



# LoRaWAN® Product catalogue



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# About us

MClimate is a cutting-edge European IoT company dedicated to engineering smart solutions that optimize energy use, improve indoor air quality, and reduce waste. With a foundation in both hardware and software, we envision buildings and homes that respond intelligently to their environment — and help people live more sustainably, comfortably, and efficiently.

Our mission is simple but powerful: to help people and organizations reduce energy consumption, improve indoor air quality, and make buildings more sustainable — without compromising comfort or performance. From smart thermostats and CO<sub>2</sub> sensors to water control systems and building management platforms, MClimate solutions empower facility managers, utility companies, and end-users to monitor, control, and optimize their environment.

We are proud to be both gateway-agnostic and IoT-platform agnostic, ensuring easy integration into existing infrastructure. Our LoRaWAN®-based devices are designed for long battery life, scalability, and reliable performance, making them suitable for projects of every size — from single homes to large municipal buildings. Together, we are building a smarter, greener, and more connected future.

## Rigorous Quality Control



### Founded 2014

Founded in 2014, we've started as a Smart Home B2C business



### Specialist in Smart Buildings

Main focus on energy efficiency and building decarbonization



### 10+ years

of experience in manufacturing and HW and SW development



### High-quality EU products designed to last

Dedicated production in 2 facilities in Bulgaria with OEM capabilities



### 500k+

Vicki devices sold and installed since launch. A leader in launching innovative products first

2

EU based production facilities

60+

International markets covered

20+

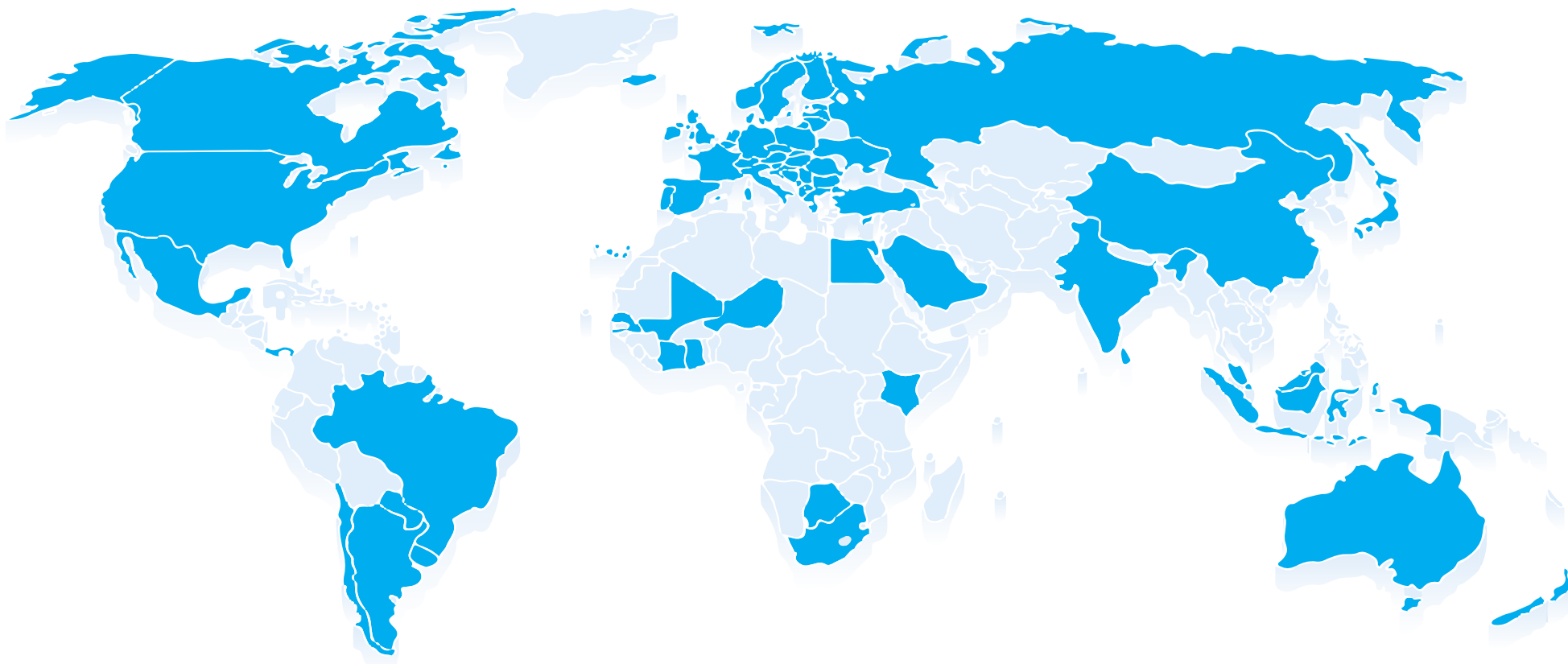
Designed hardware IoT  
devices for smart automation

30k+ per month

Devices delivered

2500+

Smart buildings served



endeavor



BULGARIAN  
STOCK EXCHANGE  
SOFIA

FUTURE  
HUB Europe

SCALE  
UP 4  
EUROPE

pwc GROWTH  
BUILDERS

European Bank  
for Reconstruction and Development

2015, 2016

Selected by the  
InvestBulgaria Agency

2017

Becomes an  
Endeavor  
company

2020

Selected in the  
Top10 BG  
Fastest Growing  
Scale Ups

2021

Participation in EU  
accelerators for smart  
city and smart region  
solutions

2022

PwC and Growth  
Builders PropTech  
Solutions

2022

Funding round to fund  
further growth in Europe  
and launch of Enterprise  
v2 with EBRD

2023

Introducing new  
maintenance-free  
solar-powered  
smart devices series



# Smart Buildings

Our mission to provide digital, connected, smart and low carbon footprint buildings automation products and services to our customers is fully aligned with major corporates and government objectives to prepare their assets and clients for the future through innovation.

⚡35%

Monitor and save energy, time and money and do your part for the environment



Quick time to market with low upfront investment and high ROI



Work towards carbon neutrality goals and 2030 targets in line with the UN's SDGs



Use AI and data to drive business insights and optimise risk and business strategies



Increase existing revenues and utilise resources more efficiently



Improve occupant experience, wellbeing, engagement and customer retention



**SUSTAINABLE  
DEVELOPMENT  
GOALS**

**7** AFFORDABLE AND  
CLEAN ENERGY



**11** SUSTAINABLE CITIES  
AND COMMUNITIES



**12** RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



What types of buildings do we serve best?



Hospitals



Schools



Social housing



Care homes



Municipality buildings



Hotels



Offices



Houses



Villas



Block of flats



Commercial buildings



Storage facilities

Successful stories



**Optimizing retirement homes heating system in the UK**

VOYTECH 

How IoT can help district heating improve energy consumption and management.

[LEARN MORE](#)

<https://mclimate.eu/pages/case-study-retirement-homes>



**School buildings energy optimization in Denmark**

Improving indoors climate for students with smart IoT solutions.

[LEARN MORE](#)

<https://mclimate.eu/pages/case-study-schools>



**Office building energy management in Germany**

Achieving ESG goals, starting with smart energy management.

[LEARN MORE](#)

<https://mclimate.eu/pages/case-study-german-bank>

# LoRaWAN® Benefits



## Long operational range

The wider the coverage, the better and cheaper the IoT infrastructure. With LoRaWAN®, the range is nearly 8 km in urban settings and 15 km in suburban areas.



## Long battery life of up to 10 years

Specifically designed to dramatically reduce the power consumption and extend the battery life, LoRaWAN® based data transmission and reception requires low current (less than 30 mA).



## Bidirectional communication

Fully bidirectional communication enables a wide variety of use cases requiring uplinks and downlinks. LoRaWAN® devices can deliver status messages even to remote locations.



## Open source standard

The LoRaWAN® standard is based on an open protocol approach managed by the LoRa® Alliance which supervises the development of the standard and ensures interoperability.



## Indoor penetration

The LoRa® waves can pass through obstacles and allow deep indoor penetration and adds the ability to reach sensors monitoring water or gas meters located underground.



## Low capex and opex

The LoRaWAN® open standard combined with cost-free operation frequencies and low-cost base stations allows operators to roll out networks quickly and with minimum investment.



## Scalability

Wireless, easy to set up and able to support thousands of connected end-devices and millions of messages transmitted. Its fast deployment allows for large scale projects to come to life quicker and cheaper.



## High security

LoRaWAN® security design adheres to state-of-the-art principles: use of standard, well-vetted algorithms, and end-to-end security ensuring mutual authentication, integrity protection and confidentiality.



## How it works?



## Integrations with Network Providers





# Our products & Solutions

Our LoRaWAN® range is focused on sustainability, health and wellbeing and security - it aims to provide connected, smart and low carbon footprint buildings automation products and easily scalable retrofit solutions.

## Climate & Energy Control



Vicki Smart Radiator Thermostat LoRaWAN®



Wireless Thermostat LoRaWAN®



Fan Coil Thermostat LoRaWAN®



Melissa AC Controller LoRaWAN®



HT Sensor LoRaWAN®



HT + PIR lite LoRaWAN®



16A Switch & Power Meter LoRaWAN®



16A Dry Switch LoRaWAN®

## Indoor Air Quality Monitoring



CO2 Sensor & Notifier LoRaWAN®



CO2 Display LoRaWAN®



CO2 Display Lite LoRaWAN®



CO2 + PIR lite LoRaWAN®

## Automation & Water Control



T-Valve LoRaWAN®



Flood Sensor LoRaWAN®



Multipurpose Button LoRaWAN®



Open/Close Sensor LoRaWAN®



#### SOLUTION

### Climate & Energy Control

Heating and cooling spaces accounts for up to 60% of a building's energy usage. Therefore, this should be the first item on anybody's list to make quick energy efficient win. But consuming less energy doesn't only mean you will save money and help reduce your CO2 impact on the Earth. We prove that it can also mean more precise temperature and humidity control as well as better comfort for occupants.

#### LEARN MORE

<https://mclimate.eu/pages/smart-buildings-heating>



#### SOLUTION

### Indoor Air Quality Monitoring

Actionable is a key word. Our solution does not only send Indoor Air Quality and CO2 data for later analysis. Our solution also make sure occupants are visually and acoustically warned in a discrete manner if a room's air quality or CO2 is below standard, so occupants can take actions to improve it - e.g. ventilate. Feeling safe and acting responsibly on air quality has never been easier and it helps us reduce the spread of viruses in confined spaces.

#### LEARN MORE

<https://mclimate.eu/pages/smart-buildings-aqi>



#### SOLUTION

### Automation & Water Control

Water damage can cost a fortune. Usually a flooding happens once, but when it does, it costs you time, money and effort to fix it. Our solution is a combination of two devices - a water valve (certified for drinking water) and flood sensor, both battery-operated. This allows you to not only know when there's a flood in your building, but also lets IoT take care of shutting off the water supply and minimising the damage leaving nothing to chance and your insurance.

#### LEARN MORE

<https://mclimate.eu/pages/smart-buildings-water-control>

# Vicki LoRaWAN®

MC-LW-V02

Vicki is a smart thermostatic radiator valve (TRV) retrofitting radiators with thermostatic valve and allowing for temperature control and monitoring from distance. Manual target temperature selection is possibly by rotating the outer ring of the device. The target temperature is displayed on the device.

## Product features



- Manual adjustment of temperature
- 2-digits display
- Automatic temperature control algorithm
- Automatic temperature control algorithm with external temperature reading
- Manual valve openness control
- Open window detection
- Child lock
- Heating profiles/Schedules
- Geolocation
- Alarms
- Consumption reports
- Multiroom Control
- Family Accounts
- Smartphone & WEB control

## Applications

Smart Buildings

Smart Home

Residential buildings

Commercial buildings

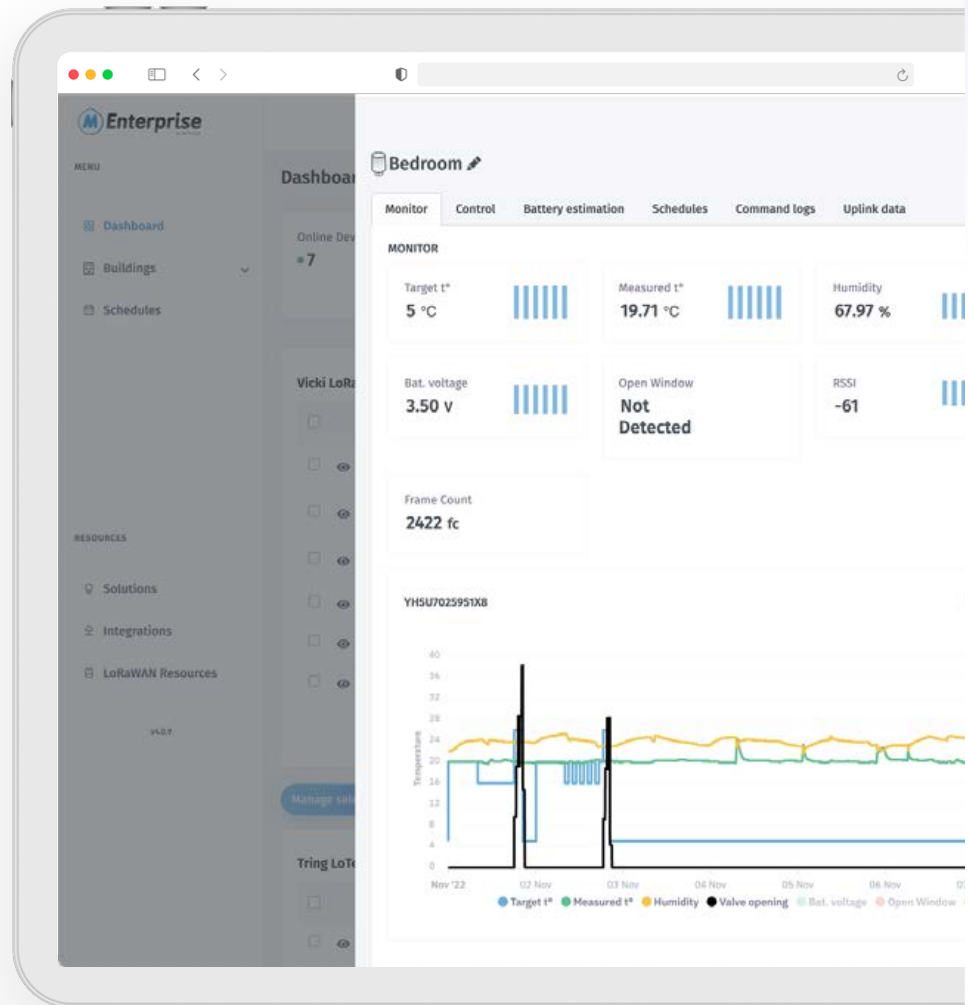
Energy optimization

Environment monitoring





Change and set temperature  
at home, wherever you are.



Dimensions



Compatibility

Vicki works seamlessly with district heating and thermostats. Compatible with M30x1.5M fitting and RA, RAV and RAVL Valve Adapters.





# Technical Details

## Design

ABS + PC reinforced with Glass Fibers, Anodised copper (metal nut)

## Operating Conditions:

Temperature: - 20 - 60°C and Humidity: 0-80% RH (non-condensing)

## Dimensions

54x78x50mm, 107gr

## Battery Type

2 x AA with operating voltage 3 VDC

## Battery life

10 years (depending on configuration and environment)

## Wireless Technology

LoRaWAN® 1.0.3

## Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

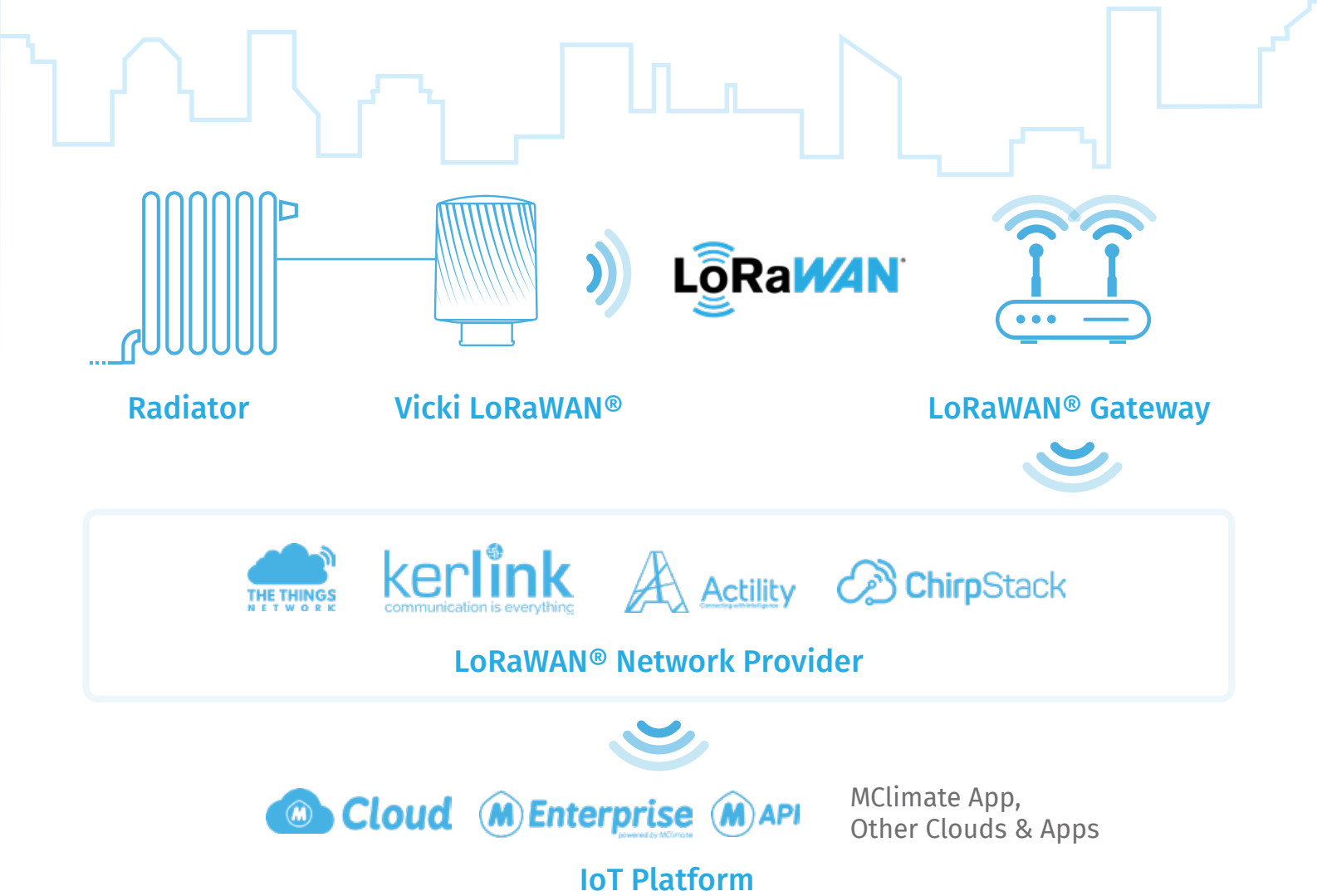
## Device Type

Class A End-device

## Supported Features

OTAA , ADR , Adaptive Channels setup

# How does it work?



Scan the QR code to access the full product specifications and API Documentations or visit the link: <https://mclimate.eu/pages/lorawan-resources>

# HT Sensor LoRaWAN®

MC-LW-HT-01

MClimate HT Sensor LoRaWAN® is an indoor temperature and humidity sensor with 10+ years of battery life, configurable settings and beautiful and discreet design.

