



Bulgaria Training

service.bg@growatt.com

-for common cases, questions, technical information
and technical support

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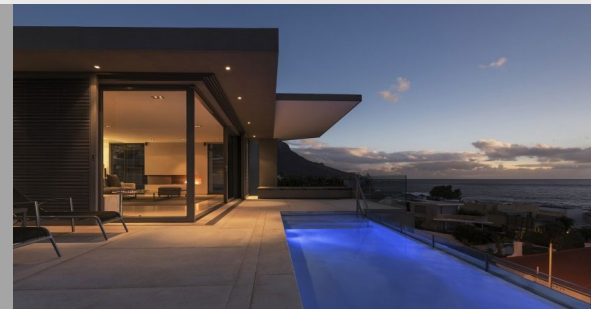
Technical Support for Onsite installers.

Nicusor Raducan- Technical Support Engineer



01

ARK LV A2 introduction.



Growatt ARK 2.5L-A2 Battery

GROWATT

Product Overview

- Flexible capacity options, 2.56kWh to 25.6kWh
- Excellent safety of cobalt free LiFePO4 battery
- Support -10°C low temperature charging
- Easy installation with modular and stacked design
- Remote firmware upgrade



System connection diagram

		LED light definition					
Status	Items	SOC indication				RUN/ ALM	Remark
		LED1	LED2	LED3	LED4	LED5	
Charge SOC	0%-25%	● (t=15)				●	RUN/ALM light on and one SOC lights flicker
	26%-50%	●	● (t=15)			●	
	51%-75%	●	●	● (t=15)		●	
	76%-99%	●	●	●	(t=15)	●	
	100%	●	●	●	●	●	
Discharge SOC	100%-76%	●	●	●	●	●	
	75%-51%	●	●	●	●	●	
	50%-26%	●	●	●	●	●	
	25%-5%	●				●	
	5%-0%	●				● (t=15)	RUN/ALM light flicker
Idle	100%-76%	●	●	●	●	●	
	75%-51%	●	●	●	●	●	
	50%-26%	●	●	●	●	●	
	25%-5%	●				●	
	5%-0%	●				● (t=15)	RUN/ALM light flicker
Parallel connection	Parallel connection succeeds	●	●	●	●	●	RUN/ALM light flicker green
Protection	Cell charge overvoltage alarm	LED1-LED4 indicates current remaining capacity				● (t=15)	RUN/ALM light flicker green
	Cell charge overvoltage protection					● (t=15)	RUN/ALM light flicker green
	PACK charge overvoltage alarm					● (t=15)	RUN/ALM light flicker green
	PACK charge overvoltage protection					● (t=15)	RUN/ALM light flicker green
	Over charge and over discharge alarm					● (t=15)	RUN/ALM light flicker green

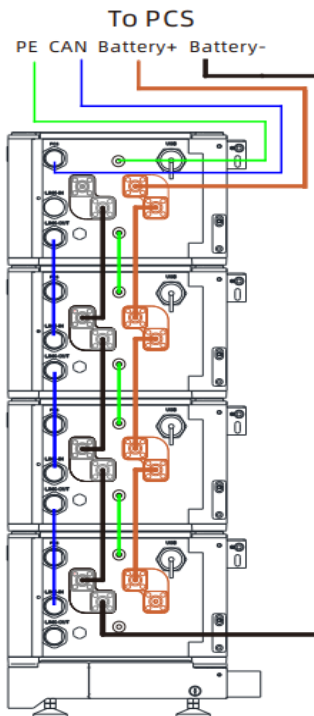


Fig 4.9: System connection diagram

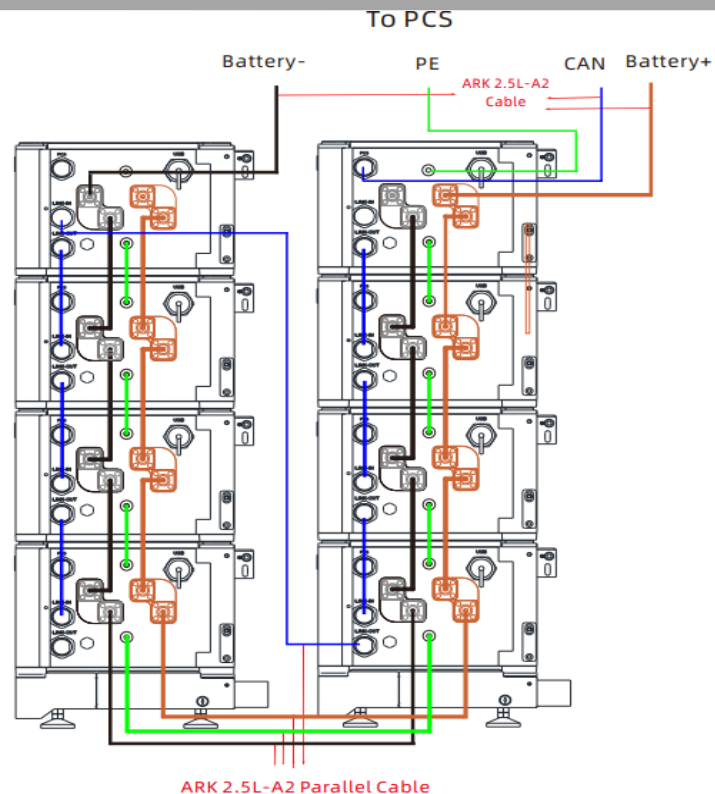


Fig 4.10: parallel connection stacked in two line

Growatt has recently released the new version ARK battery, ARK 2.5H-A2 and ARK 2.5L-A2, to market. The new version ARK battery will replace the old version in the future.

Updates on the new version ARK battery

The A2 version of the battery has been updated in terms of both battery performance and industrial design:

Battery performance: The new generation of A2 batteries can be charged down to -10°C.

Industrial design: The side cover, LCD display and wiring design have been optimized for easier installation.

For more detailed information, please find in the following link: https://en.growatt.com/upload/file/ARK-A1_A2_Versions_Differences_Declaration.pdf

Compatibility of A1 version and A2 version ARK battery

Due to the existence of A1 version and A2 version ARK battery at the switch period, please follow the following suggestions by installation planning:

The mixed-use of A1 and A2 version ARK battery is theoretical feasible. However, in order to obtain the best system performance, please use the same version (A1 or A2) of ARK battery in a system when planning a new installation.

For a replacement for defect A1 version ARK battery in existing system, the A2 version ARK battery can be used.

For capacity extension on existing system with A1 version ARK battery, the A2 version ARK battery can be used.

Note: By mixed-use of A1 and A2 version ARK battery, the battery system performance will be limited by A1 version ARK battery.

The label on the delivered package has misleading description. The description has been revised on current delivery.

02

Technical Training Level 1

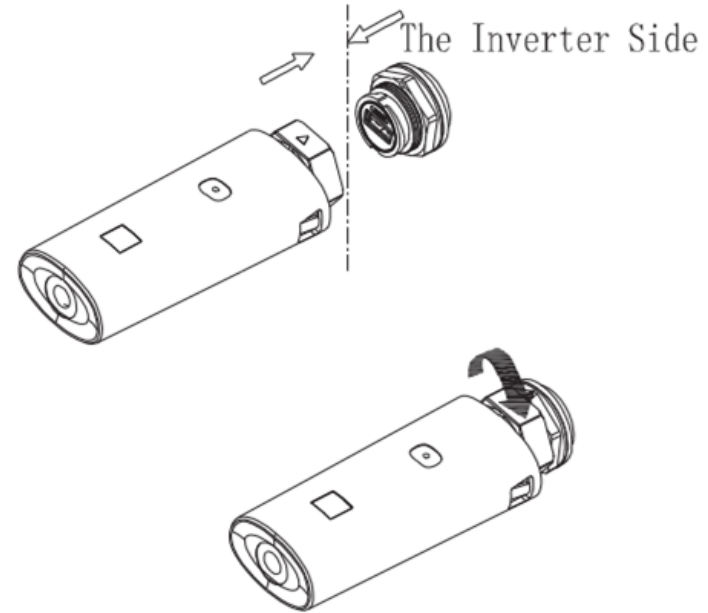


ShineWiFi-X is a monitoring device with which the data in the cell phone can be visualized using the ShinePhone app.

ShineWiFi-X is configured via app. You can find a video on the growatt YouTube channel:

https://www.youtube.com/watch?v=Zwuop7KQis8&ab_channel=JerryZhu

It is recommended to configure hotspot mode.



