



# AC Master

PURE SINE WAVE INVERTER

12/700, 12/1000, 12/1500, 12/2000

24/700, 24/1000, 24/1500, 24/2000



EN USER AND INSTALLATION MANUAL

10000011348/03

## Product description

The AC Master is a sine wave inverter. The AC Master converts DC energy from the battery into AC output power.

### Identification label

# MASTERVOLT

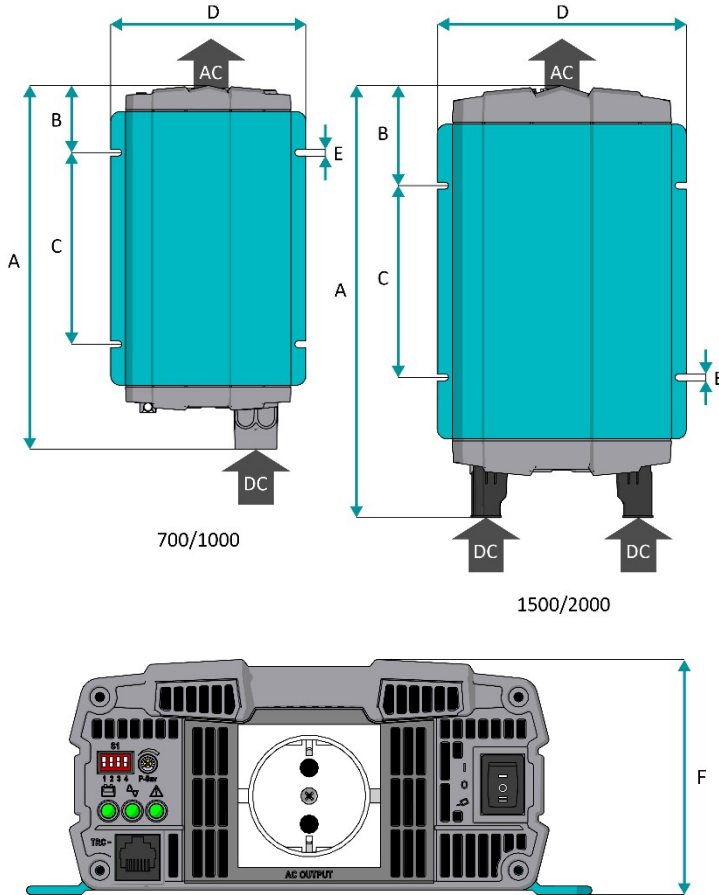
PartNo: 28010700  
Type: AC MASTER 12/700-230  
Input: 12Vdc, 70A<sub>dc</sub>  
Output: 200/220/230/240Vac, 50/60Hz, 700W

Serial no.: FO06A0001

IP21      

Made in the PRC

Never remove the identification label.

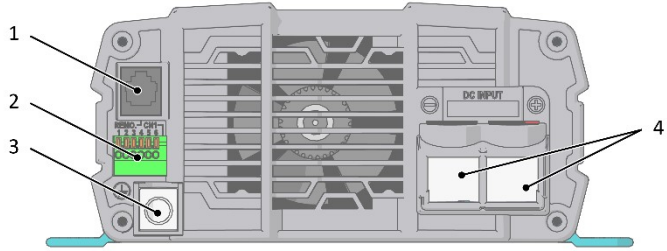


## Dimensions

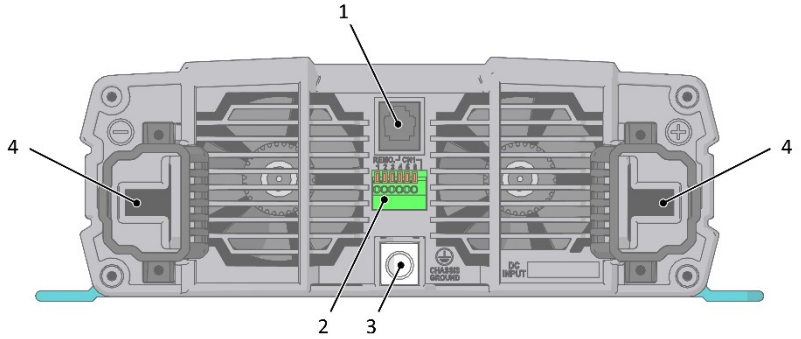
### Model

	A (mm/in)	B (mm/in)	C (mm/in)	D (mm/in)	E (mm/in)	F (mm/in)
<b>700</b>	330 / 13,0	80 / 3,1	132 / 5,2	200 / 7,9	7 / 0,3	83 / 3,3
<b>1000</b>	372 / 14,6	69 / 2,7	196 / 7,7	200 / 7,9	7 / 0,3	83 / 3,3
<b>1500</b>	421 / 16,6	92 / 3,6	196 / 7,7	248 / 9,8	7 / 0,3	83 / 3,3
<b>2000</b>	443 / 17,4	103 / 4,1	196 / 7,7	248 / 9,8	7 / 0,3	83 / 3,3

