CMP MSW-2000 Modified Sine Wave Instruction Manual

Contents

CMP MSW-2000 Modified Sine Wave Instruction Manual

CMP POWERSUPPLY

INVERTER MANUAL

MSW-2000/2500/3000/4000
Modified sine wave

MSW-2000

MSW-2500

MSW-3000

MSW-4000

Please read this manual carefully for optimal inverter usage.
Technical development is sometimes quicker than manuals can be printed so we apologise for any text, technical or illustration errors.

Introduction

The inverters are equipped with protection against wrong usage or connection.
If any of these situations will occur, an internal buzzer can sound, red diode light up or automatic shutdown of the inverter.

- Short circuit protection: The inverter switches off until the short circuit has ceased.
- Low input voltage: The internal buzzer sound at low input voltage and the red diode lights up. See ”technical data” for voltage limits. If the voltage drops below the limit, the inverter will automatically shutdown to protect the inverter and at same time avoid total battery discharge.
- Over voltage protection: The red diode lights up and the inverter shutdown automatically if input voltage is too high. See ”technical data ” for voltage limits.
- Overload protection: The red diode and lights up and the inverter shutdown in case of constant overload or high peak loads.
- Thermal protection: The red diode lights up and inverter shut down automatically at temperatures higher than 60oC(±5oC)

Warning

- The inverter should be used indoor and not be exposed to rain or moisture.
- Never open the inverter yourself, repairs should be carried out by qualified personal using original spare parts to

avoid personal and property damage.

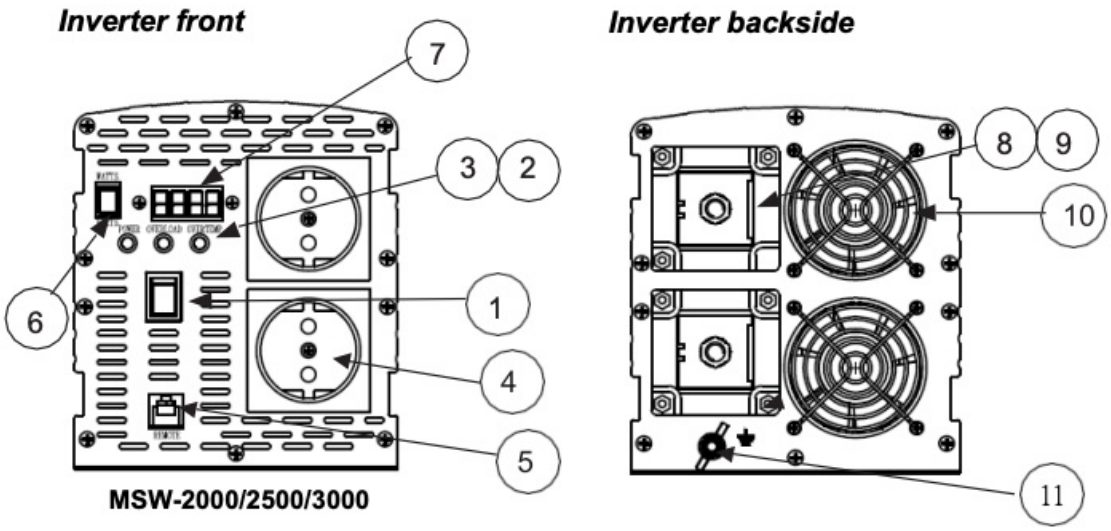
- Always disconnect the inverter from the battery before service or other adjustment.
- Becarefulandavoidsparkingattheterminalswhenconnectingtheinverter to lead acid batteries.
- Make sure to protect the inverter and the connections against children. Remember the output voltage is as dangerous as the voltage from a regular wall socket.
- Never use damaged mains or battery cables and make sure to only use original replacement parts.
- Make sure to connect the inverter with correct polarity. Wrong polarity connection can damage the inverter, which is not covered by the guarantee.
- Don’t load the inverter when connecting or disconnecting it.

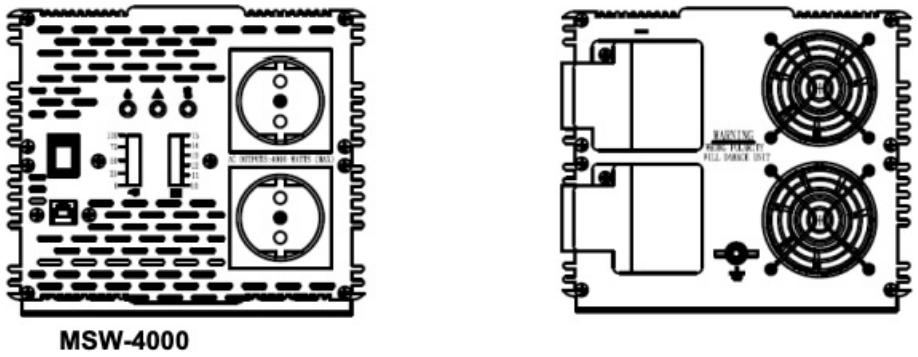
Connection

The inverter comes with cables that connect directly to the battery poles.

