



Multiple Three-phase Inverters Power Limit Introduction with SEC1000

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1.1

Development Background

- Varied Electricity Subsidy Policies in Different Countries
 - Feed-in tariff in many countries are getting lower and lower.
 - Electricity price in many countries are more and more expensive.
 - And the most important thing is more and more countries are prohibited to feed in power to Grid, like South Africa.
 - For some commercial projects, it's too expensive if install the anti-reverse device for every inverter, and the old solution ARCB and Ezlogger Pro+Ezmeter+3CT we have for multiple three phase inverters anti-reverse was found with instability and inconvenient to install problems. So a new solution SEC (Smart Energy Controller) which integrated Ezlogger Pro, Smart Meter, SPS power module and onboard CT module for realizing multiple three phase inverters anti-reverse function was born in this background.

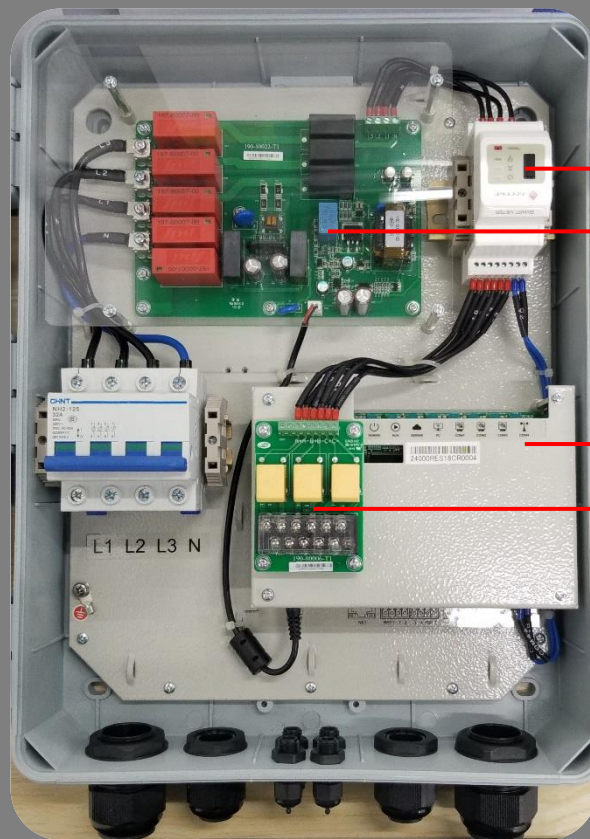


1.2

Product Features

Product Features

- SEC Overview



Smart Meter

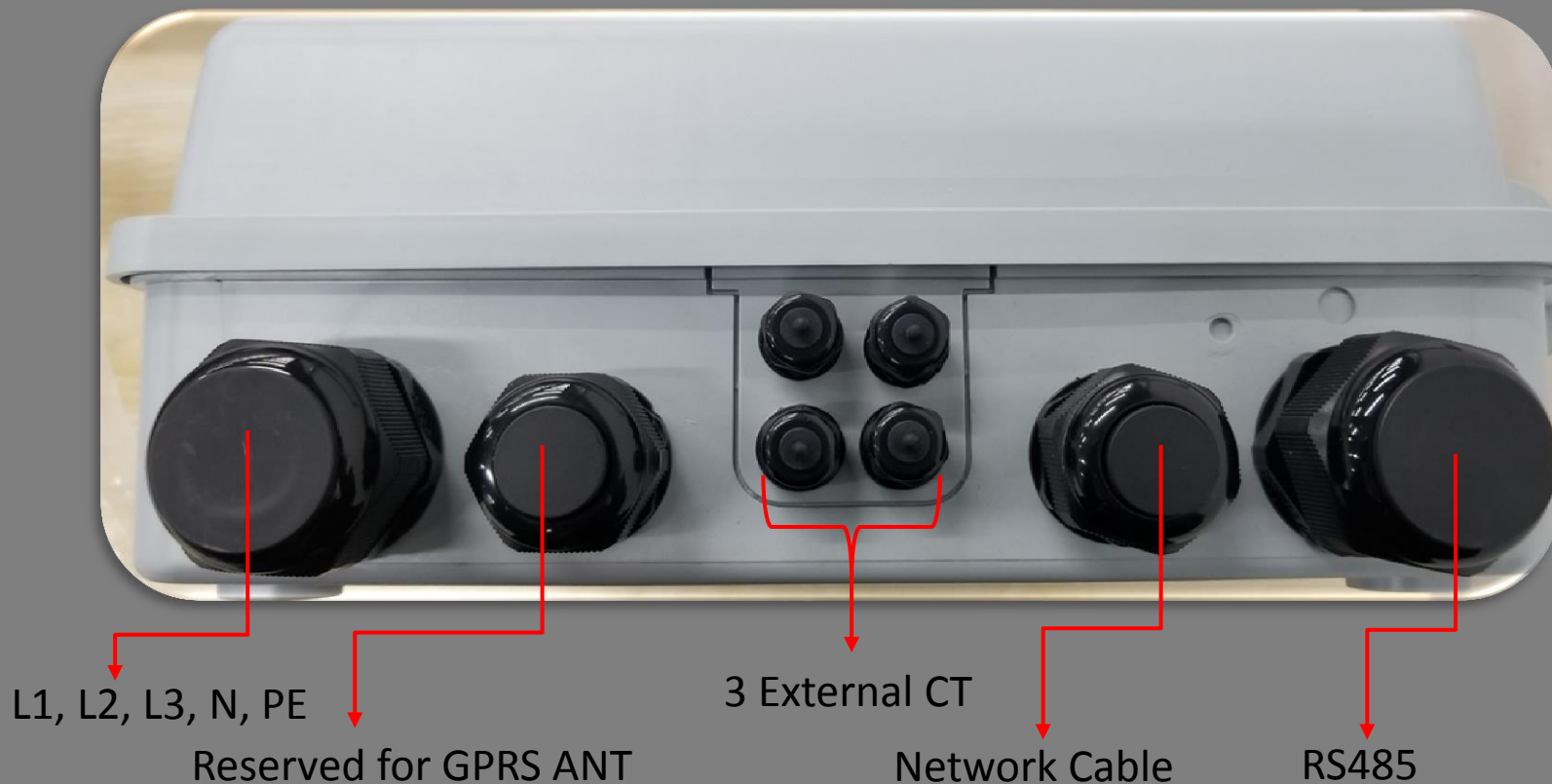
SPS Power Board

Ezlogger Pro

Onboard CT

Product Features

- SEC Overview





1.3

Anti-reverse Wiring Diagram

Anti-reverse Wiring Diagram

● Tools Preparation



SEC1000



3 External CT



Shorting stub



2Pin terminals



Tubular terminal



Pan head screw



Sealer

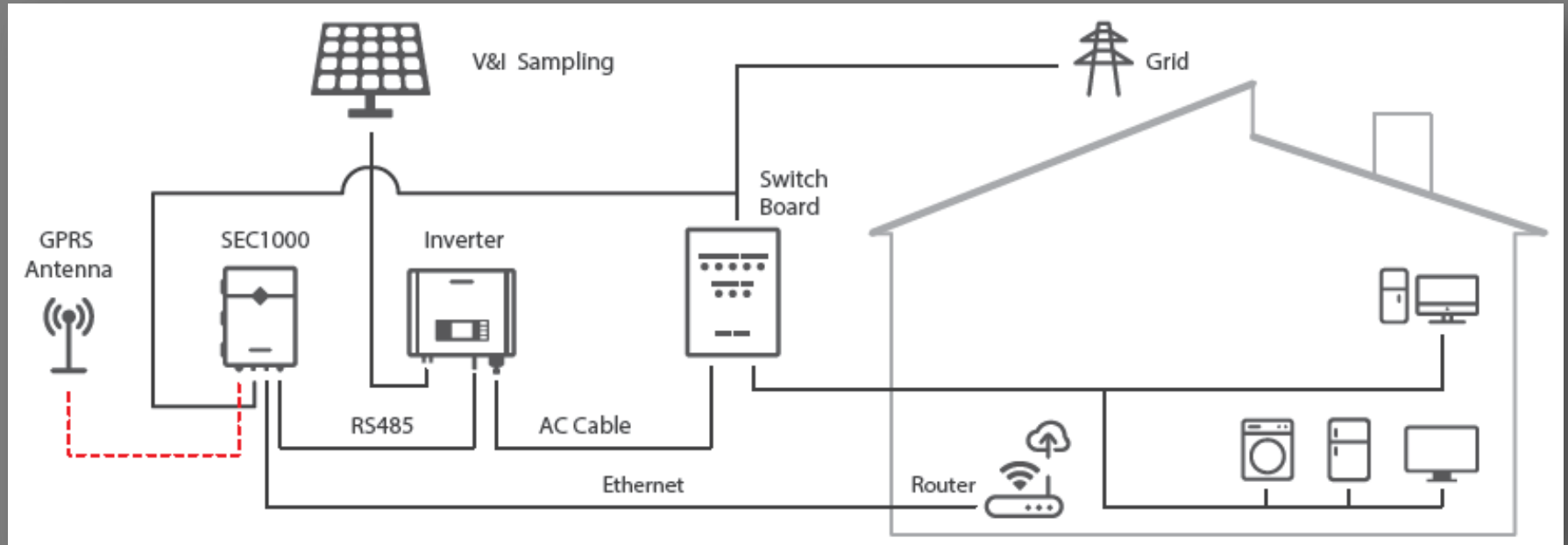


Expansion Bolts



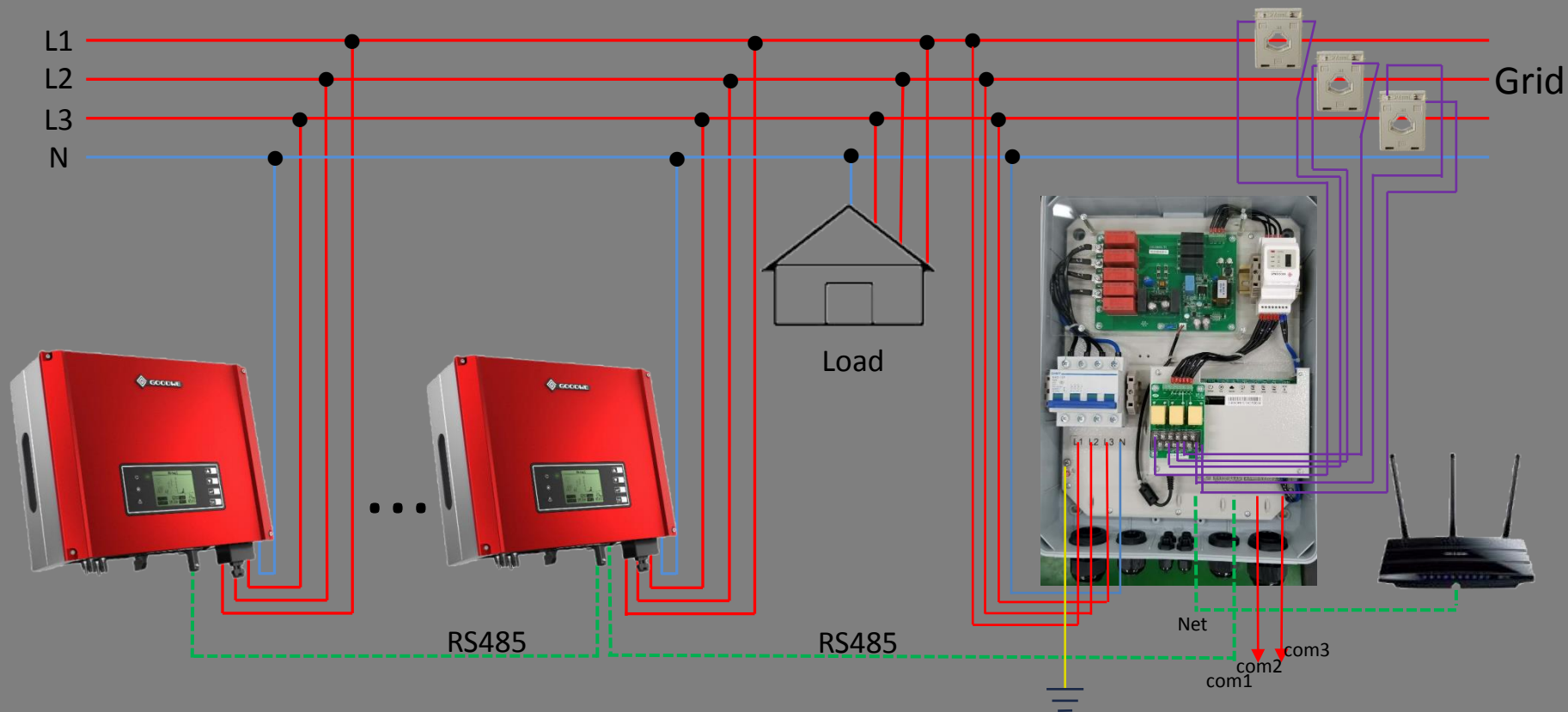