ShineWiFi-X connection

Easy maintenance with Smart Remote features

Remote configuration

Set inverter

Command

☐ Set Inverter On/Off

Boot

☐ Set Save Pf Command

Off

☐ Set Active Power Rate

100

%

☐ Set Reactive Power Rate

Over

0

%

☐ Set Pf Value (-0.8 ~ -1/0.8 ~ 1)

1.0

☐ Set Time

0002-12-03 00:00:00

☐ Set Grid Voltage High

262.0

☐ Set Grid Voltage Low

186.0

☒ Enable Wide Voltage

Off

☐ Register

Value

Yes

Cancel

Remote firmware upgrades

GROWATT

Inverter Upgrade

Storage Upgrade

SPH Update

Max/Mid/MAC Upgrade

Ac Couple Upgrade

MIN/MIC/MOD update

Meter upgrade

Batch Upgrade

Upload Firmware

Upgrade Instructions

Growatt Online Upgrade System

English

Configuration Upgrade

Upgrading

Upgrade Record

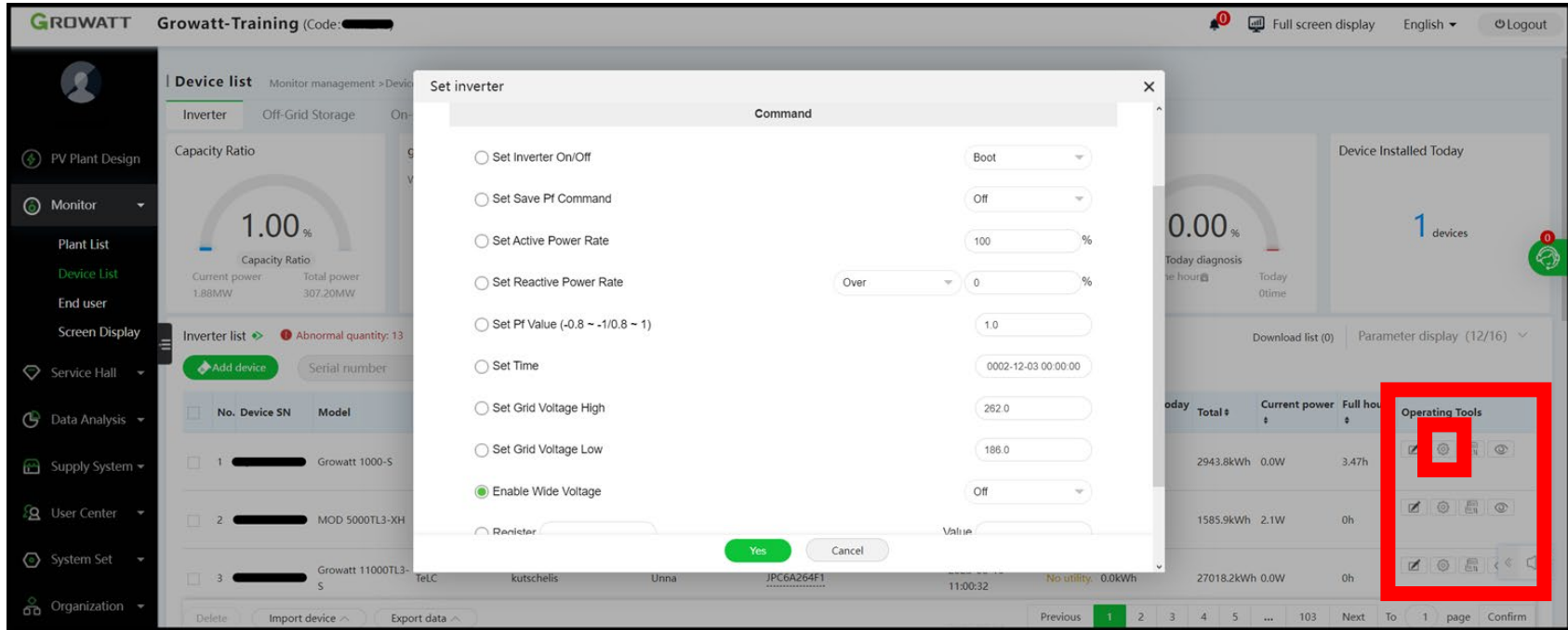
Enter The Datalogger Serial Number Of The Device To Be Upgraded:

Confirm

No.	Inverter	Datalogger	Firmware Version	Connection Status	Progress	Operating	Path
Load The Datalogger Information First							

Growatt service technicians can solve over 60% of problems through remote configuration and firmware update

Parameter settings



- Parameter settings for the inverter
- A large part of all problems can be solved by the correct parameter

Enable Smart meter

Set inverter

☐ Set Reactive Power Ratio 1 Pf Fixed 1 Not Memory

☐ Set Inverter Time 2023-06-23 11:07:27

☒ **Dynamometer**

☐ Pre PTO

☐ Cv Voltage

☐ Cc Current 60 (0~60A)

☐ Working Mode Default

☐ Grid Type Three Phase

☐ Lcd Language German

☐ Restore Factory Settings Restore Factory

Point 1 (Powerpercent Pflinpoint) 255 1.0

Yes Cancel

Electric Meter

Not Choose

Electric Meter (38~58V)

Step 1: find the inverter by serial number in the OSS system.

Step 2: under the gear icon you will find the settings.

Step 3: under " dynamometer ";, select the " current meter "; and confirm with " Yes ";.

Set active power limit

Set inverter

Grid parameters

Dry Function

Off-grid function setting

Regulation parameter setting

Q(V)setting

Time of Use Setting

Export limit setting

☒ Set Exportlimit

Off

☐ Default Power After Exportlimit Failure

Off

%

☐ Set Inverter On/Off

Boot

Enable Meter

Yes

Cancel

Set inverter

Grid parameters

Dry Function

Off-grid function setting

Regulation parameter setting

Q(V)setting

Time of Use Setting

Export limit setting

☒ Set Exportlimit

Enable Meter

50

Percent

☐ Default Power After Exportlimit Failure

0.0

%

☐ Set Inverter On/Off

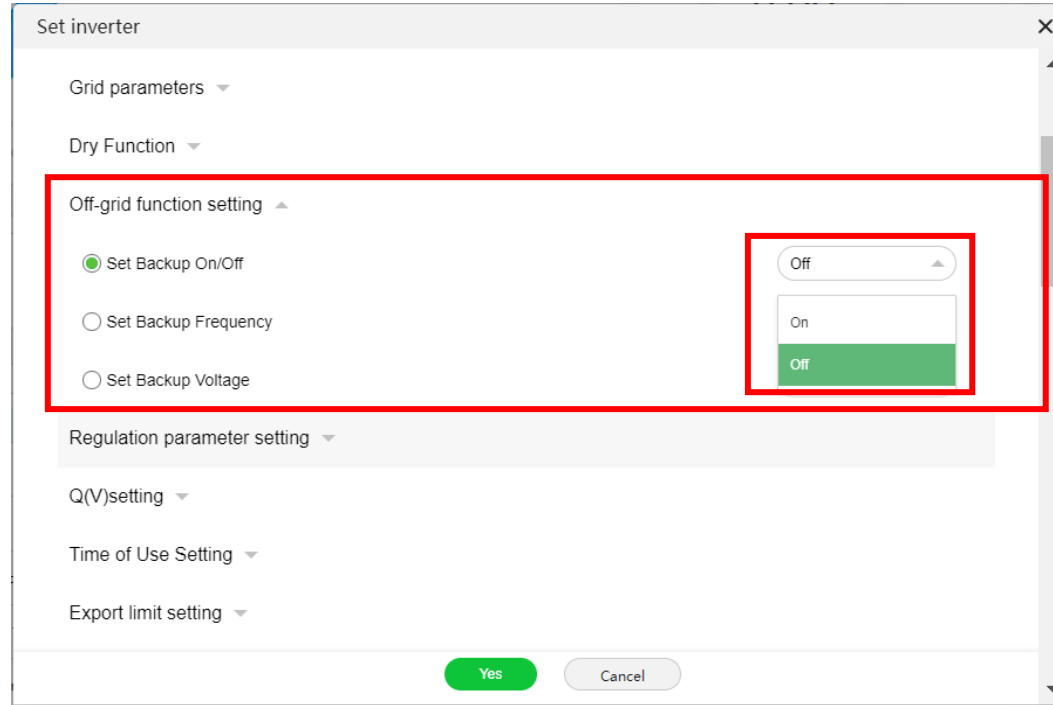
Boot

Yes

Cancel

If the active power limitation function is required, please make sure that the Smart meter is activated. Or you can set it in the OSS system. The active power limit is set as a percentage. At 30% the permitted active power is 30% of the max. Output power of the inverter.

Enable backup function



The screenshot shows a 'Set inverter' configuration window with a red border. The 'Off-grid function setting' section is highlighted with a red box. Within this section, the 'Set Backup On/Off' radio button is selected. To its right, a dropdown menu is open, showing 'Off' as the selected option, with 'On' and 'Off' (highlighted in green) as other visible options. The window also includes sections for 'Grid parameters', 'Dry Function', 'Regulation parameter setting', 'Q(V)setting', 'Time of Use Setting', and 'Export limit setting'. At the bottom, there are 'Yes' and 'Cancel' buttons.

Set inverter

Grid parameters ▾

Dry Function ▾

Off-grid function setting ▲

☒ Set Backup On/Off

☐ Set Backup Frequency

☐ Set Backup Voltage

Regulation parameter setting ▾

Q(V)setting ▾

Time of Use Setting ▾

Export limit setting ▾

Off

On

Off

Yes Cancel

If the SYN box is installed and communication between the inverter and SYN-Box is in order, you must activate the system backup function via the OSS.



