



SUNWAYS TECHNOLOGIES CO., LTD.

> 1 STM Settings

1.1 Export Limit Setting

Enable the Export Limit function by short pressing or long pressing the button on the inverter display.

② Set the percentage of the power that allowed to feed into grid, when set to XXX%, it means that the maximum allowed feed in grid power is XXX% of the inverter's rated output power. If Zero Export is needed, set the percentage to 0%.



General Version Setting Interface



Australia Version Setting Interface

CT ratio will be set in STM/STK/STK-Pro before delivery, no need to set on inverter.

1.2 ADD Device to Monitoring System

① Power on Inverter and STM.

② According to the operation instructions of the monitoring APP, create a PV plant and bind Inverter to the plant.

(5) Damages of running in an environment that does not meet the requirement stated in this document.

(6) Damages caused by operation beyond the parameters specified in applicable technical specifications.

⑦ Damages caused by unauthorized disassembly, alteration of products or modification of software codes.

⑧ Any damages caused by abnormal natural environment (force majeure, such as lightning, earthquake, fire, storm, etc.)

(9) Products beyond the warranty period.

> 3 Product Description

3.1 Function

STx series is a home smart energy management equipment and support different voltage levels and power grid. The series can collect the data in real time, including grid voltage, current, power and energy yield. Cooperating with Sunways monitoring system, it can realize real-time management and monitoring of household energy.

3.2 Model Description

The product model is defined as follows. For details, see the product Parameter page. STx-xxDxx-x-(Pro)



3.3 Storage Conditions

① Equipment must be stored in its original packaging.

② The storage temperature should always between 0°C and 30°C. Humidity is less than 90%.

3.4 Packing list

1	1*Slotted screwdriver	4	8*Pinhole terminal
2	2*RJ45 connector	5	1*User Manual
3	1*WiFi/ANT(STM no ANT)	6	1-3*CT

▼ 3.5 Product Appearance and Dimensions

Unit: mm



STM/STK/STK-Pro



▼ 3.6 Product Appearance and Dimensions

Depending on the delivery time, the label may be either of the following two types.



No.	Indicator	Status	Description	Remark
	Running	Off	The equipment is not powered on.	
T	indicator	Steady on	The equipment is powered on.	
2	Local	Off	Local communication with APP fails.	STM no this
2	indicator	On	Local communication with APP succeeds.	indicator
		On	Remote communication with severe succeeds.	
3	Remote communication	Slow flashing	The device is not connected to the router.	STM no this indicator
	Indicator	Quick flashing	The device is connected to the router but not connected to the server.	*
		Flashing	A communication data interaction has been conducted.	STM
	RS485-1	Off	No communication data interaction has been conducted.	STM
4	indicator	Flashing	Communication is not established with all connected devices.	STK, STK-Pro
		On	Communication is established with all connected devices.	STK, STK-Pro
5	RS485-2	Flashing	A communication data interaction has been conducted.	
5	indicator	Off	No communication data interaction has been conducted.	
6	Alarm indicator	Off	The device is running normally.	
б	Alarminuicator	On	An alarm or faults is generated, fault information can be viewed from the APP.	
7	Reset button		Long press for 3 seconds to reset.	

≫ 4 Installation

Sunways STM/STK/STK-Pro series is protected to IP20 and only can be installed indoors.

4.1 STM/STK/STK-Pro

STM/STK/STK-Pro installed on DIN 35mm standard guide.



4.2 Current Transformer



No.	P1	P2	Application Scenarios
1	House	Grid	Monitoring Grid Power
2	Power Generator	House	Monitoring Power Generator
3	Grid	Load	Monitoring Load

> 5 Wiring Connection



Port	Function	Remark
1	Connect to L1 or L	
2	Connect to L2	STx-xxDxx-1 no this port
3	Connect to L3	STx-xxDxx-1/2 no this port
4	Connect to N	
5	Connect to CT-S1 of L1 or L	
6	Connect to CT-S2 of L1 or L	
7	Connect to CT-S1 of L2	STy wDwy 1 po this port
8	Connect to CT-S2 of L2	STX-XXDXX-1 NO UNS POIL
9	Connect to CT-S1 of L3	
10	Connect to CT-S2 of L3	STX-XXDXX-1/2 no this port
RS485-1	RS485 port 1	
RS485-2	RS485 port 2	
LAN	LAN communication port	STM po this port
ANT	WIFI antenna port	
Type-C	Specified Debug Interface	

Wiring connection methods vary according to application scenarios. Scan the QR code below to obtain the supported scenarios and corresponding wiring diagrams.





