

Serial WiFi adapter – Industrial  
Part no. WF485



The WF485 is an industrial grade RS485 to Wi-Fi (802.11b/g/n) converter with several advanced functions, including Modbus support two network sockets and a reliable MIPS processor (32bit 580MHz). It will allow you to connect any standard RS485 serial device to a computer over Wi-Fi and is an ideal solution for most industrial and commercial environments for factory automation, machine control, device management and many other applications.

This converter can be setup as a STA device for connecting to an ad-hoc network or as an AP device for connecting to an infrastructure network, this makes it easy to connect it existing wireless network. It supports both open and secure network protocols OPEN, SHAREDWEP, WPA-PSK and WPA2-PSK. Besides the basic functions such as the standard serial port parameters and network settings this converter has the following additional main features: Modbus TCP/RTU Support, Two Network Sockets. HTTPD-Client Mode. Other functions includes: UART AutoFrame, Registered Package communication, RFC2217 support with included virtual COM port software, KeepAlive, Port mapping, Dynamic DNS, CTS/RTS flow control, automatic send data control.

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this product from:

[www.USconverters.com](http://www.USconverters.com)

**Default IP: 10.10.100.254**  
User: **admin**, Password: **admin**

**Application Diagram A**



SPECIFICATIONS	
Part number	WF485
Operating system	Virtual COM software available for Windows 11, 10, 8.1 / 8, 7, Vista (32/64-bit)
Processor	MIPS processor (32bit 580MHz), RAM: 8MB, Flash: 2MB
Parameter configuration	Web-browser (over WiFi), by AT commands or by software utility
Wi-Fi	
Network standard	IEEE 802.11 b/g/n
Frequency	2.400~2.484GHz
Protocols	TCP, UDP, ARP, ICMP, DHCP, DNS, HTTP, HTTPD Client
Network type	STA (for ad-hoc) and AP (for infrastructure)
Security	OPEN, SHAREDWEP, WPA-PSK and WPA2-PSK
Max. simultaneous clients	32 Clients in TCP Server mode. All 32 can be served at the same time
Modulation	DSSS / OFDM
Operating distance	Up to 330 feet (100 meters)
Serial Port	
RS485 Signals	D+, D-, GND
Serial port	1-port RS485 screw terminals
Baud rates	300 - 460800bps
Data bits	5, 6, 7, 8
Parity	None, Odd, Even, Mark, Space
Stop bits	1, 2
Buffer	TX: 4Kb RX: 4Kb
Flow control	Internal Send Data Control
Power	
Power supply	5 VDC (+/-5%), barrel plug and screw terminals
Power consumption	170 - 350 mA @ 5V
Antenna	
Antenna	External 3dbi di-pole antenna, SMA male (inside threads / center pin)
Antenna connector (on converter)	SMA female (outside threads / center receptacle)
Transmit power	802.11b: +17dBm(Max.) 802.11g: +16dBm(Max.) 802.11n: +15dBm(Max.)
Receiver Sensitivity	802.11b: -89dBm 802.11g: -76dBm 802.11n: -74dBm
Environmental	
Operating temp.	-13°F to 185°F (-25°C to 85°C)
Enclosure	Aluminum with screw mounting holes
Dimensions	84x84x25mm
Certifications	CE, FCC, ROHS

Included items:

- ◆ WF485 x 1
- ◆ Antenna x 1
- ◆ Serial cable, female/female (null modem) x 1
- ◆ 110VAC/5VDC power adapter with US-plugs

### Indicator Lights

Indicator	Function	Description
Pwr	Power on	Converter has power
Ready	Converter ready	On when booted and ready
Link	Network link	On when network is connected
TX	Transmit data	Flash when sending data
RX	Receive data	Flash when receiving data

### Reset button:

The reset button is used for resetting the converter back to factory settings. When the green "Ready" LED is on, depress the reset button for more than 5 seconds, then release the button. About 2 seconds after releasing the reset button the green "Ready" LED light should turn OFF and come ON again within 10 seconds. When the green "Ready" LED light is solid ON the converter is reset to factory defaults and ready to use again.

### MAC Addresses:

There are four MAC address on the WF5000B, one for AP, one for STA, one for LAN and one for WAN. An example could be the following addresses:

AP: D8B04CE09A34  
STA: D8B04CE09A35  
LAN: D8B04CE09A36  
WAN: D8B04CE09A37

STA MAC address is AP MAC address +1, LAN MAC address is STA MAC address +1, WAN MAC address is LAN MAC address +1. The MAC address on the WF5000B's label shows the default AP MAC address.

