

↗ DOMETIC

ENERGY & LIGHTING

SINEPOWER



MSI412

EN

Sine wave inverter

Installation and Operating Manual

Please read this instruction manual carefully before installation and first use, and store it in a safe place. If you pass on the product to another person, hand over this instruction manual along with it.

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1 Explanation of symbols

**WARNING!**

Safety instruction: Failure to observe this instruction can cause fatal or serious injury.

**CAUTION!**

Safety instruction: Failure to observe this instruction can lead to injury.

**NOTICE!**

Failure to observe this instruction can cause material damage and impair the function of the product.

**NOTE**

Supplementary information for operating the product.

2 Safety instructions

The manufacturer accepts no liability for damage in the following cases:

- Faulty assembly or connection
- Damage to the product resulting from mechanical influences and excess voltage
- Alterations to the product without express permission from the manufacturer
- Use for purposes other than those described in the operating manual

2.1 General safety

**WARNING!**

- **Electronic devices are not toys!**

Keep electrical appliances out of reach from children or infirm persons. Do not let them use the appliances without supervision.

- Persons (including children) whose physical, sensory or mental capabilities or lack of experience and knowledge prevents them from using the appliance safely should not use this appliance without initial supervision or instruction by a responsible person.
- Use the device only as intended.
- Do **not** operate the device in a damp or wet environment.

- Maintenance and repair work may only be carried out by qualified personnel who are familiar with the risks involved and the relevant regulations.

2.2 Safety when installing the device



WARNING!

Take the precautions necessary to ensure that children cannot interfere with operation.

Dangerous situations may occur which cannot be recognised by children!



CAUTION!

Ensure the device is standing firmly.

The device must be set up and fastened in such a way that it cannot tip over or fall down.



NOTICE!

Do not expose the device to a heat source (such as direct sunlight or heating). Avoid additional heating of the device in this way.

Electrical cables



CAUTION!

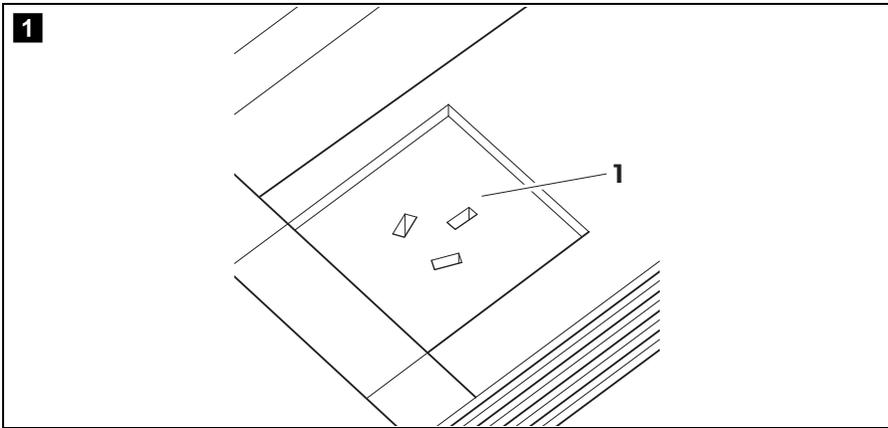
- Lay the cables so that they cannot be tripped over or damaged.
- All the wiring must comply to AS3000 and AS3001.



NOTICE!

- If cables have to be fed through metal walls or other walls with sharp edges, use ducts or wire bushings to prevent damage.
- Do not lay cables which are loose or bent next to electrically conductive material (metal).
- Do not pull on the cables.
- Do not lay the 230 V mains cable and the 12 V DC cable in the same duct.
- Fasten the cables securely.
- The electrical power supply may only be connected by a qualified electrician.

2.3 Operating the appliance safely



WARNING!

- Operate the device only if you are certain that the housing and the cables are undamaged.
- Even after the fuse triggers, parts of the inverter remain live.
- Always disconnect the power supply when working on the device.



NOTICE!