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>1 STM/K-xxDxx-1

※ 1.1 Communications Port



Port	Function	Remark
1	Connect to L	
4	Connect to N	
5	Connect to CT-S1 of L	
6	Connect to CT-S2 of L	
RS485-1	RS485 port 1	
RS485-2	RS485 port 2	
LAN	LAN communication port	STM no this port
ANT	WIFI antenna port	STM no this port
Type-C	Specified Debug Interface	

※ 1.2 Application Scenarios and Wiring Connection

Product functions are under continuous development, please contact Sunways for more scenario solutions.

sunways /

1 STM/K-xxDxx-1

1.2.1 Scenario 1-1 (STK)

① Description: In single-phase system, export limitation and 24 hours energy consumption monitoring can be realized.

② System configuration: Sunways single-phase inverter, one piece, STK-xxDxx-1, one set.

③ Applicable grid mode: Single-phase system, L+N, 110/120/127(L-N), 220/230/240V(L-N).





2 STM/K-xxDxx-2

* 2.1 Communication Port



Port	Function	Remark
1	Connect to L1	
2	Connect to L2	
4	Connect to N	
5	Connect to CT-S1 of L1	
6	Connect to CT-S2 of L1	
7	Connect to CT-S1 of L2	
8	Connect to CT-S2 of L2	
RS485-1	RS485 port 1	
RS485-2	RS485 port 2	
LAN	LAN communication port	STM no this port
ANT	WIFI antenna port	STM no this port
Type-C	Specified Debug Interface	

※ 2.2 Application Scenarios and Wiring Connection

Product functions are under continuous development, please contact Sunways for more scenarios.

sunways // 2 STM/K-xxDxx-2

2.2.1 Scenario 2-1 (STM)

① Description: In split-phase system, export limitation can be realized.

② System configuration: Sunways single-phase inverter, one piece. STM-xxDxx-2,one set.

③ Applicable grid mode: Split-phase system, 2L+N, 220/230/240V(L-L).





2.2.2 Scenario 2-2 (STK)

① Description: In split-phase system, export limitation and 24 hours energy consumption monitoring can be realized.

② System configuration: Sunways single-phase inverter, one piece. STK-xxDxx-2, one set.

③ Applicable grid mode: Split-phase system, 2L+N, 220/230/240V(L-L).





2.2.3 Scenario 2-3 (STK)

① Description: In single-phase system, 24 hours energy consumption monitoring of any brand inverters can be realized.

② System configuration: Single-phase inverter, one piece. STK-xxDxx-2, one set.

③ Applicable grid mode: Single-phase system, L+N, 220V110/120/127(L-N), 220/230/240V(L-N).





▼ 2.2.4 Scenario 2-4 (STK)

① Description: In single-phase system, the monitoring of any brand inverters that connected with Sunways AC couple inverter can be realized.

(2) System configuration: Sunways single-phase hybrid inverter, one piece. Single-phase inverter, one piece. STK-xxDxx-2, one set.

③ Applicable grid mode: Single-phase system, L+N, 220V110/120/127(L-N), 220/230/240V(L-N)





3 STM/K-xxDxx-3

※ 3.1 Communications port



Port	Function	Remark
1	Connect to L1	
2	Connect to L2	
3	Connect to L3	
4	Connect to N	
5	Connect to CT-S1 of L1	
6	Connect to CT-S2 of L1	
7	Connect to CT-S1 of L2	
8	Connect to CT-S2 of L2	
9	Connect to CT-S1 of L3	
10	Connect to CT-S2 of L3	
RS485-1	RS485 port 1	
RS485-2	RS485 port 2	
LAN	LAN communication port	STM no this port
ANT	WIFI antenna port	STM no this port
Type-C	Specified Debug Interface	

※ 3.2 Application Scenarios and Wiring Connection

▼ 3.2.1 Scenario 3-1a (STM)

① Description: In three-phase four-wire system, the export limitation can be realized.

② System configuration: Sunways three-phase inverter, one piece. STM-xxDxx-3, one set.

③ Applicable grid mode: Three-phase system, 3L+N, 208/220/240V(L-L), 380/400V/415V(L-L).





sunways // 3 STM/K-xxDxx-3

v 3.2.2 Scenario 3-1b (STM)

① Description: In three-phase three-wire system, the export limitation can be realized.

② System configuration: Sunways three-phase inverter, one piece. STM-xxDxx-3, one set.

