

Wi-Fi Serial Device Server

USR-W630s

User Manual



V2.0

Be Honest & Do Best

Your Trustworthy Smart Industrial IoT Partner

Content

1. Intr	oduction	- 4 -
1.	1. Features	- 4 -
2. Get	Started	- 5 -
2.	1. Login router	- 5 -
2.	2. Brief introduction of the webpage	- 6 -
3. Stat	tus & System	- 6 -
3.	1. System Status	- 6 -
3.	2. Name and password	- 6 -
3.	3. Reboot timer	- 7 -
3.	4. HTTP port	- 7 -
3.	5. NTP	- 8 -
3.	6. System log information	- 8 -
3.	7. Parameters backup/firmware upgrade	- 9 -
4. Net	work introduction	10 -
4.	1. WAN interface	10 -
	4.1.1. DHCP Client	11 -
	4.1.2. Static IP	11 -
	4.1.3. PPPoE	12 -
4.	2. LAN interface	12 -
	4.2.1. General setup	13 -
	4.2.2. DHCP Server	13 -
4.	3. Network switch (Network priority)	14 -
4.	4. Wireless AP	15 -
	4.4.1. Wi-Fi settings of 2.4 & 5.8G	15 -
	4.4.2. Client information	16 -
4.	5. WWAN settings (STA mode)	17 -
	4.5.1. 2.4G/5.8G STA configuration	17 -
	4.5.2. AP information	18 -
4.	6. DHCP function	18 -
4.	7. WAN/LAN switching	19 -
4.	8. Network diagnostics	19 -



5. Serial device server function	20 -
5.1. Serial port settings	20 -
5.1.1. Time triggered mode	21 -
5.1.2. Length trigger mode	21 -
5.2. Communication settings (TCP/UDP socket)	22 -
5.2.1. TCPC Mode(TCP Client)	22 -
5.2.2. TCPS Mode(TCP Server)	24 -
5.2.3. UDPC Mode(UDP Client Mode)	26 -
5.2.4. UDPS Mode(UDP Server)	27 -
5.2.5. MQTT Mode	28 -
5.2.6. HTTPD Mode(HTTP client)	33 -
5.2.7. Heartbeat / Registration package	34 -
5.3. Advanced settings	34 -
6. Service function	36 -
6.1. USR Cloud	36 -
6.2. DDNS	37 -
6.2.1. Supported Services	37 -
6.2.2. User Defined DNS Service	38 -
6.3. SNMPD	- 39 -
7. Contact Us	40 -
8. Disclaimer	40 -



1. Introduction

USR-W630s is a WIFI5 industrial wireless client with high speed, wide connection, low latency and high stability. It can carry more than 8 WIFI clients in AP mode. It has rich hardware interfaces: 1*RS232, 1*RS485, Ethernet port (1LAN+1WAN/LAN), WiFi antenna, supports AP/AP+STA/bridging mode, and can provide stable and reliable networking solution for different scenarios and different industries. .

This product adopts industrial-grade standards, wide temperature and voltage, strong hardware protection, and has passed a number of harsh environment tests; it has 1*RS232 and 1*RS485 serial ports which can work at the same time, supports MODBUS, MQTT, TCP, UDP and other transmission protocols; it has both software and hardware watchdogs, which can ensure the device's stable working; it can adapt to different industry scenarios and still operate stably and reliably in harsh and harsh environments.

This product DIN rail mounting installation, and is widely used in scenarios that require WIFI centralized large-scale connection and low-latency requirements, such as: AGV cars, inspection robots, sorting manipulators, smart warehousing, smart Medical care, smart factories, video surveillance, unmanned parking lots, industrial automation, smart transportation, smart cities and other scenarios.

1.1. Features

Stable and reliable

- ◆Fully industrial design, protection grade IP30;
- Supports desktop placement, wall-mounted installation;
- ♦Wide voltage DC 9-36V input, with power reverse protection;
- ◆Industrial grade design, wide temperature -25℃~+70℃, EMC level 3 protection;
- Built-in hardware watchdog, fault self-detection, self-repair, and firmware backup and restoration functions to ensure system stability and not crash;

Flexible networking

- Support dual-band WIFI (2.4G and 5.8G) AP/AP+STA/bridge mode arbitrary networking;
- Supports 1*10/100M WAN/LAN and 1*10/100M LAN port;
- Supports RS232/RS485, making serial port data collection easier;
- Compatible with mainstream industrial protocols: TCP/UDP/MODBUS/HTTP/MQTT/SNMP, etc.;
- Supports connection to mainstream cloud platforms such as Alibaba Cloud and Amazon Cloud, allowing devices to easily connect to the cloud;

Powerful

♦ Supports a complete anti-drop mechanism to ensure the stability of data transmission;



- Supports wired/STA multi-network intelligent backup function to keep links open at all times;
- Supports PUSR Cloud service. You can open the built-in web page of the wireless client through PUSR Cloud for remote operation and maintenance, which facilitates centralized management of equipment systems and improves operation and maintenance efficiency;
- Supports SNMP, NTP time calibration, MAC-IP binding, anti-question restrictions and other features Function.

2. Get Started

2.1. Login web page

Power on the USR-W630s device, connect PC to USR-W630s via LAN port or via Wi-Fi, users can login router via Chrome or the other browser. The default network parameters are shown in the following table:

Parameter	Default value
2.4G SSID USR-W630S-xxxx	
5.8G SSID	USR-W630S-xxxx_5G
LAN IP	192.168.1.1
Username	admin
Password	admin
Wi-Fi password	None

Table 1. Default network parameters

Note:

Open the browser, enter 192.168.1.1 in the URL blank, and press Enter, it will navigate to the following

webpage. After entering the login password, clicking login, the web page will show configuration page of USR-

W630s.

← ⑦ ▲ 不安全 192.168.1.1/cgi-bin/luci_en USR-W650s		as 🔂 🛛	षि (३ ा) ¢= फी %3ु (८) ··· ⊡ ⊕x) [English
Communication Expert of Industrial IOT			Be Honest, Do Best!
	Authorization Required Please enter your username and password.		
	Username: admin Password:		2
	Login Reset		

Figure 1. Login Page



2.2. Brief introduction of the web page

On the left side of the web page is a tab page where you can specifically set some parameters of the module.

- Status: Mainly displays the device's name information, firmware version, routing table, running status, serial port communication status, etc.;
- Network: WAN, LAN, network switching, wireless WiFi hots-pot, wireless client, DHCP, network port mode, network diagnosis;
- Serial port server function: serial port parameter setting, communication protocol setting, network AT configuration, serial port heartbeat configuration, no data re-connection and restart settings;
- >Service functions: manned cloud service, DDNS, SNMP service;
- System: host name/password settings, scheduled restart, HTTP port settings, NTP time synchronization, access restrictions, logs, backup/upgrade, factory reset, restart, etc.

3. Status & System

3.1. System Status

Overview of product information, memory usage, network connection status, connected sites, serial port server communication, routing table, DHCP allocation.

← C ▲ 不安全 192.168.1.1/cgi-bin/luci_e	en/;stok=fb72041624fc8acfc698fd3c025deb2f/admin/sta	atus/overview	as A 🟠 🔯 🛱 🗘	(1) (≄ (∄ % (ē … ⊡
Communication Expert of Industrial IOT			Be	Honest, Do Best! AUTORERRESHON 中文 English
USR-W630s	Status			i i
✓ System Status	System			
Overview	Hostname	USR-W630s		
> Network	Firmware Version	V1.0.08.000000.0000		
> Serial Server	SN	02201024060600005115		the second se
> Services Function	Local Time	Mon Sep 9 04:47:07 2024		
> System	Uptime	0h 20m 8s		
> Logout	Load Average	2.49, 1.25, 0.80		
	Memory			
	Total Available	66548 kB / 125144 kB (53%)		
	Free	32720 kB / 125144 kB (26%)		
	Cached	25468 kB / 125144 kB (20%)		
	Buffered	8360 kB / 125144 kB (6%)		
	Network			

Figure 2. System Status

3.2. Name and password

The default password can be changed, and the default password is root, and the username cannot be set. This password is the management password (webpage login password). The default host name of the wireless



client is USR-W630s-XXXX.

USR IOT	strial IOT	onest,	Do	Bes t ^{中文 Engli}
USR-W630s	Name/Password Configure the host name of the terminal and change the administrator password for accessing the device			
 System Status Network Serial Server 	Hostname			
 Services Function System 	Hostname USR-W630s			
Name/Password NTP Reboot Timer	Password Configuration Password Password support: numbers, letters and symbols.no more than 16			
Http Port Port Forwards	Confirmation			
Access Restrictions Syslog	Apply Save			

Figure 3. Name and password settings

3.3. Reboot timer

The wireless client can be managed to restart regularly at any time of the day, week, or month, and the running cache can be cleared regularly to improve the stability of the wireless client operation. The page setup is as follows.

