



WIT 29.9-50K-XHU Hybrid Inverter User Manual

Contents

1	Notes on this manual	. 1
	1.1 Introduction	1
	1.2 Target Group	1
	1.3 Product Range	1
2	Safety Precautions	. 2
	2.1 Safety Instructions	2
	2.2 Symbol Conventions	4
	2.3 Label Description	5
3	Product Description	. 6
	3.1 Overview	6
	3.2 Basic Data	8
	3.3 Nameplate	10
	3.4 Operating Principle of WIT 29.9-50K-XHU	11
	3.5 Storing the WIT Inverter	12
	3.6 Supported Grid Types	12
	3.7 AFCI Function	12
	3.7.1 AFCI Function Description	12
	3.7.2 Clearing the alarm	13
	3.8 Anti-PID Function	14
4	Inspection upon delivery	15
5	Installation	16
	5.1 Basic Installation Requirements	16
	5.2 Installation Environment Requirements	17
	5.3 Moving the WIT Inverter	19
	5.4 Wall Mount Bracket Installation	20
	5.5 Installing the Inverter	21
6	Electrical Connections	23
	6.1 Connecting the Ground Cables	30
	6.2 Connection on the AC Side	31
	6.3 Connection on the PV Side	35

6.4 Connection on the Battery Side	
6.4.1 Connecting the Main Power Cable of the Battery	
6.4.2 Connecting the Battery BMS-AC Terminal	
6.5 Connecting Communication Cables	
6.5.1 COM1 Connection	
6.5.2 COM2 Connection	
6.5.3 USB connection	
6.6 Post-installation Checks	
7 Commissioning	51
7.1 Commissioning the WIT Inverter	51
7.1.1 Set the Communication Address	51
7.1.2 Set the Time and Date	51
7.2 Mode of operation	
7.2.1 Waiting Mode	
7.2.2 Operating Mode	
7.2.3 Fault Mode	60
7.2.4 Shutdown Mode	60
7.3 LED and OLED Display Panel	60
8 Monitoring	64
8.1 Remote Monitoring	
8.1.1 Remote Monitoring on the APP (ShinePhone)	
8.1.2 Remote Monitoring on the ShineServer Webpage	85
9 System Maintenance	118
9.1 Routine Maintenance	
9.1.1 Clean the Chassis	
9.1.2 Fan Maintenance	
9.2 Troubleshooting	
9.2.1 Warning	
9.2.2 Error	
10 Product Specifications	

11 Decommissioning the WIT Inverter		
12 Warranty		
12.1 Conditions		
12.2 Disclaimer		
13 Contact Us		

1 Notes on this manual

1.1 Introduction

This manual is intended to introduce the WIT 29.9-50K-XHU Hybrid Inverters manufactured by Shenzhen Growatt New Energy Co., Ltd. (hereinafter referred to as Growatt) in terms of their installation, operation, commissioning, maintenance and troubleshooting. Please read this manual carefully before using the product, and keep it in a convenient place for further reference. The content of this manual is continually reviewed and amended, where necessary. Growatt reserves the right to make changes to the material at any time and without notice.

Note:

"WIT" refers to the product name. "29.9-50K" refers to the power range.

1.2 Target Group

This document is intended for qualified technicians. Only qualified and welltrained technicians are allowed to install and operate the WIT inverter. Should any questions arise during installation, you can visit en.growatt.com to leave a message.

1.3 Product Range

WIT 29.9-50K-XHU (AC 380V/400V) inverters offering five power options: 29.9kW, 30kW, 36kW, 40kW, and 50kW. In total, there are 5 products available in this series. This manual is valid for the following models:

WIT 29.9K-XHU	- 3-Phase Hybrid Inverter with UPS function
WIT 30K-XHU	
WIT 36K-XHU	
WIT 40K-XHU	
WIT 50K-XHU	

Table 1.1 \	WIT 29.9-50K-XHU	series model	introduction
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Safety Precautions 2

2.1 Safety Instructions

- 1) Please read this manual carefully before installation. Damages caused by failure to follow the instructions in the manual are beyond the warranty scope.
- 2) Only qualified and trained electrical technicians are allowed to perform operations on the WIT Inverter.
- 3) During installation, please do not touch other parts inside the equipment other than the wiring terminals.
- 4) Ensure that all electrical connections comply with local electrical standards.
- 5) Only designated personnel are permitted to perform maintenance on the inverter.
- 6) Before operating the WIT Inverter in on-grid mode, ensure that you have obtained any permission needed from the local grid operator.

Transportation:

	• Risk of injury when lifting the WIT Inverter, or injury caused by a falling inverter as it is heavy. Please transport and lift the inverter carefully.
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Installation:

NOTICE	• Please read this manual carefully before installation. Damages caused by failure to observe instructions specified in this manual are not covered under any warranty.
	• Do not connect any cables before installation.
WARNING	 Please observe the installation instructions specified in this manual, including the installation environment and clearance requirements. Install the WIT Inverter in a dry and well-ventilated location; otherwise, performance de-rate may be initiated due to excessive temperature. Please read the installation instructions and safety precautions carefully before installation.

Electrical Connections:

DANGER	 Before connecting cables, ensure that the PV SWITCH of the WIT Inverter are OFF, and turn off the switch and breaker on the AC side and the battery side. Otherwise, high voltages may cause severe injuries. It must be operated by qualified and trained electrical technicians. Technicians should observe instructions in this manual and local regulations. High voltages may cause electric shocks and serious injury. Please do not touch the WIT Inverter in operation. Do not install the inverter in potentially explosive and flammable atmospheres.
WARNING	 Each WIT Inverter must be equipped with an AC circuit breaker. Multiple WIT Inverters cannot connect to the same AC circuit breaker. Do not connect the load between the WIT Inverter and the circuit breaker. If the cable is thick, do not shake the cable terminals after tightening them. Otherwise, the loose connection may cause overheating and device damage. Ensure that the terminals are properly connected before starting the WIT Inverter. Ensure the correct polarity of the terminals before connecting the PV array to the WIT Inverter.

Maintenance and replacement:

DANGER	 It must be operated by qualified and trained electrical technicians. Technicians should observe instructions in this manual and local regulations. After turning off the DC switches and the AC breakers, wait for at least five minutes before performing any operations to avoid risks. When the OLED screen indicates "PV Isolation low", do not touch the chassis as a ground fault may have been detected. Beware of high voltages which may cause electric shocks.
	 To ensure good dissipation, clean the fan regularly. Do not use the air pump to clean the fan. Otherwise, the fan may be damaged.

Others:

i	• Upon receiving the product, check if the contents are intact and complete. If any damage is found or any component is missing, please contact your distributor.
	 The maximum PV input voltage cannot exceed 1100V. The battery input voltage cannot exceed 900V. For the WIT Inverter that will not be put into operation in the future, you should properly dispose of them by yourself.

2.2 Symbol Conventions

Symbol	Description
DANGER	DANGER indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.
	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	CAUTION indicates a hazard with potential risk which, if not avoided, could result in minor or moderate injury.
NOTICE	NOTICE indicates that under certain circumstances, improper operations could result in property damage.
i	Remind operators to check the instructions before installing or operating the WIT Inverter.

2.3 Label Description

Symbol	Name	Meaning
A	High voltage	High voltages exist after the WIT Inverter is powered on. Only qualified and trained electrical technicians are allowed to perform operations.
	Burn warning	Do not touch a running inverter because it generates high temperatures on the shell.
	Grounding	Indicates the position for connecting the PE cable.
	Delay discharge mark	Residual voltage exists after the WIT Inverter is powered off. It takes 5 minutes to discharge to the safe voltage.
i	Refer to the manual	Remind operators to refer to the manual before installing and operating the WIT Inverter.
	DC	Direct Current.
\sim	AC	Alternating Current.

Product Description 3



The front view and the bottom view of all models are identical.

3.1 Overview

Front view:



Fig 3.1 Front view

Bottom view:



Fig 3.2 Bottom view

Left view:



Fig 3.3 Left view of WIT 29.9-50K-XHU

Right view:



Fig 3.4 Right view of WIT 29.9-50K-XHU

No.	Description	No.	Description
А	Display	В	Right cover plate
С	Left corner guard	D	Right corner guard
E	Load wiring terminal	F	Power grid connection terminal
G	Generator connection terminal	Н	Battery power supply terminal (BMS AC)
I	Grounding bar	J	PV Switch
к	PV terminal	L	COM1 (RJ45*9)
М	USB interface	N	COM2 (4-pin terminal)
0	Battery terminal	Ρ	Fan
Q	Heat sink	R	Indicator description label
S	Nameplate		

Table 3.1 Component description

3.2 Basic Data

Table 3	.2 Dimen	sions and	weight
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	Model	Size (mm)			Weight	
	Model	Height	Width	Depth	(kg)	
The WIT Inverter without package	WIT 29.9-50K-XHU	585	920	320	92kg	
The WIT Inverter with package	WIT 29.9-50K-XHU	500	1080	765	106kg	







Fig 3.6

3.3 Nameplate

The figure below shows the nameplate of WIT 50K-XHU as an example. The nameplate figure is for reference only. The actual nameplate prevails. For the specifications, please refer to Section 10 Product Specifications.

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WIT 50K-XHU PV Data Max. PV voltage range 1100 d.c. \ PV lsc 50 d.c. \ Max. input current 40 d.c. \ Max. input/output power 100/50 kV Max. input/output outpower 100/55 kV Max. input/output apparent power 110/55 kV Max. input/output current 166.7/83 3 a.c. Nominal voltage 1166.7/83 3 a.c. Max. continuous AC passthrough 200 a.c. / Power factor range 1 leading~1 leadi	WIT 50K-XHU PV Data Max. PV voltage PV voltage range PV voltage range PV voltage range PV sc Max. input current AC Data Nominal input/output power Max. input/output apparent power Nominal voltage Max. input/output current 1 Max. continuous AC passthrough Load Data Nominal AC output voltage Nominal AC output frequency Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	1100 d.c.V 180-1000 d.c.V 50 d.c.A*4 40 d.c.A*4 100/50 kW 110/55 kV/ 300/100 a.c.V 230/400 a.c.V 50/60 Hz 200 a.c.A 50/60 Hz 200 a.c.A
PV Data Max. PV voltage range 1100 d.c.V PV visc 50 d.c.A* Max. input current 40 d.c.A* AC Data 100/50 kV Nominal input/output power 1100/55 kV Max. input/output querent 1100/55 kV Nominal voltage 3W/N/PI 230/400 a.c.1 200/400 a.c.1 Nominal voltage 1166.7/83.3 a.c. Nominal frequency 50/60 H; Power factor range 1 leading~1 leading~1 leading~1 leading~1 Nominal AC output power 230/400 a.c.1 Nominal AC output power 200 a.c.4 Nax. continuous GEN passthrough 200 a.c.4 Battery Data Battery Data Battery voltage range 200-900 d.c.V Max. charging and discharging current 55 d.c.A*3 Type of battery Lithium-ior General Data Safety level Class Ingress protection IP6 Operation ambient temperature -30°C - +60°C	PV Data Max. PV voltage PV vlacge range PV vlacge range PV vlacge range PV vlacge range Max. input current Max. input/output power Max. input/output power Nominal input/output current power Nominal voltage Max. input/output current 1 Nominal frequency Power factor range 1 Max. continuous AC passthrough Max. continuous AC passthrough Nominal AC output voltage Nominal AC output frequency Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	1100 d.c.V 180-1000 d.c.V 50 d.c.A*4 40 d.c.A*4 100/50 kW 110/55 kV/ 30/400 a.c.V 50/60 Hz 200 a.c.A 50/60 Hz 200 a.c.V 50/60 Hz 200 a.c.V 50/60 Hz 200 a.c.V
Max. PV voltage 1100 d.c. V PV voltage range 180-1000 d.c. V PV Isc 50 d.c. A* Max. input/output power 100/50 kV Max. input/output power 1100/55 kV Max. input/output current 166.7/83.3 a.c./ Nominal voltage 200/400 a.c./ Nominal requency 50/60 H; Power factor range 1 leading~1 leading~1 leading~1 laggin Max. continuous AC passthrough 200 a.c./ Nominal AC output power 50/60 H; Nominal AC output requency 50/60 H; Max. continuous GEN passthrough 200 a.c./ Battery Data Battery Data Battery voltage range 200-900 d.c./ Max. charging and discharging current 55 d.c.A*3 Type of battery Lithium-ior General Data Safety level Ingress protection IP6 Operation ambient temperature -30°C - +60°C Integr	Max. PV voltage PV voltage range PV visc Ax. input current AC Data Nominal input/output power Max. input/output power Nominal voltage Max. input/output current Nominal frequency Power factor range I lea Max. continuous AC passthrough Load Data Nominal AC output yoltage Nominal AC output voltage Nominal AC output requency Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	1100 d.c.V 180-1000 d.c.V 50 d.c.A*4 40 d.c.A*4 100/50 kW 110/55 kV/ 300/400 a.c.V 50/60 Hz 200/400 a.c.V 50/60 Hz 200/400 a.c.V 50/60 Hz 200 a.c.A
PV voltage range 180-1000 d.c. 1 PV isc 50 d.c. A* Max. input current 40 d.c. A* AC Data Nominal input/output power Max. input/output aparent power 100/50 kW Nominal input/output aparent power 110/55 kW Max. input/output aparent power 110/56 kW Nominal voltage 30/400 a.c. Max. input/output current 166 //8.3 a.g. Nominal frequency 50/60 H Power factor range 1 leading~1 leading~1 leading~1 leading~1 Nominal AC output power 50 kW Nominal AC output ovitage 230/400 a.c. Nominal AC output ovitage 230/400 a.c. Max. continuous GEN passthrough 200 a.c.A Battery Data Battery Data Battery ovitage range 200-900 d.c.V Max. charging and discharging current 55 d.c.A*3 Type of battery Lithium-ior General Data Safety level Integrated with AFCI Class Max. charging approxem C C C Smin C C C	PV voltage range PV Isc Max. input current AC Data Nominal input/output power Max. input/output apparent power Nominal voltage Max. input/output current Nominal frequency Power factor range 1 lea Max. continuous AC passthrough Load Data Nominal AC output frequency Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	180-1000 d.c.V 50 d.c.A*4 40 d.c.A*4 100/50 kW 110/55 kW 110/55 kW 230/400 a.c.V 367/83.3 a.c. <i>f</i> 50/60 Hz 200 a.c.A 50 kW 230/400 a.c.V 50 kW 230/400 a.c.V 50/60 Hz 200 a.c.A
PV isc 50 d.c.A* Max. input current 40 d.c.A* AC Data 100/50 kV Nominal input/output power 100/50 kV Nominal input/output apparent power 110/55 kV Nominal voltage 30/400 a.c. Max. input/output current 166.7/83.3 a.c./ Nominal frequency 50/60 H Power factor range 1 leading~1 lea	PV Isc Max. input current AC Data Nominal input/output power Max. input/output apparent power Nominal voltage Max. input/output current Nominal frequency Power factor range Max. continuous AC passthrough Load Data Nominal AC output yower Nominal AC output voltage Nominal AC output requency Max. continuous GEN passthrough Battery Data Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	50 d.c. A*4 40 d.c. A*4 100/50 kW 110/55 kW 230/400 a.c. V 56.7/83.3 a.c. <i>f</i> 50/60 H2 200 a.c. A 200 a.c. A 50/60 d.c. V 50/60 d.c. A 200 a.c. A
Max. input current 40 d.c. A*a AC Data Nominal input/output power 100/50 kV Max. input/output apparent power 110/55 kV. Nominal voltage 330/400 a.c. Max. input/output current 166.7/83.3 a.c./ Nominal frequency 50/60 H Nominal AC output power 50 kM Nominal AC output voltage 230/400 a.c. Max. continuous GEN passthrough 200 a.c.A Battery Data Battery voltage range 200-900 d.c.V Max. charging and discharging current 55 d.c.A*3 Safety level Class Ingress protection IP6 Operation ambient temperature -30°C - +60°C Integrated with AFCI	Max. input current AC Data Nominal input/output power Max. input/output apparent power Nominal voltage Max. input/output current Nominal frequency Power factor range Max. continuous AC passthrough Load Data Nominal AC output voltage Nominal AC output requency Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	40 d.c. A*4 100/50 kW 110/55 kV/ 33W/N/PE 230/400 a.c.V 50/60 Hz 200 a.c.A 50/60 Hz 200 a.c.V 50/60 Hz 200 a.c.A 200 a.c.A
AC Data Nominal input/output power Max. input/output apparent power Max. input/output apparent power Nominal voltage 230/400 a.c. Max. input/output current Nominal frequency Max. continuous AC passthrough 200 a.c.4 Load Data Nominal AC output voltage Load Data Nominal AC output requency Max. continuous GEN passthrough 200 a.c.4 Battery Data Battery voltage range 200-900 d.c.V Max. charging and discharging current Type of battery Class fafety level Class fafety leve	AC Data Nominal input/output power Max. input/output apparent power Nominal voltage Max. input/output current Nominal frequency Power factor range Max. continuous AC passthrough Load Data Nominal AC output voltage Nominal AC output requency Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	100/50 kW 110/55 kW 33W/N/PE 230/400 a.c.V 56.7/83.3 a.c. <i>A</i> 50/60 Hz 200 a.c.N 50 kW 230/400 a.c.V 50/60 Hz 200 a.c.A
Nominal input/output power 100/50 kV Max. input/output apparent power 110/55 kV Nominal voltage 230/400 a.c. Max. input/output current 166.7/83.3 a.c. Nominal frequency 50/60 H Power factor range 1 leading~1 laggin Max. continuous AC passthrough 200 a.c./ Nominal AC output power 50 kW Nominal AC output voltage 230/400 a.c./ Nominal AC output requency 50/60 H Max. continuous GEN passthrough 200 a.c./ Max. charging and discharging current 55 d.c.A*3 Type of battery Lithium-lor General Data Safety level Class Integrated with AFCI Integrated with AFCI Image: Smin Integrated with AFCI Image: Smin	Nominal input/output power Max. input/output apparent power Nominal voltage Max. input/output current Nominal frequency Power factor range Max. continuous AC passthrough Load Data Nominal AC output voltage Nominal AC output requency Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	100/50 kW 110/55 kW 230/400 a.c.V 56.7/83.3 a.c. <i>F</i> 50/60 H2 ding~1 lagging 200 a.c.V 50 kW 230/400 a.c.V 50/60 H2 200 a.c.A
Max. input/output apparent power Nominal voltage 30%/WP 230/400 a.c. Max. input/output current 166.7/83.3 a.c./ Nominal frequency 50/60 H Max. continuous AC passthrough 200 a.c./ Load Data Nominal AC output power 50 kM Nominal AC output voltage 230/400 a.c. Nominal AC output voltage 230/400 a.c. Max. continuous GEN passthrough 200 a.c.A Battery Data Battery Data Battery voltage range 200-900 d.c.V Max. charging and discharging current 55 d.c.A*3 Type of battery Lithium-ior General Data Safety level Class Ingress protection IP6 Operation ambient temperature -30°C - +60°C Integrated with AFCI	Max. input/output apparent power Nominal voltage Max. input/output current 1: Nominal frequency Power factor range 1 lee Max. continuous AC passthrough Load Data Nominal AC output power Nominal AC output voltage Nominal AC output frequency Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	110/55 kV/ 3W/N/PE 230/400 a.c. 56.7/83.3 a.c. 50/60 Hz 200 a.c. 50 kW 230/400 a.c. 50 kW 230/400 a.c. 50/60 Hz 200 a.c.A
Nominal voltage 3WUNPI Max. input/output current 166.7/83.3 a.c./ Nominal frequency 50/60 H Power factor range 1 leading-1 lagging Max. continuous AC passthrough 200 a.c./ Load Data 1 Nominal AC output power 50 kM Nominal AC output youtrage 230/400 a.c. Nominal AC output yower 50 kM Nominal AC output youtrage 230/400 a.c. Nominal AC output youtrage 230/400 a.c. Max. continuous GEN passthrough 200 a.c./ Battery Data Battery Data Battery voltage range 200-900 d.c.V Max. charging and discharging current 55 d.c.A*3 Type of battery Lithium-ior General Data Safety level Safety level Class Ingress protection IP6 Operation ambient temperature -30°C - +60°C Integrated with AFCI Image: Safety level Integrated with AFCI Image: Safety level Safety level Image: Safety level Integrated with AFCI Image: Safety level Safety level Image: Safety level Integrated with AFCI Image: Safety level	Nominal voltage Max. input/output current Nominal frequency Power factor range Load Data Nominal AC output power Nominal AC output voltage Nominal AC output frequency Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	3W/N/PE 230/400 a.c.\ 56.7/83.3 a.c./ 50/60 Hz 200 a.c.A 200 a.c.A 50 kW 230/400 a.c.V 50/60 Hz 200 a.c.A
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Nominal frequency 50/60 H Power factor range 1 leading-1 laggin Max. continuous AC passthrough 200 a.c.f Load Data 1 Nominal AC output power 50 kM Nominal AC output orlage 230/400 a.c.f Max. continuous GEN passthrough 200 a.c.f Max. continuous GEN passthrough 200 a.c.f Max. continuous GEN passthrough 200 a.c.f Battery Data Battery Data Battery voltage range 200-900 d.c.V Max. charging and discharging current 55 d.c.A*3 Type of battery Lithium-ior General Data Safety level Operation ambient temperature -30°C - +60°C Integrated with AFCI Image: Smin Integrated with AFCI Image: Smin Image: Smin Image: Smin	Nominal frequency Power factor range Max. continuous AC passthrough Load Data Nominal AC output power Nominal AC output voltage Nominal AC output frequency Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	50/60 H; 50/60 H; 200 a.c.A 50 kW 230/400 a.c.V 50/60 Hz 200 a.c.A
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Max. continuous AC passthrough 200 a.c./ Load Data Nominal AC output voltage 50/60 Hz Nominal AC output voltage 230/400 a.c./ Max. continuous GEN passthrough 200 a.c./ Battery Data Battery voltage range 200-900 d.c.V Max. charging and discharging current 55 d.c.A*2 Max. charging and discharging current 55 d.c.A*2 Safety level Class Ingress protection IP6 Operation ambient temperature -30°C - +60°C Integrated with AFCI Max. Charging and Class Cee Cee Cee Cee Cee Cee Cee Cee Cee Cee	Max. continuous AC passthrough Load Data Nominal AC output power Nominal AC output voltage Nominal AC output frequency Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	200 a.c.A 50 kW 230/400 a.c.V 50/60 Hz 200 a.c.A
Load Data Nominal AC output power 50 KM Nominal AC output voltage 230/400 a.c. Nominal AC output frequency 50/60 Hz Nax. continuous GEN passthrough 200 a.c.A Battery Data Battery voltage range 200-900 d.c.V Max. continuous GEN passthrough 200-900 d.c.V Statery voltage range Max. charging and discharging current 55 d.c.A*3 Stafety level General Data Class Safety level Class Safety level Class	Load Data Nominal AC output power Nominal AC output voltage Nominal AC output frequency Max. continuous GEN passthrough Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	50 kW 230/400 a.c.V 50/60 Hz 200 a.c.A
Nominal AC output power 50 kW Nominal AC output voltage 230/400 a. c. Nominal AC output frequency 50/60 Hz Max. continuous GEN passthrough 200 a. c. Battery Data Battery Data Battery voltage range 200-900 d.c.V Max. charging and discharging current 55 d.c.A* Type of battery Lithium-ior General Data Safety level Safety level Class Ingress protection IP6 Operation ambient temperature -30°C - +60°C Integrated with AFCI Image: Smin Integrated with AFCI Image: Smin	Nominal AC output power Nominal AC output voltage Nominal AC output frequency Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	50 kW 230/400 a.c.V 50/60 Hz 200 a.c.A
Nominal AC output voltage 230/400 a.c. Nominal AC output frequency 50/60 Hz Max. continuous GEN passthrough 200 a.c. Battery Data Battery voltage range 200-900 d.c.V Max. charging and discharging current 55 d.c.A*3 55 d.c.A*3 Type of battery Class Lithium-ior General Data Class Safety level Class Ingress protection IP6 Operation ambient temperature -30°C - +60°C Integrated with AFCI Image: Some Constraint Integrated with AFCI Image: Some Constraint Some Constraint Constraint	Nominal AC output voltage Nominal AC output frequency Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	230/400 a.c.V 50/60 Hz 200 a.c.A
Nominal AC output frequency 50/60 Hz Max. continuous GEN passthrough 200 a.c.A Battery Data Battery Data Battery voltage range 200-900 d.c.V Max. charging and discharging current 55 d.c.A*3 Type of battery Lithium-ior General Data Safety level Safety level Class Ingress protection IP6 Operation ambient temperature -30°C - +60°C Integrated with AFCI Image: Same Image: Same Image: Same Safety level Class Integrated with AFCI Image: Same Image: Same Image: Same Image: Same Image: Same	Nominal AC output frequency Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	50/60 Hz 200 a.c.A
Max. continuous GEN passthrough 200 a.c.A Battery Data Battery Voltage range 200-900 d.c.V Max. charging and discharging current Type of battery Lithium-ior General Data Safety level Class Ingress protection Operation ambient temperature -30°C - +60°C Integrated with AFCI Centre Content of the co	Max. continuous GEN passthrough Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	200 a.c.A
Battery Data Battery Voltage range Max. charging and discharging current Type of battery General Data Safety level Class Ingress protection Operation ambient temperature -30°C - +60°C Integrated with AFCI Smin C C C C C C C C C C C C C C C C C C C	Battery Data Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	200-900 d c V
Battery voltage range 200-900 d.c.V Max. charging and discharging current Type of battery Lithium-ior General Data Safety level Class Ingress protection IP6 Operation ambient temperature -30°C - +60°C Integrated with AFCI Smin C C C	Battery voltage range Max. charging and discharging current Type of battery General Data Safety level Ingress protection	200-900 d c V
Max. charging and discharging current Type of battery Safety level Ingress protection Operation ambient temperature Class Integrated with AFCI Class Compose the set of the	Max. charging and discharging current Type of battery General Data Safety level Ingress protection	200-300 0.0. V
Type of battery	Type of battery General Data Safety level Ingress protection	55 d.c.A*3
General Data Safety level Class Ingress protection IP6 Operation ambient temperature -30°C - +60°C Integrated with AFCI	General Data Safety level Ingress protection	Lithium-ion
Safety level Class Ingress protection IP6 Operation ambient temperature -30°C - +60°C Integrated with AFCI Integrated with AFCI	Safety level Ingress protection	
Ingress protection IP6 Operation ambient temperature -30°C - +60°C Integrated with AFCI Integrated with AFCI Integrated with AFCI Integrated with AFCI Integrated with AFCI Integrated with AFCI	Ingress protection	Class
Operation ambient temperature -30°C - +60°C Integrated with AFCI Image: Second sec		IP66
	Operation ambient temperature	-30°C - +60°C
	Integrated with AFCI	
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		_
The Version of		

