# Sungrow statement on Installation guidelines

***Disclaimer***

*The material in this document has been prepared by Sungrow Australia Group Pty. Ltd. ABN 76 168 258 679 and is intended as a guideline to assist solar installers for troubleshooting. It is not a statement or advice on any of the Electrical or Solar Industry standards or guidelines. Please observe all OH&S regulations when working on Sungrow equipment.*

## Introduction

Regulators and inspectors refer to the installation manuals on all inverters, particularly in respect to inverter clearances. Australian Standards state “shall be installed in accordance with the requirements of the standards and additional requirements as specified in the manufacturer’s instructions where applicable”. This is not a override to Australian Standards and guidelines, and installers must always carry out installation of Sungrow equipment in accordance with appropriate standards and install guidelines.

### Applicability: All Sungrow Equipment

On the Sungrow data sheets and installation manuals, there are certain requirements that the installer must meet to conform to the warranty and operation of the inverters and batteries. The following will help clarify for retailers, installers, and inspectors, what is and is not acceptable to Sungrow if the specifications are not met.

**Voltage and current rating:** The maximum voltage and current ratings in reference to DC and AC input must not be exceeded. Exceeding any of these will void the warranty. These are available on product data sheets.

| Type designation | SG5.0RT | SG7.0RT | SG8.0RT | SG10RT | SG15RT | SG20RT |
|---|---|---|---|---|---|---|
| Input (DC) | | | | | | |
| Recommended max. PV input power | 7.5 kWp | 10.5 kWp | 12 kWp | 15 kWp | 22.5 kWp | 30 kWp |
| Max. PV input voltage | 1100 V * | | | | | |
| Min. PV input voltage / Start-up input voltage | 180 V / 180 V | | | | | |
| Rated PV input voltage | 600 V | | | | | |
| MPP voltage range | 160 V – 1000 V | | | | | |
| No. of independent MPP inputs | 2 | | | | | |
| No. of PV strings per MPPT | 1 / 1 | 2 / 1 | | | 2 / 2 | |
| Max. PV input current | 25 A (12.5 A / 12.5 A) | 37.5 A (25 A / 12.5A) | | | 50 A (25 A / 25 A) | |
| Max. DC short-circuit current | 36 A (18 A / 18 A) | 54 A (36 A / 18 A) | | | 72 A (36 A / 36 A) | |

*Extract from the SG*RT range datasheet showing rated input values*

**PV input rating (Watts):** The maximum PV array input listed on the data sheet may be exceeded without voiding the warranty, providing the maximum voltage and current ratings are not exceeded. If the PV input is above that stated on the data sheet, the inverter will derate (“clip”) at excess input power (Watts). In this case, the stated



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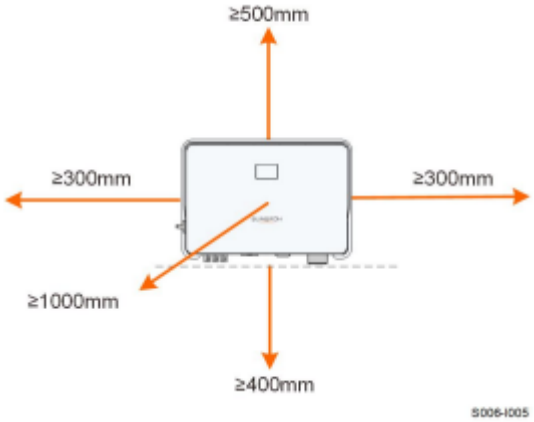
maximum efficiencies on the data sheet are no longer guaranteed, and the Installer/Designer is responsible for all system estimates of performance.

**Ventilation requirements:** As Sungrow inverters and batteries process large amounts of power, there is considerable heat to dissipate in order to keep the inverter within its operating limits. All installation guidelines will detail the minimum recommended ventilation and airflow spaces between inverters and walls, ceilings, other inverters etc. (Small obstructions like for example ducting, Isolators, small switchboards that do not protrude more than 150mm from a surface are not considered to restrict airflow.)




