WTU

Wireless Transmission Unit

Be smart. Measure it.

WTU-P

WTU-S

LONG-DISTANCE WIRELESS
Seamlessly links Modbus master and slave devices

USER-FRIENDLY CONFIGURATION
Guided setup via S4C-WTU mobile app

SECURE DATA
Encrypted communication for safety

PLUG & PLAY
Quick setup with SUTO iTEC devices

FLEXIBLE USE
Stationary and portable versions available

COST-EFFICIENT
One-time investment, no recurring fees

Benefits

- ✅ **Effortless setup:** Most settings are pre-configured, allowing a fast and easy start with SUTO devices.
- ✅ **Wireless flexibility:** Perfect for areas where traditional cabling is difficult or not possible.
- ✅ **Mobile-friendly operation:** Configure your system easily using the intuitive S4C-WTU mobile app.
- ✅ **Quick connections:** Connect to SUTO devices in no time using various standard connectors.
- ✅ **Extended range:** Use WTU as a repeater to cover larger areas and improve connectivity.
- ✅ **Easy scalability:** Expand your system anytime by adding sensors without wiring constraints.
- ✅ **Cost-effective installation:** Eliminate complex cabling and reduce setup costs across your facility.

Wireless Communication Made Simple with the WTU

The Wireless Transmission Unit (WTU) is a state-of-the-art wireless data transmission solution that operates on the ISM band.

Serving as the communication bridge for your compressed air measurement system, it enables seamless long-distance communication between Modbus master and slave devices.
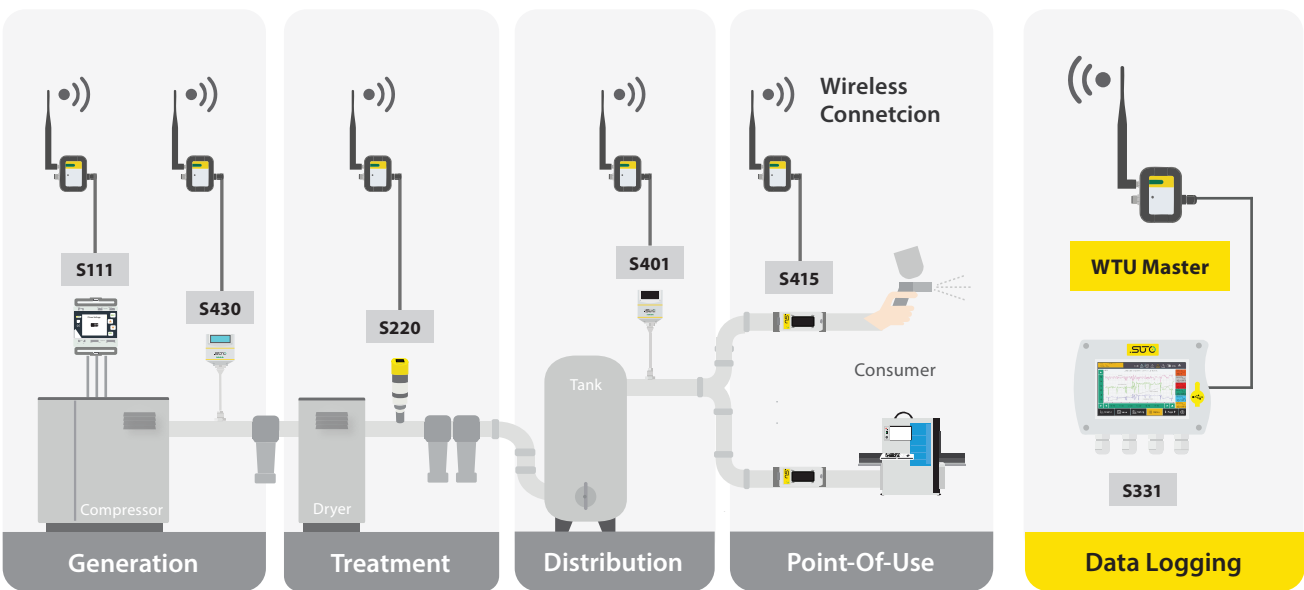
The WTU is equipped with advanced encryption technology to ensure the security of your data during transmission. Connectors and cables are included for easy and reliable connections to SUTO iTEC data loggers and sensors over extended distances.