Fig 3.7 Nameplate

3.4 Operating Principle of WIT 29.9-50K-XHU

- 1> The hybrid inverter receives DC inputs from PV strings which go through the MPPT routes. The DC power is then converted into AC power through the inverter circuit to power the loads and feed power into the grid;
- 2> The PV strings can supply power to charge the battery through the MPPT routes;
- 3> Convert battery power to AC power supplies for the loads and feeding to the grid;
- 4> Charge the battery from the grid through a rectifier circuit;
- 5> Convert the DC power from PV strings and the battery power into AC power through the inverter circuit to power critical loads.
- 6> When the GEN port is connected to the generator and set to the GEN mode, the generator can supply power to the loads or charge the battery.
- 7> During on-grid operation, it will supply grid power and WIT inverter power to the loads connected via the GEN port and the Load port; during off-grid operation, it will supply WIT inverter power to the loads connected via the GEN port and the Load port, and when the battery soc is≤50% or the sum of the load power is ≥1.1 times the rated load of WIT inverter, the power supply to smart loads will be cut off.
- 8> When the GEN port is connected to the on-grid inverter and set to "AC Couple" mode, during on-grid operation, the on-grid inverter will be connected to the grid and output power; during off-grid operation, the on-grid inverter will remain connected and generating power together with the WIT inverter.



NOTE: WIT 29.9-50K-XHU models have 4 MPPT routes.

Fig 3.8 WIT 29.9-50K-XHU Grid-connected conceptual diagram

3.5 Storing the WIT Inverter

- 1> Put the WIT Inverter in the original package and place it in a dry and wellventilated place.
- 2> Keep the storage temperature from -40°C to +70°C and the humidity from 0%-95% RH.
- 3> A maximum of three WIT Inverters can be stacked. Do not stack the inverters without package.
- 4> If the WIT Inverter has been long-term stored, inspections and tests should be conducted by qualified personnel before installation.



Wrong time and date may occur if the WIT Inverter has been stored for over one month. Fix the time and date before connecting the inverter to the grid. For details, see 7.1 Commissioning the WIT Inverter.

3.6 Supported Grid Types

Grid connection modes for WIT 29.9-50K-XHU Hybrid Inverters are shown in Fig 3.9.





3.7 AFCI Function

3.7.1 AFCI function Description

An AFCI, or Arc-Fault Circuit Interrupter, is a solution designed to detect and mitigate the risk of electrical arcing in a photovoltaic (PV) system, supported by intelligent arc detection algorithm. Arcing can occur when there is a high voltage breakdown in the electrical insulation or when conductive materials come into contact with each other. This can pose a fire hazard and damage the system components. The AFCI continuously monitors the system for potential arc faults and, if detected, interrupts the circuit to prevent a fire or other damage. AFCIs are required by the National Electrical Code (NEC) in certain parts of a PV system, such as the DC side of the inverter, to improve safety and reduce the risk of fires.

NOTE:

- 1. The AFCI Function of the WIT Inverter is disabled by default. If you want to enable the AFCI, please contact Growatt support.
- 2. Do not connect the Maximum Power Point Trackers (MPPTs) on the DC side in parallel as it might trigger the AFCI mistakenly.

3.7.2 Clearing the Alarm

In the event that the WIT Inverter reports "AFCI Fault" and the PV indicator turns red, an arc fault might have been detected. Please perform the following steps to clear the alarm.

Step 1: Disconnect the WIT inverter from all power sources. Turn off the battery switch and the AC output circuit breaker, then turn the DC switches to the OFF position. Wait until the error message disappears.





Step 2: Troubleshooting. Check if the open-circuit of all PV strings are within the permissible range.

Step 3: After the fault is cleared, restart the inverter. Turn on the battery switch and the AC breaker, and turn the DC switch to the ON position. Wait until the system is working properly.





If the WIT Inverter passes the AFCI self-test, it will work in the normal mode and the PV indicator will be green. If it fails, the inverter will report "Error 425". In this case, please reboot the system and perform Step 1 to Step 3. If it failed again, please disconnect all power sources and contact Growatt support.

3.8 PID Function

PID (Potential Induced Degradation) typically occurs in PV systems where there is a voltage potential between the solar cells and the grounded frame or other conductive elements of the system. This potential difference, combined with high humidity and temperature, can lead to leakage currents that degrade the performance of the solar modules over time. The PID function integrated in Growatt inverters can effectively reverse the PID effect by applying DC voltage to the PV modules during nighttime, enhancing solar energy harvest and performance.

4 Inspection upon delivery

Unpacking and inspection

- 1> Before unpacking the WIT Inverter, check the shipping box for any externally visible damage. If any damage is found, contact the shipping company as soon as possible.
- 2> After unpacking the WIT Inverter, check if the scope of delivery is intact and complete. If any damage is found or any component is missing, contact your distributor.

Check the following items:



Fig 4.1 Packing list of WIT 50K-XHU

Table 4.1 Packing list

No.	Description	Quantity	No.	Description	Quantity
А	The WIT Inverter	1	Р	SC35-8 AC terminal	4
B/C/D	Wall mount kit	1/1/1	Q	M4*12 screw	9
E/F	Battery terminal anti- dismantle element	1/1	R	COM1 waterproof cover	1
G	PV+(-) connector	8(8)	S	Allen wrench	1
Н	PV+(-) metal contact	8(8)	Т	PV connector disconnect tool	1
I	Battery +(-) terminal	3(3)	U	ShineWiLan-X2	1
J	COM2 terminal	1	V	M10*90 expansion bolt	4
К	M6*28 screw	2	W	BMS-AC terminal	4
L	M8*20 screw	12	Х	RJ45	8
М	M6*12 screw	5	Y	User Manual	1
N	SC50-8 AC terminal	8	Z	Quick Guide	1
0	SC25-6 PE terminal	3			

NOTE:

- 1. Sturdy and durable though the packing carton is, please carry and handle it with caution.
- 2.The component of WIT 29.9~50K-XHU inverters are similar to those in the above table, but the contents of the component (product model and specific parameters) may be adjusted in different models.

Installation 5

5.1 Basic Installation Requirements

- A. The installation location must be suitable for WIT's weight for a long period time. (Refer to Table 3.2 for the weight of the WIT Inverter).
- B. Ensure that the installation position is suitable for the dimensions of the WIT Inverter.
- C. Do not install the WIT Inverter in areas with flammable or non heat-resistant materials.
- D. The WIT Inverter is protected to IP66 and can be installed indoors or outdoors.
- E. Do not expose the WIT Inverter to direct sunlight. Otherwise, excessive temperature may lead to power reduction.
- F. Keep the humidity at 0% to 95% RH.
- G. Keep the ambient temperature at -30°C to 60°C.
- H. The WIT inverter can be installed vertically or backward tilted. Please refer to the figures below:



Fig 5.1

I. Reserve enough clearance around the WIT Inverter to ensure sufficient space for heat dissipation and operation. Leave a clearance of 0.6 m on both sides, approximate 0.6 m above and below the WIT Inverter, and 1 m in front of the inverter.



Fig 5.2

- J. Keep the WIT Inverter away from strong interference sources.
- K. Ensure that the WIT Inverter is not accessible to children.

5.2 Installation Environment Requirements

A. Though the WIT Inverter is protected to IP66, do not expose it to direct sunlight, rain and snow. Please refer to the figures below:



Fig 5.3

B. To reduce the de-rate performance of the inverter and extend inverter's life span, we strongly recommend you install an awning. For the distance between an awning and inverter, please refer to following figure.





C. When you install multiple WIT inverters on one surface, inverters should be installed as following drawing. (Choose one of the two options below).





Fig 5.5

D. Do not place the WIT Inverter in an enclosed and narrow space for operation.





5.3 Moving the WIT Inverter



- 1> As shown in Fig 5.7, two persons are required to lift the inverter out of the package and transport it to the installation position.
- 2> When you are moving the inverter, please keep the balance.

Notice: There will be front and bottom mark on the package.



Fig 5.7

5.4 Wall Mount Bracket Installation

Before installing the inverter, you need install the wall mount bracket so that the inverter can be securely mounted on the wall.

Wall mount bracket (unit: mm):



Fig 5.8

- **STEP 1:** Use the wall mount plate as a template, drill holes into the wall and insert the expansion bolts as Fig 5.9 show.
- **STEP 2:** Tighten the bolts to attach the wall mount bracket onto the wall securely as illustrated below.





Note:

- 1> The wall where the expansion bolts are installed should be a solid concrete or brick wall with a thickness of at least 100 mm.
- 2> Ensure that the bracket has been firmly installed before mounting the inverter onto it.

5.5 Installing the Inverter

After verifying that the wall mount bracket has been firmly installed on the wall, mount the inverter onto the bracket.

- 1> Run the rope, which is strong enough to bear the weight of the inverter, through the two hoist rings, as shown below;
- 2> Hang the inverter onto the wall mount bracket and install the bolts. Please keep balance when moving the inverter.
- 3> Check if the inverter has been properly mounted and tighten all screws.



Fig 5.10 Wall-mounted installation



Ensure that the wall meets the load-bearing requirements of the equipment. For details about the weight, see Table 3.2.

6 Electrical Connection



Fig 6.1 Wiring diagram of the system with a single WIT 50K-XHU inverter (Gen mode)



Fig 6.2 Wiring diagram of the system with a single WIT 50K-XHU inverter (with the WIT-XHU battery terminal junction box)

NOTE:

- 1. The WIT-XHU battery terminal junction box is optional;
- 2. When one cluster of battery is connected, run the power cables through the battery terminal junction box and the BMS communication cable should be connected to BMS1 on the COM1 port.



Fig 6.3 Wiring diagram of the system with a single WIT 50K-XHU inverter and two meters (AC couple mode)



Fig 6.4 Wiring diagram of the system with single WIT 50K-XHU inverters in smart load mode



Fig 6.5 Wiring diagram of the system with three WIT 50K-XHU inverters connected in parallel



Fig 6.6 Meter wiring method

Wiring modes vary depending on the region as shown in Fig 6.7 below. Please select the appropriate wiring mode according to locally applicable safety standards.

Fig6.7(a): Neutral line of alternative supply must not be isolated or switched. Fig6.7(b): Neutral line of alternative supply can be isolated or switched.



(a) Wiring mode for AU/NZ



(b) Wiring mode for other regions

Fig 6.7 Wiring modes for different regions

6.1 Connecting The Ground Cables

- 1. It is essential to connect the ground cable to the WIT inverter before connecting other cables to prevent personal injury or device damage.
- 2. All non-current-carrying metal parts and the enclosures of the devices of the energy storage system, including the rack and the enclosures of the combiner box, the distribution panel, the inverter and the battery should be properly grounded.
- 3. For a single WIT inverter, connect a ground cable to the ground point on the chassis shell. For a system with multiple WIT inverters connected in parallel, ensure that the enclosures of the WIT Inverters, the metal racks of the PV modules and the batteries should be connected to the same area to achieve equipotential bonding.
- 4. The position of the ground points of the WIT 29.9-50K-XHU Hybrid Inverter is shown in Fig 6.8.



Fig 6.8 Ground points

NOTE:

- 1. Keep the lightning protection grounding at the greatest possible distance from the protective grounding.
- 2. Protect the terminals of the ground cables against rain and do not expose the them to open air.
- 3. Tighten the screws to a torque of 60 kgf·cm.

6.2 Connection on the AC Side

DANGER	 Before connecting cables, ensure that the DC switches on the WIT Inverter are OFF. Turn off the switches and breakers on the GRID side, GEN side and the battery side. Otherwise, the high voltages of the WIT Inverter may result in electric shocks. Only qualified and trained electrical technicians are allowed to perform operations. Technicians must observe instructions in this manual and local regulations. High voltages may cause electric shocks and serious injury. Please do not touch the inverter in operation. Do not place inflammable and explosive materials around the WIT Inverter.
WARNING	 Each WIT Inverter must be equipped with a separate AC circuit breaker. Multiple WIT Inverters cannot connect to the same AC circuit breaker (not applicable to off-grid mode). Please do not connect loads between the WIT Inverter and the circuit breaker. If the cable is thick, do not wiggle the cable after tightening the cable terminals. Otherwise, the loose connection may cause overheating that will damage the device. Ensure that the terminals are properly connected before starting the WIT Inverter. Upon completion of the AC wiring, remember to seal the water-proof silicone mat with the fireproof mud in order to ensure good waterproof performance.

Preparation:

1> Ensure the grid voltage and the grid frequency are within the acceptable range;
2> Disconnect the DC switches and the AC breakers on the grid side, generator side and the battery side.

The circuit breaker on the AC side:

AC circuit breaker needs to be installed on the grid side, ensuring a safe disconnection between the WIT Inverter and the upstream input when an exception occurs.

1. Recommended AC breaker specifications for WIT 29.9-50K-XHU models

Device type	Rated voltage of the circuit breaker	Rated current of the circuit breaker
WIT 29.9K-XHU	400V	150A
WIT 30K-XHU	400V	150A
WIT 36K-XHU	400V	150A
WIT 40K-XHU	400V	200A
WIT 50K-XHU	400V	250A

Device type	Rated voltage of the circuit breaker	Rated current of the circuit breaker
WIT 29.9K-XHU	400V	80A
WIT 30K-XHU	400V	80A
WIT 36K-XHU	400V	80A
WIT 40K-XHU	400V	100A
WIT 50K-XHU	400V	125A

2. Recommended load breaker specifications for WIT 29.9-50K-XHU models

3. Recommended bypass breaker specifications for WIT 29.9-50K-XHU models

Device type	Rated voltage of the circuit breaker	Rated current of the circuit breaker
WIT 29.9K-XHU	400V	80A
WIT 30K-XHU	400V	80A
WIT 36K-XHU	400V	80A
WIT 40K-XHU	400V	100A
WIT 50K-XHU	400V	125A

4. Recommended Gen breaker specifications for WIT 29.9-50K-XHU models

Device type	Rated voltage of the circuit breaker	Rated current of the circuit breaker
WIT 29.9K-XHU	400V	150A
WIT 30K-XHU	400V	150A
WIT 36K-XHU	400V	150A
WIT 40K-XHU	400V	200A
WIT 50K-XHU	400V	250A

NOTE:

For the PCS to operate in Smart Load mode, select the appropriate AC breaker based on the smart load power.
Recommended power cable specifications:

Device type	GRID Recommended cable specification	LOAD Recommended cable specification	GEN Recommended cable specification
WIT 29.9K-XHU	35mm²	25mm²	35mm²
WIT 30K-XHU	35mm²	25mm²	35mm²
WIT 36K-XHU	35mm²	25mm²	35mm²
WIT 40K-XHU	50mm²	35mm²	50mm²
WIT 50K-XHU	50mm²	35mm²	50mm²

1.Recommended AC power cable specifications for WIT 29.9-50K-XHU models.

AC side connection steps:

1. Open the right cover plate. The position of the cover is shown in Fig 6.9;



Fig 6.9

2. Connect a ground cable to the copper grounding bar. Fig 6.10 shows the position of the grounding bar inside the right cover plate;



Fig 6.10

3. Connect the main power cables according to the label. Fig 6.11 shows the position of the label and the AC terminals.



Fig 6.11 AC terminal wiring position and diagram

NOTE:

 Determine the stripped length based on the wiring terminal specifications (recommended length: 22-26 mm). Crimp the cable and terminal using a crimper as shown below. Loosen the PG type cable gland and route the cables through it. Then connect the cables to the corresponding terminals. Secure the cables by tightening the screws.



Fig 6.12 Crimping a cable

- 2. Cold-pressed terminals are delivered with the package. Select terminals based on the cable specifications;
- 3. After connecting the cables, apply fireproof mud to the waterproof silicone mat at the inlet side. Lock the cover of the AC junction box after the fireproof mud is applied. See Fig 6.13 below.



Fig 6.13 Applying fireproof mud



• Any device damage caused by failure to seal the output terminal gaps as instructed is beyond the scope of warranty and Growatt shall not be liable for the damage.

6.3 Connection on the PV Side

DANGER	 Before connecting cables, ensure that the PV SWITCH of the WIT Inverter are OFF, and turn off the breakers on the AC side and the battery side. Otherwise, the high voltages of the WIT Inverter may cause electric shocks. Only qualified and trained electrical technicians are allowed to perform operations. Technicians must observe instructions in this manual and local regulations. Check the positive and negative terminals before connecting the PV module to the WIT Inverter. High voltages may cause electric shocks and serious injury. Please do not touch the inverter in operation. Please do not place inflammable and explosive materials around the WIT Inverter.
	 The maximum open-circuit voltage of each string should not exceed 1100Vdc. Ensure that the following conditions are met; Otherwise, fire hazard or inverter damage may occur. Growatt is not liable for the consequence and it is beyond the warranty scope.

NOTE:

- 1. When exposed to sunlight, PV modules will generate voltage. High voltages presented in the PV strings connected in series could be fatal. Therefore, shield the PV modules from sunlight before connecting the DC input power cable and ensure that the DC switches on the WIT Inverter are OFF.
- 2. The PV modules connected in series should be of the same model.
- 3. The maximum short-circuit current of each PV string must be lower than or equal to 50A.
- 4. The total panel power should not exceed twice the WIT Inverter input power.
- 5. For optimal system configuration, it is recommended to connect two DC inputs with an equal number of PV modules.



Fig 6.14 PV terminals

Procedure for connecting cables on the PV side:

- 1. Strip 6-8 mm of the insulation layer of the PV cables.
- 2. Insert the exposed core wires into the crimping area of the wiring terminal and crimp them using a crimping plier;
- 3. Route the cable through the cable sealing sleeve and insert the insulation sleeve until it snaps. Slightly pull the cable back to ensure that it is securely connected. Then tighten the locking nut;
- 4. Insert the positive and negative connectors of the PV modules to the corresponding terminals on the inverter. For the maximum input current of different models, please see Table 6.1. For the cable specifications, please see Table 6.2.

Device type	Max. current of a single MPPT route
WIT 29.9K-XHU	40A
WIT 30K-XHU	40A
WIT 36K-XHU	40A
WIT 40K-XHU	40A
WIT 50K-XHU	40A

Table 6.1 Maximum current of a single MPPT route

Device type	Recommendation cable specifications
WIT 29.9K-XHU	4-6mm ²
WIT 30K-XHU	4-6mm²
WIT 36K-XHU	4-6mm²
WIT 40K-XHU	4-6mm²
WIT 50K-XHU	4-6mm ²

Table 6.2 Cable specifications on the PV side

NOTE:

- 1. For a single WIT Inverter, connect the ground cable of the inverter. For a system with multiple WIT Inverters connected in parallel, connect the ground cables of all inverters and the metal racks of the PV modules to the same area to ensure equipotential bonding. Before connecting the PV cables, ensure that the ground cables on the PV side are properly connected.
- 2. Use male and female connectors in pair. Ensure the correct polarity before connecting the PV string to the inverter.
- 3. The total current of all strings cannot exceed the WIT Inverter's maximum input current;
- 4. Do not touch the solar panels in operation;
- 5. The wires should be tinned and are not frayed or cracked.

