

DSS User Instruction





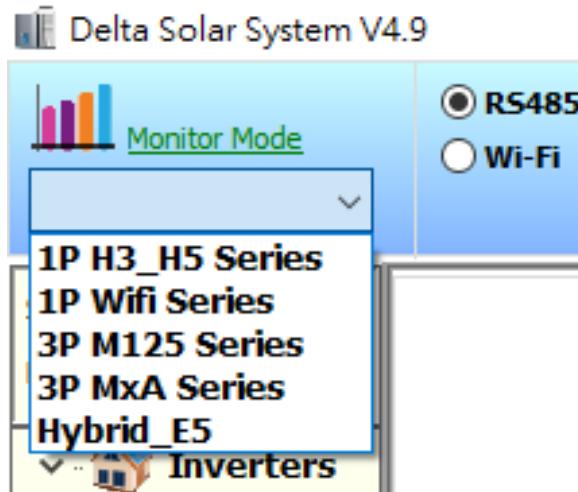
DSS User Instruction

- First Connection
- Main Page
- Config Page
- Ctrl Page
- Other Function



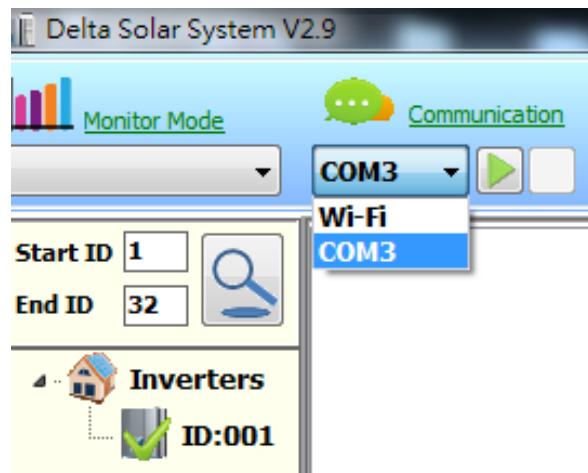
First Connection

1. Choose corresponding model

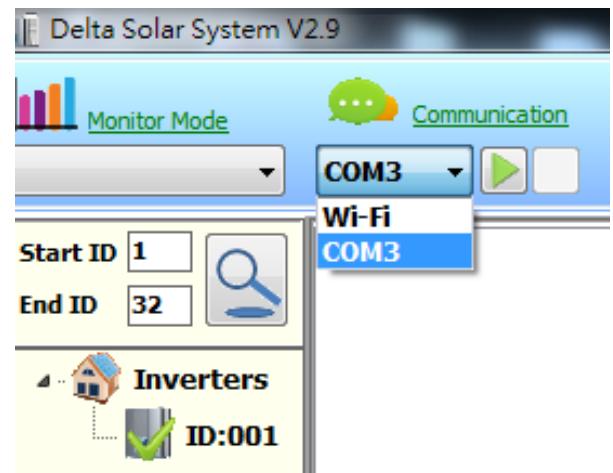


2. Select USB COM port which connects to RS 485 box

3. Press "▶" button



4. Check inv ID
5. Key in Start ID & End ID
6. Press "🔍" button



7. Choose "Broadcast" can send command to all inverter detected.





Main Page

Delta Solar System V3.5-2

Monitor Mode Communication Send Command Sync Clock Firmware English ??? Grid Set(Load/Save) Datalog Help

Start ID 1 End ID 32

Inverters

Version	VAB	VBC	VAC	Temperature 1	String Current	Time	Co
DSP FW Version Vxxxxx	Voltage(L-L) ??	Voltage(L-L) ??	Voltage(L-L) ??	Ambient Now ?? Max ??	1: ?? 2: ??	00. ??	??
Redundant FW Version Vxxxxx	Current ??	Current ??	Current ??	Boost-1 ?? ??	3: ?? 4: ??	01. ??	??
Comm. FW Version Vxxxxx	Power ??	Power ??	Power ??	Boost-2 ?? ??	5: ?? 6: ??	02. ??	??
ARC FW Version Vxxxxx	Freq. ??	Freq. ??	Freq. ??	Inverter-S ?? ??	7: ?? 8: ??	03. ??	??
SCM FW Version Vxxxxx					9: ?? 10: ??	04. ??	??
Serial Number ??					11: ?? 12: ??	05. ??	??
Model Name ??					13: ?? 14: ??	06. ??	??
Status	Input 1	Input 2	Inverter Time	Output Energy	15: ?? 16: ??	07. ??	??
Remote CTRL	ON	Voltage ??	Year ??	Today	17: ?? 18: ??	08. ??	??
	OFF	Current ??	Month ??	Wh ??	19: ?? 20: ??	09. ??	??
State ??	Power ??	Power ??	Day ??	Runtime ??	21: ?? 22: ??	10. ??	??
Countdown ??			Hour ??		23: ?? 24: ??	11. ??	??
Max Power ??			Minute ??			12. ??	??
			Second ??			13. ??	??
		Total Power				14. ??	??
		Input ?? ??				15. ??	??
		Output ?? ??				16. ??	??
						17. ??	??
						18. ??	??
						19. ??	??
						20. ??	??
						21. ??	??
						22. ??	??
						23. ??	??



