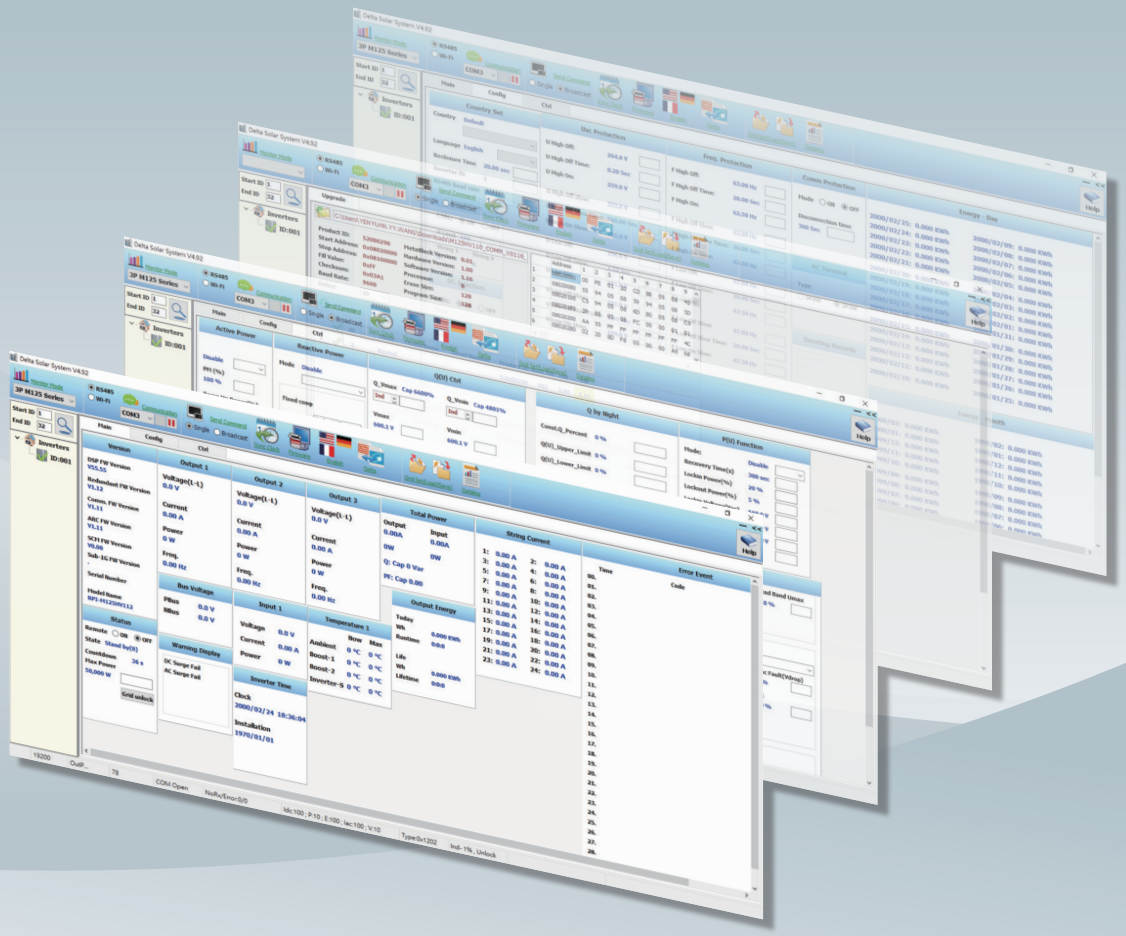


Delta Monitoring Solution

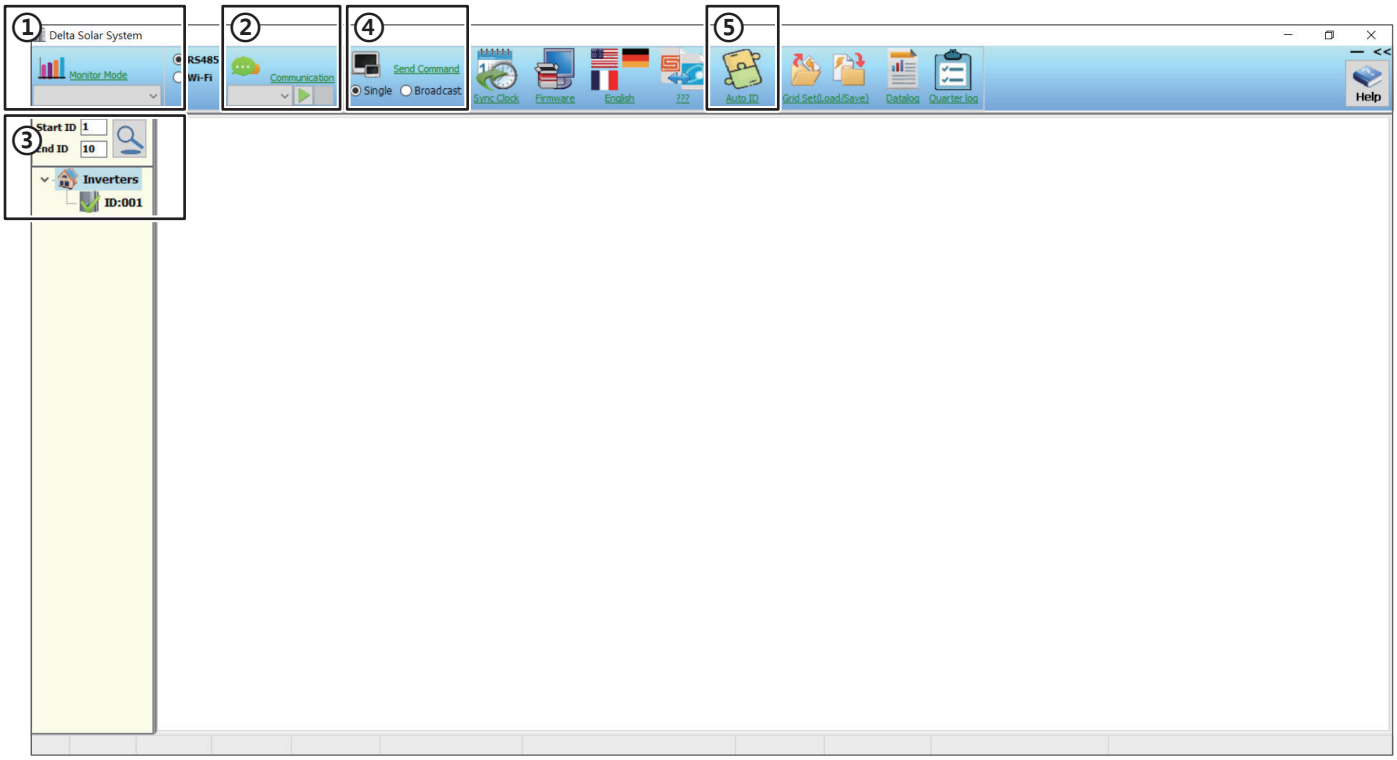
Delta Solar System Software
Operation Manual