6.4 Connection on the Battery Side

DANGER	 Before connecting cables, ensure that the DC switches of the WIT Inverter are OFF, and turn off the breakers on the AC side and the battery side. Otherwise, the high voltages of the WIT Inverter may cause electric shocks. Only qualified and trained electrical technicians are allowed to perform operations. Technicians must observe instructions in this manual and local regulations. High voltages may cause electric shocks and serious injury. Please do not touch the inverter in operation. Please do not place inflammable and explosive materials around the WIT Inverter.
	 Ensure that all cables are securely connected before powering on the WIT Inverter. Loose connection may cause overheating that will damage the device. The battery cables on WIT inverter are protected by a structural shield. After connect all cables, we should restore the removed structural shield to avoid human touch.

NOTE:

The recommended battery voltage is 512V.

Table 6.3	Cable	specification	າs on the	Battery	side
				,	

Device type	Recommendation cable specifications
WIT 29.9K-XHU	16mm²
WIT 30K-XHU	16mm²
WIT 36K-XHU	16mm²
WIT 40K-XHU	16mm²
WIT 50K-XHU	16mm²

6.4.1 Connecting the Main Power Cable of the Battery

Preparation:

- 1. Check that the battery terminals of the WIT Inverter are intact;
- Disconnect the DC switches on the WIT inverter, the AC breaker and the DC switch on the battery;
- 3. Take out the battery terminals from the accessory kit delivered with the package. See Packing List in Section 4;

Procedure for connecting the main battery power:

- 1. Connect the ground cable to the battery power ground bar, as shown in Fig 6.10;
- 2. Strip 11.5-12.5 mm of the insulation layer of the DC cables;
- 3. Crimp the battery cables and the battery terminals using crimping pliers, and then tighten the insulation sleeve;
- 4. Install the anti-dismantle elements.
- 5. Connect the battery cables to the battery terminals on the inverter, as shown in Fig 6.15;



Fig 6.15 Position of the battery terminals

NOTE:

- 1> Connect the ground cable before connecting the battery cable; the ground point is shown in Fig 6.10.
- 2> The length of the battery cable is recommended to be no more than 10m.

6.4.2 Connecting the Battery BMS-AC terminal

NOTE: Perform operations according to on-site requirements.

Procedure for connecting the battery BMS-AC terminal:

- 1. Open the right cover plate of the inverter, the position of which is shown in Fig 6.16;
- 2. Find the corresponding terminals from the accessory kit. Refer to Table 6.4 to connect the terminals;



Fig 6.16 BMS-AC terminal

Table 6.4 Definitions of BMS-AC terminal

BMS-AC terminal port definition			
Number	Definition of signal	Note	
CN4/CN5/CN6	LOAD R/LOAD S/LOAD T	Supply power to the DMS	
CN7	LOAD N	Subbry bower to the BMS	

NOTE:

- 1. Reinstall the battery protective plate and the right cover plate after the cable connection is completed.
- 2. Select phase or line voltage according to actual needs.

6.5 Connecting Communications Cables

6.5.1 COM1 Connection

The COM1 terminal of the WIT 29.9-50K-XHU Inverter includes 9 RJ45 ports. It is used for parallel connection via PARA-IN and PARA-OUT communication terminals, battery communication via BMS1, BMS2 and BMS3 terminals, and external equipment communication via RS485 and DRMs function. Connect the communication cables to the corresponding terminals as required. For details, see Table 6.5;

Step4 Step3 Step1 Step2 Step6 Step7 Step8 Step8 Step8 Step9 Step10 Step10 Step9 Step9 Step9 Step9 Step9 Step9 Step8 Step9 Step10 Step9 Step9 Step9 Step10 Step9 Step9 Step9 Step10 Step9 Step9 Step10 Step9 Step9 Step10 Step10 Step9 Step9 Step10 Step10

Procedure for connecting the COM1 terminal:

Fig 6.17

1> Remove the fixing screws and disassemble the COM1 waterproof cover as Step 1-4 show;

2> Crimp the communication cable as follows:





Loosen the cable gland and remove the watertight caps inside the cable gland based on the number of the cables and keep the unused holes with watertight cap. Lead the cable into the holes in the cable gland (the 5-hole fastening rings inside the cable gland are with openings on the side. Please separate the gap with hand and squeeze the cables into the holes from the side openings. Hole diameter: 5.5~7.0 mm). Route the cables through the COM1 terminal waterproof cover as Step 5 shows. Connect the cable to the corresponding terminal.



Fig 6.19

3> Tighten the COM1 terminal cover as Step 6-8 shows.4> Secure the screws as Step 9 shows.

Detailed information of COM1





Fig 6.20 COM1 communication terminal

Definition of battery communication terminal			
Silk screen	Pin	Definition of signal	Function and Note
	1	BAT RS485_B	
	2	BAT RS485_A	
	3	BAT1 DI_1	
DMC1	4	BAT1 CAN_H	Communication of battery1
RM21	5	BAT1 CAN_L	(mandatory)
	6	BAT1 DI_2	
	7	BAT1 WAKE-(GND.S)	
	8	BAT1 WAKE+	
	1	BAT RS485_B	
	2	BAT RS485_A	
	3	BAT2 DI_1	Communication of battery2 (mandatory)
DMCD	4	BAT2 CAN_H	
BM25	5	BAT2 CAN_L	
	6	BAT2 DI_2	
	7	BAT2 WAKE-(GND.S)	
	8	BAT2 WAKE+	
	1	BAT RS485_B	
	2	BAT RS485_A	
	3	BAT3 DI_1	
DMCD	4	BAT3 CAN_H	Communication of battery3
BMS3	5	BAT3 CAN_L	(mandatory)
	6	BAT3 DI_2	
	7	BAT3 WAKE-(GND.S)	
	8	BAT3 WAKE+	

Table 6.5 COM1 communication terminal description

Definition of battery communication terminal			
Silk screen	Pin	Definition of signal	Function and Note
	1	RS485_1B	
	2	GND.S	
	3	/	
	4	RS485_1B	RS485-1: Meter2/ShineBus/
K5485-1	5	RS485_1A	RS485-3: EMS/VPP(7/8)
	6	/	
	7	RS485_3B	
	8	RS485_3A	
	1	RS485_1B	
	2	GND.S	
	3	/	
	4	RS485_1B	RS485-1: Meter2/ShineBus/
K5485-2	5	RS485_1A	RS485-3: EMS/VPP(7/8)
	6	/	
	7	RS485_3B	
	8	RS485_3A	
	1	RS485_2B	
	2	GND.S	
	3	/	
METER	4	/	RS485_2: METER1 output (export limitation meter
MELEK	5	RS485_2A	wiring port for a single
	6	/	
	7	/	
	8	/	

Definition of battery communication terminal				
Silk screen	Pin	Definition of signal	Function and Note	
	1	DRM1/5		
	2	DRM2/6		
	3	DRM3/7		
	4	DRM4/8		
DI	5	REF	DRMS/RCR/Difunction	
	6	СОМ		
	7	/		
	8	/		
	1	/		
	2	GND.S		
	3	Sc_A/H		
	4	PL_CANH		
PARA-IN	5	PL_CANL	Parallel Input	
	6	Sc_B/L		
	7	GND.S		
	8	master_CAN		
	1	/		
PARA-OUT	2	GND.S		
	3	Sc_A/H		
	4	PL_CANH	Darallel output	
	5	PL_CANL		
	6	Sc_B/L		
	7	Slave_CAN		
	8	GND.S		

6.5.2 COM2 Connection

The COM2 terminal is used for Generator start-up and emergency stop.

- 1. Strip 23-27 mm of the cable jacket and 8-12mm of the wire insulation.
- 2. Crimp the COM2 cable and the terminal using a crimping plier, and then tighten the insulation sleeve;
- 3. Connect the COM2 cable to the COM2 terminal on the inverter, as shown in Fig 6.21;



Fig 6.21 Connecting to the COM2 terminal

NOTE:

The external communication terminal of the WIT 29.9-50K-XHU Inverter is a 4-pin connector. The matching terminal is in the accessory kit. The connection procedure is as follows:

1. Connect the communication cable to the corresponding terminal as required.



Fig 6.22 COM2 communication terminal

2. The COM2 communication terminal contains two dry contacts (voltage free). PIN 1 and 2 are for emergency stop signal; PIN 3 and 4 are for DG start-up signal.



6.5.3 USB connection

The WIT-XHU series inverter is equipped with a USB interface as standard, which can be connected to a USB to WiLAN-X2 monitoring module for remote monitoring. In addition, you can also quickly upgrade the inverter software through the U disk. Steps to install the monitoring module:

- 1> Loosen the waterproof cover of the USB interface and remove it.
- 2> As shown in Fig 6.24, insert the WiLAN-X2 module into the USB interface, and the LED indicator of the WiLAN-X2 module will be on.
- 3> As shown in Fig 6.24, make sure that the ▲ is facing frontwards as the inverter has been wall-mounted, insert the monitoring module into the USB interface, and tighten the lock.

Note:

If a USB to WiLAN-X2 module is installed, please take the module and the data cable away, and tighten the waterproof cover when the operator leaves to prevent water from entering the interface.



Fig.6.24 USB Connection

6.6 Post-installation Checks

The following table lists the post-installation items to be checked:

Position	Item	Check item
	Ground cable connected to the chassis	Check the cable specifications; ensure that the cable has been securely fastened
	Ground cable on the AC side	Check the cable specifications; ensure that the cable has been securely fastened
	Grid side	Check the cable specifications; ensure that the cable has been securely fastened
AC side	Load side	Check the cable specifications; ensure that the cable has been securely fastened
	GEN side	Check the cable specifications; ensure that the cable has been securely fastened
	Waterproof silicone gel mat	No gap exists; the fireproof mud has been evenly applied
	Right cover plate	Re-install the cover and secure it with screws after checking all items on the AC side
	Ground cable on the PV side	Check the cable specifications; ensure that the cable has been securely fastened
PV side	PV+/PV-	Check the cable specifications; ensure that the cable has been securely fastened; confirm that the number of PV modules matches the rated power
	Ground cable on the battery side	Check the cable specifications; ensure that the cable has been securely fastened
Battery side	BAT+/BAT-	Ensure that the positive and negative terminals are connected correctly and securely; the sealing rubber ring is properly seated into the gland
	BMS-AC	Ensure that the connection is correct and secured; the sealing rubber ring is properly seated into the gland
	Cable bundling	The cables are bundled in the specified position

Position	Item	Check item
		Ensure that the connection is correct and
Communication terminals	COM1	secured; the sealing rubber ring is
		properly seated into the gland
	COM2	Ensure that the connection is correct and
		secured; the sealing rubber ring is
		properly seated into the gland
		Ensure that the connection is correct and
	USB	secured; the sealing rubber ring is
		properly seated into the gland

7 Commissioning

7.1 Commissioning the WIT Inverter



• The WIT Inverter might show wrong time and date if it has been stored for over a month. You need to set the correct time and date before connecting the WIT Inverter to the grid.

7.1.1 Set the Communication Address

After the WIT Inverter is powered on, you can set the communication address of the WIT Inverter via RS485 communication or the USB to WiLAN module. When multiple inverters are connected in parallel with RS485 hand-in-hand communication, each inverter should be set to different communication addresses. For a single inverter, the default communication address is set to 1.

NOTE:

The communication address of the WIT Inverter ranges from 1 to 254. By connecting the WIT Inverter to the host computer through RS458 communication, you can change its communication address via ShineBus. This operation should be performed by professional personnel.

7.1.2 Set the Time and Date

7.1.2.1 Set the time and date on the APP

Follow the instructions in Section 6.5.3 to connect the datalogger. When the inverter is powered in, you can set inverter time and date referring to Section 8.1.1. Tap General settings>Setting time, then enter the password "growatt+date". For instance, if the date is Feb. 28, 2024, the password would be "growatt20240228". After that, tap "Yes", set the correct date, then click "OK". Proceed to set the time, and click "OK".



7.1.2.2 Set the Date & Time Automatically

Connect the WIT Inverter to the server following the procedure specified in Section 8.1.2 when the inverter is powered on, then the WIT Inverter will update its date and time automatically.

7.2 Mode of operation

7.2.1 Waiting Mode

When the PV voltage is greater than 180V or the battery voltage is greater than 190V, the WIT Inverter will be powered on and enters the waiting mode. In waiting mode, the WIT Inverter performs self-check. If the system is normal and the PV voltage is greater than or equals to 195V or the battery voltage is greater than or equals to 200V, the WIT inverter will attempt to turn on.

7.2.2 Operating Mode

7.2.2.1 Operating Mode of WIT 29.9-50K-XHU

Load First:

In Load First mode, the WIT inverter prioritizes supplying the solar power and battery energy to the loads. If Export Limitation is disabled, the surplus solar power can be fed to the grid, but the battery energy will not be exported to the grid; if Export Limitation is enabled, neither solar power nor battery energy would be sent to the grid.

Priority of power supplied to the loads:

- 1. Solar panels;
- 2. Batteries;
- 3. Grid.

NOTE: In Load First mode, a meter is required.

Battery First:

In Battery First mode, the solar power is prioritized towards charging the battery until the battery SOC (state of charge) reaches the preset upper threshold. Then it will supply power to the loads. The further excess solar power, if any, can be fed to the grid (Export Limitation disabled). In case that the solar power is insufficient, the WIT inverter will draw power from the grid to charge the battery or supply the loads.

Priority of power directed to charge the battery:

- 1. Solar panels;
- 2. Grid.

> Grid First:

In Grid First mode, the WIT inverter prioritizes supplying the solar power to the loads, exports the excess solar power to the grid, and sends the further surplus power to charge the power. If the solar power is insufficient to support the loads, the battery will discharge to supply power to the loads and the surplus battery power will be sent to the grid for revenue.

Priority of power supplied to the loads:

- 1. Solar panels;
- 2. Batteries;
- 3. Grid.

Solar only backup

In Solar only backup mode, the grid cannot charge the battery, the solar power is prioritizes charging the battery until the SOC of the battery reaches the preset upper threshold, the excess energy of solar carries the load. If the excess energy of the solar is not enough to carry the load, it is supplemented by the grid; if the excess energy of the solar is greater than the load, the excess energy is reversed to the grid.

> Idle/Charge from clipped solar

In Idle mode, when the solar energy is greater than the load, the solar supplies power to load first, and the excess energy is reversed to the grid; when the solar energy is less than load, the solar and the grid carry the load together. In this mode, the battery is neither charged nor discharged.

≻ рто

In PTO mode, the solar only charges the battery and the inverter circuit is always in standby.

> Grid first(ECO)

In ECO mode, the solar and the battery prioritize the power to meet the load demand, the excess energy of the solar is reversed to the grid, and the energy of the battery is only supplied to load, the excess battery energy is not reversed to the grid.

Zero export to meter:

With Export Limitation enabled, no solar power or battery energy will be fed to the grid in this mode. The inverter output is only supplied to the loads connected before the external meter connection point. A meter is required. For the meter wiring mode, please refer to Fig 6.6 in Chapter 6. The external meter will detect power flowing to the grid and regulate the generated power so that only so much energy is generated as is currently consumed by the primary loads, secondary loads and charging the battery.



> Zero export to GRID:

In this mode, there is no output at the inverter's GRID port. The solar and battery power can only by supplied to Primary Loads via the LOAD port. The meter is not required.



Smart Load:

Smart loads are connected to the GEN port and the Smart Load mode is set: during on-grid operation, it will supply grid power to smart loads; during off-grid operations, the power supply to smart loads is cut off. The wiring method is shown in Chapter 6 Fig 6.4.

> AC couple:

The grid-tied inverter is connected to the GEN port and the AC Couple mode is set: during on-grid operation, the grid-tied inverter will be connected to the grid and generate electricity via the GEN port; during off-grid operation, the grid-tied inverter remains connected to the WIT inverter and generating power. The wiring method is shown in Chapter 6 Fig 6.5.

The GEN port supports three types of multiplexing: diesel generator, smart load, and AC couple. you can choose one of the three to match your system as needed.



Device	GEN Port Connected Devices	Introduction
GEN	diesel generator	When the GEN port is connected to a diesel generator, the diesel generator can be activated (dry contact control) when the grid is abnormal and the SOC of the battery is lower than the set value, instead of AC, to supply power to the load and charge the battery.
PV INVTER	AC couple	When the GEN port is connected to the PV inverter, the system has AC couple function. When the grid is normal, it executes the normal photovoltaic storage inverter work logic; when the grid is abnormal, the PV inverter can carry load or charge the battery after the WIT is turned on off-grid
Smart Load	smart load	Smart loads are connected to the GEN port and the Smart Load mode is set: during on- grid operation, it will supply grid power and WIT inverter power to smart load and primary load; during off-grid operation ,it will only supply WIT inverter power to smart load and primary load. If the sum of the load power is ≥1.1 times the rated load of WIT inverter or the battery soc is≤50%, the smart load will be cut off.
NA	No external device	/

Table7.1 Introduction to GEN Port Multiplexing

7.2.2.2 System Operating Strategies of WIT 29.9-50K-XHU

> TOU (Time of use):

Configure the system to work in the preset mode during different time segments based on the peak-valley periods and electricity price.

Step1: set system mode, include load first, grid first, battery first, solar only backup, idle, PTO, ECO;

Step2: set time period;

Step3: set power percentage, positive for charging, negative for discharging; Step4: set enable/disable.

A total of 6 time slots are available for setting.

• Setting				×
O Maximum spontaneous self use		Disable	•	^
Equipment mode selection and time	e setting 🛸			
Time Slot 1	Load First	• 0	17:43~17:46	
3	10	_% ⁴	Enable	
◯ Time Slot 2	Load First	-) 0	17 20 ~ 17 21	
	80	% ()	Disable	
◯ Time Slot 3	Load First	• 0	17 28 ~ 17 31	
	-55	% ()	Disable	
◯ Time Slot 4	Load First	• 0	17 32 ~ 17 33	l
	0	% ()	Enable	
○ Time Slot 5	Load Firet	- 0	17 25 ~ 17 28	Ŧ
Please Enter Password	20250110		Yes Advanced Setting Cancel	

Self-consumption:

The WIT inverter prioritizes supplying the solar power and battery energy to the loads. If Export Limitation is disabled, the surplus solar power can be fed to the grid, but the battery energy will not be exported to the grid; if Export Limitation is enabled, neither solar power nor battery energy would be sent to the grid. In case that the solar power is insufficient, the battery will discharge to power the loads. Priority of power supplied to the loads:

- 1. Solar panels;
- 2. Batteries;
- 3. Grid.

NOTE: In Load First mode, a meter is required.

🔾 AC Discharge Power 🕛			100		% No	ot Memory	*	
Generator Enable			OFF	•				
○ Set Reactive Power Ratio	1		PF Fixed 1	•	N	lot Memory	*	
○ Set Exportlimit ^①		OFF -	0.0		Limit P	ower Rate(%)	
○ SingleExport ①			OFF	*				
O Ext AC Inverter			Disable	•				
Battery1On			On	*)				
Battery2On			On	*				
Battery3On			On	•				
Battery Wiring Method			Battery Rack C	Conr 👻				

> Grid Peak Shaving:

By regulating the AC-side power output and battery power output of the WIT inverter, the grid-side downstream power and counter-current power can be better controlled. During the low peak of power consumption, the excess power of the WIT inverter is converted into battery energy to realize battery power reserve and maximize the benefit of power consumption.

Step1: enable peak shaving;

Step2: enable peak shaving backup SOC;

Step3: set "Demand management downstream power limit","Demand management counter current power limit", "Peak Shaving Backup SOC". After "Demand Management Setting" and "Peak Shaving Backup SOC Enable" are enabled, when the SOC value of the battery is greater than backup SOC, the system will limit the power taken from the grid to the "Demand management downstream power limit", and increase the output power of the AC side of the WIT inverter to ensure the load demand.

When the SOC of the battery is equal to the SOC of the backup power and the system load is less than the set"Demand management downstream power limit", the battery stops discharging to ensure the battery power. When the SOC of the battery is less than the backup SOC and the system load is less than the set"Demand management downstream power limit", the excess power after carrying load within PV and AC downstream limit will start charging for the battery.

	Time Slot 6 Battery	First 💌 🛈	17 : 39 ~	17:42	
	100	96 (Disable	-	
De	emand Management/Peak Shaving 🔺				
1	O Demand Management Setting	On	-		
3	O Demand management downstream po limit	ower 0.0		kW	
	 Demand management counter curren limit 	t power 0.0		kW	
2	O Peak Shaving Backup SOC Enable	On	•		
3	O Peak Shaving Backup SOC	50		[0,100]%	
Mi	icrogrid system 🔺				
	○ Device Type of GEN Port	Genera	ator 💌		
		6			

> Micro-grid (PV-ESS-DG Power System):

A generator is connected to the GEN port:

If the grid power is normal, the WIT inverter will work in the grid-tied mode:

1. If the power generated by the grid-tied inverter is sufficient to support the loads, the surplus power will be used to charge the battery;

2. If the power generated by the grid-tied inverter is insufficient, the WIT inverter will supply the solar power to the loads, and direct the surplus power to charge the battery.

3. If the solar power of the WIT inverter is insufficient, the battery will discharge to power the loads.

4. The battery will stop discharging when the SOC is lower than the cutoff threshold and it will draw the grid power to support the loads.

If the grid power is abnormal, the WIT inverter will work in the off-grid mode:

1. The solar power of the WIT inverter is supplied to the loads first, and the surplus power is sent to charge the battery.

2. If the solar power of the WIT inverter is insufficient, the battery will discharge to power the loads.

3. When the battery SOC is lower than the preset diesel generator startup threshold, the DG will start automatically to generate power;

4. If charging from the DG is enabled, the DG will charge the battery.

5. When the battery SOC is higher than the preset diesel generator shutdown threshold, it will disconnect the DG, and shut down the DG.



> User-defined dry contact:

After enabling the user-defined DI port and inputting the DI signal, it will carry out the AC active power and power factor according to the corresponding DI instructions.

Note:

- 1. The User-defined dry contact and DRMS share the same port.
- 2. Only one DI signal can be input at the same time.

