

INVT MG Series PV Grid-tied Inverter

Quick Installation Guide

- Only qualified electricians are allowed to install the inverter.
- Do not put and install the inverter on or close to combustible materials.
- Install the inverter away from electronic devices with strong electromagnetic interference.
- Keep the installation site away from children and other public places.
- Remove the metal jewelry such as ring and bracelet before installation and electrical connection to avoid electric shock.
- The inverter input voltage does not exceed the maximum input voltage; otherwise inverter damage may occur.
- The positive and negative pole of solar modules can not be grounded, otherwise irrecoverable damage may occur.
- Ensure the proper grounding of the inverter, otherwise, improper connection or no grounding may cause stop of the inverter.
- Ensure reliable installation and electrical connection.

1 Unpacking inspection

Inspect the information of the order and the name plate to ensure the product are the ordered one and no damage to the package. If any problem, contact the supplier as soon as possible.

Table 1 Packing list of single-phase inverter:

1

Table 3 Size of installation bracket

| Model | Installation hole | |
|--|-------------------|-------|
| | A(mm) | B(mm) |
| MG750TL/MG1K1TL / MG1K5TL /MG2KTL /MG3KTL | 195 | |
| MG4KTL/MG4K6TL/MG5KTL/MG3KTL-2 M/MG4KTL-2M/MG4K6TL -2M/MG5KTL-2M | 260 | 45 |

Installation steps of single-phase inverter:

- (1) Locate the installation hole with the installation bracket, and then use expansion bolts to fix the installation bracket at the proper location of the walls;
- (2) Lift the inverter to suspend it on the installation bracket through M8 hex socket cap screws;
- (3) Finally, fasten M5 screws connecting the inverter with the bracket. For firm installation, the operators cannot release the device until the inverter is installed on the bracket firmly.

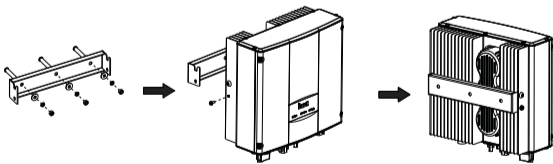


Figure 4 Installation of single-phase inverter

4 Electrical installation

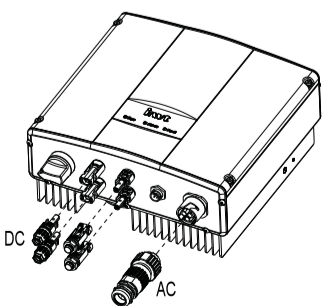


Figure 5 Electrical wiring of the inverter

4

| | MG750TL/ MG1K1TL/M G1K5TL/M G2KTL | MG3KTL | MG4KTL/MG4K6TL/ MG5KTL/MG3KTL-2M /MG4KTL-2M/MG4K6T L-2M/MG5KTL-2M |
|--------------------------|--|-----------|--|
| Inverter | 1 | | 1 |
| Installation bracket | 1 | | 1 |
| Quick installation guide | 1 | | 1 |
| Cross combination screw | 2 (M5*20) | | 2 (M5*20) |
| Communication connector | 1 | | 1 |
| Expansion bolts | 3 (M6*60) | 3 (M6*60) | 4 (M6*60) |
| DC connector | 1 | | 2 |
| AC connector | 1 | | 1 |
| Installation bracket | 1 | | 1 |

2 Before installation

2.1 Installation place

Select installation place based on the following considerations:

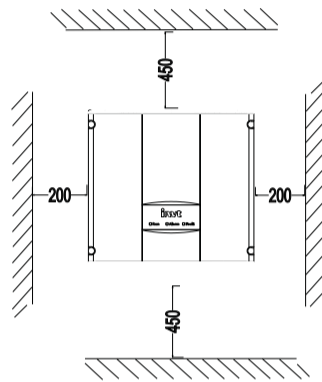


Figure 1 Installation space(mm)

- (1) The environment temperature is between -25°C~60°C.
- (2) The installation surface should be perpendicular to the horizontal line. Refer to Figure 2.

2

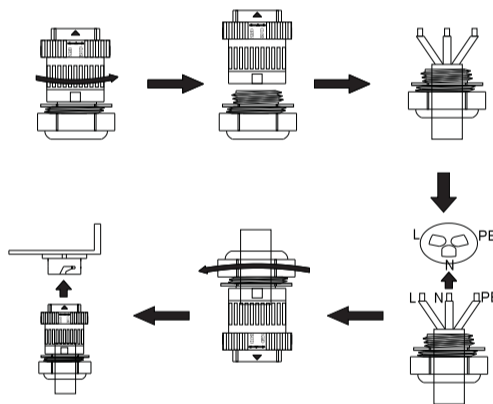


Figure 6 Connection of the AC side and the inverter

Below are the electrical wiring steps of the single-phase inverter:

- (1) Before connecting the single-phase AC grid cable to the inverter, take lightning and short circuit protection measures in accordance with the local electrical safety codes;
- (2) As shown in Figure 6, connect and fasten L, N and PE conductors of the single-phase common grid to AC terminal, and then connect the terminal to the AC port of the inverter;
- (3) Fix and connect the DC output cables of PV board with the matched DC connectors, and then connect the connectors to the DC port of the inverter.