www.deltaww.com

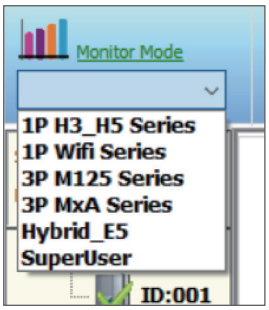
Smarter. Greener. Together.

Contents

1. Home Screen

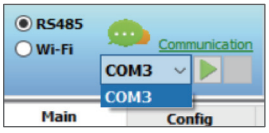


①



Monitor Mode:
Choose corresponding model.

②



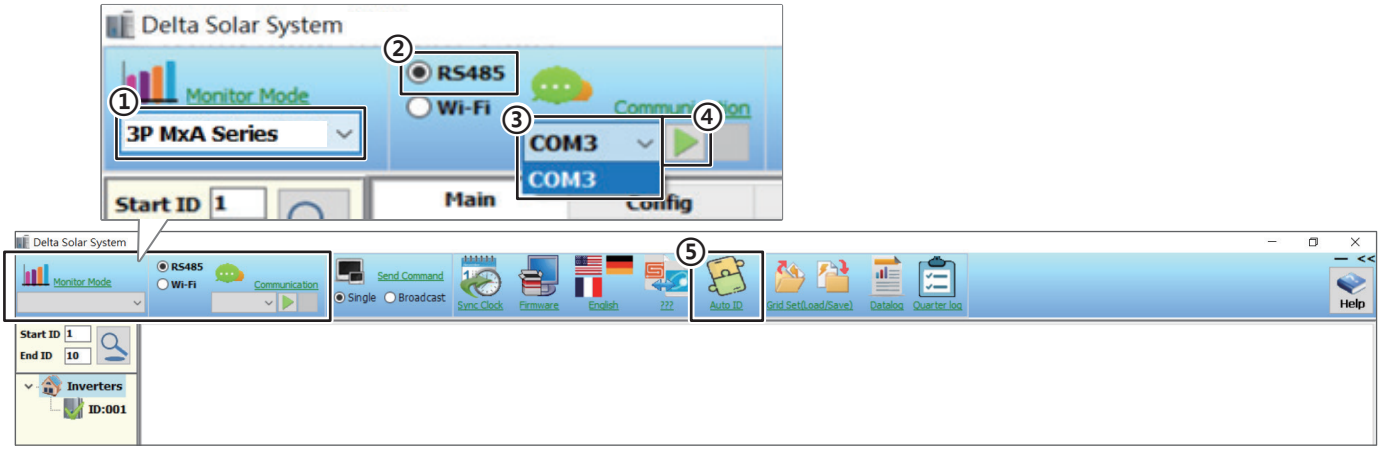
Communication:
Select USB COM port which connects to RS485 box.
Press” ” button.

③ **ID set up:**
Check inverter ID and key in Start ID & End ID.
Press” ” button.

④ **Send Command:**
Choose “Single” can send command to the current set inverter.
Choose “Broadcast” can send command to all inverters detected.

⑤ **Auto ID Function:**
Click this icon for inverters first time commission, please refer to ***Chapter 2*** for more details.

2. Auto ID function (first commission)



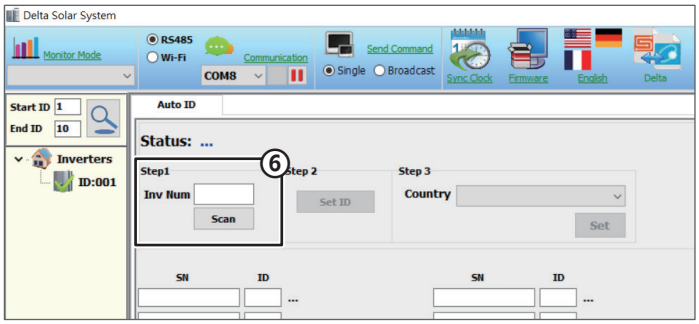
① Select the corresponding model

② Click “RS485“

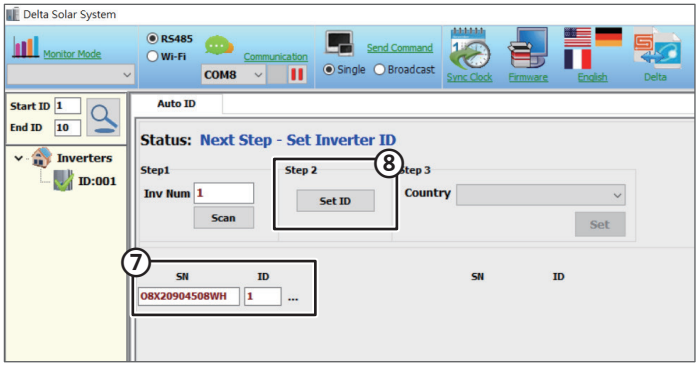
③ Select communication port (automatic detection by the system)

④ Click ▶

⑤ Click “Auto ID “

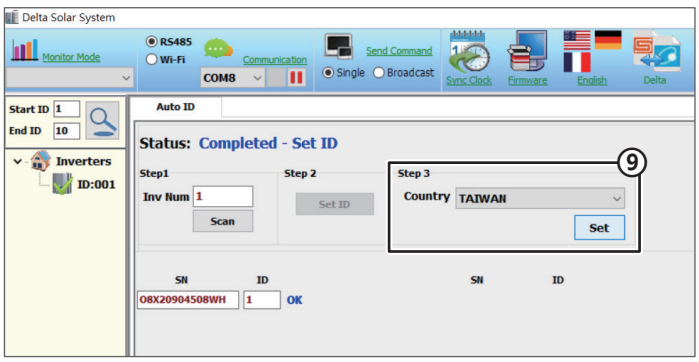


⑥ Enter numbers of inverters, and click “Scan”



⑦ The serial number of the successfully scanned device will be displayed, the default ID can be changed.