## Product features



- Temperature sensor
- Humidity Sensor
- 2xAA Power supply
- Alarms
- Analytics
- Smartphone and WEB control.

## Applications

Smart Buildings

Smart Home

Residential buildings

Commercial buildings

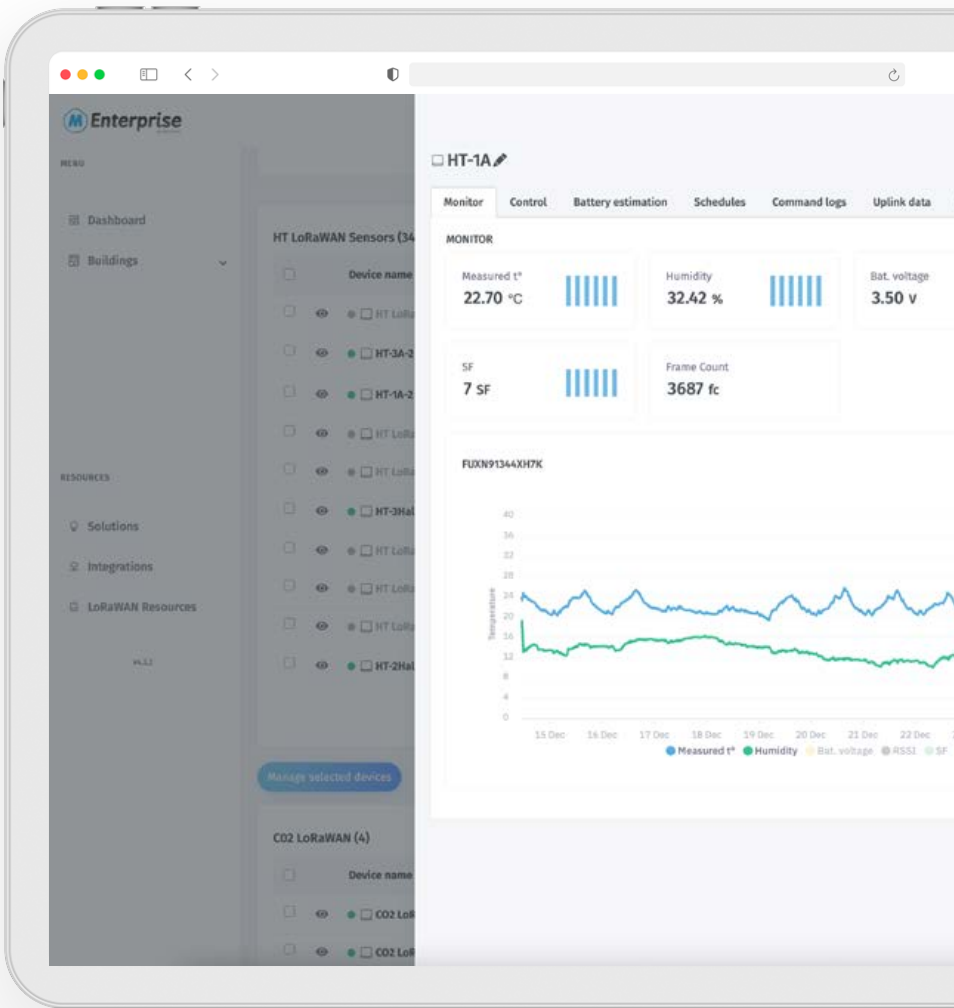
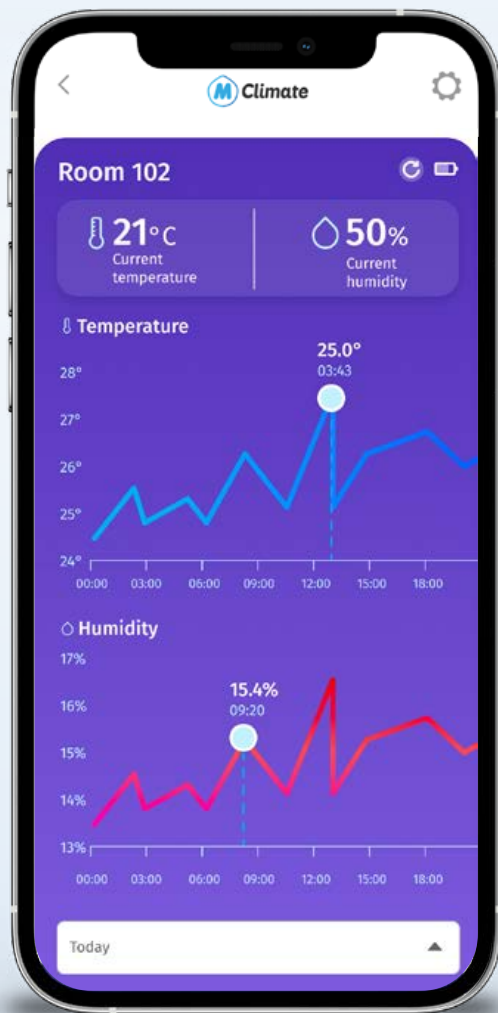
Energy optimization

Environment monitoring

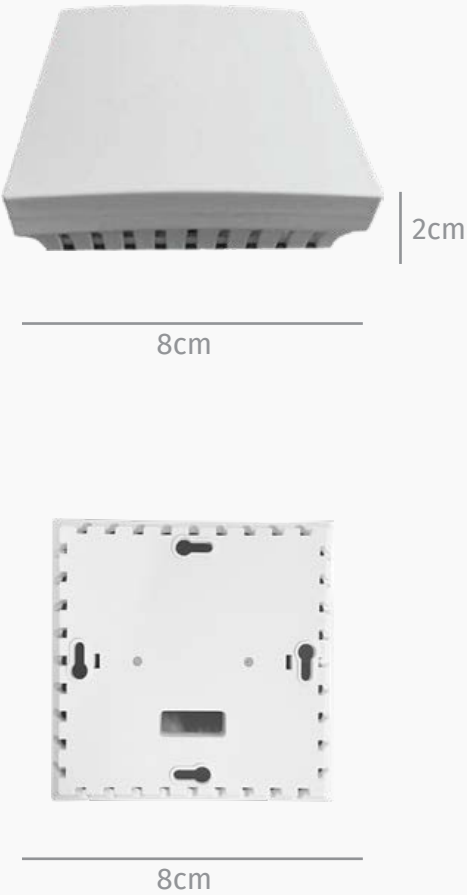




Monitor temperature & humidity  
at home, wherever you are.



## Dimensions



# Technical Details

## Design

ABS

## Operating Conditions:

Temperature: - 20 - 60°C and Humidity: 0-80% RH (non-condensing)

## Dimensions

80x80x20mm, 68gr

## Battery Type

2 x AA with operating voltage 3 VDC

## Battery life

10 years (depending on configuration and environment)

## Wireless Technology

LoRaWAN® 1.0.3

## Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

## Device Type

Class A End-device

## Supported Features

OTAA , ADR , Adaptive Channels setup

## How does it work?



Scan the QR code to access the full product specifications and API Documentations or visit the link: <https://mclimate.eu/pages/lorawan-resources>



# MClimate Wireless Thermostat LoRaWAN®

MC-LW-WT-01

MClimate Wireless Thermostat is a stand-alone thermostat entirely by solar energy using an organic solar panel. The device features a 2.9" e-ink screen, sensor for movement (PIR), temperature and humidity sensor, LUX sensor and 3 buttons. The user can change the target temperature and see current indoor conditions. The device sends an uplink after any event as well as periodically. The data from the Wireless Thermostat can be used in any LoRaWAN-compatible system, incl. Building Management Systems to control different appliances in the building.

## Product features



- Temperature sensor
- Humidity Sensor
- 4xAA Power supply/USB Type-C
- Alarms
- E-ink display
- Organic solar panel
- Motion sensor
- Lux meter
- Analytics
- FUOTA
- Smartphone and WEB control

## Applications

Smart Buildings

Smart Home

Residential buildings

Commercial buildings

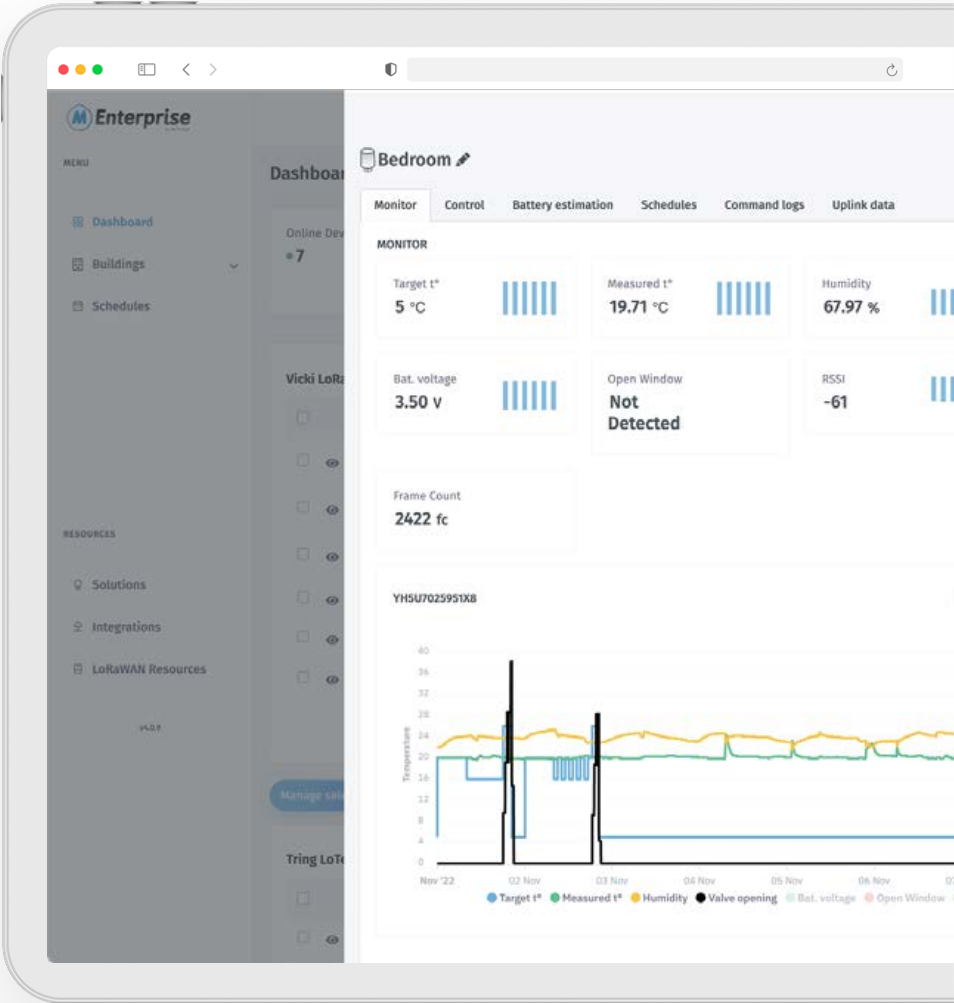
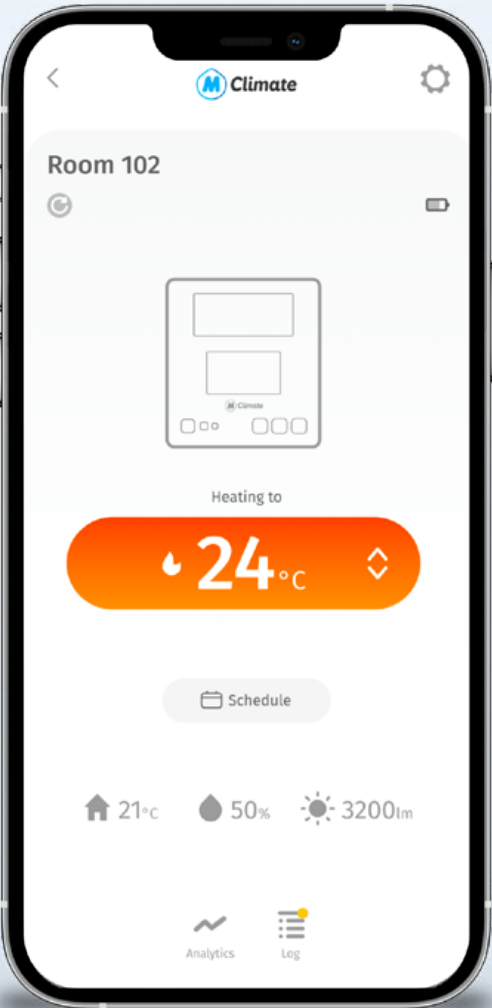
Energy optimization

Environment monitoring





Change and set temperature  
at home, wherever you are.



Dimensions



10.5 cm

11.5 cm



10.5 cm

2.3 cm

# Technical Details

## Design

ABS, Stainless steel, tempered glass

## Operating Conditions:

Temperature: 0° - +50°C and Humidity: 0-80% RH (non-condensing)

## Dimensions

105mm X 115mm X 23mm, 170gr

## Power supply

Solar-powered Lithium-ion capacitor (LIC) AND/OR 4xAA 1.5VDC batteries AND/OR USB-C

## Battery life

10 years (depending on configuration and environment)

## Wireless Technology

LoRaWAN® 1.0.3

## Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

## Device Type

Class A End-device

## Supported Features

OTAA , ADR , Adaptive Channels setup

# How does it work?



Scan the QR code to access the full product specifications and API Documentations or visit the link: <https://mclimate.eu/pages/lorawan-resources>

# MClimate Fan Coil Thermostat LoRaWAN®

MC-LW-FCT-01

The Fan Coil Thermostat (FCT) is a LoRaWAN device for 2- and 4-pipe Fan Coil Units, accommodating 3-speed or ECM fans. Ideal for building retrofitting, it enhances energy efficiency and reduces heating/cooling expenses significantly. With its 4.2" e-ink fast refresh display it allows the end-users to change the target temperature and see current indoor conditions. Its fully open and transparent communication protocol allows seamless integration into different systems including MClimate Enterprise platform.

## Product features



- Firmware Upgrade Over The Air (FUOTA)
- Compatible with 2-pipe and 4-pipe FCUs
- Compatible with ECM or 3 speed fans
- Temperature and Humidity sensor
- 4.2" e-ink fast-refresh display
- Anti-theft stainless steel bracket
- Multipurpose Analog/Digital Input/Output (pipe temperature monitoring; external contact - e.g. door/window sensor or hotel card occupancy; dew point sensor; filter alarm)
- Simple 4 buttons interface - ON/OFF/Mode, Increase temp; Decrease Temp, Select FAN speed.
- Keys lock (select which keys are disabled)

## Applications

Smart Buildings

Smart Home

Residential buildings

Commercial buildings

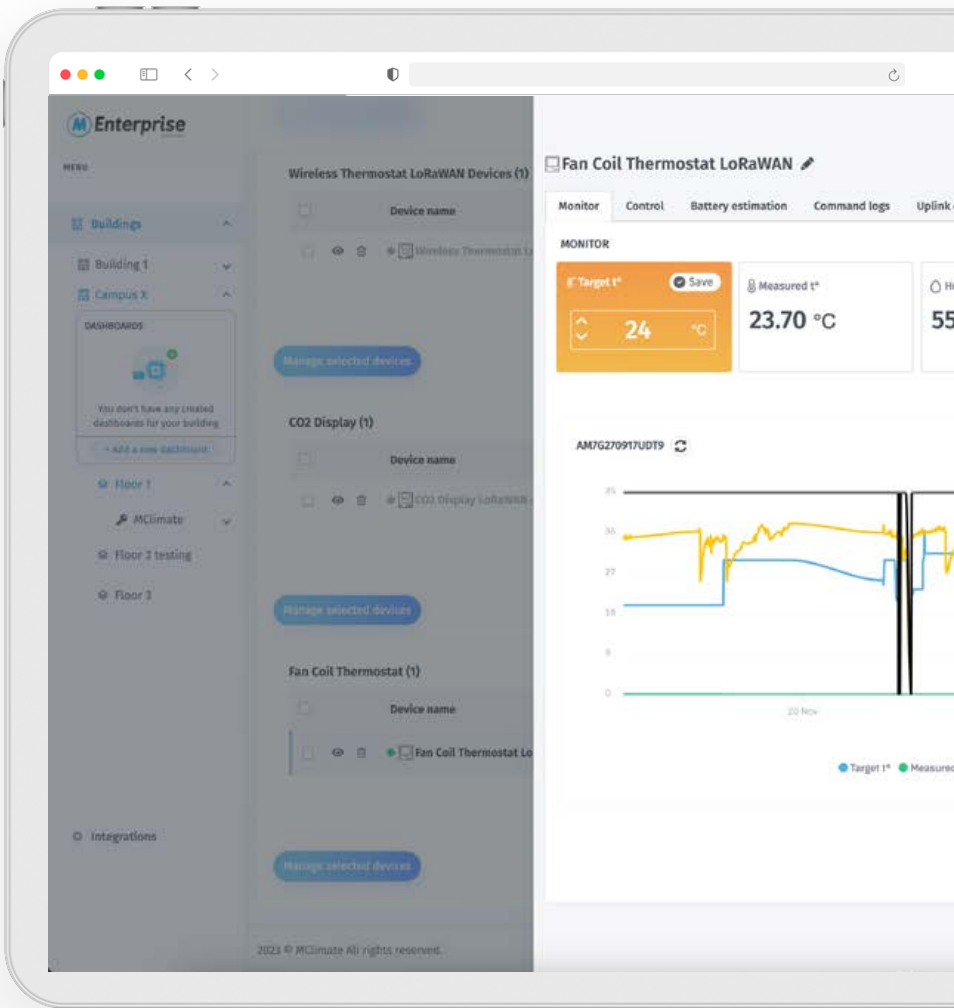
Hotels







Change and set temperature  
at home, wherever you are.



