

## Goodwe Technical Guide for SEC1000 V1.0

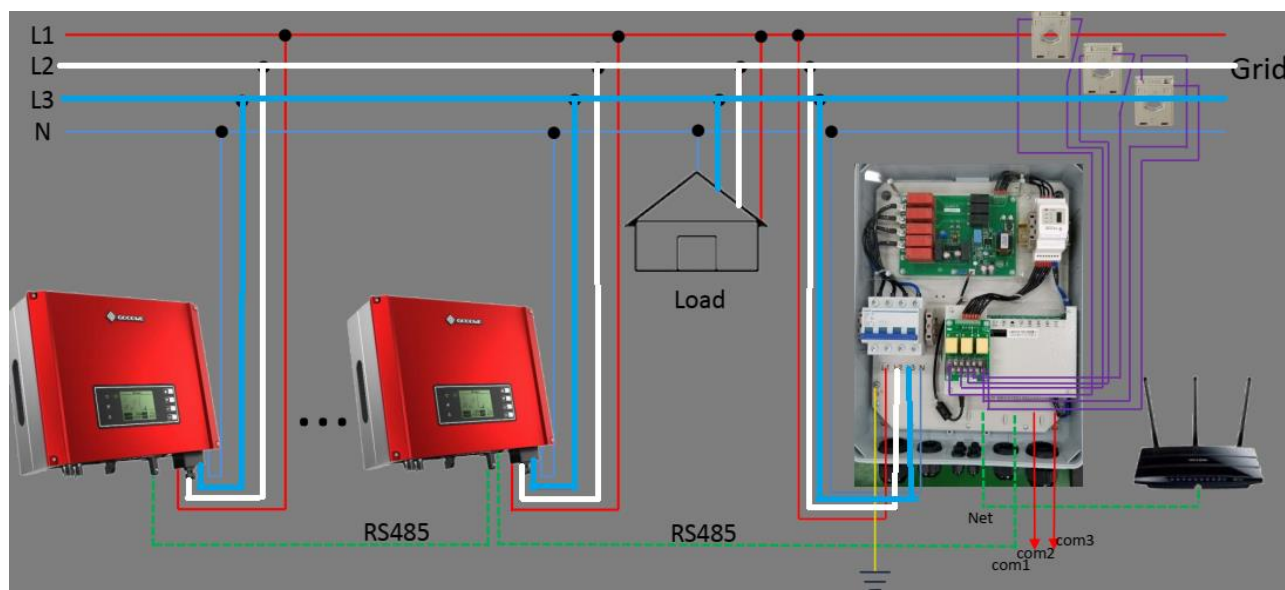
### **Back ground:**

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

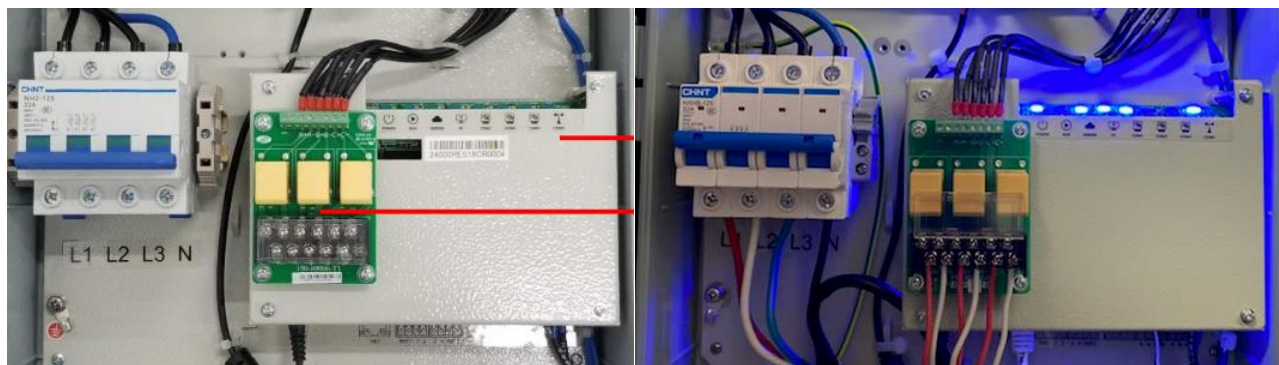
### **Compatible products:**

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.