700/1000



1500/2000

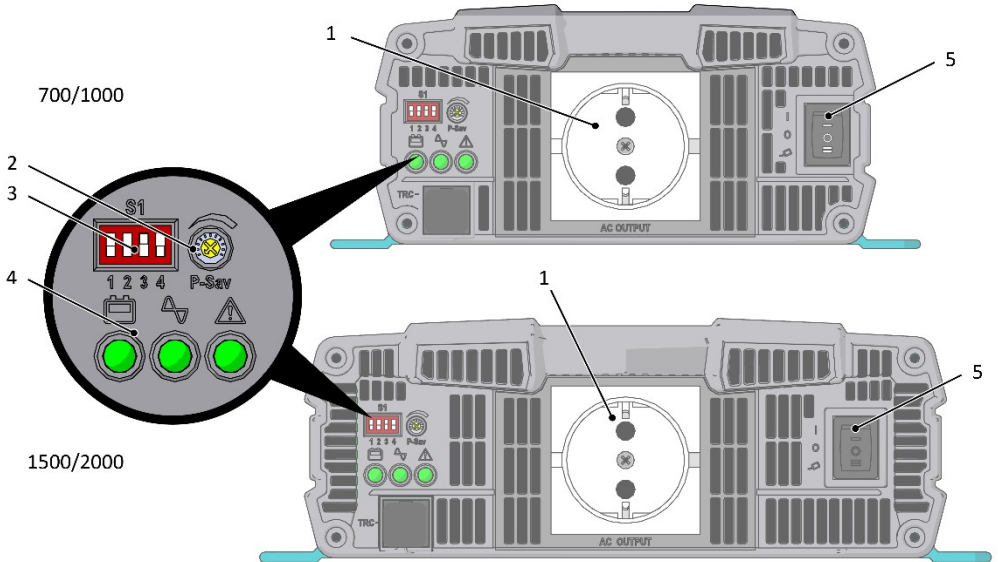
**DC input**

1 Remote port (RJ-11)

2 Remote control terminal

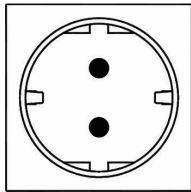
3 Chassis ground terminal

4 Battery input

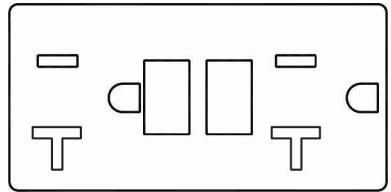


## AC output

- 1 AC output socket



SCHUKO EU



GFCI US

- 2 Power saving mode adjustment

- 3 DIP switches

- 4 LED indicators

- 5 Main switch

## Installation instructions

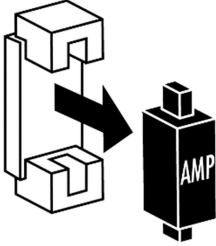


This section provides a step by step instruction of the basic installation of the AC Master. However; please review the entire manual for connection of additional features and to ensure best performance and years of trouble-free operation.

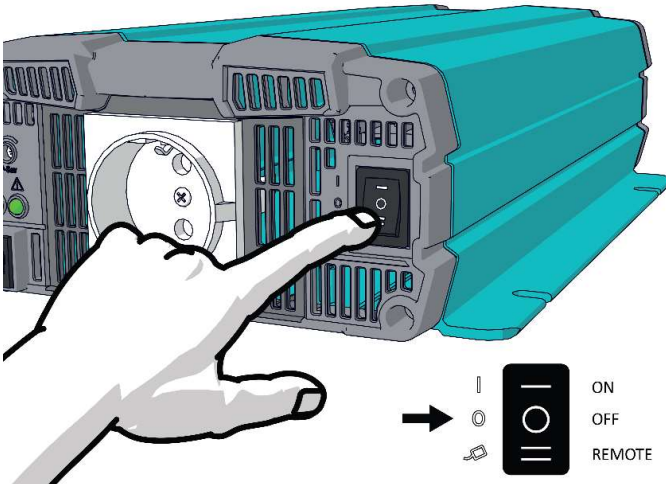


Read the safety instructions! See section 1 on page 12.  
Use isolated tools!