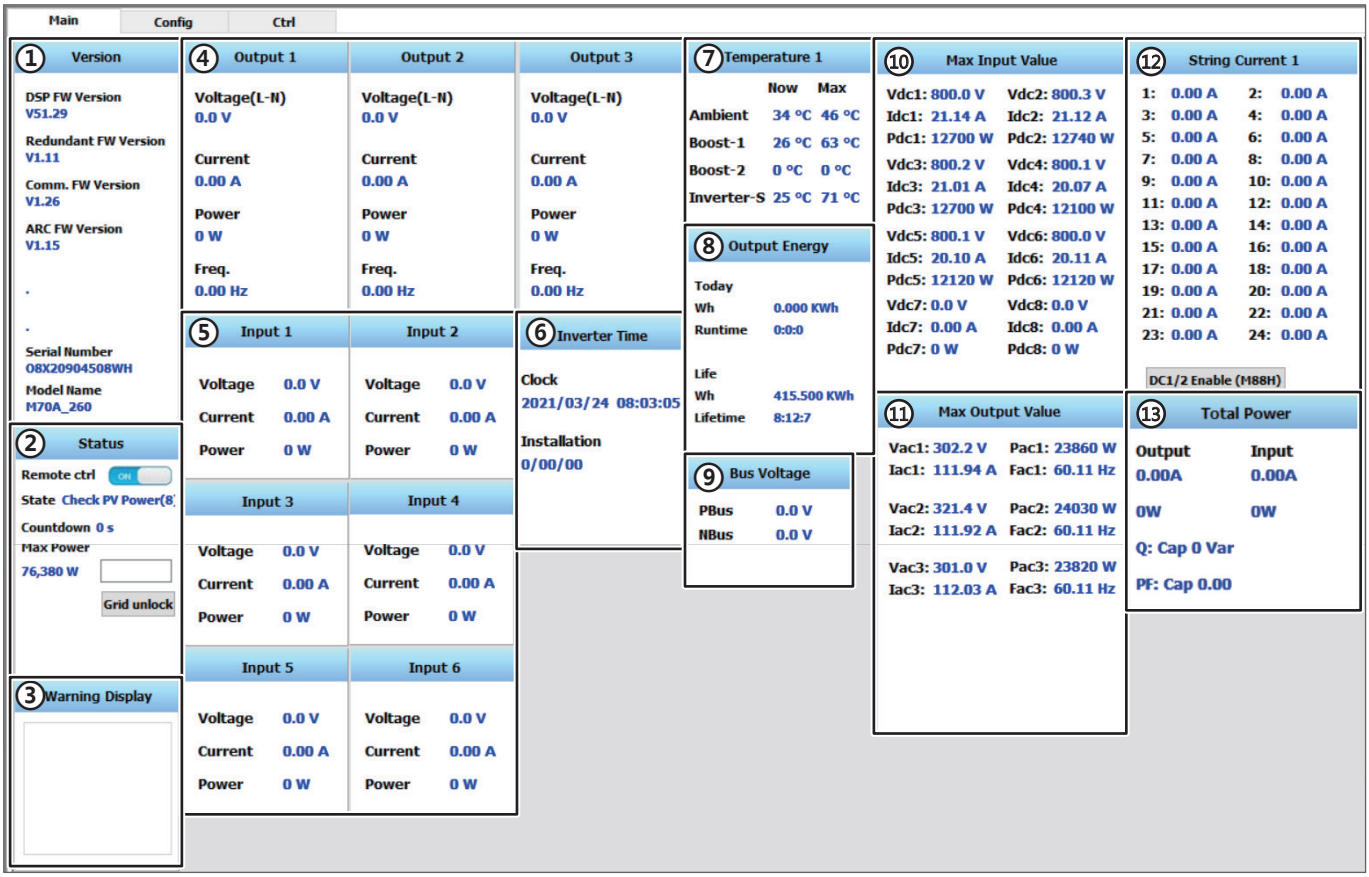
⑧ After ID setting is completed, click “Set ID”.



⑨ Select the country of inverter, and click “Set ”.

* Time will also been sync from laptop or PC at this step

3. Main Page



① **Version:** Showing all FW version, Serial Number and Model Name.

② **Status:** Showing inverter status and maximum power.

③ **Warning Display:** Showing warning of the inverter.

④ **Output:** Showing Output voltage, Current, Power and Freq readings.

⑤ **Input:** Showing input voltage, Current and Power readings.

⑥ **Inverter Time:** Showing inverter time.

⑦ **Temperature:** Showing temperature for internal ambient and module.

⑧ **Output Energy:** Showing energy generated and runtime for today / Life.

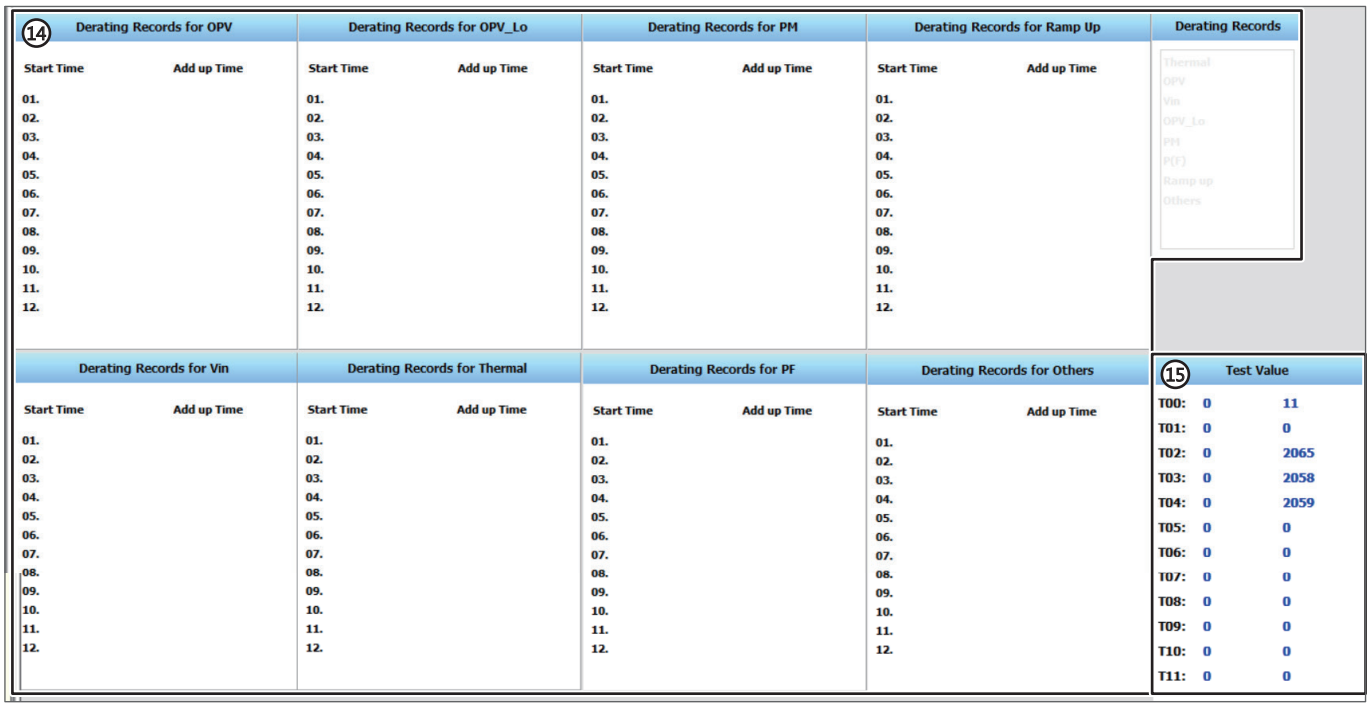
⑨ **Bus Voltage:** Showing bus voltage of internal bus capacitor.