Attention

Any register changes can only be made after all checks have been completed and all conditions have been confirmed to be in order. If the machine is damaged due to incorrect register changes, this is not covered by the warranty. If you make a change to the register, you agree to it and are willing to bear the risk

Inverters Register Map

Register 30	- Communication address of inverter
Register 19	Time of Grid reconnection (600s)
Register 122	Enable/Disable Smartmeter
Register 180	Forced connection of smart meter
Register 533	Forced connection of smart meter
Registers 53, 57, 61, 80	Step voltage modification (AC Outrange)

Remote Register Settings for ShineMaster

Register Address	Function	Default Value
47	Baudrate of RS485_1	1:4800; 2:9600; 3:38400; 4:115200
48	Baudrate of RS485_2	1:4800; 2:9600; 3:38400; 4:115200
66	Export Limit_En/Dis	0
67	Export Limit Power	0
89	Meter Address(for Export Limiting)	0
90	Export Limit Channel	2
91	Active Power Ratio controlled as export limitation fails	0
92	Active Power Control activated as export limitation fails	0-5000(S)
94	Activate Power Control_En/Dis	0-Disable 1-Enable

Inverters Register Map

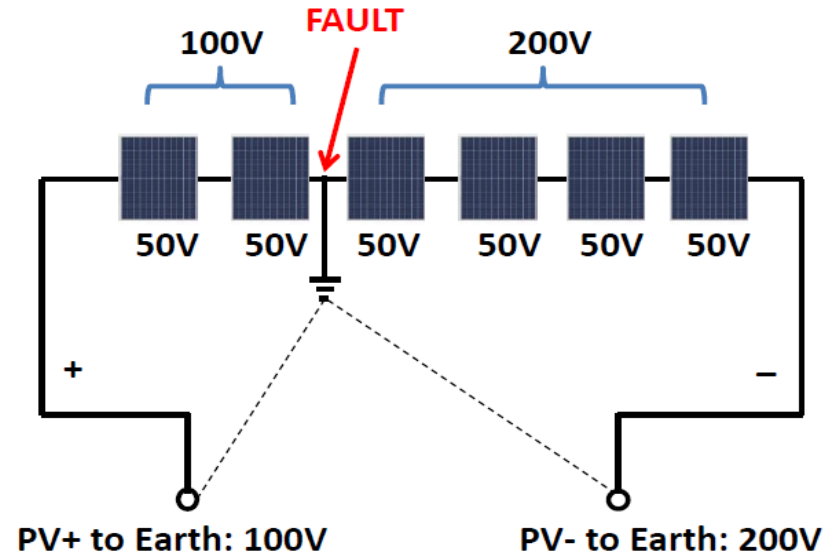
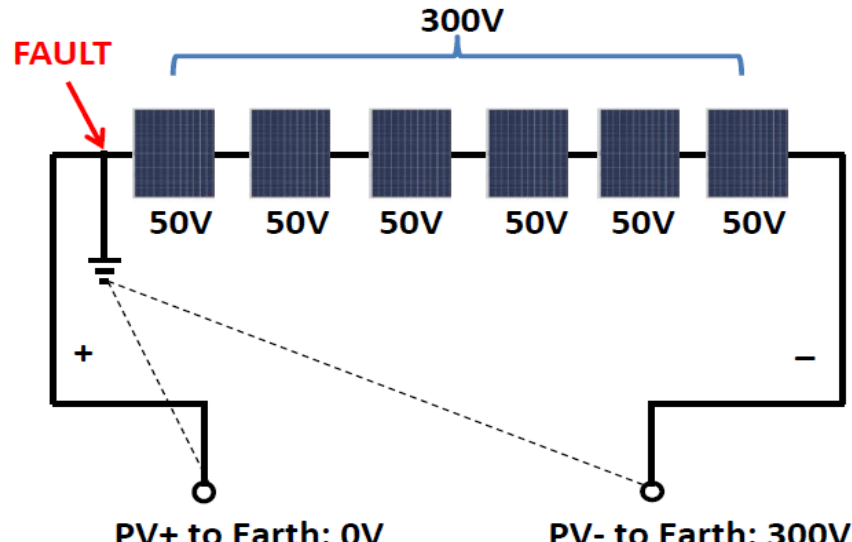
-X inverter register list

	register	Value		register	value
Inveter time	45~50		AC1 Low/High Voltage Limit	52/53	0.1v
Language	15	0-5	AC1 Low/High frequency Limit	54/55	0.01Hz
COM address	30	1-254	AC2 Low/High Voltage Limit	56/57	0.1v
Vpv start	17	0.1v; example 600v input 6000	AC2 Low/High frequency Limit	58/59	0.01Hz
Time start	18	1s	AC3 Low/High Voltage Limit	60/61	0.1v
Tim restart	19	1s	AC3 Low/High frequency Limit	62/63	0.01Hz
Active power rate	3	1-100 or 255; 255 is no limit to the power	Capacitor/ inductor/load rate	4	0-100or255; 255 is no limit to the power
Vac 10min Avg(80)	80	0.1v	Capacitor/ inductor/PF	5	
PV input mode	124	1 DC source 2 multiple mppt 0 Independent mppt	Island enable	230	0,1

PID work mode	201	0、automatic 1、 constant mode 2、 night mode : 00: night mode (when pv lower than 50V, PID is on in the night, when pv is	Fan check	231	1
		higher than 50v in the morning, PID is off); 01: constant mode; 10: automatic mode (PID automatic set output voltage according to the previous day max voltage)			
N-PE monitoring enable	235	1 enable 2 disable	Grid N line Enable	232	1

Solar Array Ground Fault(PV Isolation low) Troubleshooting

1. Disconnect PV terminals from the inverter and use a multimeter to measure the voltage between PV+ and earth wire(the inverter earth wire or the inverter lid), PV- and earth wire, normally it goes to zero rapidly within few seconds, or goes to a value that is very close to zero(e.x. 10V). It means there is a ground fault if it goes to a stable value of the voltage such as 300V as showing in Fig.1 or 100V and 200V in Fig.2. We may locate the fault point according to the below diagram.





MOD 3-15KTL3-X

- Warning 401: smart meter abnormal. Solution:
https://drive.google.com/file/d/1Gq7jeq7iduJDyK-9U3fkX49bRz1kiiFE/view?usp=share_link
- Several smart meters on Growatt OSS. Solution:
https://drive.google.com/file/d/1zU_IQ38JF5APO6OMB8agUyn7xVuMH4LG/view?usp=share_link
- Error 405: relay fault, error 413: IGBT drive fault, warning 404: EEPROM abnormal or error 404. Solution: replacing the MOD X.

- **Inverter reports error 405**
 - Error 405 stands for "Relay fault". This can be caused by a problem with the inverter firmware
 - Restart the inverter and check if the problem is solved
 - If the problem persists after a reboot, contact Growatt as an update will likely fix the problem
- **There is no option to select the country/region in the setting page of the inverter's screen**
 - This may be a problem with the initial settings, set register 16 to value 0 in order to activate this option.
 - If the problem persists after changing the register, contact Growatt as an update will likely fix the problem



SPH 4000-10000TL3 BH-UP

- **No PV detected**
 - Measuring output voltage of the PV string
 - Measuring resistance of PV+, PV- on the inverter side
 - Taking photos or videos
 - Sending ticket number, photo or video via email
- **No batteries detected**
 - Checking if the BMS and battery are OK
 - If yes, taking photos or videos
 - Sending ticket number, photo or video via email
- **No grid detected**
 - Measuring voltage of AC
 - If everything is in order, take photos or videos
 - Sending ticket number, photo or video via email



SPH 4000-10000TL3 BH-UP

- **No load detected**
 - Taking photos or videos
 - Sending ticket number, photo or video via email
- **Bus voltage unbalance/ Error 103, Error 411, Error 418, Error 405**
 - Taking photos or screenshots
 - Sending ticket number, photo or video via email
- **0 power output or always „Checking“/„Standby“**
 - Register 316 to 5020, Register 124 to 0, Register 1047 to 0
 - Register 316: frequency range of the grid voltage
 - Register 124: MPPT tracker model



SPH 4000-10000TL3 BH-UP

- **BMS COM-Fault**

BMS COM Error

1. Check whether the lithium battery is on or off.
2. Check whether the connection between the lithium battery and the inverter is good and correct.
Please refer to the quick battery installation guide.
3. Check the battery model setting on the inverter. If it is correct (the lithium battery mode matches the lithium battery installation).
4. Disconnect the CAN communication cable from the inverter, measure the voltage of pins 4 and 5 of the battery, and check whether the DC voltage is 1.3 to 3.0 V while the battery BMS controller is running with the green indicator. Otherwise, replace the battery.
5. Disconnect the battery-side communication cable, measure the voltage of pins 4 and 5 of the inverter's CAN interface, and check whether the DC voltage is 1.3 to 3.0 V. Otherwise, replace the inverter



MOD 3-15KTL3-XH

- Error 201, 405, 411, 311: Contact Growatt and the problem can probably be fixed by an update
- MOD 6K TL3-XH: There is a current-like noise caused by a fault of firmware. Contact Growatt, the problem can be solved by updating the firmware
- Warning 400: Fan function abnormal, often occurs after replacing the control board, check if the fan is stuck or dirty



MOD 3-15KTL3-XH

- Error 404: Restart the inverter, replacing it if the problem persists
- Error 217: This is an error related to the BDC, first check if the communication cable from the BDC to the inverter is connected properly. And check the connection of "BMS and batteries"
- Error 218: This is also an error related to the BDC, first check if the power cable from the BDC to the inverter is connected properly. And check the connection of "BMS and batteries"

BMS und Batteries

- BMS aging pattern: BMS signal light is not on, but the following four lights are always flashing blue. Solution: replace the BMS.



