M Climate

LoRaWAN®
Product catalogue

We make any building smart.
www.mclimate.eu

LoRa Alliance® Member

Contents

MClimate

About us

Introduction

MClimate is an IoT company which designs and develops affordable and universally compatible smart home and smart building automation solutions with a focus on delivering enhanced comfort, security and energy savings to its end users.

The Company is founded in 2015 and is headquartered in Sofia, Bulgaria with a local production and assembly facility in Veliko Tarnovo.

MClimate has a proven track record in designing state of art hardware sensors and actuators using WiFi and LoRaWAN. We are getaway and IoT platform agnostic and our mission is to make the world a more connected and smarter place.

We also offer software white label solutions: proprietary end user application and desktop analytical tool for instant 24/7 monitoring and control.

Production facility

MClimate uses one of the most experienced and internationally accredited and certified Contract Electronic Manufacturer.

It has secured dedicated production lines and experienced staff for MClimate production since 2015.

The state of art production facility includes 3200 sqm. production of electronic modules site, 2300 sqm. production site and 900 sqm. R&D engineering and administration site.

The production capacity for MClimate and its portfolio includes 8 production lines with ability to produce and test up to 160,000 devices per month.

We make any building smart.

ISO 9001
BUREAU VERITAS Certification
BG 121482Q/U

2
EU based production facility

60+
International markets covered

20+
Designed hardware IoT devices for smart automation

400k+
Devices delivered

2500+
Smart buildings served

STARTUP OF THE YEAR

ENDEAVOR

BULGARIAN STOCK EXCHANGE SOFIA

FUTURE HUB Europe | SCALE UP 4 EUROPE

pwc GROWTH BUILDERS

European Bank for Reconstruction and Development
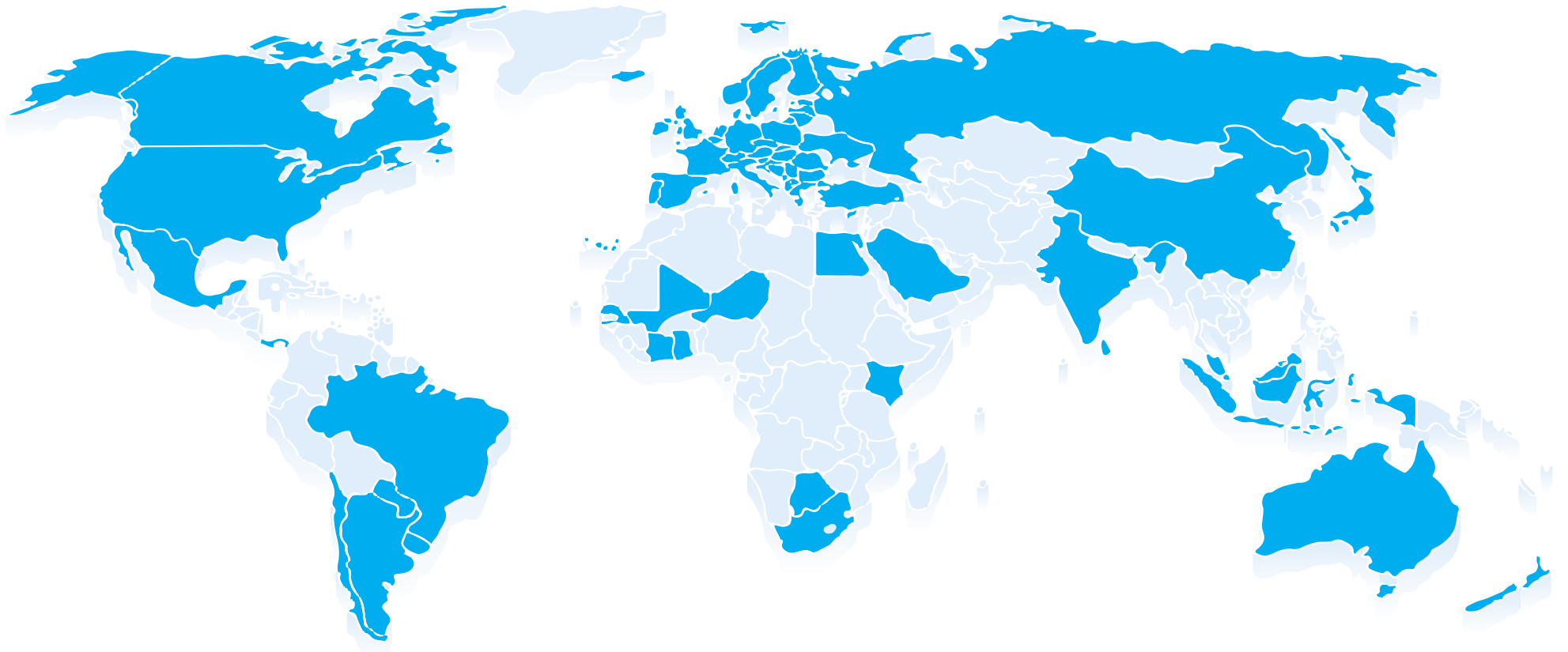
2015, 2016
Selected by the InvestBulgaria Agency

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.

⚡30% Save and monitor 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

www.mclimate.eu

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

VOYTECH

Optimizing retirement homes heating system in the UK

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 uses 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 live 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?

Collect data
Sensors & Actuators

Transfer data
LoRaWAN® Gateway

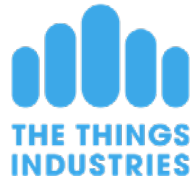## Organize data
LoRaWAN® Network Server

Control & Monitor
IoT Platform

End-to-end ecryption for Data security & integrity

Integrations with Network Providers

THE THINGS NETWORK

THE THINGS INDUSTRIES

ThingPark by Actility

ThingPark Community

helium

TEKTELIC communications

firefly

ChirpStack

LORIOT

kerlink communication is everything

melita.io

machineQ™ A COMCAST COMPANY

orbiwise

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.

Energy Efficiency control & monitoring solution

Vicki LoRaWAN®

Wireless Thermostat LoRaWAN®

HT Sensor LoRaWAN®

Fan Coil Thermostat LoRaWAN®

Indoor air quality and health care solution

CO2 Sensor & Notifier LoRaWAN®

CO2 Display LoRaWAN®

CO2 Display Lite LoRaWAN®

Water control and damage prevention

T-Valve LoRaWAN®

Flood Sensor LoRaWAN®

Automation solution

Multipurpose Button LoRaWAN®

Open/Close Sensor LoRaWAN®

SOLUTION

Heating monitoring, analysis and 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

Actionable Indoor air quality and health care

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
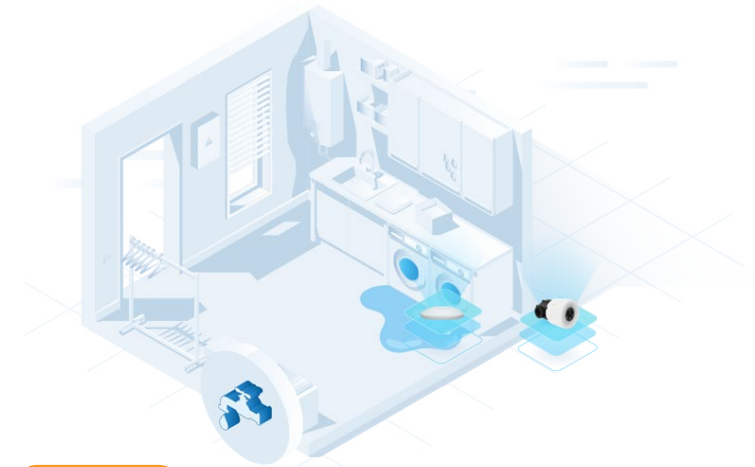
SOLUTION

Water control and damage prevention

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.

ANDROID APP ON Google play
Available on the iPhone App Store

Room 102

Heating to

24°C

Schedule

🏠 21°C 💧 50%

Analytics   Log

Ⓜ **Enterprise**
by MClimate

Ⓜ Enterprise

MENU

Dashboard
Buildings
Schedules

RESOURCES

Solutions
Integrations
LoRaWAN Resources

v4.0.9

Dashboard

Online Dev
●7

Vicki LoRa

🗉 Bedroom ✏️

Monitor | Control | Battery estimation | Schedules | Command logs | Uplink data

MONITOR

Target t°
5 °C

Measured t°
19.71 °C

Humidity
67.97 %

Bat. voltage
3.50 v

Open Window
Not Detected

RSSI
-61

Frame Count
2422 fc

YH5U7025951X8

Nov '22   02 Nov   03 Nov   04 Nov   05 Nov   06 Nov

● Target t° ● Measured t° ● Humidity ● Valve opening ● Bat. voltage ● Open Window

Manage sel

Tring LoTe

Dimensions

6.8cm

5.3cm   5.2cm

Compatibility

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

ENERGY EFFICIENCY CONTROL & MONITORING SOLUTION **10**
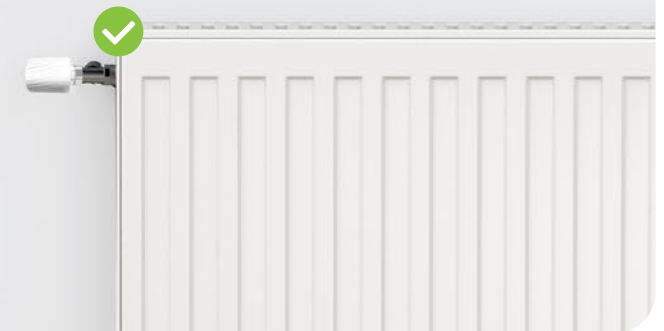
Technical Details

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?