*Extract from a G3 inverter manual showing clearance requirements*

The manual also states;

- If the inverter needs to be installed in a closed or semi-closed environment, please install additional heat dissipation or ventilation devices. Furthermore, while the inverter is operating, ensure the indoor ambient temperature does not exceed the outdoor ambient temperature. A semi-closed environment refers to a special space where natural ventilation is limited and gas or heat may easily accumulate, although it is not fully enclosed on all six sides.
- Install the inverter in a place with shelter, so as to prevent it from getting impacted by direct sunlight and severe weather (e.g. snow, rain, and lightning). The inverter will derate in high temperatures for self-protection. If installed in a place directly exposed to sunlight, as the temperature rises, the inverter may witness power reduction. Good heat dissipation is very important to the inverter. Please install the inverter in a ventilated environment.

If these are not followed, the inverter is unable to dissipate the heat as efficiently, and it may derate to prevent damage to itself or its components. In the case of batteries, interconnections and mounting attachments may be compromised.



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*Extract from G3 user manual showing Installation requirements*

In the cases where the site doesn't allow full clearance or airflow, or the inverter(s) are in an enclosure, the installer/designer may use their discretion to install under different circumstances. This will not affect the warranty in respect to faulty manufacture. However, the inverter may overheat and de-rate. In these circumstances, Sungrow will no longer guarantee efficiency and output figures quoted on the data sheet. It should also be expected that the fan(s) (if fitted) will have to work harder, and there may be increased fan noise. Sungrow will not warranty for increased air noise in these circumstances.

It should also be noted that all Sungrow inverters use the full chassis to disperse heat in order to increase the efficiency of the inverter. This includes the front panel. This usually means utilizing a 'Heat-Sink' to dissipate the heat out of the inverter and into the open air. The inverters or equipment may or may not use forced air (fans) to achieve this cooling.



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### Mounting Surface

The manual states that the inverter must not be mounted on a flammable surface, or near any other potentially flammable or explosive materials i.e. gas. It is the responsibility of the installer to determine whether any material is flammable or not, and to work within all standards and guidelines that govern inverter mounting and connection.

The mounting structure must comply with local/national standards and guidelines. Ensure that the installation surface is solid enough to bear four times the weight of the inverter and/or battery and is suitable for the dimensions of the inverter (e.g. cement walls, plasterboard walls, etc.). Do not install the inverter on a area that may vibrate in resonance, so as to avoid making bigger noise.

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In the case of batteries, they must be mounted on a stable platform capable of holding the weight of the BESS and not affect the integrity of the interconnections. Ground subsidence over time must be accounted for and may affect the integrity of connections.

### Angle Requirements

Install the inverter vertically (unless stated in the manual). Never install the inverter horizontally, or at forward/backward tilted, side tilted, or upside down. This will impede the inverters natural cooling.