7.2.3 Fault Mode

The intelligent control system of the WIT Inverter monitors and adjusts the system status in real time. When the WIT Inverter detects an alarm, the corresponding status light will turn red and the OLED will display the alarm. When the WIT Inverter detects a fault, the system status indicator and the corresponding status light will turn red and the OLED will display the fault. After the fault or alarm is cleared, the system recovers and all status indicators will be steady green.

NOTE: For details about faults and alarms, please see 9.2 Troubleshooting.

7.2.4 Shutdown Mode

When the battery SOC is lower than the discharge cutoff SOC and the PV string output power does not meet the requirements for grid-tied power generation, the WIT Inverter will automatically shut down. In shutdown mode, the inverter still consumes a bit energy (PV>Grid>Battery) to wait to start up again when the operating requirements are met.

NOTE:

When the PV input voltage is less than 200V or the battery input voltage is less than 200V, the WIT inverter will automatically shut down.

7.3 LED and OLED Displays Panel

The LED and OLED display panel demonstrating the running status of the WIT Inverter is shown in the Fig 7.1. The symbol description is shown in Table 7.2; The user interfaces are shown in Fig 7.2, and the LED indicator description is shown in Table 7.3.



Fig 7.1 Display panel

Position	Description	Note
A	OLED screen	Displays the main system information
В	System indicator	Displays the system status
С	PV indicator	Indicates the operation status on the PV side
D	Grid/GEN indicator	indicates the operation status on the grid side and the GEN port status
E	Off-grid indicator	Off-grid status display
F	Battery indicator	Indicates the status of the battery
G	Communication	Indicates the communication status and other system faults
Н	Running light	Indicates the charging and discharging mode of the battery and some other statuses
I	Button	You can switch the information displayed on the OLED by pressing the button





Fig 7.2 User interfaces

	Status	Meaning			
	Off	The system initialization at power-on			
\square	Steady green	The system is operating properly			
D	Blinking green	System in standby or firmware upgrade			
	Steady red	System failure			
	Off	The PV voltage dose not reach the operating voltage			
	Steady green	The PV voltage reaches the operating voltage and there are no error or warning			
	Steady red	A fault or alarm is reported on the PV side			
	Off	No grid			
本	Steady green	Successfully connected to the grid			
	Steady red	A fault or alarm is reported on the grid side			
	Off	The system operates in grid-connected mode			
	Steady green	The system operates in off-grid mode with no faults or alarms on the inverter side			
	Steady red	The system operates in off-grid mode with faults or alarms on the inverter side			
	Off	The system is not connected to any battery			
	Steady green	No faults and alarms for any of the batteries connected to the system (When multiple clusters of batteries are connected to the system, the battery indicator turns green when the page is turned to the page corresponding to normal battery; the light turns red when the page is turned to the page corresponding to abnormal battery; and the light goes out when the page is turned to the page corresponding to battery not connected to the system)			
	Steady red	All batteries are faulty or alarmed			

Table 7.3 Indicator description

	Status	Meaning			
	Off	No host computer communication or USB flash drive read/write			
((•))	Steady green	Host computer communication is normal or the USB flash drive reads and writes normally			
()	Blinking green	The WIT Inverter is upgrading or the USB interface is reading and writing data			
	Steady red	External communication fails, or a system fault occurs			
IN MILLING	Steady white	Battery is in standby mode			
GROWATT	Rotates clockwise	Charging mode			
	Rotates anticlockwise	Discharging mode			
GROWATT CROWATT	Displays critical system information. Users can call up and switch the interface by tapping the button. When a fault or alarm occurs in the system, the fault or alarm will be displayed				
	The OLED will be activated when the button is pressed. The OLEI will turn off if there is no operation for 5 minutes.				
	Progress less than 5 PV, grid, off-grid, ba real-time status of s	0%: system is functioning normally, system, ittery and communication indicators show ystem			
	Progress greater than 50%: PV, grid, off-grid, battery are steady green, system indicator and communication indicator blinking green				
	After the system firmware update is completed, the system, PV, grid, off-grid, battery and communication indicators are steady green for 8s				
In the first 3s a running lights communicatio After 3s, the sy are steady gre	fter power-on, the OL are steady green, and in indicators lights are vstem, PV, grid, off-gri en for 8s.	ED display shows the company LOGO, the d the system, PV, grid, off-grid, battery and e all off.; id, battery and communication indicators			

Monitoring 8

8.1 Remote Monitoring

Growatt WIT 29.9-50K-XHU Hybrid inverters support remote monitoring, which can be enabled by installing a datalogger. For more information on operation and configuration methods, Scan the following QR code.

Compatible Datalogger	Installation & Operation Guide Linkage
ShineWiLAN-X2	

8.1.1 Remote Monitoring on the APP (ShinePhone)

Scan the QR code below or search for "Shinephone" in Google/Apple Store to download and install the mobile app.



NOTE:

- (1) Download and install the latest version of ShinePhone.
- (2) See https://server.growatt.com.
- (3) Shinephone and Server accounts are universal.

Account Registration on ShinePhone

Run the APP and tap "Register" on the login page. Fill in the information as required. Fields marked with * are mandatory. Tick the checkbox to agree to the Privacy Policy. Once the account is successfully registered, you can log in to the home screen. The registration page is shown below:



Home Screen of ShinePhone

1. Dashboard: displays the critical information of all power plants under the account, such as the total yield, the total revenue and the status of the device. Please refer to the figures below:

0

A

186

17:14

Me



2. Plant: displays the plant list and the basic information about each PV plant, as shown in the figure below. You can select your target plant to view detailed information.



Detail Page of the WIT Inverter:

To access details about the WIT Inverter or related devices:

(1) Tap "Plant" and the "Plant List" will be displayed. Select your target plant, then you can access the real-time data and history record of the power plant;

(2) Select the WIT Inverter marked with its SN from "My device list" .

(3) On the Detail Page, you can view information about the inverter and related devices. Three sections - "Events", "Control" and "Edit", are available at the bottom.

< Plant list	WIT 50K TEST	~ +	< Plant list	WIT 50	(TEST \checkmark	+	<	0EQQ0	ZR10JF0009	
	Q Complete the addre	55	Datalogge	:JKN0E7Q00K			-			
R PV capacit 300kWp N/ACloudy,22.0°C	ty I	R Installation date 2024-12-06 →	JKN0E7Q Active power: I Datalogge	00K_1 0 ::JKN0E7Q00K	Online Total power: 0,0		■ SN Model	WIT 50K-XH	0JF0009 U	All parameters>
Generation-This M	Today(kWh)	Power Generation(kWh)	JKN0E7Q Active power: I Datalogge	00K_1 0 ::JKN0E7Q00K	Online Total power: 0.0					soc1'd'0%
605.8 System status: Wait	0EQ	1942.3 Q00ZR10JF0009 •	0EQQ002 Power :0W Datalogge	R10JF0009	Wait Today:0kWh		Nomina	D.OkW		SOC2 ¹ 010% SOC3 ¹ 010%
	Î I	Consumption: 0.0kW	JKN0E7Q Active power: - Datalogge	00J_1 -20 ::JKN0E7Q00J	Disconnected Total power: 0,0				1	Total power
Total power: 0.0kW Number of batteries:3		Generator Rated Power: 0.0kW	Active power: - Datalogger	00J_1 -20 r:JKN0E7Q00J	Disconnected Total power: 0.0		Con	0.0 kW sumption	0 Imp	port
Generation overview	Export to grid: 0.0kW	Today/Total(kWh)	JKN0E7Q Active power: Datalogge	00J_1 -20 r:JKN0E7Q00J	Disconnected Total power: 0.0		🞸 Energy Di	scharged / Day 0.0 ki	w 🔲 Total E-dis	charged 0.0 kWh
System Charged		0/0	DML2024	072	Disconnected			Real	-time data	K 1
System Discharged		0/0	Power :0W		Today:0kWh		Hour	DAY	MONTH	YEAR
Discharging Export to Grid Load consumption		0/0 0/0	0EQQ002	R17VF0002	Disconnected		(202 kW	5-01-14 📎	Battery_1 Char	ging Power 👻
(C) Dashboard	I Contraction of the service of the	P A	Dashiboard	() Plant	Service	8 Me	E. Even	ts C	@ ontrol	区 Edit

(4) On the "Events" screen, you can view the fault/warning message and suggested trouble-shooting measures.

	Warning list
	2024-06-05 15:17:23
SN	PJN123466
Plant name	WIT 30-50K shinephone tes
(411) Commun	ication fault
	2024-06-05 09:50:02
SN	P.IN123466
Plant name	WIT 30-50K shinephone tes
(105)	
1	2024-06-05 09:19:11
SN	PJN123466
Plant name	WIT 30-50K shinephone tes
(411) Commun	ication fault
	2024-06-04 10:08:37
SN	PJN123466
Plant name	WIT 30-50K shinephone tes
(411) Commun	ication fault
	No more data

5) On the "Control" screen, you can configure the WITInverter. The password is in the format of "growatt + the current date", e.g. growatt20250110.





Safety Parameters : include UV1/UV2/UV3 Frequency, OV1/OV2/OV3 Frequency UV1/UV2/UV3 Voltage and OV1/OV2/OV3 Voltage.

UV1/UV2/UV3 Frequency	,	< ov1/	OV2/OV3 Frequency		
UV1 Frequency		OV1 Frequency			
47.5	Hz [45.00,50.00		52.0 Hz	, 0.00,55.00]	
UV2 Frequency		OV2 Frequency			
47.0	Hz [45.00,50.00		52.0 Hz	0.00,55.00]	
UV3 Frequency		OV3 Frequency			
47.0	Hz [45.00,50.00		52.0 Hz	0.00,55.00]	
When the power grid is SUH2, the range . 45Hz-50Hz, and when it is 60Hz, the ran to 55Hz-60Hz	can be set to ge can be se	When the power gri 45Hz-50Hz, and wh to 55Hz-60Hz	d is 50Hz, the range can b en it is 60Hz, the range ca	e set to n be set	
<	UV1/UV2/UV3 Voltage		<	OV1/OV2/OV3 Voltage	
-------------	---------------------	-------------------	-------------	---------------------	---------------
UV1 Voltage	9		OV1 Voltage	e	
	338.6	V [17.3,762.0]		438.2	V [17.3,76
UV2 Voltage	2		OV2 Voltage	e	
	79.7	V [17.3,762.0]		458.1	V [17.3,76
UV3 Voltage	•		OV3 Voltage	e	
	79.7	V [17.3,762.0]		517.9	V [17.3,76
	Done			Done	

Grid related settings: include High Grid Voltage Limit, Low Grid Voltage Limit, High Grid Frequency Limit, Low Grid Frequency Limit.

<	Grid related settings	
Over volta	age	
	438.2	V [17.3,762.0]
Under vol	tage	
	338.6	V [17.3,762.0]
Overfrequ	iency	
	50.1	Hz [50.00,55.00]
Underfree	quency	
	49.5	Hz [45.00,50.00]
Grid-conne within 50-{ Grid-conn within 45-{	scted high grid frequency: 55Hz(50Hz) or 60-65.5Hz(50Hz) ected low grid frequency: 30Hz(50Hz) or 55-60Hz(60Hz)	
	Done	

> Loading, restarting, and unloading rates, include Loading rate, Restart loading rate and Load reduction rate.

< "	oading, resta	rting, and unloadi rates	ng
Normal R	amp Rate		
		9.0	% [1.0,6000.0]
Soft Start	Ramp Rate		
		10.0	% [1.0,6000.0]
Load redu	uction rate		
		-0.1	% [0.0,100.0]
		Done	

Settings related to OF derating, include Derating Start point(f), Derating Gradient(f), Over-frequency load reduction delay time and Over-frequency load reduction response time.

<	Settings rela	ted to OF derating	9
OF Derat	ing Start Poin	t	
		50.2	Hz [0.00,66.50]
OF Derat	ing Rate		
		50	[0,2000]
OF Derat	ing Start Dela	y Time	
		0.0	s (0.0,20.0)
OF Derat	ing Response	Time	
		1.0	s [0.0,40.0]
		Done	

Settings related to UF increasing: before enable UF increasing, the capability is not available; after enable UF increasing, you can set UF Increasing Start Point, Under-frequency loading slope, Under-frequency loading delay time and Under-frequency loading response time.

<	Settings related to UF increasi	ng
UF Increa	sing Enable	
	Enable	
UF Increa	asing Start Point	
	49.8	Hz [0.00,66.50
UF Increa	sing Rate	
	50	[20,400]
UF Increa	sing StartDelay Time	
	2.0	s [0.0,2.0]
UF Increa	asing Response Time	
	0.0	s [0.0,40.0]
	Done	

> Set Inverter On/Off: you can set inverter on/off.

<	Set Inverter On/Off	
Set Inver	ter On/Off	
	Power ON	•
	Done	

> Set Time: you can set the time for the device.



System Mode: you can set the system mode, including Load first, Battery first, Grid first, Solar only backup,Idle, PTO, ECO.

System Mode		<	System Mode	
System Mode		Sy	vstem Mode	
Load First	¥		Load First 🔹	
			Sustem Mode	
			System Mode	
			Load First	
			Bat first	
			Grid first	
			Und mat	
Done			Cancel Done	

> Set Reactive Power:you can set the corresponding PF mode.

	Set reactive power	< Set reactive power
ive po	ower 🔽	Set reactive power
	PF fixed 1	PF fixed 1
		Please Select
		PF fixed 1
		Set power factor
		Default PF Curve
		Inductive reactive power ratio (%)
		Conductive reactive pov ratio (%)
		QV mode
		Positive and negative
		Cancel
	Dana	Done

Enable the grid side electricity meter: you can select to enable/disable the grid side electricity meter.



Settings related to AC charging : you can select to enable/disable the AC Charge, set the AC discharge power percentage, set the AC charging power percentage and set the AC stop charging SOC.

Sett	ings related to AC cha	arging
Charge ena	able	
	Enable	Ŧ
AC charging p	ower percentage	
	0	% [0,100]
AC discharge	power percentage	
	100	% [0,100]
AC stop charg	ing SOC	
	0.0	% [0,100]
AC discharge po power percenta charging power WIT inverter wil power on the Ar value. AC charging po power percenta	ower percentage:The A age is equal to the actu divided by the system II control the percentag C side not to be higher ower percentage:The A goe is equal to the actu	AC charging al maximum rated power. Je of charging t than the set C discharge al maximum
discharge powe The WIT inverte	er divided by the system er will control the disch	n rated power. arge power
set value.	the AC side not to be h	igner than the
AC stop charging reaches the set stop charging.	ng SOC:When the batt charging stop SOC, the	ery charge e battery will

> BMS1/BMS2/BMS3 Enabled: you can select to enable/disable the BMS1/2/3.

DI	MS1/BMS2/BMS3 En	nabled		< BN	AS1/BMS2/BMS3 E	nabled
Enabled	ł			BMS1 Enabled	I	
	Disable	•			Disable	Ŧ
S2 Enablec	t.			BMS2 Enabled	l.	
	Enable	¥			Enable	٣
IS3 Enabled	Ł			BMS3 Enabled	i)	
	Disable	*			Disable	٠
nnected in pa cessing indep the actual ac	arallel, only battery 1 pendently, set the en cess situation.	is enabled able bit ac	; When cording			
nnected in pa cessing indep the actual ac	arallel, only battery 1 pendently, set the en ccess situation.	is enabled	are ; When ccording	connected in pl accessing indep to the actual ac	arallel, only battery pendently, set the e cess situation. BMS1 Enable Enable	d
nnected in processing indep the actual ac	of manpie closters of pendently, set the en ccess situation.	is enabled	are ; When :cording	connected in p accessing inder to the actual ac	anallel, only battery bendenty, set the e ccess situation. BMS1 Enable Enable Disable	d
nnected in p cessing indep the actual ac	a miliei, only battery 1 pendently, set the en cess situation.	is enabled lable bit ac	are ; When ; Coording	connected in pa accessing indep to the actual ac	manific any battery cress situation. BMS1 Enable Enable Disable	1 is enai nable bi d

Battery1/2/3 related settings: you can select to enable/disable the Battery1/2/3 and set Battery-related parameters, including the battery capacity, ranging from 0 to 2000 Ah; the maximum charging/discharging power, ranging from 0 to 200 kW; the maximum charging/discharging current, ranging from 0 to 200A; the maximum battery charging voltage, ranging from 200V to 900V; and the battery discharge cutoff voltage, ranging from 200 V to 900V. Charging/Discharging stop SOC and off grid cut-off SOC.

Battery 1 related settings	5 5	Battery 1 relations	ted settings	< Battery	/ 1 related setting	
Battery 1 Enabled		Maximum charging voltage	e of battery	Battery 1 Enabled		
Enable	¥	900	0 V (200.0.900.0)		Enable	•
Capacity		Discharge stops SOC	[200.0,700.0]	Capacity		
1000	Ah [0,2000]	200	V V			Ah [0,2000]
Maximum Charging Power		Stop Charging SOC	[200.0,700.0]	Maximum Charging	Power	
200	kW [0.0,200.0]	100	0 % [0.100]		200	kW [0.0,200.0]
Maximum Discharge Power		Stop Discharging SOC		Maximum Discharge	e Power	
200	kW [0.0,200.0]	stop bischarging 500	r in col		200	kW [0.0.200.0]
Maximum Charging Current			2 [0,34]	Batt	ery 1 Enabled	
55	A [0.0,200.0]	On grid eut-on SOC				
Maximum Discharge Current		28 Maximum charging voltage of	s % [0,99]			
55	A [0.0,200.0]	charging voltage of the batter Discharge stops SOC:Battery	y discharge cut-off		Enable	
Maximum charging voltage of battery		voltage. Stop SOC when charging the charge reaches the set charg	e battery:When the battery ging stop SOC, the battery		Disable	
900	v	will stop charging. Discharge stops SOC/Off grid should be lower than the cha	d cut-off SOC:This SOC arging stop SOC			
Done	1200.0.900.0	Dom	ne	Cancel	Do	ne
				£ .		1
Battery 2 related settings		< Battery 2 rela	ted settings	Battery	2 related settings	
Battery 2 Enabled		Maximum charging voltage	e of battery	Battery 2 Enabled		
Enable	•	900	0 V [200.0,900.0]		Enable	•
Battery Capacity		Battery stop discharging vo	oltage.	Battery Capacity		
258	Ah [0,2000]	200	0 V [200.0,900.0]		258	Ah [0,2000]
Maximum Charging Power		Stop Charging SOC		Maximum Charging	Power	
200	kW [0.0,200.0]	98	% [0,100]		200	kW [0.0,200.0]
Maximum Discharge Power		Stop Discharging SOC		Maximum Discharge	Power	
25.2	kW [0.0,200.0]	88	% [0,99]		25.2	kW [0.0.200.0]
Maximum Charging Current		Off grid cut-off SOC		Batt	ery 2 Enabled	
55	A [0.0,200.0]	10	% [0,99]			
Maximum Discharge Current		Maximum charging voltage of	of battery:The maximum			
55	A [0.0,200.0]	Discharge stops SOC:Battery voltage.	ery. y discharge cut-off		Enable	
Maximum charging voltage of battery		stop SOC when charging the charge reaches the set charg will stop charging.	a battery:When the battery ging stop SOC, the battery		Disable	
900	V [200.0.900.0]	Discharge stops SOC/Off grid should be lower than the cha	d cut-off SOC:This SOC arging stop SOC			
Done		Don	ne	Cancel	Dor	he

75

<	Battery 3 related settings		<	Battery 3 related settings		<	Battery 3 related setting	S
Battery 3	Enabled		Maximum	n charging voltage of battery		Battery 3 E	nabled	
	Enable	•		900	V [200.0,900.0]	Ĩ	Enable	•
Battery C	apacity		Battery st	top discharging voltage.		Battery Ca	pacity	
	200	Ah [0,2000]		200	V [200.0,900.0]		200	Ah [0,2000]
Maximun	Charging Power		Stop Cha	rging SOC		Maximum	Charging Power	
	178.8	kW [0.0,200.0]		99	% [0,100]		178.8	
Maximun	Discharge Power		Stop Disc	harging SOC		Maximum I	Discharge Power	
	58.2	kW [0.0,200.0]		80	% [0,99]		58.2	kW [0.0,200.0]
Maximun	Charging Current		Off grid c	ut-off SOC			Battery 3 Enabled	
	55	A [0.0,200.0]		52	% [0,99]			
Maximum	Discharge Current		Maximum	charging voltage of battery:The	maximum			
	55	A [0.0,200.0]	charging ve Discharge : voltage.	oltage of the battery. stops SOC:Battery discharge cut	t-off		Enable	
Maximum	charging voltage of battery		Stop SOC v charge read will stop ch	when charging the battery:Wher ches the set charging stop SOC, harging.	the battery the battery		Disable	
	900	V [200.0.900.0]	Discharge should be l	stops SOC/Off grid cut-off SOC: lower than the charging stop SO	This SOC C			
	Done			Done		C	Cancel Do	ne

Related grid manual/automatic switching: you can choose to switch the working mode manually or automatically. If "Manual" is selected, you can set the device to operate in on-grid or off-grid or generator mode. Generally, you are advised to select "Automatic" mode switch.

Related settings for grid connection and off grid	Related settings for grid connection and off grid	Related settings for grid connection and off grid
Off grid manual/automatic switching	Off grid manual/automatic switching	Off grid manual/automatic switching
Manual 👻	Manual	Manual
Grid connected/off grid setup	Grid connected/off grid setup	Grid connected/off grid setup
On Gird 🔹	On Gird 🔹	On Gird +
	Off grid manual/automatic switching	Grid connected/off grid setup
	Automatic	
	Manual	On Gird
		Off Grid
		Generator
Done	Cancel Done	Cancel Done

Off grid related settings: you can set whether to enable the off-grid function. If select disable, this function doesn't work. If select enable, you can set EPs voltage and Eps frequency.

Note: Factory default off-grid enable.

