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Goodwe Technical Guide for SEC1000 V1.0

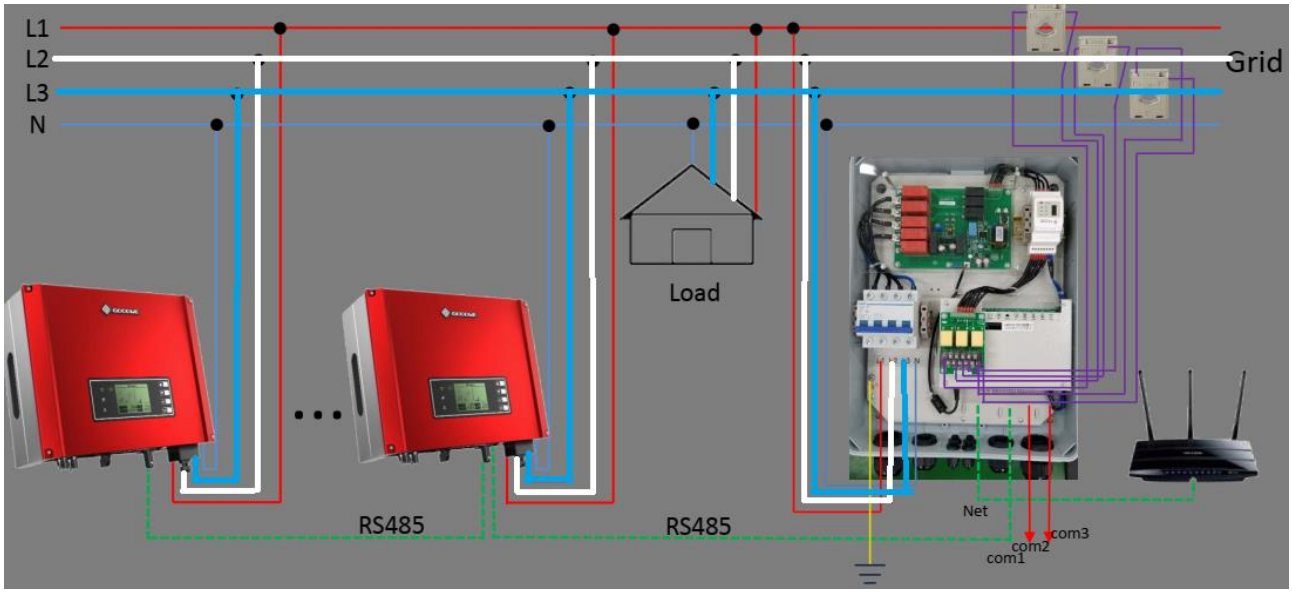
Back ground:

SEC1000 is used for multi three phases inverters installed in commercial buildings for export limit and consumption monitoring purposes.

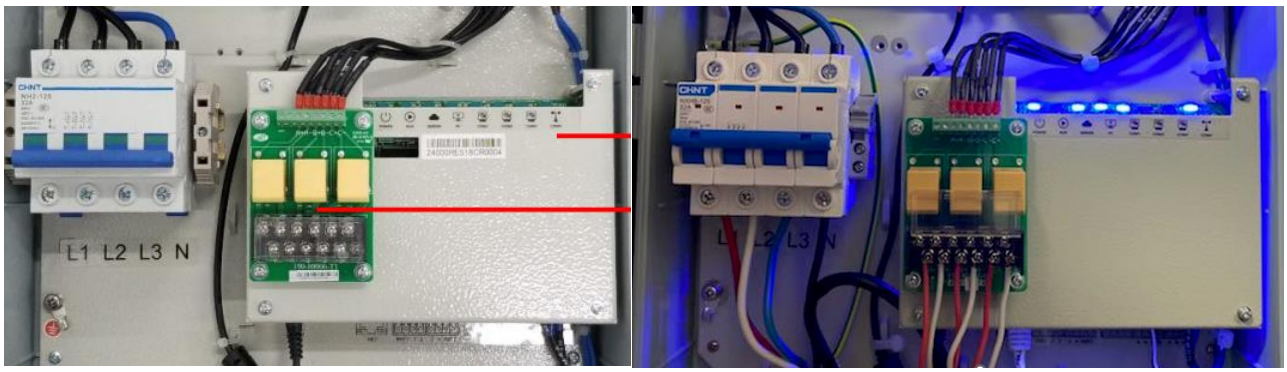
Compatible products:

Goodwe SDT G2 5-20kW, SMT, MT, HT inverters

Physical wiring:

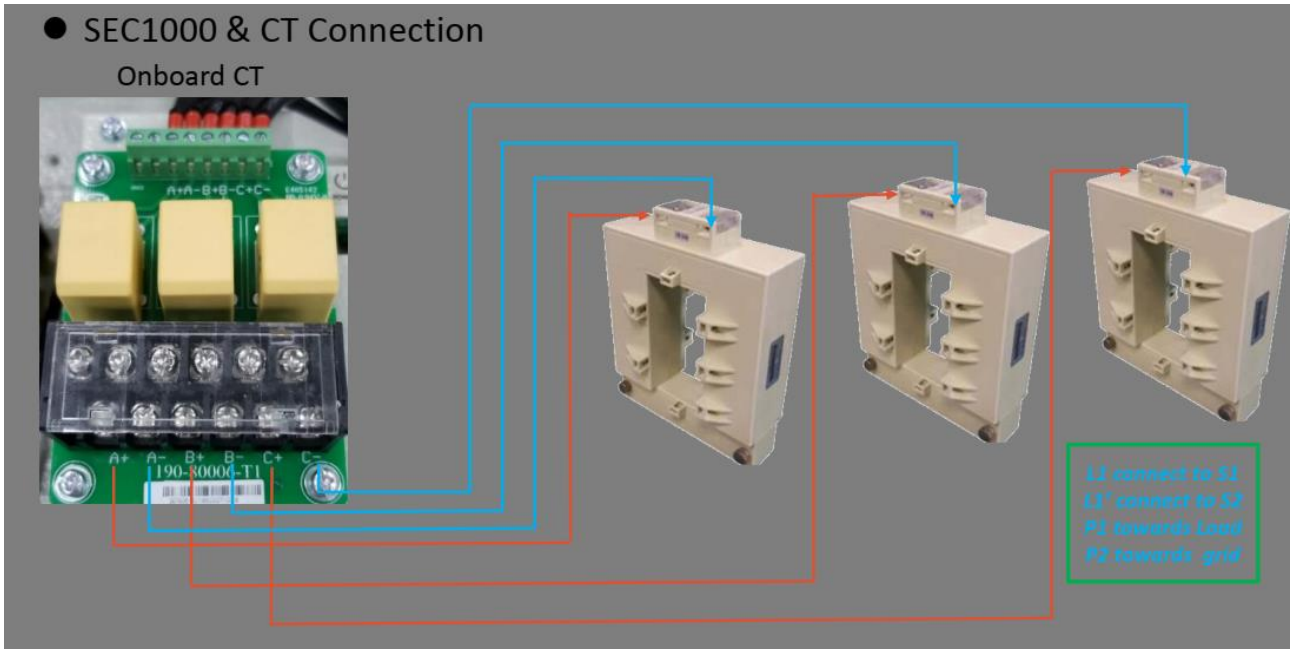


a. electrical wiring:



L1, L2, L3 on SEC1000 phases cable must be the same phase cables on inverters L1, L3 and L3.
The CTs on A, B, C on the CTs board must be from phase L1, L2, L3 accordingly.
Goodwe strongly recommend installer to use the Acerl CTs which purchased from suppliers when

purchase the SEC1000 together. This could be hugely reducing the trouble shootings time by using Goodwe recommended CT clamp.



If using recommended Acerl CTs, ensure wiring indication below:

A +, B +, C+ connect to CT S1; A -, B -, C - connect to CT S2

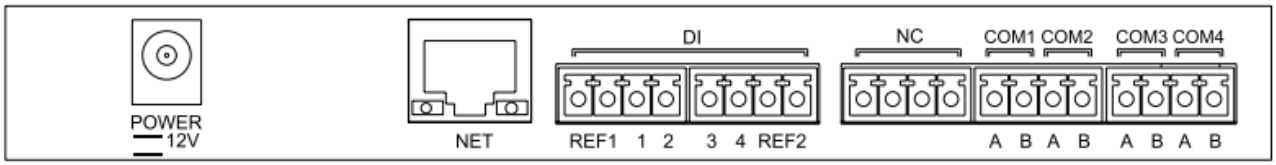
P1 towards HOUSE, P2 towards GRID

Goodwe recommended CT and part numbers listed below.

CT 250-3020
CT 1000-6040
CT 1000-8040
CT 1000-8080
CT 5000-14060
CT 5000-16080

Front number is the primary current rate (secondary current rate must be 5A).
Second number indicates the CT physical cross section size.