Key to open the SEC box

Anti-reverse Wiring Diagram



Anti-reverse Wiring Diagram

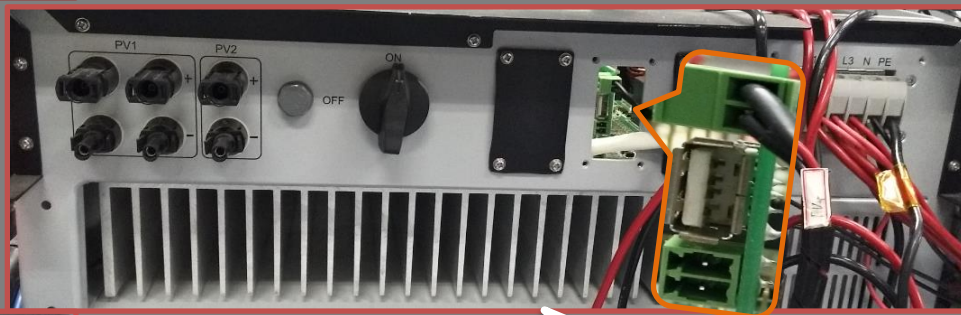
● System Wiring Diagram



The RS485 ports of SDT



SDT 17K → 20K



The RS485 ports of MT



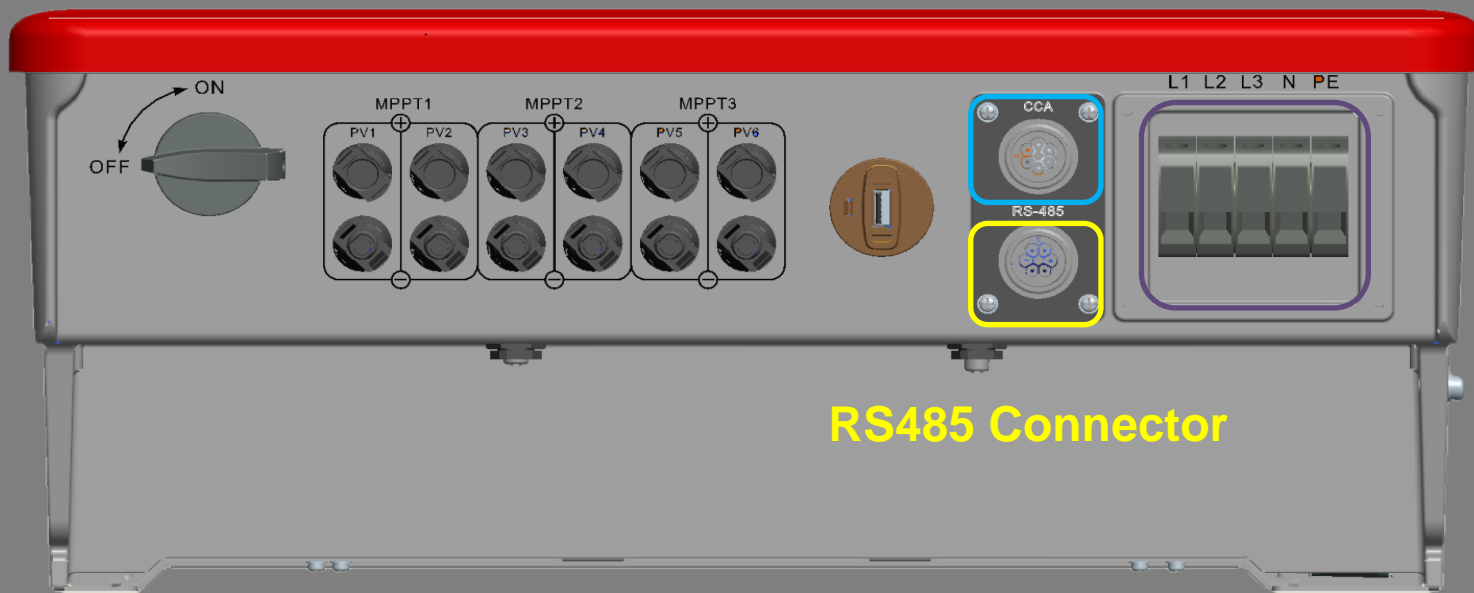
The RS485 ports of MT G2



The RS485 ports of MT G2



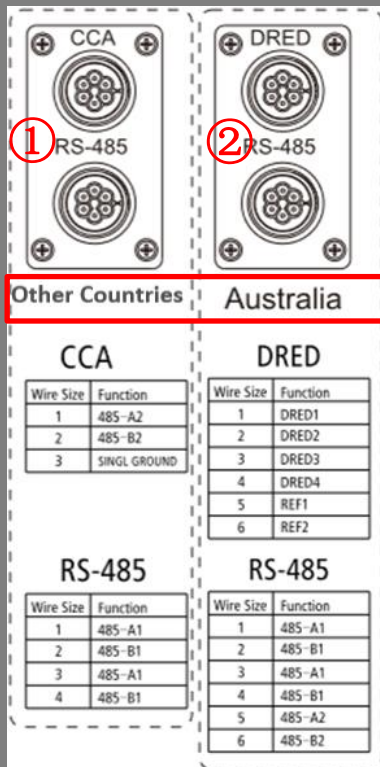
The RS485 ports of SMT



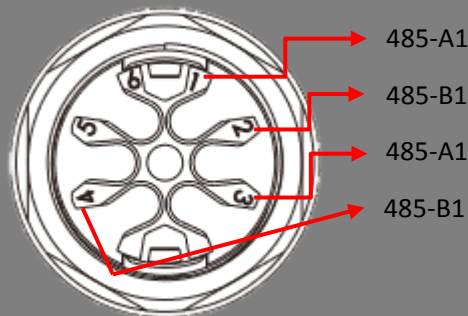
RS485 Connector

The RS485 ports of SMT

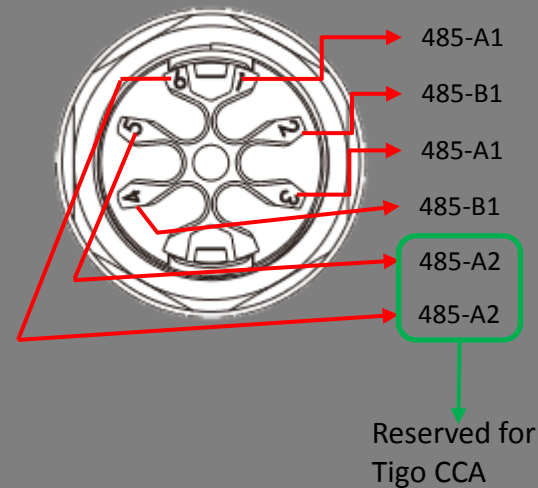
➤ Definition for RS485/CAA/DRED connectors



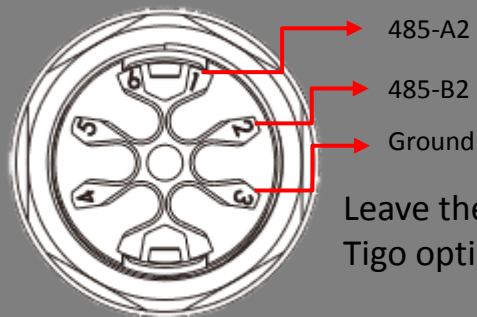
For V① RS485



For V② RS485



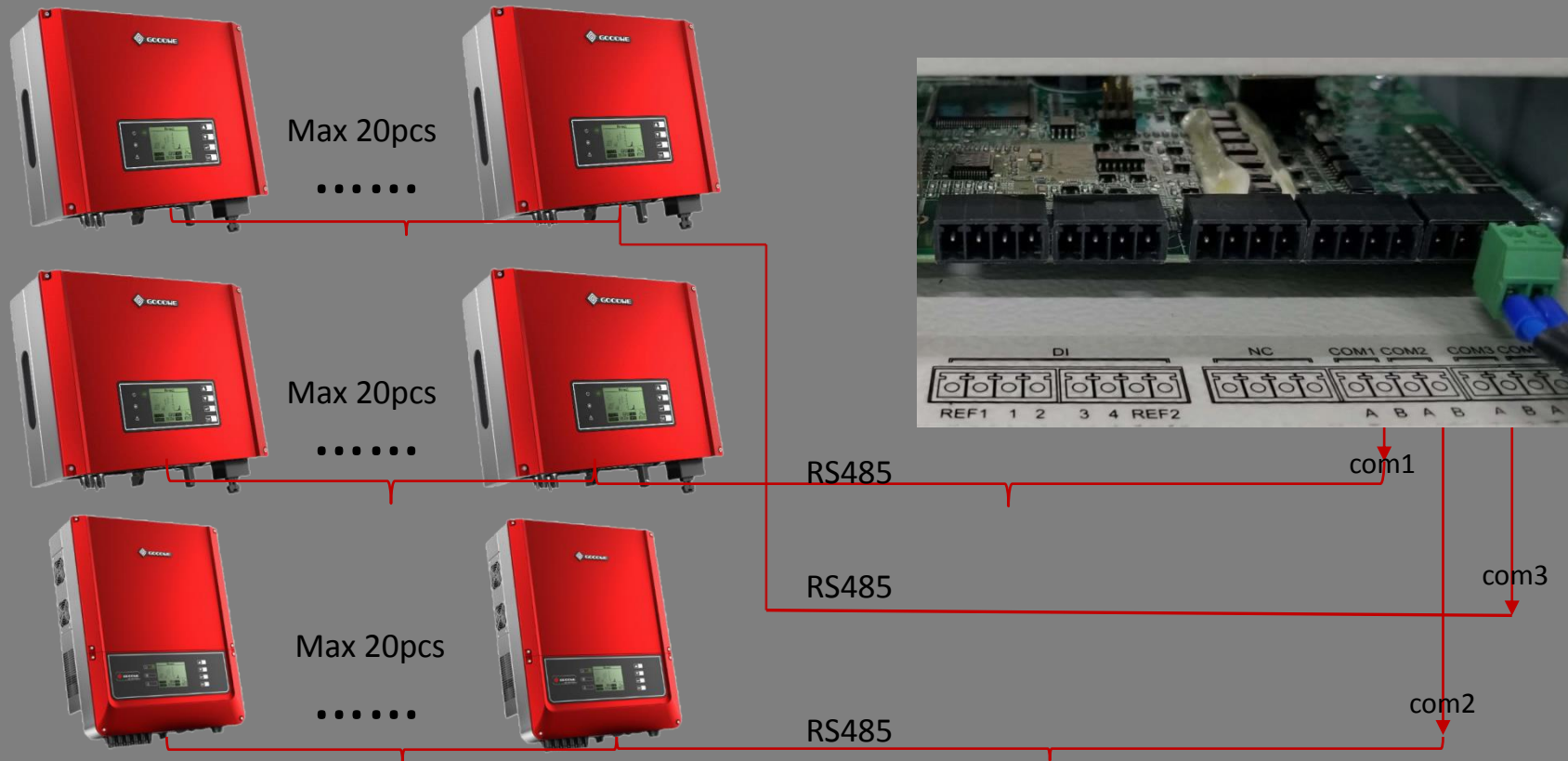
For V① CCA



Leave the CCA connector alone if you don't use Tigo optimizer in your solar system

