

StoreMaster



# The perfect residential storage system



Maximizes the use of self-generated energy

Modular solar storage system

Compatible with most PV inverters

From 2.5 kWh to 30 kWh

Lithium Ion technology with long track record

**MASTERVOLT**  
THE POWER TO BE INDEPENDENT

# Storing self-generated energy independent from the grid

Having the ability to store energy in your house allows you to be more independent from the electrical grid, both financially and for reasons of security and/or comfort. Having your own renewable energy generation, by solar panels or wind turbines, is a first step, to include energy storage is the next!

Mastervolt offers attractive solutions for storing and using generated energy, and for backup power in case the grid fails. Each of the systems in the product family consists of perfectly balanced and field proven components, based on advanced technology that guarantees operational security and safety. Mastervolt energy systems are used in the most demanding environments including Volvo and Americas Cup ocean yacht racing.

## Installation possibilities

For new installs, Mastervolt can supply the complete system including a PV inverter. Retrofit systems are also available and will work with existing solar panels and inverter. The system is compatible with any brand of PV inverters.

## How does the system work?

Part of the energy produced by an existing PV system will be directly consumed. Any excess energy, not required by the appliances, will be stored in the batteries. With a regular system (without storage), at times when people are out, the energy generated by PV panels is not being used and will be sold to the grid. Adding a storage system allows this energy to be stored in the batteries, and used in the evening when the occupants of the house return. As a result, the system maximizes self-consumption of PV generated energy and the share of imported energy (purchased from the grid) is greatly reduced.

*Mastervolt energy storage systems operate totally automatically on a daily basis, charging the batteries with surplus power from the PV array when energy demand is low and providing power from the batteries when demand is high.*

## What if the grid fails?

In case of a power cut, the Mastervolt StoreMaster will automatically provide backup power from the batteries to feed essential circuits in the house. Once the grid supply returns, the system will resume normal operation.

# Choose the System to suit you

As indicated by the table below, Mastervolt offers a modular system allowing you to build the system to suit the specific needs of your Residential Storage System. Choices range in storage capacity, available power from the batteries, battery technology and the possibility of including a PV inverter (or excluding in case of an existing installation). Mastervolt has put together a number of predefined system configurations which suit most needs. Custom made systems are available on request.

Model	StoreMaster 2.5 MLI	StoreMaster 5.0 MLI	StoreMaster 10.0 MLI	StoreMaster 2.4 GEL	StoreMaster 4.8 GEL
Product code	135006025	135006050	135006100	135005024	135005048
<b>SYSTEM KIT CONTENT</b>					
Mass Combi	12/2500-100	24/2500-60	48/5000-70	12/2500-100	24/2500-60
Storage Controller	✓	✓	✓	✓	✓
Lithium Ion battery	MLI 12/2500 (1)	MLI 24/5000 (1)	MLI 24/5000 (2)		
Gel battery				MVG 12/200 (1)	MVG 12/200 (2)
<b>SPECIFICATIONS</b>					
Recommended PV array size	1-3 kWp	3-5 kWp	5-8 kWp	1-2.5 kWp	2.5-4 kWp
Gross battery capacity	2.5 kWh	5.0 kWh	10.0 kWh	2.4 kWh	4.8 kWh
Net battery capacity	2.0 kWh	4.0 kWh	8.0 kWh	1.2 kWh	2.4 kWh
Continuous backup power	2.5 kW	2.5 kW	5.0 kW	2.5 kW	2.5 kW
System voltage	12 V	24 V	48 V	12 V	24 V
Monitoring	Wireless monitoring using smart phone or tablet				

These systems consist of a combined charger/inverter, one or more batteries and a smart box, the Storage Controller. This Storage Controller optimizes the use of your solar generated energy as well as the batteries, and allows you to monitor the system's performance remotely through WiFi. In case your storage needs are more specific, please contact Mastervolt to help and find your specific solution.