- The other problems: BMS signal light flashes red, the inverter does not detect the battery, the discharging or charging of the batteries abnormally, etc. Solution: check the batteries and BMS based on instructions, and send the information to Growatt engineers. Checklist:
- https://drive.google.com/file/d/1u2evcRmC4QYZgiFb8jnlRPxbU_CfFvb1/view?usp=share_link

- Recharging of deeply discharged battery modules ARK HV:
<https://drive.google.com/drive/folders/1RwoYHN6EFnNakJryr6fGEYkBLxMQWN9v?usp=sharing>



SEM(Shinemaster)

- If it doesn't work, record a video
 - How each device is wired
 - Status of Shinemaster LED
 - Screenshots of every page of the Setting Center
- If the smart meter is abnormal
 - Is there a phone symbol on the smart meter screen?
 - RS485A-B: 0 and 4-5V voltages



Relay Fault 405

- **MOD 3-15KTL3-X**

- Error 405 stands for "Relay fault". This can be caused by a problem with the inverter firmware
- Restart the inverter and check if the problem is solved
- If the problem persists after a reboot, contact Growatt as an update will likely fix the problem
- After confirmation, replace it and send RMA to us if problem still exist

- **MID 17-40KTL3-X**

- Error 405 stands for "Relay fault". This can be caused by a problem with the inverter firmware
- Restart the inverter and check if the problem is solved
- If the problem persists after a reboot, contact Growatt as an update will likely fix the problem
- After our confirmation, replace it and send RMA to us



APX Battery PM DOA

- **On Server page, PM is visible, but BM can't be detected**

(PM and BM communication failure)

- Change communication cables between PM and BM for several times, try use communication cables which are not from Growatt if changing with Growatt cables doesn't work
- Exchange PM if above action failed
- Before installation, firstly connect PM with each of BM, then connect all of them together if every BM is working properly with PM; change the defective BM
- After our confirmation, replace it and send RMA if problem still exists



APX Battery PM DOA

- **On Server page, PM is visible, but BM is lost**
 - Might caused by firmware incompatibility, contact us to update firmware
 - Confirm with us if the BM can be replaced in case firmware update can't solve the issue



APX Battery PM DOA

- **On Server page, can't see PM and BM**
 - Check communication port on inverter
 - Change communication cables between inverter and PM for several times, try use communication cables which are not from Growatt if changing with Growatt cables doesn't work
 - Exchange PM
 - Change communication cables between PM and BM for several times if problem still exists
 - Exchange inverter
 - After our confirmation, replace it and send RMA if problem still exists

*Exchange: change with your sale use device

*Replace: device from Growatt



Fault Code 409

- Reach us, it might be solved by updating the firmware
- After our confirmation if update can't solve this problem, replace it and send RMA



Stuck on 60 seconds countdown

- Double-check if country setting is correct
- Send us the measured voltages for PV and AC side
- After our confirmation, replace it and send RMA if problem still exists

4G dongle only blinks red

- Check if 4G SIM card is inserting correctly
- Check if 4G SIM card's balance is sufficient
- Contact the 4G supplier if SIM card is working properly

Indication of LED status

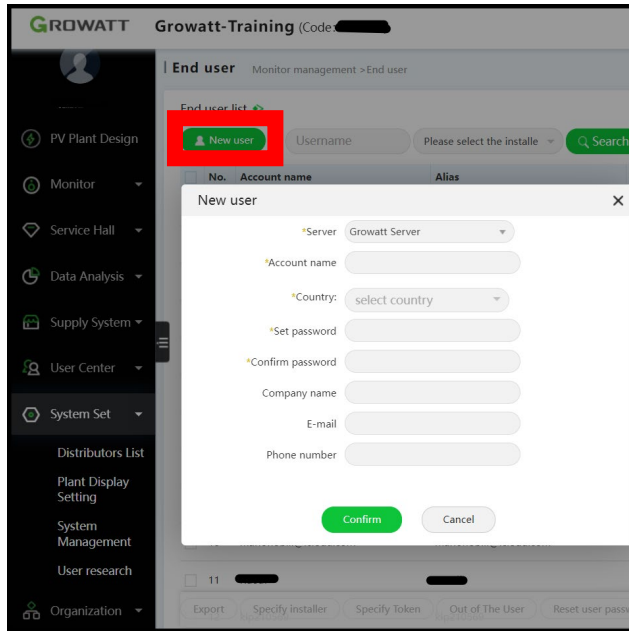
LED Flashing status	Working status
LED off	Communication abnormal
Red LED flash	Communication with inverter is good and it is connecting to server now
Green LED flash	The communication with inverter is abnormal and the communication with server is good
Blue LED flash	Communication good



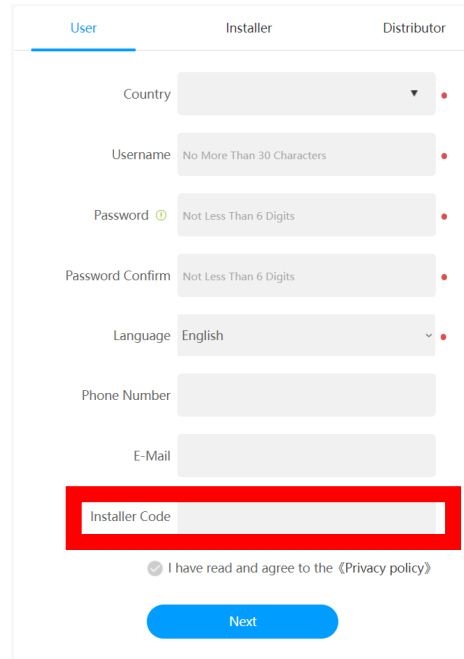
CT meter shows faulty values

- Check if CT clamp is from Growatt
- Double-check meter wirings especially the correctness of phases and meter installed position
- Make sure the arrow on CT clamp is facing the load side
- Check if meter address and baudrate is correct for single-phase or three-phase
- Contact us if problem still exists

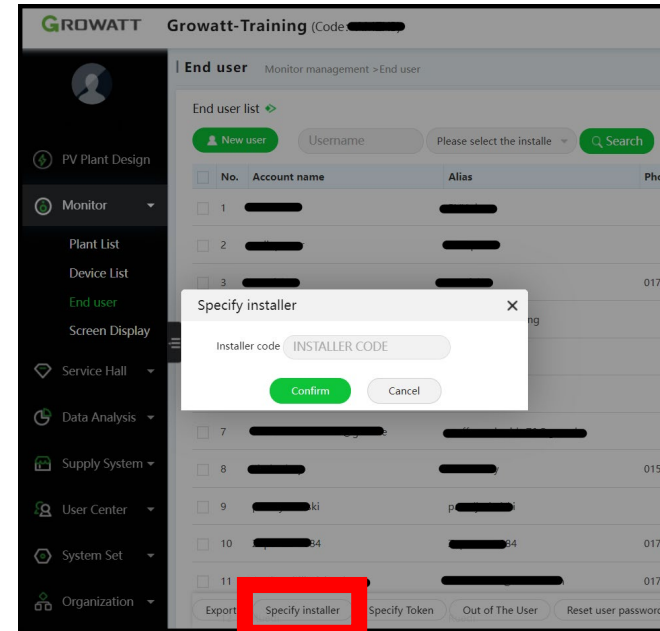
Register end user accounts



User registration by the installer & APOs; s OSS account



The user can register with the installer code on the shine Server



The installer code can be subsequently changed to existing account

Reset user password

GROWATT

Growatt-Training

Full screen display

English

Logout

End user

Monitor management > End user

End user list

Parameter display: (5/6)

New user

Username

Please select the installer

Search

No.	Account name	Alias	Phone number	E-mail	Registration date	Number of device	Number of plant	Operating Tools
1				de	2023-07-14	1	1	
2				b.de	2023-07-14	1	1	
3					2023-07-13	1	1	
4					2023-07-13	1	1	
5					2023-07-13	1	1	
6					2023-07-13	1	1	
7				st	2023-07-13	1	1	
8				e	2023-07-13	1	1	
9	ski	ski		p	2023-07-13	1	1	
10	4			i	2023-07-12	1	1	
11	m			n	2023-07-12	3	1	

Export

Specify installer

Specify Token

Out of The User

Reset user password

Previous

1

2

3

4

5

...