\	C Off grid related settings
Set Backup On/Off	Set Backup On/Off
Enable *	Enable -
Off-Grid Frequncy	Off-Grid Frequncy
50Hz •	50Hz 🔻
Off-Grid Voltage	Off-Grid Voltage
230V •	230V 👻
	Set Backup On/Off
	Enable
	Disable
	Cancel
Done	Currect
	1
Off grid related settings	< Off grid related settings
Coff grid related settings	Off grid related settings Set Backup On/Off
C Off grid related settings	Set Backup On/Off
C Off grid related settings	Coff grid related settings Set Backup On/Off Enable
Coff grid related settings	Coff grid related settings
Coff grid related settings	Coff grid related settings Set Backup On/Off Enable Off-Grid Frequncy Off-Grid Voltage
Coff grid related settings Set Backup On/Off Enable Off-Grid Frequncy Off-Grid Voltage	Coff grid related settings Set Backup On/Off Enable Off-Grid Frequncy Off-Grid Voltage 2207 *
Coff grid related settings Set Backup On/Off Enable Off-Grid Frequncy Off-Grid Voltage 230V	Off grid related settings Set Backup On/Off Enable Off-Grid Frequecy 50Hz Off-Grid Voltage 230V
Off grid related settings Set Backup On/Off Enable Off-Grid Frequncy 50Hz Off-Grid Voltage 230V	Off grid related settings Set Backup On/Off Enable Off-Grid Frequncy 50Hz Off-Grid Voltage 230V
Coff grid related settings Set Backup On/Off Enable Off-Grid Frequncy Off-Grid Voltage 230V	Off grid related settings Set Backup On/Off Enable Off-Grid Frequncy 50Hz Off-Grid Voltage 230V
Coff grid related settings Set Backup On/Off Enable • Off-Grid Frequncy Off-Grid Voltage 230V • Off-Grid Frequncy	Off grid related settings Set Backup On/Off Enable Off-Grid Frequency Off-Grid Voltage
Coff grid related settings Set Backup On/Off Enable • Off-Grid Frequncy Off-Grid Voltage Off-Grid Frequncy Off-Grid Frequncy	Off grid related settings Set Backup On/Off Enable Off-Grid Frequency Off-Grid Voltage
Coff grid related settings Set Backup On/Off Enable Off-Grid Frequncy Off-Grid Voltage Off-Grid Frequncy Off-Grid Frequncy	Coff grid related settings
Off grid related settings Set Backup On/Off Enable Off-Grid Frequncy Off-Grid Voltage Off-Grid Frequncy Off-Grid Frequncy	Coff grid related settings Set Backup On/Off Enable Off-Grid Voltage Off-Grid Voltage Coff-Grid Voltage 220V 220V 230V





Single machine anti backflow related settings: you can select to enable/disable single machine anti backflow. If select disable, this function doesn't work. If select enable, you can set export power limit, percentage of anti backflow failure power and anti backflow failure time.

Note:	The	meter	must be	connected	to	export	limit.
		meter	mastoc	connected		copore	

< ^s	ingle machine anti backflov related settings	v
Single mach	ine anti backflow enable	
	Enable	•
Export powe	er limit	
	0.0	% [-100,100]
Percentage	of anti backflow failure pow	er 🗌
	-0.1	% [0,100]
Anti backflov	w failure time	
	50	s [1,5000]

Single phase anti backflow enable: you can select to enable/disable the single phase anti backflow.

Note: Single phase anti backflow can be used if the Single machine anti backflow is enabled.

<	Single phase anti backflow e	nable		< :	Single phase	anti backflow	enable	
Single p	hase anti backflow enable			Single ph	ase anti back	flow enable		
	Enable	*				Enable	•	
			_					
			_					
			_					
			_					
			_					
				Sin	gle phase a	anti backflo	w enable	
					I	Enable		
						Disable		
	Done				Cancel		Done	

> Parallel parameter setting: you can select to enable/disable the parallel.

<	Parallel enable		<	Parallel enable	
Parallel ena	ble		 Parallel enabl	le	
	Enable	×		Enable	•
				Parallel enable	
				Enable	
				Disable	
(Done		Ca	ncel Dor	ie

Equipment mode selection and time setting: you can set 1.time period, 2. operating mode, include load first, battery first, grid first, solar only backup, Idle, PTO, ECO, 3. power percentage, 4. enable/disable. A total of 6 time slots are available for setting.

Equipment mode selection and t setting	ime	< Equip	ment mode selecti setting	on and time	< Equi	oment mode selec setting	tion and ti	me
Time:1 17 : 43 ~ 17 : 46		CT STATUTE OF SHEEP	Disquie	•	Time:1 17 : 4	1)~ 17 : 46		
Mode 2 Load First		Time:5 17 : 35	~ 17 : 38		Mode		•	
AC charge&discharge 10	% [-100,100]	Mode	Load First	•	AC charge&discharge	ho		
Enable/Disable 4 Enable		AC charge&discharge power	55	% [-100,100]	FranklerThoughte			
Time:2 17 : 20 ~ 17 : 21		Enable/Disable	Disable	•	Time:2 17 : 2			
Mode Load First 🔻		Time:6 17 : 39	- 17 : 42]			
AC charge&discharge 80	% [-100,100]	Mode	Bat first	•	ACI	16	45	
Fould Structure Disability		AC charge&discharge power	100	% [-100,100]		17 : 4	46	
Time:3 17 : 28 ~ 17 : 31		Enable/Disable	Disable	•	Time			- 8
Mode Load First V		Grid-first: Wh	en the WIT inverter	works in the owered firstly then		18	47	
AC charge&discharge	N L-100 1001	export power t in this mode d	o the grid. The user uring the electricity	can choose to wor bill is high, and the	k Ca	ancel	ОК	
bowis		battery priorit	y: When the WIT in battery will ignore	me of the mode. werter works in the forward and				
Timeter/Disable Disable V		reverse current battery. The us	power and give pri er needs to set the	ority to charging th mode ON and OFF	Enable/Disable	Disable	•	
time. I and first		time. If the cus power grid cha	tomer does not ena irging function), the h PV power. If the c	Ible AC CHG (AC WIT will charge the ustomer enables A(
		CHG , the WIT and the grid.	will charge the batt	ery through PV pan	el			
bowis. 0	% [-100,100]	Load First mod the Load First i the battery to	te: When the WIT i mode, the WIT store charge and discharge	nverter works in ige unit controls	power	0		
Done			Done					





Load First Disable
Bat first
Grid first
Solar only backup
Cancel Done Cancel Done

Peak Shaving: you can select to enable/disable peak shaving. If select disable, this function doesn't work. If select enable, you can set demand management downstream power limit and demand management counter current power limit.

C Demand Management/Peak Shaving	C Demand Management/Peak Shaving	C Demand Management/Peak Shaving
Demand Management Enablement	Demand Management Enablement	Demand Management Enablement
Enable •	Enable	Enable •
Demand management downstream power limit	Demand management downstream power limit	Demand management downstream power limit
0.0 kW	0.0 kw	0.0 kw
Demand management counter current power limit [Demand management counter current power limit	Demand management counter current power limit
0.0 kw	0.0 kw	0.0 KW
Peak Shaving Backup SOC Enable	Peak Shaving Backup SOC Enable	Peak Shaving Backup SOC Enable
Enable	Enable	Enable +
Peak Shaving Backup SOC	Demand Management Enablement	Peak Shaving Backup SOC Enable
50 % [0,100]		
	Enable	Enable
	Disable	Disable
Done	Cancel Done	Cancel Done

> Microgrid system:

Types of access for GEN port devices: you can set generator or PV Inverter or smart load.

Generator Enable: you can select to enable/disable generator.

Generator rating: you can set rated power of generator.

Off grid oil engine startup/stops SOC: you can set the off grid oil engine startup/stops SOC.

Heat up time: you can set the heat up time.

Power limit for oil engine charging: you can set the power limit for oil engine charging.

Electricity Meter 2 Enable: you can select to enable/disable electricity meter. AC Couple enable: you can select to enable/disable AC couple.

AC couple charging start/stop SOC: you can set the AC couple charging start/stop SOC.

SOC under secondary load: you can set the soc under secondary load.

Microgrid system	Microgrid system	Kicrogrid system
Types of Access for GEN Port Devices	riedt up time	Types of Access for GEN Port Devices
Generator	60 s (0.3600)	Generator 👻
Generator Enable	Power limit for oil engine charging	Generator Enable
Enable	1000.0 kW [0.0,1000.0]	Enable
Generator Pating	Electricity Meter 2 Enable	
	Disable 👻	Generator Rating
50.0 [0.0,1000.0]	AC CoupleEnable	50.0 [0.0,1000.0]
Off grid oil engine startup SOC	Enable 🔻	Off grid oil engine startup SOC
20 % [0,100]	AC Couple Charging Start SOC	20 % [0,100]
Off grid oil engine stops SOC		Types of Access for GEN Port Devices
50 % [0,100]	80 % [0,100]	
Heat up time	AC Couple Charging Stop SOC	
60 s (0,3600)	40 % [0,100]	Generator
Power limit for oil engine charging	SOC under secondary load	PV Inverter
1000.0 KW (0.0 1000 0)	0 % [0,100]	Smart Load
Done	Done	Cancel Done
K Microgrid system	< Microgrid system	Microgrid system
Types of Access for GEN Port Devices	Off grid oil engine stops SOC	Off grid oil engine stops SOC
Generator	50 % [0,100]	50 % (0.100)
Generator Enable	Heat up time	Heat up time
Enable	60 \$ (0.3600)	60 s (0.3600)
Constator Pating	Power limit for oil engine charging	Power limit for oil engine charging
	1000.0 KW 1000 m	1000.0 KW
	Electricity Meter 2 Enable	[0.0,1000.0]
Off grid oil engine startup SOC		
20 % [0,100]	Disable	Disable +
Generator Enable	Electricity Meter 2 Enable	AC CoupleEnable
	Enable	
Enable	Disable	Enable
Disable		Disable
Cancel Done	Cancel Done	Cancel Done

Safety function control:

Low voltage crossing enable: you can select to enable/disable low voltage crossing.

DRMS/RCR reuse mode/custom dry contact: you can set DRMS, RCR or custom dry contact.

DRMS enablement: you can select to enable/disable DRMS.

Safety function control	Safety function control
ow voltage crossing enable	Low voltage crossing enable
Enable v	Enable
MS/RCR reuse mode/custom dry contact point	DRMS/RCR reuse mode/custom dry contact
DRMS •	DRMS +
RMS enablement	DRMS enablement
Disable 👻	Disable
	Low voltage crossing enable
	Enable
	Disable
	Disable
Done	Cancel Done
Safety function control	Safety function control
v voltage crossing enable	Low voltage crossing enable
Enable	Enable •
IS/RCR reuse mode/custom dry contact point	DRMS/RCR reuse mode/custom dry conta
DDM5 -	Dave
	DRMS enablement
Disable	Disable +
DBMS/DCB rouse mode/sustem dry	
contact point	DRMS enablement
	Enable
DRMS	Disable
RCR reuse mode	
custom dry contact point	
Cancel Done	
	Cancel Done

Maximum spontaneous self use: you can select to set enable/disable maximum spontaneous self use.

<	Maximum spontaneous self use	<	Maximum spontaneous self use
Maximur	n spontaneous self use	Maximu	im spontaneous self use
	Disable •		Disable 🔻
		·	Maximum spontaneous self use
			Enable
			Disable
			Disable
	Done		Cancel Done
		N	

3. **Service:** includes the common faults and troubleshooting suggestions, as shown in the figure below. Should you encounter any problem about our product, you can contact the Growatt after-sales support or refer to the related documents.



4. Me: You can check the account information, configure the datalogger or view notifications, as shown in the figure below.



- 8.1.2 Remote Monitoring on the ShineServer Webpage
- 1.Open the browser, then enter https://server.growatt.com/login?lang=en in the address box to access the login page. Click "Register an Account" if you do not have an account.



2. After the Registration Page is displayed, fill in the information as required and click to agree to the Privacy Policy. Fields marked with the "·" icon are mandatory. Click next, it will bring you to the "Add Plant" page. Then click "Back to Login" on the top right corner.

GROWATT	Register				Back to
		User	Installer	Distributor	
		Country		· ·	
		User Name	No More than 30 Characters		
		Password ()	Not less than 6 Digits		
		Comfirm Password	Not less than 6 Digits		
		Language	English	· •	
		Phone Number			
		E-Mail			
		Allow Remote Operatio n and Maintenance	Installer Distribut	tor	
		Installer Code			
		(Pr	have read and agree to the (Ur ivacy Policy)	er Agreement)	
			Next		

GROWATT	Register				
		User	Installer	r -	Distributor
		Country			• •
		User Name	No More than 30	Characters	•
		Password 💿	Not less than 6 Di	ligits	•
		Comfirm Password	Not less than 6 Di	ligits	•
		Language	English		~ .
		Phone Number			
		E-Mail			
		Allow Remote Operatio n and Maintenance	(Detailed Desc	Distributor	
		Installer Code			
		(Pi	I have read and ap rivacy Policy》	gree to the {User	Agreement)
			Next		

3. On the Login screen, enter the username and the password to log in to the home screen.

GROWATT	Shinedesign Download Mobile End Language
	Monitor/Oss Login
	1 Lue Name &
	2 Pressure 8 Register an Account Forget Password
	Login Demo Account I of Vulnerability Disclosure

4. After accessing the home screen, the "Add Plant" window will pop up. Fill in the information as required (marked with "·") and click "Yes". If the plant has been created, you can select the target plant on the home screen.

• Ad	d Plant					>
B	Installati	on Information				
	Plant Name	Example: David 6.24Wp	Plant	Installation •	PV Total Capacity(kWp) Installer	
	Plant Type	Residential Plant	*	Temperature O Centigrade(°C)	Fahrenheit("F)	
2	Location	Information				
	Country	Please Select	•	City	Address	
	Time Zone	UTC -12	•	Longitude	Latitude 💿	
	Plant Image	(\pm)			Microinverter Installation Map	
		Only support JPG, PNG	5, JPEG, BM	P, the size of no more than 5M	Only support JPG, PNG, JPEG, BMP, the size of no more than 5M	

Set Revenue Formula(Set 1Kwh As The Conversion Standard)



- 5. Click the target plant and the detailed page will be displayed, click "Add Data Logger" on the upper right corner to add the datalogger connected to the inverter.
 - 1) Enter the serial number (SN) of the datalogger
 - 2) Select the target power plant. You might need to enter the verification code of the datalogger as prompted.

RO	WATT WIT 30-50K shineph						🖀 Switch theme 🕲 Add Plant 🔶 A	dd Data Logger 🕢 此芬初期。
rgy	/		Da	ch shboard Energy	Home energy	Log Setting		
nt Loc	ation: Energy>Plant Management er Comparison Plant Management						Plant Name	Search Add Plan
No.	Plant Name	Country	City	Installation Date	Time Zone	PV Total Capacity(kWp)	Total Power Generation(kWh)	Operations
1	RZ	China	321	2022-08-22	8	8000	243419.5	비 비
2	WIT 撤州保闭实验局	China	20 H	2023-04-14	8	100	240353.3	비미 III 아유 47 필
3	账章WiFi-X2	China	300	2023-05-04	8	3000	0	비미미야하고
4	321(8)(10)43	China		2023-06-07		100000	7715.7	네 티 이 아주 아주
5	激明素化专用	China	30H	2023-10-19	8	1000	36570.3	네! 페 턴: •: 47 프
6	SHERRE 318	China		2023-08-11	8	100000	٥	네 때 때 아이가 할
7	多机需量管理形式	China		2023-08-17	.8	100000	0.8	네 때 때 아니 파
8	SDM#BRID#38	China		2023-08-19	8	0	0	네! 떼 티 아 아 다 프
9	达符叠测试电站20231012	China		2023-10-12	8	0	٥	네 딸 ㅎ; 47 프
10	WIT 30-50K shinephone test	United States	UnitedStates	2023-10-23	8	0	1194319.75	비미 타 • 2 47 표

Data Logger SN)•	
Assigned Plant	WIT 30-50K shine	•	
		Ves	Cance

6. After adding the datalogger successfully, you can click Dashboard to view details about related devices.



Dashboard:

1. Running status and energy display



- 1) Plant List: select the target plant from the drop-down list
- 2) Device Type: Select the device from the drop-down list
- 3) Input/Search Number: Upon the initial search, enter the serial number of the specific device; If you have searched for it before, you can select the device from the drop-down list
- 4) Data Sources: displays the data source of the selected device: Load First, Battery First and Grid first
- 5) System Status: displays the running status of the selected device: operating, faulty, standby and off-line
- 6) System Running Graph: displays the power flow between the PV modules, the battery, the generator and the AC side
- 7) Energy: displays today's/total PV generation, power imported from grid, power exported to the grid and the load consumption

2. Energy Trend

- 1) System Production: displays the power for self-consumption and the power exported to the grid
- 2) Date: select a specific date, you can view the energy data in a specific period, day, month or year
- 3) Load Consumption: displays the power for self-consumption and the power drawn from the grid
- 4) Display options: to show/hide the content by clicking the corresponding color circle. By placing the cursor on the specific color circle for a long period, it will display the energy trend of the selected item only



3. Battery Information



- 1) Battery charge and discharge information over the last seven days: it can display the charge and discharge history of the battery clusters over the past seven days.
- 2) Battery rack daily SOC information: displays the battery SOC.
- 3) Battery rack daily charge/discharge information: displays the charging and discharging information of the battery cluster on the current day.
- 4) Battery rack daily power information: it can display the power of the battery cluster on the current day.

4. My PV devices

This section displays all devices involved in the selected PV plant (online devices are shown first, followed by offline devices).

Energy

1. Parameter comparison



- 1) Device type: Select the device type for comparison, such as the WIT inverter or the meter
- 2) Date: select a specific date, you can view the energy data in a specific period, day, month or year.
- 3) Data line graphs: displays the data of WIT.

2. Plant Management

ergy				C/A Dashboard	Energy	Home energy	Log	Setting			
nt Location: Energy	>Plant Management										
ameter Compariso	Plant Manager	sent							Plant Name WIT 30-50K shinepi	Search Ad	id Plant
No. Plant Name		Country	City	Installation	Date	Time Zone	PV Total Capa	city(kWp)	Total Power Generation(kWh)	Operations 2	,
1 HIT 10 FOR	hinephone test	United States	UnitedStates	2023-10-23		8	0		1194319.75	2 da ■ ■ ● \$ 41	Ŧ

Click Plant Management and you can view all PV plants associated with the current account.

- 1) Edit: Click the "Edit" icon (indicated in the figure above) to modify the PV plant information
- 2) Delete: Click the "Delete" icon (indicated in the figure above) to delete the selected PV plant
- 3) Data: Click the "Data" icon (indicated in the figure above) to view the energy yield and power of the selected plant

Log

On the Log page, you can view the error code and the fault description.

,				Dashboard	Energy Hon	ne energy Log	Setting
nt Location: Log > Fault L	og					_	
APPEs					F 202	04-05-05 H Day	Month Year Device Serial Number Device Serial Number Security Expert
Device Serial Number	Allas	Battery Serial Number	Device Type	Time	Event Number	Fault Description	Solution
DML1997123	DML1997123		Wit	2024-05-05 2048-54	302	No AC Connection	1.After shutdown, Check AC wiring. 2.If error message still exists, contact manufacturer.
PIN1234665	PIN1234666		Wit	2024-05-05 15:17:23	411	Communication fault	1.After shutdown, Check communication board wiring 2.If the error message still exists, contact manufacturer
PIN1234666	PIN1234666		Wit	2024-05-05 09:50:02			
	PIN1234666		Wit	2024-05-05 09:19:11	411	Communication fault	1.After shutdown, Check communication board wiring 2.If the error message still exists, contact manufacturer

Setting

1. Account management

tung		Darbhoard	Energy	Home energy	Setting		
ent Location: Setting>Account Management							
count Management Visitor Account list	E-mail Setting Dow	mload Monitor Settin	25				
Userinfo Modify (Please develop the i	nformation so that we c	an better serve you.)	1		Modify Password		
User Name	Hut				User Name	NRORM	
Company Name					Current Password		•
Real Name					New Deserver!		
E-mail xiaohui	zhong@growatt.com				Confirm Password		•
Phone Number 123654	89845					Save	
Language 中文	•)•				Account Security		
Agent Code Agent 0	Code or Alias	© Modify					
API Secret Key token	M	Modify					

- 1) Modify your account information
- 2) Change the password: you can change the password on this page

2. Download

A range of documents are available for download.

		Dashboard	Energy	Home energy	Log Se	tting		
Loc	ation: Setting - Download	Monitor Setting	15					
	resigning the resources and considering							
Dec	ument Download							
No.	File Name				File Type	File Size	Update Time	Download
1	ShineServer user manual				-pdf	4.1MB	2015-05-21	fft32 English
2	Growatt ShineWifi user manual(ShineWifi周內所證)				.pdf	4.33MB	2016-08-18	中文 English
3	Orossatt_Shine3G_ShineGPRS_user_manual(Shine3G,ShineGPRS用户手册)				.pdf	3.72MB	2016-08-18	中文 Inglish
4	Android Growatt APP Module				.pdf	0.2M8	2016-01-25	中文 English
5	IOS Growatt APP Module				.pdf	0.2MB	2016-01-25	中文 English
6	Growatt Old WIFi Update Module				.pdf	0.4548	2016-04-25	tht English
7	Growatt Webbox Update Module				.pdf	0.2MB	2016-04-25	·史文 English
8	Growatt Webbox Instructions				-pdf	1.27MB	2017-07-20	English
9	Growatt Datalog WIFI-355WIFI-5 Instrctions				.pdf	1.85MB	2020-04-21	English
	Microinverter Installation Map				-pdf	442KB	2023-11-13	Ecolish

Device 1. Datalogger

		Dashboard Energy	Home energy	Log Setting			
rent Location: Dashboard>Photovoltaic Device>	Data Logger						
Power			Generation			Revenue	
O Current Power(kitt)	685 Rated Power(kW)	596387 Generation Today(KMh)	596391.3 This Month(ktth)	1194319.7 Total Generation (KWh)	715664.4	715669.6 This Menth(¥)	1433183.8 Total Revenue(¥)
1 JKN0DY60D6 ∠ (1) Data Logger: JKN	DDV66D6 🔿 3 Con	5 nection Status: Connected	pdate Time: 2024-06-13	16:20:38		Device Lis	10
2 User Name: 这研 IP & Port: 20.82.2	98at Plan 8.8255822 4 Data	t Name : WIT 30-50K 6 D ephone test 7 Fi	evice Type: ShineWiLan-X	2			Delete

- 1) Serial number: each datalogger has a specific SN, which can be used to search for the device
- 2) User name and the PV plant to which the datalogger is connected;
- 3) Connection status: connected or disconnected;
- 4) Data update interval;
- 5) Update time;
- 6) Device type;
- 7) Firmware version;
- 8) Enter the serial number to search for the target datalogger;
- 9) Add a datalogger: enter the serial number to add the datalogger;
- 10) Datalogger settings: you can set the update time for the datalogger

2. WIT

ROWATT WI					👕 Switch theme O		Logger 🕢 Lastanua
rice		74	di 🔶	8 Ø			
t Location: Dashboard>	Photovoltaic Device>WIT	Dashiboard	Energy Home energy	Log Setting			
tovoltaic Device							
	Power		- Generation			Revenue	
O Current Power	(UN) Rated P	85 596387 Generation Today	7 596391.3 (Mh) This Month (Mh)	1194319.7 Total Generation (MM)	715664.4	715669.6	1433183.8 Total Revenue(¥)
(1)	2 Device Model: WIT-H/HE/HU	5 Device Serial Number: PIN1234666 ©	6 Connection Status: 01	fline Update Time	: 2024-06-13 16:31:12		Ulitary Dati
	4 Generation Today(kWh): 0	Total Power Generation(kWh): 0.0	8 Rated Power(kW): 50	6006 9 Current Powe	er(kW): 0		10 Eting
1234567890 /	User Name: Ex+#/#88 Generation Today(KWN): 0 Device Model: WIT-H/HE/HU	Total Power Generation(kWh): 0.0 Device Serial Number: 1234567890 (0)	8 Rated Power(kW): 50	6006 · 9 Current Powe	rr(kW): 0		10 Setting
1234567890 / (2)	User Name: 医牙骨周期 Generation Today(KWh): 0 Device Model: WIT-H/HE/HU User Name: 这开音测试	Total Power Generation(kWh): 0.0 Device Serial Number: 1234567890 Plant Name: WIT 30-50K shinephone test	Rated Power(KW): 50 Connection Status: 01 Data Logger: JKNODY	6006 · 9 Current Powe	rr(kW): 0		10 Setting

- 1) Enter the serial number to find the device;
- 2) Device model;
- 3) User name and the PV plant to which the device is connected;
- 4) Daily and monthly energy yield;
- 5) Serial number of the selected device;
- 6) Operating status: operating, standby, disconnected or faulty;
- 7) Serial number of the datalogger connected to the device;
- 8) Rated power;
- 9) Current power;
- 10) Parameter settings.