Main Page

- Version
- Input 1
- Input 2
- String Current
- Bus Voltage
- Output 1
- Output 2
- Output 3
- Output Power
- Output Energy
- Inverter Time
- Temperature
- Error Event



Main Page_Version

Version

DSP FW Version

V xxxx.x

Redundant FW Version

V xxxx.x

Comm. FW Version

V xxxx.x

ARC FW Version

V xxxx.x

SCM FW Version

V xxxx.x

Serial Number

??

Model Name

??

- Showing all FW version
- Serial Number
- Model Name



Main Page_Input

Input 1		Input 2	
Voltage	??	Voltage	??
Current	??	Current	??
Power	??	Power	??

String Current	
1:	??
3:	??
5:	??
7:	??
9:	??
11:	??
13:	??
15:	??
17:	??
19:	??
21:	??
23:	??
2:	??
4:	??
6:	??
8:	??
10:	??
12:	??
14:	??
16:	??
18:	??
20:	??
22:	??
24:	??

- Showing input voltage/Current/Power readings
- Showing each string current



Main Page_Input

VAB	VBC	VAC
Voltage(L-L) ??	Voltage(L-L) ??	Voltage(L-L) ??
Current ??	Current ??	Current ??
Power ??	Power ??	Power ??
Freq. ??	Freq. ??	Freq. ??

- Showing Output voltage/Current/Power/Freq readings

Bus Voltage	
PBus	??
NBus	??

- Showing bus voltage of internal bus capacitor



Main Page_Output Power/Energy

Total Power	
Input	??
Output	??
Current	Power

- Showing total output information, include current and power

Output Energy	
Today	
Wh	??
Runtime	??
Life	
Wh	??
Lifetime	??

- Showing Energy generated and runtime for today / Life



Main Page_Time_Temperature

Inverter Time	
Year	??
Month	??
Day	??
Hour	??
Minute	??
Second	??

- Showing inverter time

Temperature 1		
	Now	Max
Ambient	??	??
Boost-1	??	??
Boost-2	??	??
Inverter-S	??	??

- Showing temperature for internal ambient and module



Main Page_Error Event

Error Event

Time	Code
00. ??	??
01. ??	??
02. ??	??
03. ??	??
04. ??	??
05. ??	??
06. ??	??
07. ??	??
08. ??	??
09. ??	??
10. ??	??
11. ??	??
12. ??	??
13. ??	??
14. ??	??
15. ??	??
16. ??	??
17. ??	??
18. ??	??
19. ??	??
20. ??	??
21. ??	??
22. ??	??
23. ??	??
24. ??	??

- Log error events up to 30 pcs



Config Page

- PW:4613

Delta Solar System V4.9

RS485 Wi-Fi Communication Send Command Single Broadcast Sync Clock Firmware English ??? Grid Set(Load/Save) Datalog Help

Start ID End ID Inverters ID:002

Main Config Ctrl

Country Set		Uac Protection		Freq. Protection		Comm Protection	
Country ??		U High Off: ??	???	F High Off: ???	???	Mode <input type="radio"/> ON <input type="radio"/> OFF	Disconnection time ??
Language ??		U High Off Time: ??	???	F High Off Time: ???	???		
Reclosure Time ??		U High On: ??	???	F High On: ???	???		
Inverter ID ??		U High Off Slow: ??	???	F High Off Slow: ???	???		
RS485 Baud rate ??		U High Off Slow Time: ??	???	F High Off Slow Time: ???	???		
Insulation		U High On Slow: ??	???	F High On Slow: ???	???		
CTRL: <input type="radio"/> ON <input type="radio"/> OFF	R Limit: ???	U Low Off: ??	???	F Low Off: ???	???		
String 1 ??	String 2 ??	U Low Off Time: ??	???	F Low Off Time: ???	???		
DC Injection		U Low On: ??	???	F Low On: ???	???		
CTRL: <input type="radio"/> ON <input type="radio"/> OFF	Amp ??	U Low Off Slow: ??	???	F Low Off Slow: ???	???		
Amp ??	Time ??	U Low Off Slow Time: ??	???	F Low Off Slow Time: ???	???		
		U Low On Slow: ??	???	F Low On Slow: ???	???		
AC Terminal							
Type <input type="radio"/> 3P4W <input type="radio"/> 3P3W							

Delta Confidential



Config Page

- Country Set
- Uac Protection
- Freq. Protection
- AC Terminal
- Insulation
- DC Injection



Config Page_Country Set

Country Set

Country ??	<input type="text"/>
Language ??	<input type="text"/>
Reclosure Time ??	<input type="text"/>
Inverter ID ??	<input type="text"/>
RS485 Baud rate ??	<input type="text"/>