⑩ **Max. Input Value:** Showing maximum input voltage ever occurs.

⑪ **Max. Output Value:** Showing maximum output voltage ever occurs.

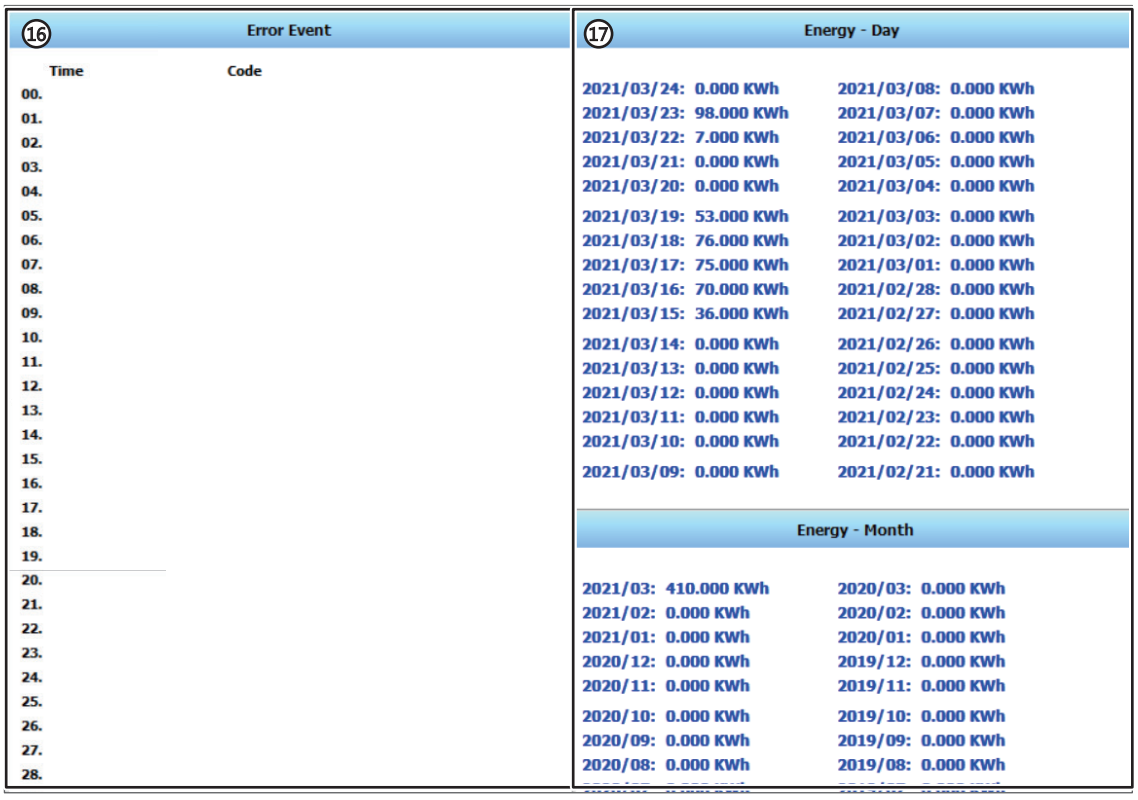
⑫ **String Current:** Showing each string current.

⑬ **Total Power:** Showing total output information, include current and power.



⑭ **Derating Records:** Showing derating records of the inverter.

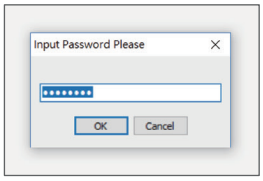
⑮ **Test Value:** Showing some internal DSP value.
This tab is for engineer when doing on site checking.



