

SAS965XK-485-WIFI-S12 manual



Wired Controller

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Specifications

Power source: DC 12V

IP Rating: IP21

Temperature setting range: 20°C~32°C

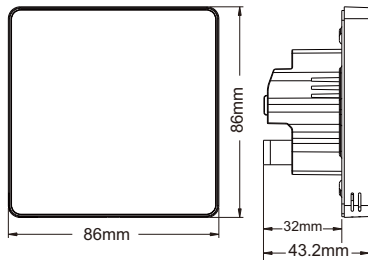
Temperature accuracy: $\pm 1^{\circ}\text{C}$

Temperature display range: 0°C~50°C

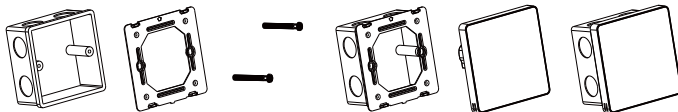
Temperature increment: 0.5°C

Operation temperature range: 0°C~50°C

Shipping & storage temperature: -10°C ~ 60°C



Installation

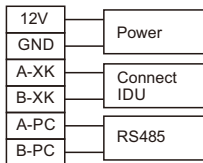


1. Install the steel plate.

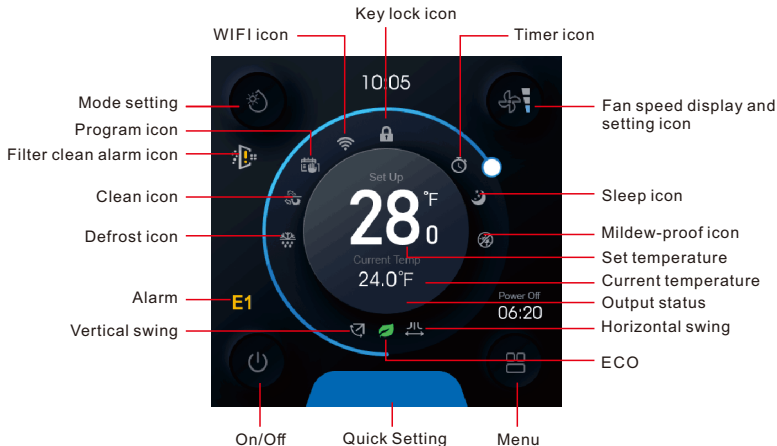
2. Mounting screws.

3. Snap on the unit.

Wiring diagram



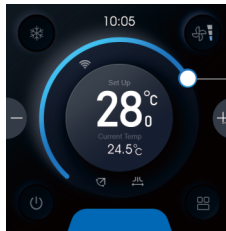
Appearance



Function description

Adjust temperature

This wired controller adjust the temperature with the dial or by “+” and “-” button. And the temperature can be adjusted in increments of 0.5 degrees.



Slide to adjust temperature

Click "+" or "-" to adjust temperature

Mode option



When the unit is running, press mode button to set the corresponding mode.

Selected mode “❄️ Cooling” and press “<” to exit and save your setting. The mode will be shown on main interface.

- Water heating will activate when your system is equipped with it.



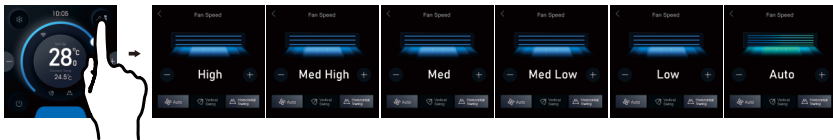
Fan speed option

Press fan button to set fan speed, + or - to set fan speed. We have 5 speed(Low/Med Low/Med/Med High/High/Auto) or 3 speed(Low/Med/High/Auto) option based on your system is equipped. Interface will display fan speed.

5 speed:



3 speed:



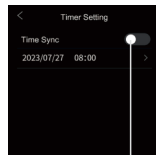
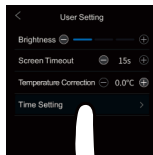
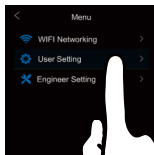
Swing function

When the unit is running, press “ Vertical Swing” or “ Horizontal Swing” button to enter or cancel swing.