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



Config Page_Uac/Freq. Protection

Uac Protection		Freq. Protection	
U High Off:	???	<input type="text"/>	<input type="text"/>
U High Off Time:	???	<input type="text"/>	<input type="text"/>
U High On:	???	<input type="text"/>	<input type="text"/>
U High Off Slow:	???	<input type="text"/>	<input type="text"/>
U High Off Slow Time:	???	<input type="text"/>	<input type="text"/>
U High On Slow:	???	<input type="text"/>	<input type="text"/>
U Low Off:	???	<input type="text"/>	<input type="text"/>
U Low Off Time:	???	<input type="text"/>	<input type="text"/>
U Low On:	???	<input type="text"/>	<input type="text"/>
U Low Off Slow:	???	<input type="text"/>	<input type="text"/>
U Low Off Slow Time:	???	<input type="text"/>	<input type="text"/>
U Low On Slow:	???	<input type="text"/>	<input type="text"/>

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



Config Page_detection functions

AC Terminal	
Type	<input type="radio"/> 3P4W <input type="radio"/> 3P3W
Insulation	
CTRL:	<input type="radio"/> ON <input type="radio"/> OFF
R Limit	??? <input type="text"/>
String 1 String 2	
??	??
DC Injection	
CTRL:	<input type="radio"/> ON <input type="radio"/> OFF
Amp	?? <input type="text"/>
Time	?? <input type="text"/>

- Allowed to change AC terminal setting
- if there has N wire on AC side please chose 3P4W
- Allowed to enable/disable Insulation detection
- Allowed to enable/disable DC injection detection.

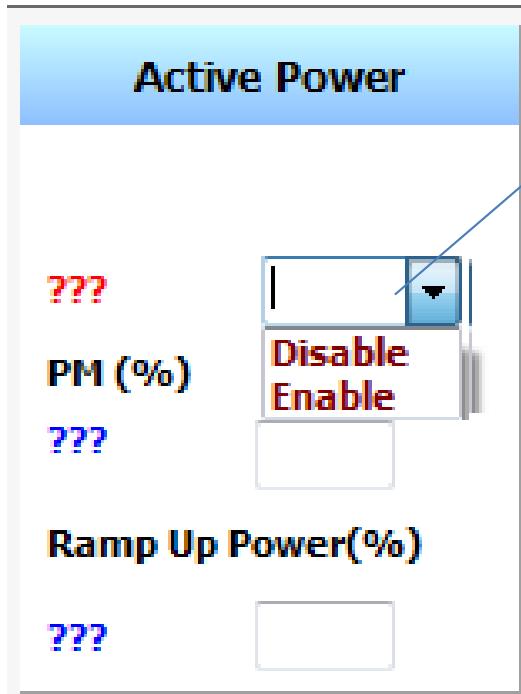


Ctrl Page

- Active Power
- P-F Control
- P(U) Function
- Reactive Power
- Q(U) Control
- $\text{Cos}(\Phi)$ of P Ctrl



Ctrl Page_Active Power



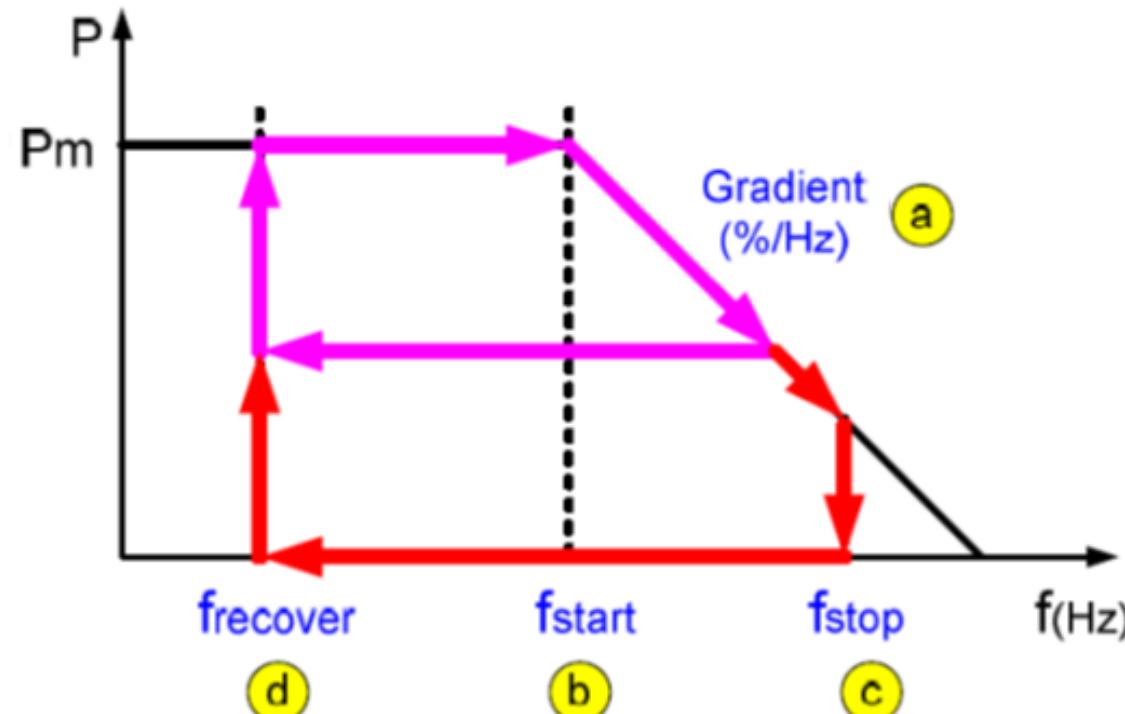
- Enable/Disable this function
- PM(%): control the max output power percentage (0~100%)
- Ramp up power (%): ramp up rate per minute (max 6000)