USR IOT Communication Expert of Industrial IOT			Be	e Honest,	Do Bes [#] ≵∣Engl
USR-W630s					
	Reboot Scheduler				
> System Status	Reboots the operating syste	m			
> Network	Parameter Configuration	n			
> Serial Server	Enable				
> Services Function		Former Third David			
∽ System	Periodic Reboot	Restart every three days when	the date is a multiple of 3		
Name/Password					
NTP	Random Time	Enable Randomly generate the certar	· I time (hours and minutes) to sucid the device online at the same time (f disabled, suctors time i	r manirad	
Pahaat Timar		W Randonny generate the restar	curre (nous and minutes) to avoid the device online at the same time in disabled, custom time i	s required.	
Reboot filler	Random Range(Start)	4:00	•		
Http Port Port Forwards	Random Range(End)	5:00			
Access Restrictions	Reboot Time	4:27			
Syslog					
Backup/Upgrade					
Reboot			Apply Save		
Logout					

Figure 4. Restart Schedule Settings

3.4. HTTP port

USR-W630s can set the login web port number to prevent non-operation and maintenance personnel from easily logging into the wireless client for configuration.



ert of Industrial IOT	Be Honest, D
R-W630s	HTTP Port
ystem Status	Here you can configure the HTTP port number, effective immediately
Network	Web server
Serial Server	100- 0 80
Services Function	a do not set the port in use: 2222 2233 53 (When setting an HTTP port, select a port that is not occupied to prevent port conflicts that may
System	cause the HTTP service to run improperly.)
lame/Password	
ITP	
Reboot Timer	Арріу
Http Port	
Port Forwards	
Access Restrictions	



3.5. NTP

- >Time synchronization: The local time can be synchronized through "Sync Browser Time" and the default
 - time zone of the wireless client can be set.
- >NTP calibration: The wireless client can perform network time adjustment, and the NTP client function is enabled by default.

Communication Expert of Inc	lustrial IOT			Вe	Honest AUT	t, Do Best orefreshion 中文 English
USR-W630s	NTP					
> System Status	The Time Synchronization se	ection is used to configure ge	neral router time settings, like selecting the local time zone, synchronizing the time an	d NTP.		
> Network	Time Parameter					
Serial ServerServices Function	Current System Time	2024-09-09 04:49:13 Mon	Sync with browser			
∽ System	Time Zone	Asia/Beijing	~			
Name/Password NTP Reboot Timer	Time Synchronization	_				
Http Port	Enable NTP Client					
Port Forwards	NTP Server					
Access Restrictions	Alternate NTP Server	ntp1.aliyun.com	×			
Syslog		time1.cloud.tencent.com	×			
Backup/Upgrade		time.ustc.edu.cn	*			
Reboot		cn.pool.ntp.org				

Figure 6. NTP settings

3.6. System log information

Log is divided into remote log and local log, located in the system-log function menu.

Remote log

>Remote log server: IP of the remote UDP server. When the IP is 0.0.0.0, remote log is not enabled;



>Remote log server port: remote UDP server port;

USR IOT Communication Expert of Indus	triel IOT		Be Hones
USR-W630s	System Log		
> System Status	Here you can view system lo	gs, including application, kernel, and VPN logs.Remote logs based on UDP protocol can also be configured.	
Network	Configuration		
Serial Server	Local log Remote log		
> Services Function	Local log		
✓ System	Remote Service IP	0.0.0.0	
Name/Password		osing dup protocol, keep empty or ototo to disable	
NTP	Remote Service Port	555 Keep empty to disable	
Reboot Timer			
Http Port			
Port Forwards		Apply	
Access Restrictions			
Syslog			

Figure 7. Remote Log

Local log

Kernel log level: supports debugging, information, attention, warning, error, fatal error, alert, emergency, a total of 8 levels; debugging is the lowest and emergency is the highest in order; Application log level: same as above;

>Logs (kernel, application) support instant viewing, clearing, and log file export.

USR IOT	Be Hone	st, Do Be ^{中文}
USR-W630s	System Log	
> System Status	Here you can view system logs, including application, kernel, and VPN logs.Remote logs based on UDP protocol can also be configured.	
<u>Network</u>	Configuration	
Serial Server Services Function	Local log Remote log	
✓ System	kernel log level Info V	
Name/Password	Application log level Info 🗸	
NTP Reboot Timer	Log Kernel View Empty	
Http Port	Sep 9 04:51:42 (none) kern.warn kernel: [1482.501967] Sep 9 04:51:42 (none) kern.warn kernel: [1482.501967] htt_alloc_peer_map_mem : Flush Interval Configured to 256 pkts	
Port Forwards	Sep 9 04:51:42 (none) kern.info kernel: [1482.514061] ol_txx_pdev_attach: 2500 t/ dsc's allocated ; range starts from 842c0000 Sep 9 04:51:42 (none) kern.warn kernel: [1482.528360] Firmware_Build_Number:114 Sep 9 04:51:42 (none) kern.warn kernel: [1482.532318] FW wireless modes: 0x1f9001	
Access Restrictions	Sep 9 04:51:42 (none) kern.warn kernel: [1482.536286] num_rf_chain:0x00000002 ht_cap_info:0x0000085b vht_cap_info:0x339979b2 vht_supp_mcs:0x0000ffa Sep 9 04:51:42 (none) kern.warn kernel: [1482.546573] wmi_service_coex_apio 0, wmi_service_4_wire_coex_support 0, coex_version 0	
Systog Backup/Upgrade	Sep 904:51:42 (none) kern.warn kernel: [1482.554779] Sep 904:51:42 (none) kern.warn kernel: [1482.554779] Sending Ext resource dg: HOST PLATFORM as 1 See 904:51:42 (none) kern.warn kernel: [1482.554779] hr feature bitmap as 50 to TGT	
Reboot	Sep 904:51:42 (none) kern.info kernel: [1482.566061] ol_ath_service_ready_event: tt_support: 1 Sep 904:51:42 (none) kern.info kernel: [1482.571340] ol_ath_service_ready_event: periodic_chan_stats: 1 Sep 904:51:42 (none) kern warn kernel: [1482.572381] ol_ath_service_ready_event: sw.cal support cherk flag: 1	



3.7. Parameters backup/firmware upgrade

Parameter backup: Click the "Download Backup" button to back up the current parameter file as a

compressed package file, such as backup- USR-W630s-2022-04-20.tar.gz, and save it locally.



Parameter upload: Upload the parameter file (such as backup-USR-W630s-2022-04-20.tar.gz) to the wireless client, then the parameter file will be saved and take effect.

Note:

>The configuration file of USR-W630s must be imported, otherwise configuration confusion may occur;

≻Try to import and configure the same version of firmware. Large version differences may cause

configuration confusion.

USR IOT Communication Expert of Indust	nial lot
USR-W630s	Backup / Flash Firmware
 System Status Network Serial Server Services Function System Name/Password NTP Reboot Timer 	Backup / Restore Click "Generate archive to download a tar archive of the current configuration files. To reset the firmware to its initial state, click "Perform reset". Download backup: ⓐ Generate archive Reset to defaults: @ Perform To restore configuration files, you can upload a previously generated backup archive here. Browse @ Upload archive
Http Port Port Forwards Access Restrictions Syslog Backup/Upgrade Reboot	Flash new firmware image Upload a proper image here to replace the running firmware. Check "Keep settings" to retain the current configuration. Keep settings: Image: Please select file Browse Flash image

Figure 9. Parameters backup/firmware upgrade

4. Network introduction

4.1. WAN interface

USR-W630s	
WAN	
wystem Status WAN Overview	
Network Status	Actions
WAN Uptime: 0h 16m 13s MAC-Address: D4:AD:2 MAC-Address: D4:AD:2 LAN E RX: 66:56 KB (399 Pkts) WAN/LAN Port eth0 TX: 66:75 KB (562 Pkts)	20:97:23:A3))) 24
WVVAN1 Uptime: 0h 0m 0s MAC-Address: DA-AD:2 MAC-Address: DA-AD:2 Wireless AP Client "USR-W660-B38D_5G" TX: 0.00 B (0 Pkts.)	20:97:23:A6



Note:



- >1 wired WAN port, 1 wireless WAN port, the WAN port is the wide area network interface;
- Support DHCP client, static IP, PPPOE mode (only wired WAN port);
- ➤Default DHCP client;
- >The WAN port IP cannot be in the same network segment as the LAN port IP;
- >The network port of this WAN port can be set to LAN, which is convenient for customers to communicate with multiple devices on the LAN. For specific settings, please refer to the network port mode configuration.

4.1.1. DHCP Client

The upper-level router must enable the DHCP service, and use a network cable to connect the upper-level router LAN and this wireless client WAN, so that W630s can obtain the IP.

