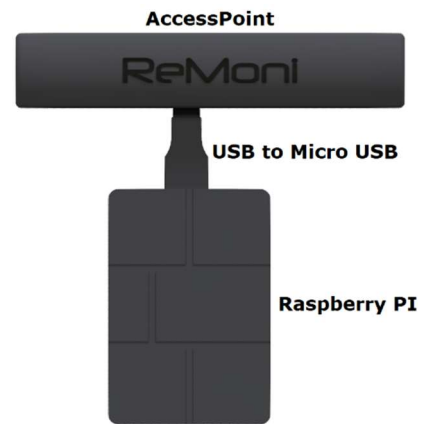


**Data Sheet Gateway, routing data between sensors and cloud**

- ❖ Gateway for routing data between sensors/repeaters and the cloud.
- ❖ Route data to and from up to 500 sensors.
- ❖ Transmits data to the cloud service using Ethernet, mobile network or WiFi.
- ❖ 5V power supply, through standard micro USB power supply.
- ❖ The AccessPoint (including the sensor radio) can be mounted away from the gateway, if needed.



**APPLICATION**

The ReMoni system monitor technical installations/devices/machines and their energy consumption.

Data are monitored on different units (machines, devices, etc.) and wireless transmitted to the gateway and further to the cloud solution ReCalc. Measured data and graphical views can be accessed from ReCalc<sup>1</sup>.

The gateway links the communication between sensors and the cloud, transmitting data from the wireless sensors to the cloud, and disseminates parameter settings from the cloud to the sensors.

The gateway consists of:

- An AccessPoint (radio with built-in antenna), for receiving measuring data from sensors/repeaters.
- A Raspberry Pi for data handling. It comes with built-in Ethernet. The Pi can optionally be extended with mobile data via a dongle<sup>2</sup>, or WiFi, using a Pi3 with built-in WiFi.
- An USB cable connecting the AccessPoint and the Raspberry Pi.
- A standard 5V micro USB power supply.



Several gateways can be used together, if needed. This will also establish a redundant system.

<sup>1</sup> <https://recalc.remoni.com/>

<sup>2</sup> Please note that ReMoni can only guaranty that dongles ordered via ReMoni, or listed positive on the ReMoni website will work on the gateway, since mobile data dongle vary a lot.

## INTERNET CONNECTION

The gateway must be connected to the internet, for transferring data to the ReMoni cloud, using one of the following solutions:

- ❖ Solution 1: The built-in Ethernet on Raspberry Pi.
- ❖ Solution 2: Mobile data via USB dongle connected to the Raspberry Pi. The USB dongle has a build-in antenna, and need a SIM card to transmit data.<sup>2</sup>
- ❖ Solution 3: WiFi, via the built-in communication in the Raspberry Pi 3 module. Please note that the WiFi option is only available on the Raspberry Pi 3 which is an added option.



### Solution 1:

Communication via Ethernet. Recommended by ReMoni since connection via cable ensures the most reliable connection.

### Solution 2:

Mobile data communication module, as an USB dongle with a SIM card.

### Solution 3:

Communication via WiFi. Please note; Require a Raspberry Pi 3.

## INSTALLATION

Please see the installation manual at:  
<http://remoni.com/products/data-chain/gateway/>

## WIRELESS DATA TRANSMISSION

Please see the data sheet for wireless communication with the sensors and meters at:  
<https://remoni.com/products/data-chain/wireless-communication/>


## HARDWARE AND SOFTWARE TESTS

All ReMoni products are tested individually before shipping from factory.

## SOFTWARE CONFIGURATION

There is no software to be configured at the gateway. All configurations are made over the ReMoni portal, ReCalc: <https://recalc.remoni.com>


**TECHNICAL DATA**

<p><b>Technical data, Raspberry Pi.</b></p> 	Control module base:	Raspberry Pi. <sup>3</sup>
	Raspberry Pi generations:	Raspberry Pi 2 or 3.
	Power supply:	5 V dc, 2A; standard supply for Raspberry Pi.
	Connection:	To access point, using an active USB-A to micro-B adaptor.
	Number of access points per Raspberry Pi:	1
	No. of sensors:	Up to 500 sensors.
	Data transmission to internet and cloud is obtained using one of the following methods:	a) Ethernet. b) Mobile data network. (requires a dongle) c) WiFi.
	Connection to other sensors:	Coming later.
	Encapsulation:	Standard Raspberry Pi plastic casing.
	Data security:	Encryption: AES 128 on the sensor side plus HTTPS on the cloud side.
	Data availability and security:	Data for more than 500 sensors can be stored for more than a month.
	Multiple gateways:	Multiple gateways can be installed, operating simultaneously, forming a redundant data chain.
	Surrounding temperature:	-10 to 70°C
	Transport temperature:	-40 to 80°C
	Protection class:	Indoor mounting.
Color:	Black. Alternative casing can be used.	
Approvals:	CE approved <sup>4</sup> .	