PLEASE NOTE! The battery cables supplied with the inverter must be used for warranty reasons. Longer cables or smaller cable area may damage the inverter.

1. Make sure the inverter on/off switch is in off position (0).
2. Connect red cable to positive (+) terminal on the inverter and to positive (+) pole to the battery.
3. Connect black cable to negative (-) terminal on the inverter and to negative (-) pole to the battery.
4. Make sure wires are tight connected to avoid sparking and voltage drops.





Front:

1. Switch (on/off)
2. Red diode (Fault)
3. Green diode (power)
4. Mains socket (230VAC)
5. Remote connection
6. LCD Display Switch (on/off)
7. LCD Display

Backside:

8. Red terminal, positive (+)
9. Black terminal, negative (-)
10. Cooling fan
11. Chassis grounding

Use

- Make sure to not connect appliance that demand pure sine wave as this inverter provide a modified sine wave.
- Check so the connected appliances don't exceed the inverters total power.
- Make sure the battery is fully charged.
- Allow free space around the ventilation holes/cooling fan.

1. Make sure the connected appliance is switched off before connecting to the mains socket on inverter.
2. Turn the on/off switch into position"I".Always turn on the inverter before turning on the connected appliance.
3. Green diode light up when the inverter is working normally. The cooling fan is temperature operated and start only when needed. Can therefore be in off position if small load is connected.

Note

- Never use longer leads than needed between inverter and connected appliance. Long cables can lead to unwanted voltage drop and bad function.
- Switch off the inverter when it's not in use.

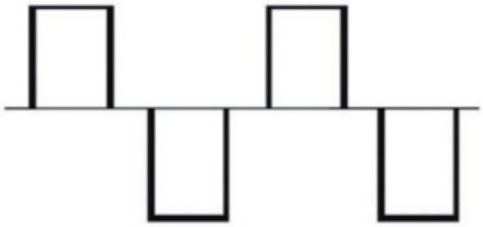
Remote on/off function with Remote 2 (accessory)

To all models it's possible to connect and use a Remote panel.
For MSW-1000/1500/2000/2500/3000/4000 it's Remote 2with on/off switch and three function/warning Led. The remote panels are equipped with 6m cable and supports easilyon/offoperationiftheinverterisplacedinadifficulttoreachposition.

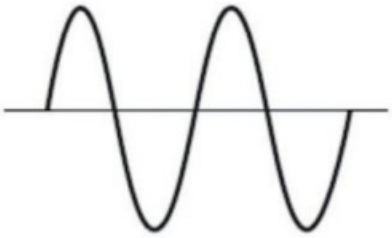
Using a modify sine wave inverter together with a motor or a pump

It's important to use an inverter that provides an output power proportional to whatisconnected.Amotororpumprequiresagreatdealofinitialpowerwhen startingup.Thiscanbeupto3-4timesit'scurrentundernormaloperation. In order to support this inverter with double or even four times power is needed. When using a modified sine wave inverter to motor/pump applications noise can be generated. This is caused by the modified waveform coming from the inverter. It's therefore preferred to use a inverter with pure sine wave output in order to get a normal and silent running application.

If you have no choice, you can use an inverter with modified sine wave.



Modified sine wave



Pure sine wave

Measuring the output voltage

The inverter produces a modified sine wave output AC voltage (square wave). This require a volt meter that can measure ”TRUE RMS”. If the output voltage is measured with other type of meter the voltage shown might be 20-30 V less than the actual voltage.

Troubleshooting

- Switch off the inverter if any problem.
- Disconnect all appliance connected to the inverter.
- Check carefully connections and appliance used with the inverter.

Low or no output voltage

- Bad connection can give low or no output voltage. If so, check all connections between inverter and appliance carefully.
- Measure the output voltage from mains socket with a ”TRUERMS” meter.
- Check the fuse (valid only for the 300/600W model). For all other models the fuse is placed inside the inverter and must be replaced by a qualified electrician.

The red diode illuminates

- The battery voltage is too low – charge the battery.
- The inverter is overloaded – reduce the load.
- The inverter has been overheated – move the inverter to a cooler place and check the ventilation holes are not blocked.
- The inverter is defect – contact the supplier’s technical support.

