

# Mass Combi Ultra 12/3000-150 (230 V)



Product code: 38013000

The Mass Combi Ultra series comprises several models, varying from 3000 W to 3500 W. For higher capacities up to 35 kW the Combi Ultra can be used in parallel or 3-phase configurations. An efficient and integrated solar charge regulator helps make the most of your solar panels.

The Mass Combi Ultra is equipped with the latest technologies. The new inverter technology ensures a uniquely low stand-by use, while an ultra-fast Digital Signal Processor guarantees seamless switching between all available energy sources. Power Assist prevents power dips and failures, even with a weak electricity connection or small generator. Moreover, all Mass Combi Ultra models are equipped with MasterBus.

### Higher yield from solar energy

At Mastervolt we used our knowledge gained in the grid connected solar sector to make a super-efficient built-in MPPT solar charge regulator. Compared to most solar charge regulators on the market, the MPPT offers up to 30 % more yield from solar panels. The solar panels power 'hidden' consumers and keep your batteries in optimal condition.

### Quiet operation

The Mass Combi Ultra can provide up to 50 % of the charging current or inverter capacity without fan cooling. This is perfect for night-time operation; if little power is consumed, the fan stops turning and goes silent. When maximum capacity is required, or the ambient temperature is very high, the Active Optima Cooling concept regulates the fan speed in a linear way, ensuring that it never spins too fast or makes any unnecessary ticking noises.

### Parallel and 3-phase operation

The Mass Combi Ultra functionality goes beyond stand-alone operation, the design also allows parallel and 3-phase configurations for larger applications up to 35 kW. For larger systems, an external transfer system is required.

### Dual AC inputs and outputs

The Mass Combi Ultra has inputs for generator or mains supply, each optimized for the power source. A robust intelligent transfer system switches seamlessly between AC power, generator and inverter, and ensures a constant power supply. Flickering lights or failure of electronic equipment belong to the past. Separate AC outputs provide the ability to power heavy users via mains and/or generator.

### Features

- For professional and semi-professional use.
- Quiet, powerful inverter with 200 % peak power.
- Compact, lightweight and hum-free thanks to HF technology.
- Pure sine wave voltage prevents malfunctions and damage to sensitive equipment such as adapters.
- High yield and more power from your batteries.
- Intelligent 3-step+ battery charger with low DC ripple current for fast charging times and long battery life.
- Power Assist: prevents blown fuses.
- A dynamic battery voltage window allows you to enjoy AC power for longer without damaging your batteries.
- Active Optima Cooling concept prevents unnecessary fan noise.
- Charges two individual battery banks simultaneously.
- An integrated MPPT solar charge controller allows for 30 % more yield from solar power for charging the

batteries.

- Quick installation and reliable professional connections.
- CE, ABYC and RMRS certified.

# Specifications

## Specifications sine wave inverter

|   |   |
|---|---|
| Nominal DC voltage                                    | 12 V (9.5-16 V)   |
| Output voltage  | 180-260 V, adjustable   |
| Output frequency                                      | 50/60 Hz ( $\pm 0.005\%$ ), configurable  |
| Output waveform                                       | true sine   |
| Continuous power at 40 °C / 104 °F, cos phi 1         | 3000 W  |
| Max. peak load  | 6000 W  |
| Max. efficiency                                       | $\geq 90\%$   |
| Max. ripple on DC (battery at full load)              | $< 5\%$   |
| No-load power consumption on DC (ON/inverter OFF/OFF) | 26 W / 4 W / 0 W  |
| Energy saving mode consumption                        | 7 W   |
| Parallel configuration                                | yes, up to 10 units (for larger systems, an external transfer system is required) |
| 3-Phase configuration                                 | yes, up to 3x3  |
| Synchronise with mains/generator                      | yes   |

## Specifications battery charger

|                                       |   |
|---------------------------------------|---|
| Input voltage range                   | 184-275 V   |
| Max. input current                    | 12 A  |
| Max. charge current at 40 °C / 104 °F | 150 A at 14.25 V, adjustable                          |
| Secondary charger output voltage      | 12 V  |
| Secondary charger output current      | 10 A  |
| Battery temperature sensor            | yes, included   |
| Battery voltage sense                 | through MasterShunt, otherwise automatic compensation |

## Specifications transfer system

|                          |                       |
|--------------------------|-----------------------|
| AC input (generator)     | 50 A (switched)       |
| AC input (mains)         | 30 A (switched)       |
| AC output 1              | 67 A                  |
| AC output 2              | 50 A (switched)       |
| AC input fuse            | no                    |
| Transfer speed           | seamless ( $< 1$ ms)  |
| Transfer voltage range   | 184-275 V, adjustable |
| Transfer frequency range | 35-68 Hz, adjustable  |

## Specifications solar input (DC)

|                     |                       |
|---------------------|-----------------------|
| Input voltage range | 25-50 V               |
| Max. PV peak power  | 500 Wp                |
| Max. input current  | 19 A                  |
| Max. charge current | 30 A at 14.25V        |
| MPP Tracker         | full power at 25-50 V |

## General specifications

|                   |  |
|-------------------|--|
| Display/read-out  | LED display                                  |
| Dimensions, hwxwx | 472 x 318 x 178 mm<br>18.6 x 12.5 x 7.0 inch |
| Weight            | 15.3 kg<br>33.7 lb                           |
| Approvals         | CE, E-mark, ABYC, RMRS                       |

## Technical specifications

|                                   |  |
|-----------------------------------|--|
| Charge characteristic             | IUoUo, automatic / 3-step+ for Gel/AGM/MLI/ flooded/spiral/traction    |
| Recommended battery capacity      | $\sim 300-900$ Ah (based on gel batteries, may differ for other types) |
| Ground relay                      | yes, configurable  |
| Temperature range (ambient temp.) | $-25$ °C to $60$ °C, derating $> 40$ °C                                |

Cooling  
Protection degree  
Safety class  
Humidity protection  
Protections  
Power Assist  
MasterBus compatible

-13 to 140 °F  
vario fan  
IP23 (vertical mounting)  
IEC protection class I  
conformal coating, max. 95 % relative humidity, non condensing  
over temperature, overload, short circuit, high/low battery voltage  
yes  
yes