- Make sure the air inlets and outlets of the device are not covered.
- Ensure good ventilation.
- Do **not** connect the 230 V output of the inverter (**1**) to a different 230 V source.

3 Scope of delivery

- Sine wave inverter
- 4 holders
- Instruction Manual

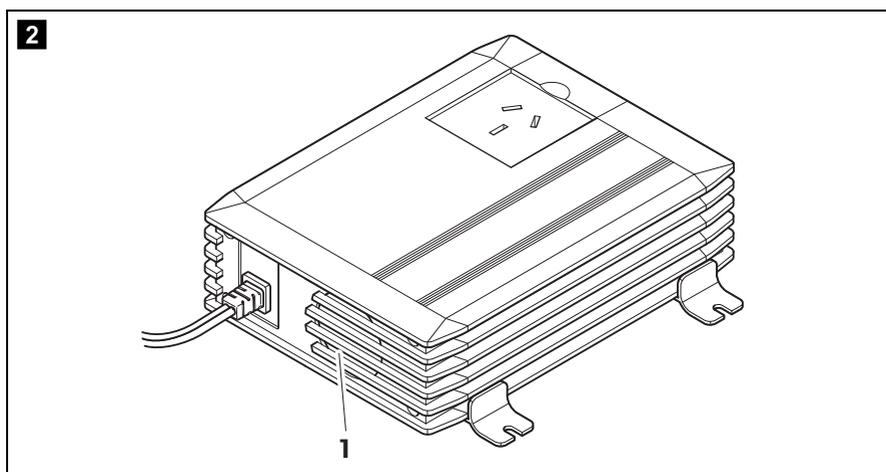
4 Intended use

The SinePower inverters are used to convert a direct current of 12 V into a 230 V AC supply of 50 Hz.

Rechargeable devices with USB interface can be charged via the USB port (5 V, 2000 mA).

This device is exclusively intended for vehicle use.

5 Technical description



The inverters can be used anywhere where there is a 12 V DC voltage source. The inverters are connected to:

- Vehicle battery: MSI412 (12 V DC)

Devices MSI412 can be switched on and off optionally using an external switch.

The devices are additionally cooled with a load and temperature-dependent fan (1).

The maximum constant output for the devices MSI412 is **350 W**.

Never connect devices that have a higher power requirement.



NOTE

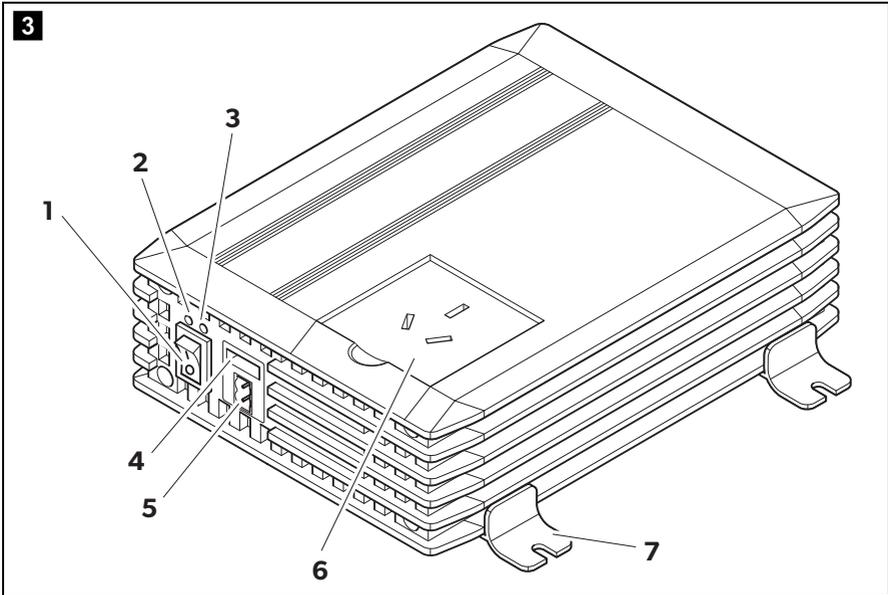
Note when connecting devices with an electrical drive (such as power drills and refrigerators), that they often need more power than is stated on the type plate.

