MB LOGGER Nano Series

Compact and Powerful Dataloggers

Specially tailored for Meteorological Applications

Overview

The MBLogger Nano Series of dataloggers are a compact, cost effective, yet powerful range of dataloggers suitable for applications such as Meteorology, Renewable Plant Monitoring, Hydrology, Agriculture, and Research Applications. The MBLogger Nano Series uses a Powerful 32-Bit Processor and a 24-Bit ADC 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°C to +70°C
- Compact in Size for Smaller Applications
- Built-in Webserver with Libraries for easy and efficient Datalogger Configuration
- Data Telemetry via MODBUS, MQTT, FTP
- Built-In GPS for Time Synchronisation and Geo Location Tagging
- Configurable Data Logging and Update Rates
- High-resolution data acquisition using a 32-bit ARM processor and 24-bit ADC
- Supports SNTP and GPS-based time synchronization for accurate timestamping
- Internal Lithium Battery for RTC
- Broad Input Voltage Range of 9 – 32VDC
- Provides Easy Sensor integration with RS-485, ETH Ports, 2 Configurable Ports
- Calculates Sunrise & Sunset, Daily Sunshine Duration, Albedo Ratio, Daily Rainfall
- Expansion Modules available for Greater Monitoring and Control
- Supports multiple input types (4–20 mA, 0–1 V, 0–10 V, pulse) for flexible integration
- RJ-11 interface support for easy connection of wind and rain sensors

Technical Specifications

GENERAL SPECIFICATIONS

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

PORTS

Serial Ports	1 RS-485 Port
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, HTTP, HTTPS, FTP, MQTT, UDP, TCP, IPv4, *DavisTalk, *Gill Protocol
Datalogger Configuration	via in-built web server

*Select Models Only

DATA LOGGING

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

PORTS - NANO PRO ONLY

Analog Inputs	4-20mA (16 bits) mV (0-10,000mV – differential-16 bits) mV (0-1,000mV – differential-16 bits)
Sampling Rate	10Hz
Accuracy	±0.1%
Digital Inputs	Avg, Min, Max, Std Deviation, Integration etc.
Max Input Frequency	<100Hz
Statistics	Totalisation, Wind Speed calculation etc.

PORTS - NANO K ONLY

RJ 11 Ports	2 x RJ11 Ports suitable for Davis Sensors

DATA LOGGING

Datalogging Time Period	Site Configurable
Expandable Memory	SD Card 16GB / 4GB eMMC
Data Transfer	FTP via modem and ETH ports

INBUILT MODEM/GPS (OPTIONAL)

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

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 × 80 mm
Mounting	DIN Rail
Weight	350g (Approx.)
Housing Material	Polycarbonate

ELECTRICAL

Voltage Input	9-32VDC
Power Consumption	With Cellular Modem : 2.80 Watt at 12VDC
	Without Cellular Modem : 1.35 Watt at 12VDC

SPECIAL FUNCTIONS

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

Feature Diagram

*For illustrative purposes only

Item	Designation	Description
A	SIM + Micro SD Card Slot	4G / 3G SIM Card Slot suitable for Global Use. Micro SD Card Slot for Up to 16GB of Data Storage
B	LAN Port	LAN Port for Data Communication and Telemetry via various protocols, Datalogger Configuration via Webserver
C	GPS and Cellular Antenna	GPS for Geo Location Tagging and Time Synchronisation, Calculation of Sunrise & Sunset Timings
D	Configurable Inputs (Pro Model) / RJ11 Ports for Davis Sensors (K Model)	Nano Pro Model: 2 x Configurable Input Ports (Pulse, 4-20mA, mV) Nano-K Model: 2 x RJ11 Input Ports for Davis Sensors
E	RS-485 Port	RS-485 Port for Data Collection or Data Output

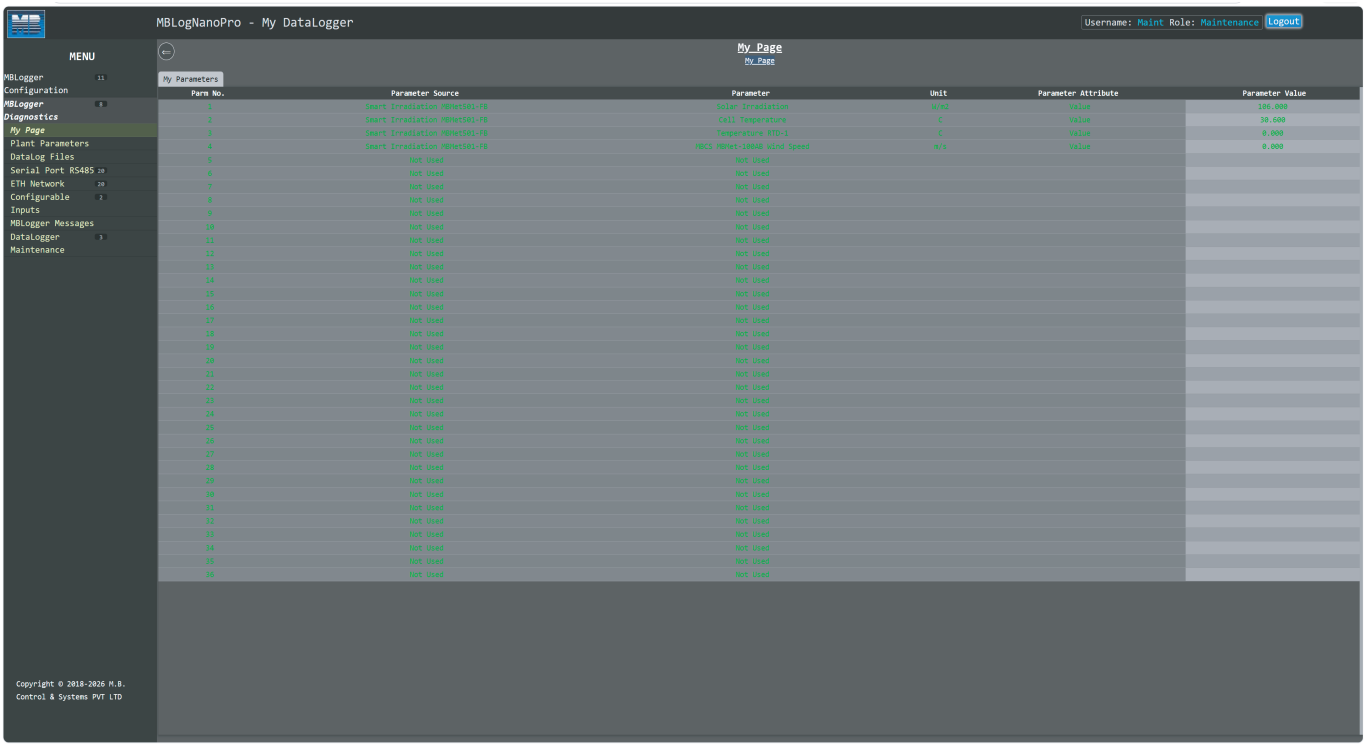
Ordering String

Order Code	A	B
MBLogger Nano		

Inputs	A
No Additional Inputs	X
2 x Configurable Inputs	Pro
2 x Davis Sensor Inputs	K

Cellular Modem + Built-In GPS	B
India	M
Global	G

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

Certifications

IEC-61000-4-18	Damped Oscillatory Wave Immunity Test
IEC-61000-4-8	Power Frequency Magnetic Field Immunity Test