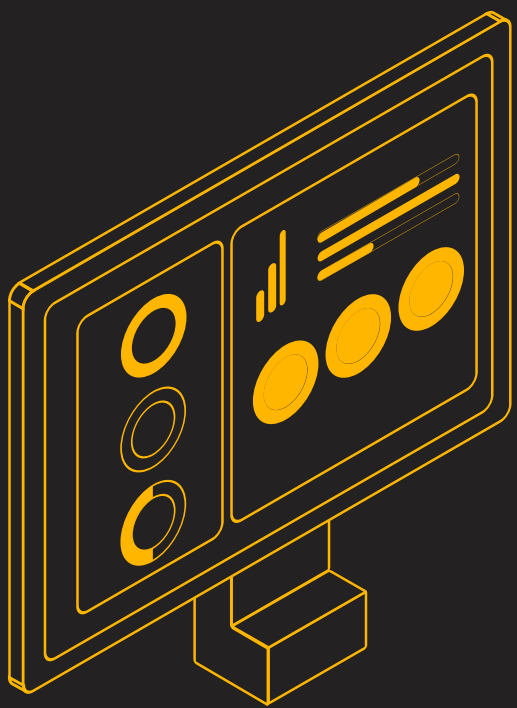
Monitoring & Control

Energy Management



12 Months

Guarantee on Product Material & Workmanship

Tesla Solar SA

Our advanced monitoring and control solutions provides real-time insights into your energy consumption and production through our Logger V2, Battery Management System (BMS), Battery Monitoring Unit (BMU), and mypower24 platform. By effectively managing your energy, you can optimize system performance, reduce costs, and contribute to a sustainable future.

Energy Management System (EMS)

The Energy Management System (EMS) is a comprehensive solution designed to monitor, control, and optimize the energy consumption and production of all connected systems.

The EMS integrates seamlessly with various brands and devices, including energy meters, generators, and inverters. This capability enables real-time adjustments to energy consumption and production, empowering you to make informed decisions for optimal system management. Regular reports provide insights into energy consumption, cost savings, and environmental impact.

Our EMS is **complimentary** with **no monthly fees**

- **Remote Configuration & Management**
- **Solar Inverter Integration**
- **Mini Grid Management**
- **Supports Multiple Energy Sources**
- **Peak Shaving**
- **Energy Arbitrage (Local Energy Exchange Integration)**
- **Zero Feed-In**

Compatibility

Solar MD batteries are compatible with specific inverters/chargers and MPPTs such as off-grid, hybrid, UPS inverters and more. We provide guidelines for other power electronic brands as well. We recommend integration with digital communication or voltage-based integration by both Solar and power electronics manufacturers.

We have tested and can recommend the below-mentioned popular inverter brands compatible with Solar MD batteries and Solar MD Logger V2 monitoring systems.

STUDER, SMA, KEHUA TECH, mlt INVERTERS, POWER SOLUTIONS, Deye, MICROCARE SOLAR ENERGY, victron energy, Voltronic Power, ATESS, SOFAR, SUN SYNK, MEGAREVO, SUNSPEC ALLIANCE, SUNGROW Clean power for all, GOODWE, SERMATEC, SINEXCEL, solis, ABB, HUAWEI

Tesla Solar SA

The Logger V2 is a comprehensive energy management system designed to monitor and control Solar MD energy storage solutions. It seamlessly integrates with a variety of equipment, including inverters, energy meters, weather stations, and other energy devices.

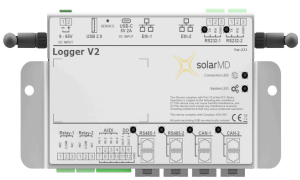
By acting as an internet gateway, the Logger V2 transmits data from these integrated devices to the mypower24 monitoring platform. This enables robust management of both battery/inverter systems and customer energy consumption for residential, commercial, and utility-scale solar, battery, and hybrid installations. The High-Performance Logger V2 offers easy and fast communication with automatic device discovery and connection.

Interfaces Include CAN Bus, RS232, RS485, Ethernet, And Wi-Fi (Client And Station).

Communicates with Supported Inverters, Energy Meters, Weather Stations, And Other Energy Devices.

Our Logger will enable our **customer support team** to **monitor** your system and **troubleshoot** issues.

Integrated **Programmable Relays** Digital Inputs, Digital Outputs, Analogue Input, Analogue Output For Load Control.