Security You Can Trust

At the heart of our wireless communication solution lies a commitment to safeguarding your data. We utilize AES 128-bit encryption technology, a robust global standard for securing sensitive information.

This advanced encryption technology ensures that all data transmitted between sensors and the gateway remains confidential and protected from unauthorized access. With our solution, you can rest assured that your data is secure.

Seamless Integration with SUTO iTEC Ecosystem

| Generation | Treatment | Distribution | Point-Of-Use | Data Logging |

Quick Connection

Select and use the specified connectors to easily connect to different SUTO iTEC devices.

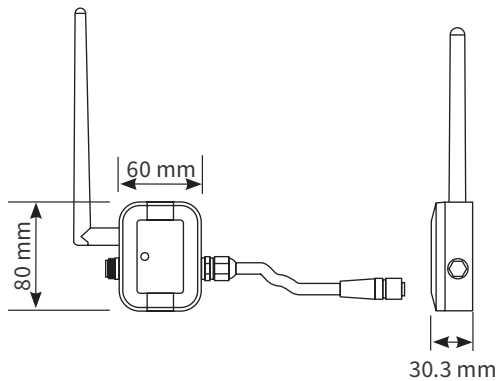There are three connector options: M12, ODO and open wires.

✓ Wireless monitoring of sensors in wide or distributed compressed air networks where **cabling is impractical** or cost-prohibitive

✓ Connecting sensors in **hard-to-reach installations**

✓ Bridging **communication gaps** in multi-building industrial plants

✓ Upgrading existing systems with **wireless connectivity** to minimize installation time and avoid production interruptions

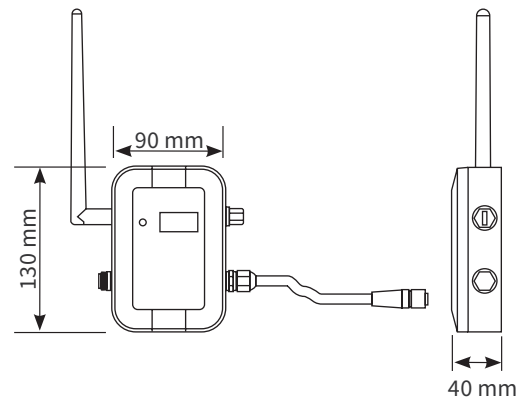---

WTU-S
For stationary installation

WTU-PM
For portable mater devices

WTU-P
Portable version with battery

60 mm
80 mm
30.3 mm

90 mm
130 mm
40 mm

Installation Options

The WTU-S stationary installation version can be installed on the walls, pipes and shafts of the sensors shown in the following picture. The WTU-P portable version and WTU-PM do not require installation.

Wall mounting

Pipe mounting

Sensor shaft mounting

The stainless steel cable tie supports a maximum pipe size of DN350. For larger pipe size, you need to purchase **longer stainless steel cable tie by yourself.**