If the system has a short circuit, the device switches off.

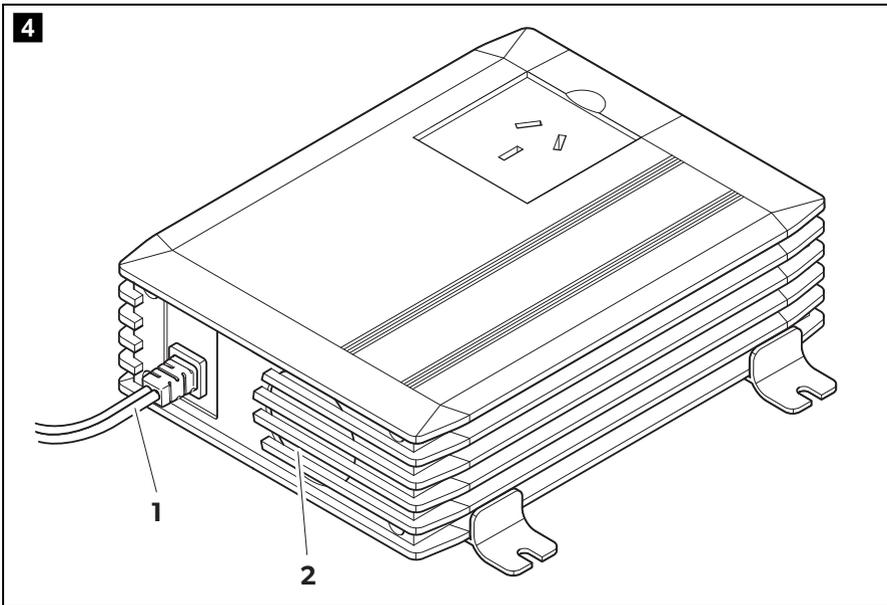
If the voltage is too high, the device switches off and must be restarted manually.

If the input voltage is too high or too low or the system overheats, the device switches off and then on again after a short while.

The inverter has the following connections, displays and control elements:



Pos.	Element
1	Switches 0: device is switched off I: device is switched on
2	Green Status LED: lights up when inverter is in operation
3	Red Status LED: indicates malfunction
4	USB port
5	Connection for external switch
6	230 V~ safety socket
7	Holders



Pos.	Element
1	Connection cable for direct current
2	Fan

6 Fastening the inverter

You can fasten the inverter using the four holders supplied.

When selecting the installation location, observe the following instructions:

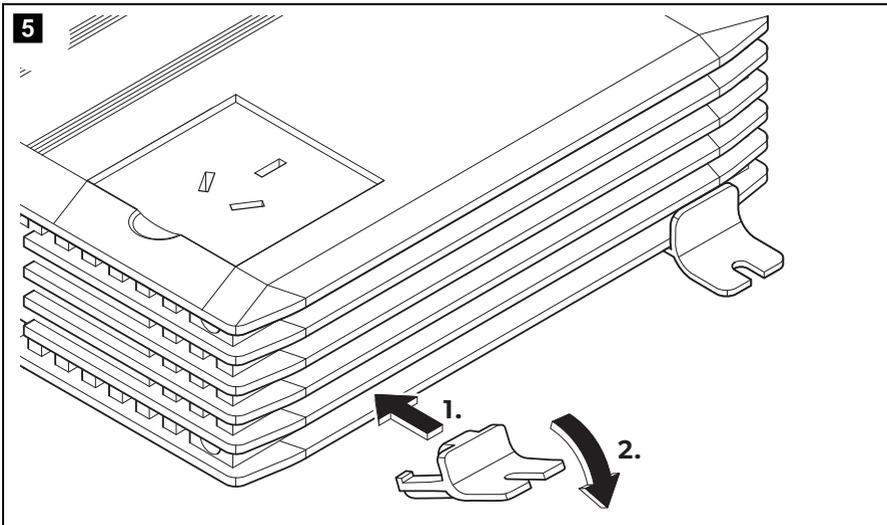
- The inverter can be mounted horizontally or vertically.
- The inverter must be installed in a place that is protected from moisture.
- The inverter may not be installed in the presence of flammable materials.
- The inverter may not be installed in a dusty environment.
- The place of installation must be well-ventilated. A ventilation system must be present for installations in small, closed spaces. The minimum clearance around the inverter must be at least 25 cm.
- The air intake on the underside or the air outlet on the back side of the inverter must remain clear.