Tips: If the device is not equipped with the swing function, the button cannot be activated.

User setting

Press Menu button you could enter setting you may need. Click "User Setting" to set Brightness, screen Timeout, Temperature Correction and Time Setting.

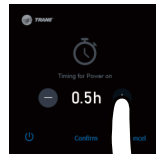
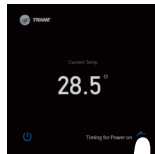


When this button is switched on " , it means the system will adjust based on the network time. But it should make sure you have connected to WIFI network.

Timing function

Timing for power on

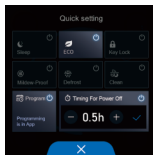
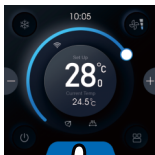
When device is in standby status, you could set timing to power on automatically. After activating this function, the interface will display a countdown until it switches on.



Quick setting

Timing for power off

Under this function, the device will automatically turn off according to the set timer.



Click "+" or "-" to set the time for power off. Press "✓" to save setting.

After set, the interface will display a countdown until it switches off.

ECO function

When the unit is running, press " " button to activate ECO function. Press " " again to cancel it.

key lock function (The password is 8653)

When the unit is running, press " " button to activate key lock function. Press " " again to cancel it.

Defrost function (It's only activated under Cool and Dry mode)

When the unit is running, press " " button to activate defrost function, press " " again to cancel it.

Mildew-Proof function(only work for cool / Dry mode)

When the unit is running, press " " button to activate key lock function. Press " " again to cancel it.

After shutdown, the air conditioner would automatically dry the moisture in the evaporator of indoor unit, so as to avoid mildewing.

Clean Function

The air conditioner can clean the evaporator automatically, which can not only keep air fresh, but also reduce the recession of cooling effect.

When the unit is running, press " " button to activate clean function. Press " " again to cancel it.

Sleep mode

When the unit is running, press " " button to activate sleep mode. Press " " again to cancel it.

The indoor unit will run according to pre-set sleep temperature curve, which creates a comfortable sleep environment and improves sleep quality.

Programmable function(Only work on Cool/Dry/Heat mode)

When connected to Wi-Fi, pressing " " allows you to switch between manual and program modes. If you select program mode, you can use the app to set your programming.

Please note: If you have connected to Wi-Fi previously, your programming settings will be recorded and executed. To change the schedule, you will need to reconnect to Wi-Fi

Temporary mode: . The programming will switch to programming in next schedule. the number will direct programming period.

Manual mode:  disappear. It means non-programming.

Default programming (4 period programming)

Default setting (Heating)

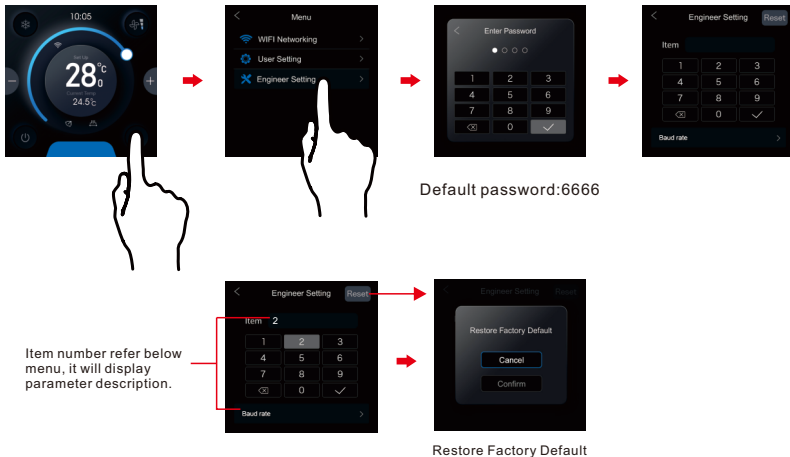
Week \ Periods	 1		 2		 3		 4	
	Morning		Out door		Back home		Sleep	
Monday to Sunday	6:00	22°C	8:00	20°C	18:00	22°C	22:00	20°C

Default setting (Cooling)

Week \ Periods	 1		 2		 3		 4	
	Morning		Out door		Back home		Sleep	
Monday to Sunday	6:00	24°C	8:00	28°C	18:00	24°C	22:00	25°C

Tips: Under programmable schedule, sleep function won't activate.