1. Disconnect power supplies

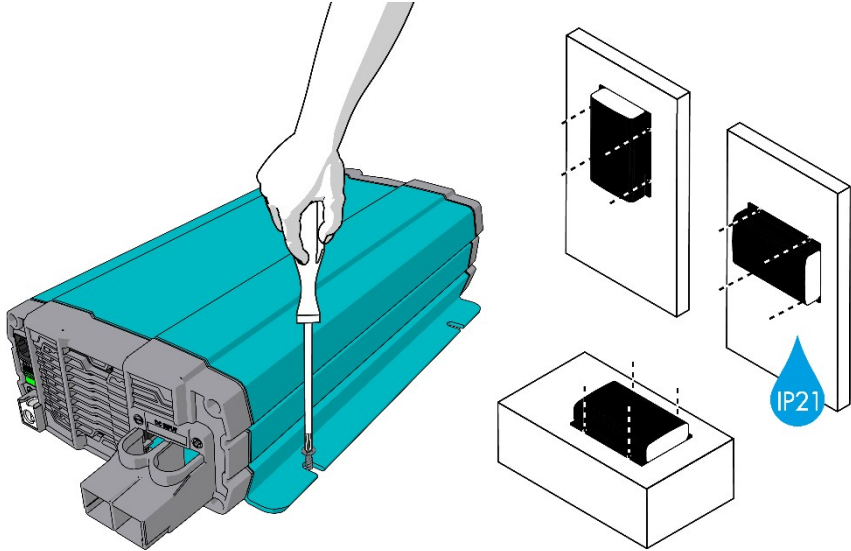


2. Switch OFF the AC Master

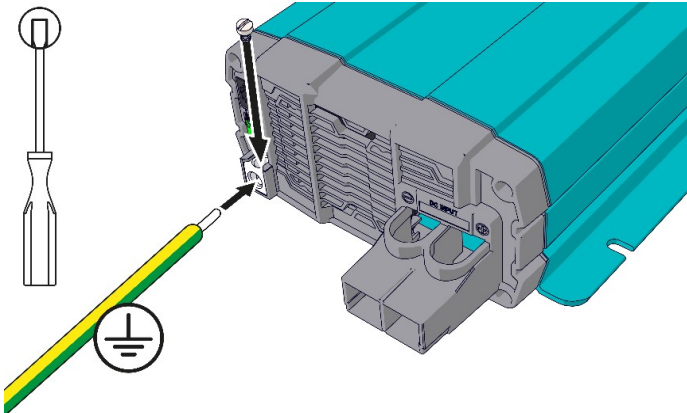


3. Select a location that complies with section 6 on page 13.

4. Mount the AC Master with four screws to a solid surface.



5. Connect the chassis ground terminal to the central grounding point of the vehicle/ship.

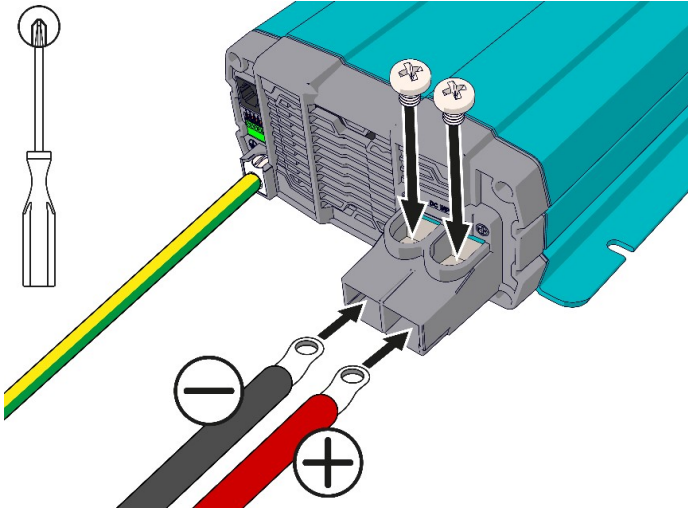




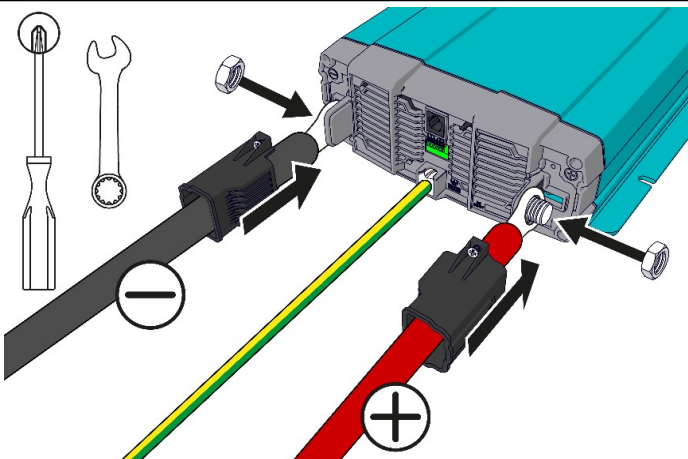
6. Optional: Connect remote panel or remote switch, see section 6 on page 13.

7. Connect the battery to the DC input.

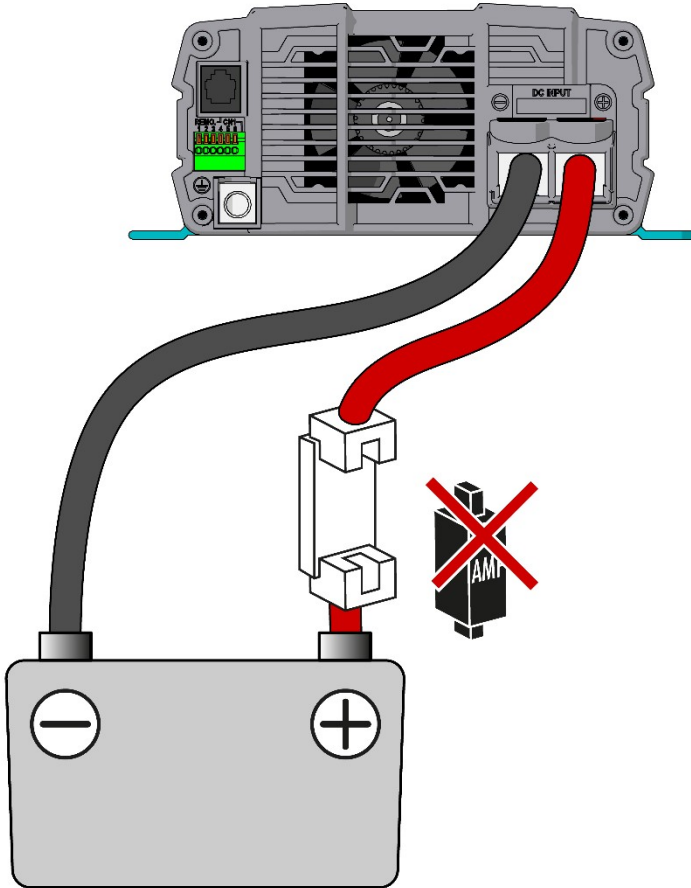
700/1000



1500/2000



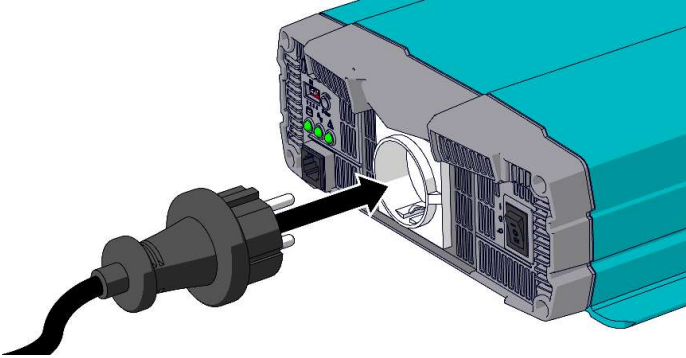
8. Integrate a fuse holder in the positive battery wire, but do not place the fuse yet.