Ctrl Page_P-F Control

P-F Control

Mode	??? <input style="background-color: #f0f0f0; border: 1px solid #ccc; padding: 2px 5px;" type="button" value="Disable"/>
Gradient (%)	??? <input type="text"/> (a)
Freq. Start	??? <input type="text"/> (b)
Freq. Stop	??? <input type="text"/> (c)
Freq. Rec	??? <input type="text"/> (d)

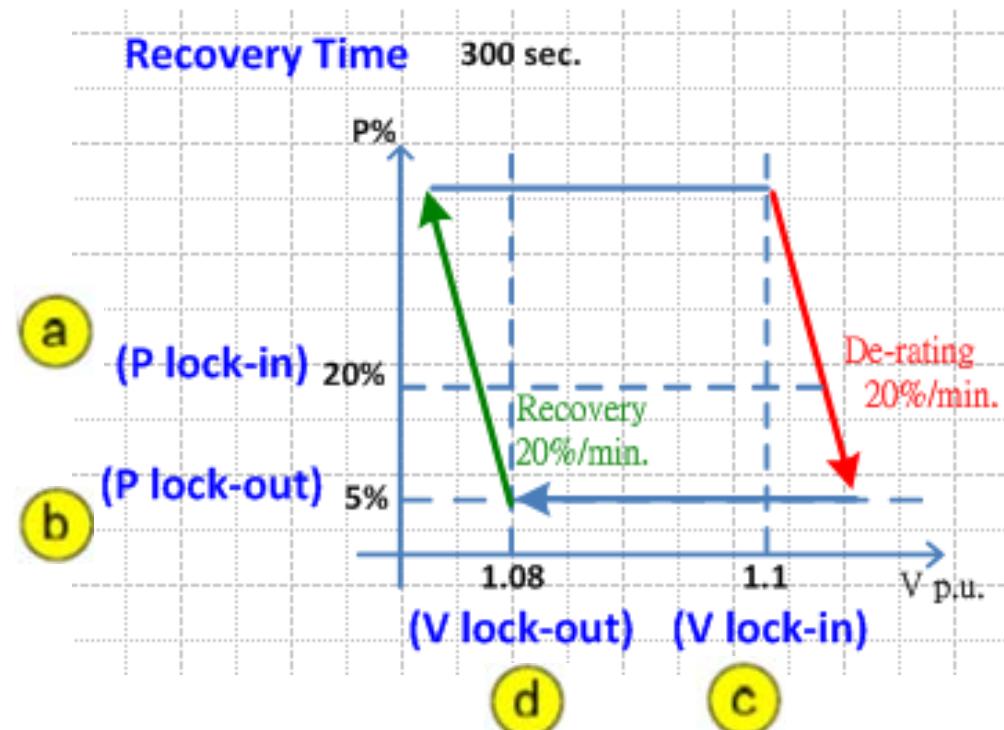
- Enable/Disable this function



Ctrl Page_P(U) Control

P(U) Function	
Mode:	???
Recovery Time(s)	???
Lockin Power(%)	???
Lockout Power(%)	???
Lockin Voltage(Vac)	???
Lockout Voltage(Vac)	???
Stop Voltage(Vac)	???