Configuration Menu operation



Parameter Item	Description	Parameter options	Default	Note
1	RS485 Modbus communication	1-247	1	
2	Baud rate	1:4800 2:9600 3:19200	2	
3	Indoor unit communication address	1-64	1	
4	Indoor unit centralized address	1-64	64	
5	Wired controller address with indoor unit	1-16	1	
6	Type of indoor unit	0-47	11	
7	Capacity of indoor unit	8-100	8	0.1W/unit
8	Fan speed / PI option	0-255	3	Only for DC motor, Can reflect the static pressure level, Only for D. C. Internal Drive Transfer value= actual value/10
9	Working mode of external drive fan motor	0-4	0	Only for External drive DC motor
10	Indoor unit Memory record	0-1	1	0-Memory record 1-Without memory record
11	Room card	0-3	0	

Parameter Item	Description	Parameter options	Default	Note
12	Time for filter clean alarm	1-255	5	500h/Unit
13	Running mode	0-5	0	0-[AUTO] [Heat] [Dry] [Cool] [Ventilation] 1-[Heat] [Dry] [Cool] [Ventilation] 2-[Dry] [Cool] [Ventilation] 3-[Heat] 4-[Cool] [Dry] [Ventilation] [Heat] [Water heating] 5-[Cool] [Dry] [Ventilation] [Water heating]
14	AC type	0-255	0	
15	Celsius/ Fahrenheit option	0-1	0	0-Celsius, 1-Fahrenheit
16	Wired controller display room temperature	0-1	0	0-Do not display 1-Display room temperature
17	Sensor position	0-2	0	0-Sensor from indoor unit; 1-Sensor from wired controller; 2-Sensor from indoor unit in cool mode. Sensor from wired controller in heat mode
18	Static Pressure lock	0-1	0	0-Unlock, 1-Lock

Parameter Item	Description	Parameter options	Default	Note
19	Open window/Fire alarm	0-2	0	0- without 1- Open window 2- Fire alarm
20	High speed	0-255	0	10r/min (only activate in PG motor, DC motor. Setting value=Actual value/10
21	Med speed	0-255	0	10r/min(only activate in PG motor, DC motor. Setting value=Actual value/10
22	Low speed	0-255	0	10r/min(only activate in PG motor,DC motor. Setting value=Actual value/10
23	Heating temperature calibrate	0-255	3	Unit : °C
24	Cool/Dry temperature calibrate	0-255	0	Unit : °C
25	Inlet air temperature less or equal	0-255	22	Signed , Unit : °C Electric heating activate condition
26	Inlet temperature <setting temperature	0-255	3	Signed , Unit : °C Electric heating activate condition
27	Inlet air temperature greater or equal	0-255	25	Signed , Unit : °C Electric heating stop condition

Parameter Item	Description	Parameter options	Default	Note
28	Inlet air temperature<setting temperature	0-255	1	Signed, Unit : °C Electric heating stop condition
29	Cool air-protection temperature point	0-255	20	Signed, Unit : °C one-driven-one
30	Temperature point of low speed in Cool air-protection	0-255	28	Signed, Unit : °C one-driven-one
31	Temperature point of Setting speed fan in cool air-protection	0-255	40	Signed, Unit : °C one-driven-one
32	Time for Cool air-protection	0-255	120	Seconds
33	Control temperature 1 of cool air-protection	0-255	30	Signed, Unit : °C one-driven-multiple
34	Control temperature 2 of cool air-protection	0-255	32	Signed, Unit : °C one-driven-multiple
35	Control temperature 1' of cool air-protection	0-255	26	Signed, Unit : °C one-driven-multiple
36	Control temperature 2' of cool air-protection	0-255	30	Signed, Unit : °C one-driven-multiple