③ Applicable grid mode: Three-phase system, 3L, 208/220/240V(L-L).





▼ 3.2.3 Scenario 3-2a (STK)

① Description: In three-phase four-wire system, export limitation and 24 hours energy consumption monitoring can be realized.

2 System configuration: Sunways three-phase inverter, one piece, STK-xxDxx-3, one set.

3 Applicable grid mode: Three-phase system, 3L+N, 208/220/240V(L-L), 380/400V/415V(L-L).





3.2.4 Scenario 3-2b (STK)

① Description: In three-phase three-wire system, export limitation and 24 hours energy consumption monitoring can be realized.

② System configuration: Sunways three-phase inverter, one piece. STK-xxDxx-3, one set.

③ Applicable grid mode: Three-phase system, 3L, 208/220/240V(L-L).



According to different design requirements, it is recommended to add fuses or circuit breakers to the voltage input terminals to meet the safety requirements of relevant electrical codes.



The networking solution of three-phase three-wire system(380/400V/415V(L-L) is under development.

▼ 3.2.5 Scenario 3-3a (STM+STK)

① Description: In three-phase four-wire system, 24 hours energy consumption monitoring of any brand inverter can be realized.

② System configuration: Three-phase inverter, one piece. STM-xxDxx-3/ STK-xxDxx-3 one set for each.

3 Applicable grid mode: Three-phase system, 3L+N, 208/220/240V(L-L), 380/400V/415V(L-L).





▼ 3.2.6 Scenario-4a (STM+STK)

① Description: In three-phase four-wire system, the monitoring of any brand inverters that connected with Sunways AC couple inverter can be realized.

② System configuration: Sunways three-phase inverter, one piece. STM-xxDxx-3/ STK-xxDxx-3 one set for each.

③ Applicable grid mode: Three-phase system, 3L+N, 208/220/240V(L-L), 380/400V/415V(L-L).









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> 1 STM Settings

1.1 Export Limit Setting

① Enable the Export Limit function by short pressing or long pressing the button on the inverter display.

② Set the percentage of the power that allowed to feed into grid, when set to XXX%, it means that the maximum allowed feed in grid power is XXX% of the inverter's rated output power. If Zero Export is needed, set the percentage to 0%.



General Version Setting Interface



Australia Version Setting Interface

CT ratio will be set in STM/STK/STK-Pro before delivery, no need to set on inverter.

1.2 ADD Device to Monitoring System

1 Power on Inverter and STM.

② According to the operation instructions of the monitoring APP, create a PV plant and bind Inverter to the plant.

> 2 STK Settings

▼ 2.1 Setting WiFi

phone and turn on th network function on t	e wireless the device.	WLAN in the WLAN (wurden wurden wurden wurden wurden wur	connection list" **" (*represent onnect.
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🔼 Tap "Scan",A list of WiFi network	Click and select the corresponding
names pops up.	router network you want to configure.
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2.2 Setting LAN

Only support DHCP mode. When DHCP is enabled on the router, no need to configure the LAN parameter and can be used directly.

2.3 Setting Inverter Modbus Address

Set the Modbus address to 1 by short pressing or long pressing the button on the inverter display.



2.4 Export Limit Setting

① Enable the Export Limit function by short pressing or long pressing the button on the inverter display.

② Set the percentage of the power that allowed to feed into grid, when set to XXX%, it means that the maximum allowed feed in grid power is XXX% of the inverter's rated output power. If Zero Export is needed, set the percentage to 0%.



General Version Setting Interface





CT ratio will be set in STM/STK/STK-Pro before delivery, no need to set on inverter.

▼ 2.5 ADD Device to Monitoring System

① Power on Inverter and STK.

② According to the operation instructions of the monitoring APP, create a PV plant and bind Inverter to the plant.

3 STK-Pro Settings

3.1 Setting WiFi

Same with STK Settings, please refer to 2.1 Setting WiFi.

3.2 Setting LAN

Only support DHCP mode. When DHCP is enabled on the router, no need to configure the LAN parameter and can be used directly.

3.3 Setting Inverter Modbus Address

Set Modbus address of the inverter that connect with STK-Pro to 1~10 by short pressing or long pressing the button on the inverter display.



3.4 Export Limit and Other Setting

More Settings over the APP directly connected to STK, please follow the operation instructions of the APP or contact Sunways.

3.5 ADD Device to Monitoring System

1 Power on Inverter and STK-pro.

② According to the operation instructions of the monitoring APP, create a PV plant and bind Inverter to the plant.



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