Safety Parameters: include UV1/UV2/UV3 Frequency, OV1/OV2/OV3 Frequency UV1/UV2/UV3 Voltage and OV1/OV2/OV3 Voltage.

•	Setting				×
	Device Serial Number: 0EQQ00ZR10JF0009	Alias: 0EQQ00ZR10JF0009			Î
	Data Logger: JKN0E7Q00K	Property: YC1.0/YCAAxxxxxx/ZDba- 0006/S27B03D00T00P0FU01M01F4			
		Command		Read	
	Regulation parameter setting 🔺				
	UV1/UV2/UV3 Frequency 🔶			_	
	OUV1 Frequency ①	47.5	[45.00,50.00]Hz		
	OUV2 Frequency ①	47.0	[45.00,50.00]Hz		
	◯ UV3 Frequency ①	47.0	[45.00,50.00]Hz		
	OV1/OV2/OV3 Frequency				
	○ OV1 Frequency ①	52.0	[50.00,55.00]Hz		
		52.0	IE0 00 55 001H-7		Ŧ
	Please Enter Password	Yes	Advanced Setting	Cancel	

 Setting 	1			\times
	○ UV2 Frequency ①	47.0	[45.00,50.00]Hz	-
	○ UV3 Frequency ^①	47.0	[45.00,50.00]Hz	
0	V1/OV2/OV3 Frequency 🔺			
	OV1 Frequency 💿	52.0	[50.00,55.00]Hz	
	OV2 Frequency 🕚	52.0	[50.00,55.00]Hz	
	OV3 Frequency 0	52.0	[50.00,55.00]Hz	
U	V1/UV1/UV1 Voltage 🔺			
	○ UV1 Voltage	338.6	[17.3,762.0]V	
	○ UV2 Voltage	79.7	[17.3,762.0]V	
	○ UV3 Voltage	79.7	[17.3,762.0]V	
0	W1/OV2/OV3 Voltage			-
	Please Enter Password	Yes	Advanced Setting Cancel	

 Setting 				×
С) OV2 Frequency ①	52.0	[50.00,55.00]Hz	-
С) OV3 Frequency ①	52.0	[50.00,55.00]Hz	
UV1/L	JV1/UV1 Voltage 🔺			1
С) UV1 Voltage	338.6	[17.3,762.0]V	
С) UV2 Voltage	79.7	[17.3,762.0]V	
С) UV3 Voltage	79.7	[17.3,762.0]V	
OV1/0	OV2/OV3 Voltage 🔺			
С) OV1 Voltage	438.2	[17.3,762.0]V	
С) OV2 Voltage	458.1	[17.3,762.0]V	
С) OV3 Voltage	517.9	[17.3,762.0]V	
Grid r	elated settings			-
	Please Enter Password	Yes A	dvanced Setting Cancel	

• Setting			×
UV1/UV1/UV1 Voltage			^
🔿 UV1 Voltage	338.6	[17.3,762.0]V	
🔿 UV2 Voltage	79.7	[17.3,762.0]V	
🔿 UV3 Voltage	79.7	[17.3,762.0]V	
OV1/OV2/OV3 Voltage			
○ OV1 Voltage	438.2	[17.3,762.0]V	
○ OV2 Voltage	458.1	[17.3,762.0]V	
○ OV3 Voltage	517.9	[17.3,762.0]V	
Grid related settings 🔺			
◯ High Grid Voltage Limit	438.2	[17.3,762.0]V	
O Low Grid Voltage Limit	3 8 5 5	[17 3 762 0]\/	-
Please Enter Password	Yes	Advanced Setting	Cancel

Grid related settings: include High Grid Voltage Limit, Low Grid Voltage Limit, High Grid Frequency Limit, Low Grid Frequency Limit.

• Setting			>	<
OV2 Voltage	458.1	[17.3,762.0]V		•
OV3 Voltage	517.9	[17.3,762.0]V		
Grid related settings				
O High Grid Voltage Limit	438.2	[17.3,762.0]V		
🔿 Low Grid Voltage Limit	338.6	[17.3,762.0]V		
) High Grid Frequency Limit 🕚	50.1	[50.00,55.00]Hz		
O Low Grid Frequency Limit ①	49.5	[45.00,50.00]Hz		
Loading, restarting, and unloading rates	<u>ـ</u>			
🔿 Loading rate	9.0	[1.0,6000.0]%		
O Restart loading rate	10.0	[1.0,6000.0]%		
	-01	F1 0 6000 01%		-
Please Enter Password	Yes	Advanced Setting	Cancel	

> Loading, restarting, and unloading rates, include Loading rate, Restart loading rate and Load reduction rate.

a		
○ Low Grid Frequency Limit ^①	49.5	[45.00,50.00]Hz
Loading, restarting, and unloading rates 🔺		
○ Loading rate	9.0	[1.0,6000.0]%
○ Restart loading rate	10.0	[1.0,6000.0]%
O Load reduction rate	-0.1	[1.0,6000.0]%
ettings related to OF derating 🔺		
O Derating Start point(f)	50.2	[0.00,66.50]Hz
O Derating Gradient(f)	50	[0,2000]
Over-frequency load reduction delay time	0.0	[0.0,20.0]s
Over-frequency load reduction response time	1.0	[0.0,40.0]s
Settings related to LIE increasing 🔺		

Settings related to OF derating, include Derating Start point(f), Derating Gradient(f), Over-frequency load reduction delay time and Over-frequency load reduction response time.

g		
○ Load reduction rate	-0.1	[1.0,6000.0]%
Settings related to OF derating 🔺		
O Derating Start point(f)	50.2	[0.00,66.50]Hz
O Derating Gradient(f)	50	[0,2000]
Over-frequency load reduction delay time	0.0	[0.0,20.0]s
Over-frequency load reduction response time	1.0	[0.0,40.0]s
Settings related to UF increasing 🔺		
O UF Increasing Enable	On	v
O UF Increasing Start Point	49.8	[0.00,66.50]Hz
O Under-frequency loading slope	50	[20,400]

Settings related to UF increasing: before enable UF increasing, the capability is not available; after enable UF increasing, you can set UF Increasing Start Point, Under-frequency loading slope, Under-frequency loading delay time and Under-frequency loading response time.

Setting			×
Over-frequency load reduction delay time	0.0	[0.0,20.0]s	
Over-frequency load reduction response time	1.0	[0.0,40.0]s	
Settings related to UF increasing			
UF Increasing Enable	Disable		
○ Grid recovery reconnection wait time	On	[0,3600]s	
Frequency change rate enable	Disable		
Common Set 👻			
Battery settings 📼			
Off grid parameter settings 💌			
Set Exportlimit 👻			
Parallel narameter setting			
Please Enter Password 20250109	Yes	Advanced Setting	Cancel
 Setting 			>
Setting Over-frequency load reduction delay time	0.0	[0.0,20.0]s	>
Setting Over-frequency load reduction delay time Over-frequency load reduction response time	0.0	[0.0,20.0]s	>
Setting Over-frequency load reduction delay time Over-frequency load reduction response time Settings related to UF increasing	0.0	[0.0,20.0]s	>
Setting Over-frequency load reduction delay time Over-frequency load reduction response time Settings related to UF increasing OUF Increasing Enable	0.0 1.0 On	[0.0,20.0]s [0.0,40.0]s	\$
Setting Over-frequency load reduction delay time Over-frequency load reduction response time Settings related to UF increasing UF Increasing Enable OUF Increasing Start Point	0.0 1.0 0n	[0.0,20.0]s [0.0,40.0]s [0.00,66.50]Hz	>
Setting Over-frequency load reduction delay time Over-frequency load reduction response time Settings related to UF increasing UF Increasing Enable OUF Increasing Start Point Ounder-frequency loading slope	0.0 1.0 0n (49.8 (50)	[0.0,20.0]s [0.0,40.0]s [0.00,66.50]Hz [20,400]	>
Setting Over-frequency load reduction delay time Over-frequency load reduction response time Settings related to UF increasing UF Increasing Enable UF Increasing Start Point Under-frequency loading slope Under-frequency loading delay time	0.0 1.0 0n 49.8 50 2.0	[0.0,20.0]s [0.0,40.0]s [0.00,66.50]Hz [20,400] [0.0,2.0]s	>
Setting Over-frequency load reduction delay time Over-frequency load reduction response time Settings related to UF increasing UF Increasing Enable UF Increasing Start Point Under-frequency loading slope Under-frequency loading delay time Under-frequency loading response time	0.0 1.0 0n 49.8 50 2.0 0.0	[0.0,20.0]s [0.0,40.0]s [0.0,66.50]Hz [20,400] [0.0,2.0]s [0.0,40.0]s	>
 Setting Over-frequency load reduction delay time Over-frequency load reduction response time Settings related to UF increasing UF Increasing Enable UF Increasing Start Point Under-frequency loading slope Under-frequency loading delay time Under-frequency loading response time 	0.0 1.0 0n 49.8 50 2.0 0.0 300	[0.0,20.0]s [0.0,40.0]s [0.00,66.50]Hz [20,400] [0.0,2.0]s [0.0,40.0]s [0,3600]s	>
 Setting Over-frequency load reduction delay time Over-frequency load reduction response time Settings related to UF increasing UF Increasing Enable UF Increasing Start Point Under-frequency loading slope Under-frequency loading delay time Under-frequency loading response time Grid recovery reconnection wait time Frequency change rate enable	0.0 1.0 1.0 49.8 50 2.0 0.0 300 On	[0.0,20.0]s [0.0,40.0]s [0.00,66.50]Hz [20,400] [0.0,2.0]s [0.0,40.0]s [0,3600]s	>
Setting Over-frequency load reduction delay time Over-frequency load reduction response time Over-frequency load reduction response time UF Increasing Enable UF Increasing Start Point Under-frequency loading slope Under-frequency loading delay time Under-frequency loading response time Grid recovery reconnection wait time Frequency change rate enable	0.0 1.0 0.0 49.8 50 2.0 0.0 300 0n	[0.0,20.0]s [0.0,40.0]s [0.0,40.0]s [0.0,66.50]Hz [20,400] [0.0,2.0]s [0.0,40.0]s [0.3600]s	>

> Set Inverter On/Off: you can set inverter on/off.

• Setting		×
◯ Grid recovery reconnection wait time	300 [0,3600]s	*
○ Frequency change rate enable	On 💌	
Common Set 🔺		
Set Inverter On/Off	Shut Down	
◯ Set Time	Turn On	
🔿 System Mode	Shut Down	
O Set Reactive Power Ratio	PF Fixed 1	
O Enable the grid side electricity meter	On 💌	
Settings related to AC charging 🔺		
O AC Charging Enable	On 🔻	
○ AC charging power percentage ①	100 [0 100]%	-
Please Enter Password 20250109	Yes Advanced Setting	Cancel

> Set Time: you can set the time for the device.

ommon Set 🔺							
○ Set Inverter On/Off	Shu	t Dow	n	Ŧ			
Set Time	20	25-01-	09 17	:23)		
⊖ System Mode	~	<	Ja	an 20	25	>	>>
O Set Reactive Power Ratio	Su	Mo	Tu	We	Th	Fr	Sa
○ Enable the grid side electricity meter	29	30 6	31 7	1 8	2 9	3 10	4
Settings related to AC charging 🔺	12	13	14	15	16	17	18
AC Charging Enable	26	20	21	22		31	1
\bigcirc AC charging power percentage (1)	2	3	4	5	6	7	8
	Sele	ct Tim	e		Now	Co	nfirm

System Mode: you can set the system mode, including Load first, Battery first, Grid first, Solar only backup,Idle, PTO, ECO.

• Setting	>	<
Common Set 🔺		
◯ Set Inverter On/Off	Shut Down	
◯ Set Time	2025-01-09 17:23	
System Mode	Load First	
O Set Reactive Power Ratio	Load First	
O Enable the grid side electricity meter	Battery First	
Settings related to AC charging 🛸	Solar Only Backup	
O AC Charging Enable	C Idle/Charge From Cli	I
○ AC charging power percentage ①	PTO 10: [0,100]% Grid First(ECO)	
○ AC discharge power percentage ①	0 [0,100]%	
\bigcirc AC stan sharaing SOC \bigcirc	n r0 1001%	Ψ
Please Enter Password 20250109	Yes Advanced Setting Cancel	

> Set Reactive Power Ratio: you can set the corresponding PF mode.

setting	:
◯ Set Time	2025-01-09 17:23
⊖ System Mode	Load First
Set Reactive Power Ratio	PF Fixed 1
Enable the grid side electricity meter	PF Fixed 1
Settings related to AC charging	Set PF
○ AC Charging Enable	Default PF Curve C (Capa)Reactive P
\bigcirc AC charging power percentage $@$	0 (Inda)Reactive P [0,100]%
○ AC discharge power percentage ①	Qv Model Positive and Neg
○ AC stop charging SOC ①	10,100]%
Battery settings 📼	
Off arid parameter settings 👻	
Please Enter Password 20250109	Yes Advanced Setting Cancel

Enable the grid side electricity meter: you can select to enable/disable the grid side electricity meter.

• Setting		×
○ Set Time	2025-01-09 17:23	*
⊖ System Mode	Load First 🔹	
◯ Set Reactive Power Ratio 1	PF Fixed 1	
Enable the grid side electricity meter	On	
Settings related to AC charging 🔺	On	
O AC Charging Enable	CDisable	
\bigcirc AC charging power percentage \bigcirc	100 [0,100]%	
○ AC discharge power percentage ①	0 [0,100]%	
○ AC stop charging SOC ①	0 [0,100]%	
Battery settings 📼		
Off arid parameter settings 💌		-
Please Enter Password 20250109	Yes Advanced Setting Car	icel

> AC Charging Enable: you can select to enable/disable the AC Charging.

• Setting		×
◯ Set Time	2025-01-09 17:23	-
⊖ System Mode	Load First	
O Set Reactive Power Ratio	PF Fixed 1	
○ Enable the grid side electricity meter	On 👻	
Settings related to AC charging		
AC Charging Enable	On	
○ AC charging power percentage ①	On [0,100]%	
○ AC discharge power percentage ①	Disable [0,100]%	
○ AC stop charging SOC ①	0 [0,100]%	
Battery settings 💌		
Off arid parameter settings		-
Please Enter Password 20250109	Yes Advanced Setting	Cancel

> AC Charge/Discharge power percentage: You can set the AC discharge power percentage and AC charging power percentage separately.

O Sot Timo	2025 01 00 17:22
O set time	2025-01-09 17:25
○ System Mode	Load First 💌
O Set Reactive Power Ratio	PF Fixed 1
○ Enable the grid side electricity meter	On 💌
Settings related to AC charging 🔺	
O AC Charging Enable	On 👻
AC charging power percentage ①	100 [0,100]%
○ AC discharge power percentage ①	0 [0,100]%
	0 [0,100]%
○ AC stop charging SOC ①	
O AC stop charging SOC ① Yery settings ▼	

> AC stop charging SOC: you can set the AC stop charging SOC.

ng	
◯ Set Time	2025-01-09 17:23
○ System Mode	Load First 🔍
O Set Reactive Power Ratio	PF Fixed 1
○ Enable the grid side electricity meter	On 💌
Settings related to AC charging	
O AC Charging Enable	On 💌
\bigcirc AC charging power percentage \bigcirc	100 [0,100]%
○ AC discharge power percentage ①	0 [0,100]%
	0 [0 100]%

> BMS1/2/3 On: you can select to enable/disable the BMS1/2/3.

• Setting		×
○ AC stop charging SOC ①	0 [0,100]%	*
Battery settings 🔺	<u></u>	
BMS1On 0	Disable	
BMS2On ①	Disable	
BMS3On 🛈	On	
◯ Battery1On	On 💌	
Battery2On	On 💌	I
Battery3On	On 🔹	
Battery 1 related settings		
○ Capacity	1000 [0,2000]Ah	
O Maximum Charging Power	200.0 [0.0.200.0]kW	*
Please Enter Password 20250109	Yes Advanced Setting	Cancel

> Battery1/2/3 On: you can select to enable/disable the Battery1/2/3.

Setting		×
\bigcirc AC stop charging SOC $\textcircled{0}$	0 [0,100]%	-
Battery settings 🔺		
O BMS1On 0	Disable 💌	
BMS2On ①	On 💌	
BMS3On ①	Disable	
Battery1On	On	
Battery2On	Disable	I
Battery3On	On	
Battery 1 related settings		
○ Capacity	1000 [0,2000]Ah	
○ Mavimum Charging Dower	200.0. IO 0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.	-
Please Enter Password 202501	109 Yes Advanced Setting	Cancel

Battery 1/2/3 related settings: you can set Battery-related parameters, including the battery capacity, ranging from 0 to 2000 Ah; the maximum charging/discharging power, ranging from 0 to 200 kW; the maximum charging/discharging current, ranging from 0 to 200A; the maximum battery charging voltage, ranging from 200V to 900V; and the battery discharge cutoff voltage, ranging from 200 V to 900V. Charging/Discharging stop SOC and off grid cut-off SOC.

 Settin 	9			×
1	Battery 1 related settings 🔺			-
	○ Capacity	1000	[0,2000]Ah	
	O Maximum Charging Power	200.0	[0.0,200.0]kW	
	O Maximum Discharge Power	200.0	[0.0, 200.0]kW	
	○ Charge Max Current	55.0	[0.0, 200.0]A	
	○ Max Discharge	55.0	[0.0, 200.0]A	
	O Maximum charging voltage of battery 🕕	900.0	[200.0,900.0]V	
	O Discharge cut-off voltage ()	200.0	[200.0,900.0]V	
	\bigcirc Stop SOC when charging the battery \odot	100	[0,100]%	
	O Discharge Stopped Soc ①	10	[0,99]%	
	Off grid cut-off SOC ()	28	[0,99]%	
	Please Enter Password 20250109	Yes	Advanced Setting Ca	ancel
• Cottin	Please Enter Password 20250109	Yes	Advanced Setting Ca	ancel
• Settin	Please Enter Password 20250109	Yes	Advanced Setting Ca	ancel X
• Settin	Please Enter Password 20250109 g Battery 2 related settings A	Yes	Advanced Setting Ca	×
• Settin	Please Enter Password 20250109 g Battery 2 related settings Capacity	Ves 258	Advanced Setting Ca	×
• Settin	g Battery 2 related settings A O Capacity O Maximum Charging Power	Ves 258 200.0	Advanced Setting Ca [0,2000]Ah [0,200.0]kW	×
• Settin	Please Enter Password 20250109 g Battery 2 related settings Capacity Capacity Maximum Charging Power Maximum Discharge Power	Ves 258 200.0 25.2	Advanced Setting Ca [0,2000]Ah [0,200.0]kW [0,200.0]kW [0.0, 200.0]kW	×
• Settin	Please Enter Password 20250109 g Battery 2 related settings Capacity Maximum Charging Power Maximum Discharge Power Charge Max Current	Ves 258 200.0 25.2 55.0	Advanced Setting Ca [0,2000]Ah [0,200.0]kW [0.0, 200.0]kW [0.0, 200.0]kW	×
• Settin	Please Enter Password 20250109	Ves 258 200.0 25.2 55.0 55.0	Advanced Setting Ca [0,2000]Ah [0,200.0]AW [0,200.0]kW [0.0, 200.0]kW [0.0, 200.0]A [0.0, 200.0]A	×
• Settin	Please Enter Password 20250109	Ves 258 200.0 25.2 55.0 55.0 900.0	Advanced Setting Ca [0,2000]Ah [0,200.0]kW [0,200.0]kW [0.0, 200.0]kW [0.0, 200.0]A [0.0, 200.0]A [0.0, 200.0]A [0.0, 200.0]A	×
• Settin	Please Enter Password 20250109	Ves 258 200.0 252 55.0 55.0 900.0 200.0	Advanced Setting Ca [0,2000]Ah [0,200.0]kW [0,200.0]kW [0.0, 200.0]kW [0.0, 200.0]A [0.0, 200.0]A [0.0, 200.0]A [0.0, 200.0]V [200.0,900.0]V [200.0,900.0]V	×
• Settin	Please Enter Password 20250109 Battery 2 related settings Capacity Maximum Charging Power Maximum Discharge Power Charge Max Current Max Discharge Maximum charging voltage of battery Stop SOC when charging the battery	Ves 258 200.0 25.2 55.0 55.0 900.0 200.0 98	Advanced Setting Ca [0,2000]Ah [0,200.0]kW [0,200.0]kW [0.0, 200.0]kW [0.0, 200.0]A [0.0, 200.0]A [0.0, 200.0]A [0.0, 200.0]V [200.0,900.0]V [200.0,900.0]V [0,100]% [0,100]%	×

88

10

[0,99]%

[0,99]%

Advanced Setting

Cancel

Please Enter Password 20250109

O Discharge Stopped Soc ①

○ Off grid cut-off SOC ①

104
Battery 3 related settings 🔺		
○ Capacity	200	[0,2000]Ah
O Maximum Charging Power	178.8	[0,200.0]kW
O Maximum Discharge Power	58.2	[0.0, 200.0]kW
○ Charge Max Current	55.0	[0.0, 200.0]A
○ Max Discharge	55.0	[0.0, 200.0]A
\bigcirc Maximum charging voltage of battery $\textcircled{0}$	900.0	[200.0,900.0]V
○ Discharge cut-off voltage ①	200.0	[200.0,900.0]V
\bigcirc Stop SOC when charging the battery $ \textcircled{0} $	99	[0,100]%
○ Discharge Stopped Soc ①	80	[0,99]%
○ Off grid cut-off SOC ①	52	[0,99]%

Off grid manual/automatic switching: you can choose to switch the working mode manually or automatically. If "Manual" is selected, you can set the device to operate in on-grid or off-grid or generator mode. Generally, you are advised to select "Automatic" mode switch.