Parameter Item	Description	Parameter options	Default	Note
37	TEM less or equal	0-255	48	Signed, Unit : °C Electric heating inner panel activate condition
38	TEM greater than	0-255	50	Signed, Unit : °C Electric heating inner panel stop condition
39	Temperature setting of cool air-protection	0-255	10	Signed, Unit : °C
40	Time of after heat	0-255	45	Seconds
41	Inner panel temperature point of afterheat	0-255	30	Signed, Unit : °C
42	Electric heat time set to activate afterheat	0-255	60	Seconds
43	Aux.heat run or not in outer panel or outer ring	0-255	10	0-Without Aux.heat (Default set) 1-Aux.heat in
44	Auto fan temperature 1 in cool mode	0-255	2	Signed, Unit : °C. Temperature difference from Auto high speed to Med speed in cool mode
45	Auto fan temperature 2 in cool mode	0-255	1	Signed, unit : °C Temperature difference from Auto med speed to low speed in cool mode

Parameter Item	Description	Parameter options	Default	Note
46	Auto fan temperature 3 in cool mode	0-255	0	Signed, unit : °C Temperature difference from Auto low speed to Med speed in cool mode
47	Auto fan temperature 1 in heat mode	0-255	2	Signed, unit : °C Temperature difference from Auto high speed to Med speed in heat mode
48	Auto fan temperature 2 in heat mode	0-255	1	Signed, unit : °C Temperature difference from Auto med speed to low speed in heat mode
49	Auto fan temperature 3 in heat mode	0-255	0	Signed, unit : °C Temperature difference from Auto low speed to med speed in heat mode
50	Temperature Min. setting in cool mode	16-24	20	Unit : °C In Fahrenheit the range is 61~75°F
51	Temperature Max. setting in heat mode	25-32	32	Unit : °C In Fahrenheit the range is 77~90°F
52	Fan motor working or not under Outdoor unit stop working	0-255	1	0-Run based on set speed; Non 0-Fan motor stop working

RS-485 MODBUS universal interface protocols

Basic description

Number	Parameter	Protocol provision
1	Operating mode	RS-485, master-slave; thermostat is the slave machine
2	Physical interface	A(+), B(-), GND three-wire system, or A(+), B(-) two-wire system
3	Baud rate	9600 (It can set in configuration menu)
4	Byte format	10 format (1 start bit + 8 data bits + 1 stop bit)
5	Transmission mode	RTU format (consult MODBUS standard)
6	Thermostat address	1—255
7	Command code	3 , 6 (3—read thermostat , 6—set thermostat)
8	CRC check code	CRC-16 (consult MODBUS standard)
9	CRC verification mode	CRC-16(consult MODBUS standard)
10	Data frame interval	Greater than 4 bytes

Modbus RTU functions

Register	Description	Possible values	Function
40001	ON / OFF status	1-ON, 0-OFF	R / W
40002	Operation mode	0 Cool, 1 Heat, 2 Ventilation, 3 Dry, 4 Auto, 5 Water heating	R / W
40003	Fan speed setting	0-AUTO, 1-Low, 2-Med, 3-High, 4-Med High, 5-Med Low	R / W
40004	Swing	0-Inactivate swing, 4-activate swing, 5-Vertical Swing, 6-Horizontal Swing, 7-Vertical and horizontal swing both	R / W
40005	Setting temperature	Unit: 0.1°C	R / W
40006	Room temperature	Unit: 0.1°C	R
40007	Key lock	0-Unlock, 1-Lock	R / W
40008	Sleep setting	0-OFF, 1-ON	R / W
40009	Eco Setting	0-OFF, 1-ON	R / W
40010	Clean setting	0-OFF, 1-ON	R / W
40011	Mildew-proof Setting	0-OFF, 1-ON	R / W
40012	Defrost setting	0-OFF, 1-ON	R / W

