Modbus Wi-Fi / Ethernet / Serial Gateway

The **Modbus Wi-Fi / Ethernet / Serial Gateway** provides a bridge connection for devices on Modbus RS-485 Serial networks with those on Modbus TCP networks allowing for seamless integration.

Supporting up to 10 Masters on either of the hardwire Ethernet or Wi-Fi Interfaces and up to 32 slave devices on the RS-485 serial interface (R1 port). The gateway has a second serial port (R2) that can be connected to a Modbus RTU Master. The Modbus RTU Master and Modbus TCP Master can communicate simultaneously with the slave devices.

Serial data rates up to 115.2 kbps are supported ensure maximum network flexibility.

The **Modbus Wi-Fi / Ethernet / Serial Gateway** is built for use in Industrial environments, featuring a slim, ultra-compact DIN rail mounting design.

It operates from either 24Vac or 12-24Vdc power supply voltages and has pluggable terminal block connectors for quick removal and re-install. An external power supply, sold separately, is required.

Each gateway is easily configured through its web server interface.

Features & Benefits

- Bridges Modbus TCP Ethernet and RS-485 RTU serial networks
- Modbus TCP – up to 10 Masters on hardwired ethernet and Wi-Fi interfaces simultaneously
- Modbus RTU – Up to 32 slave devices
- Multiple connection points: **1 x Ethernet, 2 x RS-485: R1 – Slave devices, R2 – RTU Master, Wi-Fi**
- Serial data rate: up to 115.2 kbps
- **Wi-Fi** interface can be configured as a **Client or Access Point**
- Ultra-compact DIN rail mount
- 12 – 24Vdc **OR** 24Vac input required (power supply not included, sold separately)
- UL Listed

Hardware Specifications *

Communications	
Serial (galvanic isolation)	1 x RS-485 (R1) & 1 x RS-485 (R2)
Baud rates	9600, 19200, 38400, 57600, 76800 & 115200
Ethernet	10/100 Base T, MDIX, DHCP
Environmental	
Operating Temperature	-20 to 70 ^{o}C (-4 to 158^{o}F)
Relative Humidity	10-95% RH non-condensing
Other	Web configuration, on-board diagnostics, DIN rail mount included
Construction	
Dimensions (H x W x D)	4 x 1.1 x 2.7 in (101.6 x 28 x 68 mm)
Weight	0.4 lbs (0.2kg)
Power Requirements	
Input	24Vac 125mA **or** 12 – 24Vdc 250mA @ 12Vdc
Max Power	3W
Approvals	
CE and FCC Class B & C Part 15	
UL 60950-1 and CA/CSA C22.2	IC Canada
RoHS and WEEE compliant	PTCRB and CTIA

Radio Specifications *

Wi-Fi 802.11 b/g/n

Frequency	2.4GHz	Antenna Type	SMA
Channels	1 to 11 (inclusive)	Encryption	TKIP, WPA & AES

Ordering Information

CCOM-0030A	**FPA-W44-1997**	Modbus Wi-Fi / Ethernet / Serial Gateway
CPSU-0011	**MLG-MDR-10-24**	24Vdc, 0.42A output, Din rail mounted power supply

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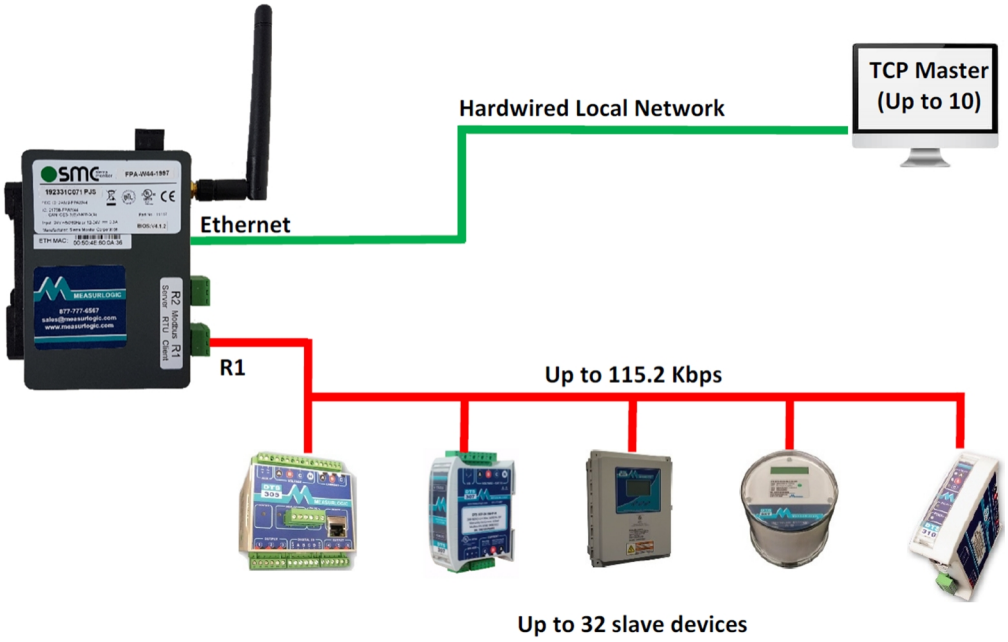
Application Examples

