

# Serial device control

## ----A new era of intelligent networking experience

Abstract: Netvox using serial device control technology, integration of traditional docking equipment and ZigBee intelligence products to help users get the new experience on Internet of Things era.



### **Serial Device Control Overview**

ZigBee communication technology as an emerging era of things, whether it is from the data transmission rate, distance, or from the information transmission security, stability, scalability, privacy and other terms, are more incomparable in advantage than the commonly used in ordinary household Wifi and Bluetooth mode. The arrival era of Internet of things, and a wide variety of devices in a ZigBee network intelligence in themselves, bring about a new era of the new smart of experience as more and more users.

However, most of the family unit and has long been occupied by a large number of traditional equipments. These conventional devices with RS485 / RS232 / RS422 communication interface agreements, there is a problem can not access the ZigBee

protocol networks. Do we need them all to abandon all purchased new equipments and to conduct a thorough transformation of the entire environment? This is bound to waste great human and financial resources.

Today Netvox is using serial device control technology, the traditional RS485 / RS232 / RS422 devices (such as floor heating, central air conditioning, home video / audio class device, etc.), integrating with existing Netvox ZigBee agreement smart home products; to help users get the best experience on the latest product of Internet of things.



### Serial device control principle

Use support serial command control device (such as ZL01B etc.) ZigBee and RS485 / RS232 / RS422 signal transparent transmission technology to achieve docking. which is, Gateway App layer in accordance with the need to integrate communication device command format, wireless communication directly through the ZigBee wireless communication mode and support serial command control device (such as ZL01B), serial command control device as will reduced ZigBee signal to RS485 / RS232 / RS422 signal forwarded to the docking serial device can communicate with the docking device to communication interaction.



## **Serial Device Control Description**

Learn the simple principles of serial device control, well, how should we work specifically? Firstly, we need to set the target instruction template serial devices in the cloud management platform, and serial command control device requires support in the mode editor (such as ZL01B) to add networking.

Secondly, to select the screening serial control devices (such as ZL01B) in the cloud Butler APP, get the required serial device command templates and applications from the cloud, it could reach control purpose.

Details are as follows,

Cloud instruction as following,

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Depending on the specific type of docking device is divided into the following two cases:

If a target device has been integrated (e.g. floor heating), control action name is preset and no need to fill, you only need the device according to the manufacturer's agreement, input the instruction code of the corresponding action. The device name in template

name	Please fill in the device name			
type	Floor heating device			

Custom command data HEX(Hexadecimal)						
	Num	Control action	Instruction code			
	1	Power On	Please input			
	2	Power Off	Please input			
	3	TEMP Setting	Please input			
	4	TEMP Display	Please input			
	5	Manual Mode	Please input			
	6	AUTO Mode	Please input			
	7	Lock Mode	Please input			

If the target device has not been integrated, according to the actual device information for custom new device type, input custom device name of the control action.

type	Central AC
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Custom device action

Num	Control action name	Function Name	Operate
1	Power On	Custom 💌	Delete
2	Power Off	Custom 💌	Delete
3	Strong Wind	Custom 💌	Delete
4	Mild Wind	Custom	Delete

Then entering the corresponding command of the operation code.

The device name in template

name	Please fill in the device name
type	Central AC 🔹

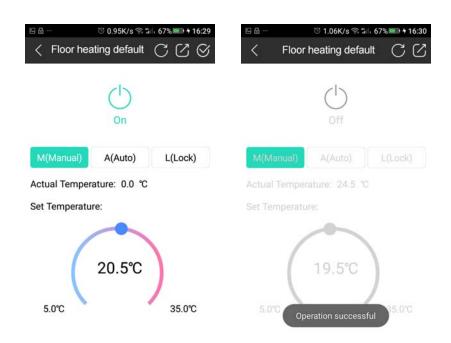
Custom command data	HEX	HEX(Hexadecimal)			
	Num	Control action	Instruction code		
	1	Power On	Please input		
	2	Power Off	Please input		
	3	Strong Wind	Please input		
	4	Mild Wind	Please input		

## (B) Application of cloud Butler APP

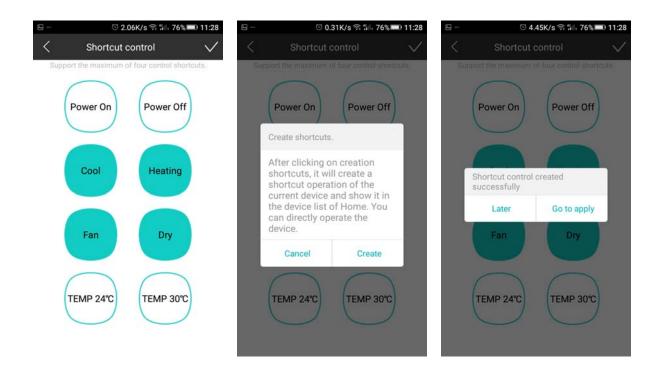
After completion of the above settings, log in cloud butler APP, can be set up - Device Management page, you can also more features - Serial control page, find the serial control device (such as ZL01B), select the corresponding target device to the instruction template and after application , will be able to control the serial devices in the cloud butler App.