- Enable/Disable this function



- Enable/Disable this function



Ctrl Page_Reactive Power

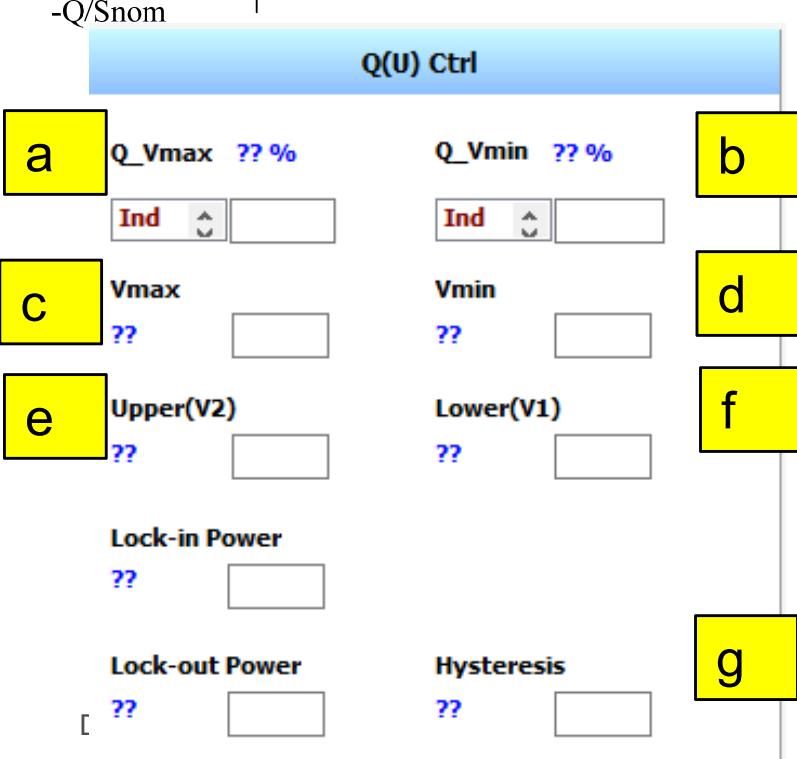
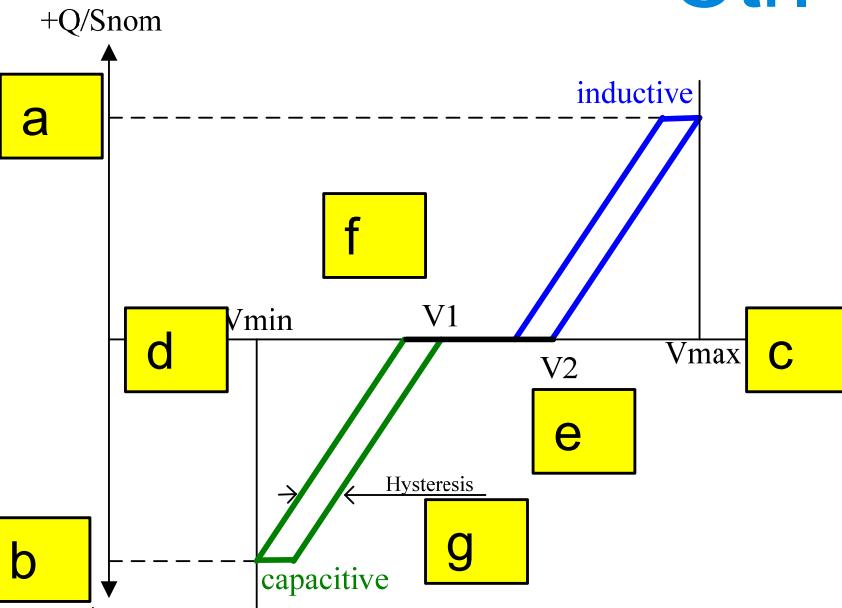
The screenshot shows a control page for reactive power settings. It includes three main sections:

- Mode**: A dropdown menu labeled "Mode" with a question mark icon. It includes a status indicator "Ind" and a response time input field.
- Fixed cosφ**: A section for setting fixed power factor values. It includes a dropdown menu labeled "Fixed cosφ" with a question mark icon, a status indicator "Ind" with a dropdown arrow, and a response time input field.
- Fixed Q (%)**: A section for setting fixed reactive power values. It includes a dropdown menu labeled "Fixed Q (%)" with a question mark icon, a status indicator "Ind" with a dropdown arrow, and a response time input field.

- Mode: Select reactive power mode
- Fixed cosΦ: when in “Constant cosΦ “mode, the value can be controlled here.
- Fixed Q: when in “Constant Q “mode, the value can be controlled here.
- Response time: decide the response time for all reactive power function



Ctrl Page_Q(U) Control



- Q(U) function will be controlled in “Reactive Power ”page
- Lock-in Power : when active power is higher than this value, this function start working
- Lock-out Power: when active power is lower than this value, this function stop working

