PUSR®
www.pusr.com

Communication Expert
of Industrial IOT

Serial to Dual Band WiFi Converter

USR-DR164, USR-DR162



Introduction

USR-DR164/162 is an ultra-small size dual band WiFi serial server device with one serial port. It can realize transparent transmission between RS485/RS232 and WiFi device.

It supports 2.4G & 5.8G WiFi, compatible with IEEE 802.11 a/b/g/n standard. With 2.4 G WiFi, it has longer range signal while with 5.8G WiFi, it has fast speed and better resistance to signal interference.

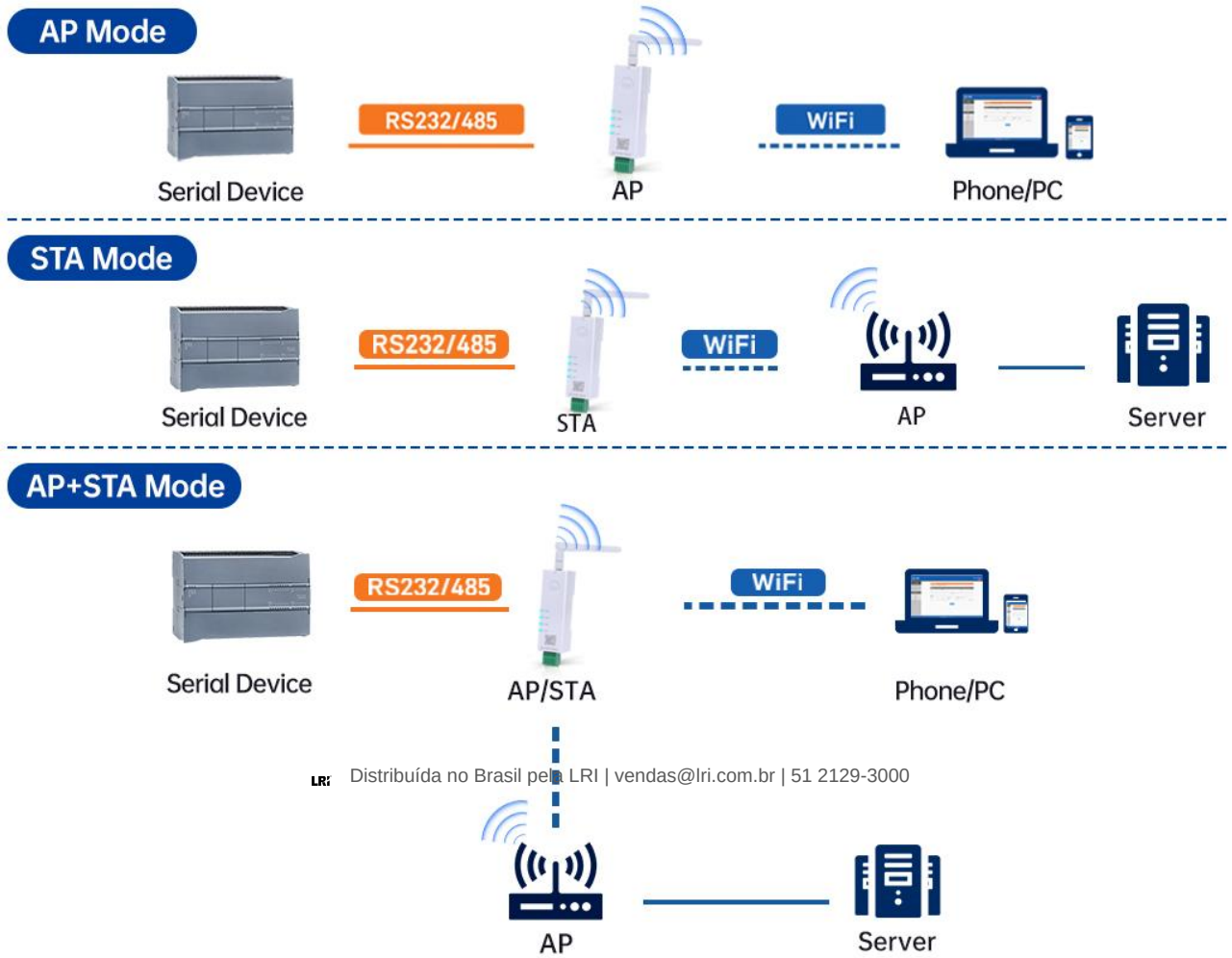
In software, it supports multiple networking methods AP/STA/AP+STA mode, which is convenient for users to conduct wireless networking. And supports multiple communication protocols like TCP/UDP/HTTP/MQTT, and supports Modbus TCP/RTU conversion, so this device can establish a data communication bridge between the serial device and the server of different protocols, which is convenient for users to monitor the device remotely.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Product Features