031 00003	WAN - WAN_WIRED		
System Status	On this page you can configur network interfaces separated I	re the network ir by spaces. You c	nterfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and enter the names of several an also use <u>VLAN</u> notation INTERFACE. VLANNR (e.g.: etb0, 1).
Network			
WAN	Common Configuration		
LAN	General Setup		
WAN/LAN Port		-	
Network Switch	Status		Uptime: 0h 16m 51s MAC-Address: D4:AD:20:97:23:A3
2.4G Wireless AP		eth0	RX: 69.53 KB (404 Pkts.) TX: 70.15 KB (585 Pkts.)
5.8G Wireless AP			IPv4: 192.168.10.200/24
WWAN			
DHCD	Protocol	DHCP client	v
Discontin	Hostname to send when	USR-W630s	
Diagnostics	requesting DHCP		
Serial Server			
Services Function			
System	Back to Overview		Apply Save

Figure 11. DHCP Client settings

4.1.2. Static IP

Fill in the IP address in the same network segment as the upper-level router. The IP, gateway and subnet mask must be filled in correctly. If it is a dedicated public network cable, the IP, subnet mask, gateway and DNS server must be filled in correctly according to the operator's IP, subnet mask, gateway and DNS server.



USR-W630s	On this page you can compute the network interfaces, fou can broge several interfaces by ticking the broge interfaces field and enter the names of several network interfaces separated by spaces. You can also use <u>VLAM</u> notation INTERFACE. VLANIR (e.g.: etb0. 1).						
Suctam Statuc	Common Configuration						
<u>aysterii atuus</u>	General Setup						
WAN	Status Uptime: 0h 17m 11s Image: MAC-Address: D4:AD:20:97:23:A3						
LAN	RX 70.19 KB (409 Pkts.) etb0 TX 70.70 KB (519 Pkts.)						
WAN/LAN Port	IPv4: 192.168.10.200/24						
Network Switch							
2.4G Wireless AP	Protocol Static address						
5.8G Wireless AP	IPv4 address						
WWAN	IPv4 netmask Please choose						
DHCP							
Diagnostics	IPv4 gateway						
> Serial Server	IPv4 broadcast						
> Services Function	Use custom DNS servers						
> System							
> Logout	Back to Overview						

Figure 12. Static IP settings

4.1.3. PPPoE

Only wired WAN can be set, which needs to be filled in according to the correct user name and password

given by the operator.

USR-W630s	WAN - WAN_WIRED
> System Status	On this page you can configure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and enter the names of several network interfaces separated by spaces. You can also use <u>VLAN</u> notation INTERFACE. VLANR (e.g. etb., 1).
∽ Network	
WAN	Common Configuration
LAN	General Setup Advanced Settings
WAN/LAN Port	at the Hetere Of 47m 26m
Network Switch	MAC-Address: D4:AD:20:97:23:A3
4G Wireless AP	etho TX: 71.80 KB (601 Pkts.)
G Wireless AP	IPv4: 192.168.10.200/24
/WAN	
P	Protocol PPPUE
gnostics	PAP/CHAP username
al Server	PAP/CHAP password
vices Function	
tem	
	B back to Overview

Figure 13. PPPoE settings

4.2. LAN interface

The LAN port is a local area network. There is one LAN port and one WAN/LAN port.



SR-10/630s			
Six W0303	LAN		
System Status	LAN Overview		
twork	Network	Status	Actions
	LAN	Uptime: 0h 37m 2s	
	छ (हुःइन्ड्)	RX: 412.42 KB (4083 Pkts.)	💋 Connect 📓 Edit
	[PORTS: LAN1 WIF	I] IPv4: 192.168.1.1/24	
		IPV0: T084:288a:8a20::1/60	

Figure 14. LAN Interface settings

Note:

>1 LAN port, 1 WAN/LAN configurable;

The default static IP address is 192.168.1.1, and the subnet mask is 255.255.255.0. This parameter can be modified, for example, the static IP is modified to 192.168.2.1;

>The WIFI interface is bridged to the LAN port;

>The DHCP server function is enabled by default, and all devices connected to the LAN port of the wireless client can automatically obtain an IP address;

>With simple status statistics function;

4.2.1. General setup

Communication Expert of Industrial	ют				Be Ho	DNEST, DO B AUTO REFRESH ON 中文
	network interfaces separated	d by spaces. You car	n also use <u>VLAN</u> notat	tion INTERFACE. VLANNR (e.g.: eth0. 1).		
03K-W0305	Common Configuration	1				
System Status Notwork	General Setup					_
WAN	Status		Uptime: 0h 37m 2	24s		
LAN		ھڑھ br-lan	RX: 435.23 KB (422	1:AD:20:97:23:A4 25 Pkts.)		
WAN/LAN Port			IPv4: 192.168.1.1/2	24		
Network Switch						
2.4G Wireless AP	Protocol	Static address	*			
5.8G Wireless AP	IPv4 address	192.168.1.1				
WWAN	IPv4 netmask	255.255.255.0	~			
DHCP	IDv4 nateway					
Diagnostics	IFV4 gateway					
> Serial Server	IPv4 broadcast					
> Services Function	Use custom DNS servers	8.8.8.8	×			
> System		223.6.6.6	1			

Figure 15. General setup settings

4.2.2. DHCP Server

The DHCP Server function of the LAN port is turned on by default (you can choose to turn it off), and all



		-		
		IPv4 gateway		
	USR-W630s	IPv4 broadcast		
	Contrary Charles	Use custom DNS servers	8.8.8.8	×
	System Status		223.6.6.6	
`	 Network 			
	WAN			
	LAN			
		DHCP Server		
	WAN/LAN Port			
	Network Switch	General Setup		
	2.4G Wireless AP	Ignore interface	Disable <u>DHCP</u> for t	this interface.
	5.8G Wireless AP	Chart Address	100	
	ΜΛΛΛΑΝ	Start Address	Lowest leased address as	s offset from the network address.
	VVVVAIN			
	DHCP	Limit	150	
	Diagnostics		Maximum number of lease	sed addresses.
	Serial Server	Leasetime	12h	
			Expiry time of leased add	dresses, minimum is 2 minutes (<mark>2m</mark>).
	Services Function			

network devices connected to the LAN port can automatically obtain IP addresses.

Figure 16. DHCP Server settings

Note:

>You can adjust the starting address of the DHCP pool and the address lease time;

>DHCP default allocation range starts from 192.168.1.100;

➢Default lease period 12 hours

4.3. Network switch (Network priority)

In this interface, users can choose network priority. The default is to use the WAN port network first.

Configuration		
Sustem Status Pr	riority STA>ETH	~
System status	Mada Custom	
V Network Reference	Mode Custom	•
WAN Primary S	Server 223.6.6.6	~
LAN	IP or Domain, such	as"223.6.6.6"o
WAN/LAN Port Secondary S	Server 119.29.29.29	~
Network Switch	IP or Domain, such	as"223.6.6.6"oi
2.4G Wireless AP Thirdly S	Server 223.5.5.5	~
5.8G Wireless AD	IP or Domain, such	as"223.6.6.6"
Ping Int	terval 10	
WWAN	1-600seconds	
DHCP Package	e size 0	
Diagnostics	O-1024Bytes	
> Serial Server	meout 2000	
> Services Function	100-20000milliseco	onds
> System		
> Logout		

Figure 17. Network Switch settings

Table 2.	Network	switching	configuration
	NCLWOIK	Switching	configuration

Items	Description	Default	
Priority	Wired>Wireless: Prioritize using wired network,	Wired>Wireless	
	Wireless>Wired: Prioritize using wireless network,		



	Disable: Disable the network switching function and use the	
	current Internet access method to access the Internet.	
Reference Mode	Custom: Determine network status based on custom	Custom
	reference address,	
	Gateway: Refer to the gateway to determine network status	
Primary Server	IP/domain name can be set	223.6.6.6
Secondary Server	IP/domain name can be set	119.29.29.29
Third Server	IP/domain name can be set	8.8.8.8
Ping Interval	Link detection interval: configurable, range: 1-600s	10s
Package Size	Ping packet size: configurable, range: 0-1024 bytes	0
Timeout	Ping timeout: configurable, range: 100-20000ms	2000ms

Illustrate:

- Configure network priority detection rules, enabled by default, default network switching order: wired network first;
- >Set up 3 groups of IP addresses (you can also set domain names) for detecting the networking status, and perform ping packets in sequence. If the ping is successful, it will be judged that the network is normal and no further operations will be performed;
- >If none of the three sets of detection rules can be pinged, perform network switching and continue ping packet detection;
- >If neither the wired network nor the wireless network can be pinged, it is judged that the wireless client cannot connect to the external network.

4.4. Wireless AP

W630s supports 2.4G and 5.8G dual-band WIFI, supports modification configuration of SSID, password,

channel, etc.;

Dual-band WIFI APs can be turned on at the same time, or one of the APs can be turned off;

Can support 8 clients connecting at the same time;

Supports MU-MIMO and OFDMA technology, supports communication with 8 clients at the same time.