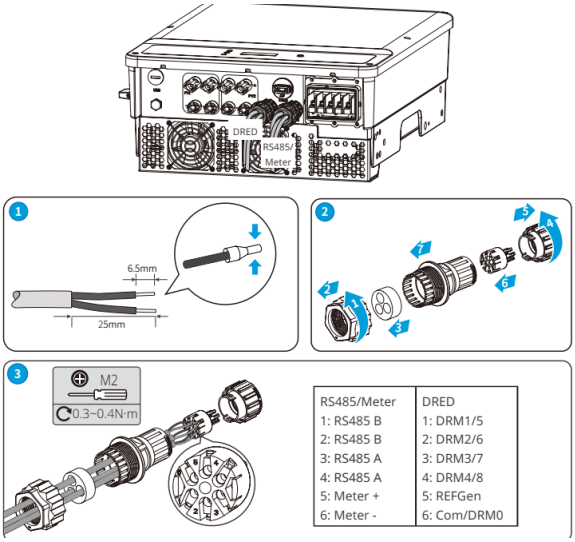
b. RS485 cable wiring:



SEC1000 comes with 3@COM ports. Installer can either use one COM port by linking inverters daisy chain together or use all COM ports by connecting each inverters (less than 3 pcs) into each individual COM port.

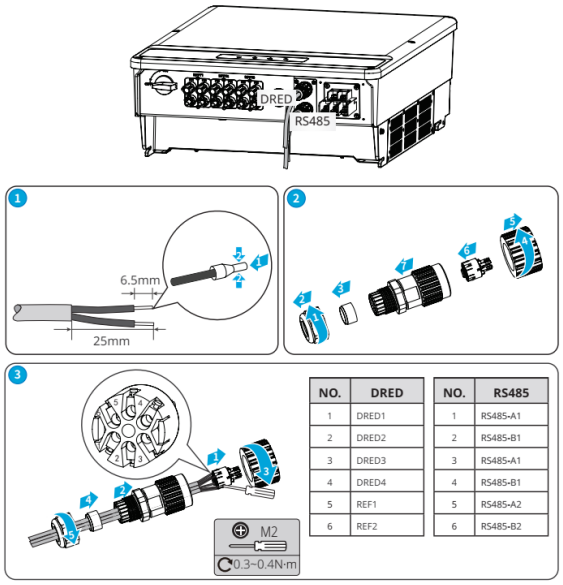
Each model of inverters has slightly different ways to connect with SEC1000 referring to the inverter manual.

Goodwe SDT G2:



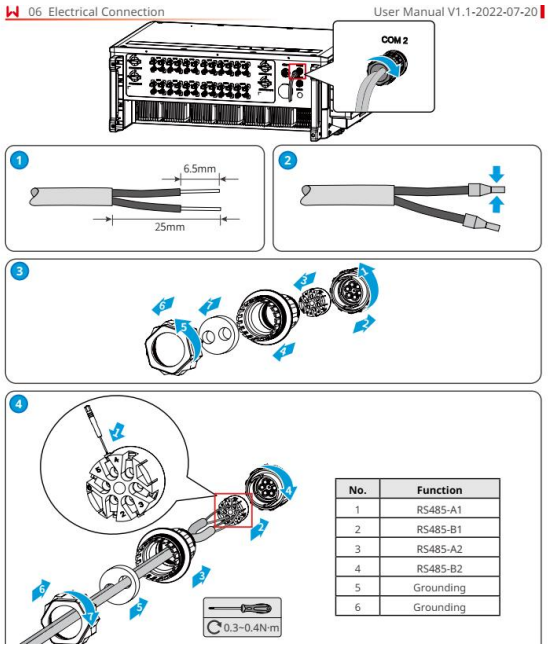
Using COM2 port on inverter.
RS 485 pin 5 Meter + > SEC COM B
RS 485 pin 6 Meter - > SEC COM A

Goodwe SMT:



Using RS485 port on inverter.
RS 485 pin 2 > SEC COM B
RS 485 pin 1 > SEC COM A

Goodwe HT:



Using COM2 port on inverter.
RS 485 pin 2 > SEC COM B
RS 485 pin 1 > SEC COM A

Commissioning:

SEC1000 request to use laptop/computer with windows and install the Promate_2.0.5 software downloadable from company website below.