119

Next

To

1

page

Confirm

Tips

Confirm reset password?

Confirm

Cancel

If there are any problems, an error message will be displayed in the ShinePhone app. The errors can be divided into **system errors** and **inverter errors**. A description of the error codes can be found in each operation manual for Growatt products.

Please keep the following information ready when you contact Growatt Support:

- **Serial number**
- Model number
- error code
- mains voltage
- DC input voltage
- has this problem occurred in the past?
- what were the environmental conditions when the problem occurred?

Example subject: MOD 10KTL3-XH error 217, SN: GRT12345

If the device needs to be replaced, please send it in the original packaging. (e.g. OVP from the replacement device)

SPH: connection of the ARK-HV battery system

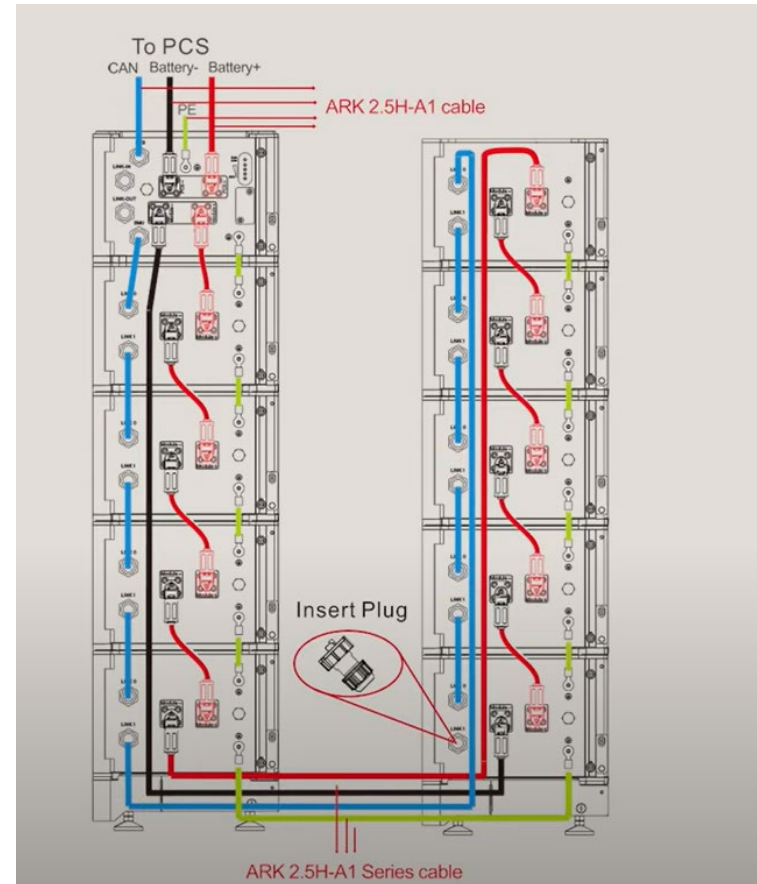
Communication between battery modules: link 1 (top) to link 0 (below).

Battery modules are connected in series.

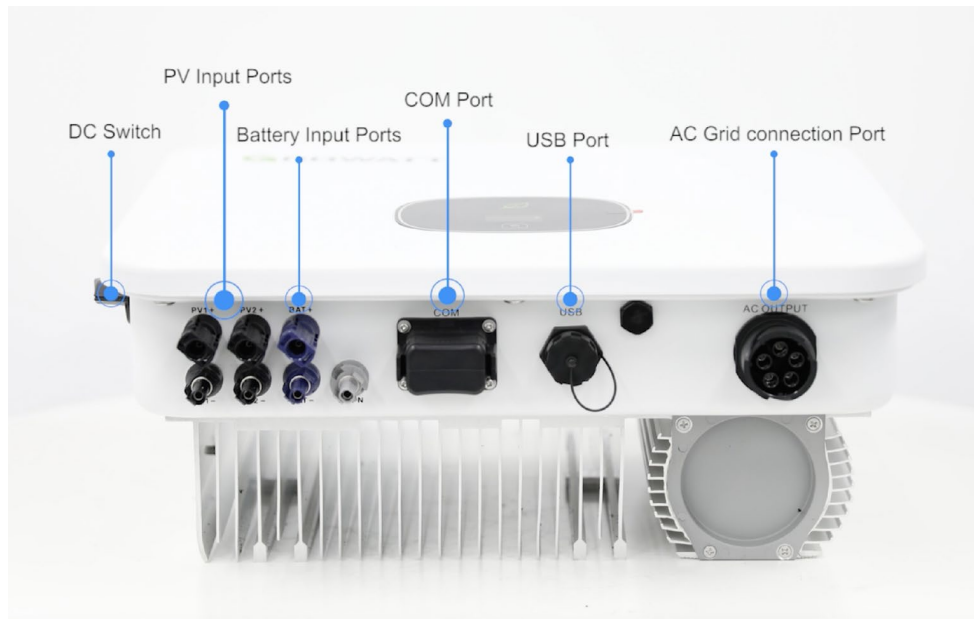
Last battery must be connected with final resistor (plug)

Video for installation of the complete system is available via YouTube channel:

<https://www.youtube.com/watch?v=HKsKh4-WGeg>



MOD 3-10KTL3-XH (BP) connections



DC switch to switch on and off

Battery input ports

PV input connections

USB port for monitoring accessories and
firmware upgrade

COM connection for communication with the
battery system, the smart meter and the
backup box

Connection for AC mains connection

Eastron 1- & 3-phase

Chint 1- & 3-phase

Both are also available in CT format. Please avoid if possible.

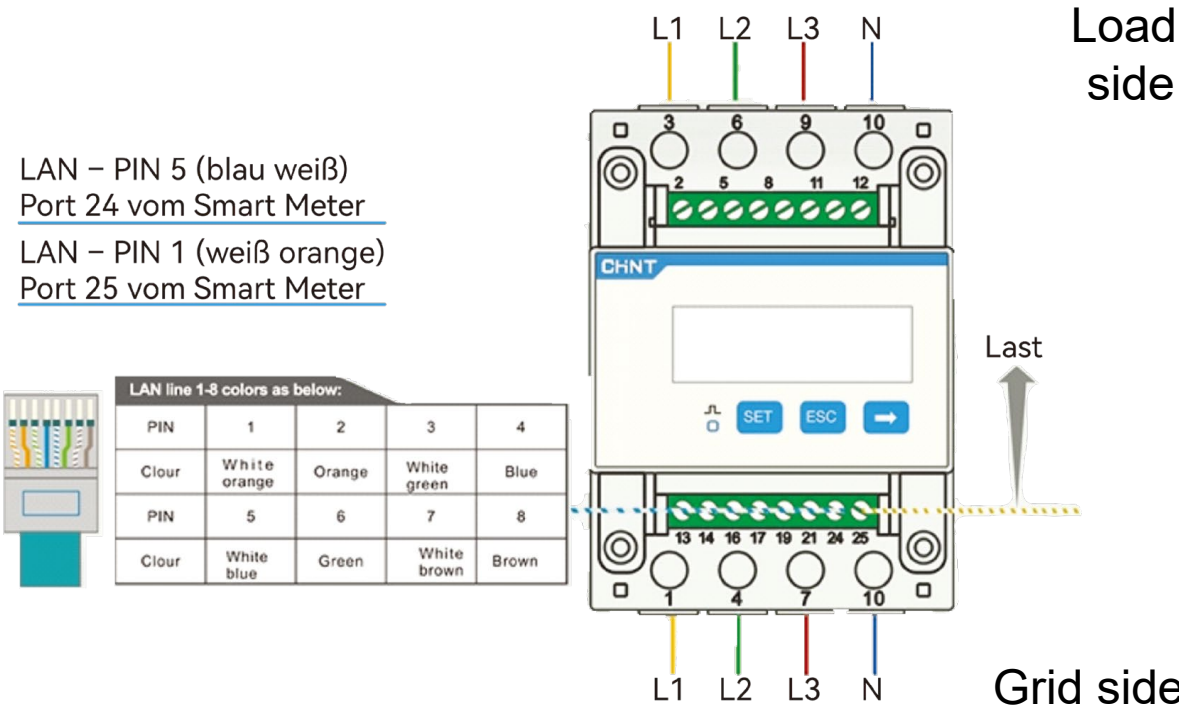
Make sure to use an original growatt Smart meter, otherwise the growatt specific communication protocol is missing

Installation of the Smart meter not directly after the inverter: -)