Radiator   **Vicki LoRaWAN®**   **LoRaWAN® Gateway**

LoRaWAN® Network Provider

IoT Platform   MClimate App, Other Clouds & Apps

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

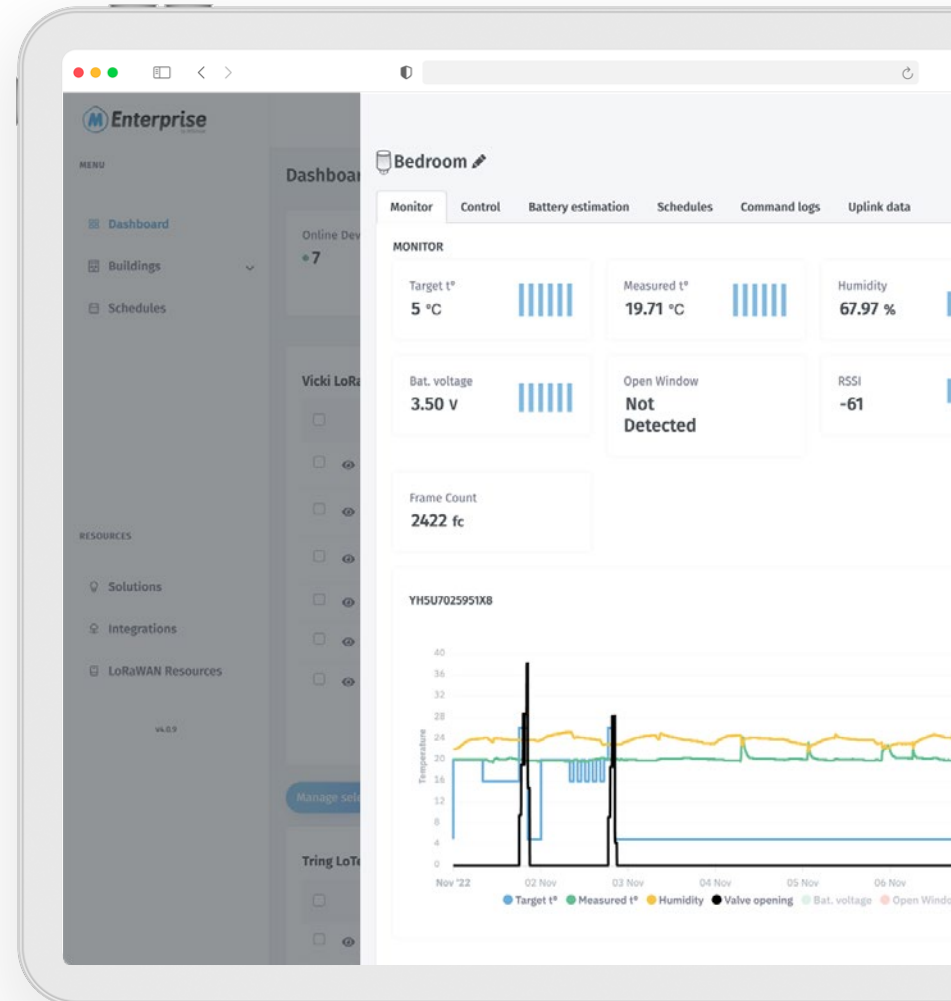Smart Buildings   Smart Home   Residential buildings   Commercial buildings   Energy optimization   Environment monitoring
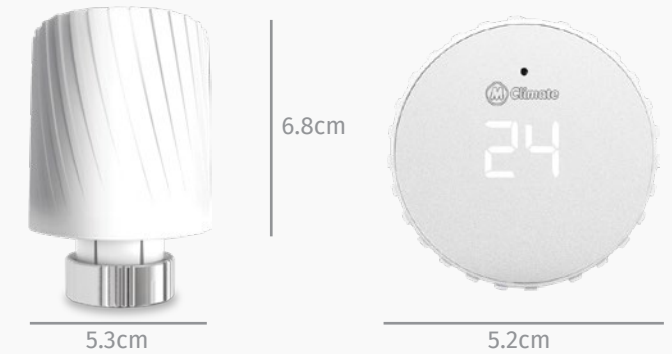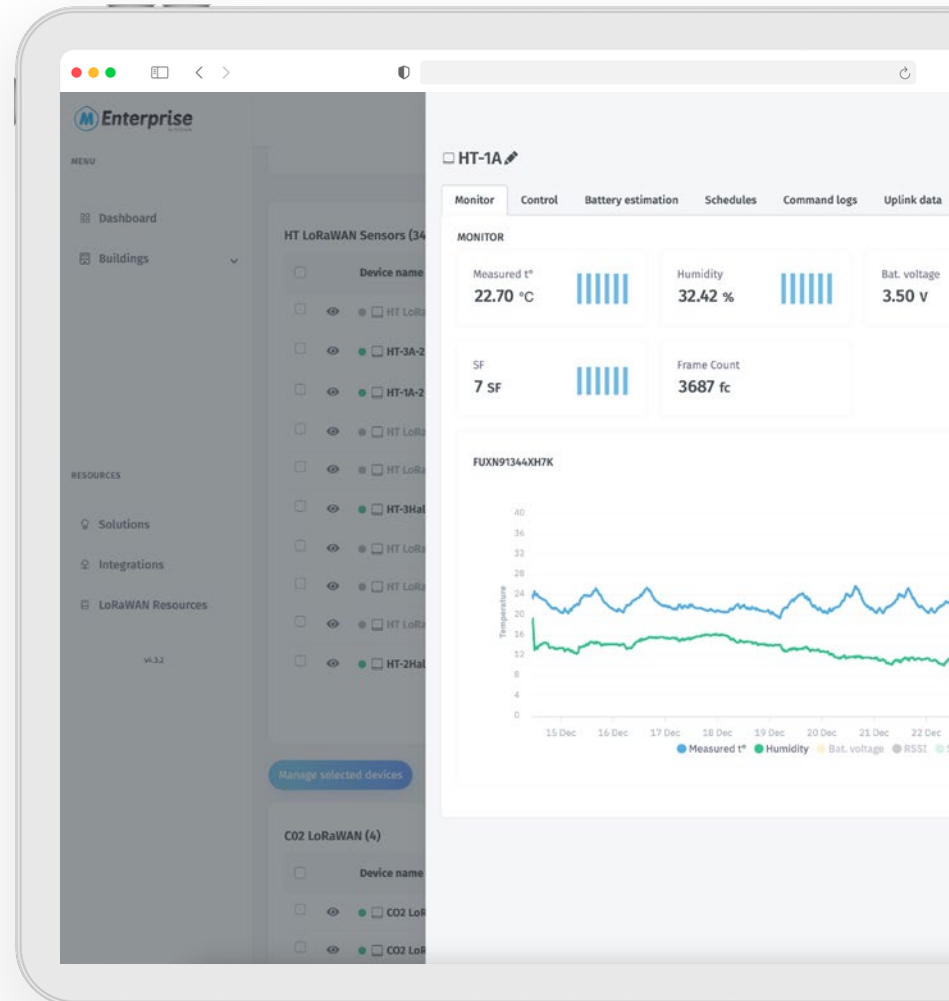
Monitor temperature & humidity at home, wherever you are.

Enterprise
by MClimate

Dimensions

2cm

8cm

8cm

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?