5 Operation

5.1 Inspection before operation

Check as follows before operation:

- (1) Detect the voltage of the components is in the allowable input voltage range of the inverter;
- (2) Detect the voltage of the AC port at AC side is normal;
- (3) Check the inverter is in good grounding;
- (4) Ensure all switches are "off";
- (5) Ensure all electrical safety precautions are clearly-identified on the installation site.
- (6) Confirm the handheld keypad or communication module is in correct connection.

5.2 Grid-tied operation

Please start the inverter as follows:

- (1) Switch on the integrated DC switch;
- (2) Use the handheld keypad or communication module to set the time, date and area of the inverter;

5

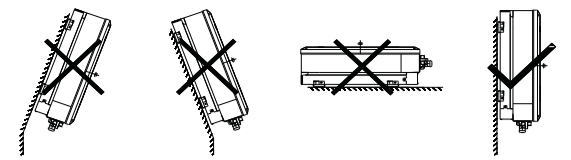


Figure 2 Installation position

2.2 Cable specifications

The user can select connection cable according the table below:

Table 2 Cable specifications

| Model | DC side | AC side |
|---|-------------------------------|------------------------------------|
| | Cross-section mm ² | Mini cross-section mm ² |
| MG750TL/MG1K1TL / MG1K5TL / MG2KTL /MG3KTL | 4 | 4 |
| MG4KTL/MG4K6TL/ MG5KTL/MG3KTL-2M /MG4KTL-2M/MG4K6TL -2M/MG5KTL-2M | 4 | 6 |

3 Mechanical installation

Take the typical installation environment as the example, the manual describes how to install the inverter on concrete wall. .

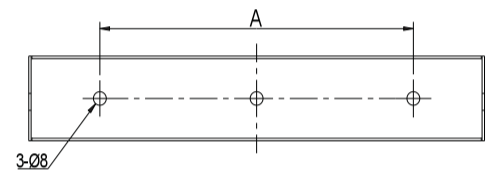


Figure 3 Installation bracket of 0.75~3kW inverter

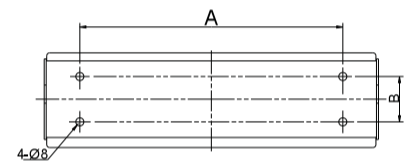


Figure 4 Installation bracket of 4~5kW inverter

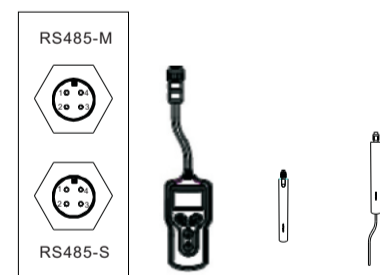
3

- (3) Switch on the breakers at the AC side;
- (4) Observe the LED indicators and information displayed on the screen.

| |
|---|
| ● Run Green indicator blinks, others off: the inverter is power on and in self-inspection; |
| ● Run Green indicator on, others off: the inverter is in power generation after self-inspection---successful commissioning. |
| “Warn” or “Fault” indicators are on or blinking: the inverter is power on, but fault occurs. |

5.3 Accessories and wiring

The accessories are the handheld terminal, WiFi, ENET and GPRS.



Connect the 485 port of accessories to the RS485-M port of the inverter; for the ACF inverter, RS485-M is to the upper PC and RS485-S is to the ammeter.

5.4 Regular maintenance

Stop the inverter as follows it needs maintenance, inspection and troubleshooting:

- (1) Switch off the breakers at the AC side;
- (2) Switch off the integrated DC switch;
- (3) Contact with customer service staff or local dealers.

More information

For complete instruction of relevant parameters, please refer to *Operation Manual of INVT iMars Series PV Grid-tied Inverters*. You can visit www.invt-solar.com or scan QR code to download.

