

## Testing Sungrow Meters (Error 514)

### 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.

### Overview:

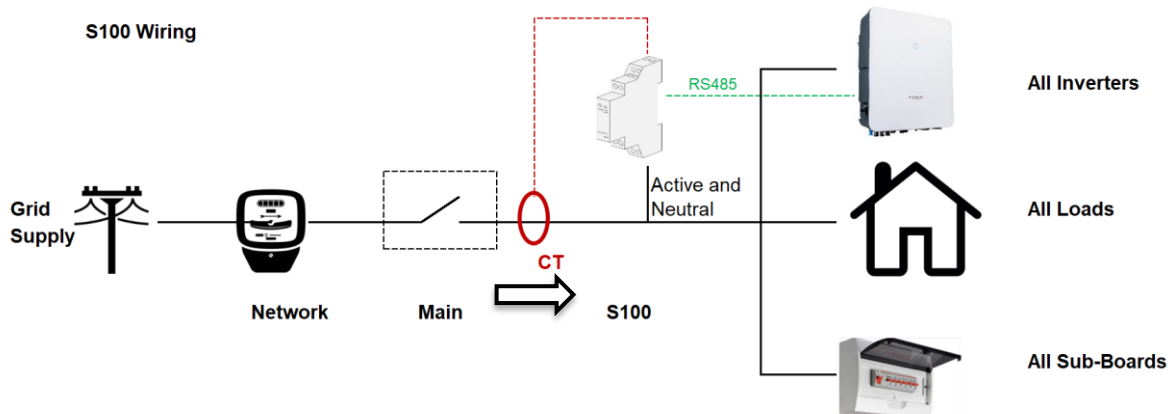
Sungrow receive a large number of warranty claims against meters not communicating. In most cases, the meter is working fine, and the problems relate to wiring or meter location.

Before Sungrow will approve a warranty claim against a meter, the following need to be checked and confirmed by the installer.

### Meter and CT placement:

The meter and CT must always be connected between the main switch and all loads/inverters.

(Hot water monitoring may or may not be required by customer).



### Current transformers:

S100 – is supplied with an already connected CT. Ensure the arrow points to the loads/inverters.

DTSU666 has internal CT's. Grid connects to the bottom terminals.

DTSU666-20 – CT's must have secondary of 333mV. Arrows point to the loads/inverters.

**RS485 cable:**

**Proper RS485 cable (shielded twisted pair) MUST** always be used as RS485 is a 120 Ohm system, and the cable impedance must match.

**Cat 5e or Cat 6 is not suitable** and may result in data loss or non-communication.

**Meter connection:**

Always terminate the cable using the correct bootlace ferrules.

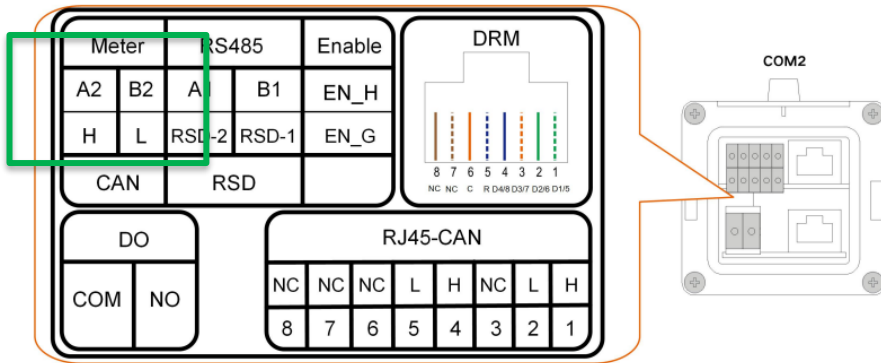
The meter is marked RS485 A and B.

On an S100 meter, use connections 2 and 5 respectively.

The yellow LED will illuminate when the meter is powered, and flash rapidly when communicating.

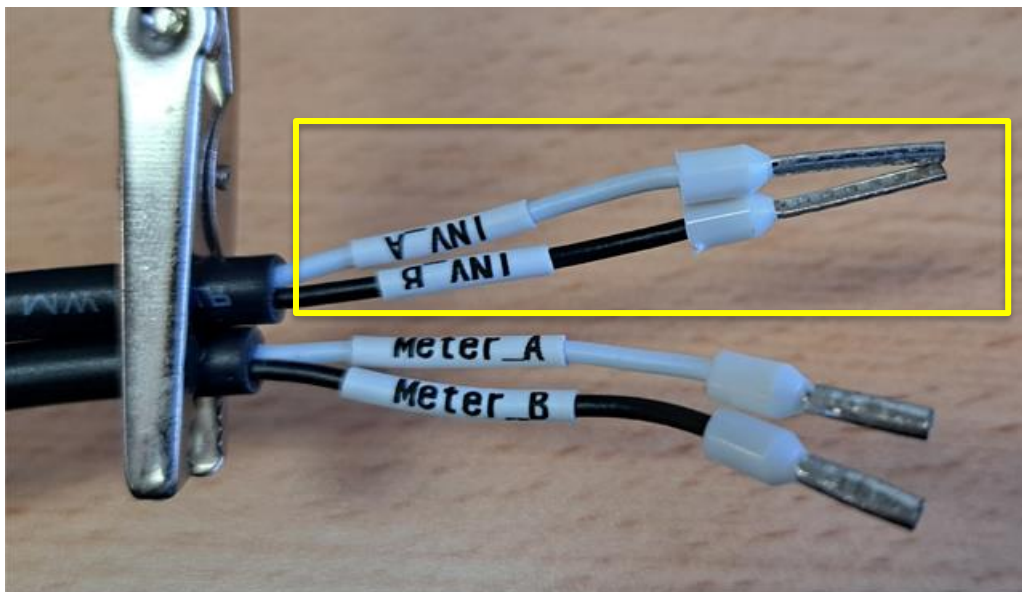
**Inverter connection:**

Always check the communication pinout map on the left-hand side of the inverter. The correct terminals are marked "Meter" and A2/B2.