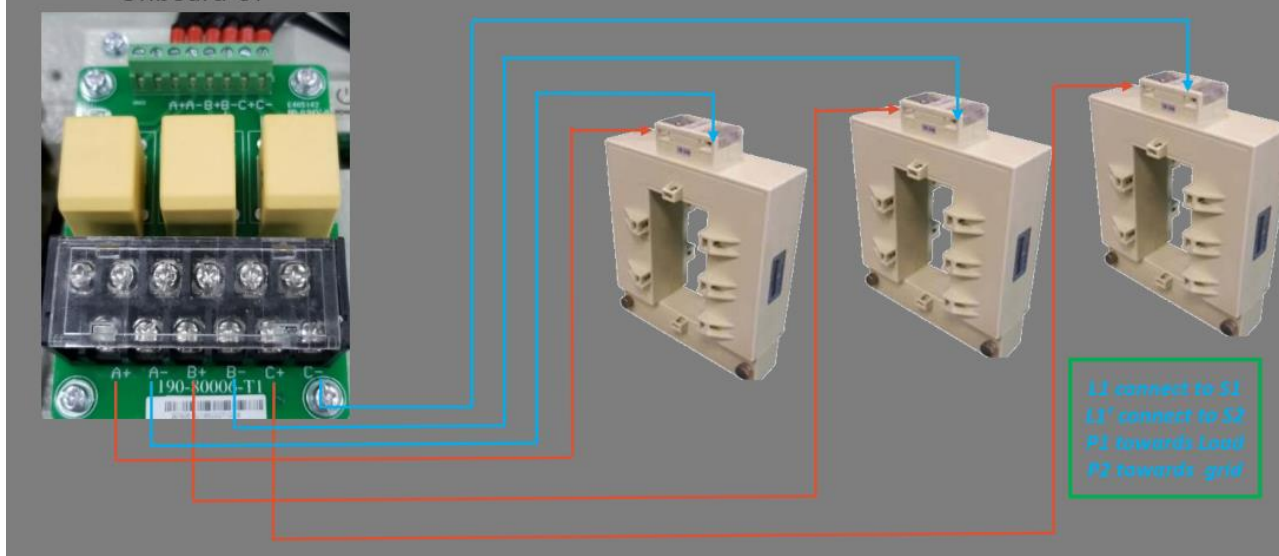
The CTs on A, B, C on the CTs board must be from phase L1, L2, L3 accordingly.

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.

### ● SEC1000 & CT Connection

Onboard CT



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**

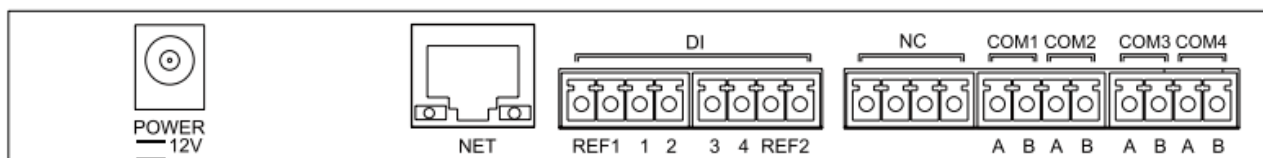
Goodwe recommended CT and part numbers listed below.

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.

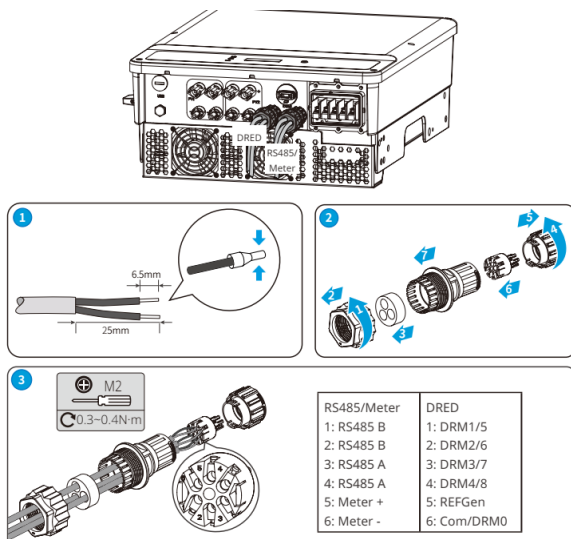
#### b. RS485 cable wiring:



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:

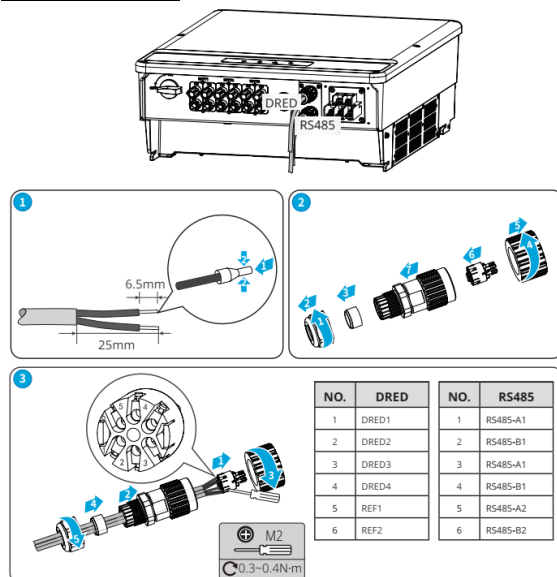


Using **COM2 port** on inverter.

RS 485 pin 5 Meter + > SEC COM B

RS 485 pin 6 Meter - > SEC COM A

### Goodwe SMT:



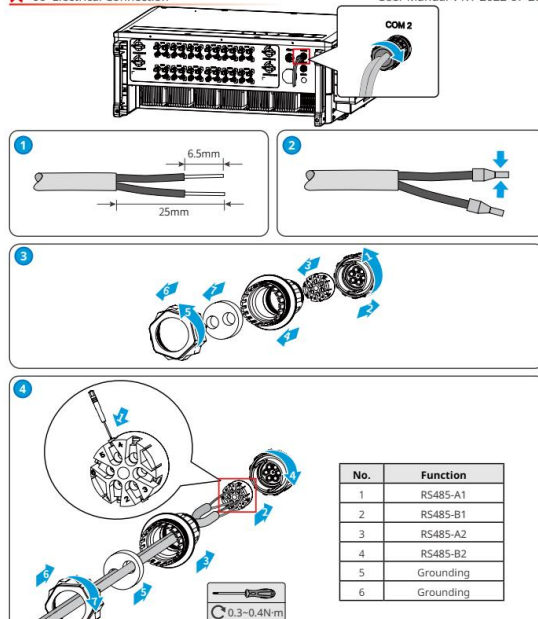
Using **RS485 port** on inverter.

RS 485 pin 2 > SEC COM B

RS 485 pin 1 > SEC COM A

### Goodwe HT:

06 Electrical Connection User Manual V1.1-2022-07-20



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 \(goodwe.com.au\)](http://goodwe.com.au)

**Step I:** connect SEC1000 and laptop via Ethernet cable

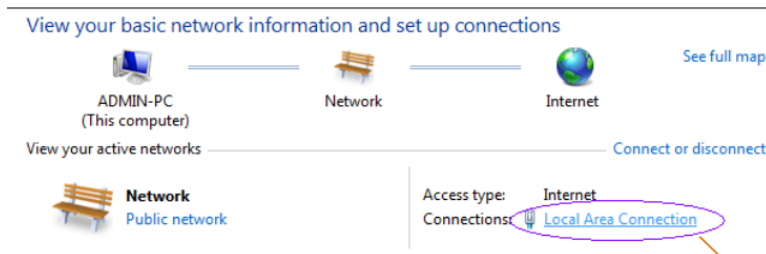
**Step II:** set up static IP on SEC1000

(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



### ● 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"



#### 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.

**EzLogger Pro Info**

Status: Connection Succeeds SN: 81000SEC191L0004 Software Version: V1.08

**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: Set

☐ COM3 Device Amount: Set

**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

**RCR Setting**

☐ Enable Only for Germany

**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!

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

- The Ethernet cable is good
- 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