- **Remote Configuration & Management**
- **Battery & Inverter Management**
- **Supports Multiple Interfaces**
- **Plug & Play Installation**
- **Automatic Device Discovery**
- **Secure Data Transfer**

Logger V2

Serial Port Interface	RS232 / RS485 (2500V Isolation)
CAN BUS	CANBUS 1 / CANBUS 2 (2500V Isolation)
Relays	2x Dry contact (3A / 250VAC, 3A / 30VDC)
ETHERNET	ETH0 (Internet) / ETH1(Local)
Wi-Fi Access Point	IEEE 802.11g / DHCP server enabled
Wi-Fi Client (Station)	Connection to Internet / DHCP server enabled
DC Power Supply	9VDC - 65VDC / 5V 2A (USB C)
Dimensions (H x W x D)	140mm x 120.5mm x 34mm
Weight	0.634kg
Mounting System	Screws through flanges
Ambient Temperature	-40°C to 85°C
Environmental Protection	IP 20
Standard Warranty	12 months

mypower24 is a comprehensive management platform designed to simplify and centralize the control of your energy devices. Seamlessly integrating with your Logger V2, mypower24 offers a robust suite of features that effectively manage and optimize your energy infrastructure:

- **Real-Time Data & Insights:** Gain valuable insights into your energy usage with real-time data visualisation and historical records.
- **Safe & Secure:** High-security standards via certified authentication and encrypted data transfer.
- **Remote Management:** Remotely manage your system & devices for maximum efficiency.

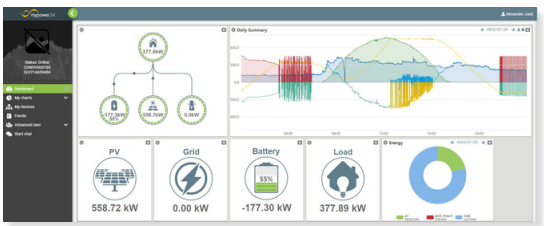
Interfaces

mypower24 offers two user interfaces: a mobile app for end clients and a web version for installers. Both platforms provide a centralized view of the energy system.

- **Dashboard:** Presents an overview of all connected devices and their energy performance.
- **Energy Flow Diagram:** Visualizes the energy flow within the system, allowing users to analyse battery, consumption, solar production, and other devices.
- **Device Status:** Displays the connectivity and product information of all connected devices.
- **Insights (Web Portal Only):** Detailed battery information, intuitive programming logic, and streamlined plant setup.



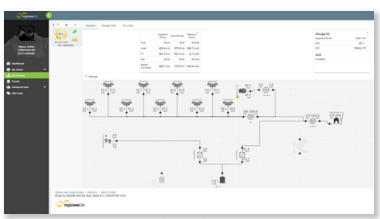
Mobile App (End Client)



Web Portal (Installer)

Power Plant Controller

The Plant Controller is an integral component of the mypower24 platform for the qualified installer. It serves as the central hub for device connectivity and the application of system logics.



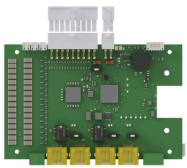
Key functionalities include:

- **System Visualization:** Create a single-line diagram representing your electrical system.
- **Device Management:** Encompass all connected devices within a unified interface.
- **Logic Configuration:** Define the desired behaviour and control parameters for each device.
  - Energy Arbitrage
  - Energy Management
  - Peak Shaving
  - Zero Feed-In

Each battery module features a sophisticated **Battery Management System (BMS)**. This system seamlessly communicates with the **Battery Management Unit (BMU)** to ensure optimal performance and safety in energy storage systems.

- **Data collection & storage for monitoring**
- **Efficient charging & discharging control**
- **Precise cell voltage measurement**
- **Built in temperature sensors**
- **Voltage management to prevent damage**
- **Cell balancing for extended lifespan**
- **SOC Calculation & Control**
- **CANBUS & RS485 Communication**

Battery Management System



Each Solar MD battery, whether low or high voltage, has its own Battery Management System (BMS) designed and built in-house. The BMS handles the internal functions of each battery.

In setups with multiple batteries, the BMS independently manages each one, ensuring a stable energy flow throughout the battery system. In a high-voltage system, the BMS communicates with the Battery Management Unit (BMU), which consolidates all the information and relays it to the mypower24 portal.

BMS-EX

Input Voltage	12 - 65 VDC
Status Indication LED	Status/Warning/Error
Main Dip Switch	on/off
Communication Ports	CANBUS 1 CANBUS 2 / RS458 Ethernet
Relays Isolated (200V- 0.2A)	2
Dimensions W x H x D	130mm x 170mm x 40mm
Weight	0.1 kg
Certification	CE / IEC61000

Battery Management Unit



The BMU is used in combination with the SS6143 modules and forms part of our high-voltage energy system. It is responsible for gathering data from the entire battery system, performing state of charge (SOC) calculations, and facilitating information exchange among the various battery modules in its cluster.

It ensures the safe and reliable operation of the entire energy storage system. Additionally, the BMU handles communication with external devices, such as PCS, HPS, and chargers.

BMU-H17-01

Operational Voltage	250 - 1000V DC
Max current	200A
Module output connectors	50mm² (70mm² Containerized solution)
Module input connectors	50mm²
Positive and negative fuse	1500VDC, 200A
Mechanical isolator	1500V, 250A
Power Consumption	2W (Standby) 7.6W (Max)
Communication Ports	CANBUS 1 CANBUS 2 CANBUS 3 / RS458 Ethernet
Dimensions	416.6mm x 361.7mm x 225.8mm
Weight	

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