• Setting		\times
◯ Discharge Stopped Soc ①	80 [0,99]%	-
○ Off grid cut-off SOC ④	52 [0,99]%	
Off grid parameter settings 🔺		
Grid related settings 🔺		
Off grid manual/automatic switching	Manual	
○ On gird/Off grid Mode ①	Automatic	
Off grid related settings 🔺	Manual	
◯ Set Eps On/Off	On 💌	
◯ Set Eps Voltage	230V	
○ Set Eps Frequency	50Hz 💌	
Set Exportlimit 🔻		*
Please Enter Password 20250109	Yes Advanced Setting Cano	el

• Setting		×
O Discharge Stopped Soc 🕐	80 [0,99]%	^
○ Off grid cut-off SOC ①	52 [0,99]%	
Off grid parameter settings 🛸		
Grid related settings		
Off grid manual/automatic switching	Manual	
● On gird/Off grid Mode ①	On-Grid A	
Off grid related settings 🔺	On-Grid	
◯ Set Eps On/Off	Off Grid	
◯ Set Eps Voltage	Generator 230V	
○ Set Eps Frequency	50Hz •	
Set Evnortlimit 📼		-
Please Enter Password 20250109	Yes Advanced Setting C	ancel

Off grid related settings: you can set whether to enable the off-grid function. If select disable, this function doesn't work. If select enable, you can set EPs voltage and Eps frequency.

Note. Factory default off-grid enable	Note: Fac	ctory defai	ult off-gr	id enable.
--	-----------	-------------	------------	------------

• Setting		×
Off grid parameter settings 🔺		•
Grid related settings 🔺		
Off grid manual/automatic switching	Manual	
○ On gird/Off grid Mode ①	On-Grid 💌	
Off grid related settings		
Set Eps On/Off	On 🔺	
○ Set Eps Voltage	On	
○ Set Eps Frequency	Disable	
Set Exportlimit 💌		
Parallel parameter setting 🔺		
O Darallel enable	On The Contract of the Contrac	-
Please Enter Password 20250110	Yes Advanced Setting Cance	el

• Setting			×
Off grid parameter settings 🔺			*
Grid related settings			
Off grid manual/automatic switching	Manual	T	
○ On gird/Off grid Mode ①	On-Grid	Ŧ	
Off grid related settings			
◯ Set Eps On/Off	On	Ŧ	
Set Eps Voltage	230V	•	
◯ Set Eps Frequency	50Hz		
Set Exportlimit 💌			
Parallel parameter setting 🔺			
O Darallel enable	On	-	-
Please Enter Password 20250110	Yes	Advanced Setting C	Cancel

Set Export limit: you can select to enable/disable export limit. If select disable, this function doesn't work. If select enable, you can set Export Limitation Power, active power percentage, export limitation failure time and single phase anti backflow enable.

Note: The meter must be connected to export limit.

• Setting		×
○ On gird/Off grid Mode ①	On-Grid 💌	-
Off grid related settings		
◯ Set Eps On/Off	On 💌	
◯ Set Eps Voltage	230V ·	
○ Set Eps Frequency	50Hz •	
Set Exportlimit 🔺		
Set Exportlimit	Disable	
Export Limitation Power	On [-100.0,100.0]%	
Parallel parameter setting 🔺	Disable	
O Parallel enable	Un	1
Please Enter Password 20250110	Yes Advanced Setting Cancel	

• Set	ting			×
	○ Set Eps On/Off	On	•	•
	○ Set Eps Voltage	230V	•	
	○ Set Eps Frequency	50Hz	•	
S	et Exportlimit 🔺			
	○ Set Exportlimit	On	•	
	Export Limitation Power	0.0	[-100.0,100.0]%	
	Active power percentage	-0.1	[0.0,100.0]%	
	O Export Limitation Failure Time	50	[1,5000]s	
	○ Single phase anti backflow enable ①	On	•	
F	arallel parameter setting 🔺			
	O Darallel enable	On	•	v
	Please Enter Password 20250110	Yes	Advanced Setting Cancel	

• Setting		×
○ Set Eps Voltage	230V •	
○ Set Eps Frequency	50Hz 🐨	
Set Exportlimit 🔺		
○ Set Exportlimit	On 🔹	
Export Limitation Power	0.0 [-100.0,100.0]%	
○ Active power percentage	-0.1 [0.0,100.0]%	
O Export Limitation Failure Time	50 [1,5000]s	
Single phase anti backflow enable \bigcirc	On 🔺	
Parallel parameter setting A	On	
O Parallel enable	Disable	
Please Enter Password 20250110	Yes Advanced Setting Cancel	

> Parallel enable: you can select to enable/disable parallel.

• Setting	×
○ Active power percentage	-0.1 [0.0,100.0]%
O Export Limitation Failure Time	50 [1,5000]s
Single phase anti backflow enable	le () (On ()
Parallel parameter setting 🔺	
Parallel enable	On
Advanced Setting Advanced Setting	On
O Maximum spontaneous self use	Disable
Equipment mode selection and time	e setting 🔺
◯ Time Slot 1	Load First • 0 17 43 17 46
	10 % () Enable v
○ Time Slot 2	I nad Firet - 0 17 00 ~ 17 01
Please Enter Password	20250110 Yes Advanced Setting Cancel

Equipment mode selection and time setting: you can set 1. operating mode, include load first, battery first, grid first, solar only backup, Idle, PTO, ECO, 2. time period, 3. power percentage, 4. enable/disable. A total of 6 time slots are available for setting.

tting			
O Maximum spontaneous self use		Disable	•
Equipment mode selection and time	e setting 🔺		
Time Slot 1	Load First	v 0	17:43~17:46
3	10	4 % ©	Enable
◯ Time Slot 2	Load First	• 0	17 20 ~ 17 21
	80	% 🛈	Disable
◯ Time Slot 3	Load First	• 0	17 28 ~ 17 31
	-55	% ①	Disable
◯ Time Slot 4	Load First	• 0	17:32~17:33
	0	% ①	Enable
○ Time Clot 5	Load First	• 0	17 - 25 ~ 17 - 28
Please Enter Password	20250110		Yes Advanced Setting Cancel

Setting			×
O Maximum spontaneous self use	Disab	ole 💌	-
Equipment mode selection and time	e setting 🔺		
Time Slot 1	Load First	17:43 ~ 17:46	
◯ Time Slot 2	Load First Battery First Grid First Solar Only Backup	 Enable 17 20 17 21 O Disable 	
◯ Time Slot 3	Idle/Charge From Cli	17:28~17:31	
◯ Time Slot 4	Grid First(ECO)	O Disable - 17 32 17 33	I
	0 %	① Enable 🔹	
○ Time Slot 5	Load First 🚽 (1		*
Setting Time Slot 1	Load First	0 (17)(43)~(17)(46)	×
○ Time Slot 2	10 %	© Enable ▼	
O Time Slot 2	80 %	0 Disable	
◯ Time Slot 3	Load First 💌 🖉		
◯ Time Slot 4	Load First	O Disable 17 32	
◯ Time Slot 5	0 %	0 Enable -	
	55 %	1 Disable	
◯ Time Slot 6	Battery First 🔍 🔍	0 17 39 ~ 17 42	
Please Enter Password	20250110	Yes Advanced Setting Cancel	

Peak Shaving: you can select to enable/disable peak shaving. If select disable, this function doesn't work. If select enable, you can set demand management downstream power limit and demand management counter current power limit.

 Setting 					×
◯ Time Slot 5	Load First	• 0	17 : 35 ~	17:38	*
	55	% ()	Disable	•	
◯ Time Slot 6	Battery First	• 0	17 : 39 ~	17 : 42	
	100	% ()	Disable	-	
Demand Management/Peak Shavin	g 🔺				
Demand Management Settir	ng	On			
 Demand management down 	istream power	Disable		kW	
Demand management count	ter current power	On		kW	
Peak Shaving Backup SOC Er	nable	On	•		
O Peak Shaving Backup SOC		50		[0,100]%	
Microgrid system 🔺					*
Please Enter Password	20250110		/es A	dvanced Setting	Cancel
Setting					×
• Setting	Load First	• 0	17:35	~ 17 : 38	×
• Setting	Load First	▼ ① % ①	17:35 Disable	~ 17:38	×
• Setting	Load First 55 Battery First	• 0 % 0 • 0	17 35 Disable 17 39	~ 17 38 ~ 17 42	×
• Setting	Load First 55 Battery First 100	• 0 • 0 • 0 • 0	17 35 Disable 17 39 Disable	~ 17 38 ~ 17 42 ~ 17 42	×
• Setting	Load First 55 Battery First 100	 0 % 0 0 % 0 	17 35 Disable 17 17 39 Disable	~ 17 38 • ~ 17 42 •	×
• Setting	Load First 55 Battery First 100 ting	 0 % 0 % 0 0 0 	17:35 Disable 17:39 Disable	~ 17 38 ~ 17 42 ~ 7 42	×
• Setting	Load First 55 Battery First 100 ting A ting	• 0 • 0 • 0 • 0 • 0 • 0	17:35 Disable 17:39 Disable	~ 17 38 ~ 17 42 ~ 17 42	×
Setting Time Slot 5 Time Slot 6 Demand Management/Peak Shaw Demand Management dow limit Demand management dow limit Demand management coulimit	Load First 55 Battery First 100 ing A ting wnstream power unter current power	• 0 • 0 • 0 • 0 • 0 • 0 • 0 • 0	17:35 Disable 17:39 Disable	~ 17 38 ~ 7 42 ~ 17 42 ~ KW kW	×
Setting Time Slot 5 Time Slot 6 Demand Management/Peak Shav Demand Management dow limit Demand management dow limit Demand management cou limit O Peak Shaving Backup SOC	Load First 55 Battery First 100 ting wristream power inter current power Enable	v 0 % 0 % 0 % 0 0 0 0.0 0.0 0 0	17:35 Disable 17:39 Disable	~ 17 38 ~ 17 42 ~ 17 42 w kW kW	
Setting Time Slot 5 Time Slot 6 Demand Management/Peak Shaw Demand Management set Demand management dow limit Demand management cow limit Peak Shaving Backup SOC Peak Shaving Backup SOC	Load First 55 Battery First 100 ing A ting wnstream power unter current power Enable	• 0 • 0 • 0 • 0 • 0 • 0 • 0 • 0	17:35 Disable 17:39 Disable	~ 17 38 ~ 17 42 ~ 17 42 	
 Setting Time Slot 5 Time Slot 6 Demand Management/Peak Shaw Demand Management Set Demand Management down limit Demand management councilimit Peak Shaving Backup SOC Peak Shaving Backup SOC Microgrid system 	Load First 55 Battery First 100 ting wurstream power unter current power Enable	v 0 % 0 v 0 % 0 0 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	17:35 Disable 17:39 Disable	~ 17 38 ~ 17 42 ~ 17 42 	

Peak Shaving backup SOC enable: you can select to enable/disable peak shaving backup soc. If select disable, this function doesn't work. If select enable, you can set peak shaving backup soc.

 Setting 			×
Demand Management/Peak Shaving 🛸			*
O Demand Management Setting	On	•	
 Demand management downstream power limit 	0.0	kW	
 Demand management counter current pow limit 	ver 0.0	kW	
Peak Shaving Backup SOC Enable	Disable		
Microgrid system 🔺	Disable		
O Device Type of GEN Port	On PV Inverter		
O Generator Enable	Disable	•	
○ Rated power of oil engine	50.0	[0.0~1000.0]kW	
O Electricity Meter 2 Enable	No	*	
◯ AC Couple Enable	Disable	*	-
Please Enter Password 20250110	Yes	Advanced Setting	Cancel
• Setting			×
• Setting Demand Management/Peak Shaving A			×
Setting Demand Management/Peak Shaving O Demand Management Setting	On	•	×
Setting Demand Management/Peak Shaving Opemand Management Setting Opemand management downstream power limit	On	- kW	×
 Setting Demand Management/Peak Shaving Demand Management Setting Demand management downstream power limit Demand management counter current por limit 	0n r 0.0 wer 0.0	kw kw	×
 Setting Demand Management/Peak Shaving Demand Management Setting Demand management downstream power limit Demand management counter current por limit Peak Shaving Backup SOC Enable 	0n r 0.0 wer 0.0 0n	 kw kw 	×
 Setting Demand Management/Peak Shaving Demand Management Setting Demand Management downstream power limit Demand management counter current por limit Demand management counter current por limit Peak Shaving Backup SOC Enable 	On r 0.0 wer 0.0 On 50	 kW kW (0,100)% 	×
 Setting Demand Management/Peak Shaving Demand Management Setting Demand Management downstream power limit Demand management counter current por limit Peak Shaving Backup SOC Enable Peak Shaving Backup SOC Microgrid system 	0n r 0.0 wer 0.0 0n 50	kW kW [0,100]%	×
Setting Demand Management/Peak Shaving Demand Management Setting Demand Management downstream power limit Demand management counter current power limit Demand management counter current power limit Peak Shaving Backup SOC Enable Peak Shaving Backup SOC Microgrid system Device Type of GEN Port	On r 0.0 Wer 0.0 On 50 PV Inverter	 kW kW [0,100]% 	×

50.0

No

Ye

O Rated power of oil engine

🔿 Electricity Meter 2 Enable

Please Enter Password 20250110

Cancel

[0.0~1000.0]kW

Advanced Setting

> Device Type of GEN Port: you can set generator or PV Inverter or smart load.

• Setting		×
Microgrid system 🔺		
Device Type of GEN Port	PV Inverter	
◯ Generator Enable	Generator	
◯ Rated power of oil engine	PV Inverter [0.0~1000.0]kW	
C Electricity Meter 2 Enable	Smart Load	
◯ AC Couple Enable	Disable	
○ SOC under secondary load	40 [0, 100]%	
Safety function control 🔺		
 DRMS/RCR reuse mode/custom dry contact point 	DRMS	
○ DRMS enablement	Disable	
O Low Voltage Crossing Enable	Disable	-
Please Enter Password 20250110	Yes Advanced Setting	Cancel

> Generator Enable: you can select to enable/disable generator.

Setting				×
Microgrid system 🔺				
O Device Type of GEN Port	PV Inverter	•		
Generator Enable	Disable			
○ Rated power of oil engine	On		[0.0~1000.0]kW	
O Electricity Meter 2 Enable	Disable			
O AC Couple Enable	Disable	-		
O SOC under secondary load	40		[0, 100]%	
Safety function control				
 DRMS/RCR reuse mode/custom dry contact point 	DRMS	•		
O DRMS enablement	Disable	•		
O Low Voltage Crossing Enable	Disable	-		

> Rated power of oil engine: you can set rated power of oil engine.

Setting				×
Microgrid system 🔺				1
O Device Type of GEN Port	PV Inverter	•		
O Generator Enable	Disable	•		
Rated power of oil engine	50.0		[0.0~1000.0]kW	
O Electricity Meter 2 Enable	No	-		
○ AC Couple Enable	Disable	-		
○ SOC under secondary load	40		[0, 100]%	
Safety function control				
 DRMS/RCR reuse mode/custom dry contact point 	DRMS	•		
○ DRMS enablement	Disable	•		
O Low Voltage Crossing Enable	Disable	-		-
Please Enter Password 20250110	Yes		Advanced Setting Cancel	

> Electricity Meter 2 Enable: you can select to enable/disable electricity meter.

Setting			×
O Peak Shaving Backup SOC	50	[0,100]%	
Microgrid system			
O Device Type of GEN Port	Generator 💌		
) Generator Enable	On 💌		
O Rated power of oil engine	50.0	[0.0~1000.0]kW	
Electricity Meter 2 Enable	No		
O AC Couple Enable	Yes		
O SOC under secondary load	No	[0, 100]%	
Safety function control			
 DRMS/RCR reuse mode/custom dry contact point 	DRMS -		
	Disable		

> AC Couple enable: you can select to enable/disable AC couple.

• Setting			×
O Peak Shaving Backup SOC	50	[0,100]%	-
Microgrid system 🔺			
O Device Type of GEN Port	Generator 💌		
◯ Generator Enable	On 💌		
◯ Rated power of oil engine	50.0	[0.0~1000.0]kW	
C Electricity Meter 2 Enable	No		
AC Couple Enable	On 🔺		
○ SOC under secondary load	Disable	[0, 100]%	
Safety function control	On		
 DRMS/RCR reuse mode/custom dry contact point 	DRMS -		
	Dicable		
Please Enter Password 20250110	Yes	Advanced Setting Cancel	

> SOC under secondary load: you can set the soc under secondary load.

Setting				
O Device Type of GEN Port	Generator	•		
) Generator Enable	On	-		
○ Rated power of oil engine	50.0		[0.0~1000.0]kW	
O Electricity Meter 2 Enable	No	•		
○ AC Couple Enable	On	•		
SOC under secondary load	40		[0, 100]%	
Safety function control 🔺				
 DRMS/RCR reuse mode/custom dry contact point 	DRMS	•		
○ DRMS enablement	Disable	•		
O Low Voltage Crossing Enable	Disable	-		
Register Value				

DRMS/RCR reuse mode/custom dry contact: you can set DRMS, RCR or custom dry contact.

• Setting		×
○ Rated power of oil engine	50.0	[0.0~1000.0]kW
O Electricity Meter 2 Enable	No	•
O AC Couple Enable	On	•
SOC under secondary load	40	[0, 100]%
Safety function control		
DRMS/RCR reuse mode/custom dry contact point		*
 DRMS enablement 	DRMS	
O Low Voltage Crossing Enable	RCR	
O Register Value	Custom	
O Please Select		Read
Start Address Find Address		Advanced Read
Please Enter Password 20250110	Yes	Advanced Setting Cancel

> DRMS enablement: you can select to enable/disable DRMS.

• Setting			×
O Rated power of oil engine	50.0	[0.0~1000.0]kW	*
O Electricity Meter 2 Enable	No		
O AC Couple Enable	On 💌		
SOC under secondary load	40	[0, 100]%	
Safety function control 🛸			
 DRMS/RCR reuse mode/custom dry contact point 	DRMS 💌		
DRMS enablement	Disable		
O Low Voltage Crossing Enable	Disable		
O Register Value	On		
O Please Select 💌		Read	1
C Start ∆ddress Find Address		Advanced Read	-
Please Enter Password 20250110	Yes	Advanced Setting Cancel	

Low Voltage Crossing Enable: you can select to enable/disable low voltage crossing.

• Setting			×
◯ Rated power of oil engine	50.0	[0.0~1000.0]kW	^
C Electricity Meter 2 Enable	No 💌		
O AC Couple Enable	On 💌		
○ SOC under secondary load	40	[0, 100]%	
Safety function control 🛸			
 DRMS/RCR reuse mode/custom dry contact point 	DRMS -		
O DRMS enablement	Disable -		
Low Voltage Crossing Enable	Disable		
O Register Value	Disable		
O Please Select 👻	On	Read	
○ Start ∆ddress Fnd Address		Advanced Read	-
Please Enter Password 20250110	Yes	Advanced Setting Cancel	

3.Meter

ice		CA III Deshboard Energy	Home energy	B Ø			
t Location: Dashboard>Photovolta/c Devi	ice>Smart meter list						
iovecture Device	5		· Generation			Ren Revenue	
42			2.4			14 M	
0	685	596387	596391.3	1194319.7	715664.4	715669.6	1433183.8
2 SDM_THREE/ (1) 3 Data Logger: User Name: I	JKN3076605 4 Connection Stat	tus: Offine Update Time: 2 IIT 30-50K Ralliog:	124-06-05 16:32:23	Communication Address: 1 Power Factor: 0.0	1 Device Serial N	iumber or Allas:	East BE History Da
2 SDM_THREE/ (1) 3 Data Logger: User Name: 1 Active Power	IKNDDV66D6 4 Connection State Plant Name: W NV: 0 Reactive Power	tus: Offine Update Time: 2 Iff 30-50K Rallog: Wei): 6.0 Apparent Power	324-06-05 16:32:23 VA): 0.0	Communication Address: 1 Power Factor: 0.0 Active Energy(kWh): 0.0	1 Device Serial N	lumber or Allas:	History Da
2 SDM_THREE/ (1) 3 Data Logger: User Name: 1 Active Powert Reactive Ener	INNEDVISODS 4 Connection Stat Plant Name: W Simplification Basel NV): 0 Reactive Power gysOker+E: 0.0 5 Inverter: PIN12	tus: Offine Update Time: 2 Iff 10-50K Rallog: K Wr(): 0.0 Apparent Power 134666	224-06-05 16:32:23 VA): 0.0	Communication Address: 1 Power factor: 0.8 Active Energy(WHI): 0.0	1 Device Serial N	umber or Allas:	East Bill History Da Delete
2 SDM_THREE (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	IRVEOUVSEOD 4 Connection State State Permit NV): 0 Reactive Parent NV): 0 Feasible Parent Par	us: Office IT 30-50K Rallog: Vari) 8.0 Apparent Power 194666	224-06-05 16:32:23 VA): 0.0	Communication Address: 1 Power Factor: 0.8 Active Energy(WMI): 0.0	1 Device Serial N	Lumber or Allas:	History Dr Delete

- 1) Enter the serial number of the meter or the datalogger to search for the desired meter
- 2) Meter type
- 3) The datalogger worked in conjunction with the meter
- 4) Status of the meter
- 5) The serial number of the WIT inverter to which the meter is connected

System Maintenance 9

9.1 Routine Maintenance

9.1.1 Clean the Chassis



- 1) Check periodically that the humidity is within the acceptable range and keep it away from dust;
- 2) Check the ventilation and heat dissipation of the equipment regularly. For details, see Section 9.1.2.

9.1.2 Fan Maintenance

DANGER	 Only qualified and trained electrical technicians are allowed to perform operations. Technicians must observe instructions in this manual and comply with local regulations. Before performing any operation, disconnect all power supplies and wait for 5 minutes until the residual voltage is completely discharged.
	 Do not use the air pump to clean the fan. Otherwise, the fan may be damaged.