Wireless Transmission Unit

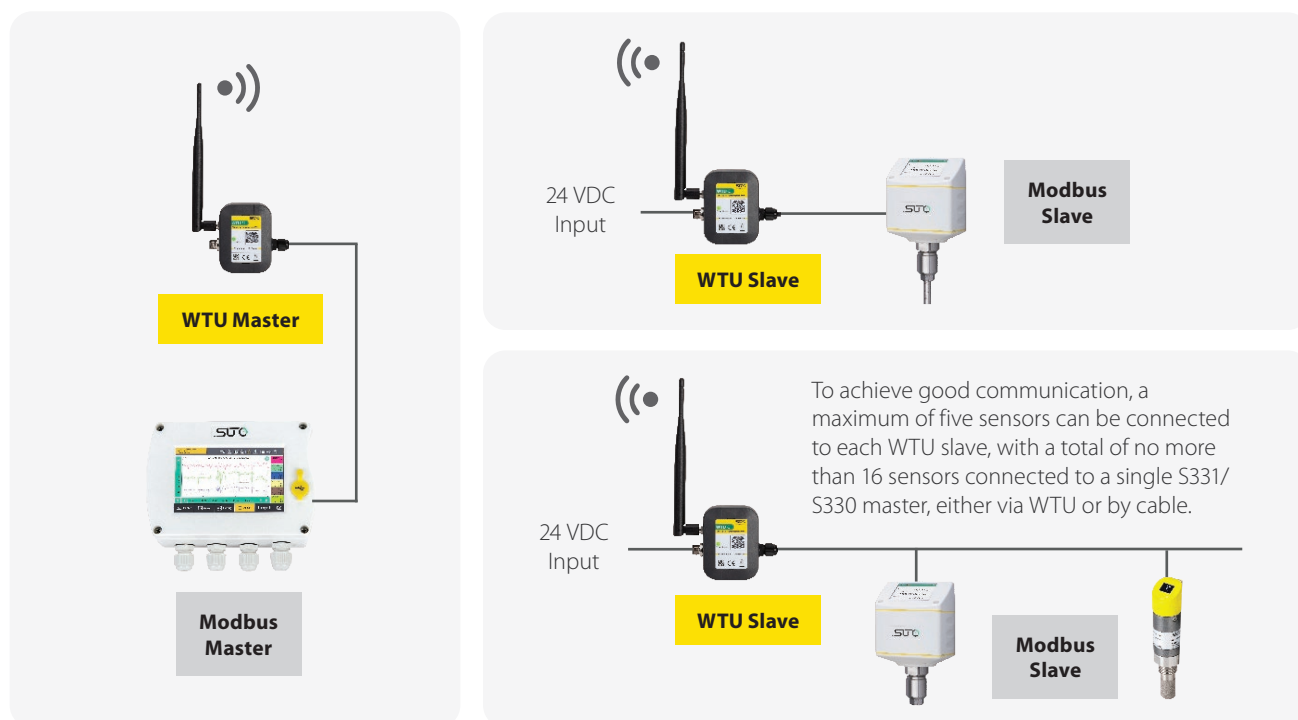# Applied to Various Wireless Connection Solutions

The WTU connected to a Modbus master is referred to as the WTU Master, while the unit connected to a Modbus slave is known as the WTU Slave. A WTU Slave can connect to one or more SUTO sensors independently.

Please specify whether you need a WTU Master or WTU Slave when placing your order by selecting the item and options from the order table. We will perform the necessary pre-set configurations before delivery, simplifying your on-site setup process.

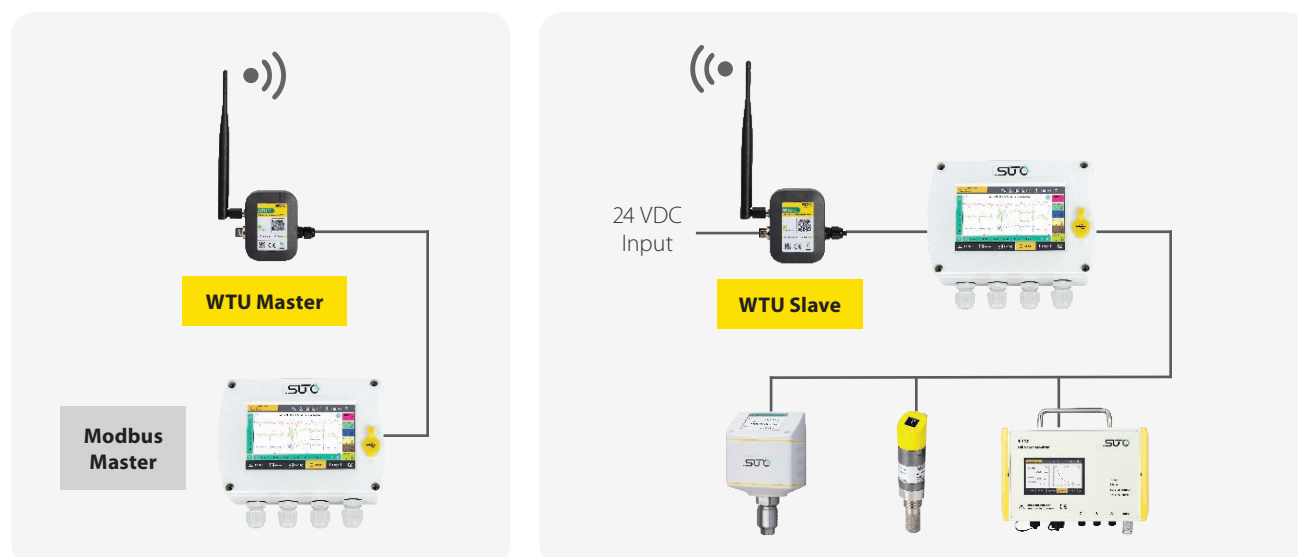**1**   ## One Modbus master communicates with multiple slaves