Eastron	SDM630V2	TPM
	SDM630CT	TPM CT
Chint	DTSU666	TPM
	DTSU666CT	TPM CT

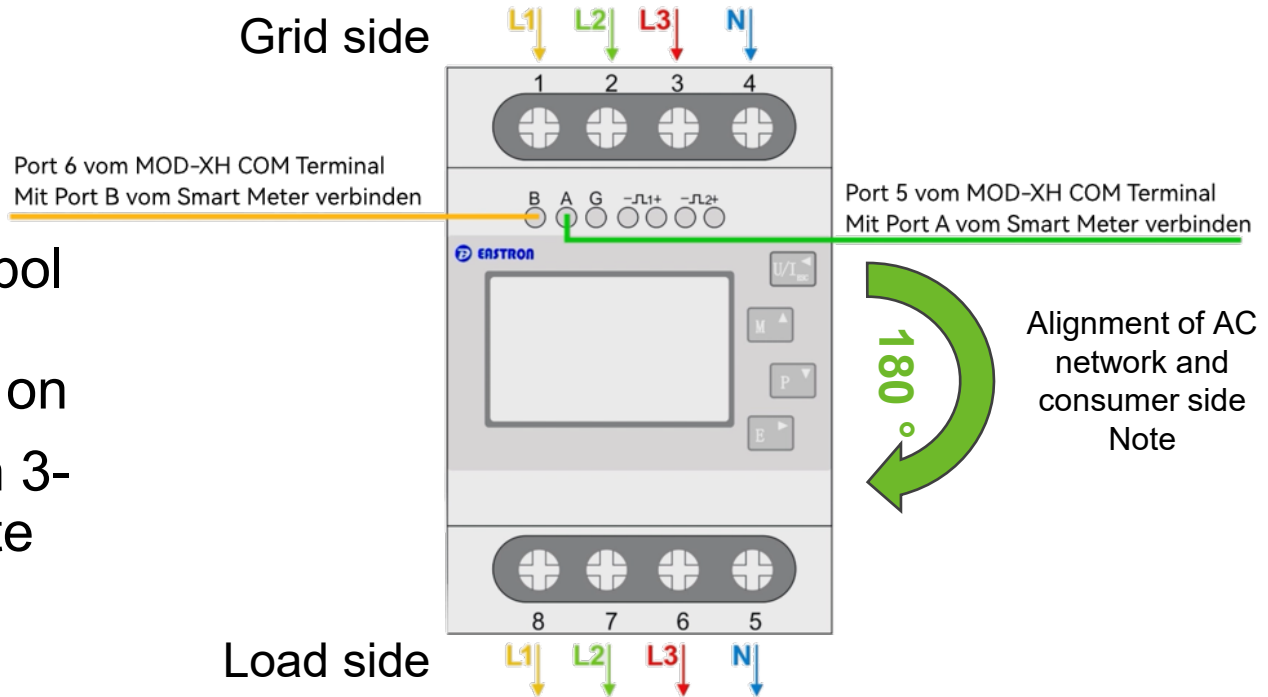
Smart meter connection-Chint



The standard communication line between counter and inverter is 15 m. If required, growatt offers the RS485-A and RS485-B connection branch for the counter.

Smart meter connection-EASTRON

Telephone symbol
means
communication on
Setting: Eastron 3-
phase: baud rate
9600 address 2



The standard communication line between counter and inverter is 15 m. If required, growatt offers the RS485-A and RS485-B connection branch for the counter.

Enable Smart meter

Set Inverter

Off-grid function setting ▾

Regulation parameter setting ▾

Q(V)setting ▾

Time of Use Setting ▾

Export limit setting ▴

☒ Set Exportlimit Off ▴

☐ Default Power After Exportlimit Failure Off ▴ %

☐ Phase level Enable Meter ▴

☐ Set Inverter On/Off Boot ▾

☐ Time Slot 1 Battery First ▾ 09 : 00 ~ 23 : 59 On ▾

Yes No

Set inverter

☐ Set Reactive Power Ratio 1 Pf Fixed 1 ▾ Not Memory ▾

☐ Set Inverter Time 2023-06-23 11:07:27

☒ Dynamometer Electric Meter ▴

☐ Pre PTO Not Choose

☐ Cv Voltage Electric Meter (38~58V)

☐ Cc Current 60 (0~60A)

☐ Working Mode Default ▾

☐ Grid Type Three Phase ▾

☐ Lcd Language German ▾

☐ Restore Factory Settings Restore Factory

Point 1 (Powerpercent Pflinpoint) 255 1 0

Yes Cancel

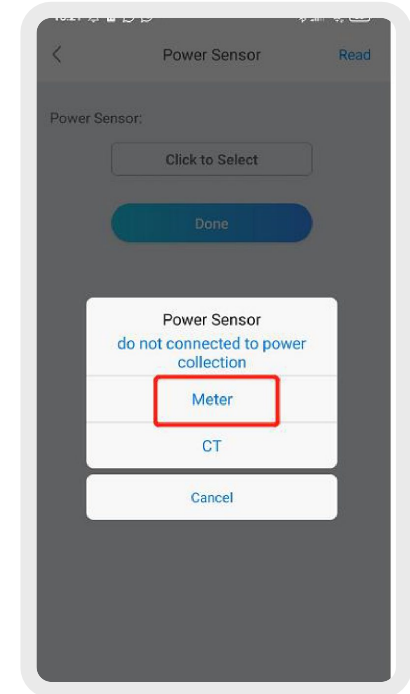
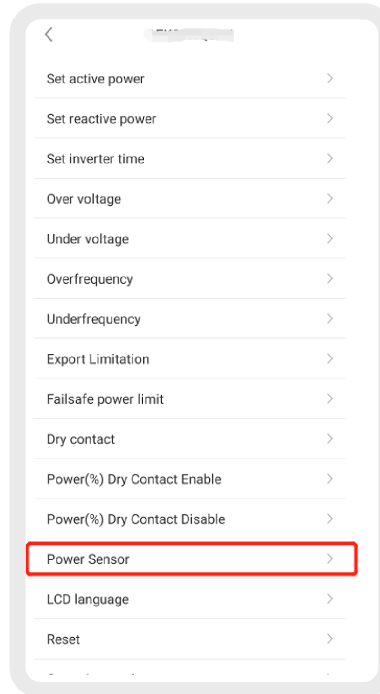
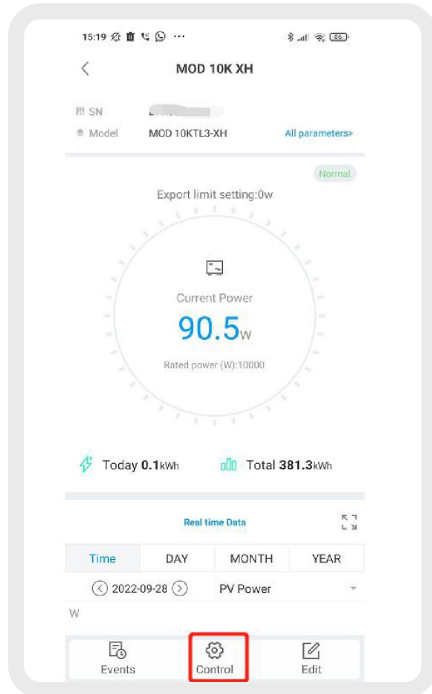
Step 1: Set export limit to Off, save with Yes,

Step 2: Select "Electricity meter" under "Dynamometer" and confirm with "Yes" (BSP: MOD XH)

Info: The export limit function can also activate the electricity meter

Enable smart meter via app

The password is "growatt + todays date (yyyymmdd)",
For today: 13.03.2025-> password is: growatt20250313