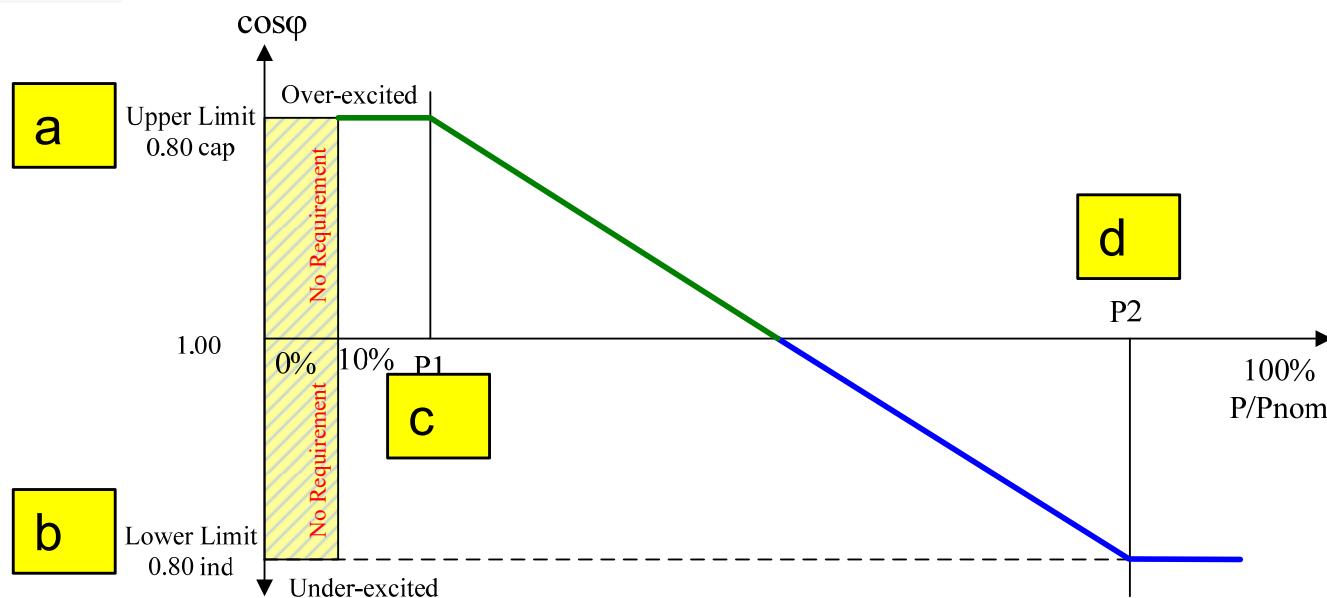


Ctrl Page_Cos(Φ) of P Ctrl

cos(Φ) of P Ctrl

Upper	??
Ind	<input type="button" value="▲"/> <input type="text"/> <input type="button" value="▼"/>
Lower	??
Ind	<input type="button" value="▲"/> <input type="text"/> <input type="button" value="▼"/>
Upper(P1)	?? %
	<input type="text"/>
Lower(P2)	?? %
	<input type="text"/>

- Cos(Φ) of P Ctrl function will be controlled in “Reactive Power ”page





Ctrl Page_Fan test

The screenshot shows a software interface for fan testing. It has two main sections: 'Fan Test' and 'Fan Fail'.

Fan Test: This section contains a 'Mode' field with radio buttons for 'ON' and 'OFF', and a 'Duty' field with a '??' label and a small input box.

Fan Fail: This section is divided into 'Internal' and 'External' sub-sections, each listing 16 fan identifiers (F00 to F15) in a grid format.

Internal
F00 F01 F02 F03
F04 F05 F06 F07
F08 F09 F10 F11
F12 F13 F14 F15

External
F00 F01 F02 F03
F04 F05 F06 F07
F08 F09 F10 F11
F12 F13 F14 F15

- You can use fan test function to test the fan.



Q setting 24/7

Reactive Power	
Mode	Fixed Kvar 24/7
Fixed cosφ	Ind
Fixed Q (%)	Ind 0%
Response Time	10.00 sec

Q by Night	
Const.Q_Percent	40 %

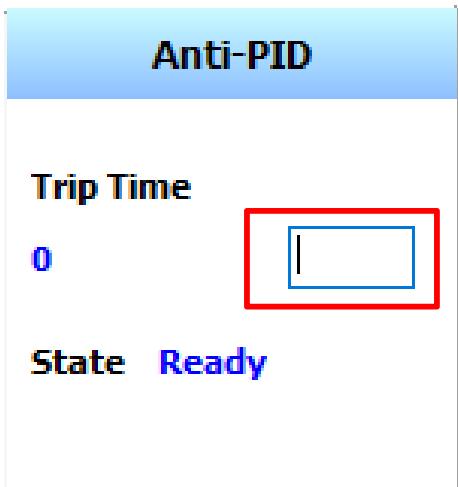
Q setting 24/7 allows inverter to generate fixed reactive power at night

1. Select reactive mode to “Fixed kvar 24/7”
2. Set specific percentage for reactive power.

*Range of ConstQ_Percent : -100%~+100%



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"

1. Set specific value for anti-PID function active time.

*Range of Trip Time value : 0~11 (hour)



Dry contact

The image shows two side-by-side screenshots of a user interface. Both screenshots have a blue header bar with the text "Dry Contact". Below the header, there are two sections: "Dry Contact1" and "Dry Contact2". Each section contains a status indicator (a box with a question mark and a dropdown arrow) and a red-bordered selection box.

Screenshot 1 (Left): The selection box for "Dry Contact1" is empty, showing only a vertical line and a dropdown arrow. The selection box for "Dry Contact2" is also empty.

Screenshot 2 (Right): The selection box for "Dry Contact1" is open, displaying a list of seven items: "Disable", "On Grid", "Fan Fail", "Insulation", "Alarm", "Error", and "Fault". The "Disable" option is highlighted with a blue background. The selection box for "Dry Contact2" is empty.