A typical application is a WTU master communicating with multiple WTU slaves over long distances.

WTU Master

Modbus Master

24 VDC Input

WTU Slave

Modbus Slave

24 VDC Input

WTU Slave

To achieve good communication, a maximum of five sensors can be connected to each WTU slave, with a total of no more than 16 sensors connected to a single S331/S330 master, either via WTU or by cable.

Modbus Slave

2   ## One Modbus master communicates with multiple slaves with multiple sensors

The WTU can replace the traditional wired connection between a master and a gateway effectively, thus eliminating the need for cables.
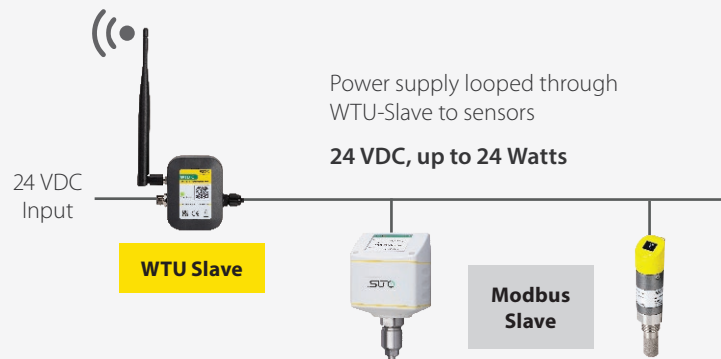

WTU Master

Modbus Master

24 VDC Input

WTU Slave

3 **One Modbus master communicates with multiple slaves via a WTU repeater**

Adding a WTU Repeater can help to address communication distance issues or excessive background noise on site effectively.

24 VDC
Input

WTU Repeater

Only one Repeater can be used

24 VDC
Input

WTU Slave

Power supply looped through WTU-Slave (WTU-P) to sensors

24 VDC, up to 10 Watts

Modbus Slave

24 VDC
Input

WTU Slave

Power supply looped through WTU-Slave to sensors

24 VDC, up to 24 Watts

Modbus Slave

Technical Data

General data

Frequency Wireless Communication	470-510 MHz (CN470) 863-870 MHz (EU868) 915-928 MHz (US915)
Housing material	Plastic casing
Protection class	IP65
LED indicator	1 x LED
Operating temperature	0 ~ 50 ℃
Humidity	<90%RH, no condensation
Dimensions	**WTU-S & WTU-PM:** 80 x 60 x 30.3 mm **WTU-P:** 130 x 90 x 40 mm
Weight	**WTU-S & WTU-PM:** 120 g **WTU-P:** 470 g