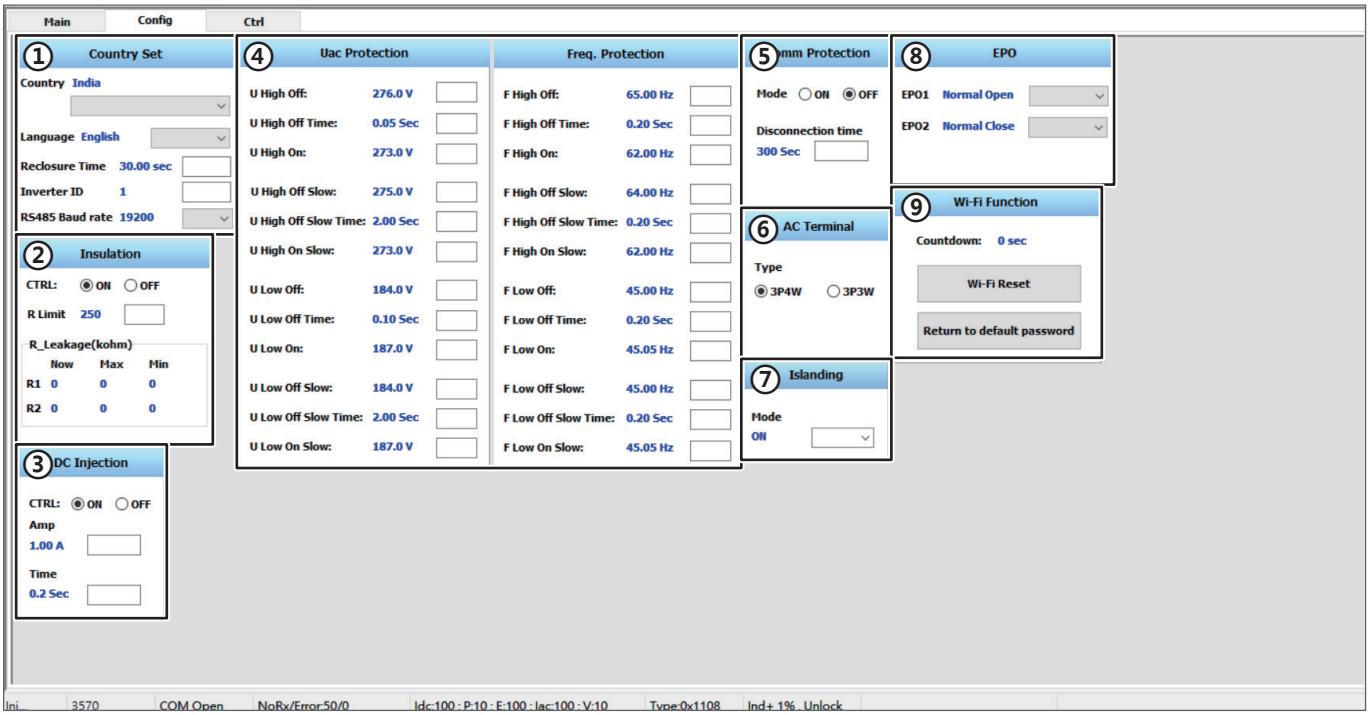
⑯ **Error Event:** Log error events up to 30 pcs.

⑰ **Energy Day / Month:** Showing Day / Month energy of the inverter.

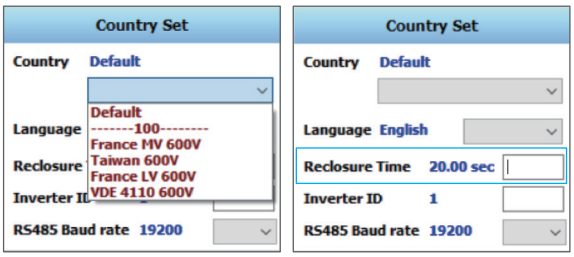
4. Config Page



Please contact local service team to get the password first.



①



Country Set:

- Country:
  allowed to choose different country setting.
- Reclosure time:
  allowed to change reclosure time.

② **Insulation:** Allowed to enable/disable Insulation detection.

③ **DC Injection:** Allowed to enable/disable DC injection detection.

④ **Uac/Freq. Protection:** Allowed to change Uac/Freq. protection setting.
Key value in the blank, if the value is out of the range, it will not be modified in inverter side.

⑤ **Comm Protection:** Allow to set the communication protection with other device, if disconnect over specific value, inverter will shutdown.

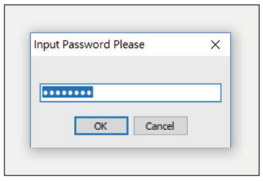
⑥ **AC Terminal:** Allowed to change AC terminal setting.
if there has N wire on AC side please chose 3P4W.

⑦ **Islanding:** On/Off selection for anti-islanding function.

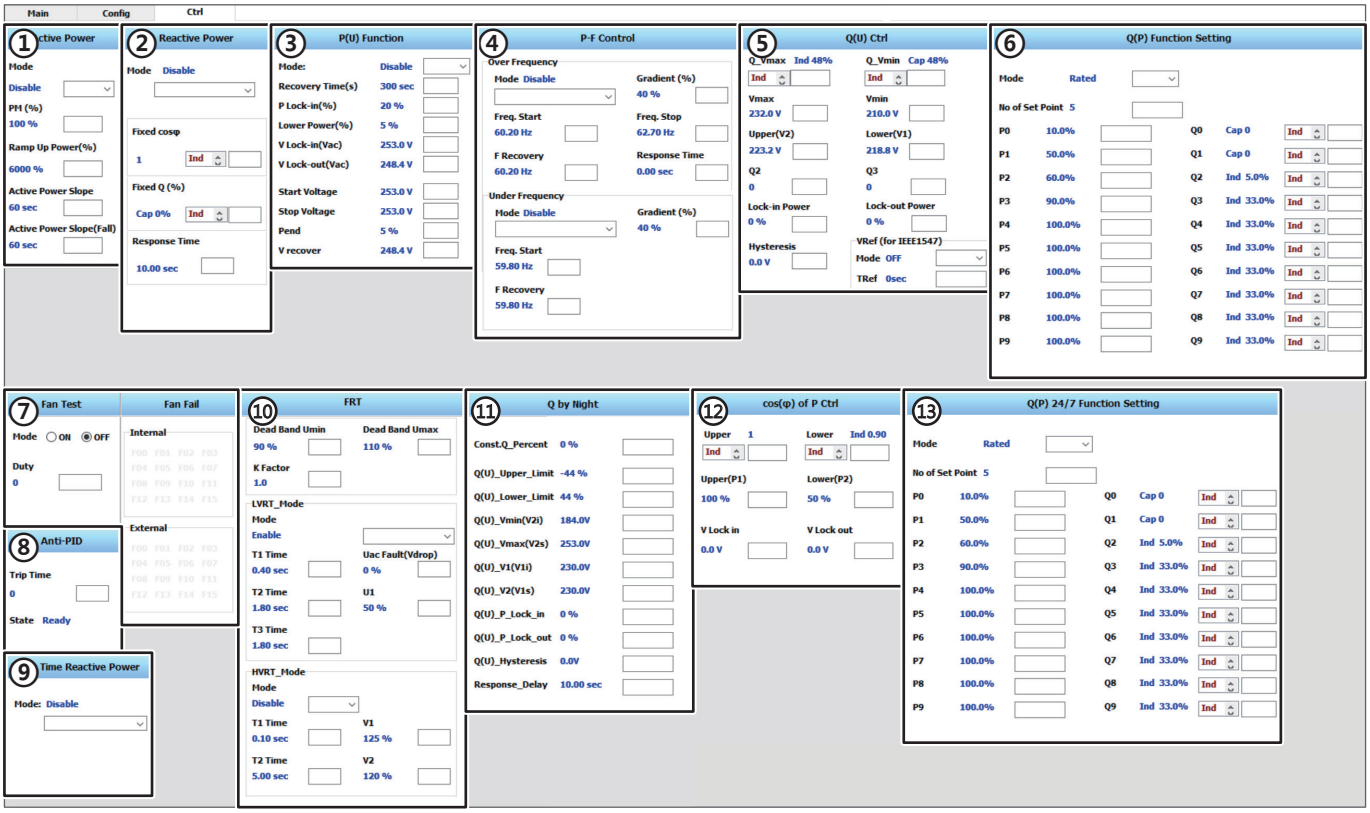
⑧ **EPO:** Emergency power off function, user can set the port to Normal open /close depends on different applications.