Register	Description	Possible values	Function
40013	Control System	0-[AUTO] [Heat] [Dry] [Cool] [Ventilation] 1-[Heat] [Dry] [Cool] [Ventilation] 2-[Dry] [Cool] [Ventilation] 3-[Heat] 4-[Cool] [Dry] [Ventilation] [Heat] [Water heating] 5-[Cool] [Dry] [Ventilation] [Water heating]	R
40014	Fan system	0: 3 Speed 1: 5 Speed	R
40015	Filter Alarm	0: Normal status 1: Alarm	R
40016	Timing setting	0-1440(minutes)	R/W
40017	Output for heat/cool	0: Without output 1: Cool output 2: Heat output	R
40018	Alarm by indoor unit	Detail refer manual of air conditioner	R
40019	Network connecting status	0-Unpairing, 1-Conneting, 2-Fail, 3-Connection successful, 4-WIFI module not found	R
40020	Clesius/ Fahrenheit option	0-°C,1-°F	R

Link with APP

- 1 Click App store(click Android application market)



- 2 Search "TuyaSmart" and download .



Registration and Login:

Click the "Register" to create account.

When you finish the register, log in your mailbox and click on the link to activate your account, then can login APP.



Register

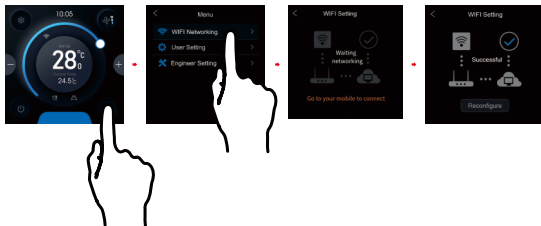


Create account

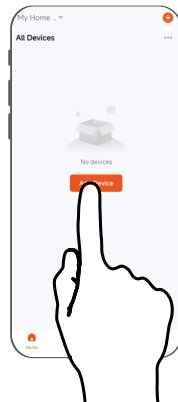


Login

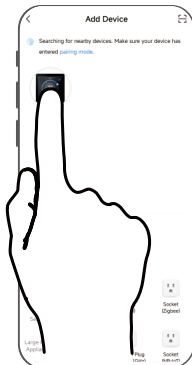
For the device :



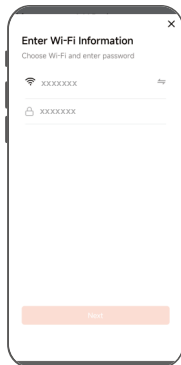
Tips: Turn on the Wifi and Bluetooth of your smartphone.



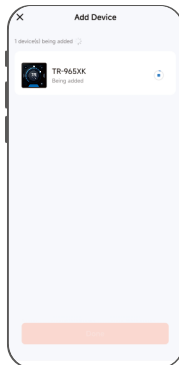
1. Enter the "HOME" interface of the app, click " Add device", or click the "📶" in the upper right corner, click "Add device".



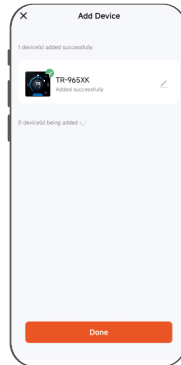
2. Click your device.



3. Enter your wifi account and password, click "Next"

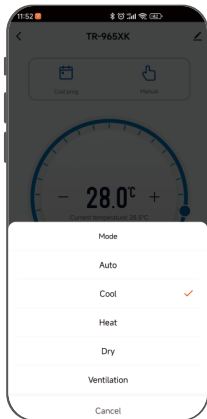


4. Wait a few seconds until the search progress is 100%.

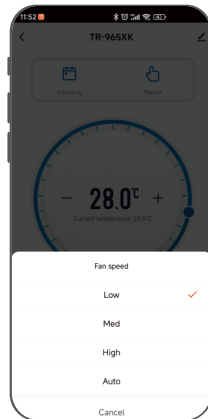
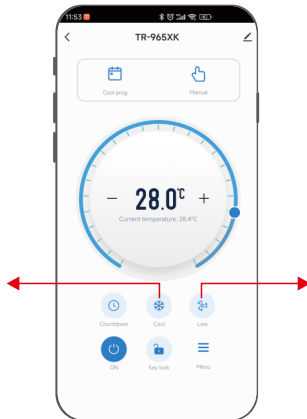