Service line: +86 755 86312953



6

INVT MG 系列光伏并网逆变器 快速安装指南

- 逆变器的安装必须由专业人员来完成。
- 禁止将逆变器存放、靠近、或安装在易燃易爆物体上。
- 安装地点应远离有强电磁干扰的电子设备；
- 禁止将逆变器安装在儿童及其他公众可轻易触碰到逆变器的场所。
- 安装设备及电气连接前，请去除佩戴在手上的戒指、手镯等金属饰品，以免误触电部分造成触电危险。
- 组件输入到逆变器的电压不能超过逆变器最大输入电压，否则可能引起逆变器损坏。
- 光伏并网逆变器不适用于太阳能电池组件正极或者负极接地系统。
- 确保逆变器 PE 可靠接地。PE 不接地或者接地不可靠，逆变器将无法正常运行。
- 请确保逆变器安装牢固，电气接线可靠。



1 拆包装确认

开箱前仔细检查核对订单与包装箱铭牌上的产品信息是否一致，产品包装是否完好。如有疑问，请及时联系供货商。

表 1 单相逆变器交付内容

1

表 3 单相逆变器安装支架尺寸

| 逆变器型号 | 安装孔间距 | |
|--|-------|-------|
| | A(mm) | B(mm) |
| MG750TL/MG1K1TL / MG1K5TL /MG2KTL /MG3KTL | 195 | |
| MG4KTL/MG4K6TL/MG5KTL/MG3KTL-2M/MG4KTL-2M/MG4K6TL-2M/MG5KTL-2M | 260 | 45 |

单相光伏逆变器安装步骤如下：

- (1) 首先使用安装支架定位固定孔位，再用膨胀螺栓将安装支架固定在墙面适当的位置；
- (2) 将逆变器抬起使安装支架悬挂至逆变器的 M8 内六角螺丝上；
- (3) 最后将逆变器与安装支架用 M5 螺丝锁紧，为了确保安装牢固，操作人员须等逆变器牢固安装到支架上，才能够松开设备。

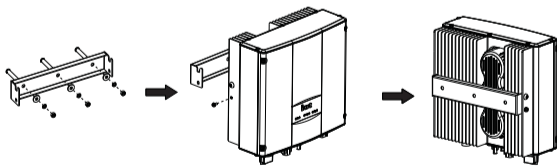


图 4 安装单相逆变器

4 电气连接

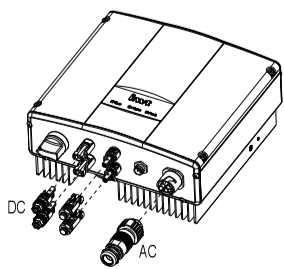


图 5 逆变器电气接线示意图

4

| | MG750TL/ MG1KTL/M G1K5TL/M G2KTL | MG3KTL | MG4KTL/MG4K6TL/ MG5KTL/MG3KTL-2M /MG4KTL-2M/MG4K6T L-2M/MG5KTL-2M |
|--------|---|-----------|--|
| 逆变器 | 1 | | 1 |
| 安装支架 | 1 | | 1 |
| 快速安装指南 | 1 | | 1 |
| 十字组合螺钉 | 2 (M5*20) | | 2 (M5*20) |
| 通讯连接器 | 1 | | 1 |
| 膨胀螺栓 | 3 (M6*60) | 3 (M6*60) | 4 (M6*60) |
| 直流连接器 | 1 | | 2 |
| 交流连接器 | 1 | | 1 |
| 壁挂板 | 1 | | 1 |

2 安装前准备

2.1 安装地点

根据以下要求选择安装地点：

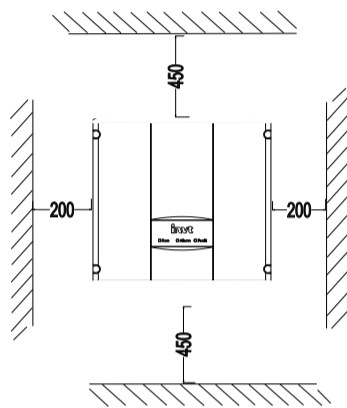


图 1 逆变器安装间距(mm)

- (1) 安装环境温度为-25℃~60℃；
- (2) 安装表面应垂直于水平线，如图 2 所示。

2

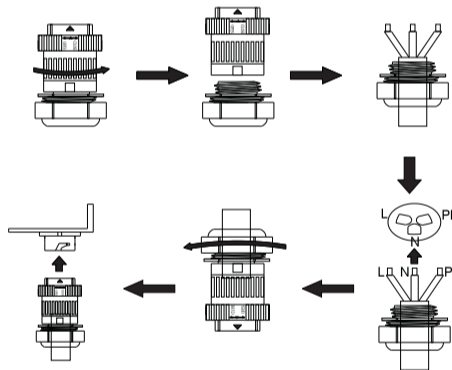


图 6 AC 侧与逆变器接线示意图

单相逆变器电气连接的步骤如下：

- (1) 单相交流电网电缆在接入逆变器之前，必须按照当地电气安全规范做好防雷、防短路等保护措施；
- (2) 按照图 6 所示，将单相公共电网 L、N、PE 三根导线接入 AC 端子并锁紧，然后将 AC 端子与逆变器的交流端口对接。
- (3) 将光伏板的直流输出线与我司配套的直流连接器固定连接，然后将直流连接器与逆变器的 DC 端口对接。