- For ambient temperatures higher than 40 °C (such as in engine or heating compartments, or direct sunlight), the heat from the inverter under load can lead to the automatic shut-off of the inverter.
- The installation surface must be level and sufficiently strong.

**NOTICE!**

Before drilling any holes, ensure that no electrical cables or other parts of the vehicle can be damaged by drilling, sawing and filing.

Fasten the inverter as follows:



- Clip two holders on the lower left bar and two on the right. You can move the holders as required.
- Fasten the inverter by screwing one screw through each hole in the holders.

7 Connecting the inverter

**NOTICE!**

The cable between the battery and the inverter may not exceed a maximum length of 2 m.

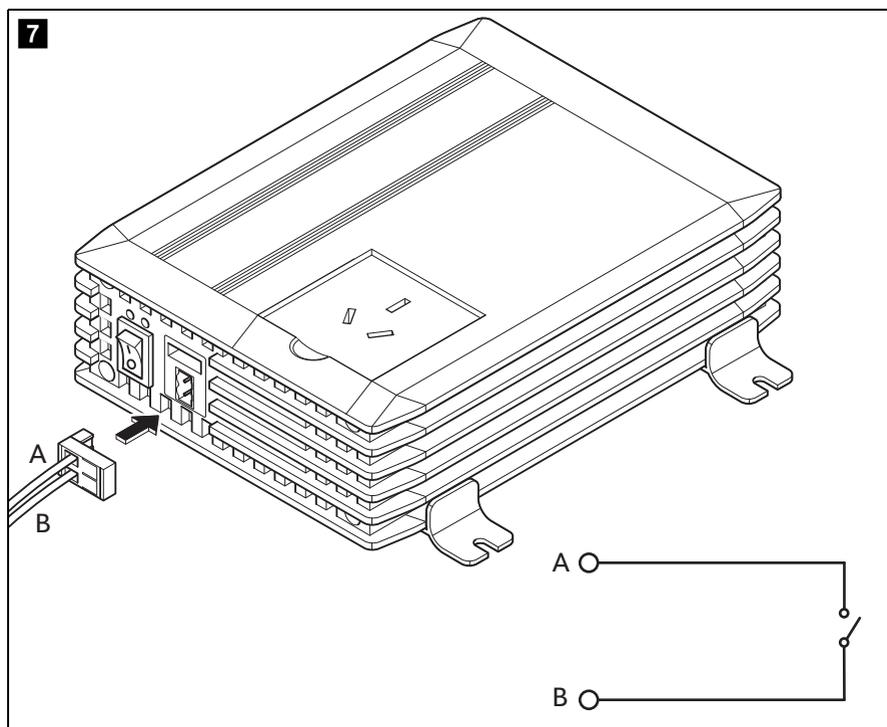
Make sure that a professional fuse is installed between the positive pole (+) and the inverter. Mind the following values:

- MSI412: 40 A

**NOTICE!**

- If no sufficient, professional fuse is installed, the inverter could be damaged and the gaurantee is invalidated.
- Do not reverse the polarity. Reversing the polarity of the connections will cause a great spark and the internal fuses will melt. These fuses should only be replaced by a qualified electrician.

- ▶ To set up the inverter, connect the red cable to the positive pole (+) of the vehicle battery and the black cable to the negative pole (-) of the vehicle battery. Make sure the vehicle battery terminals are clean when connecting them.