4.4.1. Wi-Fi settings of 2.4 & 5.8G

Users can set Wi-Fi related information on this page.



	2.4G Settings Clier	ent Information	
USR-W630s	Stat	atus SSID: USR: WG30s-23A3 Mode: Master Wireless is disabled or not associated	
✓ Network			
WAN	Enal	able	
LAN	Hide SS	SID 🗌	(
WAN/LAN Port	SS	SID USR-W630s-23A3	
Network Switch			
2.4G Wireless AP	Encrypti	tion No Encryption	
5.8G Wireless AP	HW Mo	lode 11ng V	
WWAN	Chan	auto 🗸	
DHCP		If STA is enabled, the configuration is affected by STA.	
Diagnostics	HT Mo	ode HT40 V	
> Serial Server		If STA is enabled, the configuration is affected by STA.	
> Services Function	Regio	ions 00 - World 🗸	
> System	Tx Pow	wer 27	
> Logout		(a) 10-27 dbm Attention: The specific transmission power is limited by national codes and channel limitations	



Table 3. Wi-Fi settings

Items	Description	Default
Enable	To choose whether to enable the Wi-Fi function.	Enable
Hide SSID	To choose whether to hide the SSID.	Disable
	If the SSID is hidden, the user cannot search for the Wi-Fi	
	name on the mobile phone or PC. Users can connect to Wi-Fi	
	by manually entering the SSID.	
SSID	Wi-Fi name, users can modify as needed.	USR-W630s-xxxx/_5.8G
Encryption	To choose Wi-Fi encryption method.	Mixed-psk
Кеу	ey The password of Wi-Fi.	
HW Mode	To choose Wi-Fi standard.	11ng
Channel	To choose Wi-Fi channel.	auto
HT Mode	To choose high throughput.	HT40
Regions	This option is for 5.8G Wi-Fi.	00-World
Tx Power	1-27dbm	27dbm

4.4.2. Client information

On this page, the users can view the device information connected to the USR-G816 through Wi-Fi.



USK-110505
System Status
 Network
WAN
LAN
WAN/LAN Port
Network Switch
2.4G Wireless AP
5.8G Wireless AP
WWAN



4.5. WWAN settings (STA mode)

2.4G or 5.8G wifi client function can be turned on.

V630s	
	WWAN Settings
em Status	After the STA is successfully connected, the channel, bandwidth and mode of the AP of the device will be synchronized to the same as the ST
8	
	Basic Settings 2.4G Settings 5.8G Settings AP Information
	STA Switch STA_5.8G
t	OFF
tch	STA_2.4G STA_5.8G
ess AP	Apply Save
s AP	



4.5.1. 2.4G/5.8G STA configuration

USR-W630s	After the STA is successfully	connected, the channel, bandwidth and mode of the AP of the device will be synchronized to the same as the STA.	
> System Status	Basic Settings 2.4G Set	tings 5.8G Settings AP Information	-
✓ Network	Scan	Scan	
WAN	SSID	USR-W660-B38D_5G	
LAN WAN/LAN Port	BSSID	MAC binding	
Network Switch	Encryption	WPA/WPA2-PSK(TKIP, CCM •	
2.4G Wireless AP 5.8G Wireless AP	Key		
WWAN	network	wwan1 v When selecting the LAN interface, please modify or close the DHCP configuration of the LAN port and configure the LAN port address as	
DHCP		the address within the upper routing subnet	
Diagnostics	Tx Power	21	
> Serial Server		2 10-27 dbmAttention: The specific transmission power is limited by national codes and channel limitations	
> Services Function	Enable Ping Check	Once selected, check the wireless connect with ping	
> System			
> Logout		Apply Save	

Figure 21. STA Settings



Items	Description	Default
Scan	Users can click the "Scan" button to search for current	
	2.4/5.8G WIFI hotspots.	
Wi-Fi SSID	Select the AP name to connect to.	WIFI-STA
Encryption	This parameter is selected based on whether the AP is	No Encryption
	encrypted.	
	No Encryption/mixed-psk.	
Кеу	AP's password.	
Network	lan: bridge mode	wwan1
	wwan1: Repeater mode	
Enable Ping Check	Once selected, check the wireless connect with ping.	Not selected

Table 4. Detail parameters of STA settings

Illustrate:

>If you need to set the static IP of STA after turning on STA, please go to Network-WAN to set it;

>If you set up a bridge to the LAN port, you need to turn off DHCP on the br-lan interface, and set the LAN

port address to the same network segment as the AP to be connected;

>Only one of 2.4G and 5.8G STA can be enabled.

4.5.2. AP information

If the USR-W630s connect to upper-level Wi-Fi successfully, the information will be displayed in this page.

USR-W660	WWAN Setti	ngs				
> System Status	When enabling t device will be sy	he STA, make sure that the AP correspondi nchronized to the same as the STA.	ng to the device is enabled. Aft	er the STA is successfu	ly connected, the channel	l, bandwidth and mode of the AP of
✓ Network						
WAN	Basic Settings	2.4G Settings 5.8G Settings	AP Information			
LAN						
WAN/LAN Port	SSID	MAC-Address	Signal	Noise	RX Rate	TX Rate
Network Switch	📶 产品部2	D4:AD:20:4A:58:E2	-35 dBm	-85 dBm	1.0 Mbit/s	206.5 Mbit/s
Wireless AP						
WWAN			_	_		
DHCP			Apply	Save		
Diagnostics						
> Serial Server						

Figure 22. AP Information

4.6. DHCP function

Static address assignment: Set at Network-DHCP. This feature is an extension of the LAN interface DHCP settings and is used to assign fixed IP addresses and host identities to DHCP clients.

Use "Add" to add new lease entries. MAC-address can be used to identify a host, IPv4-address can be used to assign an address, and hostname can be used to assign an identity.



Note: Up to 100 rules can be added.

	DHCP and DNS				
System Status Network	DHCP list information and Static Static leases are used to assign fi where only hosts with a correspo	Lease ixed IP addresses and symbolic hostr onding lease are served.	names to DHCP clients. They are a	so required for non-dynamic interface config	urations
WAN	Active DHCP Leases				
LAN	Hostname	IPv4-Address	MAC-Address	Leasetime remaining	
WAN/LAN Port	USR-FEUWTMNMYOU	192.168.1.136	00:0e:c6:72:70:e0	11h 23m 32s	
Network Switch					
2.4G Wireless AP	Static Leases				
5.8G Wireless AP	Hostname	MAC	Address	IPv4-Address	
WWAN					
DHCP		This se	ection contains no values yet		
Diagnostics					
Serial Server	New rule:				
Services Function					
	Hostname	MAC-Address		IPV4-Address	

Figure 23. DHCP Settings

4.7. WAN/LAN switching

USR-W630s	
	WAN/LAN Port setting
> System Status	Setting the Work Mode of Ethernet Port 1(WAN/LAN);
✓ Network	Configuration
WAN	Mode of Ethernet Port 1
LAN	
WAN/LAN Port	WAN/LAN WAN
Network Switch	WAN LAN
2.4G Wireless AP	
5.8G Wireless AP	Apply Save
WWAN	
DHCP	
Diagnostics	



4.8. Network diagnostics

Illustrate:

- >Online diagnostic functions, including Ping tool, routing analysis tool, and DNS viewing tool;
- >Ping is a Ping tool that can perform a ping test on a specific address directly on the wireless client;
- >Traceroute is a route analysis tool that can obtain the routing path passed when accessing an address;
- >Nslookup is a DNS viewing tool that can resolve domain names into IP addresses.



USR IOT	ndustrial IOT			Be Honest, Do Best!
USR-W660 System Status Vetwork WAN LAN Network Switch Wireless AP WWAN DHCP WAN/LAN Port Diagnostics Services Function System Logout	Diagnostics Network Utilities PING 223.6.6.6 (223.6.6.6 64 bytes from 223.6.6.6 (23.6.6.6 64 bytes from 223.6.6.6 (25.6.6.6) 64 bytes from 223.6.6.6 (25.6.6.6) 64 bytes from 223.6.6.6 (25.6.6) 64 bytes from 223.6.6 (25.6.6) 75 bytes from 223.6	223.6.6.6 273.6.6.6 Traceroute eq-0 tt-118 time=6.635 ms eq-1 tt-118 time=6.635 ms eq-2 tt-118 time=6.635 ms eq-2 tt-118 time=6.816 ms a ackets received, 0% packet loss 6.395/6.703/6.989 ms	www.baldu.com	
		JiNan Usr IOT Technology Limited http://www.p	ousr.com/	

Figure 25. Network Diagnose

5. Serial device server function

USR-W630s is equipped with RS232/RS485, supports TCP, UDP, MODBUS, MQTT, HTTPD and other network protocols, and supports heartbeat packets, registration packets, AT command and other special functions.

5.1. Serial port settings

In this interface, you can set the baud rate, data bits and other parameters of the serial port.