⑨ **Wi-Fi Function:** Allowed to reset Wi-fi module or reset password.
* Only for Wifi supported inverters.

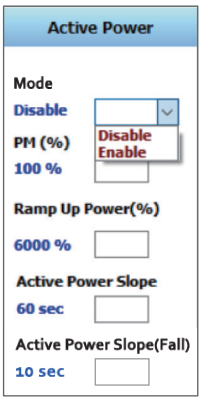
5. Ctrl Page



Please contact local service team to get the password first.



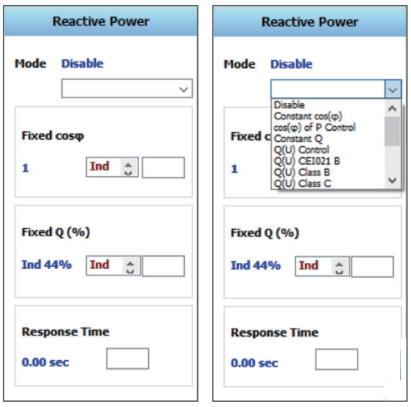
①



Active Power:

- Mode: Enable/Disable this function
- PM(%): Control the maximum output power percentage(0%-100%)
- Ramp Up Power(%): Ramp up rate per minute (max 6000)
- Active Power Slope: Time to reach the setting maximum output power
- Active Power Slope (Fall): only available in particular grid code.

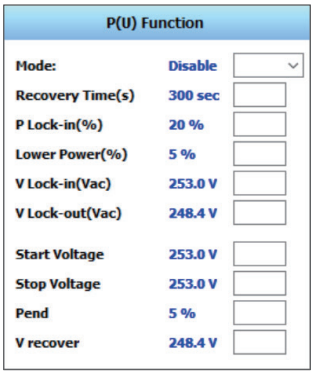
②



Reactive Power:

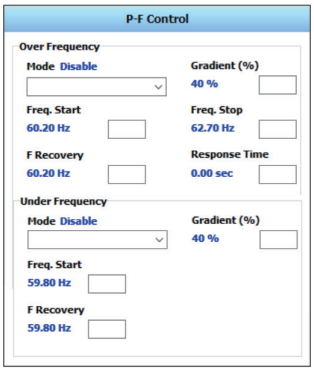
- Mode: Enable and select the reactive power mode
- Fixed cos(Φ): Control the setting of cos(Φ) in “Constant cos(Φ)” mode
- Fixed Q(%): Control the setting of Q in “Constant Q” mode
- Response Time: Response time setting for all reactive power mode (0%-95% of setting value)

③ P(U) Function:



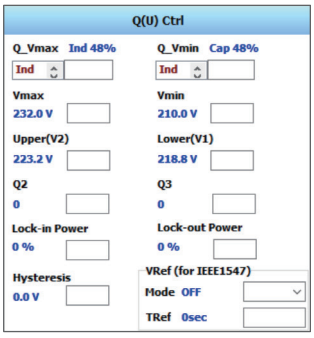
- Mode: Enable/Disable the function
- Recovery Time(s): Delay time after the voltage back to V lock-out
- P Lock-in(%): Function will work when output power greater than this setting
- Lower Power(%): Min Output power when Vac exceed V Lock-in
- V Lock-in(Vac): Output power start reducing when Vac exceed this setting value
- V Lock-out(Vac): Output power will remain the same when Vac back to this setting value
- Start/Stop Voltage: Only available in US grid code
- Pend: Only available for US grid code
- V recover: Only available in single-phase inverter

④ P-F Control:

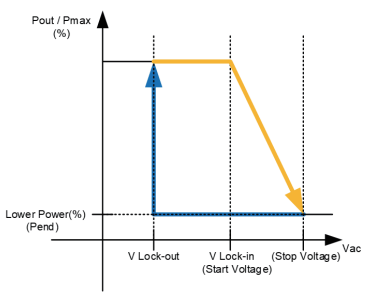
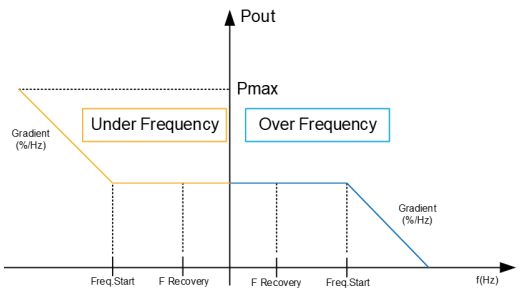
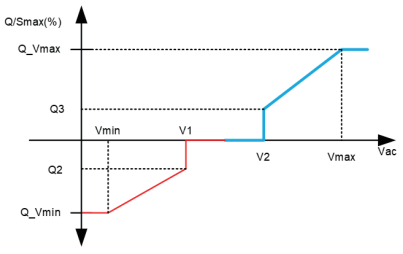


- Gradient(%): Rate of change of power/pref per Hz
- Freq.Start: Output power start reducing when frequency exceedthis setting value
- Freq.Stop: Read-only(calculated by inverter)
- F Recovery: Hysteresis when setting different from Freq.start
- Response Time: Time Delay when freq. exceed Freq.Start

⑤ Q(U) Ctrl:

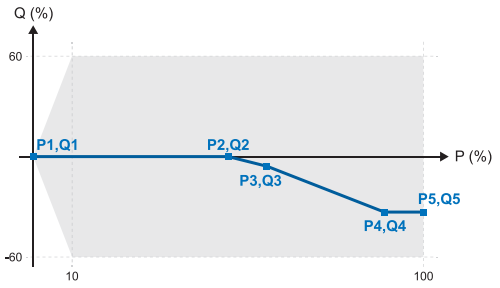


- Lock-in Power: Function start working when active power is higher than this setting value
- Lock-out Power: Function stop working when active power is lower than this setting value
- Q2: The reactive power when voltage is V1
- Q3: The reactive power when voltage is V2
- Hysteresis: N/A in most of the grid codes
- VRef(for IEEE1547 / US region)
  Mode: Disable/ enable VRef function
  TRef: The time frame for VRef function to re-define the VRef. (1=0.1s)

P(U) Function	P-F Control	Q(U) Ctrl
		

⑥ **Q(P) Function Setting:**

No. of Set Point : 0 ~ 10
Px: Set point of output power (Unit: 0.1%)
Qx: Set point of reactive power up to 63% (Unit: 0.1%)



⑦ **Fan Test:** You can use fan test function to test the fan.
Fan Fail: Showing the defective fan during fan test.

⑧ **Anti-PID:**

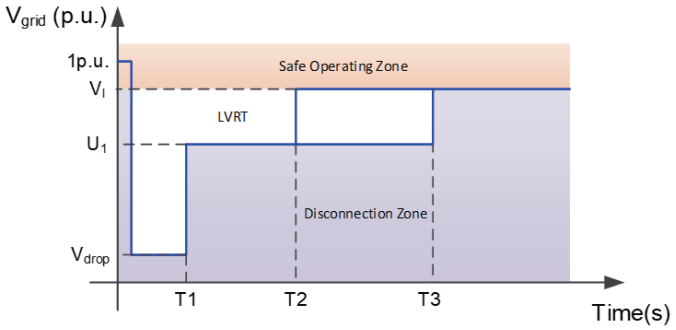
When Trip time is '0' means this function is disable, if the value has been set, the anti-PID function will start after 30 mins when inverter status shows "No DC".
Set specific value for anti-PID function active time.
*Range of Trip Time value : 0~11 (hour)

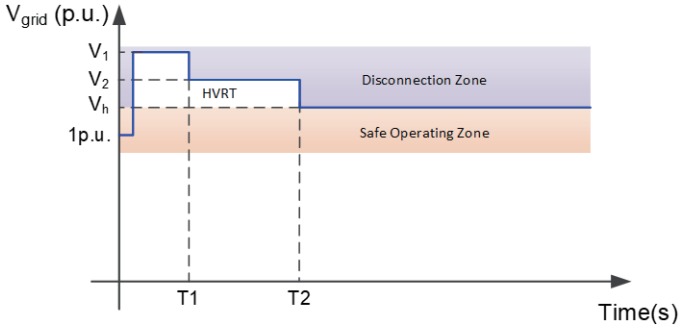
⑨ **Night Time Reactive Power:**

Mode: Disable/ Enable by selecting the mode
The selected mode in this block will overwrite the setting in "Reactive Power" block during night time.

⑩ **FRT:**

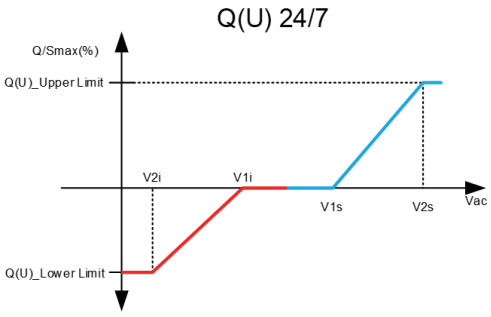
Enable: Feed-in reactive power when FRT occur.
Enable(Limit Grid Support): Do not Feed-in reactive power when FRT occur.

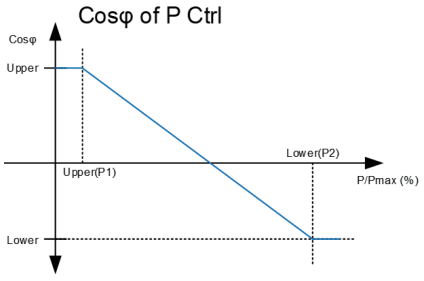




⑪ **Q by Night:**

- ContantQ_Percent: Setting of Q of the "Fixed kVar 24/7" mode
- Q(U)_P_Lock_in: Function start working when active power is higher than this setting value
- Q(U)_P_Lock_out: Function stop working when active power is lower than this setting value
- Q(U)_Hysteresis: N/A in most of the grid codes
- Response_Delay: Response time setting for all reactive power mode of 24/7 (0%-95% of setting value)



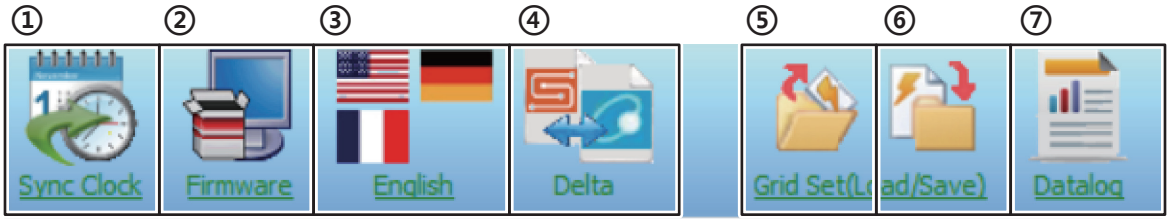


⑫ **Cos(Φ) of P Ctrl:** V Lock in / V Lock out: N/A in most grid code

⑬ **Q(P) 24/7 Function Setting:**

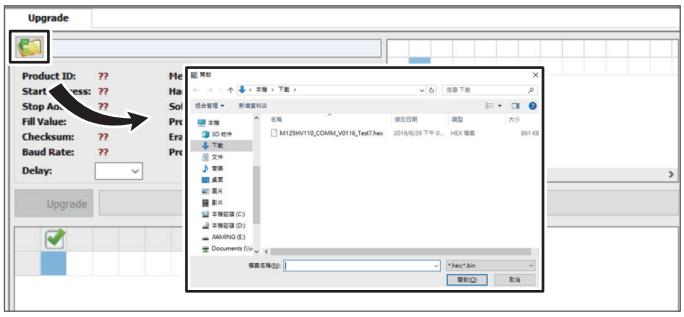
- No. of Set Point: 0 ~ 10
- Px: Set point of output power (Unit: 0.1%)
- Qx: Set point of reactive power up to 63% (Unit: 0.1%)