The **Modbus Wi-Fi / Ethernet / Serial Gateway** is very flexible and can be used to integrate Modbus networks in a wide variety of applications. As each application has its own requirements it is not always obvious for the user how a gateway can help or even if it is appropriate their specific needs.

The following scenarios are examples ONLY, and many others are possible. If you do not see your exact application, please contact Measurlogic for assistance with your specific requirement.

The examples on the following pages depict Measurlogic DTS meters as the Modbus / TCP or Modbus RTU slave devices. However, the **Modbus Wi-Fi / Ethernet / Serial Gateway** can work with **ANY** Modbus / TCP or Modbus RTU Slave device from other manufacturers.

Ethernet Master/s with Serial Slaves (Hardwired Ethernet to LAN)



- **Wired LAN may have Multiple Modbus / TCP Masters (up to 10)**
- **Wired LAN may also have multiple Modbus / TCP Slaves (any number)**
- **All Modbus RTU Slaves on port R1 must have unique Modbus addresses (up to a maximum of 32)**
- **Serial network can have a baud rate up to 115.2 Kbps**
- **All Modbus Slaves must have unique Modbus addresses**

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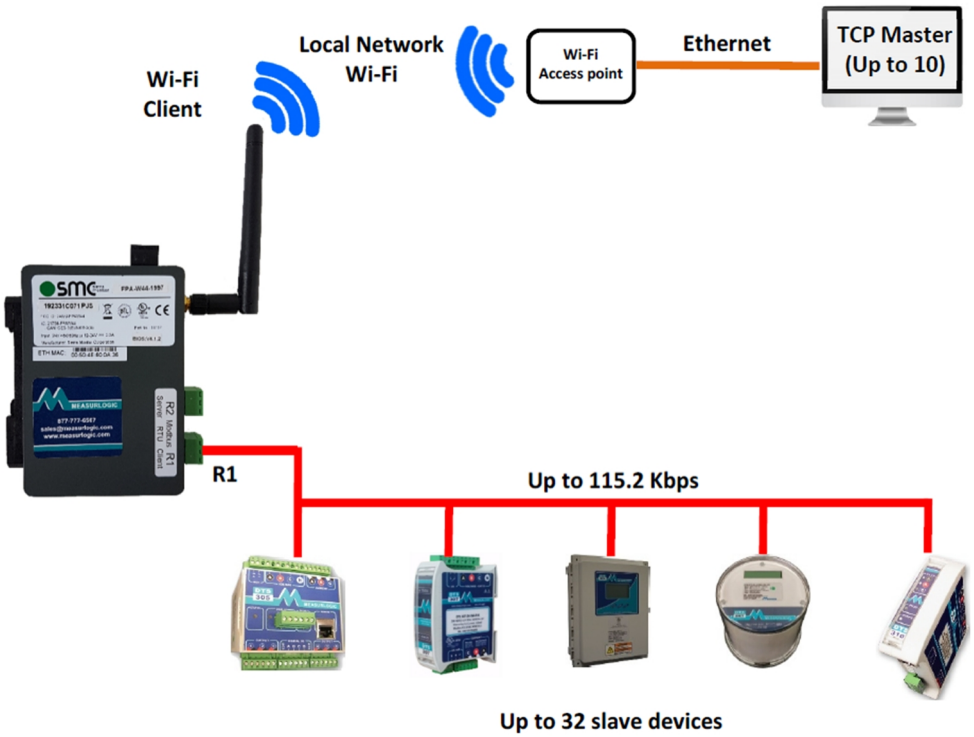
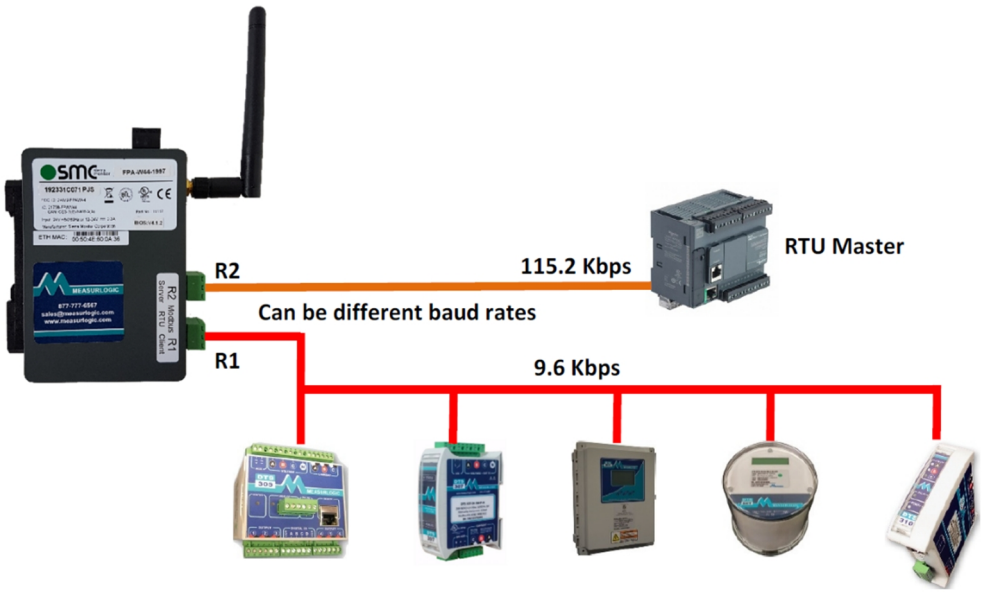
Ethernet Master/s with Serial Slaves (Wi-Fi Client to LAN Access Point)