HT LoRaWAN®

LoRaWAN® Gateway

LoRaWAN® Network Provider

THE THINGS NETWORK   kerlink communication is everything   Actility   ChirpStack

Cloud   **Enterprise** powered by MClimate   **API**   MClimate App, Other Clouds & Apps

IoT Platform

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
- Thermostat
- 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

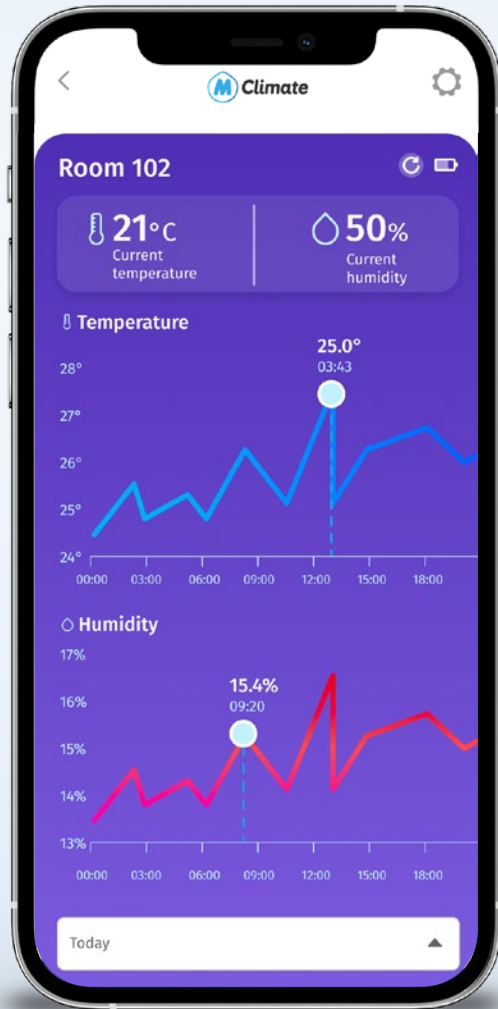Smart Buildings   Smart Home   Residential buildings   Commercial buildings   Energy optimization   Environment monitoring
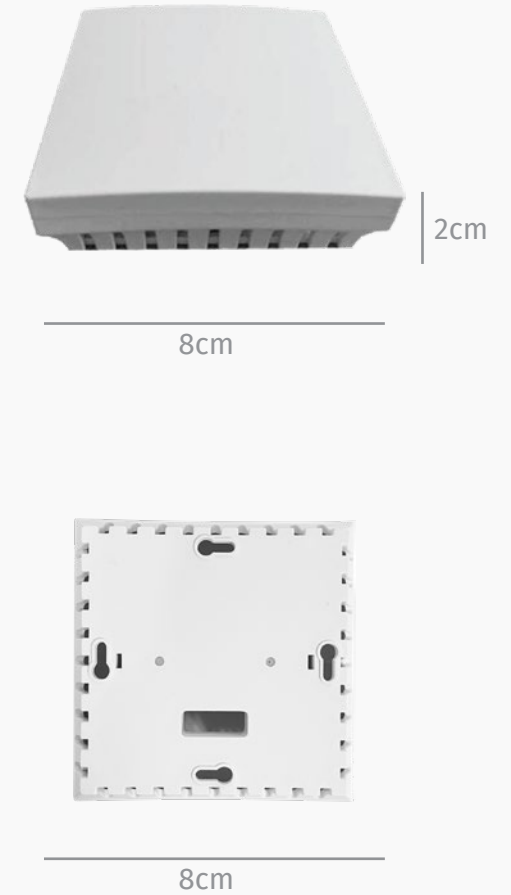
Change and set temperature at home, wherever you are.

Room 102

Heating to

24°C

Schedule

21°C   50%   3200lm

Analytics   Log

Enterprise
by MClimate

Bedroom

| Monitor | Control | Battery estimation | Schedules | Command logs | Uplink data |

MONITOR

Target t°
5 °C

Measured t°
19.71 °C

Humidity
67.97 %

Bat. voltage
3.50 v

Open Window
Not Detected

RSSI
-61

Frame Count
2422 fc

YH5U7025951X8

MENU

Dashboard

Buildings

Schedules

Online Dev
7

Vicki LoRa

RESOURCES

Solutions

Integrations

LoRaWAN Resources

Tring LoTe

Dimensions

10.5 cm

11.5 cm

10.5 cm

2.3 cm

Technical Details

Design
ABS, Stainless steel, tampered 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?

MClimate Wireless Thermostat LoRaWAN®

LoRaWAN

LoRaWAN® Gateway

THE THINGS NETWORK | kerlink communication is everything | Actility Connecting with intelligence | ChirpStack

LoRaWAN® Network Provider

Cloud | Enterprise powered by MClimate | API

MClimate App, Other Clouds & Apps

IoT Platform

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

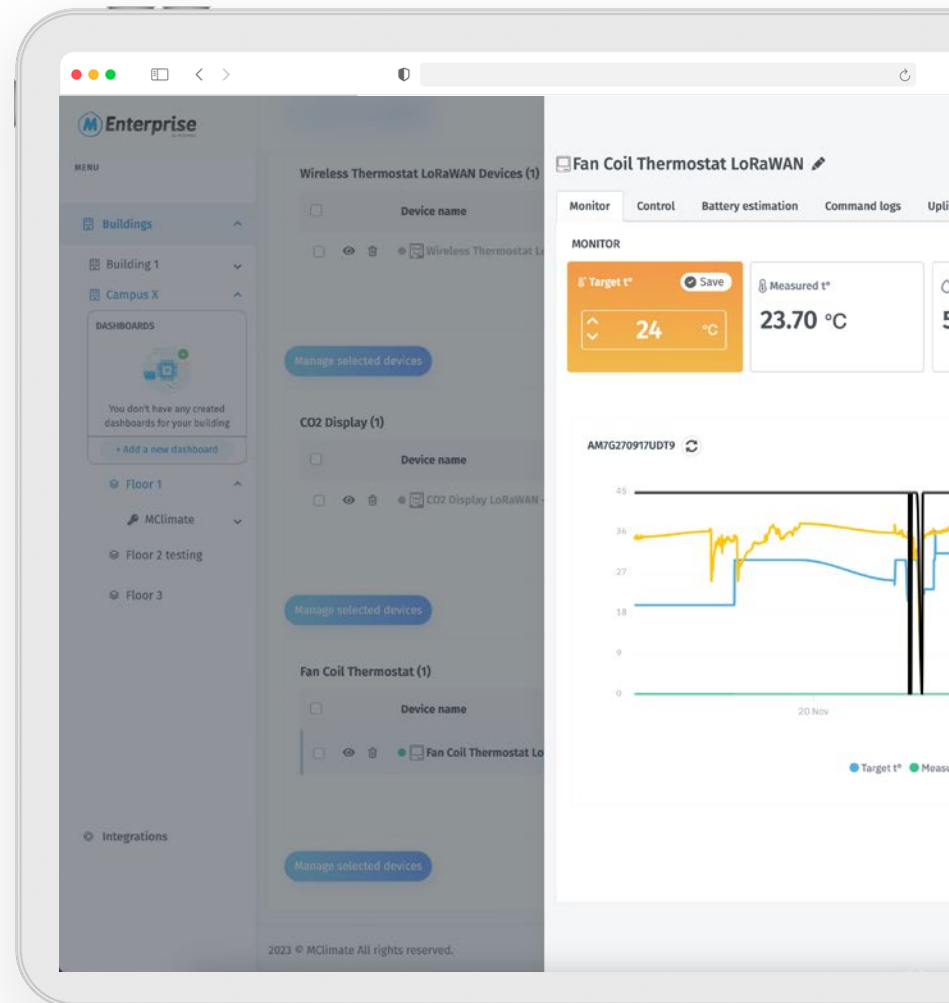Smart Buildings   Smart Home   Residential buildings   Commercial buildings   Hotels

Change and set temperature at home, wherever you are.

ANDROID APP ON Google play

Available on the iPhone App Store

Climate

FCT Room 102

Heating to

24 °C

Schedule

21°C 50%

Analytics   Log

Enterprise
by MClimate

Enterprise

MENU

Buildings
Building 1
Campus X

DASHBOARDS

You don't have any created dashboards for your building.

+ Add a new dashboard

Floor 1
MClimate
Floor 2 testing
Floor 3

Integrations

Wireless Thermostat LoRaWAN Devices (1)

Device name

Wireless Thermostat Lo

Manage selected devices

CO2 Display (1)

Device name

CO2 Display LoRaWAN

Manage selected devices

Fan Coil Thermostat (1)

Device name

Fan Coil Thermostat Lo

Manage selected devices

Fan Coil Thermostat LoRaWAN

Monitor   Control   Battery estimation   Command logs   Uplink

MONITOR

Target t°   Save

24   °C

Measured t°
23.70 °C

Humidity
55

AM7G270917UDT9

45
36
27
18
9
0
20 Nov

Target t°   Measured

2023 © MClimate All rights reserved.

HEATING

26.5 °C

TARGET TEMPERATURE

23.5 °C
CURRENT T.

84 %
HUMIDITY

OCCUPIED

FAN HIGH

SENDING...

Climate

O|M

10.5 cm

11.5 cm

10.5 cm

2.3 cm

Technical Details

Design
ABS, Stainless steel, tampered 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?