**Terminating:**

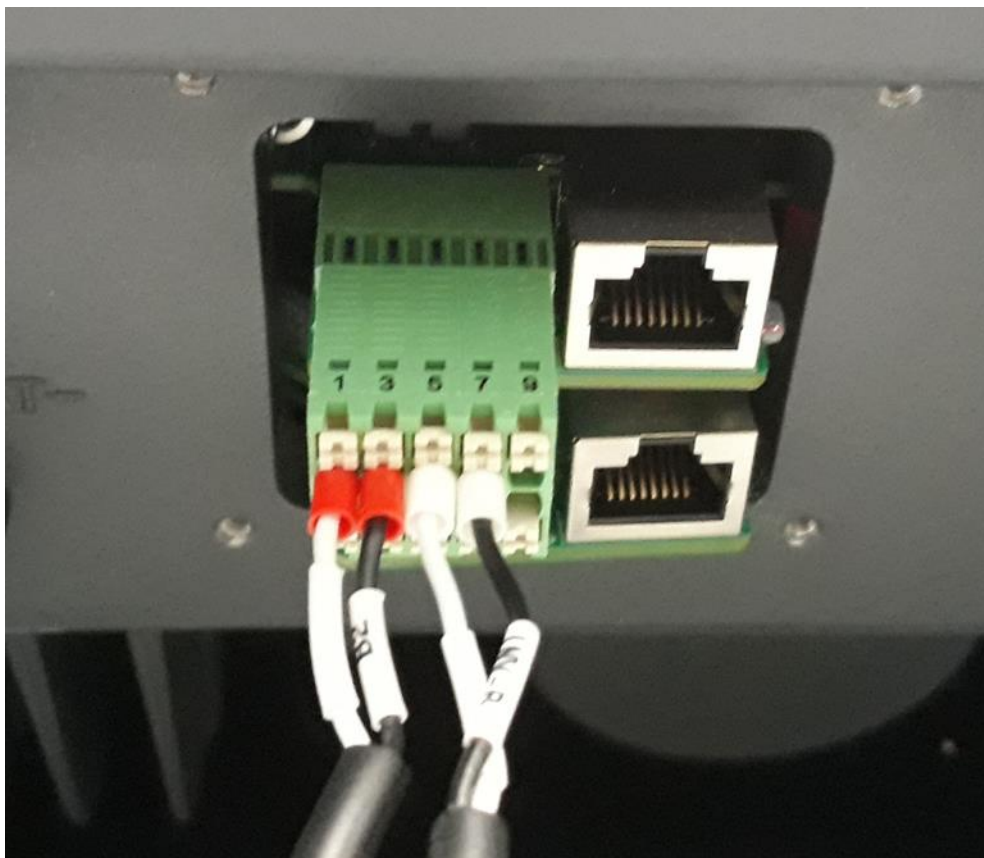
Always terminate with the correct bootlace ferrules. Some cables are already terminated and are marked (the longer pins MUST be used at the inverter com plug end).



If you are using your own cable, or shortening the cable, use the spare blue coloured ferrules that are supplied in the box.

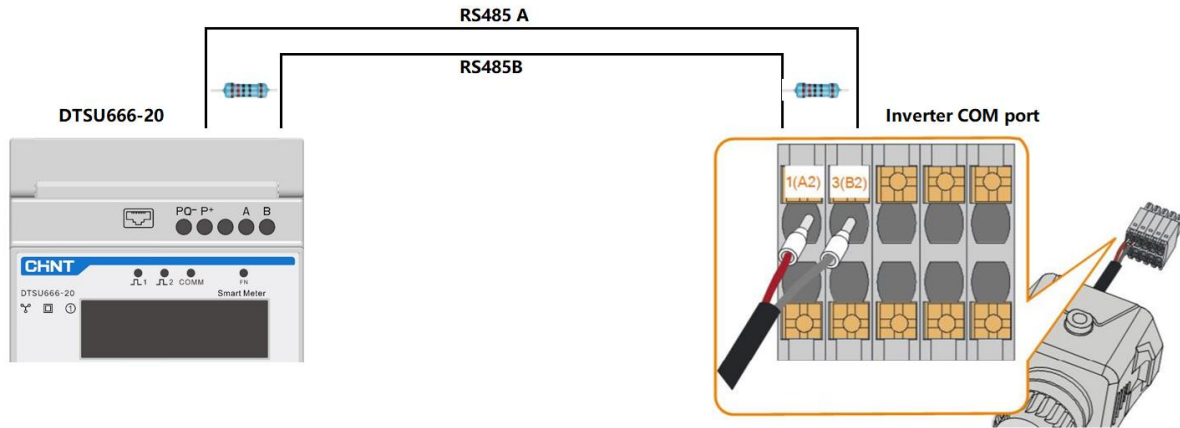


Ensure the pins are securely pushed into the correct spring terminals. Twisting the wires will result in a bad connection.



**120 Ohm termination resistors:**

Signal quality will be improved by connecting 120 Ohm resistors across RS485A and RS485B at each end of the cable.



**Firmware:**

Sungrow regularly releases new firmware to iron out known bugs, and to add new functionality. You MUST update both dongle and inverter to the latest before lodging a warranty claim.

**Is it a legitimate warranty claim?**

If you can confirm all of the above, then Sungrow will send a replacement meter. Make sure you advise that you have checked everything in the comments when making the claim as it will save time.

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](mailto:service@sungrowpower.com.au).