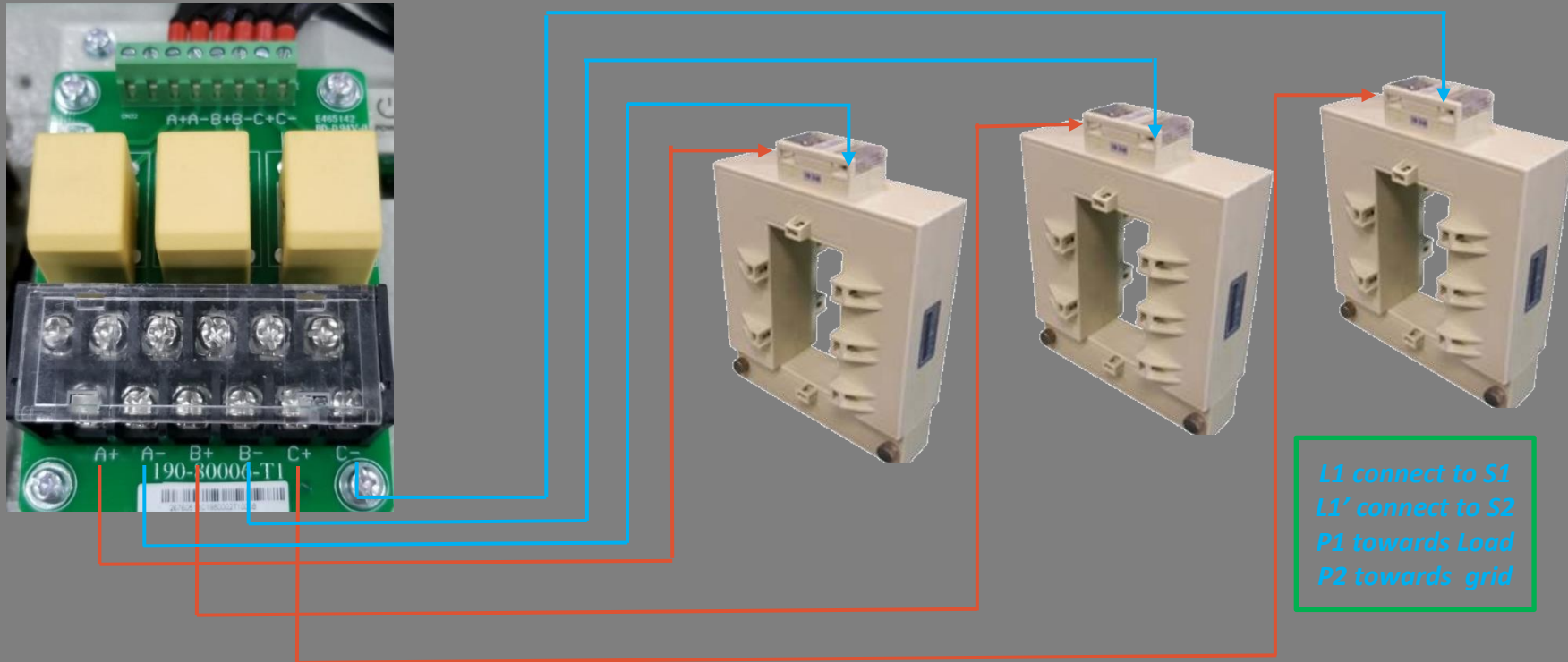
Anti-reverse Wiring Diagram

● SEC1000 & Three Phase Inverter Connection



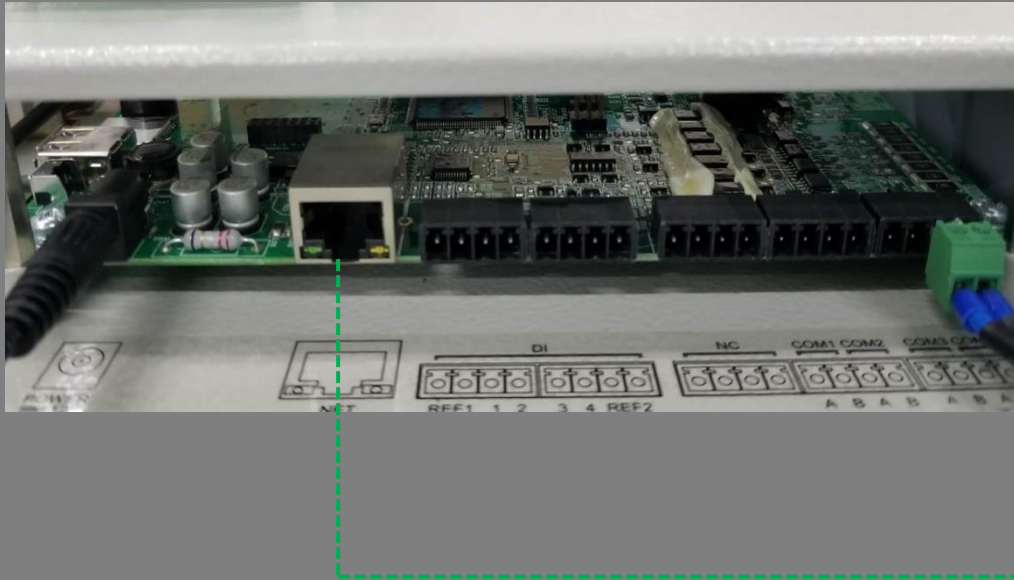
Anti-reverse Wiring Diagram

- SEC1000 & CT Connection
Onboard CT



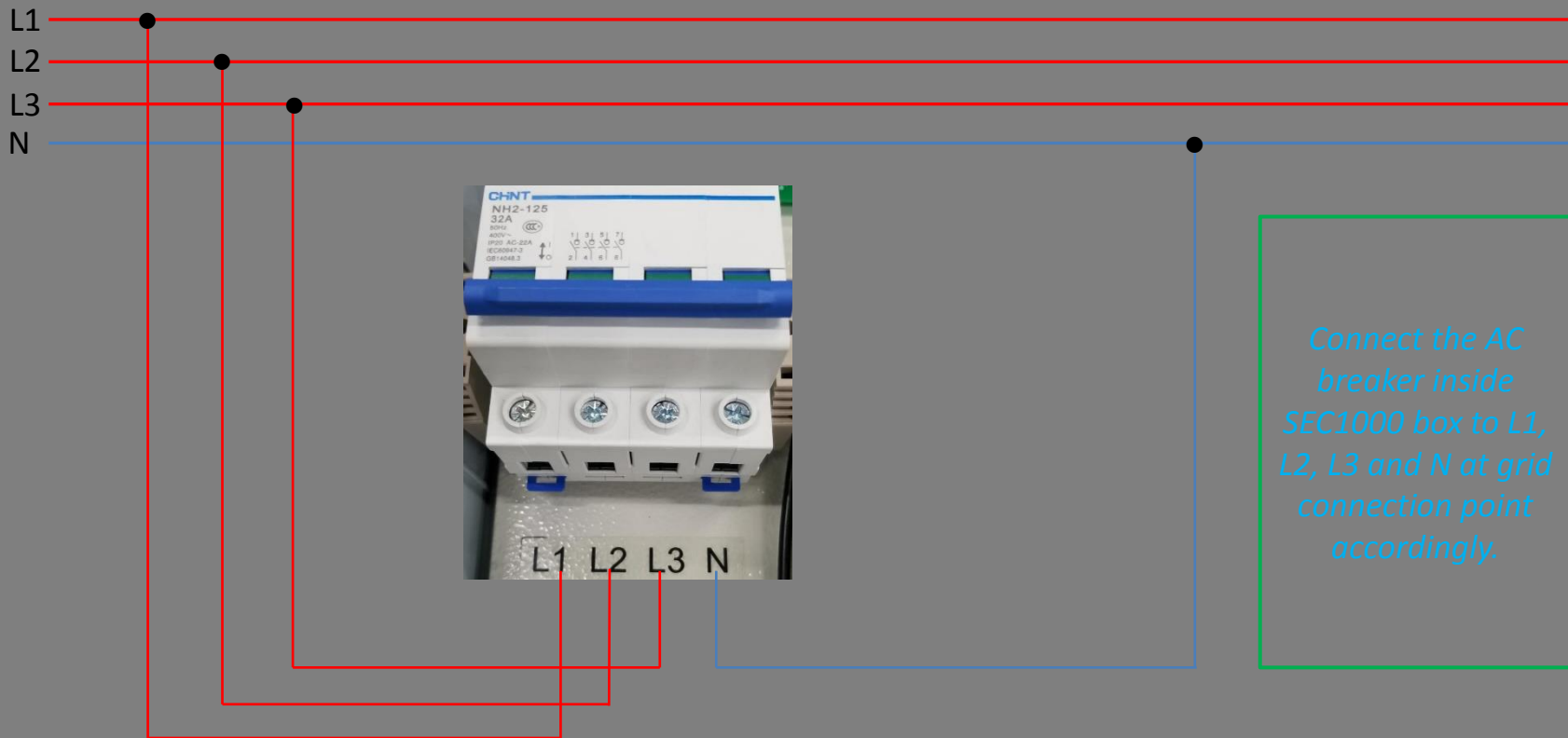
Anti-reverse Wiring Diagram

- SEC1000 & Router Connection (for LAN version)