MClimate Fan Coil Thermostat LoRaWAN®

LoRaWAN® Gateway

LoRaWAN® Network Provider

IoT Platform

MClimate App, Other Clouds & Apps

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

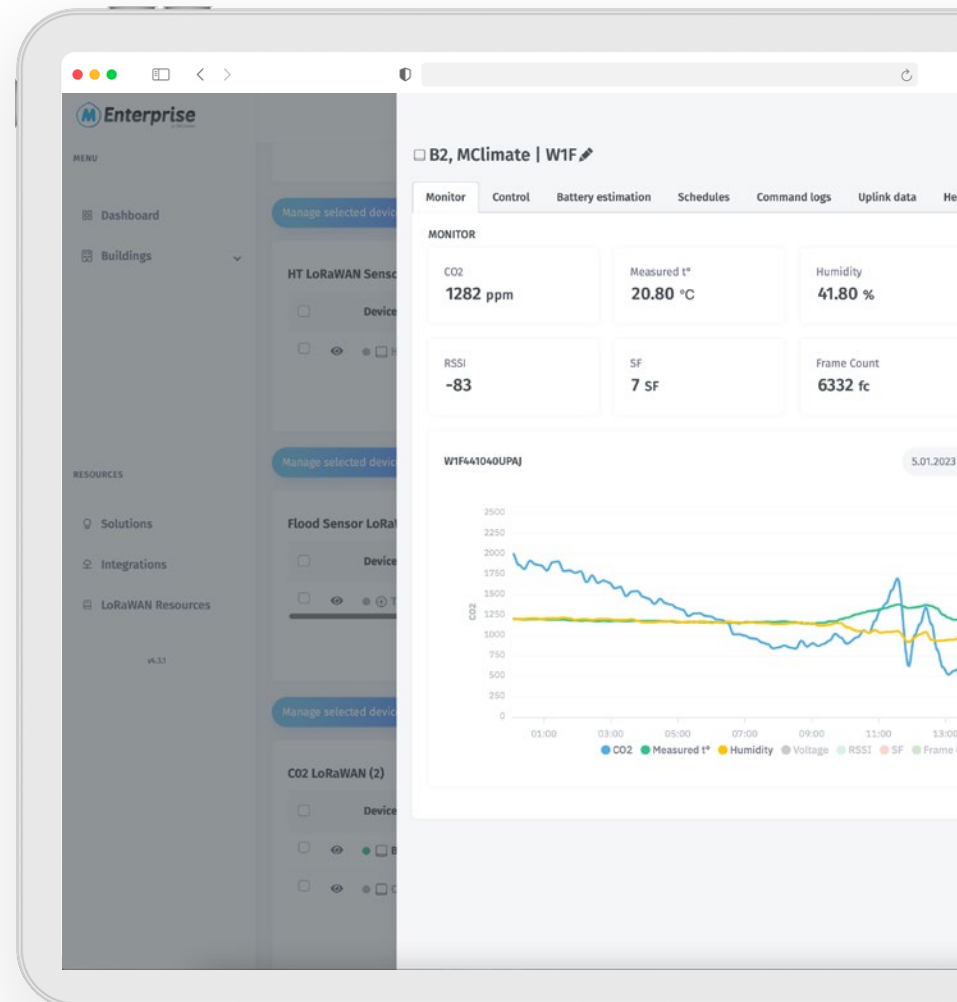Smart Buildings   Smart Home   Residential buildings   Commercial buildings   Energy optimization   Environment monitoring
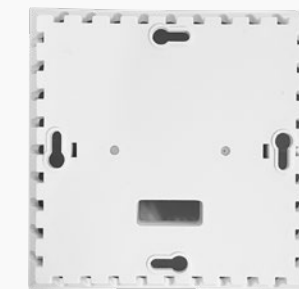
INDOOR AIR QUALITY AND HEALTH CARE SOLUTION

ANDROID APP ON
Google play

Available on the iPhone
App Store

Monitor CO2 at home, wherever you are.

M Enterprise
by MClimate

Dimensions

2 cm

8 cm

8 cm

Office
📶 CO2   90%
Today

INDOOR AIR QUALITY

Good
CO2 400PPM

☁ CO2   400 PPM
🌡 Temperature   24,5°C
💧 Humidity   60%

Notify   Log

M Enterprise

MENU
Dashboard
Buildings

RESOURCES
Solutions
Integrations
LoRaWAN Resources

□ B2, MClimate | W1F ✎

Monitor Control Battery estimation Schedules Command logs Uplink data Heati

MONITOR

CO2
1282 ppm

Measured t°
20.80 °C

Humidity
41.80 %

RSSI
-83

SF
7 SF

Frame Count
6332 fc

W1F441040UPAJ   5.01.2023

● CO2 ● Measured t° ● Humidity ● Voltage ● RSSI ● SF ● Frame Co

HT LoRaWAN Sens
Flood Sensor LoRa
CO2 LoRaWAN (2)

Manage selected devic

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?

CO2 Sensor LoRaWAN®

LoRaWAN

LoRaWAN® Gateway

THE THINGS NETWORK   kerlink communication is everything   Actility   ChirpStack

LoRaWAN® Network Provider

Cloud   Enterprise powered by MClimate   API   MClimate App, Other Clouds & Apps

IoT Platform

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

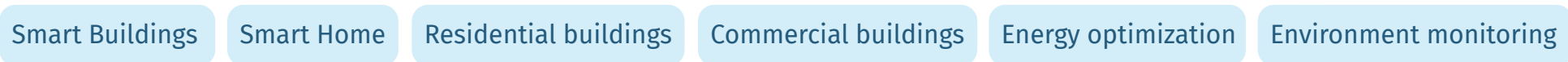# CO2 Display LoRaWAN®

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.
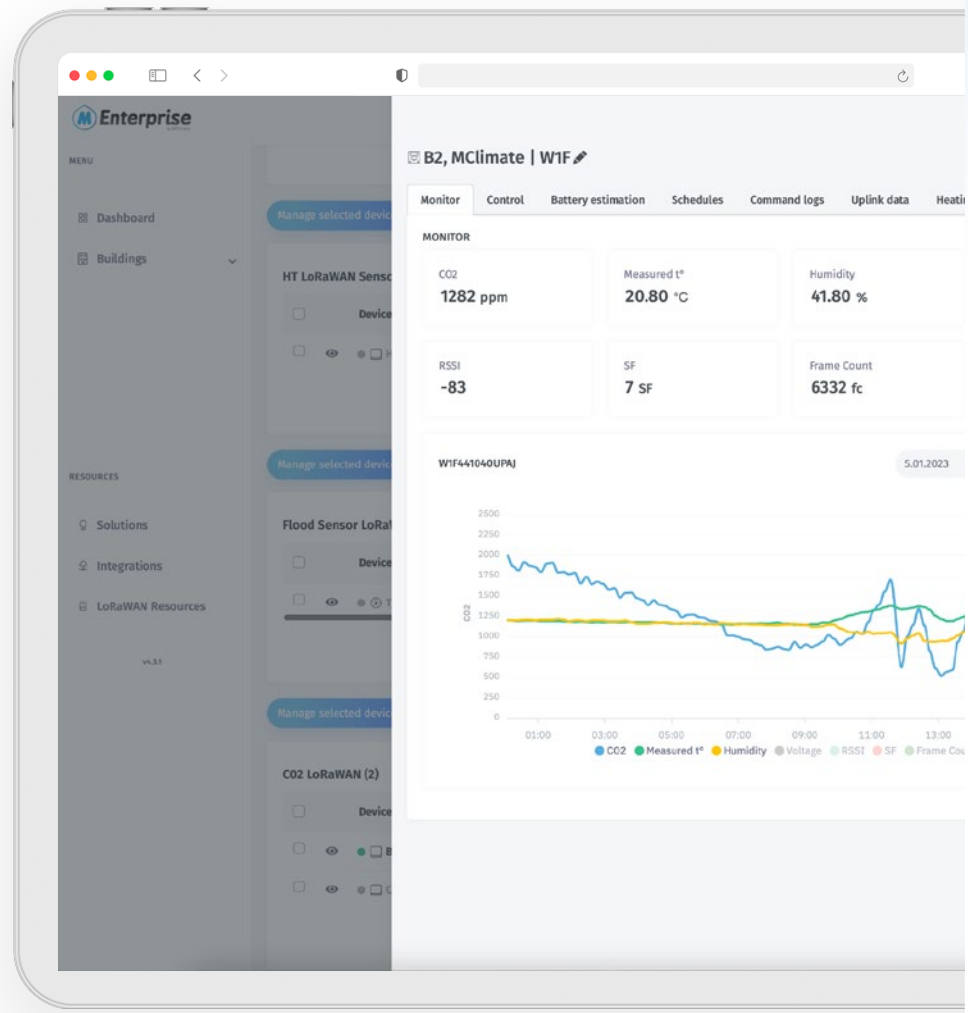
Product features

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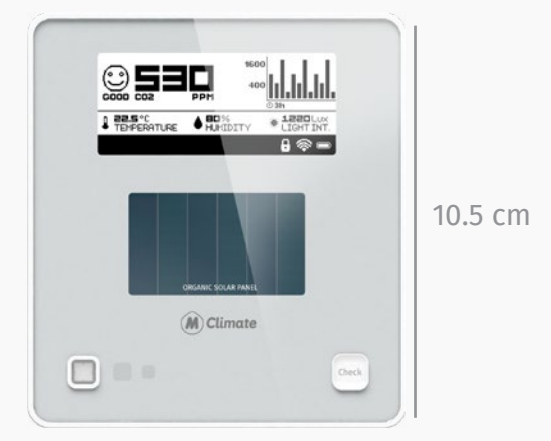- FUOTA
- Smartphone and WEB control

Applications

Smart Buildings   Smart Home   Residential buildings   Commercial buildings   Energy optimization   Environment monitoring

Monitor CO2 at home,
wherever you are.