Connecting the external switch contact to the inverter

- ▶ Connect the external switch to the remote port according to the wiring diagram (fig. **7**).
- ▶ Put the switch (fig. **3** 1, page 8) in position "I".
- ✓ The green status LED lights up (fig. **3** 2, page 8) when the switch is closed.

8 Using the inverter



NOTE

- When operating the inverter at a high load for lengthy periods, it is advisable to start the engine in order to recharge the vehicle battery.
- You can operate the inverter with the engine running or switched off. However, do not start the engine while the inverter is switched on.

- Connect your power consuming device, to the socket (fig. **3** 6, page 8) of the inverter.
- Switch the inverter on by pressing the switch (fig. **3** 1, page 8) on the device (position "I") ...
- ... or switch on the inverter using the external switch **(optional)**.
- ✓ The green Status LED lights up (fig. **3** 2, page 8). The power consuming device is supplied with voltage.

Charging the device via the USB port



NOTE

Also observe the operating manual of the device you want to charge via the USB port.

- Connect the device to the USB port (fig. **3** 4, page 8) of the inverter.

9 Cleaning and caring for the inverter



NOTICE!

Do not use any sharp or hard objects for cleaning since they may damage the device.

- Occasionally clean the device with a damp cloth.

10 Rectifying faults



NOTE

If you have detailed questions on the **specifications of the inverter** please contact the manufacturer.

Fault	Cause	Remedy
No output voltage, no LED lights up	No contact to the battery	Check contact and cable.
	Defective fuse (in the inverter or the vehicle)	Have an electrician change the fuse.
No output voltage, green and red LED light, power consuming device is switched off	The battery voltage is less than 11 V	Charge the battery (start the engine).
	Poor contact to the battery	Clean the contacts.
	Input voltage too high.	Check the input voltage. Reduce the input voltage.
No output voltage, green and red LED light, power consuming device is switched on	Overheating	Switch off power consuming devices. Let the inverter cool down and ensure better ventilation. Make certain that the ventilation slots are not covered. Lower the ambient temperature.
		Inadequate cable connection (cross section too small or poor contact)
The device switches on and off repeatedly (up to five times, then the inverter is switched off)	Excessive load	Switch off the device. Reduce the load. Switch on the device.

Fault	Cause	Remedy
No output voltage, green and red LED light	Excessive load	Switch off the device. Reduce the load. Switch on the device.
	Short circuit or electrical wiring error	Switch off the device. Remove short circuit. Check electrical wiring. Switch on the device.
The inverter switches off when the consumer is switched on, red Status LED lights	Starting current too high	Compare the device power with the maximum power of the inverter.

11 Guarantee

The statutory warranty period applies. If the product is defective, please contact the manufacturer's branch in your country (see the back of the instruction manual for the addresses) or your retailer.

For repair and guarantee processing, please include the following documents when you send in the device:

- A copy of the receipt with purchasing date
- A reason for the claim or description of the fault

12 Disposal

- Place the packaging material in the appropriate recycling waste bins wherever possible.



If you wish to finally dispose of the product, ask your local recycling centre or specialist dealer for details about how to do this in accordance with the applicable disposal regulations.

13 Technical data

	MSI412
Rated input voltage:	12 V ---
Constant output power:	350 W
Peak output power:	700 W
Output voltage:	230 V \sim pure sine wave
Output frequency:	50 Hz
Connection data USB charging socket:	5 V --- , 2000 mA
Idle current consumption:	< 0.6 A
Input voltage range:	11 – 15 V ---
Low voltage shutdown:	<11 V ---
Ambient temperature:	0 °C – 40 °C
Heat dissipation:	Fan
Dimensions:	124 x 199 x 49 mm
Weight:	0.8 kg
Testing/certification:	

Approvals

The device complies with Australian standard (AS/NZS 4763:2011), IEC 60068.2.8:2007, IEC 61558.1:2008+A1 and IEC 61558.2.1:2007.

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