## Dimensions



# Technical Details

## Design

ABS, Stainless steel, tempered glass

## Operating Conditions:

Temperature: 0° - +50°C and Humidity: 0-80% RH (non-condensing)

## Dimensions

105mm X 115mm X 23mm, 170gr

## Power supply

110-230VAC

## Consumption

50mA MAX

## Wireless Technology

LoRaWAN® 1.0.3

## Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

## Device Type

Class A End-device

## Supported Features

OTAA , ADR , Adaptive Channels setup

# How does it work?



Scan the QR code to access the full product specifications and API Documentations or visit the link: <https://mclimate.eu/pages/lorawan-resources>

# Melissa AC Controller

## LoRaWAN®

COMING SOON

MC-LW-MELISSA-01

Melissa is a smart LoRaWAN A/C controller that enables remote management of your air conditioner, enabling features such as scheduling, real-time alerts, and improved energy efficiency.

### Product features



- Database with 1000+ AC remote controls
- 100+ brands compatibility
- Record custom IR signals
- IR sensor
- Temperature sensor
- Humidity sensor
- Heating profiles/Schedules
- Firmware Upgrade Over The Air (FUOTA)
- Smartphone and WEB control

### Applications

Smart Buildings

Smart Home

Residential buildings

Commercial buildings

Hotels



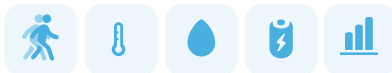
# HT + PIR lite LoRaWAN®

MC-LW-LITE-HT+PIR-01

MClimate HT + PIR lite LoRaWAN is a stand-alone sensor powered by 2xAA batteries lasting for up to 15 years with the default configuration. The device features PIR (occupancy) sensor, as well as temperature and humidity sensors.

The data from the HT + PIR lite can be used in any LoRaWAN compatible system, incl. Building Management Systems to control demand-based ventilation. Sensor information can be exposed as datapoints in Modbus, BACnet and KNX systems through the use of a special gateway.

## Product features



- PIR (occupancy) sensor
- Temperature and Humidity sensor
- Firmware Update Over The Air (FUOTA)
- Ultra low power consumption
- Sends message on occupancy
- Counts total amount of movements
- Double-sided tape on the back

## Applications

Smart Buildings

Smart Home

Residential buildings

Commercial buildings

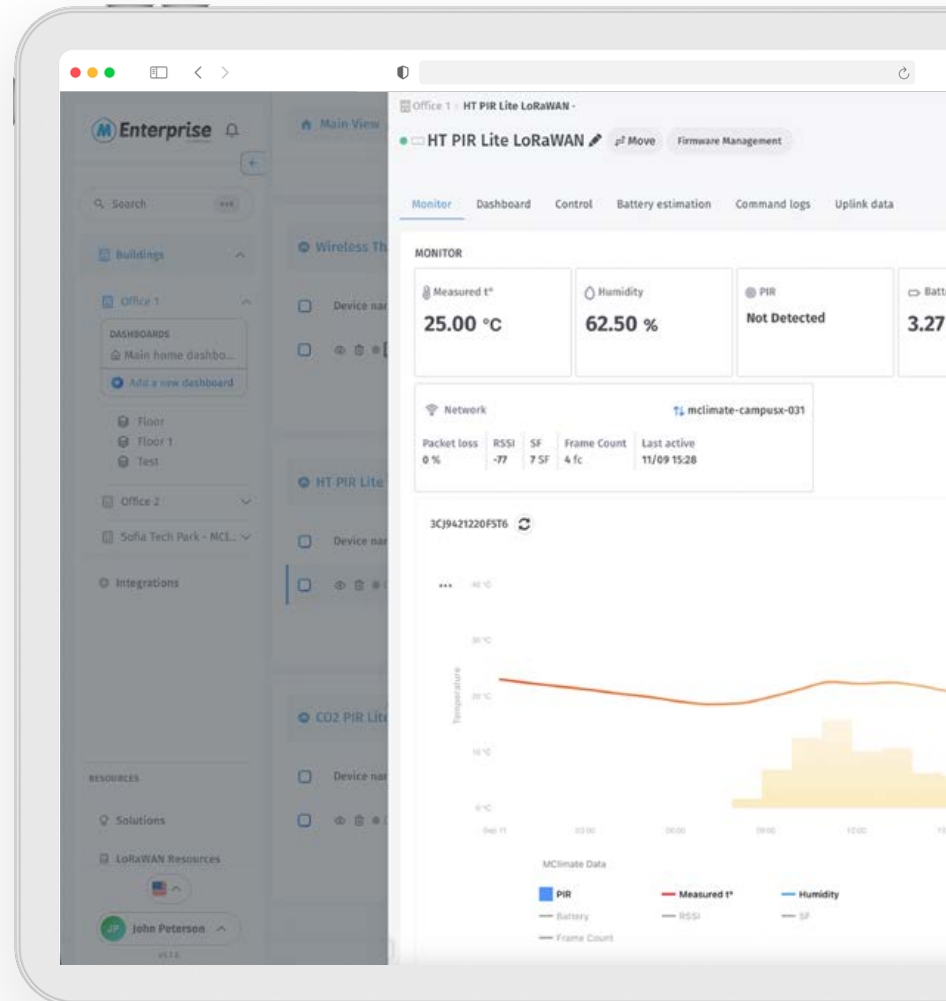
Energy optimization

Environment monitoring

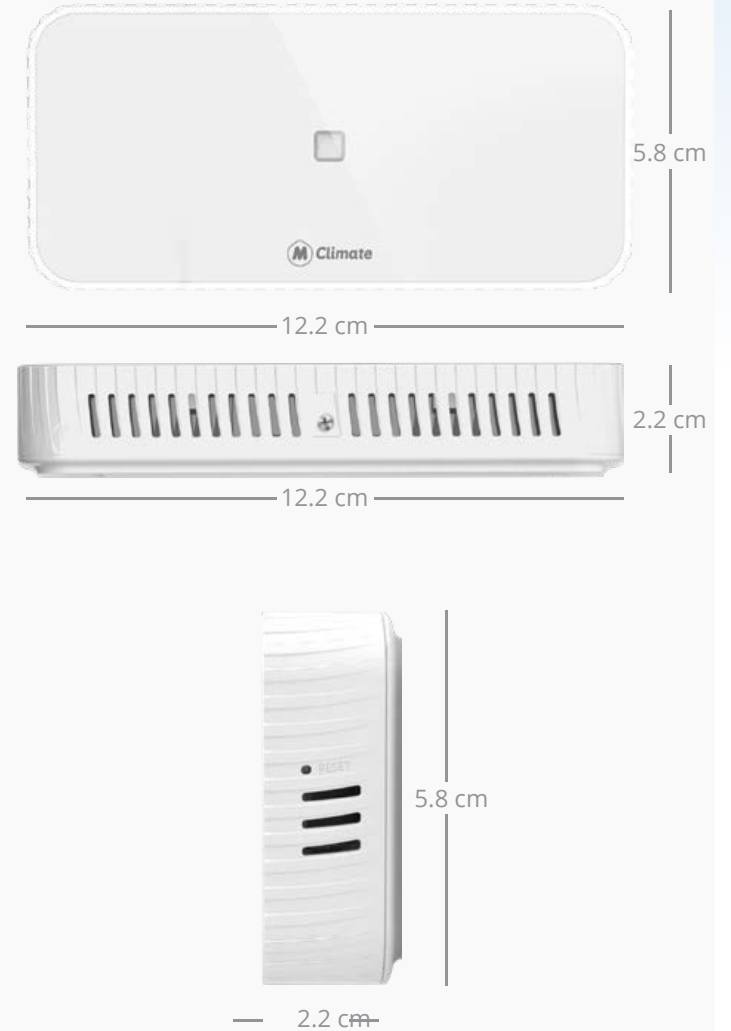




## Occupancy-Driven Energy Optimization



## Dimensions





# Technical Details

## Design

PC/ABS

## Operating Conditions:

Temperature: 0° - +50°C and Humidity: 0-80% RH (non-condensing)

## Dimensions

122mm x 58mm x 22mm, 70gr

## Power supply

2xAA batteries (each 1.5VDC)

## Battery life

More than 10 years (depending on configuration and environment)

## Wireless Technology

LoRaWAN® 1.0.3

## Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

## Device Type

Class A End-device

## Supported Features

OTAA , ADR , Adaptive Channels setup

## How does it work?



# 16A Switch & Power Meter LoRaWAN®

MC-LW-16ASPM-01

The MClimate 16A Switch & Power Meter LoRaWAN® is a compact 16A relay and electricity meter. The device is small enough to fit behind most wall switches and power equipment, enabling you to automate, track, and control your electrical appliances. This is possible as the device has 4 terminals L, N, N, Lout, and it works in a way that connects and disconnects Lout from L. With an overheating protection mechanism, FUOTA (Firmware Upgrades Over The Air), and operation in LoRaWAN Class C, the MClimate 16ASPM is ideal for rapid building retrofitting.

## Product features



- Firmware Upgrade Over The Air
- Electricity Meter
- Voltage Meter
- Current Meter
- Internal temperature sensor and overheating protection

## Applications

Smart Buildings

Smart Home

Residential buildings

Hotels

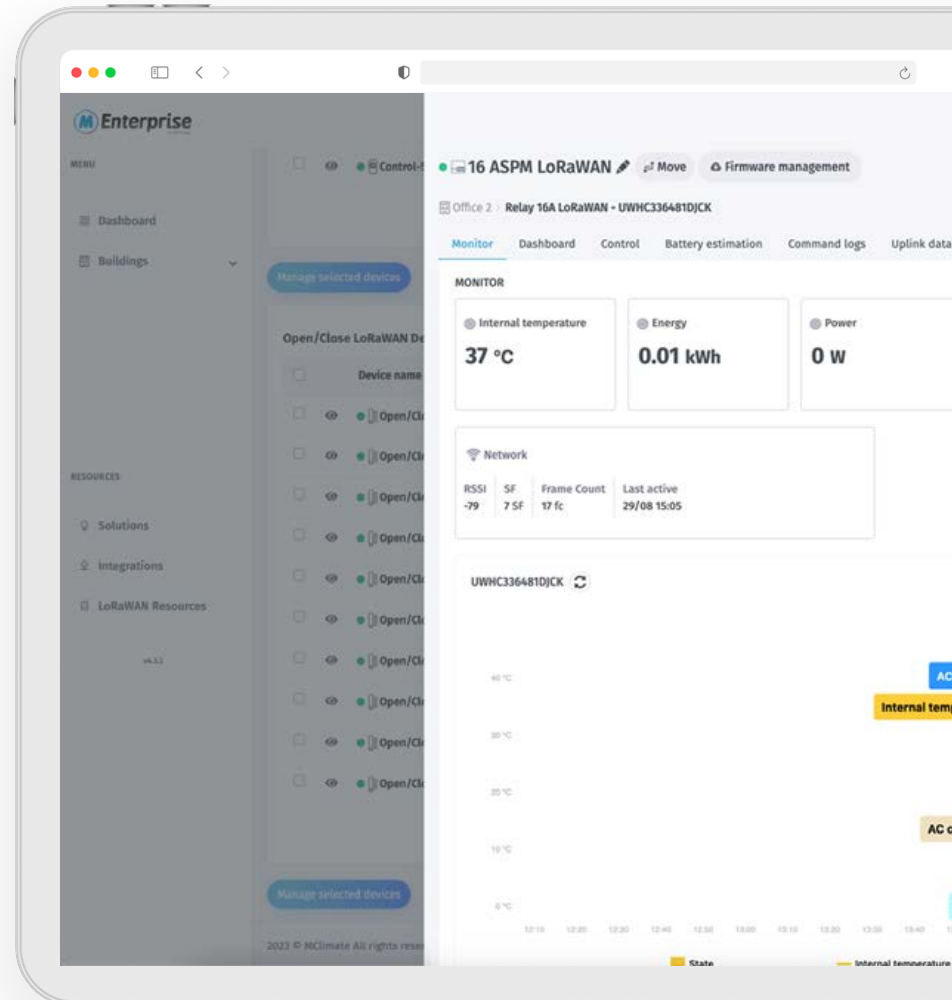
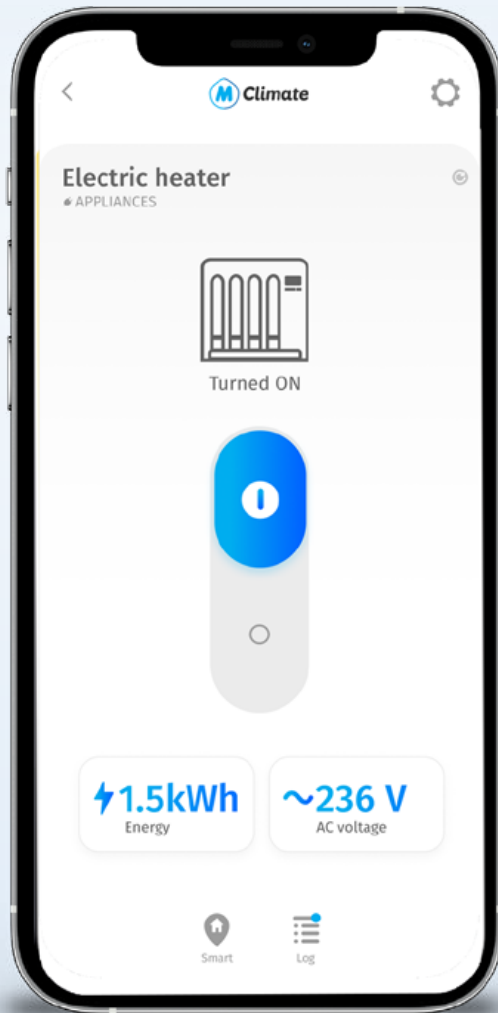
Commercial buildings

Energy optimization





Control Electrical Power  
wherever you are.



## Dimensions



3.6 cm



3.2 cm

1.8 cm



## Technical Details

### Design

PC UL-94 V0

### Operating Conditions:

Temperature: 0 - 40°C and Humidity: 0-80% RH (non-condensing)

### Dimensions

32mm x 36mm x 18mm, 24.5gr

### Power supply

100-240VAC / 24-30VDC

### Consumption

50mA

### Wireless Technology

LoRaWAN® 1.0.3

### Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

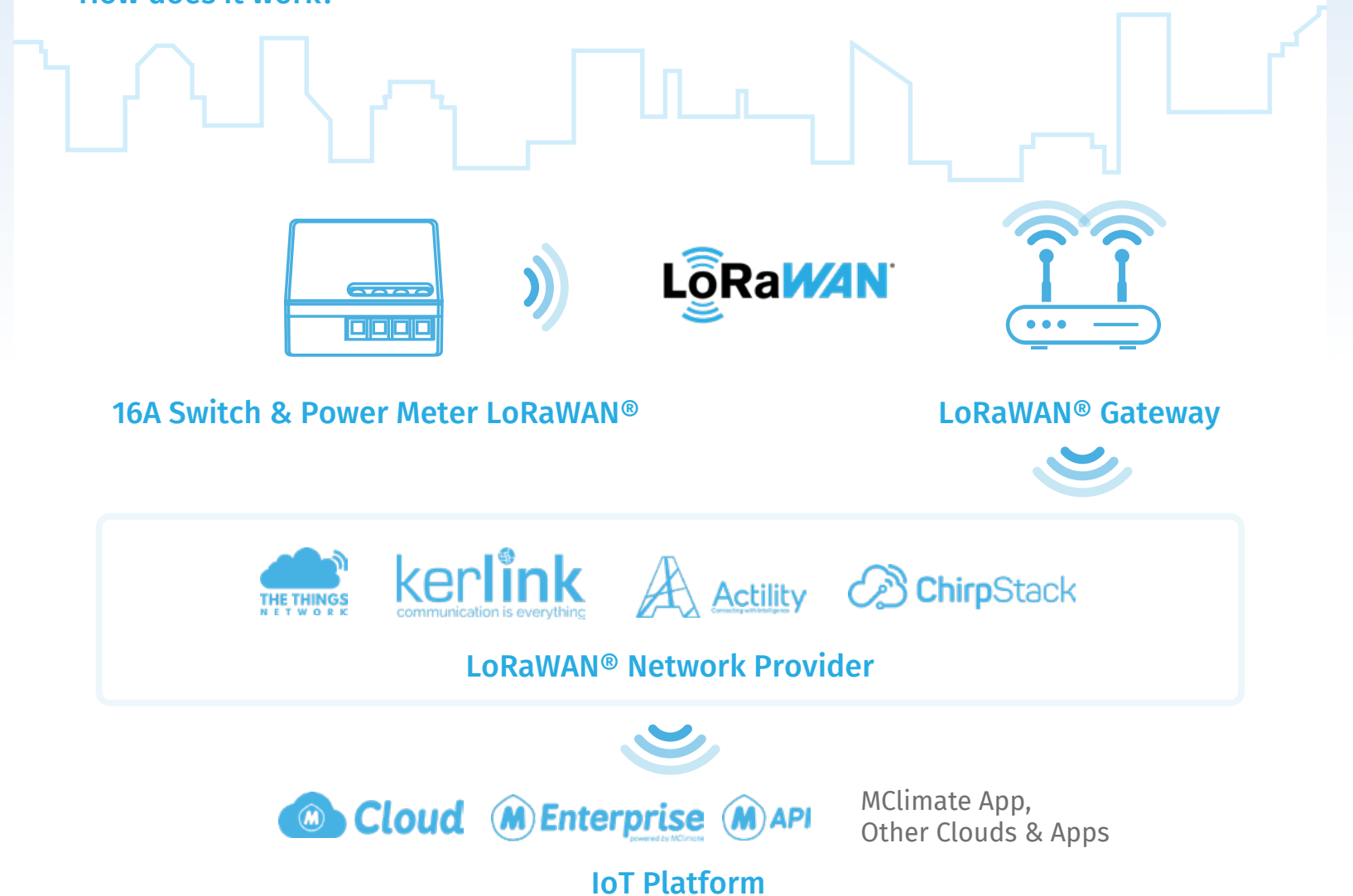
### Device Type

Class C End-device

### Supported Features

OTAA , ADR , Adaptive Channels setup

## How does it work?



Scan the QR code to access the full product specifications and API Documentations or visit the link:  
<https://mclimate.eu/pages/lorawan-resources>

# 16A Dry Switch LoRaWAN®

MC-LW-16ADS-01

The MClimate 16A Dry Switch LoRaWAN is a miniature device that features a dry 16A relay. The device is small enough to fit behind most wall switches and outlets. The device has 4 terminals L, N, I, O, connecting and disconnecting I from O. The device operates in LoRaWAN Class C, features FUOTA (Firmware Upgrade Over The Air) and has overheating protection.