Enterprise
by MClimate

Dimensions

10.5 cm

11.5 cm

10.5 cm

2.3 cm

Technical Details

Design
ABS, Stainless steel, tampered 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
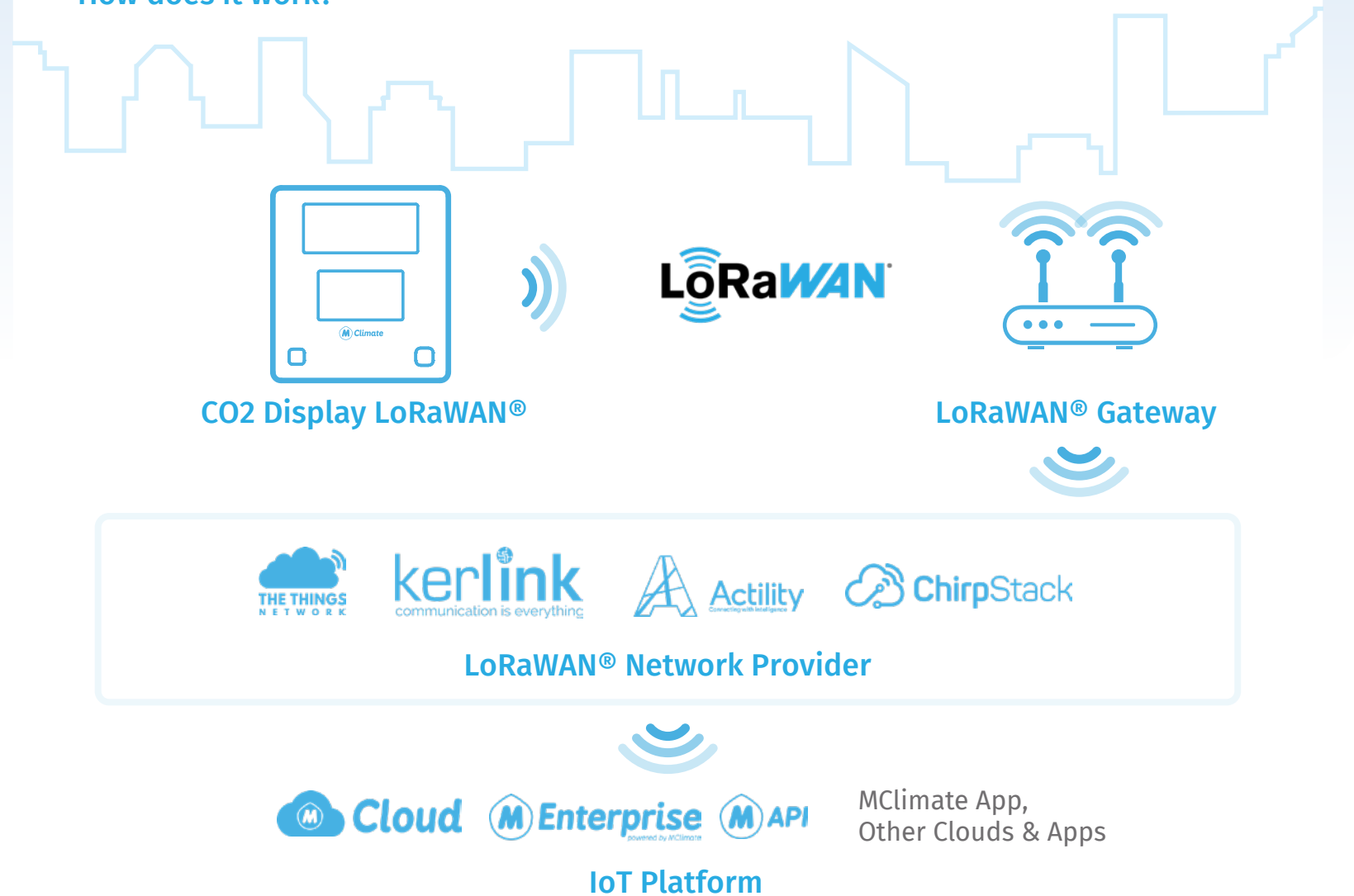LoRaWAN® End-to-End encryption (AES-CTR)

Device Type
Class A End-device

Supported Features
OTAA , ADR , Adaptive Channels setup

How does it work?

CO2 Display LoRaWAN®

LoRaWAN® Gateway

THE THINGS NETWORK   kerlink communication is everything   Actility   ChirpStack

LoRaWAN® Network Provider

Cloud   Enterprise   API   MClimate App, Other Clouds & Apps

IoT Platform

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

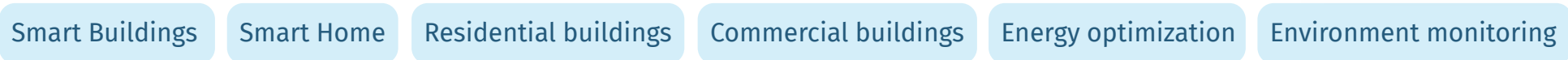# CO2 Display Lite LoRaWAN®

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 Humitity sensor
- NDIR CO2 sensor
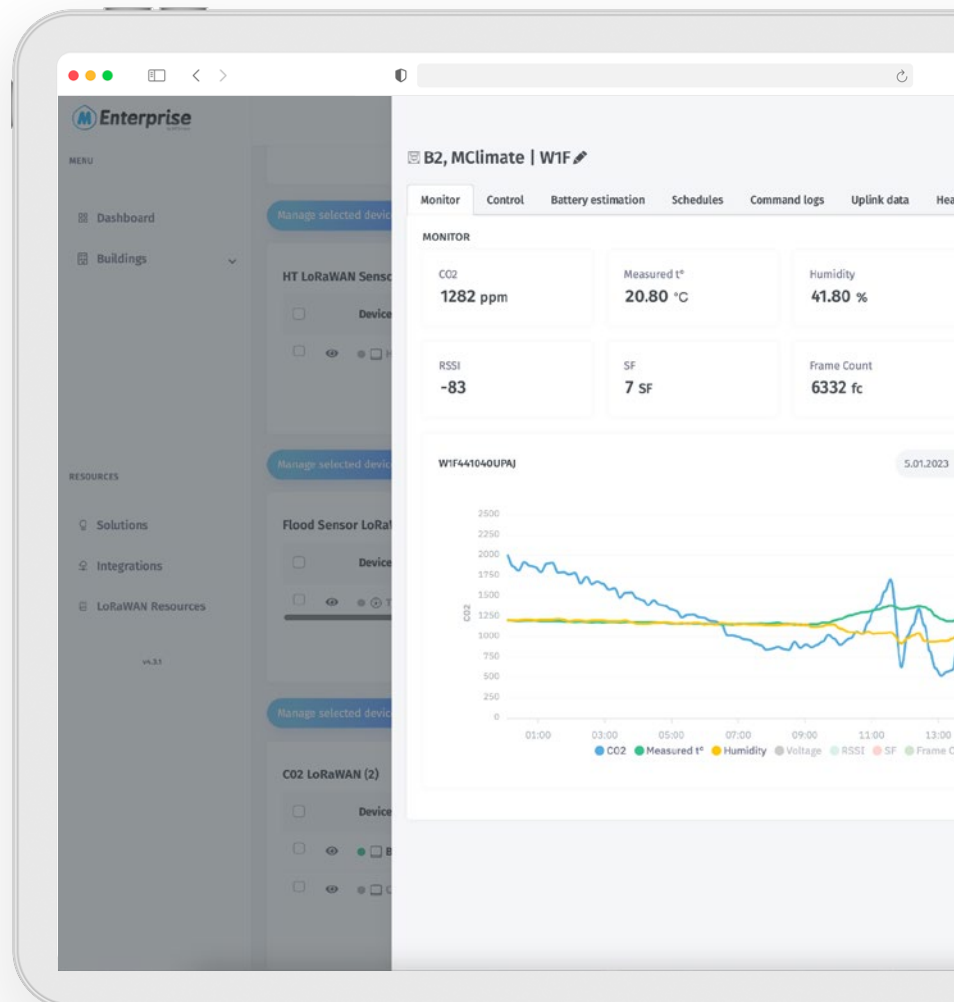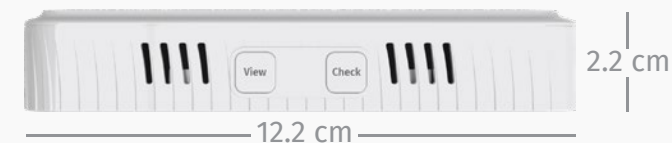- Anti-theft bracket
- FUOTA

Applications

Smart Buildings   Smart Home   Residential buildings   Commercial buildings   Energy optimization   Environment monitoring

ANDROID APP ON Google play

Available on the iPhone App Store

Monitor CO2 at home, wherever you are.