9. Connect the AC load.

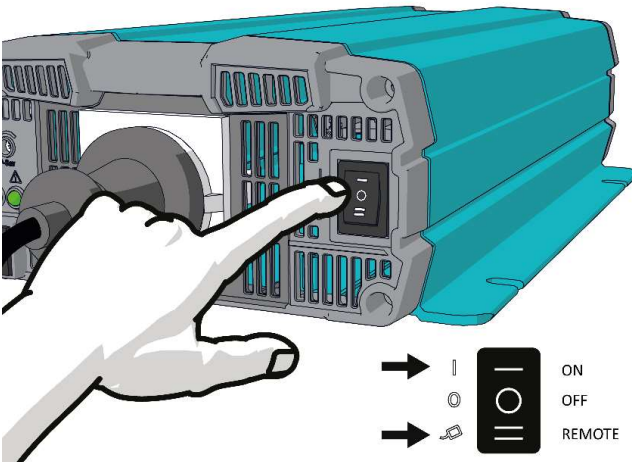


See section 5 on page 13 for instructions on neutral grounding.



10. Check all wiring. If all wiring is OK: Place the inverter fuse.

11. Switch ON the AC Master. In case of remote operation choose REMOTE.



## 1. Safety instructions



### WARNING!

Read the entire manual before using the AC Master. Keep the manual at a safe location for future reference.

- Use the AC Master following the instructions and specifications stated in this manual.
- Connections and safety features must be executed according to the locally applicable regulations.
- Operation of the AC Master without proper grounding may lead to hazardous situations!
- Use DC-cables with an appropriate size. Integrate a fuse in the positive wiring and place it nearby the battery. Refer to the specifications.
- If the positive and negative wires on the DC-input (battery) are exchanged, the AC Master will be damaged. Damage of this kind is not covered by guarantee. Check whether all connections are connected correctly before placing the fuse.
- Do not connect the AC-output of the AC Master to an incoming AC source.
- Never connect the AC Master in parallel with any other inverter.
- Never open the housing as high voltages may be present inside!

## 2. Liability

Mastervolt cannot be held liable for:

- Consequential damage resulting from the use of the AC Master.
- Possible errors in the included manual and the consequences of these.
- Use that is inconsistent with the purpose of the product.

## 3. Warranty

Mastervolt assures the product warranty of the AC Master during two years after purchase, on the condition that the product is installed and used according to the instructions in this manual.

Installation or use not according to these instructions may result in under performance, damage or failure of the product and may void this warranty. The warranty is limited to the cost of repair and/or replacement of the product. Costs for labour or shipping are not covered by this warranty.

## 4. Correct disposal of this product

(Waste Electrical & Electronic Equipment)



This product is designed and manufactured with high quality materials and components, which can be recycled and reused. When this crossed-out wheeled bin symbol is attached to a product, it means the product is covered by the European Directive 2012/19/EU.

Please be informed about the local separate collection system for electrical and electronic products. Please act according to your local rules and do not dispose of your old products with your normal household waste. The correct disposal of your old product will help prevent potential negative consequences to the environment and human health.

## 5. Neutral grounding

For safe installation:

- The chassis ground terminal must be connected to the central grounding point of the vehicle/ ship.
- The neutral conductor (N) of the AC output of the AC Master must be connected to the safety ground (PE/GND) and a ground fault circuit-interrupter (GFCI) must be integrated in the wiring of the AC output. Note that the AC output socket of the 120 V models, has a built-in GFCI!

Refer to locally applicable regulations on these issues!

## 6. Installation

The basic installation is described step-by-step at the beginning of this manual. The location requirements, the recommended wire sizes, the optional remote panel and the optional remote control terminal are described in the following sections.

### Choosing a location to install

- Install the AC Master in a well-ventilated room protected against rain, snow, spray, vapour, bilge, moisture and dust.
- Ambient temperature:  $-25 \dots 60^{\circ}\text{C}$  /  $-13 \dots 140^{\circ}\text{F}$ .
- Never use the AC Master at a location where there is danger of gas or dust explosions.
- Mount the AC Master in such a way that obstruction of the airflow through the ventilation openings is prevented. No objects must be located within a distance of 10 cm / 4 inch around the AC Master.
- Do not install the AC Master in the same compartment as the batteries. Do not mount the AC Master straight above the batteries because of possible corrosive sulphur fumes.