## Product features



- Firmware Upgrade Over The Air
- Internal temperature sensor and overheating protection

## Applications

Smart Buildings

Smart Home

Residential buildings

Hotels

Commercial buildings

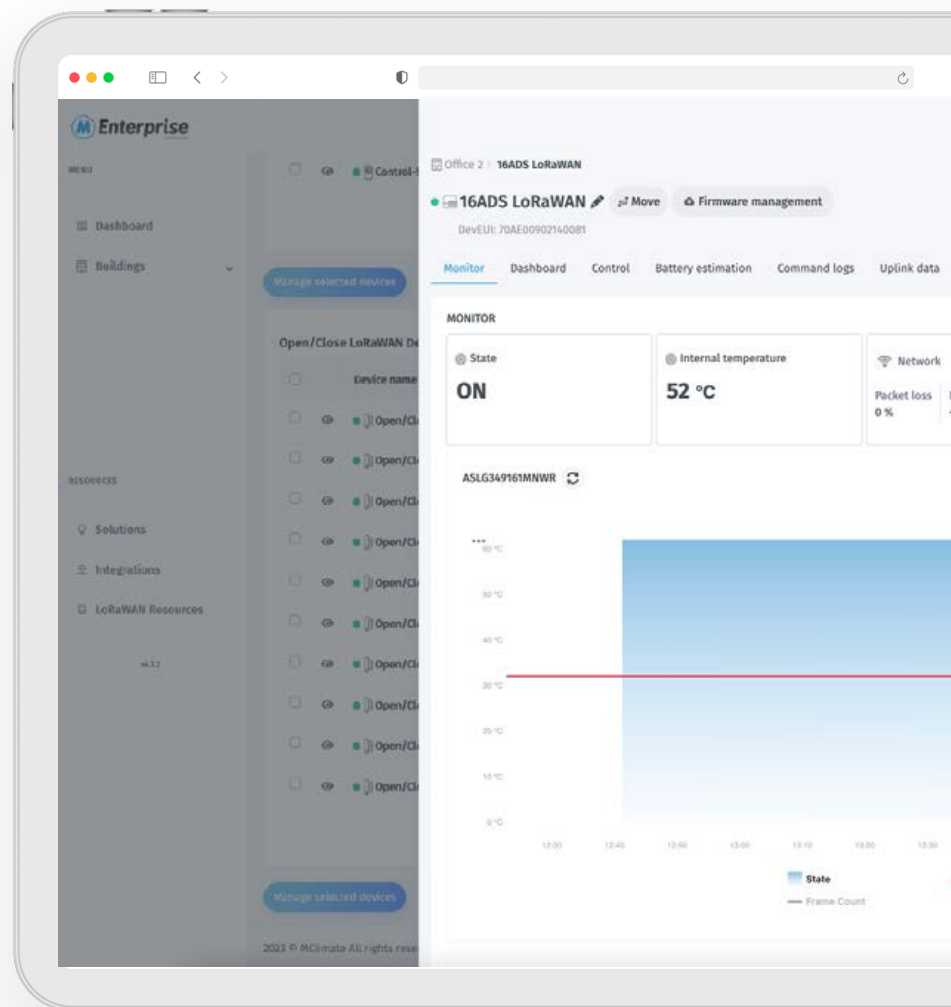
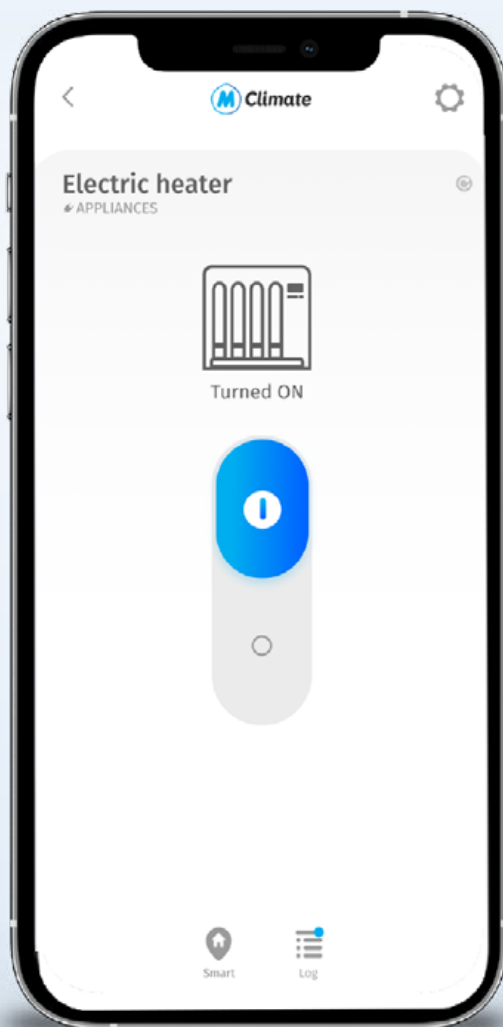
Energy optimization







Control Electrical Power  
wherever you are.



## Dimensions



3.6 cm



3.2 cm

1.8 cm



## Technical Details

### Design

PC UL-94 V0

### Operating Conditions:

Temperature: 0 - 40°C and Humidity: 0-80% RH (non-condensing)

### Dimensions

32mm x 36mm x 18mm, 24.5gr

### Power supply

100-240VAC / 24-30VDC

### Consumption

50mA

### Wireless Technology

LoRaWAN® 1.0.3

### Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

### Device Type

Class C End-device

### Supported Features

OTAA , ADR , Adaptive Channels setup

## How does it work?



Scan the QR code to access the full product specifications and API Documentations or visit the link:  
<https://mclimate.eu/pages/lorawan-resources>

# CO2 Sensor LoRaWAN®

MC-LW-CO2-01

MClimate CO2 Sensor and Notifier is a device that uses NDIR technology to measure the actual CO2 and has built-in temperature and humidity sensors. The device also has acoustic and visual notification abilities to indicate occupants whether a room should be ventilated.

## Product features



- CO2 Sensor (NDIR)
- Temperature Sensor
- Humidity Sensor
- RGB LED
- Acoustic Buzzer
- 2xAA Power supply
- Ultra-low power consumption
- Alarms
- Analytics
- Family Accounts
- Smartphone & WEB control

## Applications

Smart Buildings

Smart Home

Residential buildings

Commercial buildings

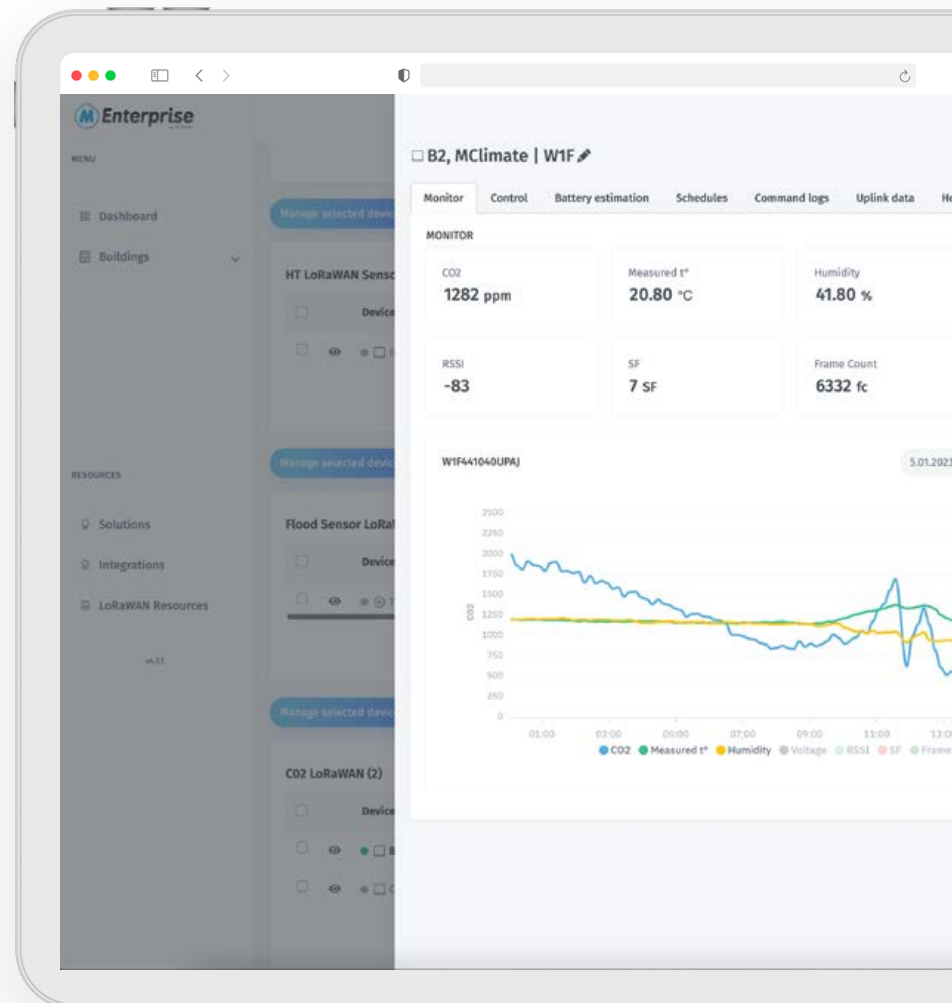
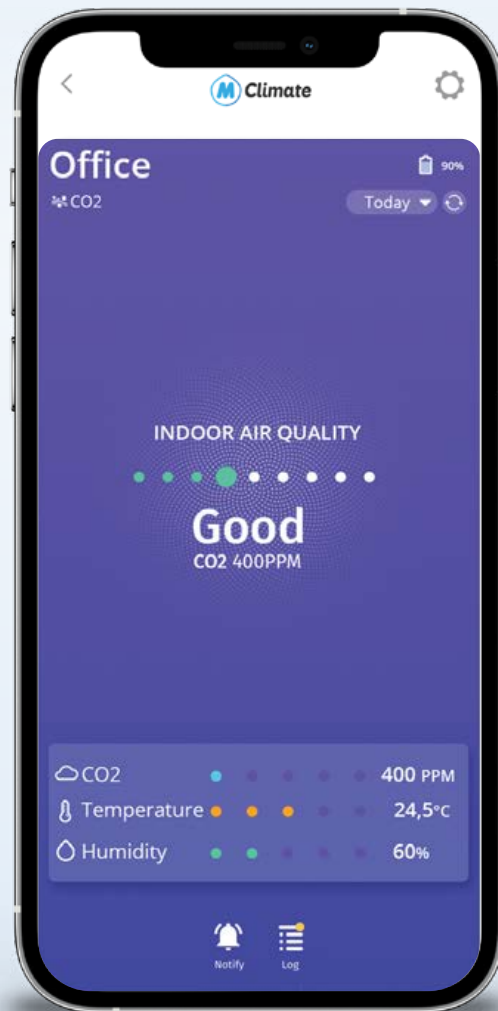
Energy optimization

Environment monitoring





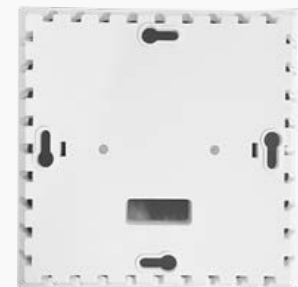
Monitor CO2 at home,  
wherever you are.



## Dimensions



8 cm



8 cm

## Technical Details

### Design

ABS

### Operating Conditions:

Temperature: - 20 - 60°C and Humidity: 0-80% RH (non-condensing)

### Dimensions

80x80x20mm, 68gr

### Battery Type

2 x AA with operating voltage 3 VDC

### Battery life

10 years (depending on configuration and environment)

### Wireless Technology

LoRaWAN® 1.0.3

### Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

### Device Type

Class A End-device

### Supported Features

OTAA , ADR , Adaptive Channels setup

## How does it work?



Scan the QR code to access the full product specifications and API Documentations or visit the link:  
<https://mclimate.eu/pages/lorawan-resources>



# CO2 Display LoRaWAN®

MC-LW-CO2-E-INK-01

MClimate CO2 Display LoRaWAN® is a stand-alone CO2 sensor powered entirely by solar energy using an organic solar panel. The device features a 2.9" e-ink screen, sensor for movement (PIR), temperature and humidity sensor, LUX sensor and NDIR CO2 sensor. The user can see the current levels of CO2 as well as historical trend. The device sends an uplink when it detects movement as well as periodically. The data from the CO2 Display can be used in any LoRaWAN® compatible system, incl. Building Management Systems to control demand-based ventilation. Sensor information can be exposed as datapoints in Modbus, BACnet and KNX systems through the use of a special gateway.

## Product features



- CO2 Sensor (NDIR)
- Temperature sensor
- Humidity Sensor
- 4xAA Power supply/USB Type-C
- Alarms
- E-ink display
- Organic solar panel
- Motion sensor
- Lux meter
- Analytics
- FUOTA
- Smartphone and WEB control

## Applications

Smart Buildings

Smart Home

Residential buildings

Commercial buildings

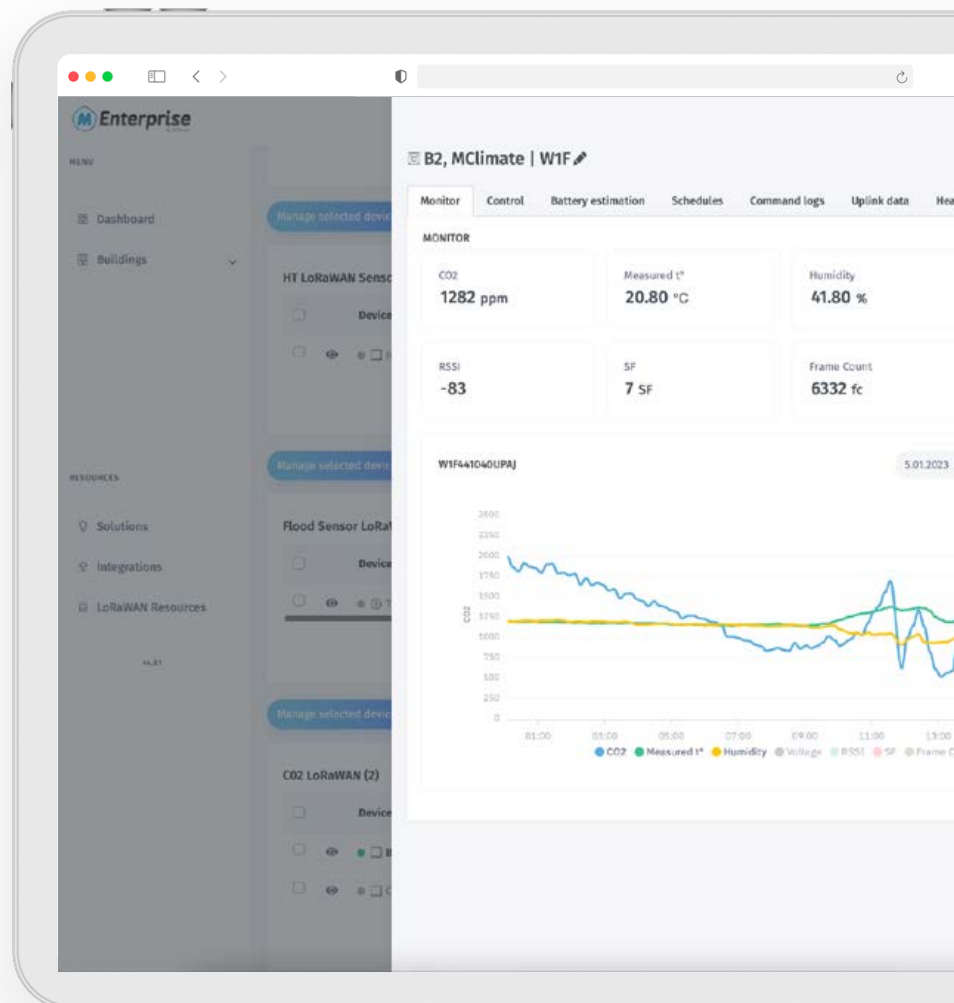
Energy optimization

Environment monitoring





Monitor CO2 at home,  
wherever you are.