M Enterprise
by MClimate

MClimate CO2 Display

😊 **500 PPM** — Current Indoor CO2 — **GOOD**

🌡 **21°C** Current temperature

💧 **50%** Current humidity

CO2 History

1600 12:30

Today

M Enterprise

MENU

- Dashboard
- Buildings

RESOURCES

- Solutions
- Integrations
- LoRaWAN Resources

v4.3.1

📄 **B2, MClimate | W1F** ✏

Monitor | Control | Battery estimation | Schedules | Command logs | Uplink data | Heati...

MONITOR

CO2
1282 ppm

Measured t°
20.80 °C

Humidity
41.80 %

RSSI
-83

SF
7 SF

Frame Count
6332 fc

W1F441040UPAJ — 5.01.2023

● CO2 ● Measured t° ● Humidity ● Voltage ● RSSI ● SF ● Frame Cou...

HT LoRaWAN Sens...
Device...

Flood Sensor LoRa...
Device...

CO2 LoRaWAN (2)
Device...

Dimensions

GOOD **530** CO2 PPM
🌡23.5°C 💧84%
ORGANIC SOLAR PANEL
M Climate

5.8 cm
12.2 cm

View | Check
2.2 cm
12.2 cm

RESET
5.8 cm
2.2 cm

Technical Details

Design
ABS, Stainless steel, tampered 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?

CO2 Display Lite
LoRaWAN®

LoRaWAN®

LoRaWAN® Gateway

THE THINGS NETWORK   kerlink communication is everything   Actility   ChirpStack

LoRaWAN® Network Provider

Cloud   Enterprise   API   MClimate App, Other Clouds & Apps

IoT Platform

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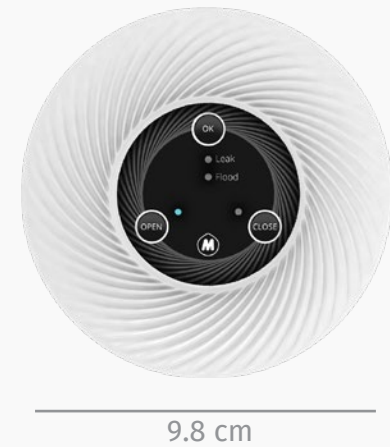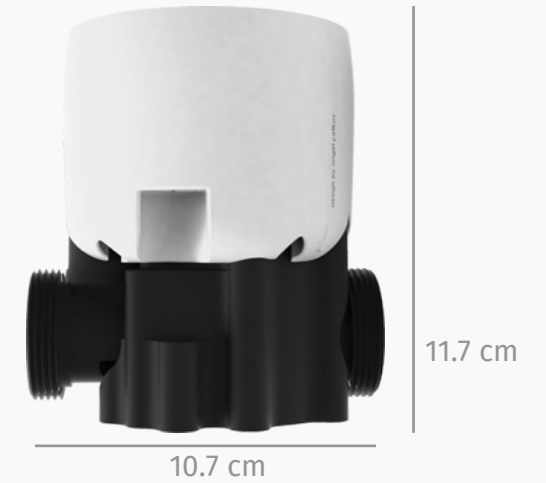
Monitor your home from anywhere in the world and prevent leaks and damages.

Enterprise
by MClimate

Dimensions

11.7 cm

10.7 cm

9.8 cm
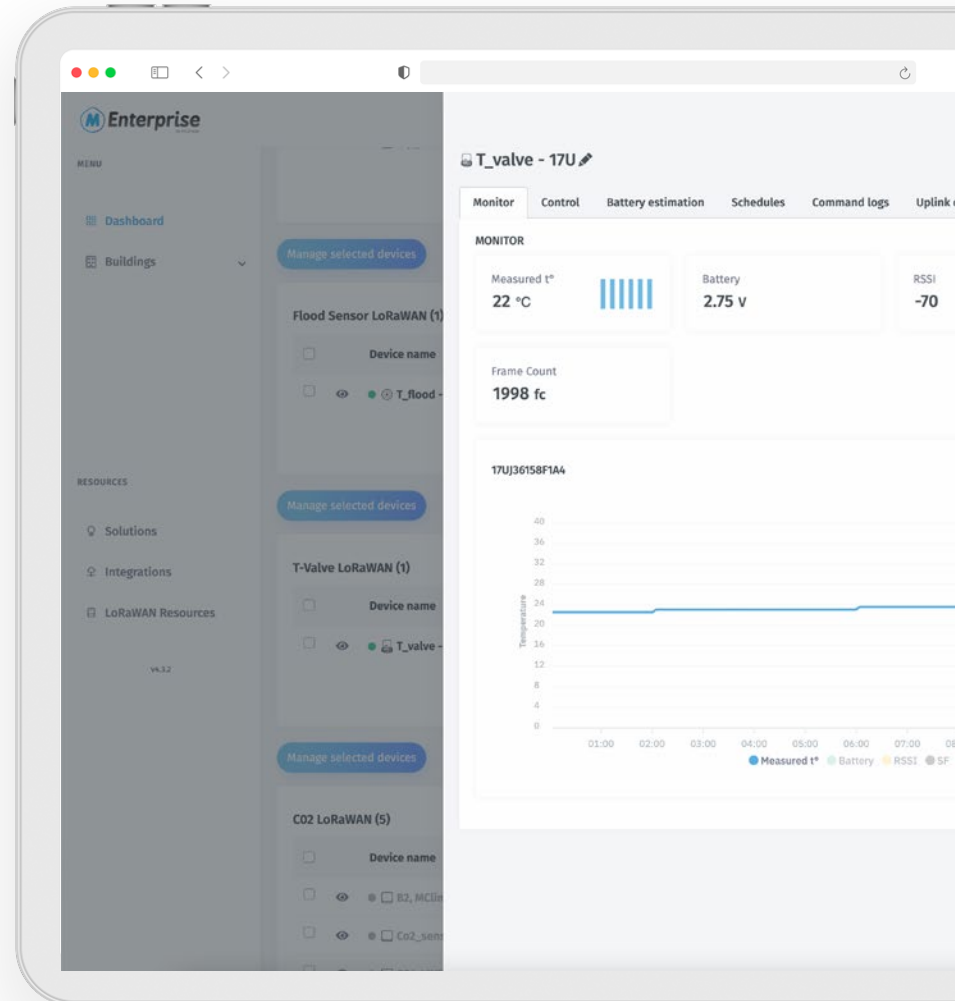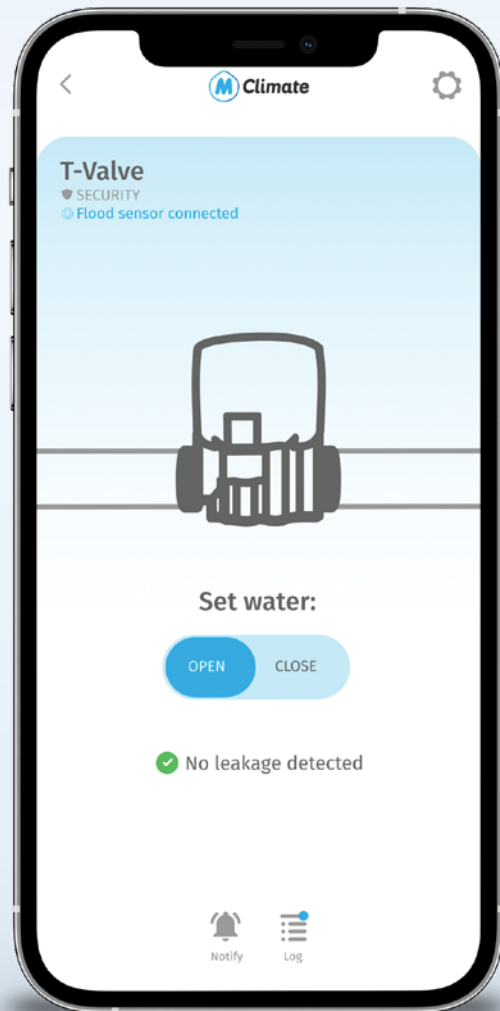
Technical Details

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?