### Recommended wire sizes DC

Model 12 V	Minimum cross section		Model 24 V	Minimum cross section	
700	25 mm <sup>2</sup>	4 AWG	700	16 mm <sup>2</sup>	6 AWG
1000	35 mm <sup>2</sup>	2 AWG	1000	16 mm <sup>2</sup>	6 AWG
1500	50 mm <sup>2</sup>	1/0 AWG	1500	25 mm <sup>2</sup>	4 AWG
2000	70 mm <sup>2</sup>	2/0 AWG	2000	35 mm <sup>2</sup>	2 AWG

### Recommended wire sizes AC

Model 12 V and 24 V	Minimum cross section	
700	0,50 mm <sup>2</sup>	20 AWG
1000	0,75 mm <sup>2</sup>	18 AWG
1500	1,00 mm <sup>2</sup>	17 AWG
2000	1,50 mm <sup>2</sup>	16 AWG
700 (120 V)	1,00 mm <sup>2</sup>	17 AWG
2000 (120 V)	2,50 mm <sup>2</sup>	14 AWG

### Remote panel (optional)

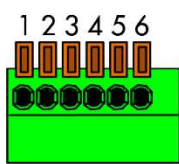
Optionally the remote panel is connected to the remote port (RJ-11) on the DC input side. Before using the remote panel, make sure the main switch is at "REMOTE" position before startup.

### Remote control terminal (optional)

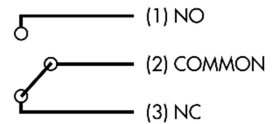
The remote control terminal offers two functions:

- Alarm contact (dry contact)  
The alarm contact switches when a fault occurs.
- Remote switch  
Install a switch for remote operation. Make sure the main switch is at "REMOTE" position.

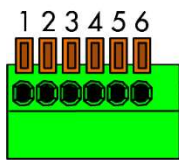
#### Alarm contact (maximum load 30 V / 1 A)



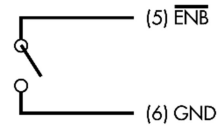
- |   |                      |
|---|----------------------|
| 1 | Normally Open (NO)   |
| 2 | Common               |
| 3 | Normally Closed (NC) |



#### Remote control

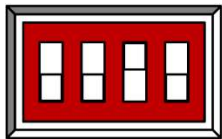


- |   |   |
|---|---|
| 4 | Enable + (ENB)  |
| 5 | Enable - ( $\overline{\text{ENB}}$ )                        |
| 6 | Ground (GND)<br>(same polarity with negative battery input) |



## 7. Configuration

### DIP switch functions



1 2 3 4

- |   |                            |
|---|----------------------------|
| 1 | Output voltage selection   |
| 2 | Output voltage selection   |
| 3 | Output frequency selection |
| 4 | Power saving mode ON/OFF   |

### Output voltage selection

Output voltage	DIP switch 1	DIP switch 2
200 V / 100 V	OFF	OFF
220 V / 110 V	ON	OFF
230 V / 115 V	OFF	ON
240 V / 120 V	ON	ON

### Output frequency selection

Frequency	DIP switch 3
-----------	--------------

50 Hz	OFF
-------	-----

60 Hz	ON
-------	----

To save energy from the battery in no load operation, DIP switch 4 can be used to enable the Power Saving Mode.

### Power Saving Mode

Mode	DIP switch 4
------	--------------

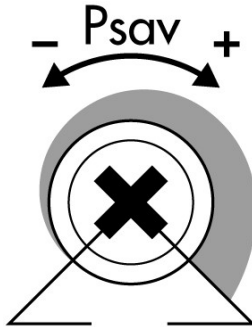
Power Saving OFF	OFF
------------------	-----

Power Saving ON	ON
-----------------	----

The Power Saving Mode scans the output and compares the detected load to the set threshold values. When a load is detected which is lower than the Power Save threshold value, the inverter switches into Power Saving Mode. When a load is detected which is higher than the Wake Up threshold value, the inverter is switched on.

The threshold values for Power Save and Wake Up are both set with the variable resistor. The variable resistor is located on the right of the DIP switches. The minimum and maximum threshold values are described in the following table.

### Power saving load adjustment

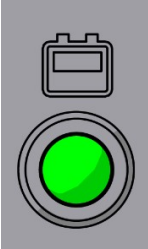


Threshold type	Min	Max
Power save threshold	20 VA	110 VA
Wake up threshold	40 VA	160 VA

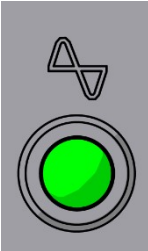
## 8. Operation

### LED indicators

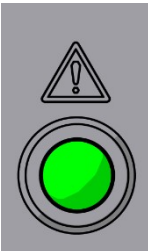


#### Input Voltage Level LED

	LED status	DC 12 V	DC 24V
	Red	< 11.0 V	< 22.0 V
	Orange	11.0 ~ 11.5 V	22.0 ~ 23.0 V
	Green	11.5 ~ 15.0 V	23.0 ~ 30.0 V
	Orange	15.0 ~ 15.5 V	30.0 ~ 31.0 V
	Red	>15.5 V	>31.0 V






#### Output Load Level LED

	LED status	Power
	Green	0 – 100%
	Orange	100 - 115%
	Red	> 115%

#### Status LED

	Led indication	Meaning	What to do?
	 Green	Power OK	Normal operation
	 Red (+ audible beep)	Over Load Protection	Reduce the load and/or check the AC wiring for possible short circuits. Then reset the inverter manually by switching the main switch off and on again.



