

Specifications Mass Combi Ultra

AVAILABLE
Q1 2015



**Mass Combi Ultra
12/3000-150**

38013000



**Mass Combi Ultra
24/3500-100**

38023500

UPCOMING
MODEL



**Mass Combi Ultra
24/5000-125**

38025000

UPCOMING
MODEL



**Mass Combi Ultra
24/7000-200**

38027000

Product code	38013000	38023500	38025000	38027000
GENERAL SPECS				
Display/read-out	LED display	LED display	LED display	LED display
Dimensions, hxxwxd	472 x 318 x 175 mm 18.6 x 12.5 x 6.9 inch	472 x 318 x 175 mm 18.6 x 12.5 x 6.9 inch	522 x 318 x 175 mm 20.6 x 12.5 x 6.9 inch	472 x 318 x 330 mm 18.6 x 12.5 x 13.0 inch
Weight	15 kg / 33.1 lb	15 kg / 33.1 lb	30 kg / 66.1 lb	30 kg / 66.1 lb
Approvals	CE, ABYC	CE, ABYC	CE, ABYC	CE, ABYC
TECHNICAL SPECS				
Charge characteristic	IUoU, automatic 3-step+ for AGM/gel/Lithium Ion/ flooded/flooded traction/ spiral/NiCad	IUoU, automatic 3-step+ for AGM/gel/Lithium Ion/ flooded/flooded traction/ spiral/NiCad	IUoU, automatic 3-step+ for AGM/gel/Lithium Ion/ flooded/flooded traction/ spiral/NiCad	IUoU, automatic 3-step+ for AGM/gel/Lithium Ion/ flooded/flooded traction/ spiral/NiCad
Ground relay	adjustable	adjustable	adjustable	adjustable
Temperature range (ambient temp.)	-25 °C to 60 °C, derating > 40 °C	-25 °C to 60 °C, derating > 40 °C	-25 °C to 60 °C, derating > 40 °C	-25 °C to 60 °C, derating > 40 °C
Protection degree	IP23	IP23	IP23	IP23
Protections	over temperature, AC over load, AC short circuit, DC short circuit, high battery, low battery	over temperature, AC over load, AC short circuit, DC short circuit, high battery, low battery	over temperature, AC over load, AC short circuit, DC short circuit, high battery, low battery	over temperature, AC over load, AC short circuit, DC short circuit, high battery, low battery
MasterBus compatible	yes	yes	yes	yes
SPECS SINE WAVE INVERTER				
Nom. DC voltage	12 V (9.5 – 15.5 V)	24 V (19 – 32 V)	24 V (19 – 32 V)	48 V (38 – 62 V)
Output voltage (± 2%)	230 V - 50/60 Hz (± 0.005%) adjustable	230 V - 50/60 Hz (± 0.005%) adjustable	230 V - 50/60 Hz (± 0.005%) adjustable	230 V - 50/60 Hz (± 0.005%) adjustable
Output waveform	true sine wave, Thd < 1% under standard conditions	true sine wave, Thd < 1% under standard conditions	true sine wave, Thd < 1% under standard conditions	true sine wave, Thd < 1% under standard conditions
Cont. power at 40 °C, cos phi 1	3000 W	3500 W	5000 W / 7000 W	5000 W / 7000 W
Surge capability	5400 W	7000 W	10000 W / 14000 W	10000 W / 14000 W
Parallel configuration	yes, up to 10 standard	yes, up to 10 standard	yes	yes
3-Phase configuration	yes	yes	yes	yes
Max. efficiency	90%	91%	92%	93%
Max. ripple on DC (battery)	< 10%	< 10%	< 10%	< 10%
No-load power consumption (ON/inverter OFF/OFF)	16 W / 2 W / 0 W	16 W / 2 W / 0 W	n.a.	n.a.
SPECS BATTERY CHARGER				
Nom. input voltage	180 – 275 V	180 – 275 V	180 – 275 V	180 – 275 V
Nom. battery voltage	12 V	24 V	24 V	48 V
Max. charge current at 40 °C	150 A at 14.25 V	100 A at 28.5 V	125 A at 28.5 V	200 A at 28.5 V
Charge method secondary charger	IUoU, automatic 3-step+ or constant voltage	IUoU, automatic 3-step+ or constant voltage	IUoU, automatic 3-step+ or constant voltage	IUoU, automatic 3-step+ or constant voltage
Secondary charger output voltage	12 V	12/24 V adjustable	12/24 V adjustable	12/24 V adjustable
Secondary charger output current	10 A	10 A	10 A	10 A
Temperature sensor battery	yes, included	yes, included	yes, included	yes, included
SPECS TRANSFER SYSTEM				
Generator input (switched)	50 A	50 A		
Mains input (switched)	30 A	30 A		
AC output 1	67 A	67 A		
AC output 2 (switched)	50 A	50 A		
Transfer time	seamless (UPS, < 1 ms)	seamless (UPS, < 1 ms)		
Transfer voltage range (adjustable)	180 – 275 V	180 – 275 V		
Transfer frequency range (adjustable)	35 – 65 Hz	35 – 65 Hz		
Power Sharing / Generator / Mains Support	yes	yes		
SOLAR INPUT DC SPECS				
Input voltage range	15-100 V	15-100 V		
Max. PV power	500 Wp	500 Wp		
Max. input current	18 A	18 A		
Max. charge current	30 A at 14.25 V	15 A at 28.5 V		
MPP voltage range at nom. power	35-80 V	35-80 V		