Product Related (goodwe.com.au)

Step I: connect SEC1000 and laptop via Ethernet cable

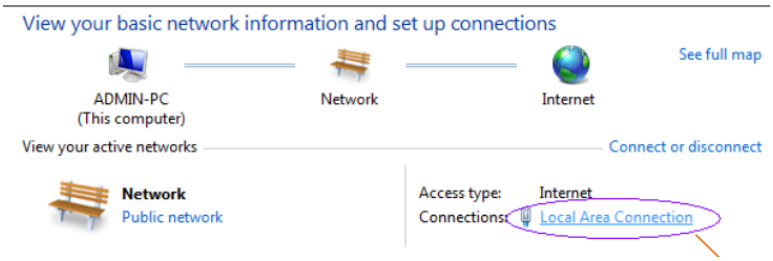
Step II: set up static IP on SEC1000

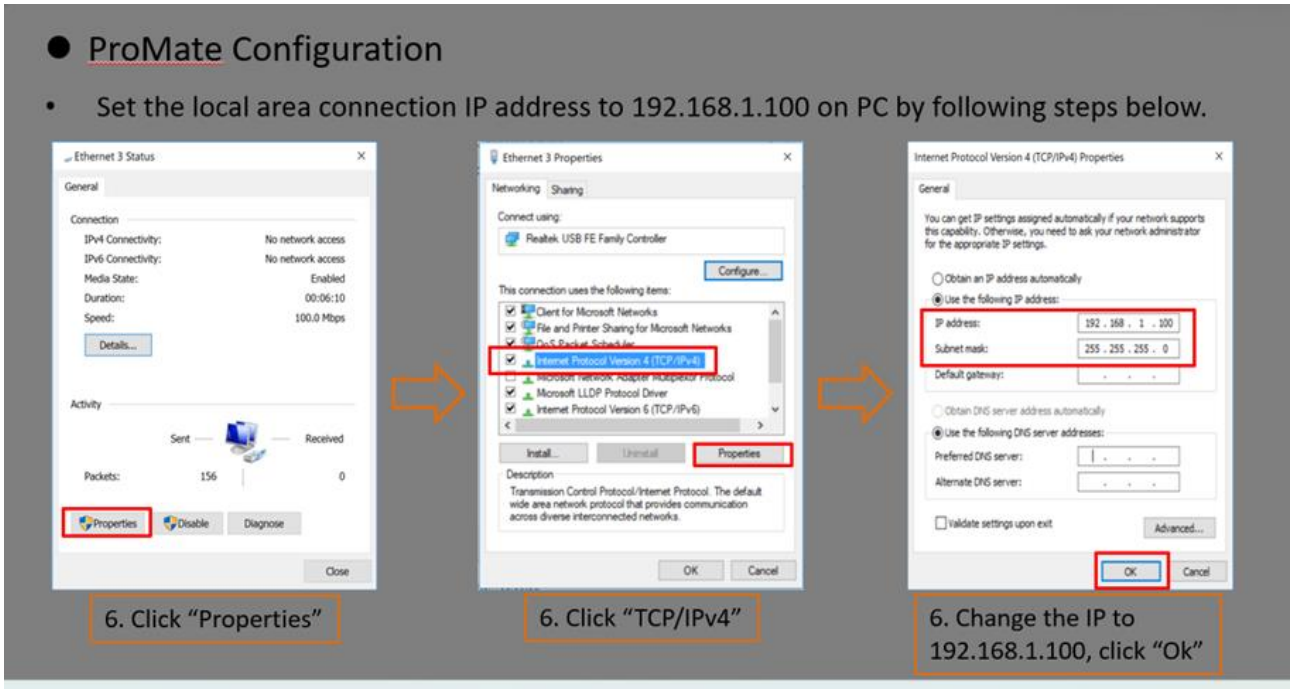
(2)If the user has a static IP, it is necessary to switch SEC1000 to the static IP mode. That is, press the Reload key for about 10 seconds to reset and restart SEC1000, About 10 seconds after pressing the Reload button, the LED lights on the SEC1000 internal Ezlogger Pro Panel will blink from right to left and reset and restart.

Static IP on SEC1000 will be 192.168.1.200

Step III: set up static IP on computer

- On computer search bar, input 'control panel',
- Open the 'network and sharing center'
- Click local Area connection
- Select property
- TCP/IP v4
- Changing the IP address to 192.168.1.100
- Click OK to save