Dry contact function allow you to set external alarm device base on inverter status, dry contact relay will close when the selected status happend

1. Set specific status you want to trigger the relay.

Items : On grid, Fan Fail, Insulation, Alarm, Error, Fault, Warning



Other Function

- Sync Clock
- Firmware
- Language
- Protocol
- Grid set
- Datalog



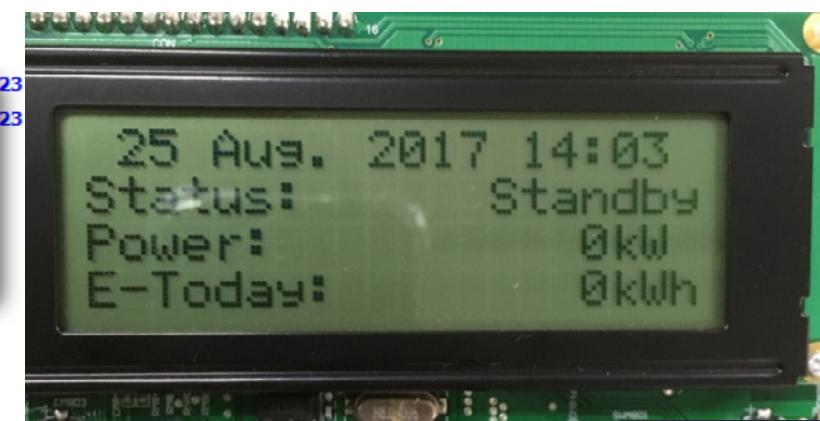
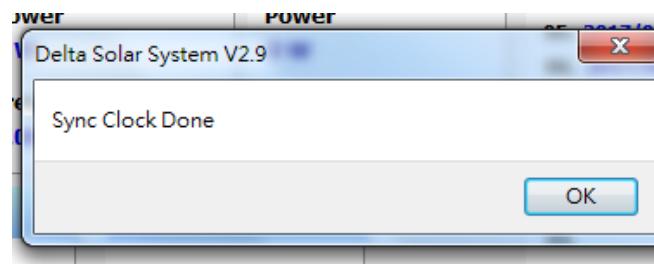
Other Function_Sync Clock



- Sync Clock Function can synchronize inverter's time with your laptop's.
- EX:



Before Sync



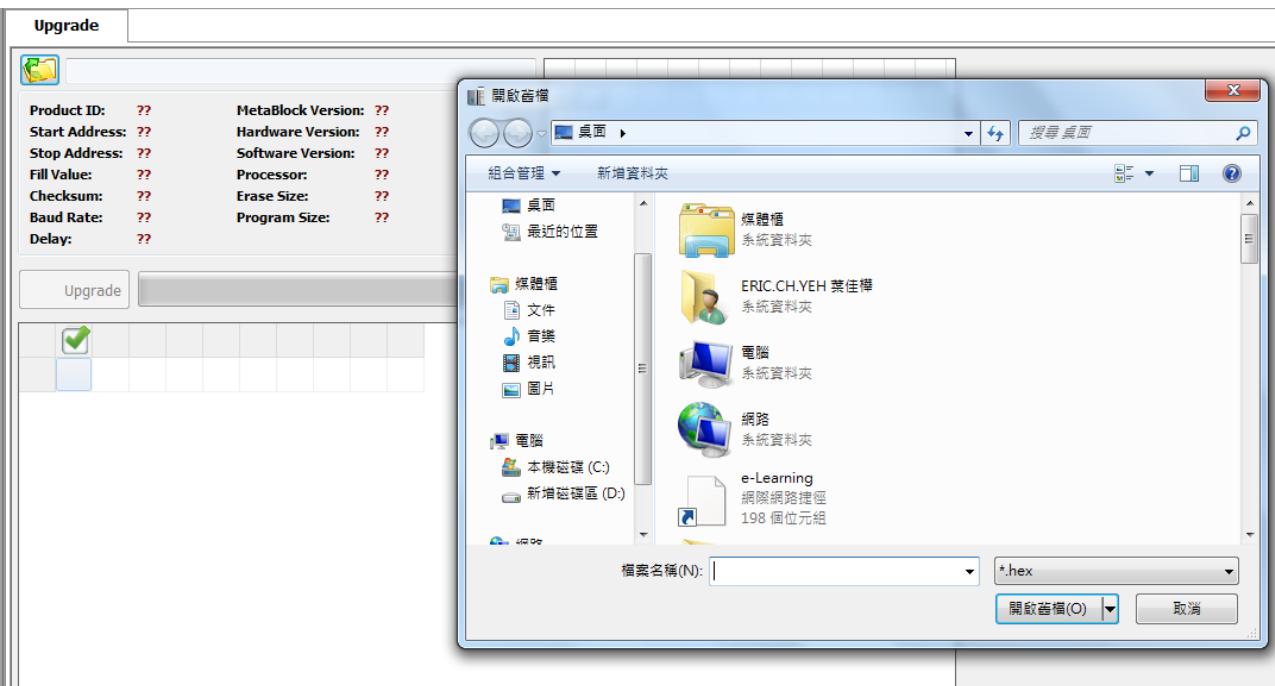
After Sync



Other Function_Firmware



- Firmware Function : for FW upgrade



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



Other Function_Firmware

Upgrade

C:\Users\eric.ch.yeh\Desktop\M80U_120_COMM_V8016_M1.hex

Product ID:	52000218	MetaBlock Version:	0.01
Start Address:	0x08007000	Hardware Version:	1.00
Stop Address:	0x0806FFFF	Software Version:	80.16
Fill Value:	0xFF	Processor:	0
Checksum:	0x071D	Erase Size:	128
Baud Rate:	9600	Program Size:	128
Delay:	40		