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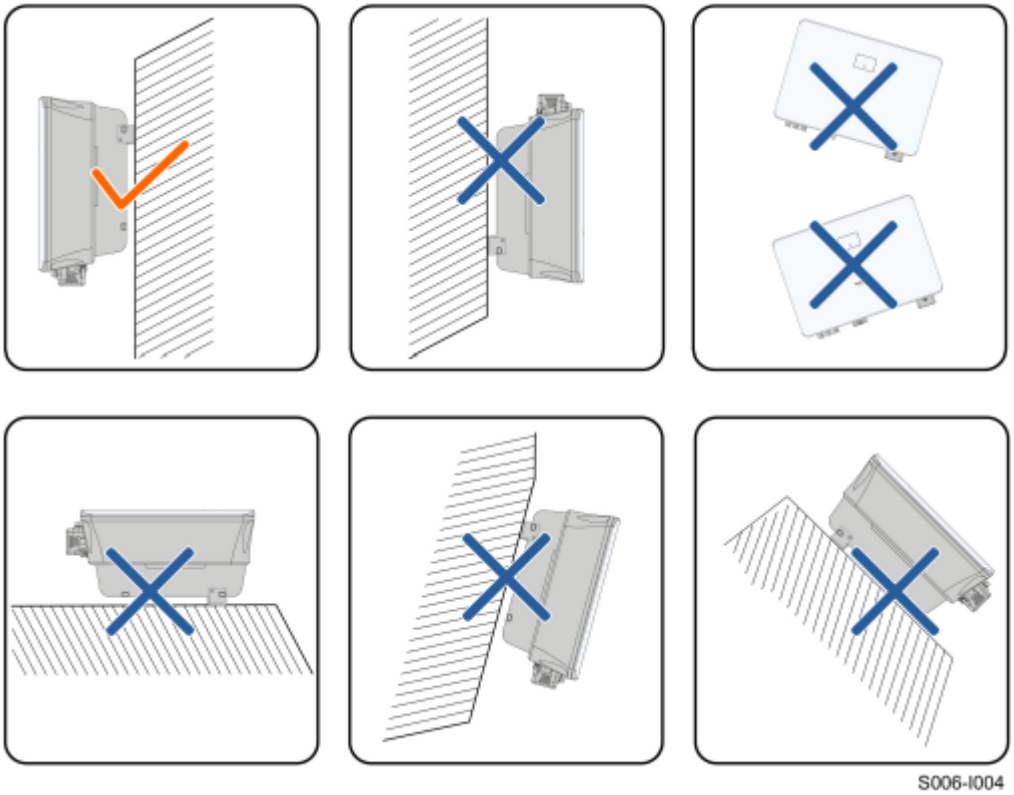


**Water intrusion**

Do not install the equipment in places prone to water leak, e.g., under the air-conditioner vent, the air vent, or the cable outlet window of the machine room, so as to prevent device damage or short circuit caused by intrusion of water. Consideration should also me made in regards to condensation and water tracking. This is also covered in Australian Standards.

Uses of drip loops on inverter and battery cables is strongly recommended, as cases of water ingress may not be covered under warranty.

**Grid protection settings**

As part of the commissioning process, the installer must select the appropriate 'Network Service Provider' or grid standard during initial commissioning and before the inverter is initialised. All current DNSP grid protection settings will automatically load as default during this process. In the cases that a different setting is required, the installer may change these, providing the change is within DNSP standards, via the iSolarCloud App. Only licensed workers are authorised to change grid settings, and this must be done by the installer. Sungrow staff are not authorised to change grid settings. Please refer to the Sungrow Knowledge Base for technical documentation and videos showing how to do this. Please always update firmware as part of the commissioning process as recent changes may not be in the old firmware.



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**Warranty work**

Under the CEC standards and guidelines, the retailer/Installer bears primary responsibility for warranty work on the systems that they sold to the end user. The installer shall determine the nature of the fault, and if it is covered by Sungrow's Warranty Terms and Conditions, Sungrow will send a replacement inverter to site (or nominated delivery address). Once the repair has been successfully completed and the faulty equipment returned to Sungrow for testing, the installer then may lodge a rebate claim in accordance with Sungrow's terms and conditions, which must be accepted upon lodgement of the claim.

It is highly recommended that all firmware is updated on equipment prior to contacting Sungrow.

Further information on the warranty terms and conditions, including service rebates can be found at;

https://service.sungrowpower.com.au/Warranty/warranty

**iSolarCloud and Communication devices**

Sungrow supply a dongle in the box of every Premium inverter sold in Australia and New Zealand. The dongles work on the 2.4 GHz frequency and have a range of about 10m. When connected to end user's modem, the data is uploaded to iSolarCloud. Sungrow are not responsible for cases where the WiFi signal is not strong enough to maintain a connection, and the installer should look at ways of rectifying this i.e. WiFi extenders. Please not that some modems have a "band steering" capability, and may selectively disconnect the 2.4GHz signal. Creating a plant on iSolarCloud is part of the commissioning process and is the responsibility of the installer. Where there is no WiFi signal, an Ethernet adaptor or a 4G dongle may be used. The 4G dongle comes with 5 years pre-paid data (Australia Only), or in some cases, Logger1000 may be used.

If the issue still persists, please take photos testing on site and contact Sungrow Service Department on 1800 786 476 or email to service@sungrowpower.com.au.



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