Anti-reverse Wiring Diagram

● SEC1000 & Grid Connection





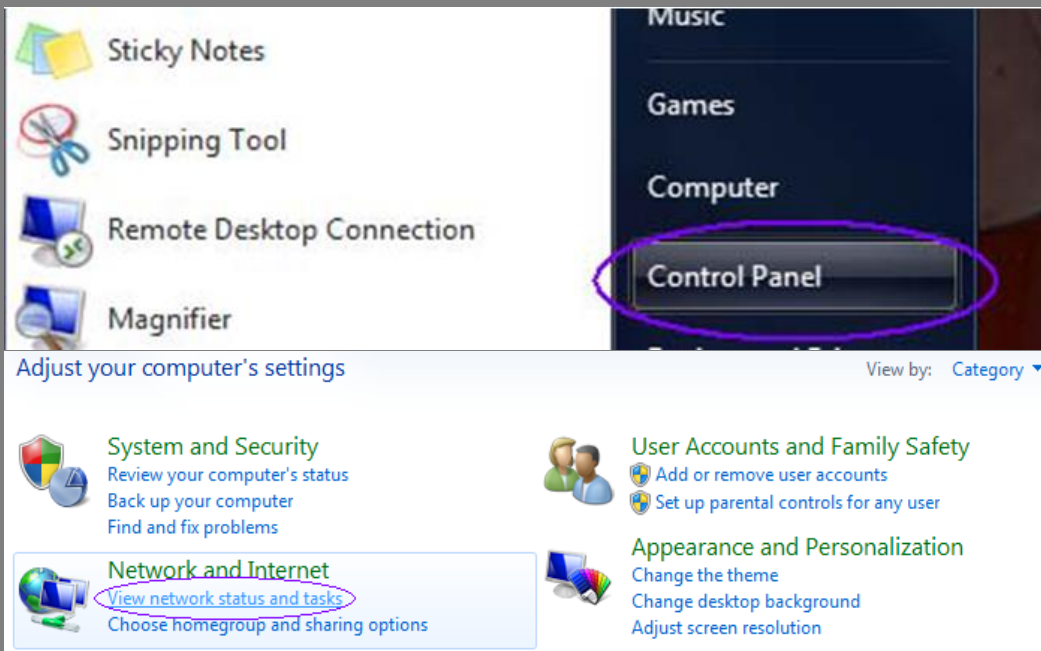
1.3

ProMate Configuration

ProMate Configuration

● ProMate Configuration

- Change the Ezlogger Pro to Static IP mode by pressing “Reload” button around 10s. Led indicators on Ezlogger pro flashing from right to left means Ezlogger Pro in static IP mode.
- Set the local area IP address to 192.168.1.100 on PC by following the steps below:



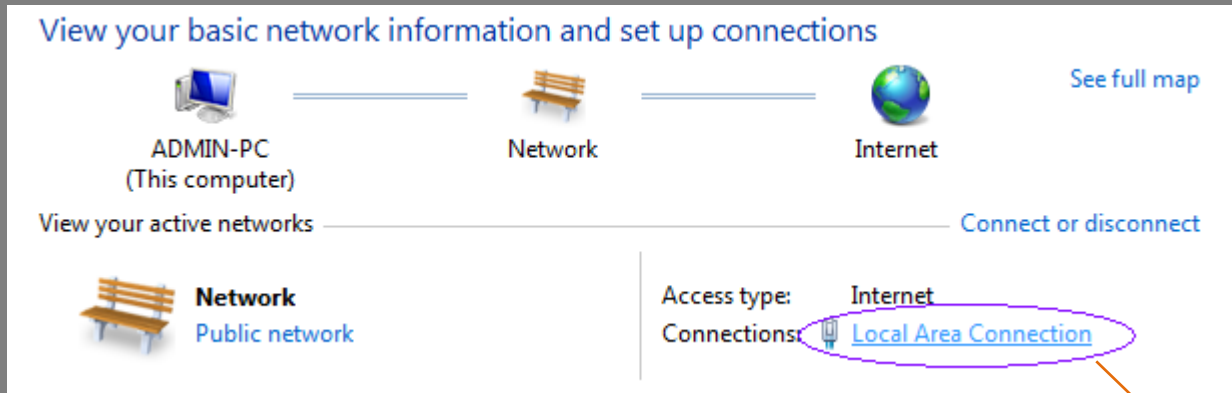
1. Click “Start”, and Click
“Control Panel”.

2. Click “View network status
and tasks”.

ProMate Configuration

● ProMate Configuration

- Set the local area IP address to 192.168.1.100 on PC by following the steps below:



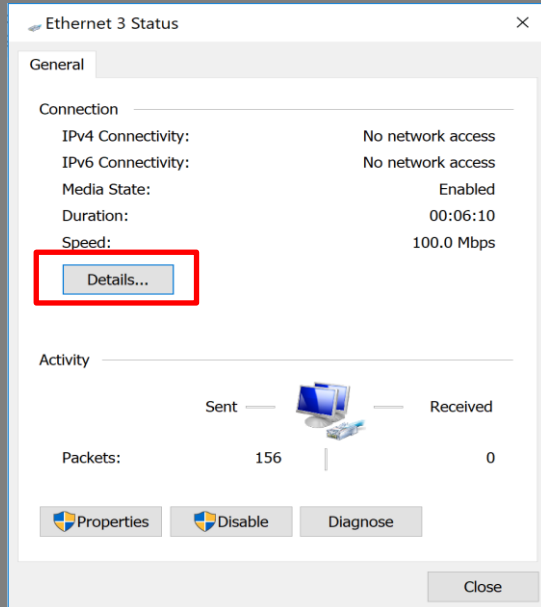
3. Click “Local Area Connection”.

Note: The “Local Area Connection” option will appear only when the net port is connected.

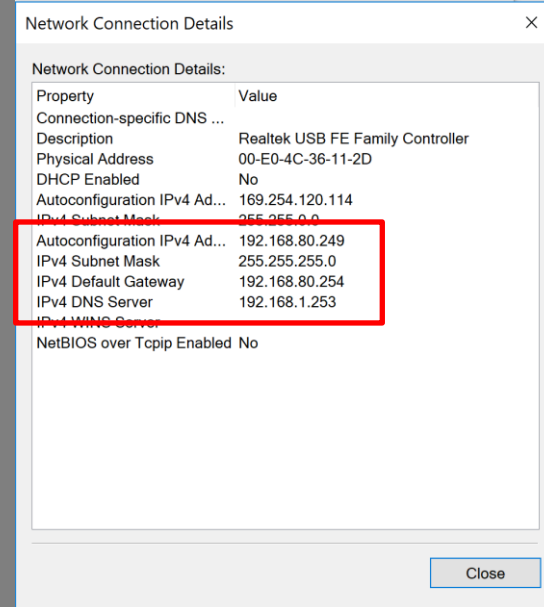
ProMate Configuration

● ProMate Configuration

- Set the local area IP address to 192.168.1.100 on PC by following the steps below:



4. Click "Details".

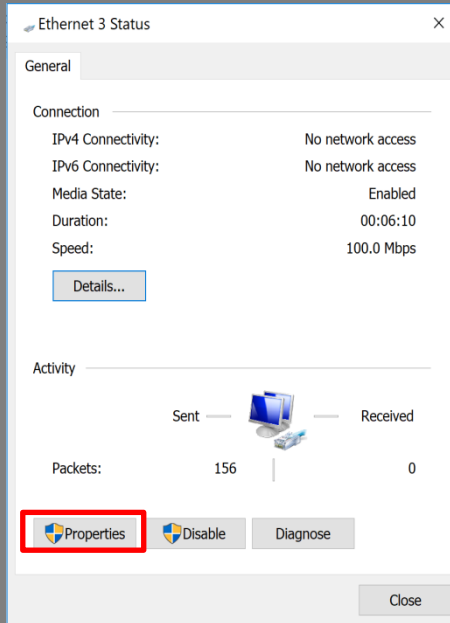


5. Record the IP, Subnet Mask, Default Gateway and DNS in this step.

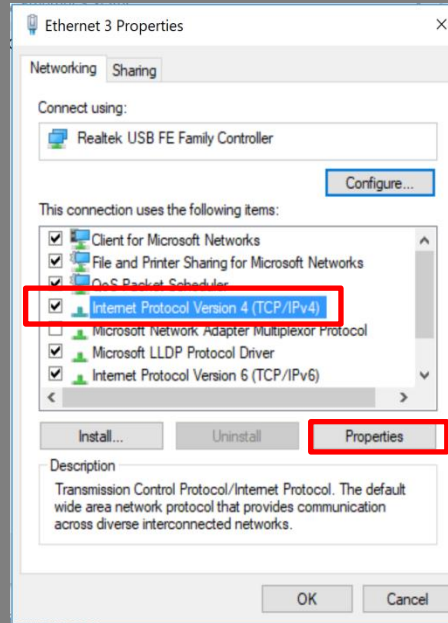
ProMate Configuration

● ProMate Configuration

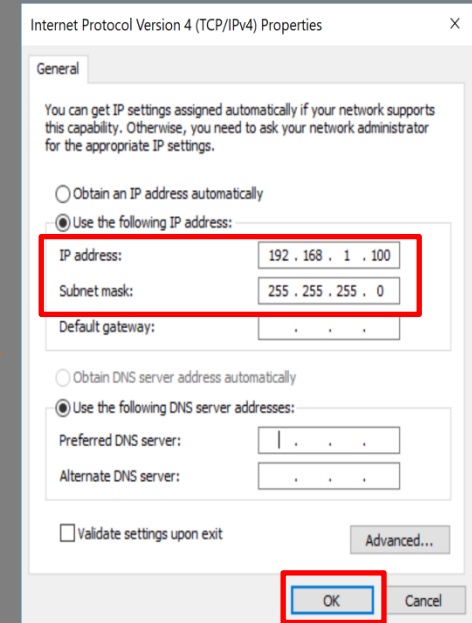
- Set the local area connection IP address to 192.168.1.100 on PC by following steps below.



6. Click "Properties"



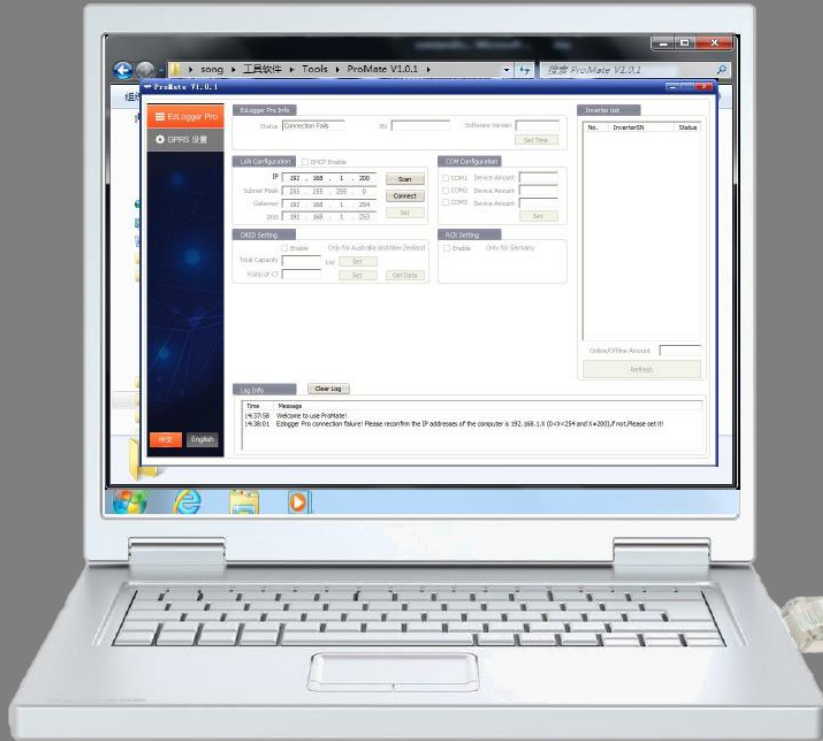
6. Click "TCP/IPv4"



6. Change the IP to 192.168.1.100, click "Ok"

ProMate Configuration

- ProMate Configuration
- Connect Ezlogger Pro with your Laptop



Network Port

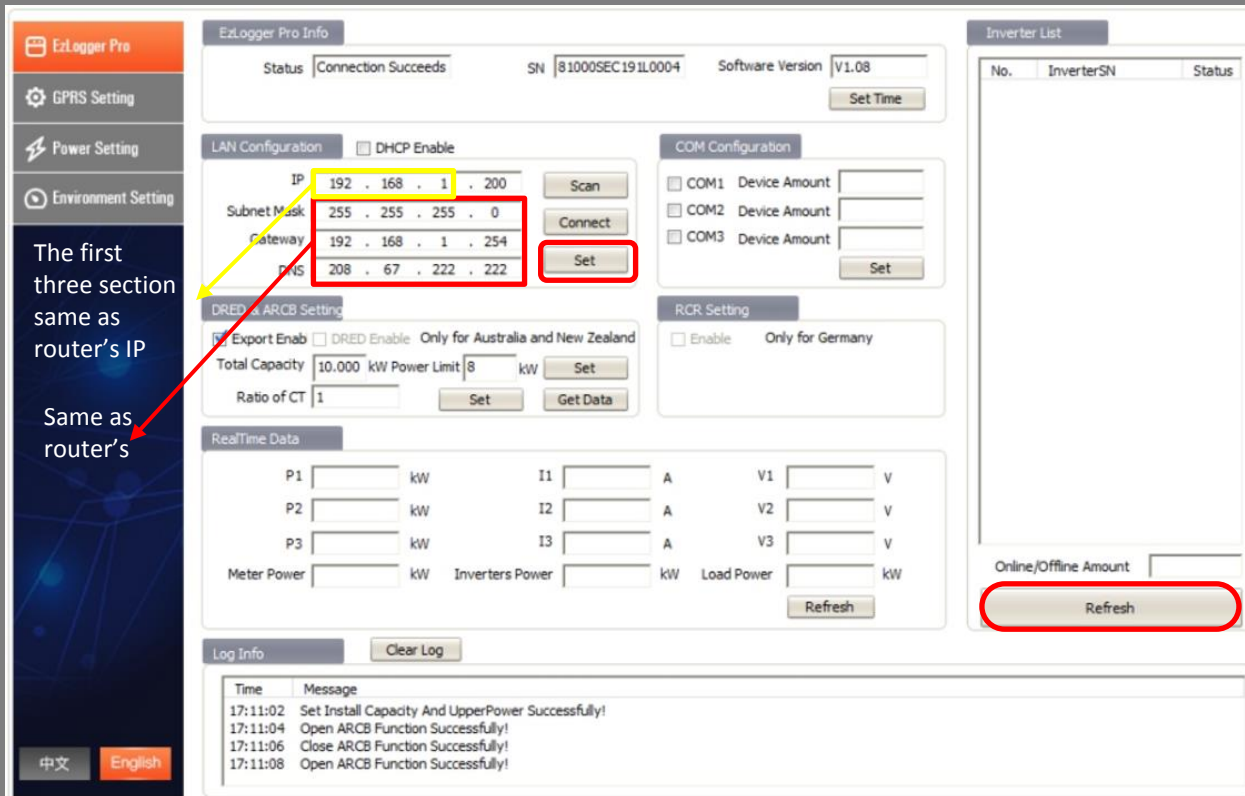
Network cable pass
through this port

ProMate Configuration

● ProMate Configuration

- Open the software “Promate V1.0.8” wait till it shows “Connection Succeeds”.
- Click “Refresh” to check if the connected inverter(s) is online.
- Modify the IP, Subnet Mask, Gateway and DNS to match router.
- Click “Set”