**Promate V1.1.0**

**EzLogger Pro Info**

Status: Connection Succeeds SN: 99000SEC221L4022 Software Version: V1.04

**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: 1 Set

☒ COM2 Device Amount: 1 Set

☐ COM3 Device Amount: Set

**DRED & ARCB Setting**

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

Total Capacity: 20.000 kW Power Limit: 0 kW Set

Ratio of CT: 1 Set Get Data

**RCR Setting**

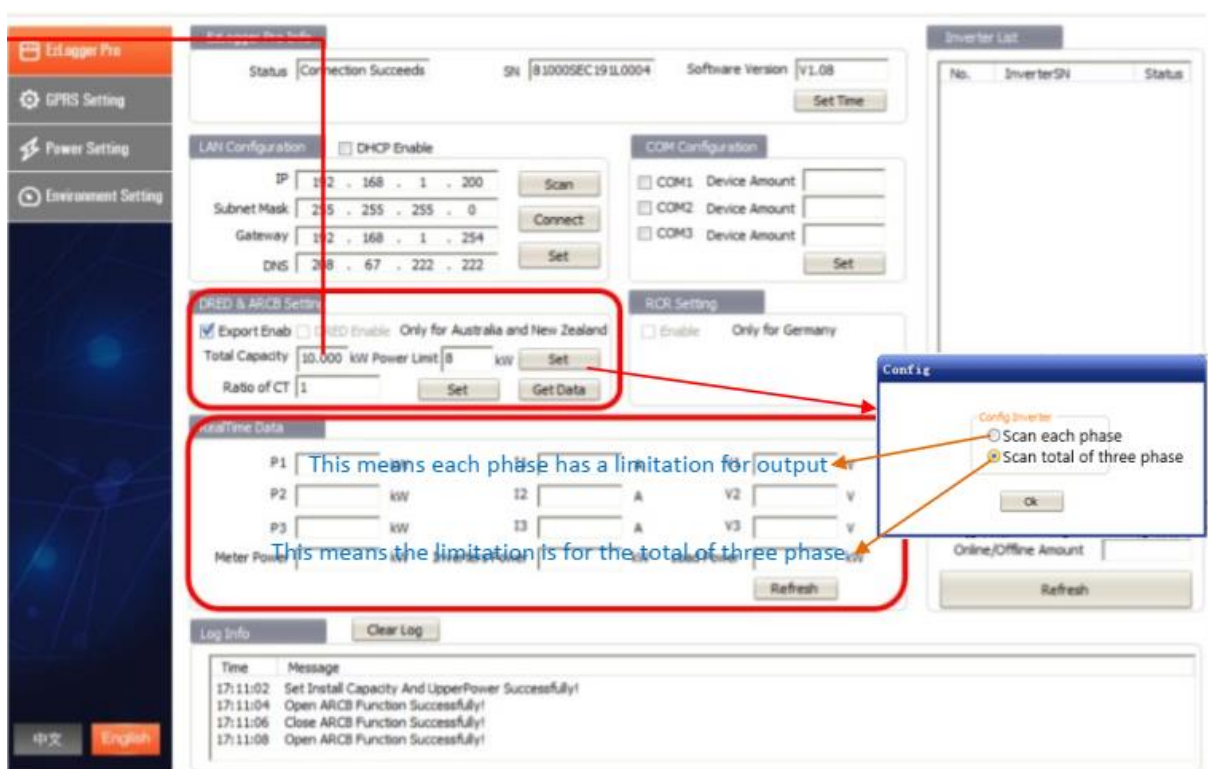
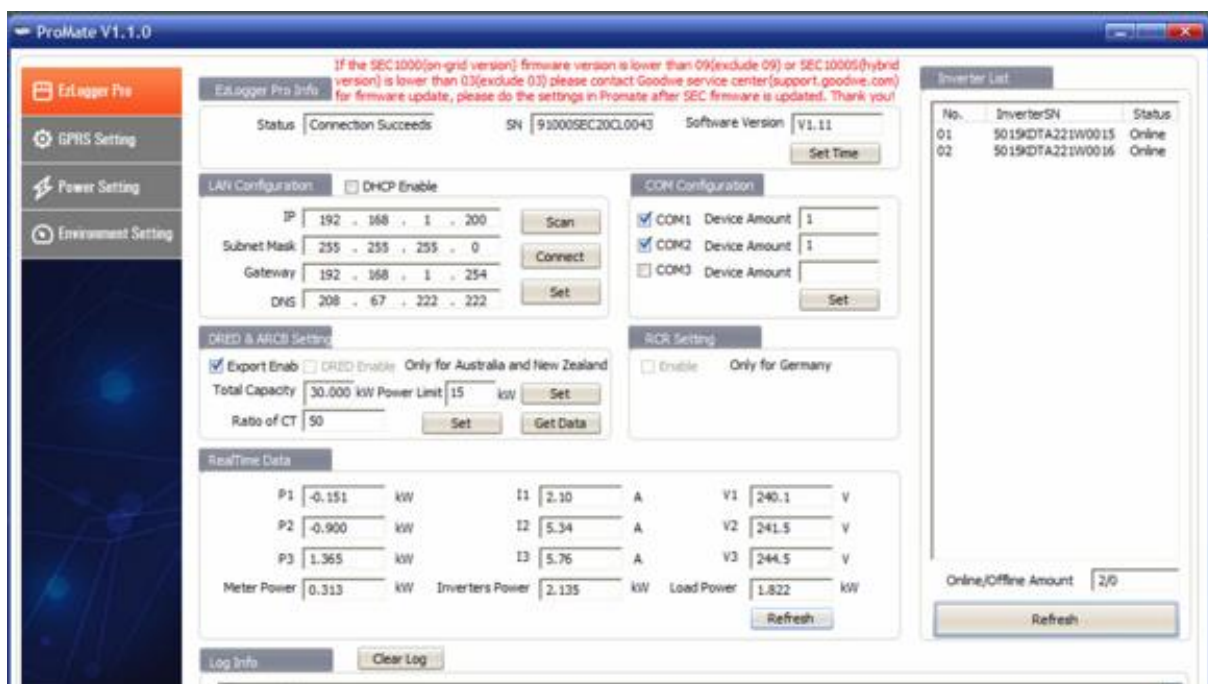
☐ Enable Only for Germany