LED indication	Meaning	What to do?
 Red, slow blinking	DC-input voltage too low	Check if DC input voltage too low because of voltage drop across the DC cables due to too long or too narrow cables. Reduce the length of the DC cables or use cables with a larger gauge.  Loose or corroded connections: Tighten the connections; burnt cables must be corrected immediately.  Flat battery: Disconnect the load and recharge the battery
 Red, fast blinking	DC-input voltage too high	Check battery voltage and switch off charger.
 Orange	Starting	Normal operation
 Orange, slow blinking	Internal temperature too high	Check the airflow through the inverter. The operation of the cooling fan may not be blocked.
 Orange, fast blinking	Internal temperature too low	Check ambient temperature

#### Other LED indications and possible causes

LED indication	Possible cause	What to do?
All LED indicators are off	Main switch is set to the OFF position	Set the main switch in ON position
	Main switch is set to REMOTE but no remote present	Set the main switch in ON position
	The remote switch is off (if applied)	Close the remote operation switch
	DC fuse blown	Replace the fuse
All LED blinking green every 5 seconds	Power save mode	Normal operation

	<b>AC Master 12/700-230</b>	<b>AC Master 24/700-230</b>
<i>Product code</i>	28010700	28020700
<b>General specifications</b>		
Output voltage	200/220/230/240 Vac ( $\pm 3\%$ ) – 50/60 Hz ( $\pm 0,5\%$ )	200/220/230/240 Vac ( $\pm 3\%$ ) – 50/60 Hz ( $\pm 0,5\%$ )
Output waveform	True sine	True sine
Nom. battery voltage	12 V	24 V
Cont. power at 40°C, cos phi 1	700 W	700 W
Peak load	< 810 W (1 min) < 1400 W	< 810 W (1 min) < 1400 W
AC connection	Continental European (SCHUKO)	Continental European (SCHUKO)
Efficiency (Max)	$\geq 91\%$	$\geq 93\%$
Display/read-out	3 x LED	3 x LED
Dimensions, hxxwxd	200 x 330 x 83 mm	200 x 330 x 83 mm
Weight	2,6 kg	2,6 kg
Approvals	CE, Safety: EN60950-1, E-mark: CISPR25, ISO11452-2, ISO7637-2, EMC: EN55022, EN55024, EN61000- 3-2; -3-3, EN61000-4,2,3,4,5,6,8,11	CE, Safety: EN60950-1, E-mark: CISPR25, ISO11452-2, ISO7637-2, EMC: EN55022, EN55024, EN61000- 3-2; -3-3, EN61000-4,2,3,4,5,6,8,11
<b>Technical specifications</b>		
Technology	High frequency	High frequency
Low battery voltage, switches off at	10,5 V	21,0 V
Low battery voltage, switches on at	12,5 V	25,0 V
High battery voltage, switches off at	16,5 V	33,0 V
High battery voltage, switches on at	14,5 V	29,0 V
Input current (nominal load)	70 A	35 A
No-load power consumption (ON mode)	< 1,5 A @ 12 V	< 0,8 A @ 24 V
No-load power consumption (Energy Saving mode)	< 0,1 A @ 12 V	< 0,06 A @ 24 V
Min. DC fuse (slow blow)	100 A	50 A
Min. cable size	25 mm <sup>2</sup>	16 mm <sup>2</sup>
Harmonic distortion typical	< 5%	< 5%
Cos phi	All power factors allowed	All power factors allowed
Temperature range (ambient temp.)	-20°C to 60°C, derating > 40°C (60°C: 40%)	-20°C to 60°C, derating > 40°C (60°C: 40%)
Cooling	Fan	Fan
Protection degree	IP21 (if horizontally wall mounted)	IP21 (if horizontally wall mounted)
Protections	Over temperature, over load, short circuit, high/low battery voltage	Over temperature, over load, short circuit, high/low battery voltage
<b>Options</b>		
Remote control	Yes	Yes

	<b>AC Master 12/700-120</b>	<b>AC Master 24/700-120</b>
<i>Product code</i>	28015700	28025700
<b>General specifications</b>		
Output voltage	100/110/115/120 Vac ( $\pm 3\%$ ) – 50/60 Hz ( $\pm 0,5\%$ )	100/110/115/120 Vac ( $\pm 3\%$ ) – 50/60 Hz ( $\pm 0,5\%$ )
Output waveform	True sine	True sine
Nom. battery voltage	12 V	24 V
Cont. power at 40°C, cos phi 1	700 W	700 W
Peak load	< 810 W (1 min) < 1400 W	< 810 W (1 min) < 1400 W
AC connection	GFCI	GFCI
Efficiency (Max)	$\geq 91\%$	$\geq 93\%$
Display/read-out	3 x LED	3 x LED
Dimensions, hxxwxd	200 x 330 x 83 mm / 7,9 x 13 x 3,3 in	200 x 330 x 83 mm / 7,9 x 13 x 3,3 in
Weight	2,6 kg	2,6 kg
Approvals	Safety: UL458, EMC, FCC	Safety: UL458, EMC, FCC
<b>Technical specifications</b>		
Technology	High frequency	High frequency
Low battery voltage, switches off at	10,5 V	21,0 V
Low battery voltage, switches on at	12,5 V	25,0 V
High battery voltage, switches off at	16,5 V	33,0 V
High battery voltage, switches on at	14,5 V	29,0 V
Input current (nominal load)	70 A	35 A
No-load power consumption (ON mode)	< 1,5 A @ 12 V	< 0,8 A @ 24 V
No-load power consumption (Energy Saving mode)	< 0,1 A @ 12 V	< 0,06 A @ 24 V
Min. DC fuse (slow blow)	100 A	50 A
Min. cable size	25 mm <sup>2</sup> / 4 AWG	16 mm <sup>2</sup> / 6 AWG
Harmonic distortion typical	< 5%	< 5%
Cos phi	All power factors allowed	All power factors allowed
Temperature range (ambient temp.)	-20°C to 60°C, derating > 40°C (60°C: 40%)	-20°C to 60°C, derating > 40°C (60°C: 40%)
Cooling	Fan	Fan
Protection degree	IP21 (if horizontally wall mounted)	IP21 (if horizontally wall mounted)
Protections	Over temperature, over load, short circuit, high/low battery voltage	Over temperature, over load, short circuit, high/low battery voltage
<b>Options</b>		
Remote control	Yes	Yes

