OUMAN WIRELESS

Wireless measuring system

For monitoring the temperature and humidity in buildings
Stable conditions, lower costs

Saving energy, creating comfort

OUMAN

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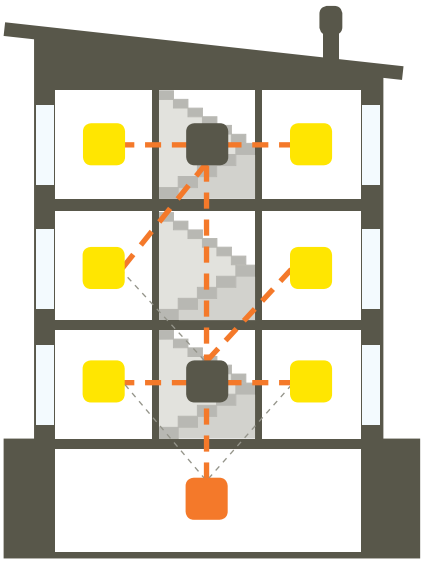
General description

OUMAN Wireless is a versatile wireless measuring system that gathers information about the conditions in a building. The system comprises a base station and battery-powered wireless sensors. The sensors can also be used as routers to expand the sensor network if powered externally. The base station has a built-in web interface for effortless deployment of the wireless sensor network. The measuring system can be connected to most automation systems.

Smart sensor network
The measuring system is self-routing, meaning that the routers and sensors will automatically determine the best route to the base station. The sensor network will adapt to any changes in the building for reliable access to the measurements at all times.

100 sensors
A single base station can link with up to 100 sensors through the sensor network. Each sensor is unique and can be named, for example, to indicate their location. One building can have multiple base stations that operate independent networks.

= Base station
= Routing wireless sensor
= Wireless sensor



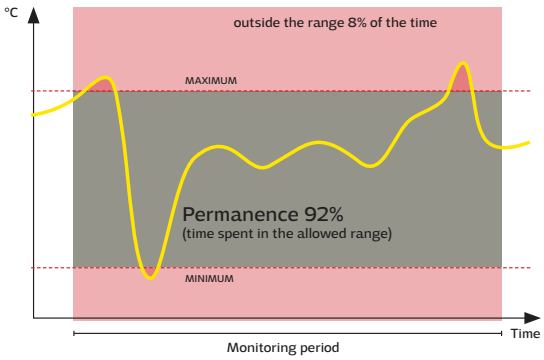
Wireless sensor network structure

Easy to deploy
The measuring system is easy and straightforward for technicians to deploy. First, the base station is set into installation mode, and then the sensors are added to the network by putting in their batteries. The signal strength of the sensors can be monitored online using a tablet or smartphone while the sensors are being placed.

Instant internet access
The base station can be connected to the internet through any network socket. Every base station includes a factory-set URL, and it will automatically create a secure connection to the OUNET online monitoring service.

Know the conditions
In addition to displaying measurements, the base station will calculate averages of selected measurements and filter erroneous readings. For quick review, permanence is calculated for all temperatures to reflect how well the temperature has remained within the set limits.

Unit controller support
The base station can be used for direct enhancement of heating control with Modbus-capable OUMAN heating controllers.



Accurate heating control
The measuring system can be connected to building automation. The base station provides an average reading that can be used to adjust heating according to the actual conditions. This stabilises the conditions in the rooms and saves heating energy!

Trend function
Any measurement point which is in use on base station can be set for trend collection. The maximum number of measurements for trend tracking is 200 pcs and each measurement point can store up to 10 000 samples.
• When the number of measurement samples is full, the oldest samples are deleted from trend data.
• The collected data can be stored in a .csv file

Examples how frequency of samples collected is effecting to time period tracked by trend function.

Frequency 1 min – about 1 week
Frequency 5 min – about 1 month
Frequency 15 min – about 3 months
Frequency 30 min – about 6 months
Frequency 60 min – about 1 year

Connections to automation
The base station has a wide selection of bus connections; it can be connected to an OUFLEX substation, the OUNET online monitoring service, OUMAN unit controllers and other automation systems. The measurements are always accessible via a browser, regardless of what the base station is connected to.

New sensor types

1. WL-TEMP-RH-WHIP 2.1
Basic sensor with 1.8m measure-element that has temperature & Humidity. Possibility to measure values example inside wall.

2. WL-TEMP-RH-CO2 2.1
Temperature, humidity and CO2 measures. No battery holders. Usage with power supply 5VDC.

3. WL-TEMP-RH-VOC
Temperature, humidity and VOC measures. No battery holders. Usage with power supply 5VDC.

4. WL-TEMP-RHPD
Temperature, humidity and air pressure differential measures. With batteries about 4 years. Recommend to use with 5VDC power supply.

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Base station WL-BASE	
Case	ABS plastic
Operating temperature	0...+50 °C
Protection class	IP20
Measurement interval in installation mode	10 seconds
Measurement interval in normal mode	can be adjusted (1–240 min).
Dimensions	90 ⍀ 70 ⍀ 59 mm
Installation	Mounted to DIN bar
Operating voltage	24 VAC / 5.5 VA or 20...30 VDC / 3W If the voltage is 10-20 VDC, then the A0 output does not work properly.
Power consumption at full load	12 VDC 160 mA 24 VDC 85 mA 24 VAC 210 mA
Compatible OUMAN controllers	C203 S203 H23 EH-203 EH-201/L
Connection at fieldbus level substation level	Modbus RTU Modbus TCP

Temperature sensor:

- Built-in antenna
- Sensor coverage is not impaired when the battery is low.
- 869 MHz

WL-TEMP-RH Temperature sensor and humidity sensor	
Case	ABS plastic
Operating temperature	0°C...+50°C
Protection class	IP20
Temperature meas. accuracy +10...60°C Measurement area	± 0,3°C -30...+100°C
Humidity meas. accuracy 20...80%rh Measurement area	± 3 %rH 0...100%rH
Any of the following measurements can be implemented by using the AUX connection:	
• **AUX temperature measurem.** - Measurement area - Measurement accuracy (25 °C)	 -30°C...+50°C ± 0.3°C
• **AUX 0-10VDC transmitter** - Measurement area - Measurement accuracy	 scaleable 0.5% / 50mV
Power source operating as non-routing temperature sensor Power source operating as router	2 x AA batteries 5...24 VDC
Battery life (not included in delivery):	
Energizer L91 Ultimate Lithium 3100 mAh: 15 min measurement interval 60 min measurement interval	 9.5-15 years 12-20 years
External power source (operating as routing temperature sensor)	5 VDC
Dimensions	90 x 96 x 26 mm
Installation	Surface installation