

Mass Combi Ultra 24/3500-100 (230 V)



Product code: 38023500

The Mass Combi Ultra series comprises several models, varying from 3000 W to 5000 W. For higher capacities up to 40 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 'V6' 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.

'Pro' models

For professional applications, Mastervolt offers a 'Pro' model, featuring all Ultra functions, but without the solar input and secondary battery charger.

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 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.

Exceptional performance

The inverter is quiet, clean and efficient, and offers the full capacity even in extreme ambient temperatures. Pure sine wave energy and a peak capacity of 200 % guarantee a problem-free start, even for the heaviest loads.

Optimal battery use

The powerful battery charger simultaneously charges two battery banks and provides a full charge current in ambient temperatures up to 40 °C. Meticulous load properties and a low ripple current guarantee a long battery life. The 24 V model can combine 12 V and 24 V battery banks.

Specifications

Specifications sine wave inverter

Nominal DC voltage	24 V (19-32 V)
Output voltage	230 V ($\pm 2\%$), adjustable 180-260 V
Output frequency	50/60 Hz ($\pm 0.005\%$), configurable
Output waveform	true sine, Thd < 1 % under standard conditions
Continuous power at 40 °C / 104 °F, cos phi 1	3500 W
Max. peak load	7000 W
Max. efficiency	$\geq 92\%$
Max. ripple on DC (battery at full load)	< 5 %
No-load power consumption on DC (ON/inverter OFF/OFF/energy saving)	16 W / 4 W / 0 W / 7 W
Parallel configuration	yes, up to 10 standard
3-Phase configuration	yes, up to 3x3
Synchronise with mains/generator	yes

Specifications battery charger

Input voltage range	184-275 V
Max. input current	16 A
Max. charge current at 40 °C / 104 °F	100 A at 28.5 V, adjustable
Secondary charger output voltage	12/24 V selectable
Secondary charger output current	10 A
Battery temperature sensor	yes, included
Battery voltage sense	through MasterShunt, otherwise automatic compensation

Specifications transfer system

AC input 1	50 A (generator only, switched)
AC input 2	30 A (mains only, 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	25-100 V
Max. PV peak power	500 Wp
Max. input current	19 A
Max. charge current	15 A at 28.5 V

MPP Tracker

full power at 35-80 V

General specifications

Display/read-out

LED display

Dimensions, hxwx d

472 x 318 x 178 mm

18.6 x 12.5 x 7.0 inch

Weight

15.3 kg

33.7 lb

Approvals

CE, ABYC

Technical specifications

Charge characteristic

3-step+ (IUoUo, fully automatic)

Battery types

AGM/gel/MLI/flooded/spiral/traction

Recommended battery capacity

~ 200-600 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

-13 to 140 °F

Protection degree

IP23 (vertical mounting)

Safety class

IEC protection class I

Humidity protection

conformal coating, max. 95 % relative humidity, non condensing

Protections

over temperature, overload, short circuit, high/low battery voltage

Cooling

maintenance free vario fans

Power Assist

yes

MasterBus compatible

yes