6. Other Functions

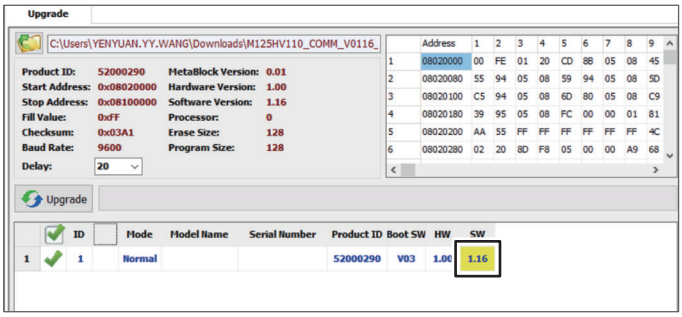


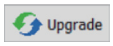
① **Sync Clock:** synchronize inverter's time with your laptop's

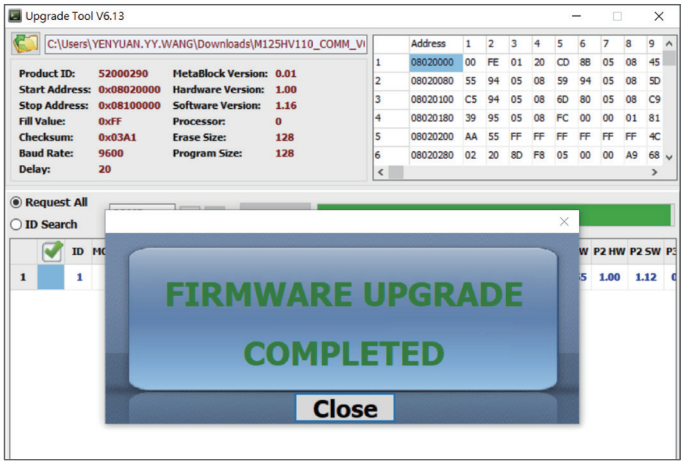
② **Firmware:** for FW upgrade



After first connection,
press"  "to load FW file.



After the file is loaded, the current FW version will shown in yellow, you can know whether the FW needs to be upgraded or not.
If yes, press "  ".



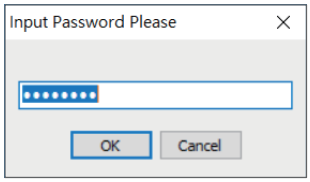
When upgrade finished,
"FIRMWARE UPGRADE COMPLETED"
will be shown.

③ **Language:** Three languages available(English /German/French)by clicking the national flag.

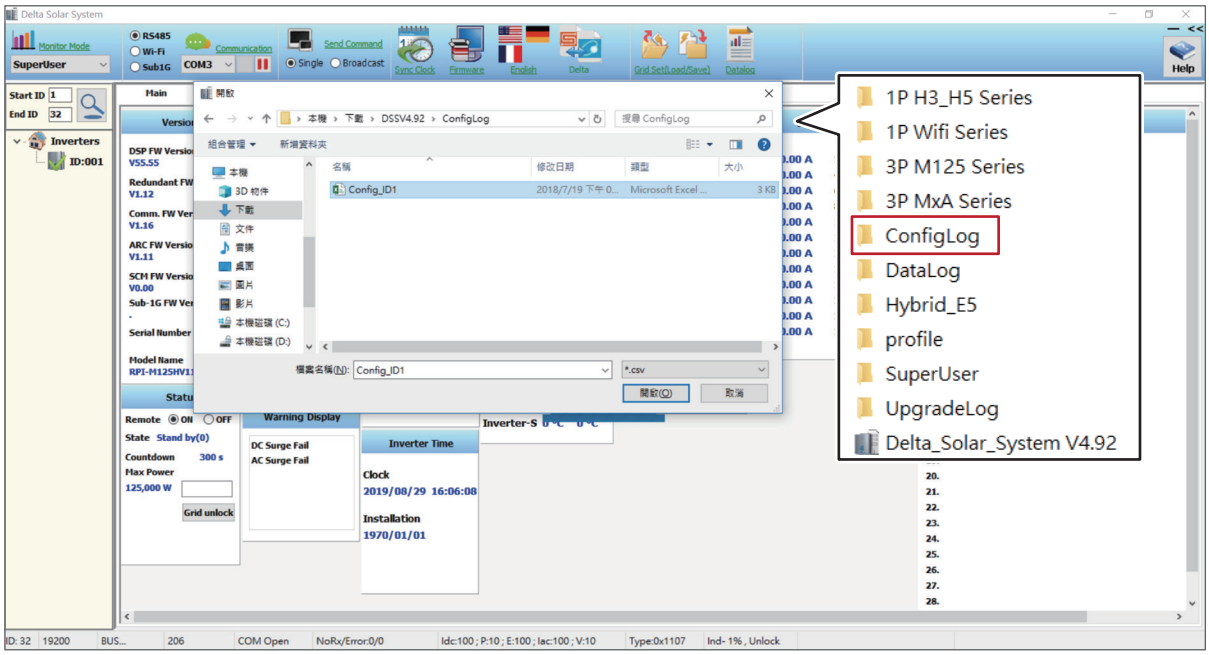
④ **Protocol:** Switch between Sunspec & Delta protocol.

> Notice :
> If switched to Sunspec, there will be no readings in DSS because DSS is for Delta protocol

⑤ Grid Load:



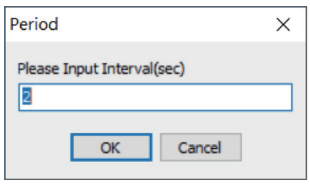
Enter the password you got.



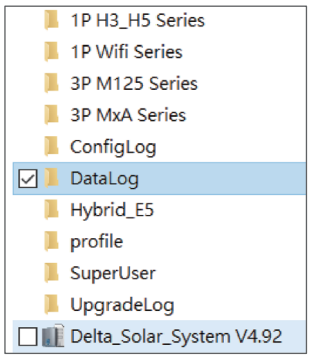
"Config_ID1" can be found in "ConfigLog" folder,
settings can be implemented to other inverters.

⑥ Grid save: save the Grid setting as "Config_ID1" in "ConfigLog" folder

⑦ Datalog : log data in Main page



Time interval can be chosen.



Data will be in "Datalog" folder.

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