- Dual band WiFi 2.4G & 5.8G, support IEEE 802.11 a/b/g/n.
- Ultra small size, save your space.
- Wide Operating Temp -40℃ ~ 85℃, industrial grade design, stable operation in harsh environments.
- V0 flame retardant rating,
- Wide power input designed DC 5-36V, EMC level 2.
- RS232/RS485 is optional.
- Hardware and software watchdog to ensure stable operation.
- DIN rail mounting, easy for installation.
- Support AP/STA/AP+STA mode.
- Rich communication protocol MQTT/TCP/UDP/HTTP.
- Support Modbus TCP/RTU conversion, heartbeat packet and registration packet.
- Support SmartAPLink app to set up network parameter.
- Multiple configuration methods AT command, browser, serial AT command, network AT command.
- Rich indicators Power, Work, COM, Link.
- Long transmission distance up to 200 meters(2.4G WiFi, open environment).

Typical Networking Diagram



LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Dimensions

Unit: mm



Specifications

Items	Description
Power Supply	DC: 5-36V, 2-pin push-type connector
Working Current	170-350mA@5V
Serial port	
No.	USR-DR164:1 x RS485, USR-DR162:1 x RS232, 3-pin push-type connector.
Baud rates	1200-460800 bps
Data bits	5, 6, 7, 8
Stop bits	1, 2
Parity	NONE, ODD, EVEN, Mark, Space
Packaging Interval	Range: 10 ~ 1000ms, default: 20ms
Packaging Length	Range: 32 ~ 1400 bytes, default: 1400 bytes
Pull-up Resistor	2.2 KΩ(Only USR-DR164)
Protection	ESD, EFT, over-voltage protection
Wi-Fi	
Standards & Frequency	IEEE 802.11a/b/g/n 2.4G: 2.412GHz-2.484GHz 5.8G: 5.17GHz-5.25GHz, 5.725GHz-5.835GHz
Working Mode	AP/STA/AP+STA

Tx power	2.4G: 802.11b: +17±1.5dBm(@11Mbps) 802.11g: +14±1.5dBm(@54Mbps) 802.11n: +14±1.5dBm(@HT20， MCS7) 5.8G: 15±1.5dBm (OFDM 6Mbps) 13±1.5dBm (OFDM 54Mbps) 12±1.5dBm (HT20 MCS7) 12±1.5dBm (HT40 MCS7)
Receive sensitivity	2.4G: 802.11b:-95 dBm (@1Mbps ,CCK) 802.11b:-85 dBm (@11Mbps ,CCK) 802.11g:-72 dBm (@54Mbps, OFDM) 802.11n:-70dBm (@HT20, MCS7) 802.11n:-67dBm (@HT40, MCS7) 5.8G: -90dBm (@6Mbps ,OFDM) -73dBm (@54Mbps ,OFDM) -70 dBm (HT20,MCS7) -67 dBm (HT40,MCS7)
Antenna	SMA female connector
Physical Property	
Casing material	ABS, V0 rating
Dimensions	92 * 24 *22mm(including terminal block connector)
Installation	DIN rail mounting
Operating temperature	-40℃ ~ +85℃
Storage temperature	-40℃ ~ +125℃
Operating humidity	5% ~ 95% RH, non-condensing
Storage humidity	1% ~ 95% RH, non-condensing
Software Function	
Work mode	TCP Client, TCP server, UDP client, UDP server, HTTP client, MQTT client, IGMP
Modbus Gateway	Modbus RTU/TCP protocol conversion
IP	DHCP/StaticIP
Registration packet	√
Heartbeat packet	√
WiFi Encryption	WEP/WPA-PSK/WPA2-PSK
Encryption Methods	WEP64/WEP128/TKIP/AES
IOT PLATFORMS	PUSR cloud
User Configuring	Web console(HTTP), AT command, SmartAPLink
Others	

Reset	Reset button 1>Press and hold for 4~15 to reset to factory settings 2>Quickly ouble-tap to enter SmartAPLink for networking
Indicators	Power, Work, COM, LINK
APPROVALS	
Regulatory	CE/RED*, RoHS*, WEEE*, FCC*

Purchase & Support

For more information, please visit our websites:

- Official website: https://pusr.com
- Official shop: https://shop.usriot.com
- Technical support: http://h.usriot.com/

Your Trustworthy Smart IOT Partner

PUSR®
www.pusr.com

Official Website: www.pusr.com

Official Shop: shop.usriot.com

Technical Support: h.usriot.com

Inquiry Email: inquiry@usriot.com

Skype & WhatsApp: +86 13405313834

Click to view more: Product Catalog & Facebook & Youtube

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000