## Dimensions



## Technical Details

### Design

ABS, Stainless steel, tempered glass

### Operating Conditions:

Temperature: 0° - +50°C and Humidity: 0-80% RH (non-condensing)

### Dimensions

105mm X 115mm X 23mm, 170gr

### Power supply

Solar-powered Lithium-ion capacitor (LIC) AND/OR 4xAA 1.5VDC batteries AND/OR USB-C

### Battery life

10 years (depending on configuration and environment)

### Wireless Technology

LoRaWAN® 1.0.3

### Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

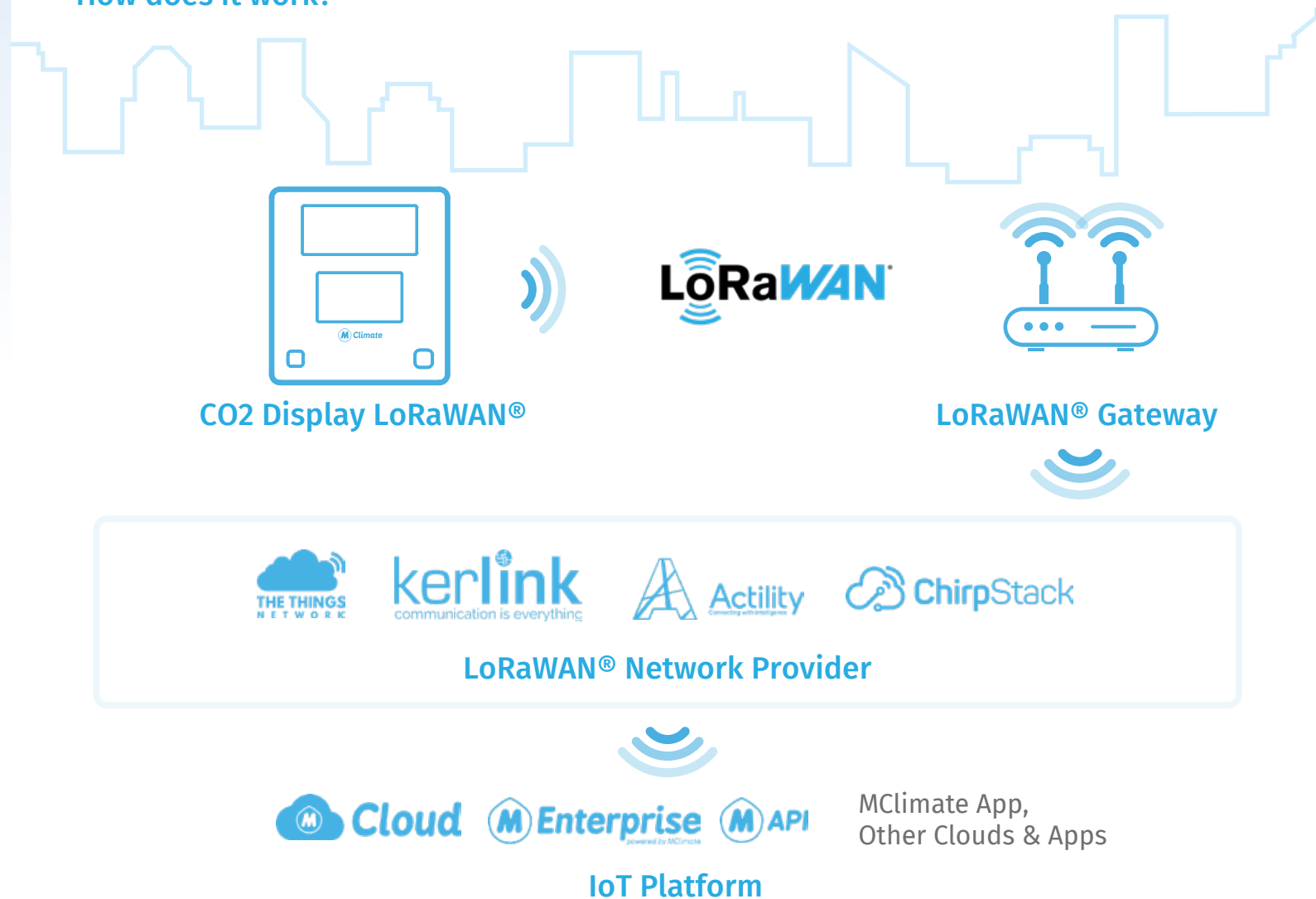
### Device Type

Class A End-device

### Supported Features

OTAA , ADR , Adaptive Channels setup

## How does it work?



Scan the QR code to access the full product specifications and API Documentations or visit the link:  
<https://mclimate.eu/pages/lorawan-resources>

# CO2 Display Lite

## LoRaWAN®

MC-LW-LITE-CO2-E-INK-01

MClimate CO2 Display lite LoRaWAN is a stand-alone CO2 sensor powered entirely by solar energy using an organic solar panel. The device features a 2.9" e-ink screen, sensor for movement (PIR), temperature and humidity sensor, LUX sensor and NDIR CO2 sensor. The user can see the current levels of CO2 as well as historical trend. The device sends an uplink when it detects movement as well as periodically. The data from the CO2 Display can be used in any LoRaWAN compatible system, incl. Building Management Systems to control demand-based ventilation. Sensor information can be exposed as datapoints in Modbus, BACnet and KNX systems through the use of a special gateway.

### Product features



- Solar-powered & battery free
- LUX sensor
- 1.54" e-ink display
- Temperature and Humidity sensor
- NDIR CO2 sensor
- Anti-theft bracket
- FUOTA

### Applications

Smart Buildings

Smart Home

Residential buildings

Commercial buildings

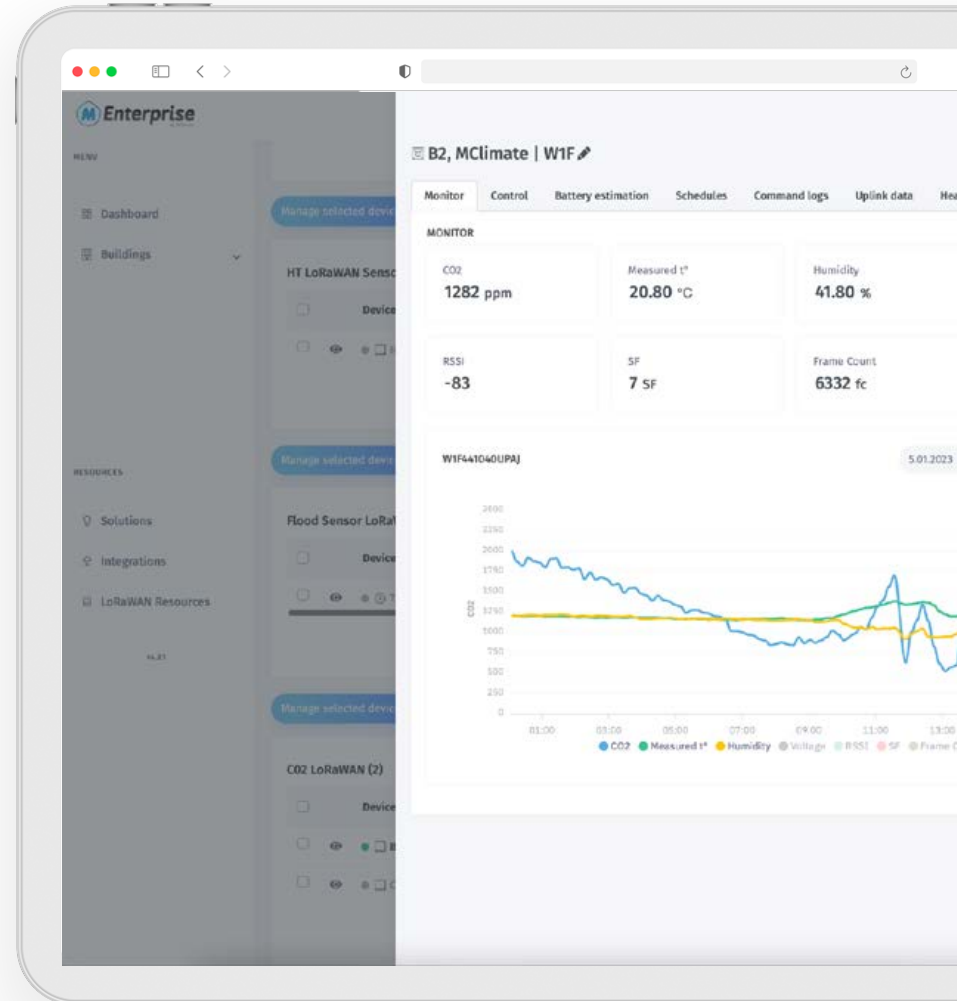
Energy optimization

Environment monitoring

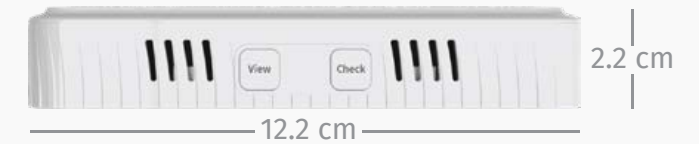
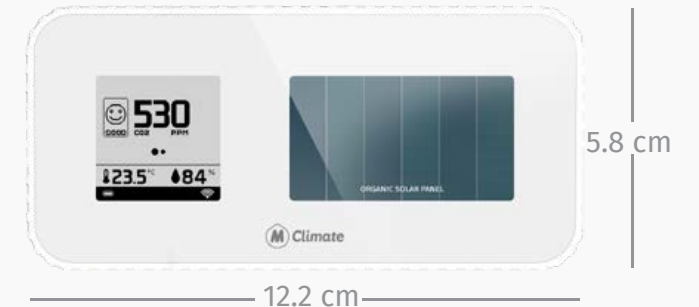




Monitor CO2 at home,  
wherever you are.



## Dimensions





## Technical Details

### Design

ABS, Stainless steel, tempered glass

### Operating Conditions:

Temperature: 0° - +50°C and Humidity: 0-80% RH (non-condensing)

### Dimensions

122mm x 58mm x 22mm, 80gr

### Power supply

Solar-powered Lithium-ion capacitor (LIC)  
AND/OR USB-C

### Battery life

Indefinite powered by solar

### Wireless Technology

LoRaWAN® 1.0.3

### Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

### Device Type

Class A End-device

### Supported Features

OTAA , ADR , Adaptive Channels setup

## How does it work?



Scan the QR code to access the full product specifications and API Documentations or visit the link:  
<https://mclimate.eu/pages/lorawan-resources>

# CO2 + PIR lite LoRaWAN®

MC-LW-LITE-CO2+PIR-01

MClimate CO2 + PIR lite LoRaWAN is a stand-alone sensor powered by 2xAA batteries lasting for up to 15 years with the default configuration. The device features NDIR CO2 sensor, PIR (occupancy) sensor, as well as temperature and humidity sensors.

The data from the CO2 + PIR lite can be used in any LoRaWAN compatible system, incl. Building Management Systems to control demand-based ventilation. Sensor information can be exposed as datapoints in Modbus, BACnet and KNX systems through the use of a special gateway.

## Product features



- PIR (occupancy) sensor
- NDIR CO2 sensor
- Temperature and Humidity sensor
- Firmware Update Over The Air (FUOTA)
- Ultra low power consumption
- Sends message on occupancy
- Counts total amount of movements
- Double-sided tape on the back

## Applications

Smart Buildings

Smart Home

Residential buildings

Commercial buildings

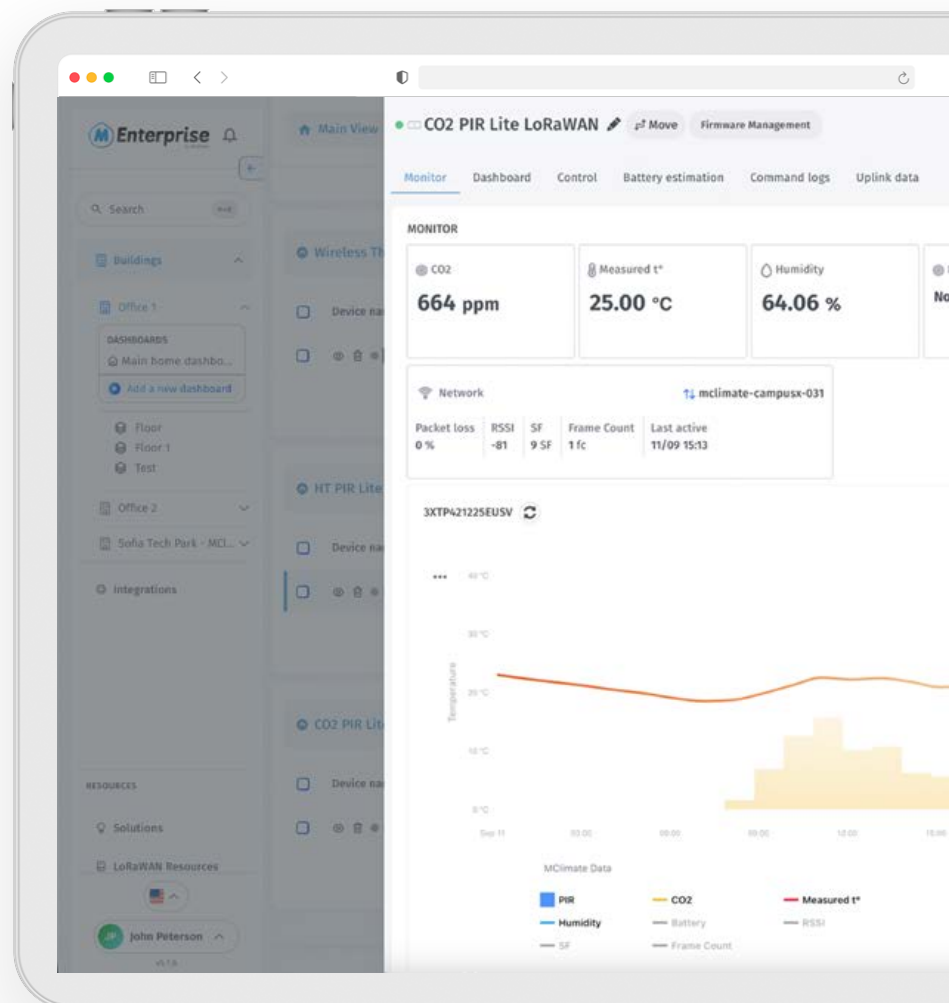
Energy optimization

Environment monitoring

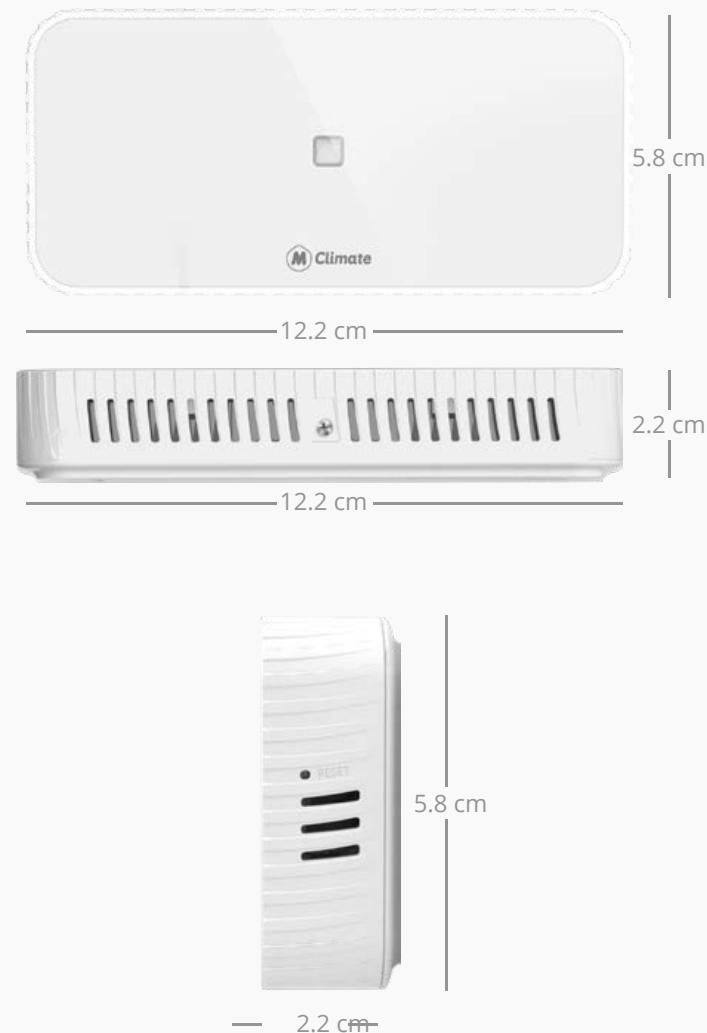




## Occupancy-Driven Energy Optimization



## Dimensions



# Technical Details

## Design

PC/ABS

## Operating Conditions:

Temperature: 0° - +50°C and Humidity: 0-80% RH (non-condensing)

## Dimensions

122mm x 58mm x 22mm, 75gr

## Power supply

2xAA batteries (each 1.5VDC)

## Battery life

More than 10 years (depending on configuration and environment)

## Wireless Technology

LoRaWAN® 1.0.3

## Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

## Device Type

Class A End-device

## Supported Features

OTAA , ADR , Adaptive Channels setup

## How does it work?



Scan the QR code to access the full product specifications and API Documentations or visit the link: <https://mclimate.eu/pages/lorawan-resources>

# Multipurpose Button LoRaWAN®

MC-LW-BTN-01

MClimate Multipurpose Button LoRaWAN® is a simple device with many applications. Featuring a single button with 3 types of clicks and a temperature sensor, only your imagination limits what happens when the customer presses the button.