USR-W630s	Serial Port Se	ttinas							
System Status	Serial port basic 5-1460 bytes.	Settings, the pa	ickage ti	ime can be set in	the range of 0-100	0 ms (0 indicate	s autor	natic packaging), package ler	ngth can be set in the range of
Serial Server	Basic Configu Name	ration Baud Rate	e	Data Bits	Stop Bits	Pairty		Packaging Interval	Packaging Length
Communication	COM1-485	115200	۶ 🗸	8 🗸	1 ~	NONE	~	0	1000
Advanced Settings Services Function 	COM2-232	115200	۶ ۲	8 ~	1	NONE	~	0	1000
System > Logout	485 collision	prevention Co	onfigu	iration					
	485 collision p	revention 0	FF		~				
	200 kk.	fl	Confi						
	232 hardware flo	w control	FF	guration	~				

Figure 26. Serial port parameters

Table 5. Detail parameters of serial port



USR-W630s User Manual

Items	Description	Default
Baud Rate	To set the baud rate of RS232 or RS485, you can set:	115200
	1200/2400/4800/9600/19200/38400/57600/115200/230400	
	Note: Only RS485 supports 230400	
Data Bits	Range: 7,8	8
Stop Bits	Range:1,2	1
Parity	Range: NONE/ODD/EVEN	None
Packaging Interval	Unit: ms,	50
	Range: 10-60000ms	
Packaging Length	Unit: Bytes	1000
	Range: 5-1500 Bytes	

5.1.1. Time triggered mode

When W630s receives data from UART, it will continuously check the interval between two adjacent bytes. If the interval is greater than or equal to a certain "time threshold", then it is considered that a frame has ended, otherwise data will be received until it is greater than or equal to the packing length (default is 1000 bytes). USR-W630s will send this frame of data to the network as a packet. The "time threshold" here is the packaging interval. The settable range is 10ms~255ms. Factory default 50ms.



5.1.2. Length trigger mode

When W630s receives data from UART, it will continuously check the number of bytes received. A frame is considered complete if the number of bytes received reaches a certain "length threshold". USR-W630s sends this frame data to the network as a TCP or UDP packet. The "length threshold" here is the packaging length. The settable range is 5~1500 bytes. Factory default 1000.





5.2. Communication settings (TCP/UDP socket)

In this interface you can set the parameters of DTU.

	Communication config	uration				
ystem Status	communication comig					
letwork	Communication co	nfiguration				
erial Server	Name	Protocol	Enable	Description		
erial Port Settings						
ommunication	TCPC_1	TCPC	ON	TCPC_1		Z Edit Delete
dvanced Settings	MQTT_1	MQTT	ON	MQTT_1		Z Edit 💌 Delete
ervices Function						
ystem	New Channel:					
ogout	Name	Pr	otocol	Enable	Description	
	Name	тс	PC ¥	ON ¥	Description	Add and edit
	Name	TCI	PC Y	ON ¥	Description	Add and edit

Figure 27. DTU settings

Table 6. Detail parameters of DTU

Items	Description	Default
Name	Set the name of this link.	Null
Protocol	Select the network protocol, you can choose:	ТСРС
	TCPC/TCPS/UDPC/UDPS/HTTPD/MQTT/AWS/ALI.	
Enable	Whether to enable this link, ON (enable)/OFF (disable).	Enable
Description	Set notes for this link.	Null

Illustrate:

> Depending on the selection of each protocol, the "Add and Edit" interface will be different accordingly;

>Up to 6 links can be set up.

5.2.1. TCPC Mode(TCP Client)

USR-W630s	Communication configuration	Communication configuration						
	Configuration			1				
 System Status Network 	Enable	ON	~					
✓ Serial Server	Name	TCP_Client						
Serial Port Settings	Description	TCPC_2						
Communication	Server Address	test.cn						
Advanced Settings	Server Port							
> System	Local Port	0						
> Logout	Heartbeat Packet	OFF	~					
	Registry Packet	NONE	v					
	Transmission Mode	Pass-Through	×					
	bind	COM1-485	v					
	TLS	OFF	v					
	Offline Data Cache	OFF	×					



Figure 28. TCP Client

Items	Description	Default
Enable	Whether this link is enabled, ON (enabled)/OFF (disabled).	ON
Name	Set the name of this link.	TCPC_X
Description	Set the remark information of this link.	TCPC_X
Server Address	IP or domain name of server.	test.cn
Server Port	Listening port of server.	None
Local Port	Port of W630s.	0
Heartbeat Packet	Set whether to enable the heartbeat packet function, ON	OFF
	(enable)/OFF (disable).	
Heartbeat packet	HEX: hexadecimal type,	HEX
type	ASCII: character type.	
Heartbeat packet	Heartbeat packet data content.	None
data		
Heartbeat packet	The time interval for sending heartbeat packets, unit: seconds.	60
time		
Registration Packet	NONE: turn off the registration packet,	None
	Custom: Users can define the content of the registration	
	package themselves,	
	MAC: Use the MAC of the WAN port of the device as the content	
	of the registration packet.	
Registration packet	Custom registration packet type,	HEX
type	HEX: hexadecimal type,	
	ASCII: character type.	
Registration packet	Registration packet data content.	None
data		
Registry Packet	Send a registration packet when connecting to the server,	Sent once when
Contained In	Add the registration packet to the front of each data packet	connecting
	sent to the server.	
Transmission Mode	Pass- Through: transparent transmission mode,	Pass- Through
	Modbus RTU: Modbus RTU and Modbus TCP transfer.	
Host Polling	ON: Multiple host polling mode.	OFF
	OFF: Modbus RTU/TCP protocol conversion mode.	
Polling Timeout	Unit: ms	200
	Range: 10-6000 ms	
Modbus Timeout	ON: Enable Modbus Timeout Response.	OFF
Response	OFF: Disable Modbus Timeout Response.	

Table 7. Detail parameters of TCP client



Bind	COM1-485: Data is transmitted by RS485 only.	COM1-485
	COM2-232: Data is transmitted by RS485 only.	
	COM1+COM2: Data is transmitted by RS485 and RS232 both.	
TLS	The version can be TLS1.0 or TLS1.2.	OFF
TLS Authentication	NO AUTH: No certificate verification is required.	NO AUTH
	Server: Only the server certificate is verified.	
	BOTH: Both client and server certificates need to be validated.	
Offline Data Cache	ON: Offline data will be cached and sent when get online	OFF
	again.	
	OFF: Offline data will be not cached.	
Data Overflow	Discard old Data: Store the latest data.	Discard old Data
handling	Discard New Data: When the storage space is used up, no new	
	data will be stored.	
Caching Method	Length Limit/Package Quantity Limit	Length Limit

Illustrate:

The TCP Client mode can be used in conjunction with the USR custom indicator light. When the TCP Client connects to the server, the USR The indicator light comes on,

>Supports TLS encrypted transmission and offline data caching functions.

5.2.2. TCPS Mode(TCP Server)

Enable TCPS mode.

R-W630s	10					
	Communication conf	iguration				
Status	Communication configurat	ion				
rk	Communication config	guration				
erver	Name	Protocol	Enable	Description		
rt Settings						
cation	TCPC_1	TCPC	ON	TCPC_1		Z Edit Delete
d Settings	MQTT_1	MQTT	ON	MQTT_1		Z Edit Delete
tion						
	ICP_Client	ICPC	ON	ICPC_2		Edit Delete
	New Channel:					
	Name	Protocol	E	nable	Description	
	TCP_Server	TCPS ¥	ON	· · ·	Description	Add and edit
						1
	N					
				Apply		

Figure 29. TCP server



	Feable	ON	
USR-W660	Enable	UN	*
	Name	TCPS_1	
		7000 4	
> System Status	Description	TCPS_1	
> Network	Local Port		
✓ Serial Server		i an	
	Maximum Sockets Supported	8	
Senai Port Settings			
Communication	Exceeding Maximum	KICK	~
Advanced Settings		and the second second	
Services Function	Transmission Mode	MODUSKIU	v
Scruces runction	Host Polling	ON	~
> System			
> Logout	Polling Timeout	200	
		10-6000 milliseconds	
Mod	bus Timeout Response	OFF	~
E. (193			
	bind	COM1-485	~
	Offline Data Cache	ON	~
	onnine Data Cache		
c	ata Overflow handling	Discard Old Data	~
	Caching Method	Length Limit	~
	3ack to Overview		



Items	Description	Default
Enable	Whether this link is enabled, ON (enabled)/OFF (disabled).	ON
Name	Set the name of this link.	TCPS_X
Description	Set the remark information of this link.	TCPS_X
Local Port	Port of W630s.	0
Maximum Sockets	Range:1~16	8
Supported		
Exceeding	Kick: Kick the older client connection.	КІСК
Maximum	Keep: Keep the older client connection.	
Transmission Mode	Pass- Through: transparent transmission mode,	Pass- Through
	Modbus RTU: Modbus RTU and Modbus TCP transfer.	
Host Polling	ON: Multiple host polling mode.	OFF
	OFF: Modbus RTU/TCP protocol conversion mode.	
Polling Timeout	Unit: ms	200
	Range: 10-6000 ms	
Modbus Timeout	ON: Enable Modbus Timeout Response.	OFF
Response	OFF: Disable Modbus Timeout Response.	
Bind	COM1-485: Data is transmitted by RS485 only.	COM1-485
	COM2-232: Data is transmitted by RS485 only.	
	COM1+COM2: Data is transmitted by RS485 and RS232 both.	
Offline Data Cache	ON: Offline data will be cached and sent when get online	OFF
	again.	
	OFF: Offline data will be not cached.	
Data Overflow	Discard old Data: Store the latest data.	Discard old Data

Table 8. Detail parameters of TCP server



handling	Discard New Data: When the storage space is used up, no new		
	data will be stored.		
Caching Method	Length Limit:	Length Limit	
	Package Quantity Limit:		

5.2.3. UDPC Mode(UDP Client Mode)

Select UDPC mode.