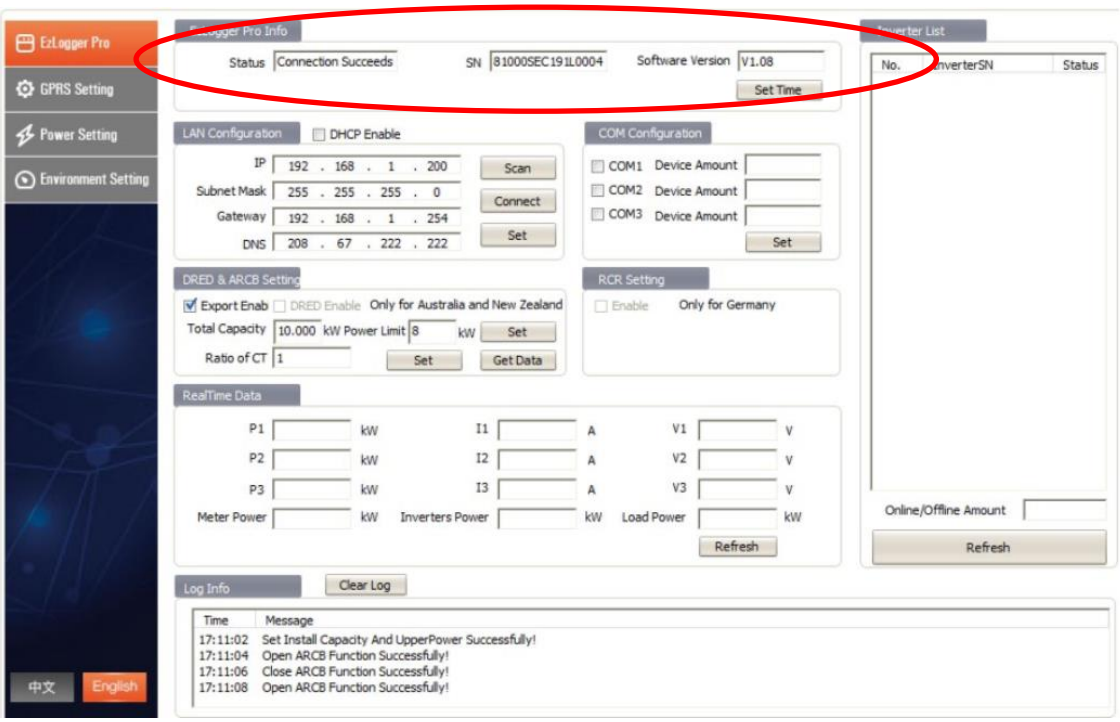


Step IV: SEC1000 display

Open the Promate on laptop

Type in the IP 192.168.1.200 on IP bar and click scan.

The Ezlogger pro part should read out the status 'connection succeeds' and SN of SEC1000.



If not reading out SEC1000 SN, please check following steps:

a. The Ethernet cable is good

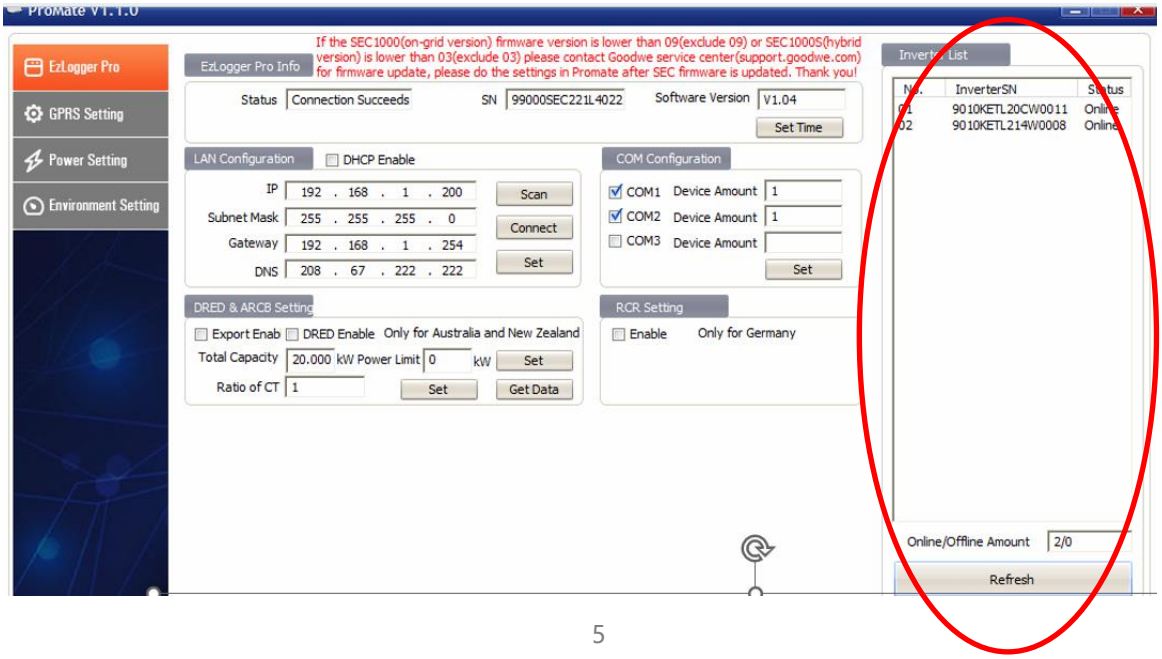
b. Repeat the Step II on SEC1000 to set up static IP

