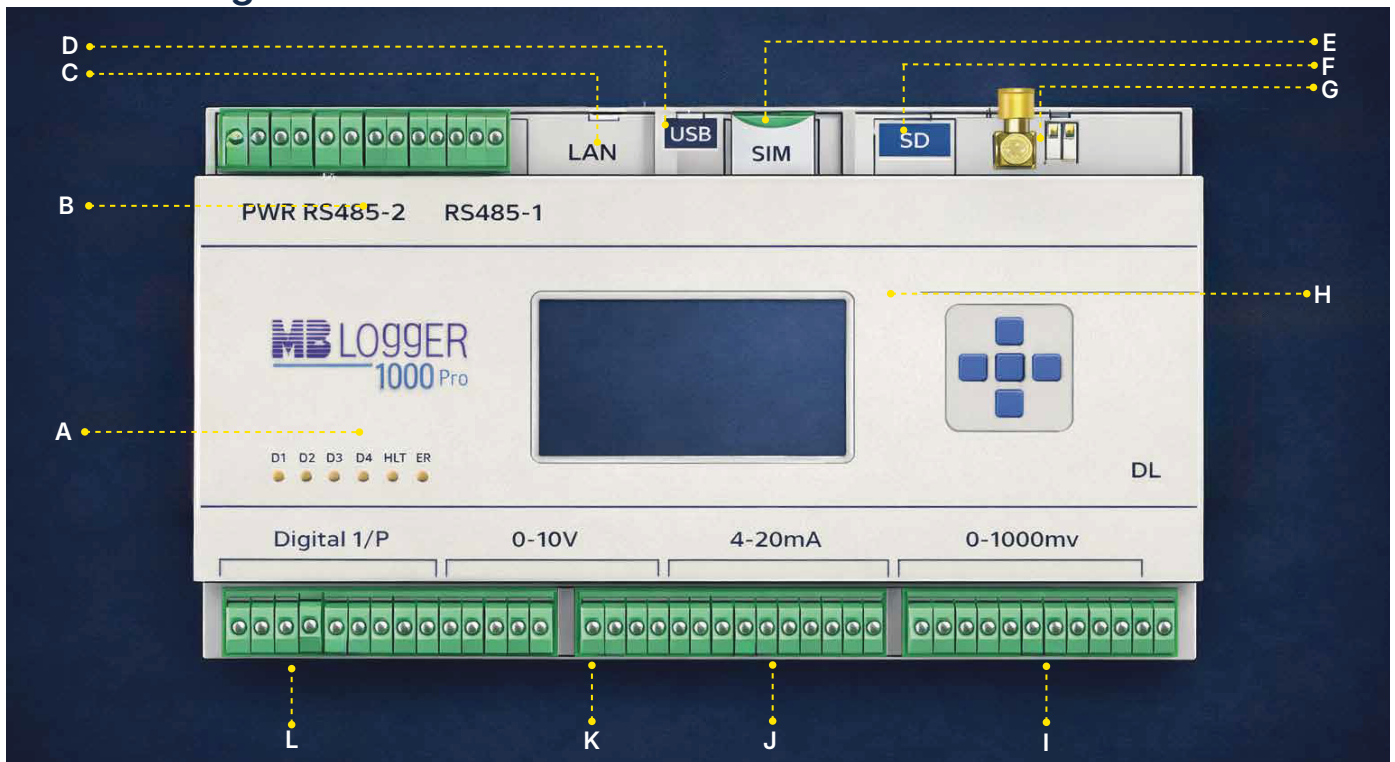
Protection	IP42
Dimensions (W x H x L)	90 × 62 × 162 mm
Mounting	DIN Rail
Weight	500g (Approx.)
Housing Material	Polycarbonate

### SPECIAL FUNCTIONS

Day Sun Rise and Sunset time
Day Duration
Day Solar Energy
Day Sunshine duration
Albedometer Ratio
Day Rainfall