Channel:				
Name	Protocol	Enable	Description	
Name	UDPC V	on 🗸	Description	💽 Add and edit

Figure 31. Serial port parameters

	DPC - Communicatio	n configuration	
USR-W660	ommunication configuration	UDPC	Mode
> System Status	onfiguration		
> Network	Enable	ON	~
Serial Server	Name	UDPC_1	
Serial Port Settings	Description	UDPC_1	
anced Settings	Server Address	test.cn	
ervices Function	Server Port		
ystem	Local Port	0	
Logout	Check Port	Check Port	*
	Heartbeat Packet	OFF	*
	Registry Packet	NONE	*
	Transmission Mode	Pass-Through	~
	bind	COM1-485	~
	Back to Overview		

Figure 32. UDPC parameters

Table 9.	Detail	parameters	of	UDPC
----------	--------	------------	----	------

Items	Description	Default
Enable	Whether this link is enabled, ON (enabled)/OFF (disabled).	ON
Name	Set the name of this link.	UDPC_X
Description	Set the remark information of this link.	UDPC_X
Server Address	IP or domain name of server.	test.cn
Local Port	Port of W630s.	0
Check Port	Check port / Not check port	Check Port
Heartbeat Packet	Set whether to enable the heartbeat packet function, ON	OFF
	(enable)/OFF (disable).	



Heartbeat packet	HEX: hexadecimal type,	HEX
type	ASCII: character type.	
Heartbeat packet	Heartbeat packet data content.	None
data		
Heartbeat packet	The time interval for sending heartbeat packets, unit: seconds.	60
time		
Registration Packet	NONE: turn off the registration packet,	None
	Custom: Users can define the content of the registration	
	package themselves,	
	MAC: Use the MAC of the WAN port of the device as the content	
	of the registration packet.	
Registration packet	Custom registration packet type,	HEX
type	HEX: hexadecimal type,	
	ASCII: character type.	
Registration packet	Registration packet data content.	None
data		
Registry Packet	Send a registration packet when connecting to the server,	After connection
Contained In	Add the registration packet to the front of each data packet	
	sent to the server.	
Transmission Mode	Pass- Through: transparent transmission mode,	Pass- Through
	Modbus RTU: Modbus RTU and Modbus TCP transfer.	
Bind	COM1-485: Data is transmitted by RS485 only.	COM1-485
	COM2-232: Data is transmitted by RS485 only.	
	COM1+COM2: Data is transmitted by RS485 and RS232 both.	

5.2.4. UDPS Mode(UDP Server)

Select UDPS mode.

_

v Channel:				
Name	Protocol	Enable	Description	
Name	UDPS Y	on 🗸	Description	Add and edit
USR-W660	UDPS - Communication	on configuration		
> System Status	Communication configuration	on		
> Network	Configuration			
Serial Port Settings	Enable	on 🗸		
Communication	Name	UDPS_1		
Advanced Settings	Description	UDPS_1		
> Services Function	Local Port			
> System	Transmission Mode	Pass-Through 🗸		
> Logout	bind	COM1-485 ~		
	Back to Overview		Apply Save	



Figure 33. UDPS settings

Table 10. Detail parameters of UDPS

Items	Description	Default
Enable	Whether this link is enabled, ON (enabled)/OFF (disabled).	ON
Name	Set the name of this link.	UDPS_X
Description	Set the remark information of this link.	UDPS_X
Local Port	Port of W630s.	None
Transmission Mode	Pass- Through: transparent transmission mode,	Pass- Through
	Modbus RTU: Modbus RTU and Modbus TCP transfer.	
Bind	COM1-485: Data is transmitted by RS485 only.	COM1-485
	COM2-232: Data is transmitted by RS485 only.	
	COM1+COM2: Data is transmitted by RS485 and RS232 both.	

5.2.5. MQTT Mode

5.2.5.1. Basic settings of MQTT

Select MQTT mode.

✓ Serial Server	Name	Protocol	Enable	Description	
Serial Port Settings					
Communication	TCPC_1	TCPC	ON	TCPC_1	Z Edit Delete
Advanced Settings	MQTT_1	MQTT	ON	MQTT_1	Z Edit Delete
> Services Function	TCD Climat	TCDC	ON	TCDC 2	🖉 Edit 🔛 Doloto
> System	ICP_Client	ICPC	ON	TCPC_2	Z Edit Delete
> Logout					
	New Channel:				
	Nam	e Proto	loocol	Enable	Description
	MOTT TE	st MOTT	× 0		Description
05K-W000	Configuration				
System Status	MQTT Mode Enable	on 🗸			
> Network	Name	MQTT_1			
✓ Serial Server	Description	MQTT_1			
Serial Port Settings	MQTT Vsesion	V3.1.1 🗸			
Communication	Server Address	cloudmqtt.usr.cn			
Advanced Settings	Server Port	1883			
Services Function	Client ID	02200523082400002901			
loqout		20			
	Heartoeat Interval	0-6000 Seconds			
	Reconnect Detection	5			
	Interval(s)	ange: 1-3600			
	Authentication	OFF ¥			
	MQTT WIII	OFF 👻			
	Clean Session	OFF ¥			
	TLS	OFF ¥			
	000-00-00	orr			
	Offline Data Cache	OFF V			

Figure 34. MQTT settings



Items	Description	Default
Enable	Whether this link is enabled, ON (enabled)/OFF (disabled).	ON
Name	Set the name of this link.	MQTT_X
Description	Set the remark information of this link.	MQTT_X
MQTT Version	3.1.1 or 3.1	3.1.1
Server Address	IP or domain name of server.	cloudmqtt.usr.cn
Server Port	Listening port of server.	1883
Client ID	To distinguish different clients.	02200523082400002901
Heartbeat Interval	MQTT protocol heartbeat time, unit: seconds. Unit: Second,	30
	Range: 0~6000	
Reconnect	The next reconnection interval after MQTT disconnection.	5
Detection Interval	Unit: Second, Range: 1~3600	
Authentication	If the server requires username and password authentication,	OFF
	it needs to be turned on.	
	ON: Enable authentication.	
	OFF: Disable authentication.	
MQTT Will	MQTT connection flag. When the network is disconnected	OFF
	abnormally, the server will publish this will message to other	
	clients that subscribe to this will topic.	
	ON: Enable MQTT Will.	
	OFF : Disable MQTT Will.	
Торіс	Topic of MQTT Will.	None
Will Content	The content of MQTT will.	None
QOS	Set the QOS of the will, which can be set: 0 at most once	0
	1at least 1 time	
	Accurate once	
KeepMsg	Whether to turn on the last message retention function	OFF
	ON: turn on.	
	OFF: turn off.	
TLS	The version can be TLS1.0 or TLS1.2.	OFF
TLS Authentication	NO AUTH: No certificate verification is required.	NO AUTH
	Server: Only the server certificate is verified.	
	BOTH: Both client and server certificates need to be validated.	
Offline Data	ON: Offline data will be cached and sent when get online	OFF
Cache	again.	
	OFF: Offline data will be not cached.	
Data Overflow	Discard old Data: Store the latest data.	Discard old Data
handling	Discard New Data: When the storage space is used up, no new	
	data will be stored.	
Caching Method	Length Limit:	Length Limit



Package Quantity Limit:

5.2.5.2. Subscribe/Publish Topic

The topic adding function is mainly used to add publishing or subscribing topics. Configuration parameters include basic parameters such as name, TOPIC, QOS, and whether to retain messages. The function of serial port association is to associate the topic with a certain serial port. When publishing, the original data of the serial port will be used as the payload of this topic. When receiving the subscription message, the payload of the subscribed topic will be sent to the serial port as the original data.

Note: Up to 16 topic rules can be set.