T-Valve LoRaWAN®

LoRaWAN

LoRaWAN® Gateway

THE THINGS NETWORK

kerlink communication is everything

Actility

ChirpStack

LoRaWAN® Network Provider

Cloud Enterprise powered by MClimate API

MClimate App,
Other Clouds & Apps

IoT Platform

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
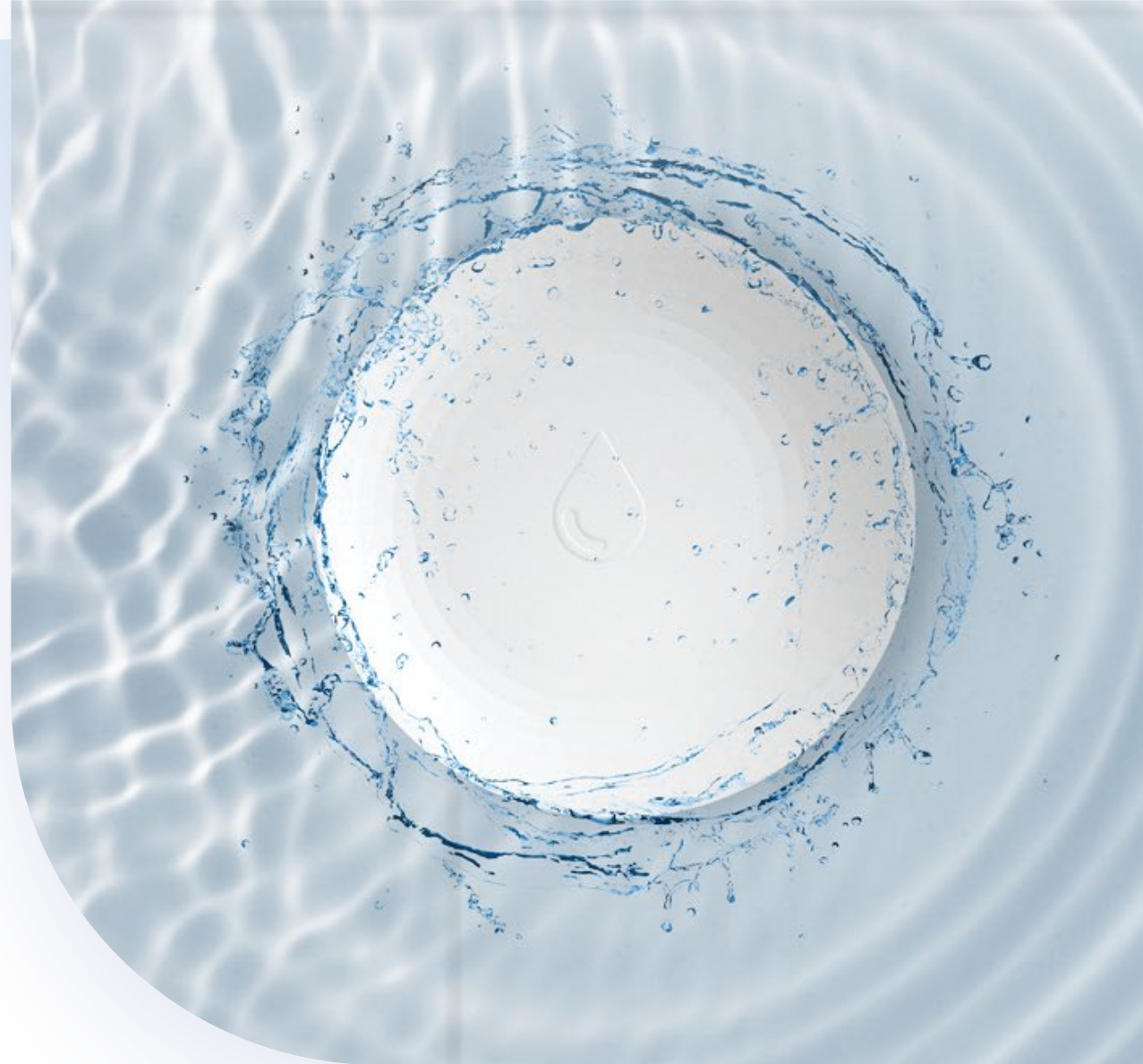- Smartphone and WEB control

Applications

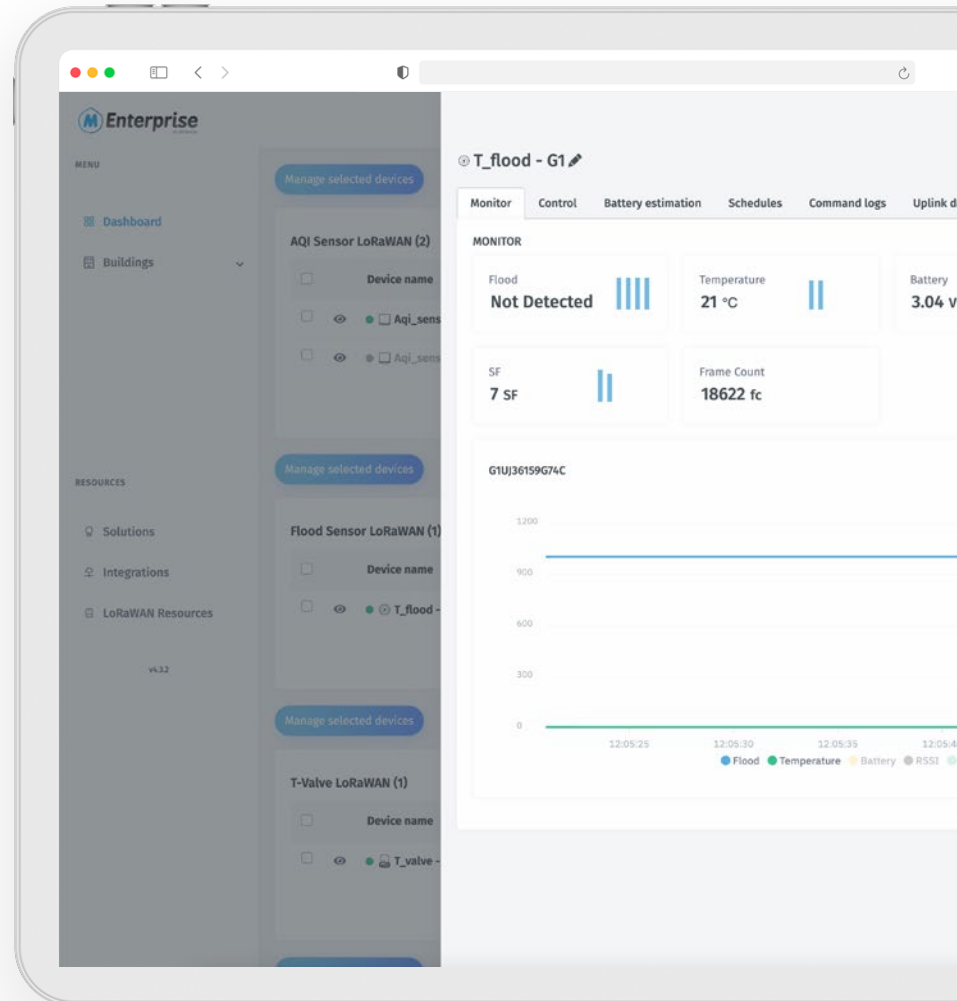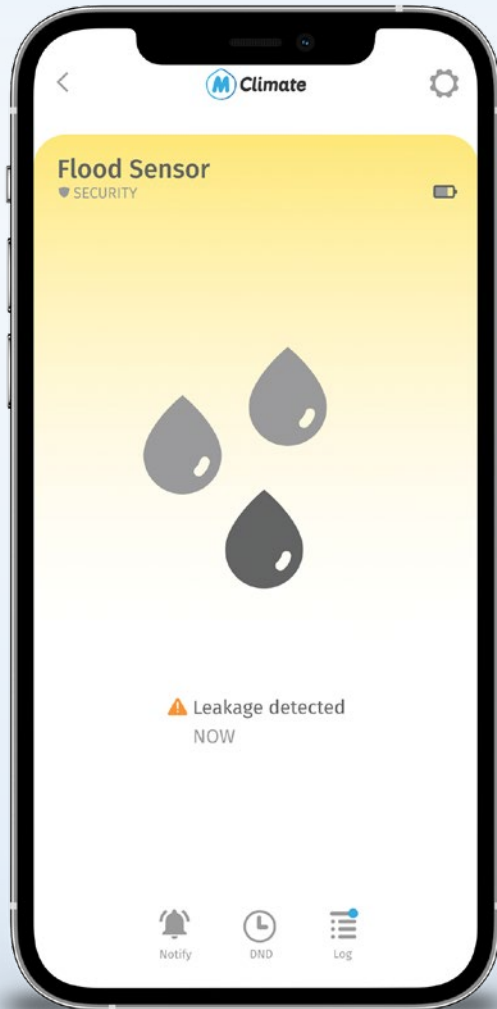Smart Buildings   Smart Home   Residential buildings   Commercial buildings   Energy optimization   Environment monitoring

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

Flood Sensor
SECURITY

⚠ Leakage detected
NOW

Notify   DND   Log

M Enterprise
by MClimate

⊙ T_flood - G1 ✎

Monitor | Control | Battery estimation | Schedules | Command logs | Uplink dat

MONITOR

Flood
Not Detected ||||

Temperature
21 °C ||

Battery
3.04 v

SF
7 SF ||

Frame Count
18622 fc

G1UJ36159G74C

MENU

☷ Dashboard
☷ Buildings

RESOURCES

♀ Solutions
♀ Integrations
☷ LoRaWAN Resources

Manage selected devices

AQI Sensor LoRaWAN (2)

Device name
Aqi_sens
Aqi_sens

Manage selected devices

Flood Sensor LoRaWAN (1)

Device name
T_flood -

Manage selected devices

T-Valve LoRaWAN (1)

Device name
T_valve -

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?