\*Select Models Only

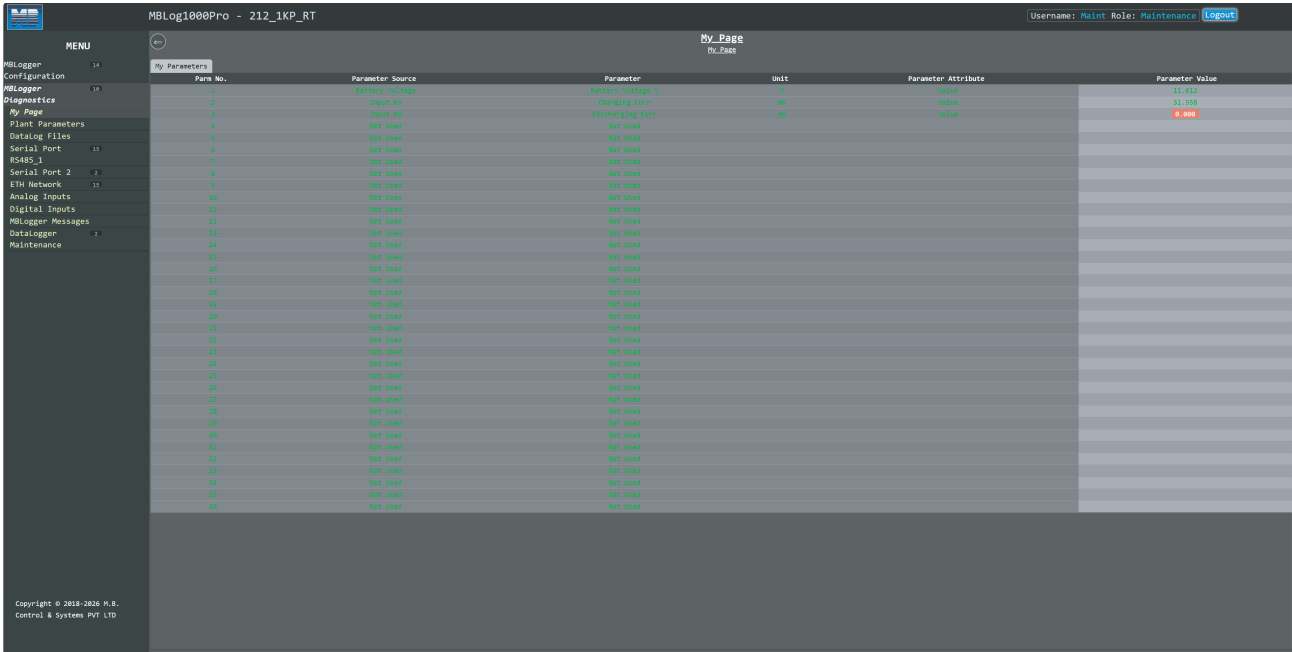
## Feature Diagram



\*For illustrative purposes only

Item	Features	Description
A	Status LEDs	Status LEDs for easy Troubleshooting and Checking Power / Communication Status
B	RS-232, RS-485 Ports	2 × RS-485 Ports, 1 × RS-232 Port
C	LAN Port	LAN Port for Data Communication and Telemetry via various protocols, Datalogger Configuration via Webserver
D	Micro USB Port	Micro USB Port for Datalogger Firmware Upgradation
E	SIM Card Slot	4G / 3G SIM Card Slot suitable for Global Use
F	Micro SD Card Slot	Micro SD Card Slot for Up to 16GB of Data Storage
G	GPS and Cellular Antenna	GPS for Geo Location Tagging and Time Synchronisation, Calculation of Sunrise & Sunset Timings
H	OLED Display and Keypads	Display Screen and Keypads for easy Diagnostics
I	0 – 1000 mV Inputs	4 x 0 – 1000 mV 24-Bit Inputs for Devices having Millivolt Output
J	4 – 20mA Inputs	4 x 4 – 20 mA 24-Bit Inputs for Devices having Milli Ampere Output
K	0 – 10V Inputs	4 x 0 – 10 V 24-Bit Inputs for Devices having Voltage Output
L	Digital Inputs	4 x Digital / Pulse Inputs Available for connection of Sensors

# Built-In Webserver



- Built-in Webserver For Easy Datalogger Configuration
- Secure Multiple User Access Depending on User Role
- View Device Log and Error Log for easy Diagnostics
- View Real Time Data of all connected Devices
- Download Datalog Files in .csv Format
- Built-in Library of Sensors and Devices for easy One-Click configuration

## Ordering String

<b>Order Code</b>	<b>A</b>	<b>B</b>
MBLogger 1000 Pro		
<b>Cellular Modem + Built-In GPS</b>	<b>A</b>	<b>RTD Input</b>
India	M	1x PT100 Input
Global	G	1x PT1000 Input

### Certifications

IEC-61000-4-18	Damped Oscillatory Wave Immunity Test
IEC-61000-4-8	Power Frequency Magnetic Field Immunity Test
IEC 60068-2-2	Environmental Test – Dry Heat
IEC 60068-2-78	Environmental Test – Damp Heat
IEC 60068-2-1	Environmental Test – Cold Temperature