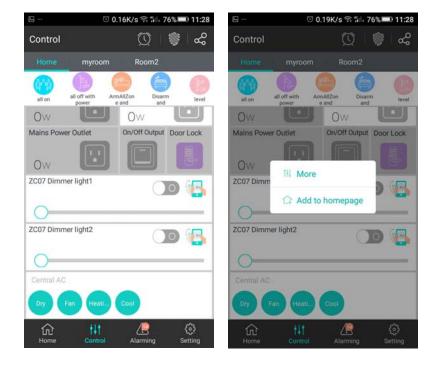
四日…	ି 0.56K/s କି	51 68% 💷 + 16:37		ত 0.12K/s 🗟 শি। 7	6% 🗩 11:26	题 …	ී 0.84	K/s 🗟 📶 76% 💷 11:26
<	Setting	Save	<	Device list	$(\checkmark)$	<	Central A	k C 🛛
	BCombin nterface	Home	Floor he	eating default		(	$\bigcirc$	
Identify time	60 s	Identify	Central A	AC		(+	Power On	Power Off
Port Control		Operate				(	Cool	Heating
Port setup		1						$\bigcirc$
						(	Fan	Dry
						Т	EMP 24°C	TEMP 30°C
Settin	9	About						

Which has been the integration of the device type (e.g. floor heating), you can view the user interface in APP and display status information. as follow:



With the existing templates, users can select the four convenient buttons to control page or the home page to make user interface more simple and convenient.





At the same time, you can set up joint control of serial devices. When setting Z716A as temperature and humidity sensor temperature is less than 23 degrees, triggering the serial port settings ZL01B to execute joint control of the central air-conditioning to be shut down.

Correlated Contr	ol Setting			×
One condition +				
Choose triggering state	is: Temperature 🔻	Choose device: Z716A Ter	mperature and Humidi 👻	
Min value: 23	Temp	erature Max value: 27		
Temperature (The values should be	between 0-32766 )	)		
Use the correlated co	ntrol for all of the m	odes		
Use the correlated co	ntrol for specific mo	de		
home". When disa	bled, the correlatior	vated after the user operates n will not be activated after th , the operation will not be pr	he user operates the	
All lights on	🔘 Enable	🔘 Disable	Bypass	
All lights off	⊚ Enable	) Disable	Bypass	-
All Switch On	🔘 Enable	Disable	Bypass	
All Switch Off	⊚ Enable	○ Disable	Bypass	
odd and even lights o	💿 Enable	Oisable	Bypass	-
		ok		

"mode test"Correlat	lons	TemperatureEnable the Macro when the value is I TemperatureEnable the Macro when the value is I TemperatureEnable the Macro when the value is I	between23and27
Binding list Cor	Single action sett	ing	×
>> 2716A Temperature and Humid Sensor2 the rule of Temperature	This setting is for one Action type: N485ACTIO Selected device: Central Home     ZL01B IEEE 802.15.4/	air control	ery actions

Besides Single action, the user can edit the action set to the mode.

			Mode editing	
$\mathcal{O}$	3		Mode name: Turn on air conditionir Mode area: Home   Mode description: Turn on air conditioning	
6	T	H.	Enable the detection of electrical equipment     s	elect picture
"mode test"Mod	de list	~	Energy device detection is to detect whether they are in a status in accordance with your operation!	
Home			ok	
All lights on	0	×		
All lights off	0	×	The explain of mode2macro	
Away	0	×	Eg.when user comes back home, click on the home of "back home"on the mobile clent. All I	ights of
GetHome	0	×	the living room will be turned on , all socket of the kitchen will be opened , the curtain will be open	ned to
Sleep	0	×	50%, and air conditioning be started to 25 degree.	
Turn on air conditioning	0	×	The mode of back home" is the mode we have set here, which means a set of status for a b devices in some scenarios at this moment.	atch of
Livingroom 🔺			"All lights of the living room turned on" is the macro we have set, which means a batch of d	evices
Diningroom 🔺			execute actions together at a certain time. The macro may consist of the unified actions of seve	
Kitchen 🔺			devices, or the individual action of each device.	
Bedroom 🔺			"Open the curtain" is an <b>action</b> we have set, which means a single action of one device.	

## Serial device control applications

Whether it is the field of security for home users in the smart home systems, or units of engine room surveillance, industrial control, medical equipment, and other areas of intellectual property, application serial device control technology will be everywhere. Serial device control technology, makes complex wired devices become wireless, both to expand the application scene equipment, but also can improve the intelligence level of Netvox smart home. This not only saves a lot of labor hours, financial costs, but also makes the application of the system Internet of things continuously higher and better.

When a family or unit element need to apply the emerging smart system, we can use the serial port control technology to connect the existing old equipments to ZigBee network access, docking and integrating the new devices with the entire system, so as to bring the Internet of Things the new era of intelligence experience.



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Netvox Smart Butler

Netvox Smart Life