Serial Server	Offline Data	Cache ON	~					
Serial Port Settings	Data Overflow h	andling Discard	d Old Data 🗸 🗸					
Communication	Caching	Method Length	Limit 🗸					
Advanced Settings								
Services Function								
System	Торіс							
Logout	Туре	Name	Торіс	Qos	KeepMsg	COM	Description	
				This section con	tains no values yet			
	New Topic:							
	Туре	Name	Topic	Qos	KeepMsg	COM	Description	
	Publ ~ N	ime	Торіс	0 At most on 🗸	on 🗸	COM1-485 ¥	Description	📩 Add

Figure 35. MQTT topic settings

Table 11. Detail parameters of MQTT

Name	Function description	Default value
Туре	Topic type: optional publish/subscribe	publish
Name	The name of the topic	NULL
Торіс	Topic: topic content	NULL
QoS	Topic message quality, configurable:	0
	0 at most once	
	at least 1 time	
	Accurate once	
KeepMsg	Set whether to retain the message, ON (retain)/OFF (not retain)	ON
сом	COM1-485: Data is transmitted by RS485 only.	COM1-485
	COM2-232: Data is transmitted by RS485 only.	
	COM1+COM2:Data is transmitted by RS485 and RS232 both.	



5.2.5.3. AWS Connection

Connect to AWS via MQTT.

	New Channel:					
	Name	Protocol	Enable	Description		
	Name	AWS ¥	on 🗸	Description	Add and edit	
USR-W660		Configuration				
		Enable	ON			
> System Status		Liable				
> Network		Name	AWS_1			
✓ Serial Server		Description	AWS_1			
Serial Port Settings		Server Address	amazonaws.com.cn			
Advanced Settings		Server Port	8883			
Services Function		Client ID	02200523082400002901			
> System		Heartbeat Interval	30			
> Logout			0-6000 Seconds			
		Reconnect Detection	5			
		Interval(a)	g range: 1-3000			
		Clean Session	OFF .			
		Server Root CA file	选择文件 未选择任何文件			
		device signed certificate file	选择文件 未选择任何文件			
		Device private key	选择文件 未选择任何文件			
		Offling Data Casta	055			
		Offline Data Cache	OFF			

Figure 36. AWS settings

Table 12.	Detail	parameter	of AWS
-----------	--------	-----------	--------

Items	Description	Default
Enable	Whether this link is enabled. ON (enabled) / OFF (disabled)	ON
Name	Set the name of this link.	AWS_X
Description	Set the remark information of this link.	AWS_X
Server Address	IP or domain name of server.	amazonaws.com.cn
Server Port	Listening port of server.	8883
Client ID	To distinguish different clients.	02200523082400002901
Heartbeat Interval	MQTT protocol heartbeat time, unit: seconds. Unit: Second,	30
	Range: 0~6000	
Reconnect	The next reconnection interval after MQTT disconnection.	5
Detection	Unit: Second, Range: 1~3600	
Interval(s)		
Clean Session	MQTT protocol connection flag, used to control the survival	OFF
	time of the session state OFF: disable ON: enable	
Server Root CA file	Upload server CA certificate file	NULL
Device signed	Upload device signed certificate file	NULL
certificate file		
Device private key	Upload device private key file	NULL



USR-W630s User Manual

Offline Data	ON: Offline data will be cached and sent when get online	OFF
Cache	again.	
	OFF: Offline data will be not cached.	
Data Overflow	Discard old Data: Store the latest data.	Discard old Data
handling	Discard New Data: When the storage space is used up, no new	
	data will be stored.	
Caching Method	Length Limit/Package Quantity Limit	Length Limit

5			<u> </u>	<u>,</u>				- 5		
USR IOT Communication Expert of Industrial IOT									Be Hones	it, Do
JSR-W660		Server Root	CA file 选	择文件 未选择文件						
	c	levice signed cer	tificate 选 file	择文件 未选择文件						
stem status		Device priva	ate key 选	择文件 未选择文件						
rial Server		Offline Data	Cache ON							
rial Port Settings		Data Overflow h	andling Dis	scard Old Data						
ommunication		Caching I	Method Le	ngth Limit	~					
variced settings										
stem	Т	opic								
gout		Туре	Name	Торіс	Qos	KeepMsg	сом	Description		
					This section co.	ntains no values yet				
	Net	w Topic:								
		Туре	Name	Topic	Qos	KeepMsg	COM	Description		
	Ð	Publ 🗸 🛛 Na	me	Торіс	0 At most on 🛩	on 🗸	COM1-485 ¥	Description	1 Add	
		Back to Overview	N			Apply	ave			
			JiN	lan Usr IOT Tech <u>nolog</u>	y Limited h <u>ttp://</u>	www.pusr.com/				

Figure 37. AWS topic settings

Note: Up to 16 topic rules can be set.

Name	Function description	Default value
Туре	Topic type: optional publish/subscribe	publish
Name	The name of the topic	NULL
Торіс	Topic: topic content	NULL
QoS	Topic message quality, configurable:	0
	0 at most once	
	at least 1 time	
	Accurate once	
KeepMsg	Set whether to retain the message, ON (retain)/OFF (not retain)	ON
сом	COM1-485: Data is transmitted by RS485 only.	COM1-485
	COM2-232: Data is transmitted by RS485 only.	
	COM1+COM2:Data is transmitted by RS485 and RS232 both.	



5.2.6. HTTPD Mode(HTTP client)

New Channel:				
Name	Protocol	Enable	Description	
Name	HTTPD V	ON ~	Description	Add and edit
Communication Expert of Industrial IOT				Be Honest, Do Best! †\$\$\$\English
USR-W660	Configuration			
> System Status	Enable	ON 🗸		
> Network	Name	HTTPD_1		
✓ Serial Server	Description	HTTPD_1		
Serial Port Settings	Request Method	GET 🗸		
Advanced Settings	Remove Header	OFF 🗸		
> Services Function	HTTP URL	/1.php[3F]		
> System	Server Address			
> Logout	Remote Port			
	Timeout	10		
	inter diseases	1-3600 Seconds		
	Httpa Header			
	bina	075		
	ILS	UFF V		
	Back to overview		Appry Save	
		JiNan Usr IOT Technology Limited	http://www.pusr.com/	

Figure 38. HTTP client settings

Items	Description	Default
Enable	Whether this link is enabled, ON (enabled)/OFF (disabled).	ON
Name	Set the name of this link.	HTTPD_X
Description	Set the remark information of this link.	HTTPD_X
Request method	GET/POST	GET
Remove Header	ON: Set to filter HTTP headers of data packet	OFF
	OFF: Set not to filter HTTP headers of data packet	
HTTP URL	Add the URLs that need to be accessed	/1.php[3F]
Server Address	IP or domain name of server.	NULL
Remote Port	Listening port of server.	NULL
Timeout	If the server does not actively disconnect within the timeout	10s
	period, this end needs to wait for the disconnection time	
Httpd Header	Set HTTP headers of data packet	Accept:text/html[0D][0A]
bind	COM1-485: Data is transmitted by RS485 only.	COM1-485
	COM2-232: Data is transmitted by RS485 only.	
	COM1+COM2: Data is transmitted by RS485 and RS232 both.	
TLS	The version can be TLS1.0 or TLS1.2.	OFF



TLS	NO AUTH: No certificate verification is required.	NO AUTH
Authentication	Server: Only the server certificate is verified.	
	BOTH: Both client and server certificates need to be validated.	

5.2.7. Heartbeat / Registration package

5.2.7.1. Registration Packet Description

Registration Packet: It is used to enable the server to identify the source device of the data or as a password to obtain server function authorization. The registration packet can be sent when the device establishes a connection with the server or can be spliced at the beginning of each data packet as part of a data packet. The data in the registration packet can be MAC or custom registration data. Explanation:

Selecting MAC means using the WAN port MAC address as the content of the registration packet.

This function is only available when the link is set to tcpc or udpc mode.

5.2.7.2. Network Heartbeat Packet Description

Network Heartbeat Packet: It is sent to the network end, primarily to inform the server of the online status of terminal W630s, in order to maintain a long connection with the server. Explanation:

This function is only available when the link is set to tcpc or udpc mode.

5.3. Advanced settings

Network AT, serial heartbeat packets, and no data operation can be configured.



Communication Expert of Ind	ustrial IOT Be Honest, Do Best!
USR-W660	Advanced configuration Advanced configuration
System Status Network System Status	Network AT Configuration Applicable to TCPC/TCPS/UDPC/UDPS mode, other modes do not support Network AT.
Serial Port Settings Communication	Network AT Instruction ON Image: Comparison of the second
 Services Function System Logout 	Serial Heart Configuration If no channel is bound to the serial port, the serial port heartbeat function will not take effect.
	No Data Configuration
	Network Reconnect OFF Without Data @ Reconnect network channel, Works in non-HTTPD mode.
	Network Restarting Without Data OFF Without Data
	Serial Restarting Without OFF Data OFF Restart DTU service
	JiNan Usr IOT Technology Limited http://www.pusr.com/

Figure 39.