Ventilation and heat dissipation is essential to protect the WIT Inverter from performance de-rate due to excess heat. The fan in the WIT Inverter works to cool the components and the heat sink when the temperature is too high. Check the following possible causes and measures when an exception occurs:

- 1> The fan is stuck with foreign objects or there is dust accumulation on the heat sink; clean the fan cover, fan blades and the heat sink.
- 2> The fan is damaged and needs to be replaced.

The installation position of the WIT Inverter is not well-ventilated. Select an appropriate installation position that meets the basic installation requirements.

Cleaning and replacing the fan:

- 1> Before cleaning or replacing a fan, disconnect the DC and AC power supply and wait for at least 5 minutes.
- 2> Remove the fan fixing plate using a cross-head screwdriver, as shown in Fig 9.1:







Fig 9.2 Position of the fan fixing plate

- 3> Disconnect the fan connector, remove the fan fixing plate with a screwdriver, and remove the fan.
- 4> Clean the fan cover, fan blades, and the heat sink, or replace the fan.
- (1) Use an air pump to clean the heat sink, and use a brush or wet cloth to clean the fan and the its cover;
- (2) Remove the fan for cleaning if necessary;
- (3) Remove the fan that needs to be replaced using a cross-head screwdriver and install a new fan.
- (4) Bind the cables and fix them with a cable tie.
- (5) Reinstall the fan, the fan fixing plate, and the WIT Inverter.

9.2 Troubleshooting

	 It must be operated by trained and professional electrical technicians. Technicians must observe instructions in this manual and local regulations.
• If the WIT Inverter reports the "PV Isolation low" alarm, do not	
DANGER	• Beware of high voltages which can cause electric shocks.

9.2.1 Warning

Warnings indicate abnormal situations of WIT 29.9-50K-XHU Hybrid Inverters, leading to a reduction in the output power. The warning sign will disappear once the fault is rectified by restarting the inverter or reconfiguring the system. The warning codes are shown in Table 9.1:

Warning	Description	Suggestion
Warning 200	String fault	 Check if the PV panels are normal after shutdown. If the error message persists, contact Growatt support.
Warning 201	PV string/PID quick- connect terminals abnormal	1. Check the wiring of the string terminals after shutdown. 2. If the error message persists, contact Growatt support.
DC SPD Warning	DC SPD function abnormal	 Check the DC SPD after shutdown. If the error message persists, contact Growatt support.
Warning 203	PV1 or PV2 short circuited	 Check if PV1 or PV2 is short circuited. If the error message persists, contact Growatt support.
Boost Warning	PV Boost driver abnormal	1. Restart the inverter. 2. If the error message persists, contact Growatt support.
AC SPD Warning	AC SPD function abnormal	 After shutdown, check the AC SPD. If the fault persists, contact Growatt.
Warning 208	DC fuse blows	 Power off the system and check the fuse. If the fault persists, contact Growatt.

Table 9.1Warning codes

Warning	Description	Suggestion
Warning 209	DC input voltage exceeds the upper threshold	 Turn off the DC switch immediately and check the DC voltage. If the DC voltage is within the specified range and the error message persists, contact Growatt support.
PV Reversed	PV string is reversely connected	 Check the polarity of the PV terminals. If the error message persists, contact Growatt support.
Warning 219	PID function abnormal	1. Restart the inverter. 2. If the error message persists, contact Growatt support.
Warning 220	PV string disconnected	 Check if the PV string is properly connected. If the error message persists, contact Growatt support.
Warning 221	PV string current unbalanced	 Check if the PV panels of the corresponding string are normal. If the error message persists, contact Growatt support.
Warning 300	No utility grid connected or utility grid power failure	1. Check if the grid is down. 2. If the error message persists, contact Growatt support.
Warning 301	Grid voltage is beyond the permissible range	 Check if the grid voltage is within the specified range. If the error message persists, contact Growatt support.
Warning 302	Grid frequency is beyond the permissible range	 Check if the grid frequency is within the specified range. If the error message persists, contact Growatt support.
Warning 303	Overload	 Please reduce the load connected to the EPS output terminal. If the error message persists, contact Growatt support.
Warning 308	Meter disconnected	 Check if the meter is properly connected. If the error message persists, contact Growatt support.

Warning	Description	Suggestion
Warning 309	Meter is reversely connected	 Check if the L line and the N line of the meter are reversely connected. If the error message persists, contact Growatt support.
Warning 310	The voltage difference between the N line and the PE cable is abnormal	 Check if the PE cable is reliably connected after shutdown. If the error message persists, contact Growatt support.
Warning 311	Phase sequence error	No operation is required. The PCS will automatically adjust the phase sequence.
Warning 313	Abnormal generator condition	 Check the generator status. If the error message persists, please contact Growatt support.
Warning 400	Fan failure	 Check if the fan is properly connected after shutdown. If the error message persists, contact Growatt support.
Warning 401	Meter abnormal	 Check if the meter is turned on. If the meter is correctly connected to the inverter.
Warning 402	Communication between the optimizer and the inverter is abnormal	 Check if the optimizer is turned on. If the optimizer is correctly connected to the inverter.
Warning 407	Over-temperature	1. Restart the inverter. 2. If the error message persists, contact Growatt support.
Warning 408	NTC temperature sensor is broken	1. Restart the inverter. 2. If the error message persists, contact Growatt support.
Warning 411	Sync signal abnormal	 Check if the sync cable is abnormal. If the error message persists, contact Growatt support.

Warning	Description	Suggestion
Warning 412	Startup requirements of grid connection are not met	 Check if the grid voltage is within the specified range and check if the grid- connection startup voltage configuration is correct. Check if the PV voltage is within the specified range. Restart the inverter. If the error message persists, contact Growatt support.
Warning 500	The inverter failed to communicate with the battery	 Check if the battery is turned on. Check if the battery is correctly and securely connected to the inverter.
Warning 501	Battery disconnected	 Check if the battery is properly connected. If the error message persists, contact Growatt support.
Warning 502	Battery voltage too high	 Check if the battery voltage is within the permissible range. Check if the battery is correctly connected. If the error message persists, contact Growatt support.
Warning 503	Battery voltage too low	 Check if the battery voltage is within the permissible range. Check if the battery is correctly connected. If the error message persists, contact Growatt support.
Warning 504	Battery terminals are reversely connected	 Check if the positive and negative terminals of the battery are reversely connected. If the error message persists, contact Growatt support.
Warning 505	Temperature sensor of the lead-acid battery is disconnected	 Check if the temperature sensor of the lead-acid battery is installed or not. Check if the temperature sensor is well-connected. If the error message persists, contact Growatt support.

Warning	Description	Suggestion
Warning 506	Battery temperature is out of range	 Check if the ambient temperature of the battery is within the specified range. If the error message persists, contact Growatt support.
Warning 507	BMS reported a fault; both charging and discharging failed	 Figure out the cause according to the BMS error code. If the error message persists, contact Growatt support.
Warning 508	Lithium battery overload protection	 Check if the power of the load exceeds the BAT rated discharge power. If the error message persists, contact Growatt support.
Warning 509	BMS communication abnormal	1. Restart the inverter. 2. If the error message persists, contact Growatt support.
Warning 510	BAT SPD function abnormal	 Check the BAT SPD after powering off the device. If the error message persists, contact Growatt support.
Warning 601	DC component over high in output voltage	 Restart the inverter. If the error message persists, contact Growatt support.
Warning 605	Off-grid bus voltage too low	 Check if the load power exceeds the upper limit. Restart the inverter. If the error message persists, contact Growatt support.
Warning 606	The off-grid output is overloaded	 Check whether the load exceeds the inverter specification. Restart inverter, If error message still exists, contact manufacturer.
Warning 609	Balanced circuit abnormal	 Restart the inverter. If the error message persists, contact Growatt support.

9.2.2 Error

The error code indicates that the device is damaged or the configurations are abnormal. Only qualified and trained electrical technicians are allowed to rectify the faults. The error message will disappear after the fault is rectified. If the problem persists, please contact Growatt.

Error Code	Description	Suggestion
AFCI Fault	An arc fault has been detected	 After shutdown, check the connection of the PV string. Restart the inverter. If the error message persists, please contact Growatt support.
GFCI High	An excessively high leakage current has been detected	 Restart the inverter. If the error message persists, please contact Growatt support.
PV Voltage High	DC input voltage exceeds the upper threshold	 Disconnect the DC switch immediately and check the voltage. If the DC input voltage is within the permissible range and the error message persists, please contact Growatt support.
PV Isolation Low	PV panels have low insulation resistance	 Check if the PV strings are properly grounded. If the error message persists, please contact Growatt support.
PV Reversed	PV string reversely connected	 After shutdown, check if the PV string is reversely connected to the inverter. Restart the inverter. If the error message persists, please contact Growatt support.
AC V Outrange	Grid voltage is beyond the permissible range	1. Check the grid voltage. 2. If the grid voltage is within the permissible range and the error message persists, please contact Growatt support.
No AC	No utility grid connected or utility grid power failure	 After shutdown, check the AC wiring. If the error message persists, please contact Growatt support.

Table	9.2	Error	codes
Table	· · -	E1101	coucs

Error Code	Description	Suggestion
NE Abnormal	The voltage difference between the N line and the PE cable is abnormal	 After shutdown, check if the ground cable is reliably connected. If the error message persists, please contact Growatt support.
AC F Outrange	Grid frequency is beyond the permissible range	 Check the grid frequency and restart the inverter. If the error message persists, please contact Growatt support.
Error 309	Grid ROCOF (Rated of Change of Frequency) abnormal	 Check the grid frequency and restart the inverter. If the error message persists, please contact Growatt support.
NE Fault	Neutral-to-Ground voltage is too low	 Check whether the N line on the inverter side with PV negative grounding is short-circuited with the ground cable and whether the output side is isolated with a transformer. If the error message persists, please contact Growatt support.
Error 311	Export limitation fail-safe	 After shutdown, check the connection of the CT and the meter. If the error message persists, please contact Growatt support.
Error 313	Abnormal generator condition	 After shutdown, check the generator status. If the error message persists, please contact Growatt support."
Error 400	DCI bias abnormal	 Restart the inverter. If the error message persists, contact Growatt support.
Error 402	High DC component in output current	 Restart the inverter. If the error message persists, contact Growatt support.
Error 404	Bus voltage sampling abnormal	 Restart the inverter. If the error message persists, please contact Growatt support.
Error 405	Relay fault	 Restart the inverter. If the error message persists, please contact Growatt support.

Error Code	Description	Suggestion
Error 408	Over-temperature	 After shutdown, check the temperature of the inverter and restart the inverter after the temperature is within the acceptable range. If the error message persists, please contact Growatt support.
Error 409	Bus voltage abnormal	 Restart the inverter. If the error message persists, please contact Growatt support.
Error 411	Internal communication failure	 Check the wiring of the communication board after shutdown. If the error message persists, please contact Growatt support.
Error 412	Temperature sensor disconnected	 Check if the temperature sensor module is properly connected. If the error message persists, please contact Growatt support.
Error 413	IGBT drive fault	 Restart the inverter. If the error message persists, please contact Growatt support.
Error 414	EEPROM error	 Restart the inverter. If the error message persists, please contact Growatt support.
Error 415	Auxiliary power supply abnormal	 Restart the inverter. If the error message persists, please contact Growatt support.
Error 416	DC/AC overcurrent protection	 Restart the inverter. If the error message persists, please contact Growatt support.
Error 417	Communication protocol mismatch	 Restart the inverter. If the error message persists, please contact Growatt support.
Error 418	DSP and COM firmware version mismatch	 Check the firmware version. If the error message persists, please contact Growatt support.
Error 419	DSP software and hardware version mismatch	 Check the firmware version. If the error message persists, please contact Growatt support.
Error 421	CPLD abnormal	 Restart the inverter. If the error message persists, please contact Growatt support.

Error Code	Description	Suggestion
Error 422	Redundancy sampling inconsistent	 Restart the inverter. If the error message persists, please contact Growatt support
Error 423	PWM pass-through signal failure	 Restart the inverter. If the error message persists, please contact Growatt support.
Error 425	AFCI self-test failure	 Restart the inverter. If the error message persists, please contact Growatt support.
Error 426	PV current sampling abnormal	1. Restart the inverter. 2. If the error message persists, please contact Growatt support.
Error 427	AC current sampling abnormal	 Restart the inverter. If the error message persists, please contact Growatt support.
Error 430	EPO fault	 Restart the inverter. If the error message persists, please contact Growatt support.
Error 431	Monitoring chip BOOT verification failed	 Restart the inverter. If the error message persists, please contact Growatt support.
Error 500	BMS failed to communicate with the inverter	 Check the connection of the RS485 cable between the inverter and the battery. Check if the battery is in the sleep mode. If the error message persists, please contact Growatt support.
Error 501	The BMS reports that the battery failed to charge/discharge	 Figure out the fault based on the BMS error code. If the error message persists, please contact Growatt support.
Bat Voltage Low	The battery voltage is below the lower threshold	 Check the battery voltage. If the error message persists, please contact Growatt support.
Error 503	The battery voltage exceeds upper threshold	 Check the battery voltage. If it is within the permissible range, please restart the inverter. If not, please replace the battery. If the error message persists, please contact Growatt support.

Error Code	Description	Suggestion			
Error 504	The battery temperature is beyond the range for charging / discharging	 Check the temperature of the battery. If the error message persists, please contact Growatt support. 			
Bat Reversed	Battery terminals reversed	 Check if the battery terminals are reversely connected. If the error message persists, please contact Growatt support. 			
Error 506	Battery open- circuited	 Check the wiring of the battery terminals. If the error message persists, please contact Growatt support. 			
Error 507	Battery overload protection	 Check if the power of the load exceeds the battery rated discharge power. If the error message persists, please contact Growatt support. 			
Error 508	BUS2 Volt Abnormal	 Restart the inverter. If the error message persists, please contact Growatt support. 			
Error 509	BAT Charge OCP (Overcurrent Protection)	 Check if the PV voltage is oversized. If the error message persists, please contact Growatt support. 			
Error 510	BAT Discharge OCP (Overcurrent Protection)	 Check if the battery discharge curren configuration is proper. If the error message persists, please contact Growatt support. 			
Error 511	BAT soft start failed	 Restart the inverter. If the error message persists, please contact Growatt support. 			
EPS Output Short	Off-grid output short-circuited	 Restart the inverter. If the error message persists, please contact Growatt support. 			
Error 601 Off-grid BUS Volt Low		 Check if the battery is working properly or the battery experiences capacity loss. If the error message persists, please contact Growatt support. 			

Error Code	Description	Suggestion
Error 602	Abnormal Volt at the off-grid terminal	 Check if a voltage is present at the AC port. If the error message persists, please contact Growatt support.
Error 603	Soft start failed	 Restart the inverter. If the error message persists, please contact Growatt support.
Error 604	Off-grid output voltage abnormal	1. Restart the inverter. 2. If the error message persists, please contact Growatt support.
Error 605	Balanced circuit self-test failed	1. Restart the inverter. 2. If the error message persists, please contact Growatt support.
Error 606	High DC component in output voltage	1. Restart the inverter. 2. If the error message persists, please contact Growatt support.
EPS Overload	Off-grid output overload	1. Restart the inverter. 2. If the error message persists, please contact Growatt support.
Error 608	Off-grid parallel signal abnormal	 Check if the communication cables are properly connected. If the error message persists, please

10 Product Specifications

Table 10.1 WIT 29.9/30/36/40/50K-XHU specification

Model	WIT 29.9K -XHU	WIT 30К -XHU	WIT 36K -XHU	WIT 40K -XHU	WIT 50K -XHU	
Input data(PV)						
Max. recommended PV power(for module STC)	59.8kW	60kW	72kW	80kW	100kW	
Max. DC voltage	1100V					
Start voltage	195V					
Nominal voltage	620V					
MPP voltage range			180V-1000V	1		
Full Load DC Voltage Range	375V-850V	375V-850V	450V-850V	500V-850V	620V-850V	
No. of MPP trackers	4					
No. of PV strings per MPP tracker	2					
Max. input current per MPP tracker	40A					
Max. short-circuit current per MPP tracker	50A					
Battery data (DC)						
Battery voltage range			200-900V			
Full load battery voltage range	200V-800V	200V-800V	225V-800V	250V-800V	310V-800V	
Recommended battery voltage	512V					
No. of battery input	3					
Max. charging / discharging current	55A*3					
BMS communication	RS485/CAN					
Input/Output AC(GRID)						
AC input/output	59.8KW/	60KW/	72KW/	80KW/	100KW/	
nominal power	29.9KW	30KW	36KW	40KW	50KW	
Max. AC input/output	59.8KVA	ουκνά/ βακνά	79.2KVA/	88KVA/ ΔΔΚνΔ	110KVA/ 55KVΔ	
Nominal AC voltage/range	380V/400V -15%~10%					

Model	WIT 29.9K -XHU	WIT 30K -XHU	WIT 36K -XHU	WIT 40K -XHU	WIT 50К -ХНU	
Nominal AC grid						
frequency/range	50Hz/60Hz 45-55Hz/55-65Hz					
Max. input/output	90.6A/	100A/	120A/	133.3A/	166.7A/	
current	45.3A@220V 50A@220V 60A@220V 66.7A@220V83.3A@2					
Max. Continuous AC	2004					
Passthrough	2007					
Powerfactor	>0.99					
(@nominalpower)						
factor			-1+1			
	<2% @100% load					
THDi		<5% @	30%/60%/1	00% load		
AC grid connection		כחכ				
type		542	VV+PE/3P4V	/+PE		
Input/Output Generat	or (GEN)					
AC nominal nower	59.8KW/	60KW/	72KW/	80KW/	100KW/	
	29.9KW	30KW	36KW	40KW	50KW	
Max. input	90.6A/	100A/	120A/	133.3A/	166.7A/	
current(GEN/AC	45.3A	45.5A	54.5A	60.7A	75.7A	
Max Continuous AC						
Passthrough			200A			
Nominal AC voltage			380V/400V			
Nominal AC grid						
frequency			50Hz/60Hz			
AC connection type	3P3W+PE/3P4W+PE					
Stand alone(Backup)						
AC nominal output						
power	29.9KW	30KW	36KW	40KW	50KW	
Max. AC apparent		4 5 12 1 / 4		601/1/4		
power	29.9KVA	45KVA	54KVA	OUKVA	/5KVA	
Nominal AC voltage	220V/230V(L-N)					
	380V/400V(L-L)					
Nominal AC	50/60HZ					
Management				112 44		
Max. output current	68.0A	68.2A	81.8A	91A	113.6A	
Overload Capability	1.5 time of rated power, 10 S					
THDV	<3% (Linear full load)					

Model	WIT 29.9K -XHU	WIT 30К -XHU	WIT 36K -XHU	WIT 40K -XHU	WIT 50K -XHU		
Switch time	≤10ms						
Efficiency	iency						
Max. efficiency	98.10%						
European efficiency	97.2%						
Protection devices							
DC reverse polarity protection	Yes						
Battery reverse protection			Yes				
Insulation resistance monitoring		Yes					
AC/DC surge protection		Туре II					
AC short-circuit protection			Yes				
Ground fault monitoring	Yes						
Grid monitoring			Yes				
String monitoring		Yes					
Anti-islanding protection	Yes						
Residual-current monitoring unit	Yes						
PID function		Optional					
AFCI protection	Optional						
General data	General data						
Dimensions (W / H / D)	920/585/320mm						
Weight	92kg						
Operating temperature range	-30°C - 60°C (>50°C, derating)						
Noise emission (typical)	≤55dB						
Altitude	4000m						
Topology	Transformerless						
Cooling	Smart air cooling						

Model	WIT 29.9K -XHU	WIT 30К -XHU	WIT 36K -XHU	WIT 40K -XHU	WIT 50K -XHU	
Protection degree	IP66					
Relative humidity	0~95%					
PV connection	MC4					
AC connection		Cable	gland +SC te	rminal		
Battery connection	Quick connection plug					
Interfaces						
Display		OLED+LED/APP				
RS485/CAN/USB	RS485/CAN/USB					
WIFI/4G/LAN	WIFI/LAN					
Warranty: 5 / 10 years	Yes/Opt.					
Certificates and approvals						
Grid regulation	NRS 097-2-1:2017, EN50549-1, NC RFG, PSE-2018, PTPiREE-2021, IEC62116, IEC61727, G99:2020,VDE 4105				E-2018, ,VDE 4105	
ЕМС	IEC/EN61000-6-1, IEC/EN61000-6-3					
Safety	IEC/EN62109-1, IEC/EN62109-2, IEC/EN62477-1					

11 Decommissioning the WIT Inverter

Handle the WIT Inverter that will not be operated in the future properly.

- 1> Disconnect the external AC circuit breaker and prevent accidental reconnection due to improper operation.
- 2> Set the DC switches to the OFF position.
- 3> Disconnect the upstream battery circuit breaker.
- 4> Wait at least 5 minutes before performing operations on it.
- 5> Disconnect the AC output power cables.
- 6> Disconnect the DC input power cables.
- 7> Remove the inverter from the bracket.
- 8> Dispose of the inverter according to local disposal rules.

Warranty 12

Growatt guarantees maintenance and replacement of the defective product under warranty.

12.1 Conditions

- 1. Growatt will ask users to provide product information by filling a form before making warranty repairs, including the date of purchase and installation, the serial number of the WIT Inverter, fault description and other information.
- 2. The defected product shall be returned to Growatt for recycling and disposal.

12.2 Disclaimer

Growatt shall not be liable for any consequences of the following circumstances:

- 1. Unauthorized removal of the product, such as removing the tamper-proof label and the upper cover of the WIT Inverter.
- 2. Damage caused during transportation.
- 3. Improper operations during installation and commissioning.
- 4. Failure to observe the operation instructions regarding the installation, operation and storage of the WIT Inverter.
- 5. Unauthorized modifications or improper maintenance on the WIT Inverter.
- 6. Improper use and operation.
- 7. Damage caused by storage conditions that do not meet the requirements specified in this manual.
- 8. Failure to follow the safety precautions and applicable laws and regulations due to customer's negligence.
- 9. Damage due to force majeure, such as lightning, floods, storms, fire.
- 10. Power off the PCS before upgrading the firmware; otherwise it will shut down automatically during the upgrade process and supply no power to the loads.

In the event of a product malfunction or failure caused by the circumstance mentioned above, Growatt can provide paid maintenance services after conducting a fault diagnosis if required.

13 Contact Us

If you have technical problems with our products, please contact Growatt for technical support. To provide you with the necessary assistance, please have the following information ready:

- 1. Model number of the WIT Inverter
- 2. Serial number of the WIT Inverter
- 3. Error code of the WIT Inverter
- 4. Information indicated on the LED display
- 5. DC input voltage and AC output voltage of the WIT Inverter
- 6. Communication method of the WIT Inverter

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For local customer support, please visit https://en.growatt.com/support/contact







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