- Connects to wired LAN via an Access Point on the network
- Wired LAN may have Multiple Modbus / TCP Masters
- Wired LAN may also have multiple Modbus / TCP Slaves
- All Modbus RTU Slaves on port R1 must have unique Modbus addresses
- Serial network can have a baud rate up to 115.2 Kbps

Serial Master with Serial Slaves (different baud rates)



- The 2 serial interfaces (R1 and R2) may be at different baud rates
- R2 is used for the Modbus RTU Master and R1 is used for the Modbus RTU Slaves
- All Modbus RTU Slaves on port R1 must have unique Modbus addresses
- Serial network can have a baud rate up to 115.2 Kbps

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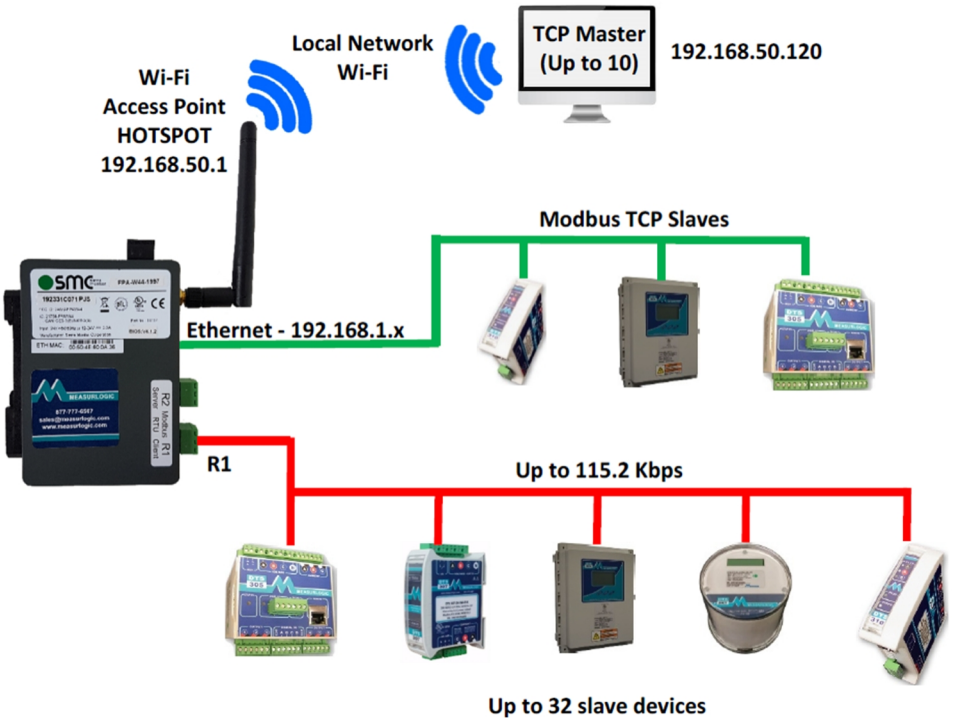
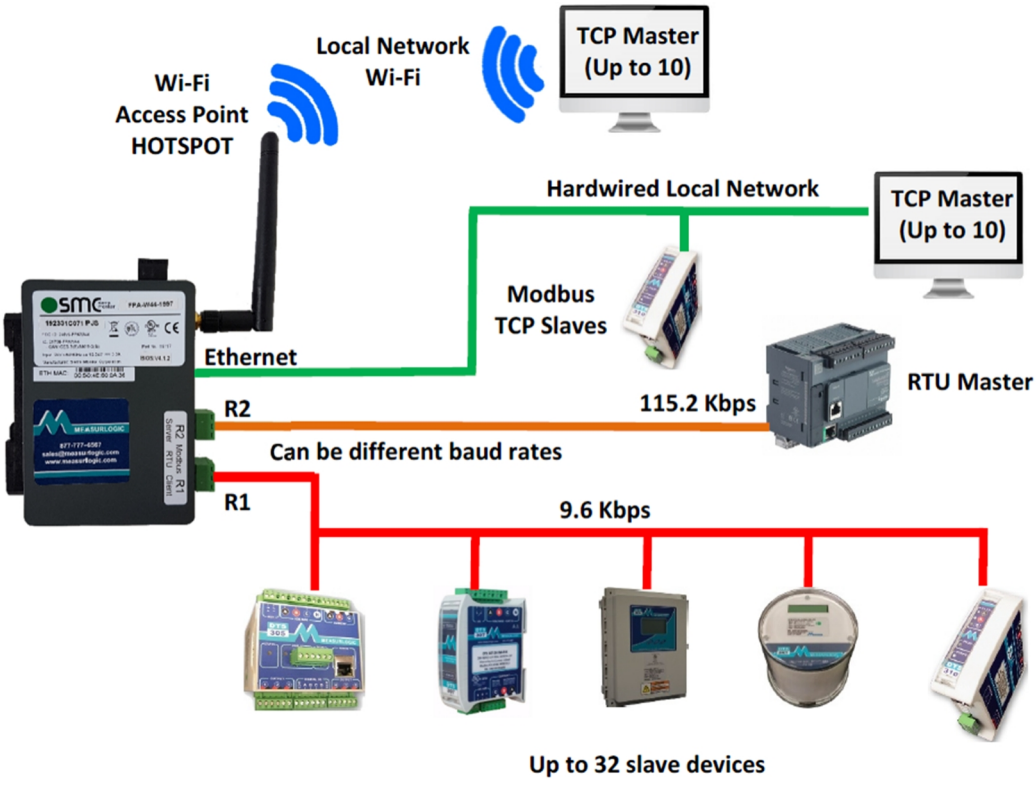
Wireless Master/s with Serial AND/OR TCP Slaves (Wi-Fi Access point for remote laptops)



- Modbus Wi-Fi / Ethernet / Serial Gateway is configured as a Wi-Fi Access point that remote laptops can connect directly to
- Wi-Fi HOTSPOT functionality enables Modbus TCP slaves to be on different IP networks
- Ideal for locations where no Access point is available
- Wired LAN may also have multiple Modbus / TCP Slaves
- All Modbus RTU Slaves on port R1 must have unique Modbus addresses

Wireless & H/W TCP and Serial Master/s with Serial AND/OR Ethernet TCP Slaves



- Modbus Wi-Fi / Ethernet / Serial Gateway is configured as a Wi-Fi Access point that remote laptops can connect directly to
- Wired LAN may also have multiple Modbus / TCP Slaves as well as Modbus / TCP Masters
- R2 is used for the Modbus RTU Master and R1 is used for the Modbus RTU Slaves
- All Modbus RTU Slaves on port R1 must have unique Modbus addresses
- Serial network can have a baud rate up to 115.2 Kbps

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