Items	Description	Default
Network AT	Whether to enable network AT commands. ON: enabled / OFF:	ON
Instruction	disabled	
AT Data Header	Password for network AT commands	atnetcmd#
Serial Heart	ON: enable sending heartbeat packets to the serial port	OFF
	OFF: disable sending heartbeat packets to the serial port	
Heartbeat Type	HEX: hexadecimal type	HEX
	ASCII: character type Refer to section 8.2.7.2 for heartbeat	
	packet details	
User-Defined	Content of the heartbeat packet	NULL
Packet		
Heartbeat Interval	Interval at which heartbeat packets are sent, in seconds	60
Serial Binding	COM1-485: use 485 channel for data communication	COM1+COM2
	COM2-232: use 232 channel for data communication	
	COM1+COM2: use RS232 or RS485 channel for data	
	transmission	
Network	Trigger reconnection if no data is received from each channel	OFF
Reconnect	within the set time. Applicable to non-HTTP protocols, see	
Without Data	details below for specifics	
Reconnect	Set time interval, in seconds	3600
Detection		
Interval(s)		



Network	Trigger device restart if no data is received from all channels	OFF
Restarting Without	within the set time. Applicable to non-HTTP protocols, see	
Data	details below for specifics	
Restart Detection	Set time interval, in seconds	36000
Interval(s)		
Serial Restarting	Trigger device restart if no data is received from all channels	OFF
Without Data	within the set time. Applicable to non-HTTP protocols, see	
	details below for specifics	
Restart Detection	Set time interval, in seconds	3600
Interval(s)		
Effective serial	COM1-485/COM2-232/COM1+COM2	COM1-485
port		

6. Service function

6.1. PUSR Cloud

PUSR Cloud address: https://account.usriot.com/#/login. Using PUSR Cloud service allows wireless client devices to be monitored and controlled efficiently and uniformly managed on Someone's Cloud platform.

The USR-W630s default disables PUSR Cloud service function. The interface can be configured to report parameters such as traffic statistics, network status, and heartbeat packets. It also supports data reporting to private deployments.

USR-W630s	USR Cloud
> System Status	Usr Cloud
> Network	enable
Services Function	
USR Cloud	Configurations
DDNS	Net Status record interval 5
SNMPD > System	Net Status report interval 20
> Logout	Item 12 hours and less than 40 statistics cycles of net status
	Heartbeat Interval 30 V
	Udp Configuration
	UDP Heartbeat Interval 20s 🗸

Figure 40. PUSR cloud



6.2. DDNS

DDNS (Dynamic Domain Name Server) is a service that maps a user's dynamic IP address to a fixed domain name resolution service. Each time a user connects to the network, the client program sends the dynamic IP address of the host to the server program located on the service provider's host through information transmission. The server program is responsible for providing DNS services and implementing dynamic domain name resolution.

6.2.1. Supported Services

The use of dynamic domain names falls into two scenarios. The first scenario is when the wireless client itself supports this service (check under the "Service" dropdown menu and select the corresponding DDNS service provider, here using Peanut Shell). The setup method is as follows:

USR-W630s	
	Dynamic DNS
> System Status	Dynamic DNS configuration allows access to a fixed domain for the host, but the corresponding IP may be dynamic.
> Network	Configuration
> Serial Server	Enable
USR Cloud	Event interface wan_wired
	Service dyndns.org
> System	Username username
> Logout	Password 4
	Domain Name
	Sync Time 300 @ Unit: s, 30-65535
	Apply Save

Figure 41. Dyndns Service

- DDNS function provides dynamic domain name resolution capability for wireless clients in the external network, allowing them to apply for a domain name that points to their WAN IP address.
- This feature allows remote access to wireless clients directly through domain names.
- Parameters need to be filled in as follows (using Peanut Shell as an example).

Items	Description	Default
Enable	Check to enable DDNS functionality	Not checked
Event interface	Choose which WAN port as needed	wan_wired
Service	Please fill in the DDNS service address	dyndns.org
Username	Peanut Shell account name	username
Password	Peanut Shell password	password



Domain Name	DDNS applied domain name	NULL
Sync Time	Unit: s	300
	Interval to detect IP address changes	

6.2.2. User Defined DNS Service

Communication Expert of Ind	Be Hor	nest, Do Best! ⇔ri∣English
USR-W660 System Status Network Serial Server Services Function USR Cloud DDNS SNMPD System Logout	Dynamic DNS Configuration Image: Image:	2
	JiNan Usr IOT Technology Limited http://www.pusr.com/	

Figure 42. User defined DNS settings

Items	Description	Default
Enable	Check to enable DDNS functionality	OFF
Event interface	Choose which WAN port as needed	wan_wired
Service	Choose the corresponding server, here selecting Custom	dyndns.org
DDNS server	DDNS provider address, here fill in ddns.oray.com	NULL
DDNS URL path	Please fill in the service URL path for DDNS (here using Peanut	NULL
	Shell as an example, select Custom service), Peanut Shell URL	
	is as follows: /ph/update?hostname=%h&myip=%i	
Username	Peanut Shell account name	username
Password	Peanut Shell password password	
Domain Name	DDNS applied domain name NULL	
Sync Time	Unit:Second 300	
	Range: 30~65535	

Note:

✓ Please strictly fill in the parameters as described in the table, including Service/URL, Registered Domain Name,

Username/Password, Interface, to ensure accuracy.



✓ DDNS + Port Mapping can facilitate remote access to the wireless client's internal network.

 \checkmark If the network where the wireless client is located does not have a dedicated public IP address, this feature

cannot be utilized.

6.3. SNMPD

The USR-W630s device is equipped with SNMP (Simple Network Management Protocol) service, which allows you to remotely view device information, modify device parameters, and monitor device status using the SNMP protocol. It eliminates the need to be physically present on-site for monitoring and configuring the device. This device supports SNMP versions V2C and V3.

Communication Expert of Industri	нот	Be Honest, Do Best!
USR-W660	Enable SNMP	
> System Status> Network	Enable SNMP	
Serial Server Services Function USR Cloud	User Info (use for snmpv3) username	3) user
DDNS SNMPD	auth type aut auth mode SH.	auth
> System > Logout	auth passwd	8
	System Info	
	sysLocation JIN sysContact ww sysName Sm	Jihan www.usr.cn Smart_Router
		Apply Save
	JIN	iNan Usr IOT Technology Limited http://www.pusr.com/

Figure 43. SNMPD settings

Items	Description	Default
Enable SNMP	Enable SNMP service by checking the box	Not checked
username	Name assigned to the SNMP user	user
auth type	Type of authentication, auth or auth_enc	auth
auth mode	Verification protocol used by the user and host to receive	SHA
	traps. MD5 or SHA	
auth passwd	User authorization password	authpass
encryption mode	Encryption protocol type, either DES or AES	DES
encryption	Encryption password used as the encryption private key privpass	
passwd		



USR-W630s User Manual

sysLocation	Location of this device	JiNan
sysContact	Person to contact for this device	www.pusr.com
sysName	Name of this device	Smart_Router

7. Contact Us

Jinan USR IOT Technology Limited Address : Floor 12 and 13, CEIBS Alumni Industrial Building, No. 3 Road of Maolingshan, Lixia District, Jinan, Shandong, China Official website: https://www.pusr.com Official shop: https://shop.usriot.com Technical support: http://h.usriot.com/ Email : sales@usriot.com Tel : +86-531-88826739

Fax:+86-531-88826739-808

8. Disclaimer

The information in this document provided in connection with Jinan USR IoT technology ltd. and/or its affiliates' products. No license, express or implied, by estoppel or otherwise, to any intellectual property right is granted by this document or in connection with the sale of USR IoT products. EXCEPT AS SET FORTH IN THE TERMS AND CONDITIONS AS SPECIFIED IN THE LICENSE AGREEMENT FOR THIS PRODUCT, USR IoT AND/OR ITS AFFILIATES ASSUME NO LIABILITY WHATSOEVER AND DISCLAIMS ANY EXPRESS, IMPLIED OR STATUTORY WARRANTY RELATING TO ITS PRODUCTS INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. IN NO EVENT SHALL USR IOT AND/OR ITS AFFILIATES BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE, SPECIAL OR INCIDENTAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS, BUSINESS INTERRUPTION OR LOSS OF INFORMATION) ARISING OUT OF THE USE OR INABILITY TO USE THIS DOCUMENT, EVEN IF USR IOT AND/OR ITS AFFILIATES HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. USR IOT and/or its affiliates make no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. USR IoT and/or its affiliates do not make any commitment to update the information contained in this document.







Official Website: www.pusr.com Official Shop: shop.usriot.com Technical Support: h.usriot.com Inquiry Email: inquiry@usriot.com Skype & WhatsApp: +86 13405313834 关注有人微信公众号 登录商城 Click to view more: Product Catalog & Facebook & Youtube