🔧: The Promate version should \geq V1.0.8 if you need to use it to configure SEC1000



EzLogger Pro Info

Status: Connection Succeeds SN: 81000SEC191L0004 Software Version: V1.08 [Set Time]

LAN Configuration ☐ DHCP Enable

IP: 192 . 168 . 1 . 200 [Scan]

Subnet Mask: 255 . 255 . 255 . 0 [Connect]

Gateway: 192 . 168 . 1 . 254 [Set]

DNS: 208 . 67 . 222 . 222

COM Configuration

☐ COM1 Device Amount [Set]

☐ COM2 Device Amount

☐ COM3 Device Amount

R/C/R Setting

☐ Enable Only for Germany

DRED & ARCB Setting

☒ Export Enab ☐ DRED Enable Only for Australia and New Zealand

Total Capacity: 10.000 kW Power Limit: 8 kW [Set]

Ratio of CT: 1 [Set] [Get Data]

RealTime Data

P1 [] kW I1 [] A V1 [] V

P2 [] kW I2 [] A V2 [] V

P3 [] kW I3 [] A V3 [] V

Meter Power [] kW Inverters Power [] kW Load Power [] kW [Refresh]

Log Info [Clear Log]

Time	Message
17:11:02	Set Install Capacity And UpperPower Successfully!
17:11:04	Open ARCB Function Successfully!
17:11:06	Close ARCB Function Successfully!
17:11:08	Open ARCB Function Successfully!

Inverter List

No.	InverterSN	Status
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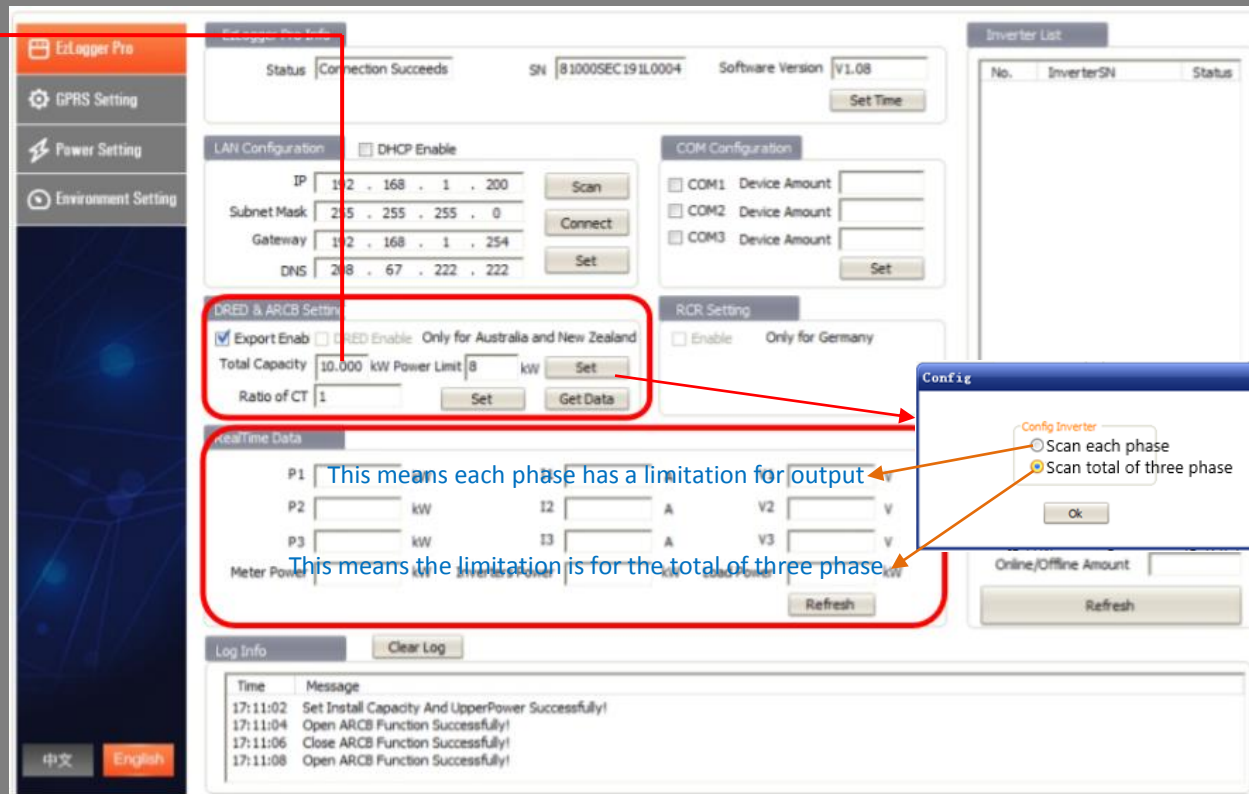
Online/Offline Amount [Refresh]

中文 English

ProMate Configuration

● ProMate Configuration

- Set power limit or anti-reverse data in this area.
- Put a tick in the box which before “Export Enab” and input the other data accordingly.
- “Ratio of CT” means rated current transformation ratio.
- If the electricity company limits each phase input or output, please select “Scan each phase”, otherwise select “Scan total of three-phase”.



The screenshot shows the ProMate configuration interface. On the left is a sidebar with menu items: ErLogger Pro, GPRS Setting, Power Setting, and Environment Setting. The main area contains several configuration sections:

- Status:** Connection Succeeds, SN: 81000SEC191L0004, Software Version: V1.08, Set Time button.
- LAN Configuration:** DHCP Enable checkbox, IP: 192.168.1.200, Subnet Mask: 255.255.255.0, Gateway: 192.168.1.254, DNS: 208.67.222.222, Scan, Connect, Set buttons.
- COM Configuration:** COM1, COM2, and COM3 Device Amount input fields, Set button.
- RCC Setting:** Enable checkbox, Only for Germany text.
- DRED & ARCB Setting:** Export Enab checkbox (checked), DRED Enable: Only for Australia and New Zealand text, Total Capacity: 10.000 kW, Power Limit: 8 kW, Ratio of CT: 1, Set, Get Data buttons.
- RealTime Data:** P1, P2, P3 kW input fields; I1, I2, I3 A input fields; V1, V2, V3 V input fields; Meter Power, Inverter Power, Grid Power, Total Power kW input fields; Refresh button.
- Log Info:** Clear Log button, log entries showing successful installation and ARCB function operations.
- Inverter List:** Table with columns No., InverterSN, Status.
- Config Dialog:** Config Inverter section with radio buttons for Scan each phase (selected) and Scan total of three phase, Ok button.