Address	1	2	3	4	5	6	7	8	9
1	08007000	4C	86	00	20	55	71	00	08
2	08007080	7D	3E	03	08	81	3E	03	08
3	08007100	03	00	00	01	10	50	80	25
4	08007180	31	6A	03	08	10	B5	AF	4C
5	08007200	1B	F0	8E	FB	07	E0	5F	F4
6	08007280	E0	81	E2	89	0A	80	10	BD
									3C

Upgrade

ID	Mode	Model Name	Serial Number	Product ID	Boot SW	HW	SW
1	Normal	O2L164000		52000218	V03	1.00	1.25

- 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, “Upgrade Done” will be shown



DELTA Other Function_Language_Protocol



- Language: three languages available (English /German/French) by clicking the national flag.



- Protocol: Switch between Sunspec & Delta protocol

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



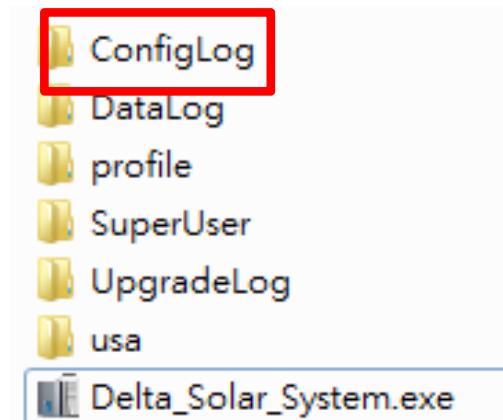
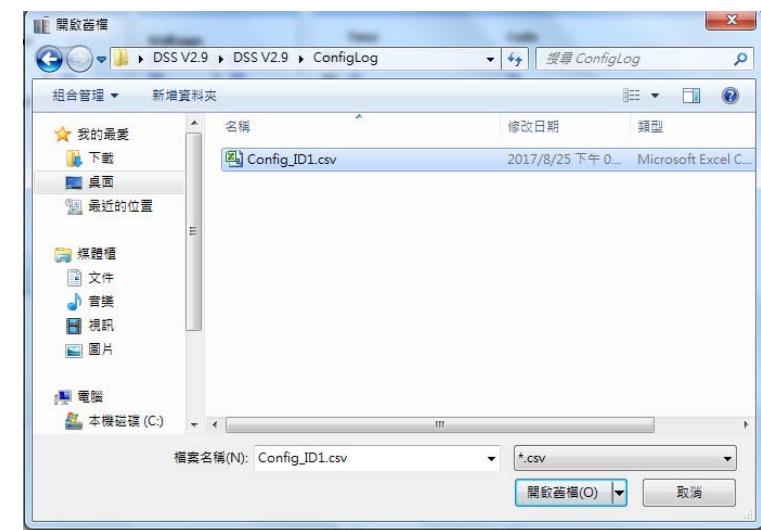
Other Function_Grid set



- Grid save: save the Grid setting as “Config_ID1”



- Grid load: “Config_ID1” can be found in “Configlog” folder, the setting can be implemented to other inverters.

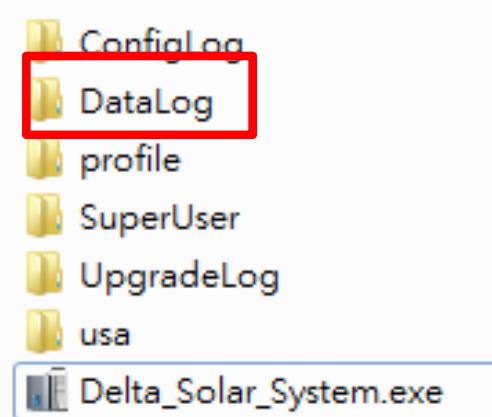
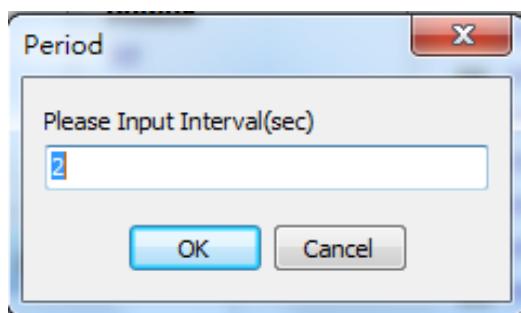




Other Function_Datalog



- Datalog Function: log data in Main page.
- Time interval can be chosen
- Data will be in “Datalog” folder



Thank you!

Smarter. Greener. Together.

To learn more about Delta, please visit www.deltaww.com.