Step V: Inverter SN display:

Tick COM port and Device Amount, then hit 'Set'

Under Inverter SN list, click 'Refresh'

Inverters serial numbers should be listed here and status should be Online



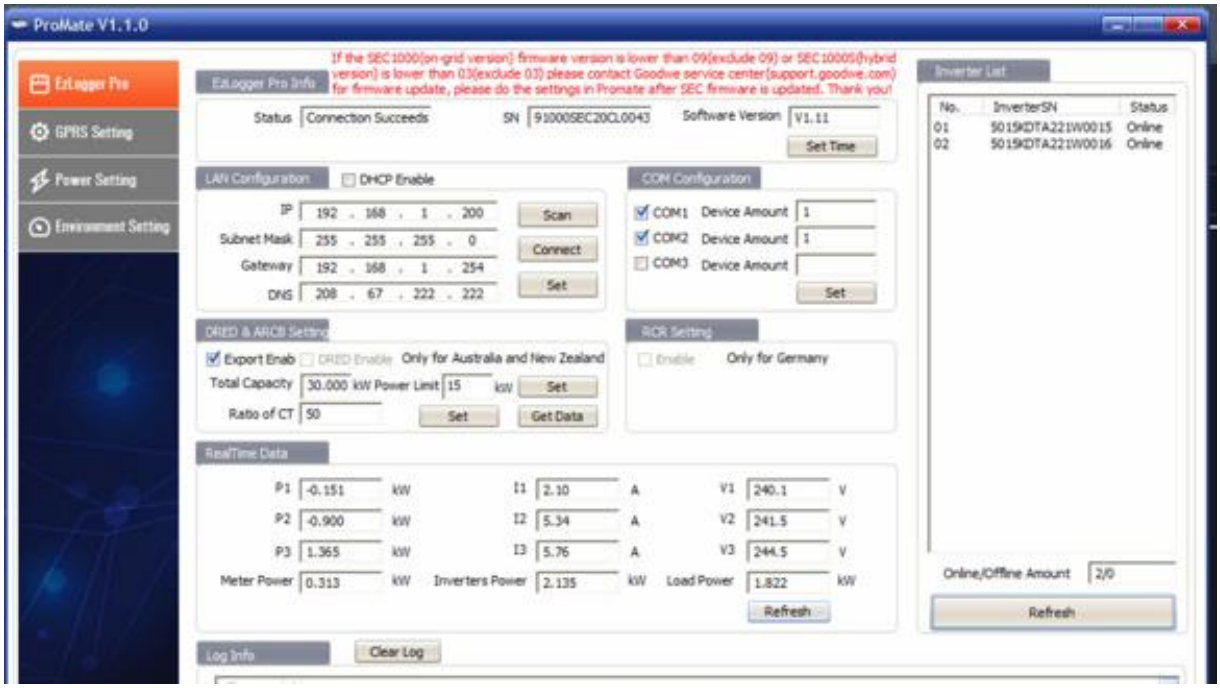
If no inverter SN listed, then need to check the RS485 cable wiring between inverters and SEC1000 referring to the RS485 wiring part.