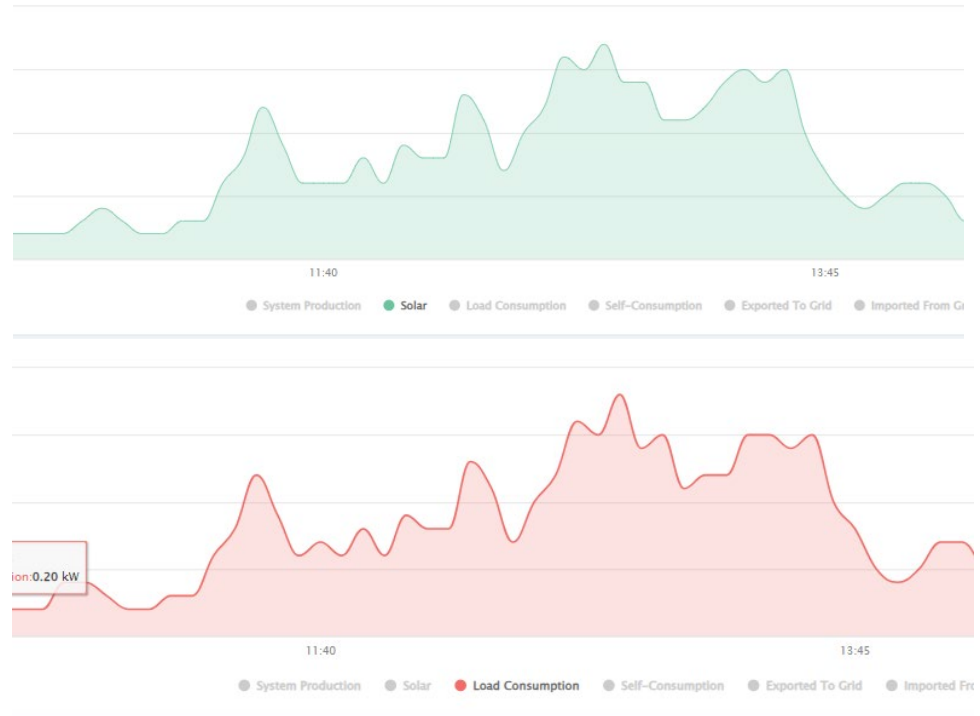
- 1. Confirm that the smart meter is a Growatt smart meter. Our smart meters will be labeled.
- 2. Basic photos and videos: Display with smart meter cable connected/disconnected. The pictures must show whether there is a telephone symbol on the screen, how the communication cables are connected and in which direction the power connection is made (please mark on the pictures)
- 3. Check the communications cable connections. Check whether the cable connection between the smart meter and the inverter is correct.
- 4. Check the setting of the smart meter parameters: Settings can be found in the user manual of the smart meter. For the 1-phase Easton smart meter, the baud rate is 9600 and the COM address is 001. For the 3-phase Easton smart meter, the baud rate is 9600 and the COM address is 002. For the 1-phase CHINT smart meter, the baud rate is 9600 and the COM address is 003. For the 3-phase CHINT smart meter, the baud rate is 9600 and the COM address is 004.
- 5. Measure the voltage of the smart meter. The voltage between RS48-A & -B should be around 3-5V.

Content	Instruction
NO. bAUD 3	Means the current communication baud rate is 9600.

Chint 1-Phase

Production and consumption follow identical paths

- Smart meter setting: address, baud rate...
- Connect smart meter position directly after the house meter
- Connect the grid and load correctly.



5

Parallel connection and ShineMaster



Monitoring devices for parallel operation

ShineMaster LAN and 4G version

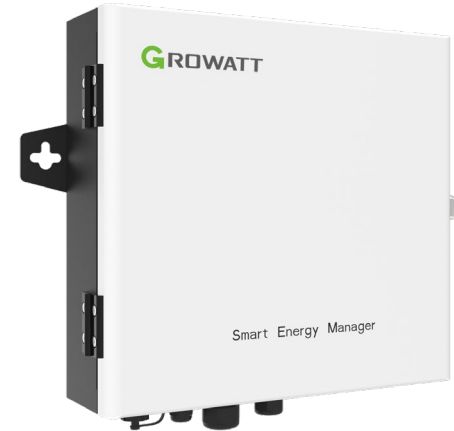
- RS485 communication up to 100 m
- Supports remote maintenance
- Up to 64 inverters without smart meters
- Up to 32 inverters with smart meters



ShineMaster / -
4G

Smart Energy Manager

ShineMaster and Smart Meter integrated
Up to 32 inverters



Smart Energy
Manager

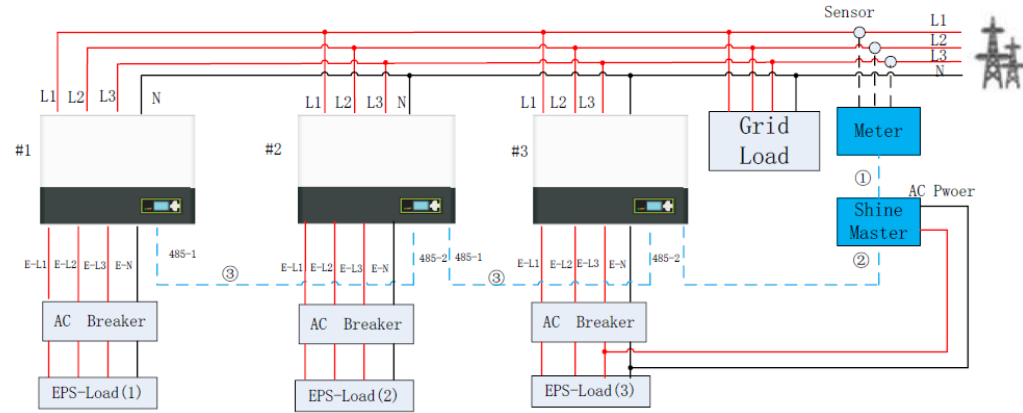
Communication wiring for parallel connection

WR->WR in master / slave principle
485-1 to 485-2.

WR-> ShineMaster 485-1 (pin 5)->
A1 485-1 (Pin4)-> B1

Shine Master-> Smart meter A2- > A
+ B2- > B-

SPH 4000-10000TL3 BH-UP models in parallel diagram

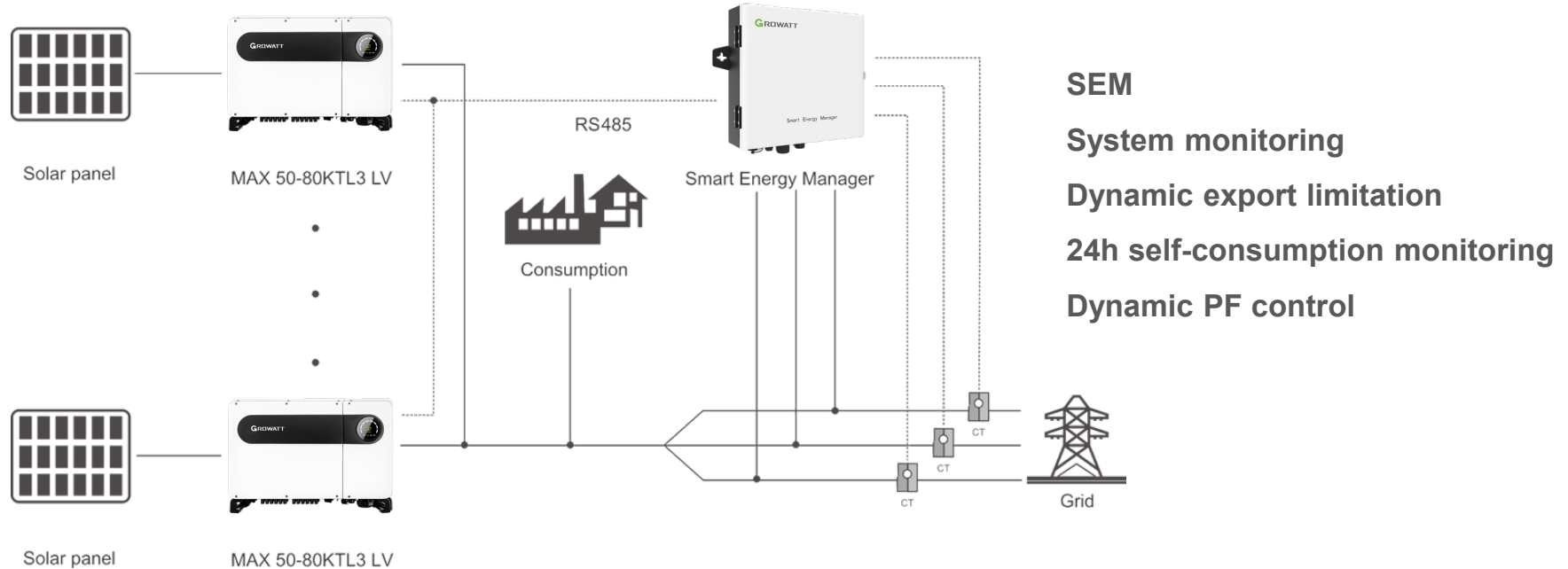


Wiring Instructions:

No.	Terminal Position	Description
①	Meter: A+ to ShineMaster: A2 Meter: B- to ShineMaster: B2	Use ordinary Network cables
②	ShineMaster: A1 to 485-1: Pin5 ShineMaster: B1 to 485-1: Pin4	Use ordinary Network cables
③	Ordinary cable	

Notice:

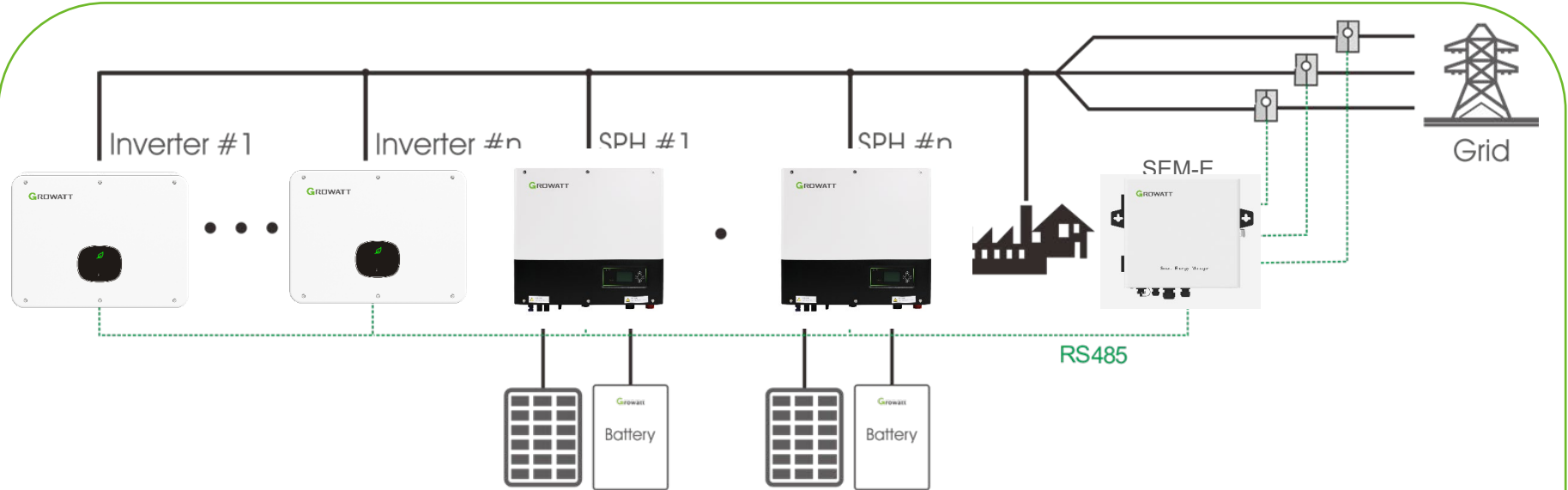
Solution with multiple inverter



* SEM can control a maximum of 32 inverter

Parallel expansion with grid-connected inverters

Multiple storage systems and grid-connected inverters work in parallel

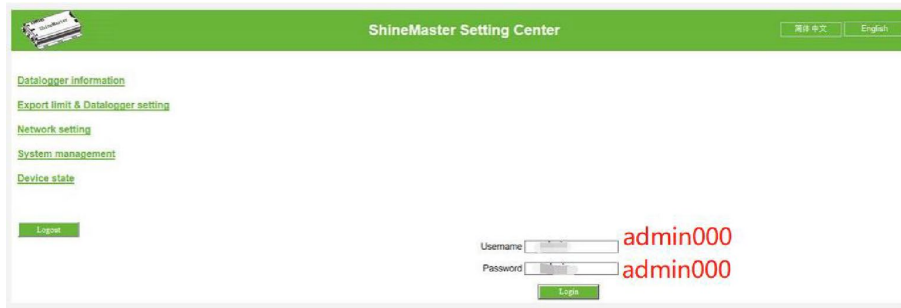


- MOD-X, MID-X in parallel mode (no -XH)
- Maximum 3 SPH-UP with memory ($n \leq 3$)

ShineMaster setting in parallel connection

Export limit & Datalogger setting :

1. Pay attention to meter address
2. Monitoring mode “Storage Parallel”(for parallel memories, otherwise: “none”)
3. RS485-1 communication SPH and ShineMaster



ShineMaster Setting Center

[Datalogger information](#)
[Export limit & Datalogger setting](#)
[Network setting](#)
[System management](#)
[Device state](#)

[Logout](#)

Username: Password:

[Login](#)



ShineMaster Setting Center

[Datalogger information](#)
[Export limit & Datalogger setting](#)
[Network setting](#)
[System management](#)
[Device state](#)

[Logout](#)

Export limit & Datalogger setting

Meter channel	RS485_2
Meter address	2
Monitor mode	☐ NONE ☐ Export limitation ☒ Storage Parallel ☐
Export limit power (kW)	0 (XX Export, -XX Import)
Fallback activated	☐ On ☒ Off
Datalogger time	2021-07-27 14:46:55 Get Local Time
Reactive power regulation	1 ☐ On ☒ Off
Add or delete devices	NULL Add Del RS485_1 Add Del RS485_2 Add Del
SCADA to Vietnam	☐ Yes ☒ No
Update firmware	☐ Yes ☒ No
Reboot	☐ Yes ☒ No

[Save](#) [Cancel](#)

Select the communication interface between SPH and shinemaster

ShineMaster setting in parallel connection

4. Select "Inverter".

ShineMaster Setting Center

Export limit & Datalogger setting

Meter channel	RS485_2
Meter address	2
Monitor mode	☐ NONE ☒ Export limitation ☐ Storage Parallel
Export limit power (kW)	0 (XX Export, -XX Import)
Fallback activated	☐ On ☒ Off
Datalogger time	2021-07-27 14:46:55 Get Local Time
Reactive power regulation	☐ On ☒ Off
Add or delete devices	RS485_1 Add Del
SCADA to Vietnam	☐ On ☒ Off
Update firmware	☐ Yes ☒ No
Reboot	☐ Yes ☒ No

INVERTER
SDM120
SDM130
BatteryBox
WaterStation
CHNT_DT8U
CHNT_DT8U
GTT_INVERTER
GTT_POWER
DTL36A
DTL645
TW_CS1-T
TW_CS1-VA
DSM_04G1
JP_SAGDA
MS_60

Select inverter

5. Setup the communication address

Example: With 3 parallel systems:
First inverter gets address 1,
second 2 and third 3

ShineMaster Setting Center

Export limit & Datalogger setting

Meter channel	RS485_2
Meter address	2
Monitor mode	☐ NONE ☒ Export limitation ☐ Storage Parallel
Export limit power (kW)	0 (XX Export, -XX Import)
Fallback activated	☐ On ☒ Off
Datalogger time	2021-07-27 14:46:55 Get Local Time
Reactive power regulation	☐ On ☒ Off
Add or delete devices	RS485_1 Add Del
SCADA to Vietnam	☐ On ☒ Off
Update firmware	☐ Yes ☒ No
Reboot	☐ Yes ☒ No

1 2

Assign communication address to SPH

Save Cancel

3

ShineMaster setting in parallel connection

Communication Smart meter and ShineMaster

Select RS485-2

Select the appropriate Smart meter

Select the communication address according to the Smart meter:

Meter	The corresponding address in ShineMaster
SDM 120/SPM-E/SPM-CT-E	1
SDM 630/TPM-E/TPM-CT-E	2
Acrel Meter	2
CHNT DDSU series	3
CHNT DTSU series	4

ShineMaster Setting Center

Export limit & Datalogger setting

Meter channel: RS485_2

Meter address: 2

Monitor mode: ☐ NONE ☒ Export limitation ☐ Storage Parallel

Export limit power (kW): 0 ☐ (XX)Export, ☒ (XX)Import

Fallback activated: ☐ On ☒ Off

Datalogger time: 2021-07-27 14:46:55

Reactive power regulation: ☐ On ☒ Off

Add or delete devices: RS485_1 RS485_2

SCADA to Vietnam: ☐ On ☒ Yes ☐ No

Update firmware: ☐ Yes ☒ No

Reboot: ☐ Yes ☒ No

ShineMaster Setting Center

Export limit & Datalogger setting

Meter channel: RS485_2

Meter address: 2

Monitor mode: ☐ NONE ☒ Export limitation ☐ Storage Parallel

Export limit power (kW): 0 ☐ (XX)Export, ☒ (XX)Import

Fallback activated: ☐ On ☒ Off

Datalogger time: 2021-07-27 14:46:55

Reactive power regulation: ☐ On ☒ Off

Add or delete devices: RS485_1 RS485_2

SCADA to Vietnam: ☐ On ☒ Yes ☐ No

Update firmware: ☐ Yes ☒ No

Reboot: ☐ Yes ☒ No

There are three kinds of meters used by SPH series models, sdm120 (single-phase meter); Sdm630 (three-phase electricity meter); Acrel meter (split phase meter, special for sph-us)

ShineMaster setting in parallel connection

Set the address according to the SmartMeter.

ShineMaster Setting Center

[Datalogger information](#)
[Export limit & Datalogger setting](#)
[Network setting](#)
[System management](#)
[Device state](#)

Logout

Export limit & Datalogger setting

Meter channel	RS485_2
Meter address	2
Monitor mode	☐ NONE ☒ Export limitation ☐ Storage Parallel ☐
Export limit power (kW)	0 (XX Export, -XX Import)
Fallback activated	☐ On ☒ Off
Datalogger time	2021-07-27 14:46:55 Get Local Time
Reactive power regulation	☐ On ☒ Off
Add or delete devices	RS485_1 Meter ☒ Add ☐ Del
SCADA to Vietnam	☐ On ☒ Off
Update firmware	☐ Yes ☒ No
Reboot	☐ Yes ☒ No

Save Cancel

3

Please fill in the corresponding address according to the model of the meter

1 2

Thank you !

Hvala!



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🔍 Growatt New Energy



Customer Training Satisfaction Survey



打开手机扫一扫

We are pleased that we can help many customers and are always striving to improve us in order to offer you a good experience.

Let us know how satisfied you were with our employees. If you were satisfied, we would ask you to take a little time to write a review on Google or Trustpilot to help us and other customers looking for GROWATT and technical support.

One click is enough. Thank you very much.