Disposal

Follow the local rules when disposing of this product. If you are unsure how to dispose of this product contact your municipality.

Technical data: 2000W and 2500W models

Model	MSW-2000-12	MSW-2000-24	MSW-2500-12	MSW-2500-24
Input voltage	11-15 VDC	21-30 VDC	11-15 VDC	21-30 VDC
Constant output power	2000 W	2000 W	2500 W	2500 W
Peak power(200ms)	4000 W	4000 W	5000 W	5000 W
Output volt tolerance	± 5 %	± 5 %	± 5 %	± 5 %
Output voltage, type	230 VAC Modified sinewave	230 VAC Modified sinewave	230 VAC Modified sinewave	230 VAC Modified sinewave
Efficiency	> 85 %	> 85 %	> 85 %	> 85 %
No load power	<0.8A	< 0.6 A	<1A	<0.7 A
Thermal protection, auto-shut off	60°C (±10ºC)	60°C (±10ºC)	60°C (±10ºC)	60°C (±10ºC)
Cooling fan	Yes	Yes	Yes	Yes
Short circuit protection	Yes	Yes	Yes	Yes
Soft start	Yes	Yes	Yes	Yes
Over volt protection	Yes	Yes	Yes	Yes
Auto shut-off at	16 V (± 0.5 V)	32 V (± 1 V)	16 V (± 0.5 V)	32 V (± 1 V)
Alarm for low voltage	10,5 V (± 0,5 V)	21,0 V (± 1,0 V)	10,5 V (± 0,5 V)	21,0 V (± 1,0 V)
Auto shut-off at	10,0 V (± 0,5 V)	20,0 V (± 1,0 V)	10,0 V (± 0,5 V)	20,0 V (± 1,0 V)
Protection against wrong polarity (fuse)	Yes	Yes	Yes	Yes
Input fuse	25 A(12st)	10 A(12st)	25 A(12st)	15 A (12st)
Operating temp	-15 to +50°C	-15 to +50°C	-15 to +50°C	-15 to +50°C
Size (mm)	345x135x150	345x135x150	345x135x150	345x135x150
Weight (w/o cables)	4000 g	4000 g	4000 g	4000 g

Technical data: 3000W and 4000W models

Model	MSW-3000-12	MSW-3000-24	MSW-4000-12	MSW-4000-24
Input voltage	11-15 VDC	21-30 VDC	11-15 VDC	21-30 VDC
Constant output power	3000 W	3000 W	4000 W	4000 W
Peak power(200ms)	6000 W	6000 W	8000 W	8000 W
Output volt tolerance	± 5 %	± 5 %	± 5 %	± 5 %
Output voltage, type	230 VAC Modified sinewave	230 VAC Modified sinewave	230 VAC Modified sinewave	230 VAC Modified sinewave
Efficiency	> 85 %	> 85 %	> 85 %	> 85 %
No load power	< 1.1A	<0.8A	< 1,2 A	< 1 A
Thermal protection, auto-shut off	60°C (±10ºC)	60°C (±10ºC)	60°C (±10ºC)	60°C (±10ºC)
Cooling fan	Yes	Yes	Yes	Yes
Short circuit protection	Yes	Yes	Yes	Yes
Soft start	Yes	Yes	Yes	Yes
Over volt protection	Yes	Yes	Yes	Yes
Auto shut-off at	16 V (± 0.5 V)	32 V (± 1 V)	16 V (± 0.5 V)	32 V (± 1 V)
Alarm for low voltage	10,5 V (± 0,5 V)	21,0 V (± 1,0 V)	10,5 V (± 0,5 V)	21,0 V (± 1,0 V)
Auto shut-off at	10,0 V (± 0,5 V)	20,0 V (± 1,0 V)	10,0 V (± 0,5 V)	20,0 V (± 1,0 V)
Protection against wrong polarity (fuse)	Yes	Yes	Yes	Yes
Input fuse	25 A (16st)	15 A (16st)	25 A (24st)	15 A (24st)
Operating temp	-15 to +50°C	-15 to +50°C	-15 to +50°C	-15 to +50°C
Size (mm)	400x135x150	400x135x150	500x169x152	500x169x152
Weight (w/o cables)	4800 g	4800 g	10800 g	10800 g

Documents / Resources

	**CMP MSW-2000 Modified Sine Wave** [pdf] Instruction Manual MSW-2000 Modified Sine Wave, MSW-2000, Modified Sine Wave, Sine Wave, Wave

References

- Powermec
- Powermec
- Manual-Hub.com - Free PDF manuals!
- User Manual