<sup>3</sup> See the Raspberry Pi datasheet for further details.

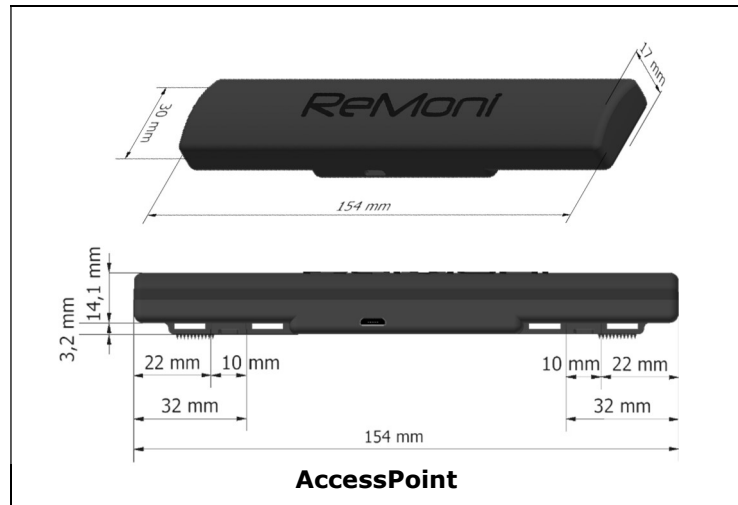
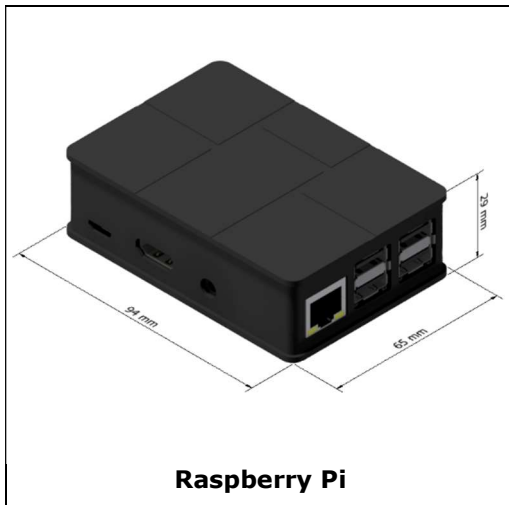
<sup>4</sup> CE approved by a third party vendor.

**Data sheet Gateway**

<p><b>Technical data; AccessPoint.</b></p> 	Power supply:	From the Raspberry Pi.
	Connection:	Connected to Raspberry Pi using a standard USB-A to micro-B cable
	Multiple gateways:	Multiple gateways can be installed, operating simultaneously. Multiple gateways give system redundancy.
	Surrounding temperature:	-20 to 70°C
	Transport temperature:	-40 to 80°C
	Encapsulation:	PC, polycarbonate.
	Protection class:	IP20.
	Color:	RAL 9005 (black).
	Weight:	49 g.
	Placement:	For indoor mounting. Outdoors possible in suitable cabinet.
	Product conformity:	CE. RED (2014/53/EU). LVD (2014/35/EU). RoHS directive 2011/65/EU.
	Standards:	RED: EN 300 220-2 V3.1.1:2017-02 Or EN 300 220-2 V3.2.0 (2017-09) EN 301 489-1 V2.2.0 (2017-03) EN 301 489-3 V2.1.1 (2017-03) LVD: EN 62311:2008

For technical information about *wireless technology, network, transmissions range, transmissions rate and data security* see separate data sheet.

## DIMENSIONS



## ORDERING NUMBERS

See <https://remoni.com/buy/list-prices/>

## ANNEX

Instructions for disposal of WEEE by users of the European union



This product must not be disposed of with other waste. Instead, it's the user's responsibility to dispose of their waste equipment by handing it over to a designated collections point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensures that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local office, your house-hold waste disposal or where you purchased your product.

## CONTACT

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