5. Click "Done", it means the device added successfully.

APP interface

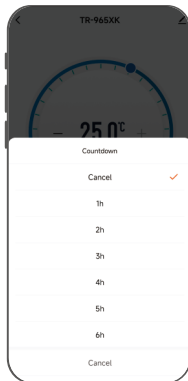


The mode selection

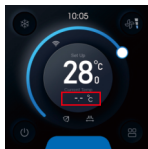


The fan speed selection

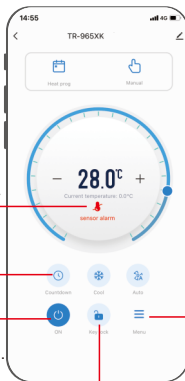
APP interface



During switch on status, set the time to switch off automatically. During switch off status, you could set the time to switch on automatically.

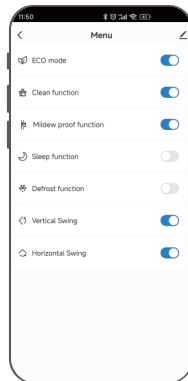


Sensor alarm:
The wired controller will display "--".



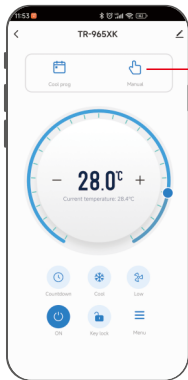
Click to switch power off, the icon become "o".

Click to activate child lock function



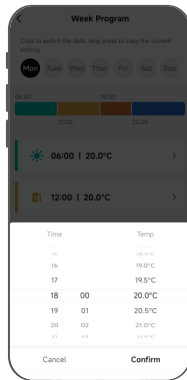
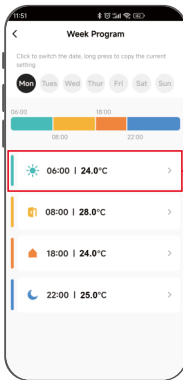
Slide the icon "o" to right to activate the functions

Programmable setting

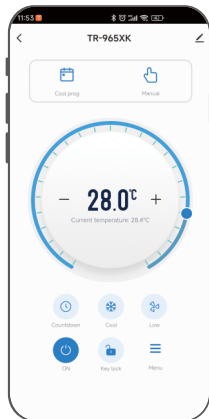


Click to switch
Manual mode

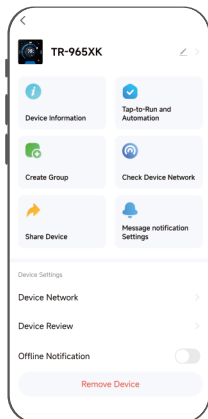
Click "📅" to set
the programmable



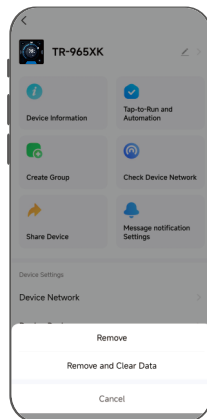
Remove device



1. Click “∟” in the upper right corner.



2. Click “Remove Device”.



Voice command

After waking up the speaker, you can say:

Amazon Alexa

- * Alexa, What is the temperature of <device name>.
- * Alexa, open <device name> .
- * Alexa, close <device name> .
- * Alexa, What is the target temperature of the <device name>?
- * Alexa, set <device name> to twenty.

Google Assistant

- * Ok, Google, What is the current temperature of my <device name>?
- * Ok, Google, set the <device name> to 20 degrees.
- * Ok, Google, turn on <device name> .
- * Ok, Google, turn off <device name> .

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