	<b>AC Master 12/1000-230</b>	<b>AC Master 24/1000-230</b>
<i>Product code</i>	28011000	28021000
<b>General specifications</b>		
Output voltage	200/220/230/240 Vac ( $\pm 3\%$ ) – 50/60 Hz ( $\pm 0,5\%$ )	200/220/230/240 Vac ( $\pm 3\%$ ) – 50/60 Hz ( $\pm 0,5\%$ )
Output waveform	True sine	True sine
Nom. battery voltage	12 V	24 V
Cont. power at 40°C, cos phi 1	1000 W	1000 W
Peak load	< 1150 W (1 min) < 2000 W	< 1150 W (1 min) < 2000 W
AC connection	Continental European (SCHUKO)	Continental European (SCHUKO)
Efficiency (Max)	$\geq 92\%$	$\geq 94\%$
Display/read-out	3 x LED	3 x LED
Dimensions, hxxwxd	200 x 372 x 83 mm	200 x 372 x 83 mm
Weight	3,26 kg	3,26 kg
Approvals	CE, Safety: EN60950-1, E-mark: CISPR25, ISO11452-2, ISO7637-2, EMC: EN55022, EN55024, EN61000- 3-2; -3-3, EN61000-4,2,3,4,5,6,8,11	CE, Safety: EN60950-1, E-mark: CISPR25, ISO11452-2, ISO7637-2, EMC: EN55022, EN55024, EN61000- 3-2; -3-3, EN61000-4,2,3,4,5,6,8,11
<b>Technical specifications</b>		
Technology	High frequency	High frequency
Low battery voltage, switches off at	10,5 V	21,0 V
Low battery voltage, switches on at	12,5 V	25,0 V
High battery voltage, switches off at	16,5 V	33,0 V
High battery voltage, switches on at	14,5 V	29,0 V
Input current (nominal load)	100 A	50 A
No-load power consumption (ON mode)	< 1,5 A @ 12 V	< 0,8 A @ 24 V
No-load power consumption (Energy Saving mode)	< 0,1 A @ 12 V	< 0,05 A @ 24 V
Min. DC fuse (slow blow)	125 A	63 A
Min. cable size	35 mm <sup>2</sup>	16 mm <sup>2</sup>
Harmonic distortion typical	< 5%	< 5%
Cos phi	All power factors allowed	All power factors allowed
Temperature range (ambient temp.)	-20°C to 60°C, derating > 40°C (60°C: 40%)	-20°C to 60°C, derating > 40°C (60°C: 40%)
Cooling	Fan	Fan
Protection degree	IP21 (if horizontally wall mounted)	IP21 (if horizontally wall mounted)
Protections	Over temperature, over load, short circuit, high/low battery voltage	Over temperature, over load, short circuit, high/low battery voltage
<b>Options</b>		
Remote control	Yes	Yes

	<b>AC Master 12/1500-230</b>	<b>AC Master 24/1500-230</b>
<i>Product code</i>	28011500	28021500
<b>General specifications</b>		
Output voltage	200/220/230/240 Vac ( $\pm 3\%$ ) – 50/60 Hz ( $\pm 0,5\%$ )	200/220/230/240 Vac ( $\pm 3\%$ ) – 50/60 Hz ( $\pm 0,5\%$ )
Output waveform	True sine	True sine
Nom. battery voltage	12 V	24 V
Cont. power at 40°C, cos phi 1	1500 W	1500 W
Peak load	< 1730 W (1 min) < 3000 W	< 1730 W (1 min) < 3000 W
AC connection	Continental European (SCHUKO)	Continental European (SCHUKO)
Efficiency (Max)	$\geq 93\%$	$\geq 94\%$
Display/read-out	3 x LED	3 x LED
Dimensions, hwxwd	248 x 421 x 83 mm	248 x 421 x 83 mm
Weight	4,14 kg	4,14 kg
Approvals	CE, Safety: EN60950-1, E-mark: CISPR25, ISO11452-2, ISO7637-2, EMC: EN55022, EN55024, EN61000- 3-2; -3-3, EN61000-4,2,3,4,5,6,8,11	CE, Safety: EN60950-1, E-mark: CISPR25, ISO11452-2, ISO7637-2, EMC: EN55022, EN55024, EN61000- 3-2; -3-3, EN61000-4,2,3,4,5,6,8,11
<b>Technical specifications</b>		
Technology	High frequency	High frequency
Low battery voltage, switches off at	10,5 V	21,0 V
Low battery voltage, switches on at	12,5 V	25,0 V
High battery voltage, switches off at	16,5 V	33,0 V
High battery voltage, switches on at	14,5 V	29,0 V
Input current (nominal load)	150 A	75 A
No-load power consumption (ON mode)	< 1,8 A @ 12 V	< 0,9 A @ 24 V
No-load power consumption (Energy Saving mode)	< 0,1 A @ 12 V	< 0,05 A @ 24 V
Min. DC fuse (slow blow)	175 A	100 A
Min. cable size	50 mm <sup>2</sup>	25 mm <sup>2</sup>
Harmonic distortion typical	< 5%	< 5%
Cos phi	All power factors allowed	All power factors allowed
Temperature range (ambient temp.)	-20°C to 60°C, derating > 40°C (60°C: 40%)	-20°C to 60°C, derating > 40°C (60°C: 40%)
Cooling	Fan	Fan
Protection degree	IP21 (if horizontally wall mounted)	IP21 (if horizontally wall mounted)
Protections	Over temperature, over load, short circuit, high/low battery voltage	Over temperature, over load, short circuit, high/low battery voltage
<b>Options</b>		
Remote control	Yes	Yes