**Inverter List**

No.	InverterSN	Status
01	9010KETL20CW0011	Online
02	9010KETL214W0008	Online

Online/Offline Amount: 2/0 Refresh

Then tick the export enable.



## System review

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

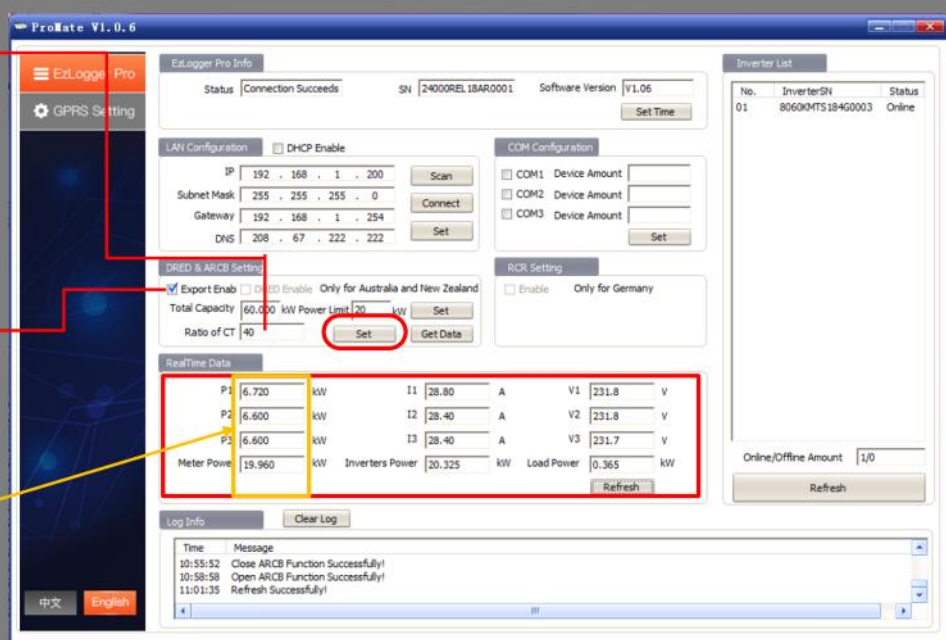
Turn **all inverters off** temporarily.

**Run big loads** on the grid side.

## ● 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.



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**

- $P1 = V1 * I1 * \cos\phi1$
- $P2 = V2 * I2 * \cos\phi2$
- $P3 = V3 * I3 * \cos\phi3$

RealTime Data								
P1	-1.876	kW	I1	8.41	A	V1	222.6	V
P2	-0.780	kW	I2	3.43	A	V2	226.8	V
P3	-0.114	kW	I3	0.62	A	V3	226.8	V
Meter Power	-2.771	kW	Inverters Power	0.000	kW	Load Power	2.771	kW

- Take picture as example:

- $\cos\phi1 = P1 / V1 * I1$   $\cos\phi1 = 1876 / 8.41 * 222.6 = 1.002$
- $\cos\phi2 = P2 / V2 * I2$   $\cos\phi2 = 780 / 3.43 * 226.8 = 1.0023$
- $\cos\phi3 = P3 / V3 * I3$   $\cos\phi3 = 114 / 0.62 * 222.8 = 0.825$
- 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 **cosφ** is not in the correct range.

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***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.

Goodwe Australia Pty Ltd  
25/5/2023