## Product features



- Button with 3 click types (single, double and triple)
- Temperature sensor
- Ultra-low power consumption
- Alarms
- Schedules
- Smartphone and WEB control

## Applications

Smart Buildings

Smart Home

Residential buildings

Commercial buildings

Energy optimization

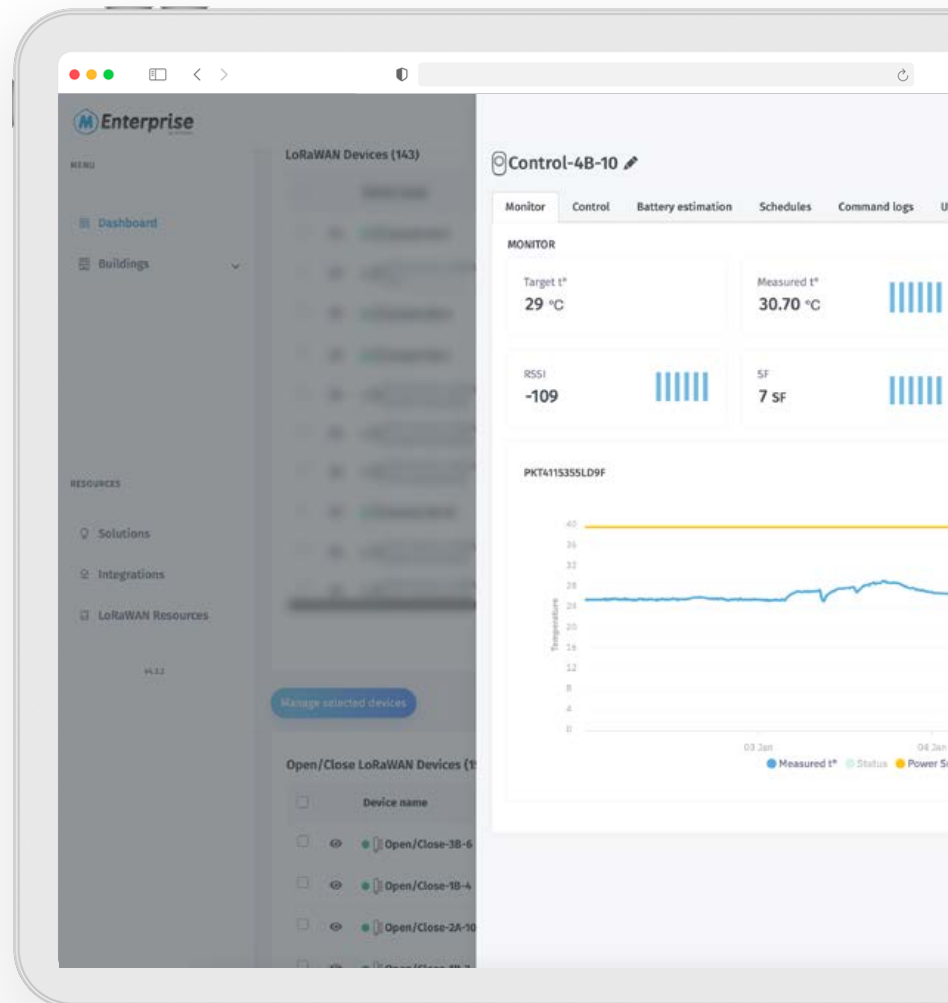
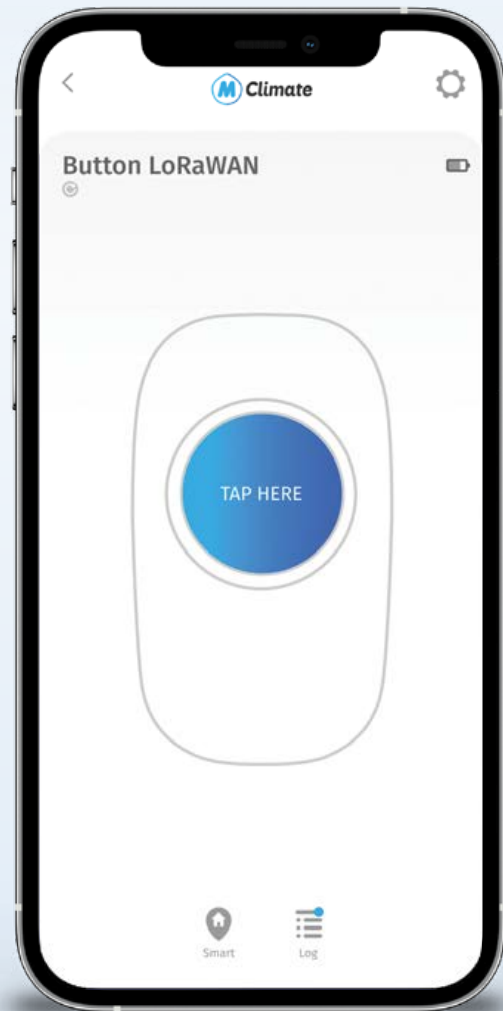
Environment monitoring







Control Multipurpose  
Button wherever you are.



## Dimensions



## Technical Details

### Design

ABS

### Operating Conditions:

Temperature: 0 - +50°C and Humidity: 0-80% RH (non-condensing)

### Dimensions

71x41x18mm, 26gr

### Battery Type

ER10280 with operating voltage 3 VDC

### Battery life

< 10 years (depending on configuration and environment)

### Wireless Technology

LoRaWAN® 1.0.3

### Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

### Device Type

Class A End-device

### Supported Features

OTAA , ADR , Adaptive Channels setup

## How does it work?



Scan the QR code to access the full product specifications and API Documentations or visit the link:  
<https://mclimate.eu/pages/lorawan-resources>

# Open/Close Sensor LoRaWAN®

MC-LW-OC-01

MClimate Open/Close Sensor LoRaWAN® is a device detecting the event of opening or closing windows, doors, cabinets and more. It features long battery life, LED, temperature sensor and a button that triggers an uplink. The device sends an uplink for every event of opening/closing and keeps an internal counter of the total number of events.

## Product features



- Magnetic reed
- Switch button
- Temperature sensor
- ER14250 or 1/2 AA Power supply
- Smartphone and WEB control

## Applications

Smart Buildings

Smart Home

Residential buildings

Commercial buildings

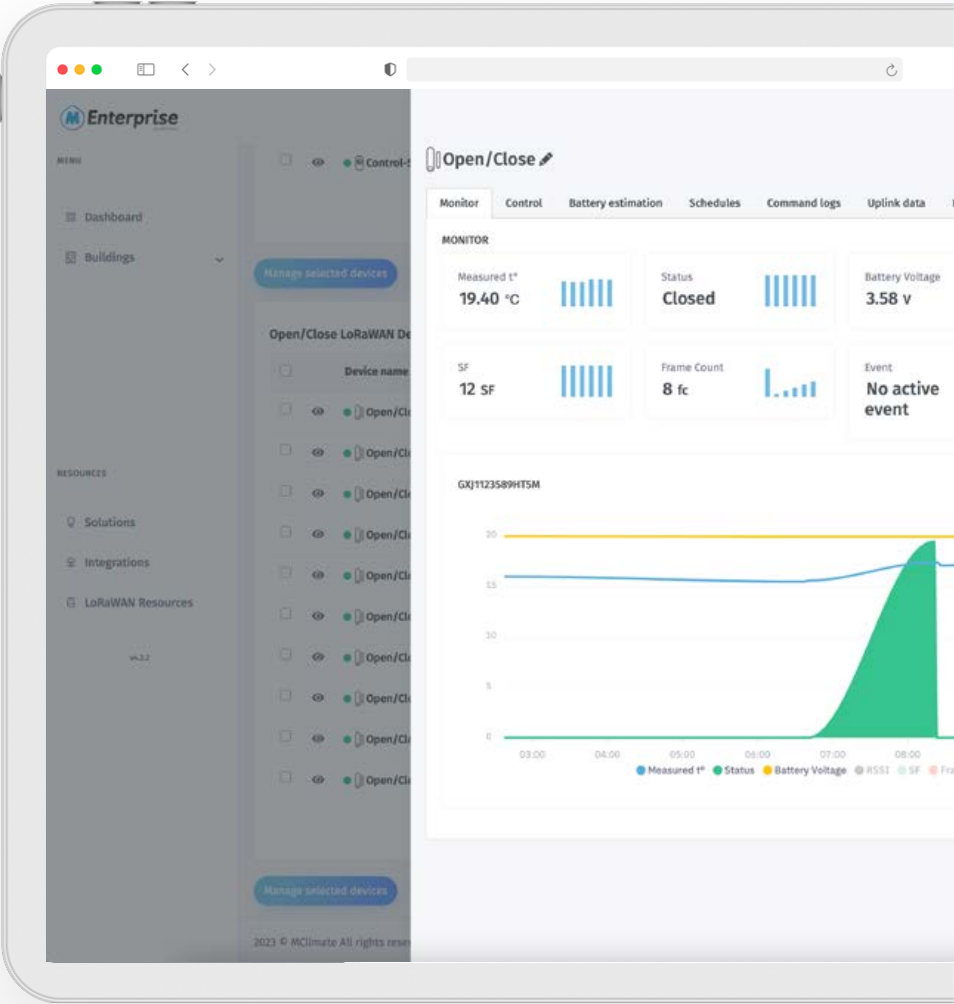
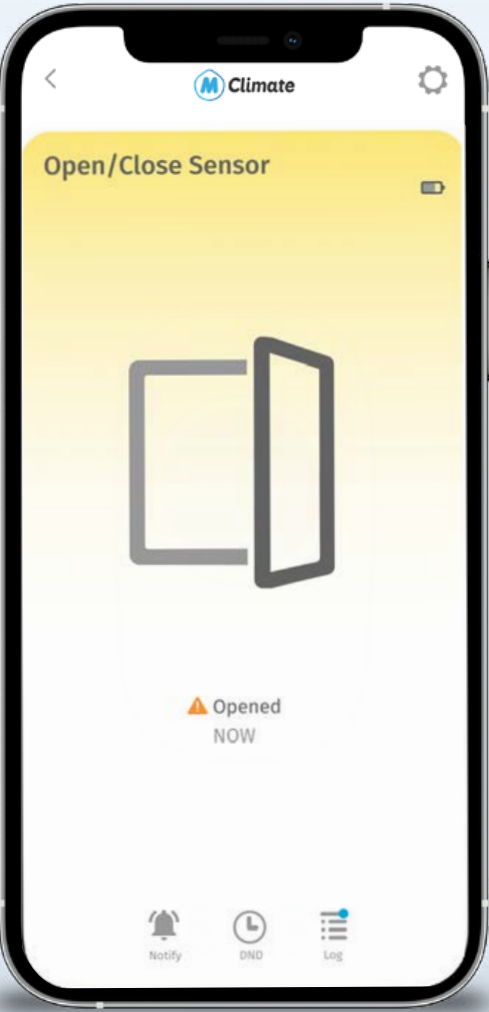
Energy optimization

Environment monitoring

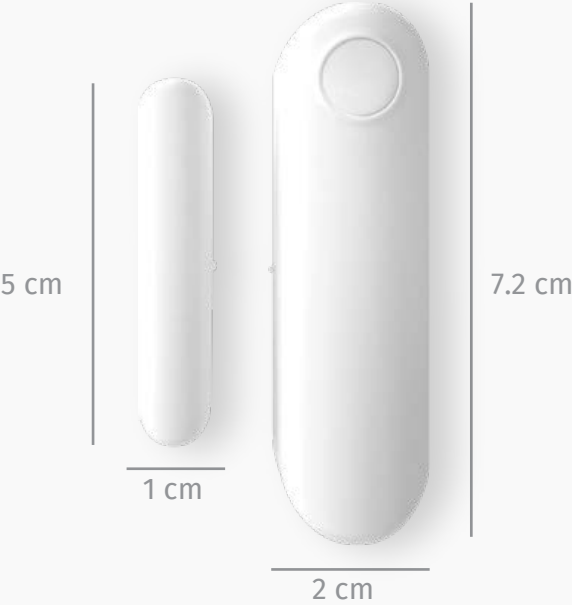




Monitor Open/Close Sensor  
wherever you are.



## Dimensions



Technical Details

Design

ABS

Operating Conditions:

Temperature: 0 - +50°C and Humidity: 0-80% RH (non-condensing)

Dimensions

Main unit: 72x20x20mm; Magnet: 50x10x15mm

Battery Type

ER10280 with operating voltage 3 VDC

Battery life

< 10 years (depending on configuration and environment)

Wireless Technology

LoRaWAN® 1.0.3

Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

Device Type

Class A End-device

Supported Features

OTAA , ADR , Adaptive Channels setup

How does it work?



Scan the QR code to access the full product specifications and API Documentations or visit the link: <https://mclimate.eu/pages/lorawan-resources>



# T-Valve LoRaWAN®

MC-LW-T-VALVE-01

T-Valve is a LoRaWAN® water valve used in residential or commercial buildings. 3/4" and 1"1/4 versions available. T-Valve gives you the opportunity to stop a potential water damage from happening, by being able to control the main water supply in your property from distance. No more floods and damages.

## Product features



- 3/4" and 1"1/4 versions available for remote water supply control
- Water temperature
- Environment temperature
- Wired Flood Sensor (optional)
- Housing tampering detection
- Magnetic tampering detection
- Buttons for manual control
- LEDs for valve and device status indication Buzzer
- Alarms
- Analytics
- Smartphone and WEB control

## Applications

Smart Buildings

Smart Home

Residential buildings

Commercial buildings

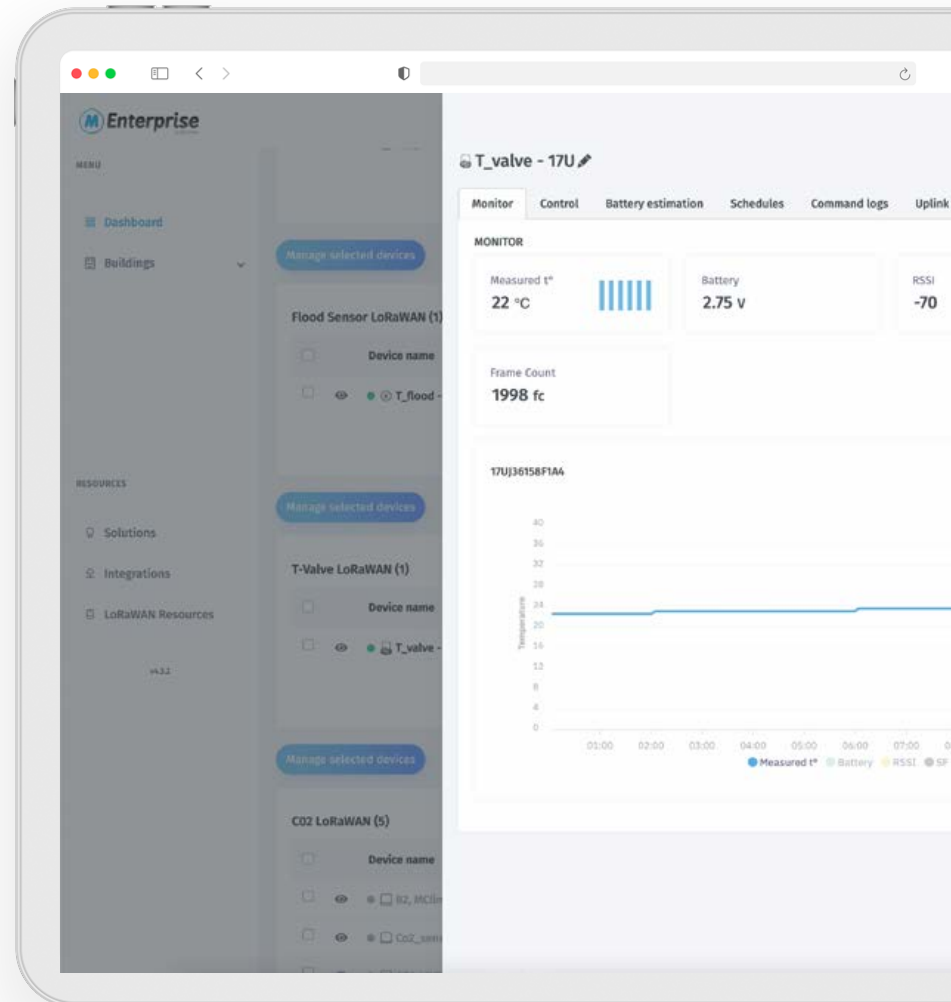
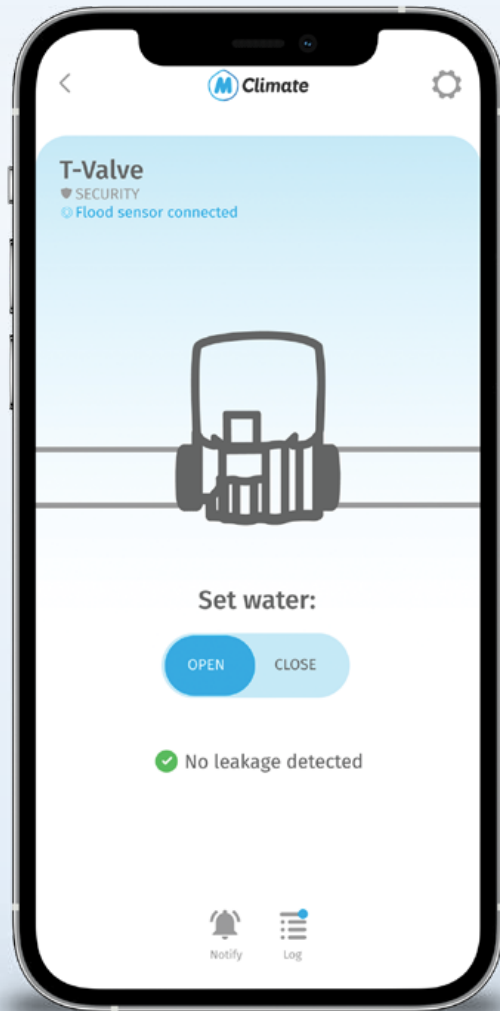
Energy optimization

Environment monitoring

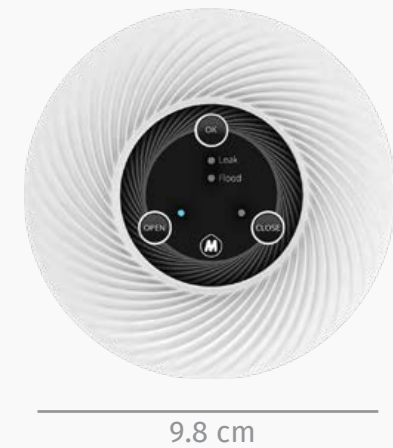
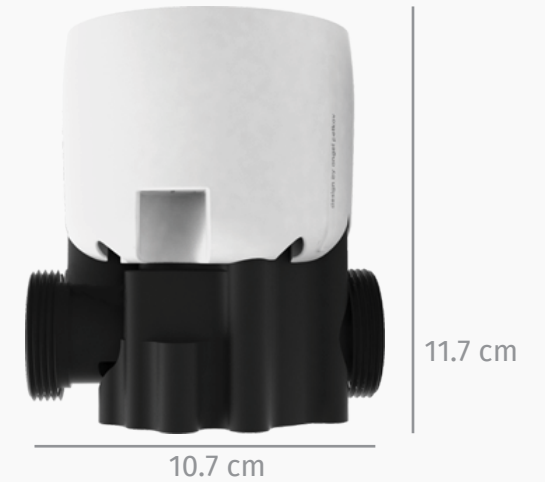




Monitor your home from  
anywhere in the world and  
prevent leaks and damages.