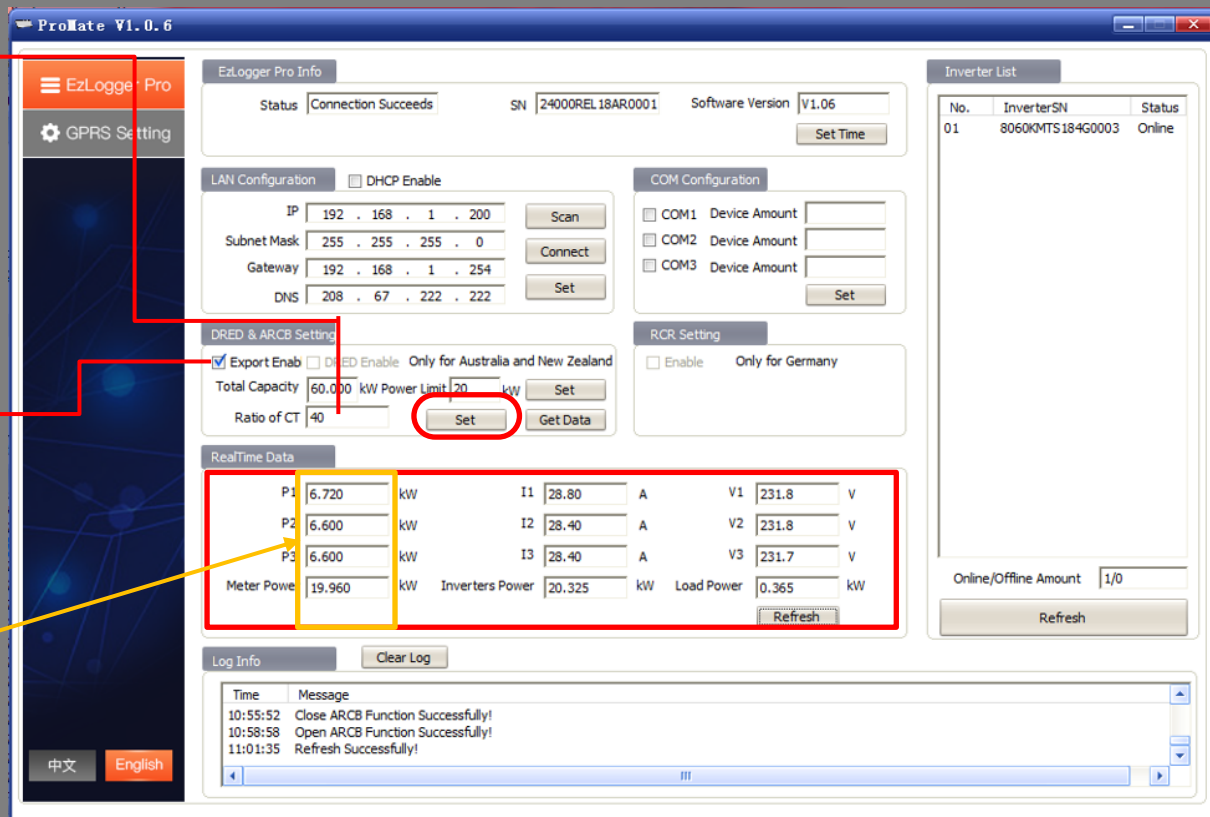
Annotations with red arrows point to the "Export Enab" checkbox and the "Ratio of CT" field in the "DRED & ARCB Setting" section. A blue arrow points from the text "This means each phase has a limitation for output" to the "Scan each phase" radio button in the "Config" dialog. Another blue arrow points from the text "This means the limitation is for the total of three phase" to the "Scan total of three phase" radio button in the "Config" dialog.

ProMate Configuration

● ProMate Configuration

- Set “Ratio of CT” and click “Set”.
- ☛ “Ratio of CT” mean current conversion ration, if the sticker on the CT marked 200/5A, the ration is 40.
- Click “Export Enab” to activate the power limit or anti reverse function.

☛: Positive number here means selling power to grid, negative number here means buying power from grid.



ProMate V1.0.6

EzLogger Pro Info

Status: Connection Succeeds SN: 24000REL18AR0001 Software Version: V1.06 [Set Time]

LAN Configuration ☐ DHCP Enable

IP: 192 . 168 . 1 . 200 [Scan]
Subnet Mask: 255 . 255 . 255 . 0 [Connect]
Gateway: 192 . 168 . 1 . 254 [Set]
DNS: 208 . 67 . 222 . 222

COM Configuration

☐ COM1 Device Amount
☐ COM2 Device Amount
☐ COM3 Device Amount [Set]

RCR Setting

☐ Enable Only for Germany

DRED & ARCB Setting

☒ Export Enab ☐ DRED Enable Only for Australia and New Zealand
Total Capacity: 60,000 kW Power Limit: 20 kW [Set]
Ratio of CT: 40 [Set] [Get Data]

RealTime Data

P1	6.720	kW	I1	28.80	A	V1	231.8	V
P2	6.600	kW	I2	28.40	A	V2	231.8	V
P3	6.600	kW	I3	28.40	A	V3	231.7	V
Meter Power	19.960	kW	Inverters Power	20.325	kW	Load Power	0.365	kW

[Refresh]

Log Info [Clear Log]

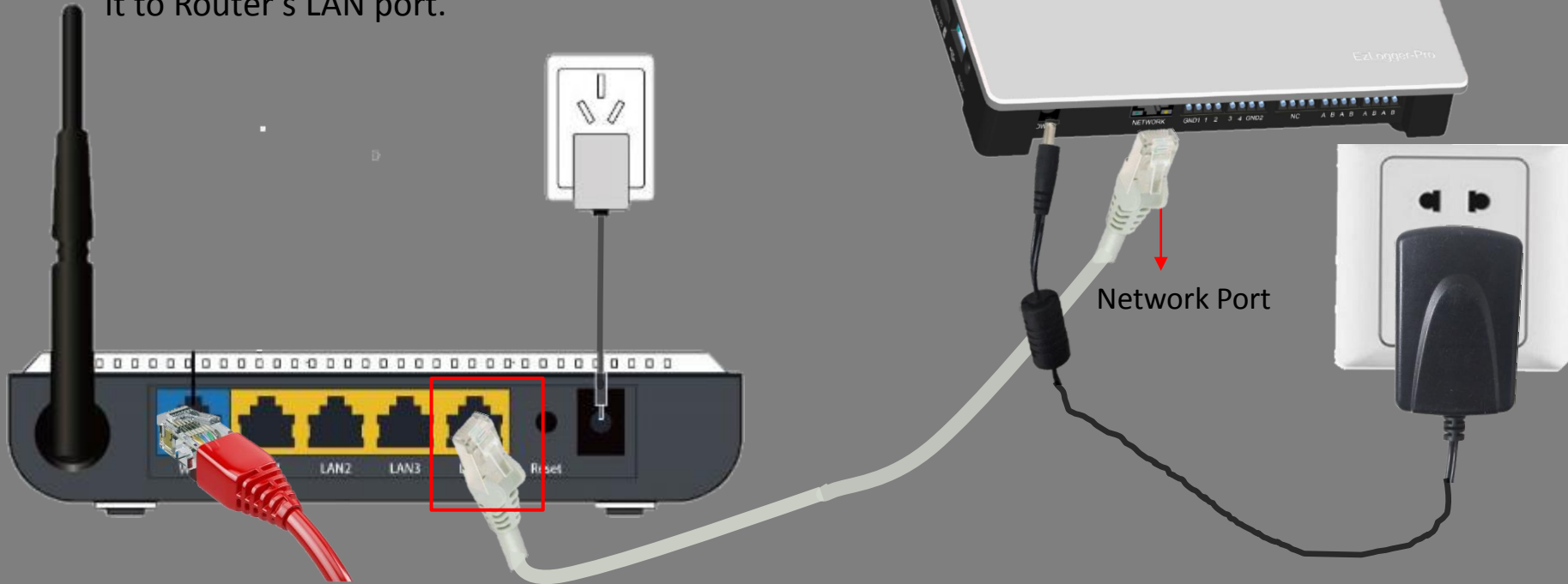
Time	Message
10:55:52	Close ARCB Function Successfully!
10:58:58	Open ARCB Function Successfully!
11:01:35	Refresh Successfully!

中文 English

ProMate Configuration

- ProMate Configuration

After finished the ProMate configuration, disconnect the LAN cable from PC and connect it to Router's LAN port.



● ProMate Configuration

Q1: Are All versions Ezlogger Pro available for doing multi-inverter anti current reverse?

A1: From a hardware perspective, all versions Ezlogger Pro available for doing multi-inverter anti current reverse. But, from a software perspective, only the firmware version of the Ezlogger Pro V.08 can be used to do multi-inverter anti current reverse.

Q2: Is the customer need to set the power limit percentage on the inverter screen when they use Ezlogger Pro to do multi-inverter anti current reverse?

A2: No. Ezlogger Pro will make the whole system always in buying power status and the proportion of the buying electricity is 5%-8% of installed capacity.

Q3: How many kinds of the CTs are available for customer selection?

A3: Three, they are 250/5A, 1000/5A, 5000/5A.

● ProMate Configuration

Q4: What is the length for CT communication line?

A4: For 250/5A CT, suggested length for 1.5mm² cable is 3.4m, 2.5mm² cable is 5.4m, 4mm² cable is 8.6m.

A4: For 1000/5A CT, suggested length for 1.5mm² cable is 16.2m, 2.5mm² cable is 27m, 4mm² cable is 43m.

A4: For 5000/5A CT, suggested length for 1.5mm² cable is 48.6m, 2.5mm² cable is 81m, 4mm² cable is 129.7m.

Q5: What is the maximum length for RS485 cable?

A5: 1000m.



THANKS

Thanks for choosing GoodWe