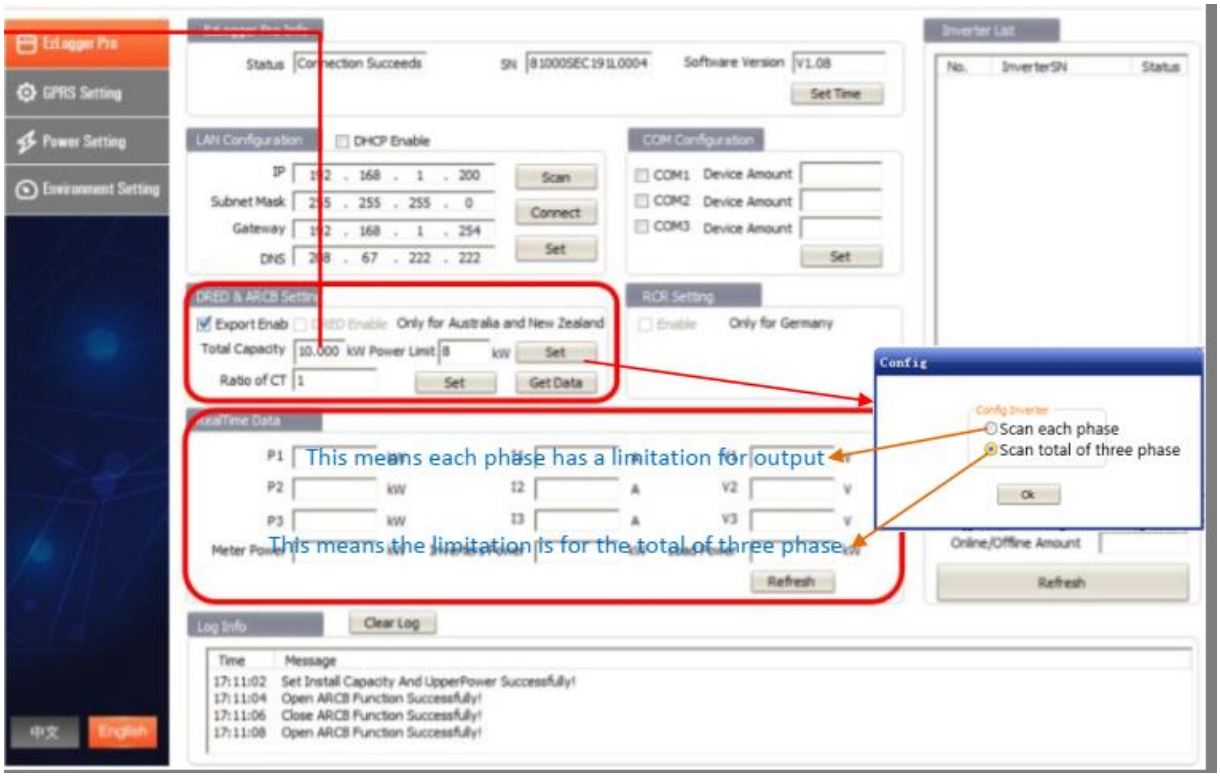
Step VI: Export limit set up

Input the total power, export limit power and CT ration accordingly and click set to save.

Select 'Scan Total for three phases'

Then tick the export enable.



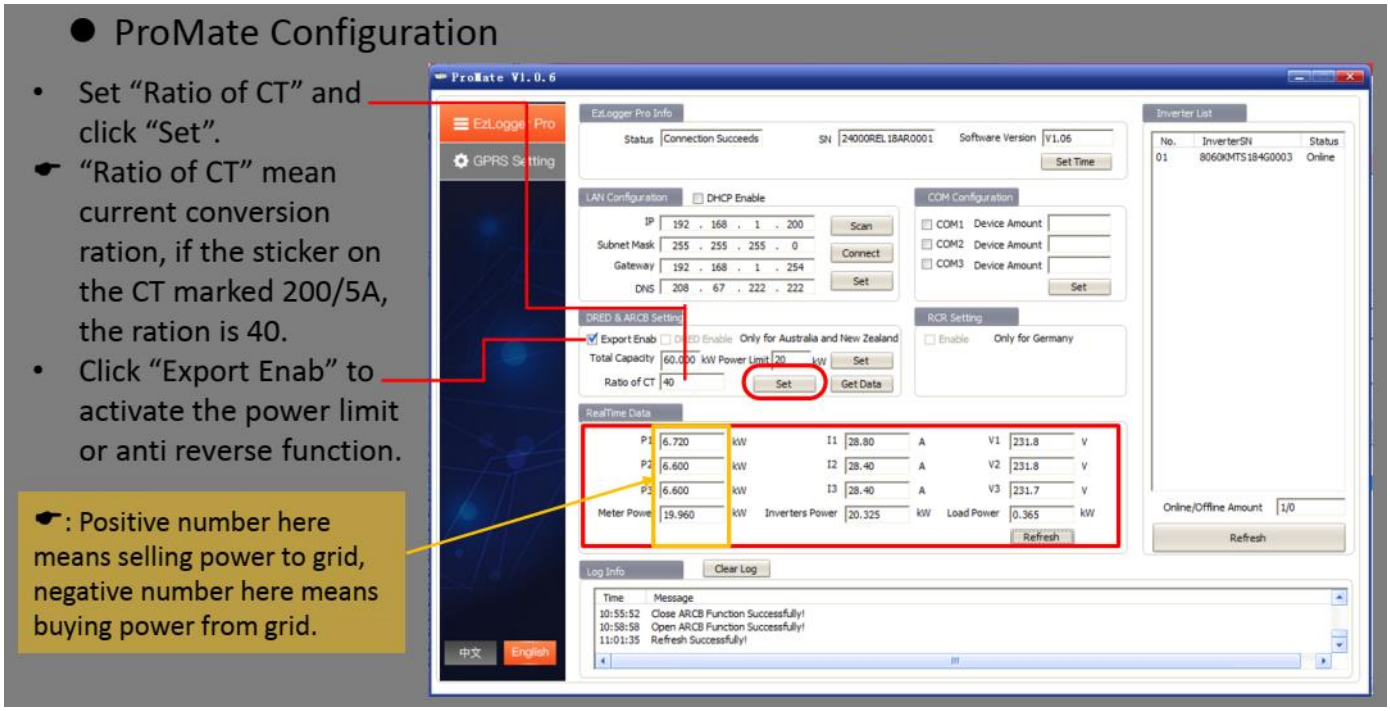


System review

By reading the operation data, we could confirm the CTs on SEC1000 works properly or not.