## Dimensions



## Technical Details

### Design

PC/ABS; Valve PPE/PS

### Operating Conditions:

Temperature: - 0 - 60°C and Humidity: 35%-90% RH (non-condensing)

### Dimensions

105x117x90,8mm, 557gr

### Battery Type

LiSO Cl2 ER26500 3.6V 9000mAh

### Battery life

10 years (depending on configuration and environment)

### Wireless Technology

LoRaWAN® 1.0.3

### Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

### Device Type

Class A End-device

### Supported Features

OTAA , ADR , Adaptive Channels setup

## How does it work?



Scan the QR code to access the full product specifications and API Documentations or visit the link:  
<https://mclimate.eu/pages/lorawan-resources>

# Flood Sensor

## LoRaWAN®

MC-LW-Flood

MClimate Flood Sensor is a compact flood sensor suitable for residential and commercial applications. If a flood is detected, data is immediately transmitted.

### Product features



- Flood detection
- Device tampering detection
- Temperature sensor
- Buzzer
- LED
- Alarms
- Analytics
- Smartphone and WEB control

### Applications

Smart Buildings

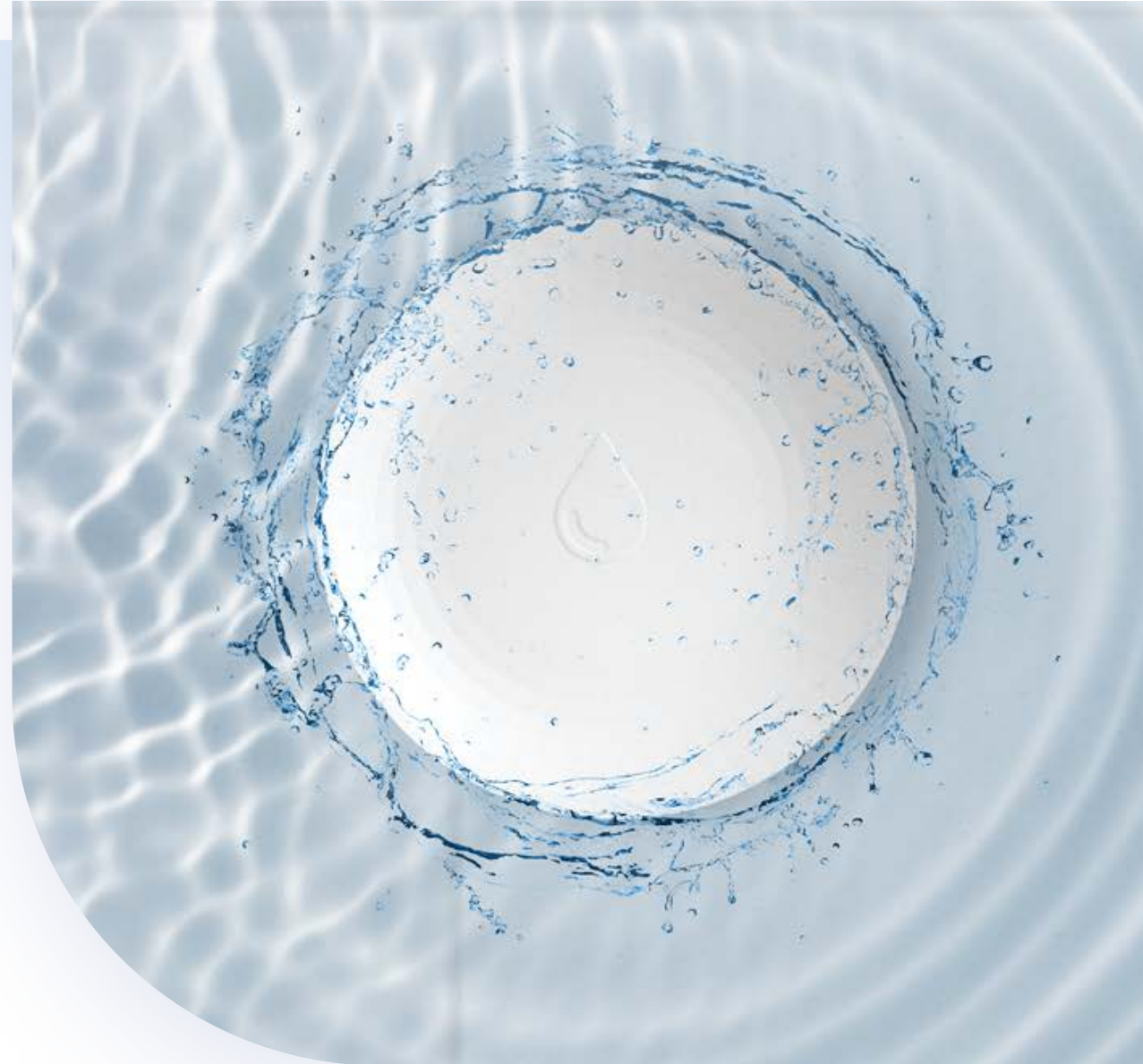
Smart Home

Residential buildings

Commercial buildings

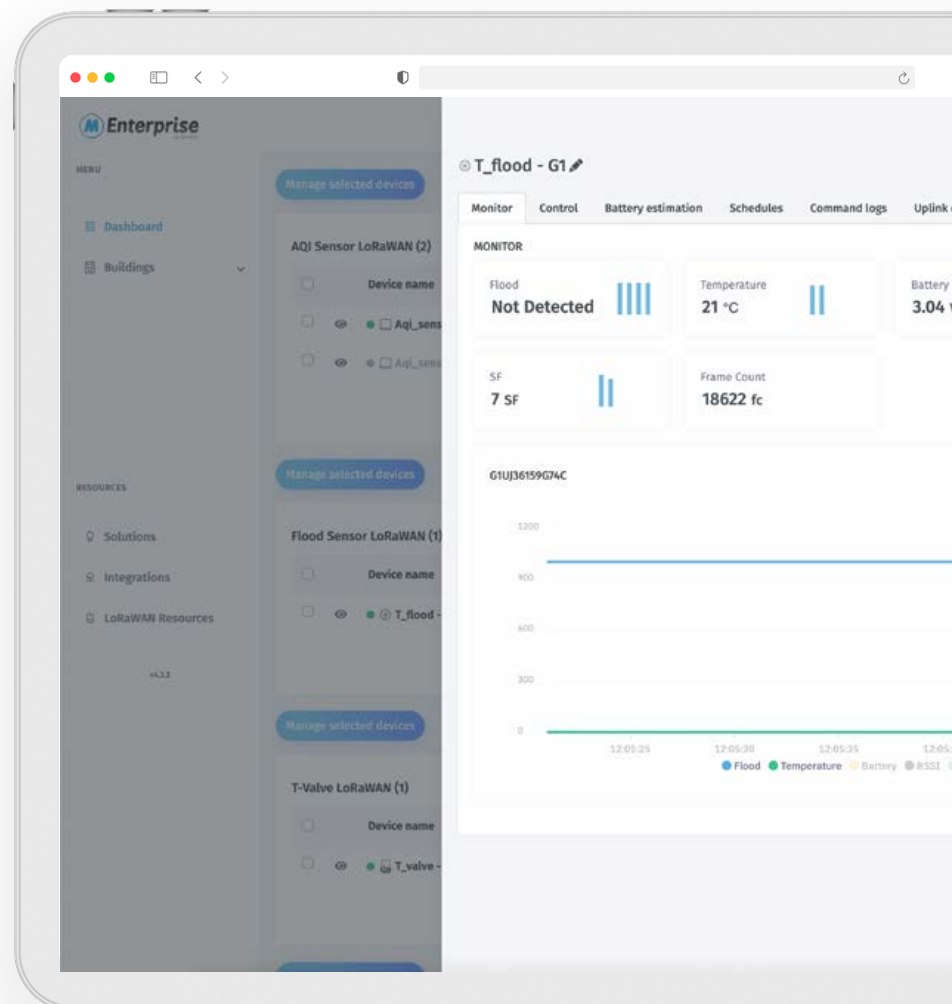
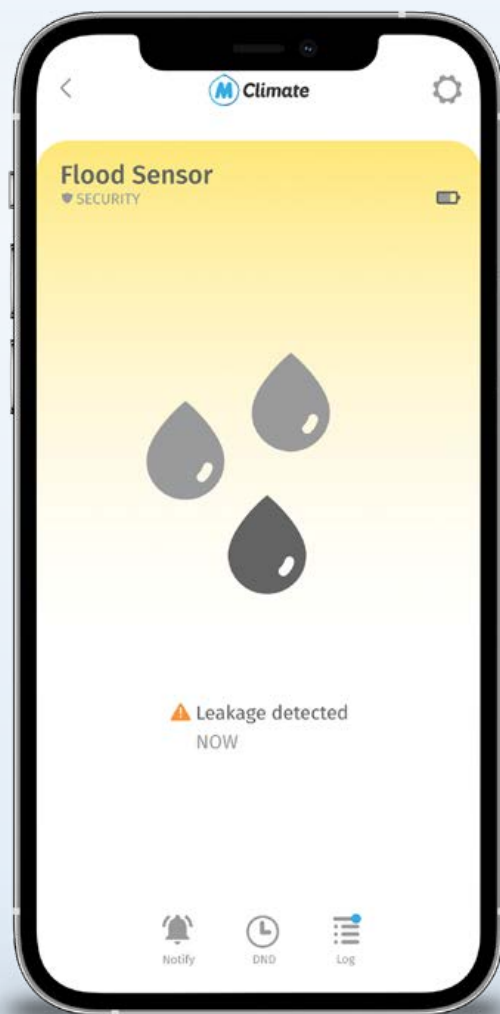
Energy optimization

Environment monitoring





Monitor your home from  
anywhere in the world and  
detect flood.



## Dimensions



7 cm



7 cm

1.9 cm



## Technical Details

### Design

ABS

### Operating Conditions:

Temperature: - 20 - 60°C and Humidity: 0-80% RH (non-condensing)

### Dimensions

70x70x19mm, 33gr

### Battery Type

CR123A, operating voltage: 3VDC

### Battery life

10 years (depending on configuration and environment)

### Wireless Technology

LoRaWAN® 1.0.3

### Wireless Security

LoRaWAN® End-to-End encryption (AES-CTR)

### Device Type

Class A End-device

### Supported Features

OTAA , ADR , Adaptive Channels setup

## How does it work?



Scan the QR code to access the full product specifications and API Documentations or visit the link: <https://mclimate.eu/pages/lorawan-resources>

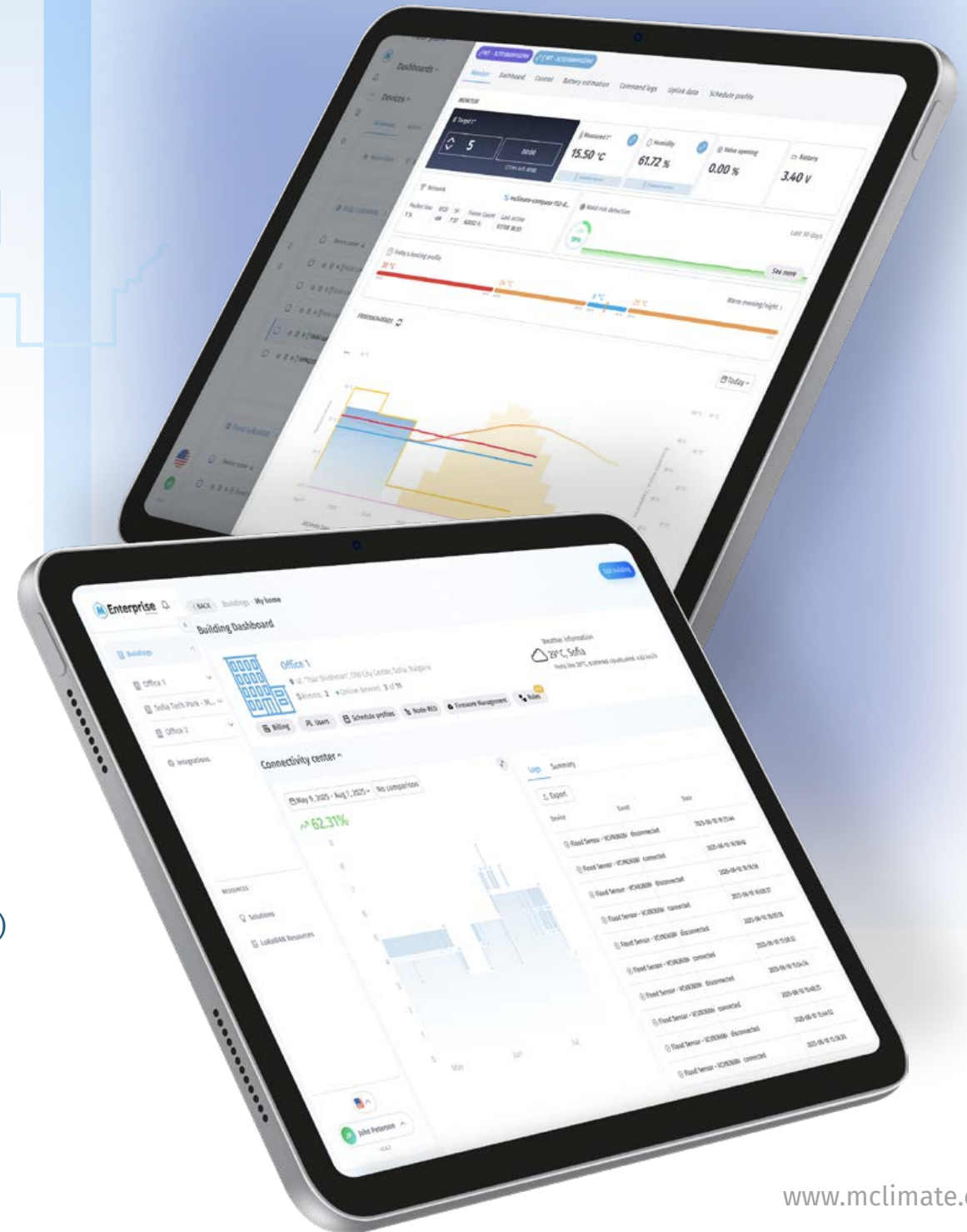
# Powerful Building Management Platform

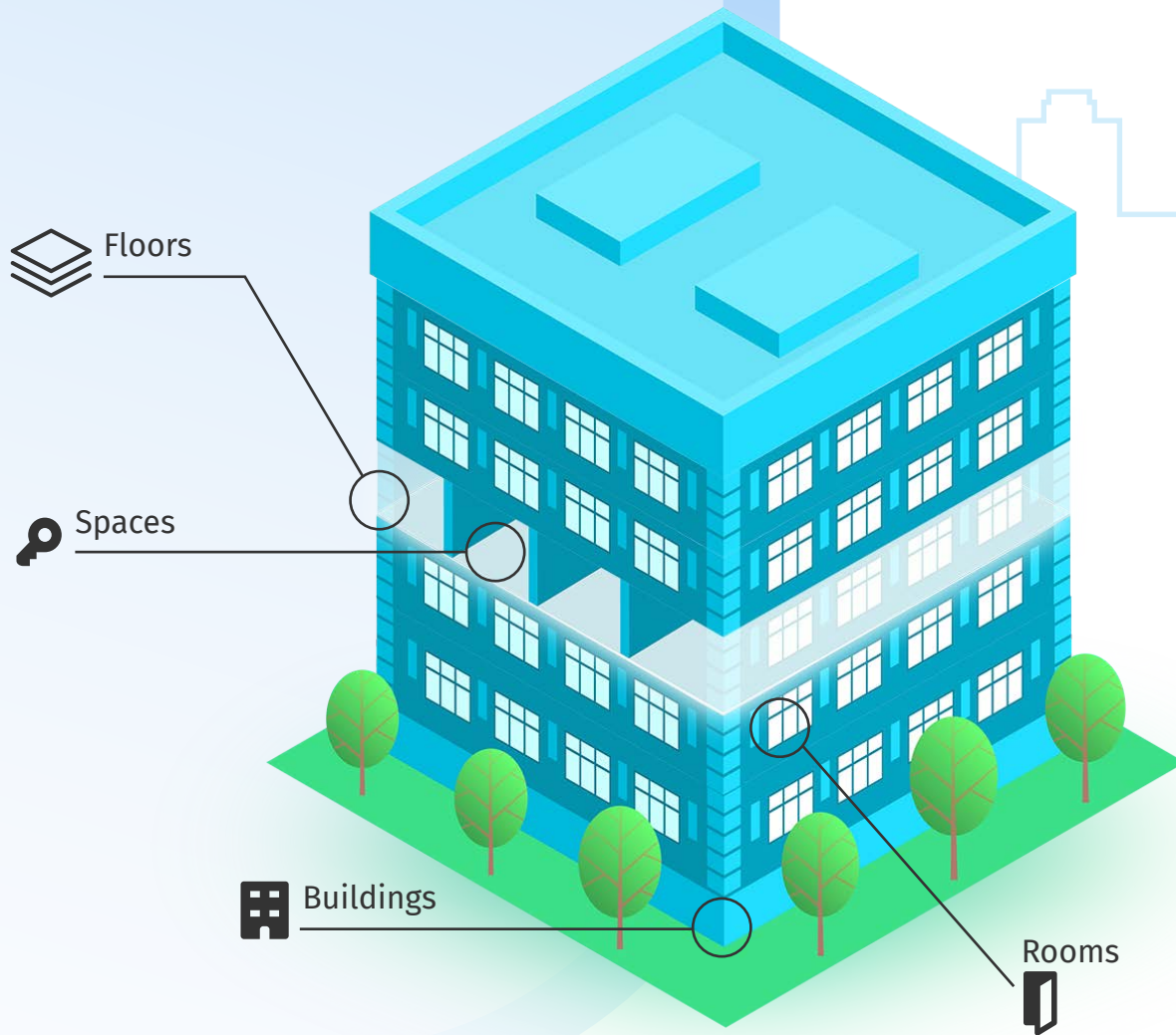


MClimate Enterprise is an integrated solution for smart automation of the heating/cooling, security and safety infrastructure of large apartment complexes, office buildings and hotels. The appliances used for your heating/cooling needs can perform better, optimize comfort and reduce energy consumption by up to 30%. MClimate offers a product line of Energy and Security devices compatible with your split and multi-split A/C's, water heaters, radiators and major electric appliances. With the centralized management WEB interface, your building management officers can monitor and control remotely all smart devices unit-by-unit, room-by-room, or the whole infrastructure simultaneously.