AVAILABLE
Q1 2015



**Mass Combi Ultra
48/3500-50**

38043500

UPCOMING
MODEL



**Mass Combi Ultra
48/5000-60**

38045000

UPCOMING
MODEL



**Mass Combi Ultra
48/7000-100**

38047000

LED display

472 x 318 x 175 mm
18.6 x 12.5 x 6.9 inch

15 kg / 33.1 lb

CE, ABYC

LED display

522 x 318 x 175 mm
20.6 x 12.5 x 6.9 inch

30 kg / 66.1 lb

CE, ABYC

LED display

472 x 318 x 330 mm
18.6 x 12.5 x 13.0 inch

30 kg / 66.1 lb

CE, ABYC

IUoU, automatic 3-step+
for AGM/gel/Lithium Ion/
flooded/flooded traction/
spiral/NiCad
adjustable

-25 °C to 60 °C,
derating > 40 °C

IP23

over temperature, AC over
load, AC short circuit, DC
short circuit, high battery,
low battery

yes

IUoU, automatic 3-step+
for AGM/gel/Lithium Ion/
flooded/flooded traction/
spiral/NiCad
adjustable

-25 °C to 60 °C,
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adjustable

-25 °C to 60 °C,
derating > 40 °C

IP23

over temperature, AC over
load, AC short circuit, DC
short circuit, high battery,
low battery

yes

48 V (38 – 62 V)

230 V - 50/60 Hz (± 0.005%)
adjustable

true sine wave, Thd < 1%
under standard conditions

3500 W

7000 W

yes, up to 10 standard

yes

93%

< 10%

16 W / 2 W / 0 W

48 V (38 – 62 V)

230 V - 50/60 Hz (± 0.005%)
adjustable

true sine wave, Thd < 1%
under standard conditions

5000 W / 7000 W

10000 W / 14000 W

yes

yes

93%

< 10%

n.a.

48 V (38 – 62 V)

230 V - 50/60 Hz (± 0.005%)
adjustable

true sine wave, Thd < 1%
under standard conditions

5000 W / 7000 W

10000 W / 14000 W

yes

yes

93%

< 10%

n.a.

180 – 275 V

48 V

50 A at 57 V

IUoU, automatic 3-step+
or constant voltage

12/24 V adjustable

10 A

yes, included

180 – 275 V

48 V

60 A at 57 V

IUoU, automatic 3-step+
or constant voltage

12/24 V adjustable

10 A

yes, included

180 – 275 V

48 V

100 A at 57 V

IUoU, automatic 3-step+
or constant voltage

12/24 V adjustable

10 A

yes, included

50 A

30 A

67 A

50 A

seamless (UPS, < 1 ms)

180 – 275 V

35 – 65 Hz

yes

15-100 V

500 Wp

18 A

7.5 A at 57 V

35-80 V



Separate second charger

All Mass Combi Ultras have an integrated second charger which (in most cases) can charge both 12 V and 24 V batteries; a practical function that simplifies installation and reduces costs for the end user.

Quiet operation

The Mass Combi Ultra provides a high yield that, combined with the Active Optima Cooling concept, ensures minimal use of the fan. The advanced thermal design offers an optimal performance when needed, and quiet operation when required. The Combi can provide up to 50% of the charging current or inverter capacity without fan cooling.

Parallel and 3-phase operation

The Mass Combi Ultra functionality goes beyond stand-alone operation; the design allows parallel and 3-phase operation for larger applications up to 35 kW.