Turn all inverters off temporarily.

Run big loads on the grid side.



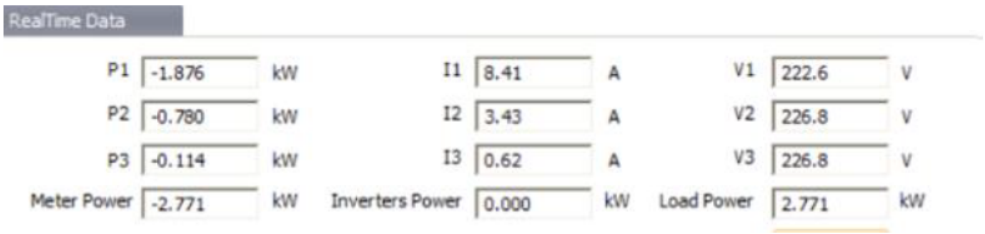
From real time data under this scenario, the P1, P2 n P3 should be negative and I1, I2 n I3 should be negative as well. Inverter should be 0kW.

Negative means system imported power from grid, Positive means system exported power to grid.

Then this means all CTs are facing to the right direction.

System review part II: to ensure the CTs are on the correct phase.

- **1**: By calculating the cosϕ
- *P1=V1*I1*cosφ1*
- *P2=V2*I2*cosφ2*
- *P3=V3*I3*cosφ3*



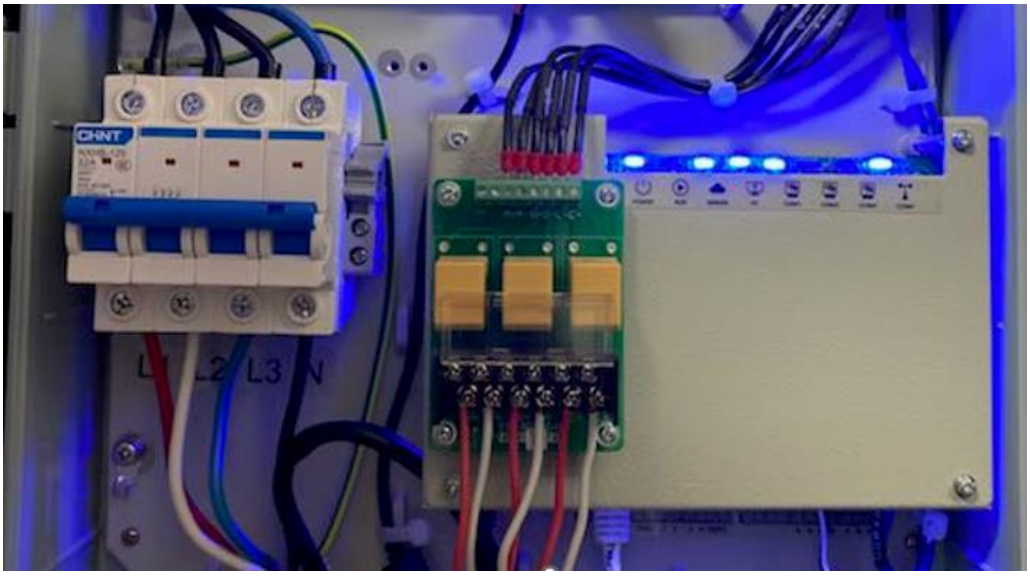
- Take picture as example:
- *Cosφ1*=P1/V1*I1 *cosφ1=1876/8.41*222.6=1.002*
- *Cosφ2*=P2/V2*I2 *cosφ2=780/3.43*226.8=1.0023*
- *Cosφ3*=P3/V3*I3 *cosφ3=114/0.62*222.8=0.825*
- *This proves the CTs are correctly installed.*
- The cosϕ should be around 0.8~1.0.The CT direction and location must be checked if the cosϕis not in the correct range.

SEC1000 connected online:

Unplug ethernet cable out from laptop, plug the ethernet cable to customer router directly.

On SEC1000, hold the 'reset' button for 3s.

Once the CLOUD symbol LED light on SEC1000 is solid, then it connects to customer wifi.



To visibly see this SEC1000 on SEMS, need to add SEC1000 serial number as additional device under the plant.

Any further questions, please contact with Goodwe local service team.

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