5 运行

5.1 运行前检查

光伏并网逆变器运行前，必须严格检查以下项目：

- (1) 检测组件电压是否在逆变器输入电压允许范围内；
- (2) 检测交流侧 AC 接线端口电压是否为正常电网电压；
- (3) 检查逆变器接地是否良好；
- (4) 确认所有开关已处在“断开”状态；
- (5) 确认安装现场电气安全标识清晰；
- (6) 确认手持键盘或通讯模块连接正确。

5.2 逆变器并网运行

请严格按照以下步骤，开启逆变器，完成逆变器并网运行：

- (1) 闭合逆变器集成的直流开关；
- (2) 使用手持键盘或通讯模块设置逆变器的时间日期和使用地区；

5

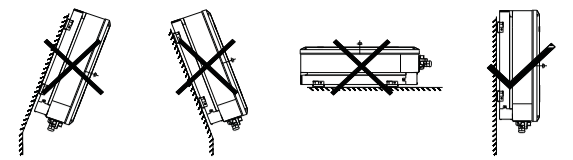


图 2 逆变器安装位置

2.2 导线规格

为规范与兼容逆变器交直流连接器或接线端子的规格，对连接相应型号逆变器的交直流导线作以下要求：

表 2 导线规格

| 逆变器型号 | 直流侧 | 交流侧 |
|--|------------------------------------|------------------------------------|
| | 推荐最小横截面积 mm ² (长度 ≤50m) | 推荐最小横截面积 mm ² (长度 ≤50m) |
| MG750TL/MG1K1TL / MG1K5TL / MG2KTL /MG3KTL | 4 | 4 |
| MG4KTL/MG4K6TL/ MG5KTL/MG3KTL-2M /MG4KTL-2M/MG4K6TL-2M/MG5KTL-2M | 4 | 6 |

3 机械安装

推荐将逆变器垂直安装在牢固的墙面或者坚固的金属支架上。以下仅以墙面安装为例，介绍逆变器的安装事宜。

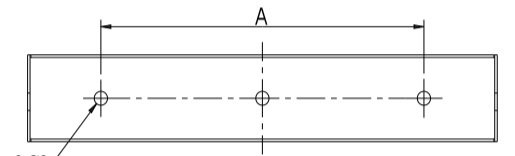


图 3 0.75kW~3kW 逆变器安装支架

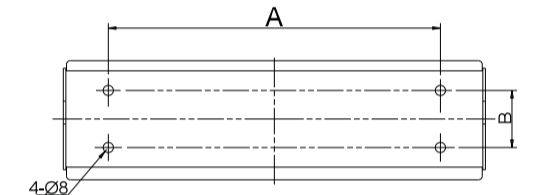


图 4 4kW~5kW 逆变器安装支架

3

(3) 闭合逆变器公共电网交流开关；

(4) 观察逆变器 LED 灯状态。

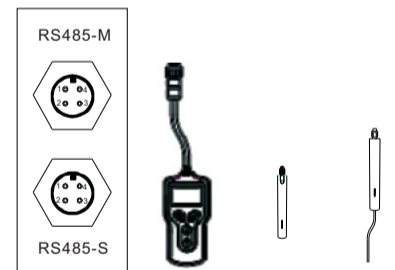
● Run 绿灯闪烁，其余灯熄灭：逆变器已经上电，正在自检，等待充足的光照以满足并网条件；

● Run 绿灯常亮，其余灯熄灭：逆变器自检通过，正在并网发电——试运行成功。

“Warn”或者“Fault”灯常亮或者闪烁：逆变器已经上电，但是系统发生故障。

5.3 配件及连接方式

可选用的配件包括手持终端、WiFi、ENET、GPRS



如图所示将配件的 485 接口与逆变器 RS485-M 连接即可；带防逆流功能的机器 RS485-M 接上位机通讯，RS485-S 接电表。配件使用及防逆流功能详细说明请参阅网站上完整说明书。

5.4 逆变器维护

当需要对逆变器进行停电维护、检修、故障排查时，请严格按照以下步骤停运逆变器：

- (1) 断开逆变器公共电网交流开关；
- (2) 断开逆变器集成的直流开关；
- (3) 联系我司客服人员或当地经销商。

更多说明

有关参数的完整说明，请您参阅“INVT iMars 系列光伏并网逆变器”产品说明书，可通过 www.invt-solar.com 或扫描右侧的二维码进行下载。

服务热线：+86 755 86312953



6