## Features:

- Create a digital twin of your building (including floors, apartments & offices, rooms)
- User management - give limited access to each user to specific assets
- Floor map view - upload your floor plan and view your devices on a map
- Subscription management and invoices
- Create custom dashboards with selected devices
- Receive daily, weekly, monthly reports on specific assets on your email
- Rule engine - create custom rules and actions





# Digital twin of your building

Creating a digital twin of your building has numerous advantages. Once everything has its digital replica, you will be able to get a better understanding of your building and how one thing interacts with another. In MClimate Enterprise, you are able to re-create your building floor by floor and room by room. You can assign devices to a specific location in the building as well as retrieve analytics for a specific asset e.g. floor.

## Applications

Smart Buildings

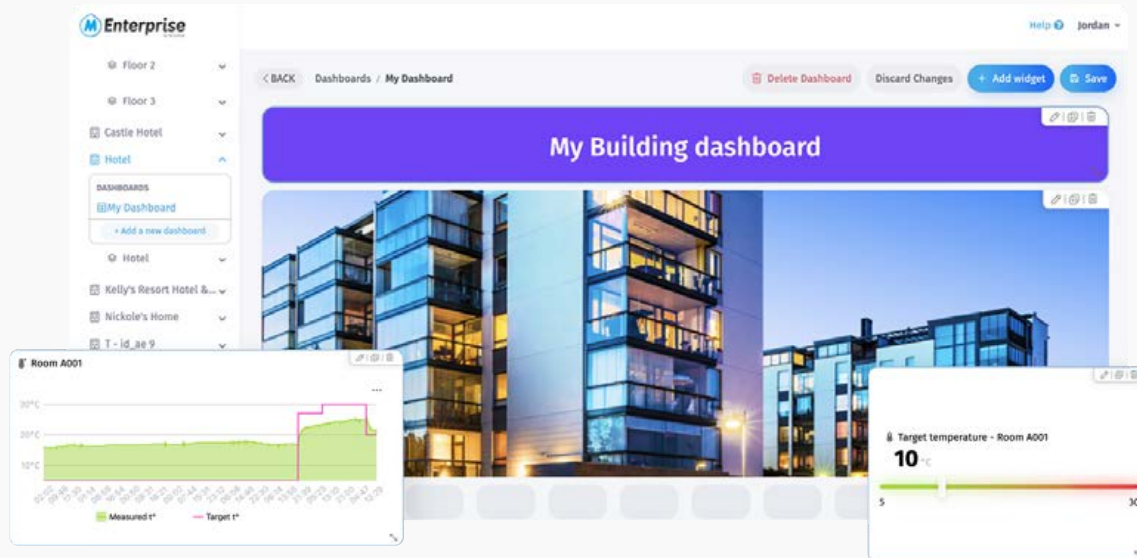
Smart Home

Residential buildings

Commercial buildings

Energy optimization

Environment monitoring

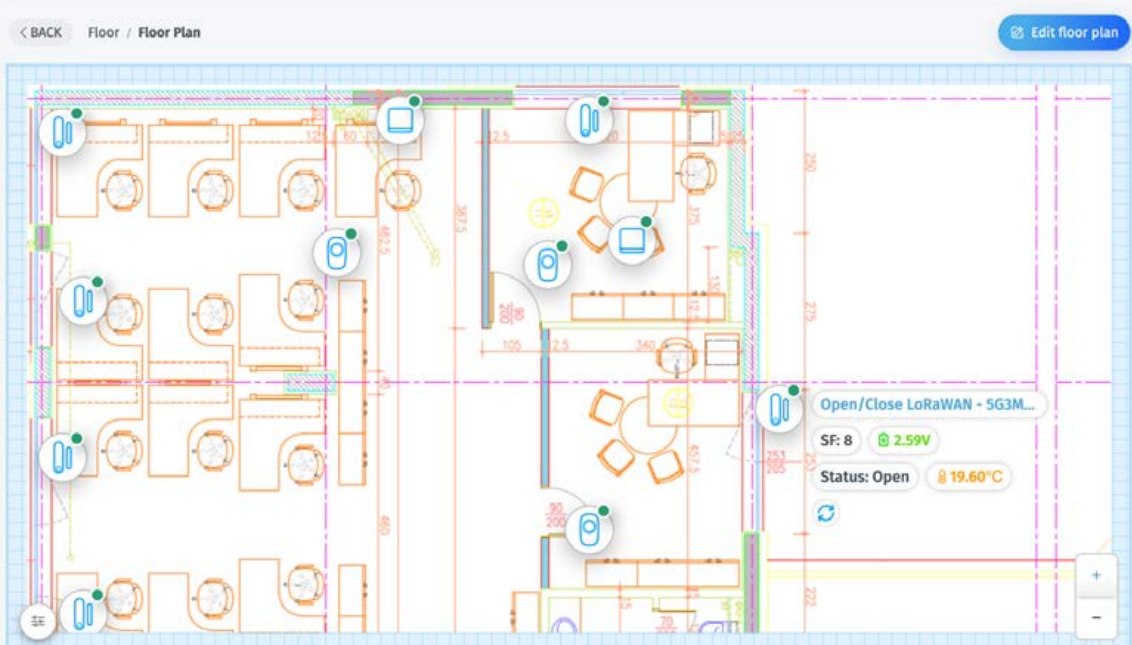


## Custom dashboards

Easily create custom dashboards with the data you are most interested in. The dashboards offer a variety of widgets. Once you select a widget, you can resize it, move it to a different location, change colors and much more.

## Floor map view

Navigate your building visually by creating customized floor plans. Get device information quickly and control them from a single place.





Create

Manage devices

Name

Visibility

Building 1

Schedule

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

15C

21C

02:00

03:00

15:30

16:00

02:00 - 03:00

15:30 - 16:00

15C

21C

Time slot

Starts

15:30

Ends

16:00

T°C

21

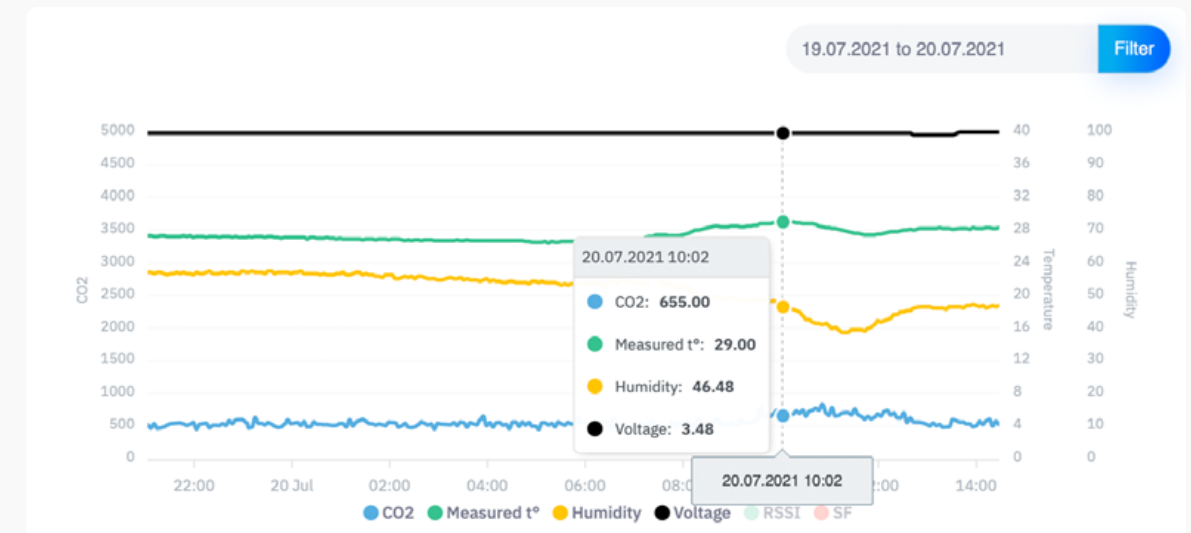
Add a new time slot

## Heating profiles

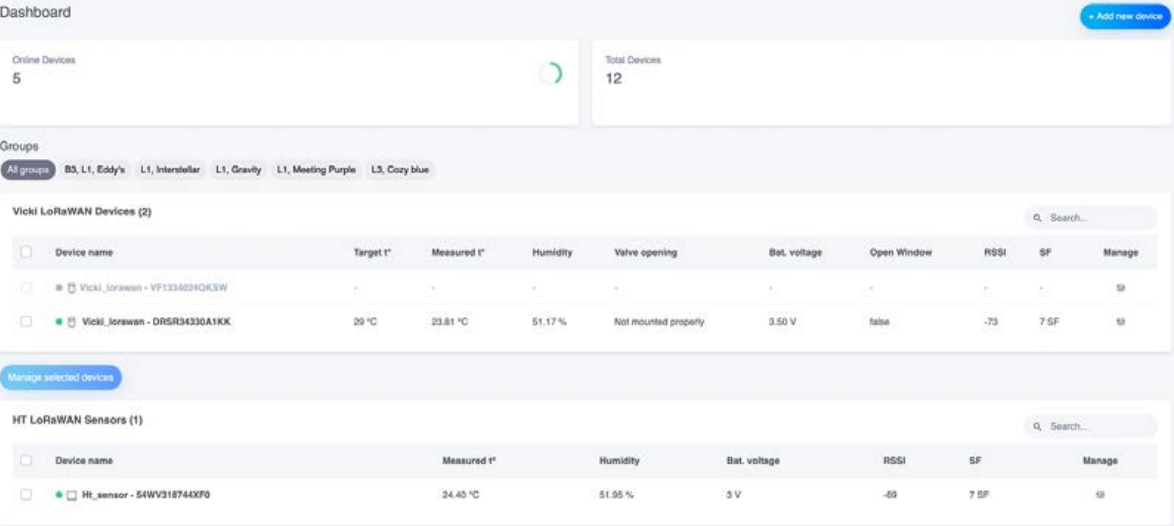
Heating profiles allow you to create numerous different profiles and assign them to devices in your building. If you change the profile, all devices that follow it, will change. If your clients are using MClimate Home app, heating profiles are a great way to monitor their individual settings, offer support and also suggest them profiles that might save energy.

## Analytics

Informed decisions are based on data. That's why we make it super easy for you to see live or historical data about your devices and their performance. Easily spot trends, extract detailed reports and more.







Control assets

Control your all MClimate devices in your building from the central dashboard, where you get an overview of the most important metrics about your building and also can drill-down to control and see more data. Filter the devices by buildings/floors/rooms, etc. to get a clear overview of a specific part of your building.

User management

Easily manage user access to any of your assets. For example, you can give someone admin rights to a whole building or moderator rights to just a floor inside the building or you can e.g. give end-user access to only 1 apartment or room. Admins have full rights, moderators have full rights except for managing subscriptions.

Add new user to Floor 1 / Campus X

Email

Select role

Admin

Moderator

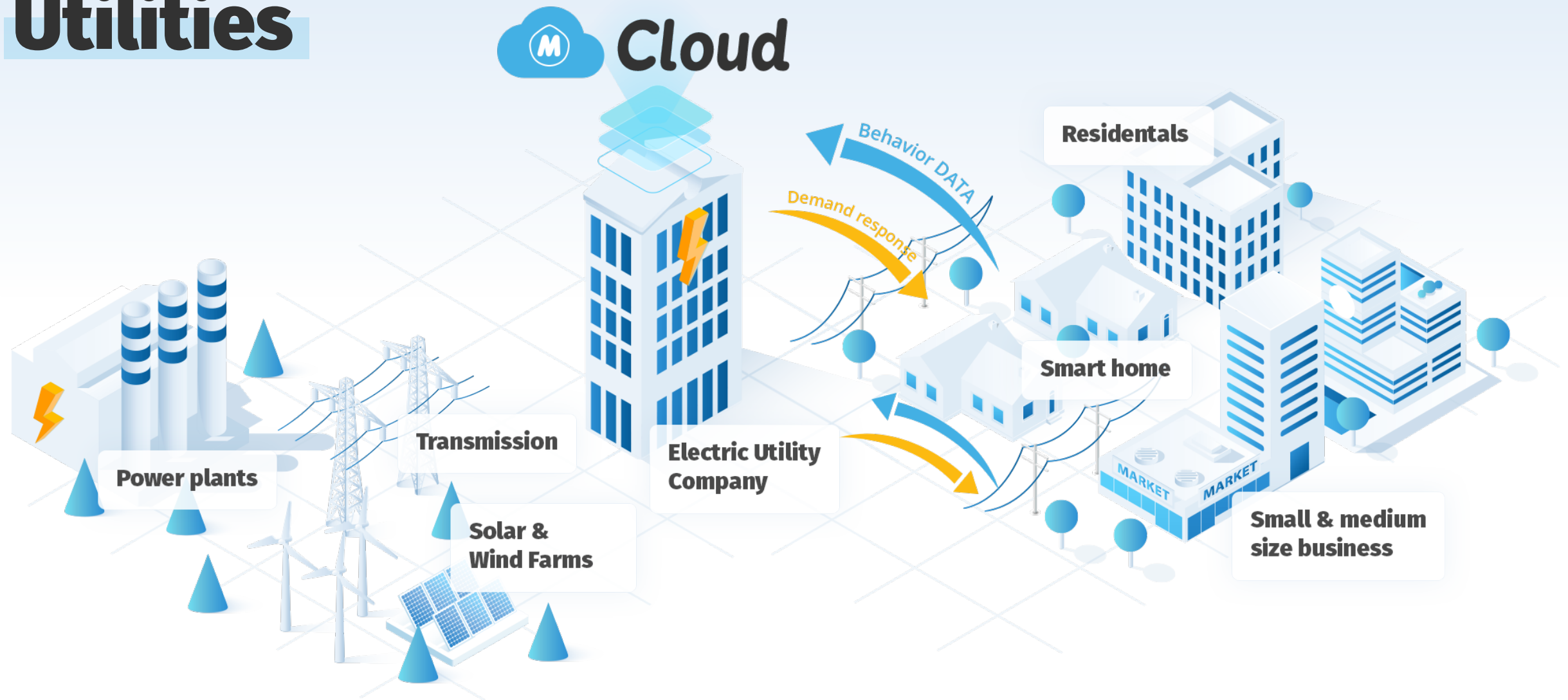
End-User



Scan the QR code to learn more about MClimate Enterprise or just visit the link below:

<https://mclimate.eu/pages/enterprise>

# Utilities



Existing smart meters are far away from giving consumers the "smart home experience" - some of the most intriguing opportunities in the sector are in service and products extending beyond the meter, where consumers interact with their energy use. MClimate offers smart home capabilities and consumer services with an entirely new set of capabilities that many utilities have not adequately developed. Utilities success in this domain will require strong partnerships to design and offer accessible services from the customer perspective outwards.

# Utilities. Key benefits.



## Demand response

We help utilities manage the grid and shave the peaks caused by higher renewable energy generation or peaks in electricity demand. People and businesses do not need to buy more expensive energy during the peaks and in the meanwhile utilities save money from additional infrastructure and power investments.



## Customers' behavior tracking

We provide utilities with behind the meter data which they can use for customers' behaviour analysis in order to understand them better. In this way utilities can create personalized tariff offers as well as tailor-made energy programs and increase their customers' loyalty.



## Energy engagement

We assist utilities in their efforts to raise customers' awareness of energy consumption and apply programs for energy savings.



## Building energy management

We supply utilities with device solution that helps their customers track energy use and improve energy efficiency.

Home automation solutions give a great opportunity for utilities to escape from the "utility death spiral" and develop new business models.

### Value proposition for utility companies

- Cost reduction
- New revenue streams by value added services
- Efficiency
- Quality of service
- Customer satisfaction
- Positive environment impact

### Our case studies



#### German Utility & Energy Management: LoRaWAN® Based Building Solutions

Within 1 month of initial discussions, MClimate and the client started testing a LoRaWAN® based thermostat valve solution for the German market.

##### Key features of the solution include:

- Custom modes and integration with additional sensors using LoRaWAN®
- No upfront investment for the client
- Short delivery timeframe
- Solution applicable to large municipal and office buildings
- Thousands of units deployed within a limited timeframe due to EU based production



#### Nordics Telecom Energy Management: Residential Heating Control and monitoring


MClimate successfully delivered a white label product enabling the telco to have their own IoT state-of-art solution without spending years and a lot of money on product development.

##### Key features of the solution include:

- Low upfront investment with limited risk
- Ongoing EU based product support
- Scalability and short delivery lead time
- Rigorously tested and secure product
- Military-grade wide range radio technology





 **LoRa Alliance** Member

 We  
make any  
building  
**smart.**  
[www.mclimate.eu](http://www.mclimate.eu)

 **Climate**

Sofia Tech Park, Labs Building, 111J Tsarigradsko Shose, 1784 Sofia,  
Bulgaria, [sales@mclimate.eu](mailto:sales@mclimate.eu),  
+359 800 3 1010,

<https://mclimate.eu/pages/partners>



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