	<b>AC Master 12/2000-230</b>	<b>AC Master 24/2000-230</b>
<i>Product code</i>	28012000	28022000
<b>General specifications</b>		
Output voltage	200/220/230/240 Vac ( $\pm 3\%$ ) – 50/60 Hz ( $\pm 0,5\%$ )	200/220/230/240 Vac ( $\pm 3\%$ ) – 50/60 Hz ( $\pm 0,5\%$ )
Output waveform	True sine	True sine
Nom. battery voltage	12 V	24 V
Cont. power at 40°C, cos phi 1	2000 W	2000 W
Peak load	< 2300 W (1 min) < 4000 W	< 2300 W (1 min) < 4000 W
AC connection	Continental European (SCHUKO)	Continental European (SCHUKO)
Efficiency (Max)	$\geq 94\%$	$\geq 94\%$
Display/read-out	3 x LED	3 x LED
Dimensions, hxxwxd	248 x 443 x 83 mm	248 x 443 x 83 mm
Weight	5,24 kg	5,24 kg
Approvals	CE, Safety: EN60950-1, E-mark: CISPR25, ISO11452-2, ISO7637-2, EMC: EN55022, EN55024, EN61000- 3-2; -3-3, EN61000-4,2,3,4,5,6,8,11	CE, Safety: EN60950-1, E-mark: CISPR25, ISO11452-2, ISO7637-2, EMC: EN55022, EN55024, EN61000- 3-2; -3-3, EN61000-4,2,3,4,5,6,8,11
<b>Technical specifications</b>		
Technology	High frequency	High frequency
Low battery voltage, switches off at	10,5 V	21,0 V
Low battery voltage, switches on at	12,5 V	25,0 V
High battery voltage, switches off at	16,5 V	33,0 V
High battery voltage, switches on at	14,5 V	29,0 V
Input current (nominal load)	200 A	100 A
No-load power consumption (ON mode)	< 1,8 A @ 12 V	< 1,0 A @ 24 V
No-load power consumption (Energy Saving mode)	< 0,1 A @ 12 V	< 0,05 A @ 24 V
Min. DC fuse (slow blow)	250 A	160 A
Min. cable size	70 mm <sup>2</sup>	35 mm <sup>2</sup>
Harmonic distortion typical	< 5%	< 5%
Cos phi	All power factors allowed	All power factors allowed
Temperature range (ambient temp.)	-20°C to 60°C, derating > 40°C (60°C: 40%)	-20°C to 60°C, derating > 40°C (60°C: 40%)
Cooling	Fan	Fan
Protection degree	IP21 (if horizontally wall mounted)	IP21 (if horizontally wall mounted)
Protections	Over temperature, over load, short circuit, high/low battery voltage	Over temperature, over load, short circuit, high/low battery voltage
<b>Options</b>		
Remote control	Yes	Yes

	<b>AC Master 12/2000-120</b>	<b>AC Master 24/2000-120</b>
<i>Product code</i>	28512000	28522000
<b>General specifications</b>		
Output voltage	100/110/115/120 Vac (± 3%) – 50/60 Hz (± 0,5%)	100/110/115/120 Vac (± 3%) – 50/60 Hz (± 0,5%)
Output waveform	True sine	True sine
Nom. battery voltage	12 V	24 V
Cont. power at 40°C, cos phi 1	2000 W	2000 W
Peak load	< 2300 W (1 min) < 4000 W	< 2300 W (1 min) < 4000 W
AC connection	GFCI	GFCI
Efficiency (Max)	≥ 94%	≥ 94%
Display/read-out	3 x LED	3 x LED
Dimensions, hxxwxd	248 x 443 x 83 mm / 9,8 x 17,4 x 3,3 in	248 x 443 x 83 mm / 9,8 x 17,4 x 3,3 in
Weight	5,24 kg	5,24 kg
Approvals	Safety: UL458, EMC, FCC	Safety: UL458, EMC, FCC
<b>Technical specifications</b>		
Technology	High frequency	High frequency
Low battery voltage, switches off at	10,5 V	21,0 V
Low battery voltage, switches on at	12,5 V	25,0 V
High battery voltage, switches off at	16,5 V	33,0 V
High battery voltage, switches on at	14,5 V	29,0 V
Input current (nominal load)	200 A	100 A
No-load power consumption (ON mode)	< 1,8 A @ 12 V	< 1,0 A @ 24 V
No-load power consumption (Energy Saving mode)	< 0,1 A @ 12 V	< 0,05 A @ 24 V
Min. DC fuse (slow blow)	250 A	160 A
Min. cable size	70 mm <sup>2</sup> / 2 <sup>0</sup> AWG	35 mm <sup>2</sup> / 2 AWG
Harmonic distortion typical	< 5%	< 5%
Cos phi	All power factors allowed	All power factors allowed
Temperature range (ambient temp.)	-20°C to 60°C, derating > 40°C (60°C: 40%)	-20°C to 60°C, derating > 40°C (60°C: 40%)
Cooling	Fan	Fan
Protection degree	IP21 (if horizontally wall mounted)	IP21 (if horizontally wall mounted)
Protections	Over temperature, over load, short circuit, high/low battery voltage	Over temperature, over load, short circuit, high/low battery voltage
<b>Options</b>		
Remote control	Yes	Yes