Electrical Data

Power input	**WTU-S & WTU-PM:** 18...28 VDC/0.5A **WTU-P:** 18...28 VDC/1A
Power output	**WTU-S & WTU-PM:** 18...28 VDC/0.5A **WTU-P:** 24 VDC/0.5A
Power consumption	**WTU-S&WTU-PM:** <= 0.3 W **WTU-P:** <= 0.5 W
Battery	**WTU-P:** Lithium ion battery, 3500 mAh, 11.1 V

Interface

LED	**Constant green:** Power on **Blinking green:** Receiving data **Constant red:** Error **Blinking red:** Transmitting data
Status screen	WTU-P: Battery level display
Connector	RS485 (Modbus/RTU)
Transmission method	Transparent data transmission
Encryption technology	AES 128-bit encryption for secure data transmission

Ordering

Please use the following table to assist in placing your order with our sales staff.

WTU (Wireless Transmission Unit)

Order No.	Description
A554 0136	WTU-S, Wireless Transmission Unit for stationary installation, Slave (default) / Repeater with 0.5 m M12 connection cable, M12 connector for power supply, all installation accessories included
A554 0137	WTU-S, Wireless Transmission Unit for stationary installation, Master with 1 m open ends, M12 connector for power supply, all installation accessories included
A554 0138	WTU-PM, Wireless Transmission Unit for portable master devices, Master with 0.5 m ODU connection cable to S551
ISM band selection according to below country list (for WTU-S & WTU-PM)	
A1701	CN470
A1702	EU868
A1703	US915
WTU-P (Wireless Transmission Unit, Portable Version)	
A554 0139	WTU-P, Wireless Transmission Unit, portable version with battery, Slave(default) /Repeater with 0.5 m M12 connection cable, M12 connector for charger, USB-C connector for charger, including charger
ISM band selection according to below country list (for WTU-P)	
A1704	CN470
A1705	EU868
A1706	US915

Accessories

Order No.	Description
A554 3310	RS-485 splitter T, with 3 x M12 connectors to connect RS-485 devices to a bus

Country/region list and Their ISM Band

ISM Band	Country
CN470	22 China, 52 Kazakhstan, 53 Kuwait, 93 Sri Lanka, 106 Uzbekistan
EU868	1 Albania, 3 Andorra, 6 Austria, 9 Bahrain, 10 Bangladesh, 12 Belgium, 15 Bosnia and Herzegovina, 18 Bulgaria, 19 Cambodia, 25 Croatia, 27 Cyprus, 28 Czech Republic, 29 Denmark, 32 Egypt, 33 Estonia, 34 Finland, 35 France, 36 Germany, 37 Greece, 40 Hong Kong, China, 41 Hungary, 42 Iceland, 43 India, 45 Iran, 46 Ireland, 48 Italy, 51 Jordan, 54 Laos, 55 Latvia, 56 Lebanon, 57 Liechtenstein, 58 Lithuania, 59 Luxembourg, 60 Macedonia, 62 Malta, 64 Moldova, 65 Montenegro, 66 Morocco, 67 Netherlands, 68 New Zealand, 70 Nigeria, 71 Norway, 72 Oman, 73 Pakistan, 78 Philippines, 79 Poland, 80 Portugal, 81 Qatar, 82 Romania, 85 Saudi Arabia, 86 Serbia, 87 Singapore, 88 Slovak Republic, 89 Slovenia, 90 South Africa, 92 Spain, 94 Sweden, 95 Switzerland, 98 Tunisia, 99 Turkey, 102 United Arab Emirates, 103 United Kingdom, 108 Vietnam
US915	2 Algeria, 5 Argentina, 7 Australia, 16 Brazil, 20 Canada, 21 Chile, 23 Colombia, 24 Costa Rica, 26 Cuba, 30 Dominican Republic, 31 Ecuador, 38 Guatemala, 39 Honduras, 44 Indonesia, 47 Israel, 49 Jamaica, 50 Japan, 61 Malaysia, 63 Mexico, 69 Nicaragua, 74 Panama, 75 Paraguay, 76 Peru, 84 Salvador, 91 South Korea, 96 Taiwan, China, 97 Thailand, 104 United States, 105 Uruguay, 107 Venezuela

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