## Optional: system in cabinet

Normally a system consists of separate components. This way it can easily be installed in a property where space is at a premium. Optionally the system can also be integrated in a single steel cabinet.

Please contact your sales representative at Mastervolt for these options.



# Build your modular system





### System example 1

This system creates the possibility to add energy storage to an existing PV system, that already contains solar panels and a grid connected PV inverter. It can supply 2.5 kW power from the battery to your home if needed. The energy capacity is 5 kWh, equal to half a day consumption (and thus independence) for an average household. It consists of three main components, a Mass Combi that combines a charger and inverter in one housing, a 'smart box' (Storage Controller) that manages all energy flows, and a Mastervolt Lithium Ion (MLI) Ultra battery.

**Components:** Storage Controller, Mass Combi 24/2500, MLI Ultra 24/5000

1



### System example 2

This system is ideal for a completely new PV installation, installing both solar energy generation and storage at the same time. It includes a Mastervolt grid connected PV inverter, for connecting up to 6 kWp of solar panels. The powerful Mass Combi is able to fully use the power those solar panels generate to charge the batteries. The two Mastervolt Lithium Ion batteries have a combined energy capacity of 10 kWh, an average day of autonomy.

**Components:** SunMaster ES4.6TL, Storage Controller, Mass Combi 48/5000, 2x MLI Ultra 24/5000

2



### System example 3

You also have the option to add a storage system to your existing PV installation which contains a smaller amount of energy storing capacity as in this example. You will still be able to benefit from the great advantages of Mastervolt's Lithium Ion technology, bringing the highest charging efficiency and longest cycle life amongst other things. In combination with the Mass Combi, this brings a maximum use of 2.5 kW AC power from your batteries, for many years to come.

**Components:** Storage Controller, Mass Combi 12/2500, MLI Ultra 12/2500

3



### System example 4

Residential energy storage can also be enjoyed using Mastervolt gel battery technology as in this example. These batteries are very well suited for daily deep cycle application typical for in-house energy storage. Compared to using Lithium Ion, you will have somewhat decreased efficiency and lifetime, but for a lower initial investment you will already be able to have your own energy storage and increased independence. With Mastervolt's modular setup there is a solution to all your needs.

**Components:** Storage Controller, Mass Combi 24/2500, 2x MYG 12/200

4

# Why choose Mastervolt?

All key components of the StoreMaster, such as charger, inverter, control electronics and Lithium Ion batteries, are designed and manufactured by Mastervolt. As a leading European manufacturer of energy systems, Mastervolt has more than 24 years of experience with power electronics as well as storage technology, and takes a market leading position in marine and mobile energy systems.



## Mass Combi

The Mastervolt Mass Combi combines the best of both worlds, with an advanced battery charger and silent inverter rolled into one compact device. Your storage batteries are charged quickly and completely, while the inverter provides silent and clean power. Rather than installing heavy transformers, our lightweight, high-frequency technology offers major benefits regarding size, weight and sound (no hum!). The technology also ensures an exceptionally high efficiency with a minimal conversion loss and a low no-load consumption.



## Storage Controller

The Storage Controller is the heart of the system. It provides the intelligence behind the system to maximize the self consumption of your solar generated energy. The controller provides comprehensive monitoring of your solar generation, grid exchange and overall energy consumption. Additionally, it includes a local battery status monitor. The monitoring system is WiFi enabled and can be viewed from every smartphone or tablet.



## Lithium Ion batteries

Mastervolt Lithium Ion batteries have a very high energy density and are perfect for deep cycle applications. They offer savings of up to 70% in volume and weight compared to traditional lead-acid batteries, with three times as many charging cycles (2000+ full cycles). They are equipped with a Battery Management System (BMS), which automatically compensates for any imbalance between the cells. This guarantees a constant high capacity and longer battery lifespan. An integrated smart shunt further simplifies the system and enhances safety.

Subject to change.

For more details and specifications of our products, go to [www.mastervolt.com](http://www.mastervolt.com)