Flood Sensor LoRaWAN®

LoRaWAN

LoRaWAN® Gateway

THE THINGS NETWORK

kerlink
communication is everything

Actility
Connecting with Intelligence

ChirpStack

LoRaWAN® Network Provider

Cloud Enterprise API

MClimate App, Other Clouds & Apps

IoT Platform

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
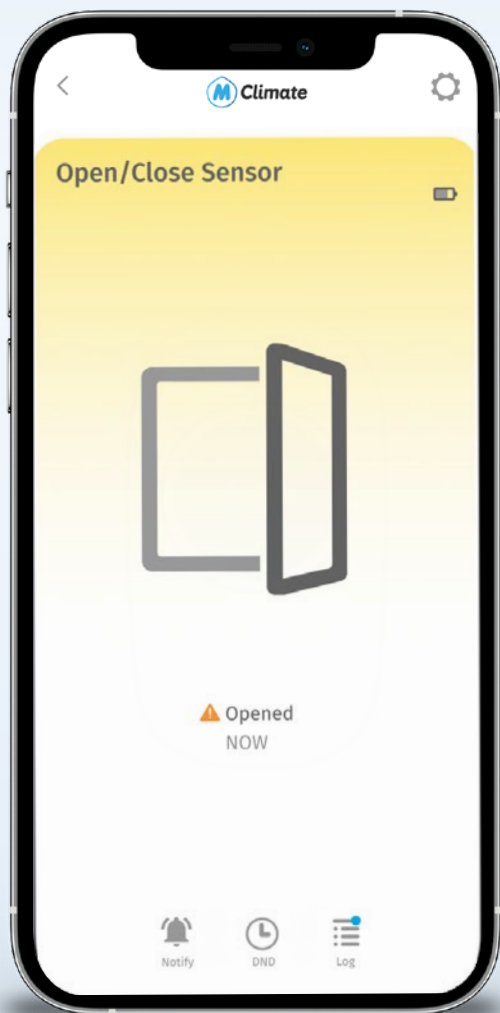
Control Multipurpose Button wherever you are.

Button LoRaWAN

TAP HERE

Smart   Log

Enterprise
by MClimate

LoRaWAN Devices (143)

MENU

Dashboard

Buildings

Control-4B-10

Monitor   Control   Battery estimation   Schedules   Command logs   Uplin

MONITOR

Target t°
29 °C

Measured t°
30.70 °C

RSSI
-109

SF
7 SF

PKT4115355LD9F

RESOURCES

Solutions

Integrations

LoRaWAN Resources

v4.3.2

Manage selected devices

03 Jan   04 Jan
Measured t°   Status   Power Suppl

Open/Close LoRaWAN Devices (1

Device name

Open/Close-3B-6

Open/Close-1B-4

Open/Close-2A-10

Dimensions

7.2 cm

4.2 cm

1.8 cm

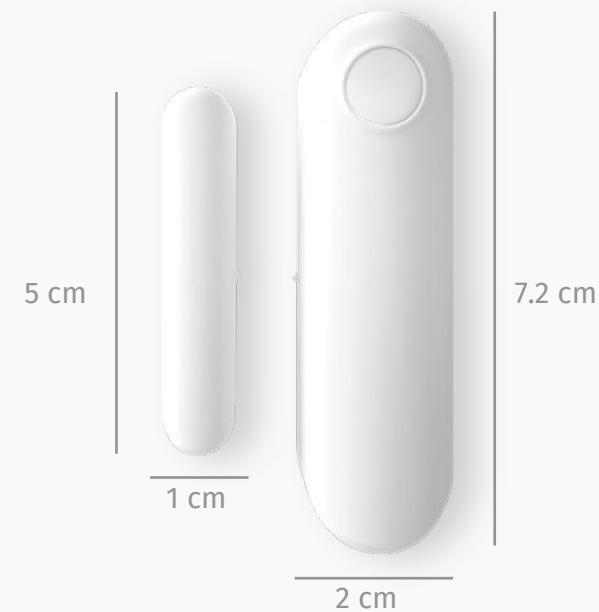## Technical Details

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?

Multipurpose Button LoRaWAN®

LoRaWAN

LoRaWAN® Gateway

THE THINGS NETWORK

kerlink
communication is everything

Actility
Connecting with intelligence

ChirpStack

LoRaWAN® Network Provider

Cloud   Enterprise   API

MClimate App,
Other Clouds & Apps

IoT Platform

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

www.mclimate.eu

Monitor Open/Close Sensor wherever you are.
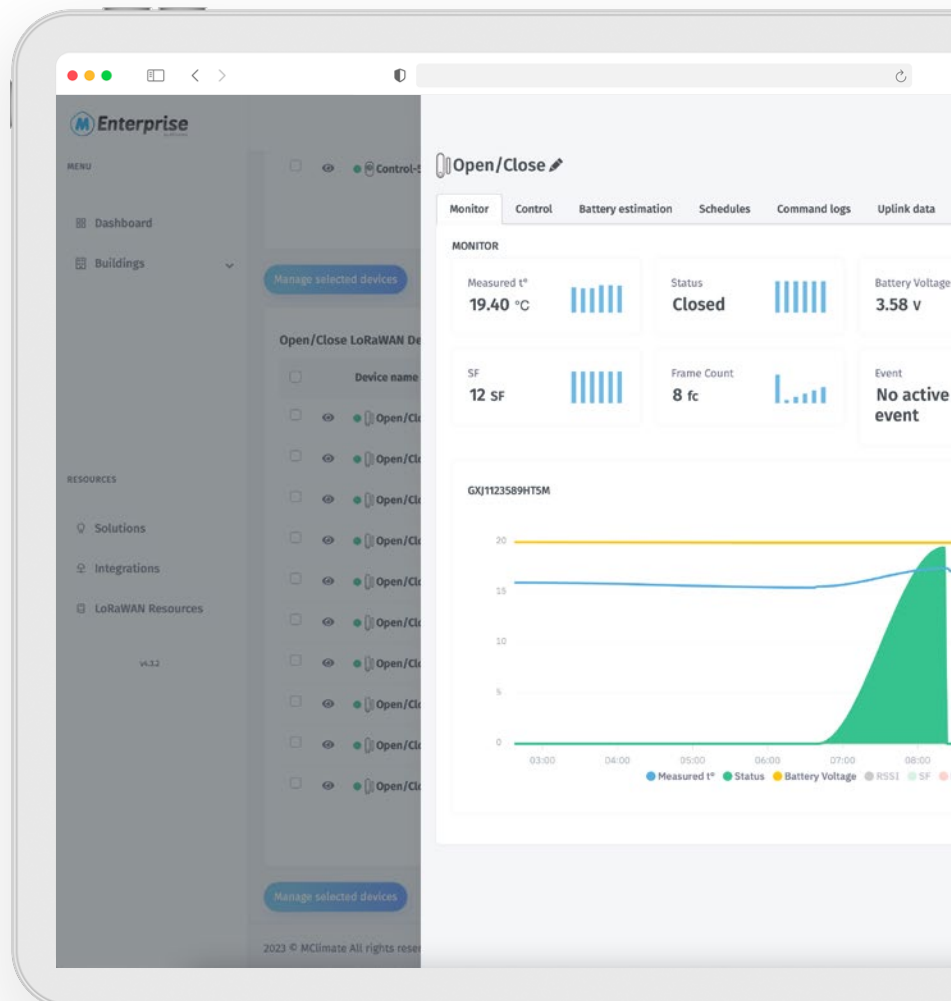
Open/Close Sensor

⚠️ Opened
NOW

Notify   DND   Log

Enterprise
by MClimate

Open/Close ✏️

| Monitor | Control | Battery estimation | Schedules | Command logs | Uplink data |

MONITOR

| Measured t° | Status | Battery Voltage |
| 19.40 °C | Closed | 3.58 v |

| SF | Frame Count | Event |
| 12 SF | 8 fc | No active event |

GXJ1123589HT5M

MENU
Dashboard
Buildings

RESOURCES
Solutions
Integrations
LoRaWAN Resources

2023 © MClimate All rights reserved

Dimensions

5 cm

1 cm

7.2 cm

2 cm

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?

Open/Close Sensor LoRaWAN®

LoRaWAN®

LoRaWAN® Gateway

THE THINGS NETWORK

kerlink
communication is everything

Actility

ChirpStack

LoRaWAN® Network Provider

Cloud   Enterprise   API

MClimate App,
Other Clouds & Apps

IoT Platform

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

Enterprise
by MClimate

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

Floors

Spaces

Buildings

Rooms
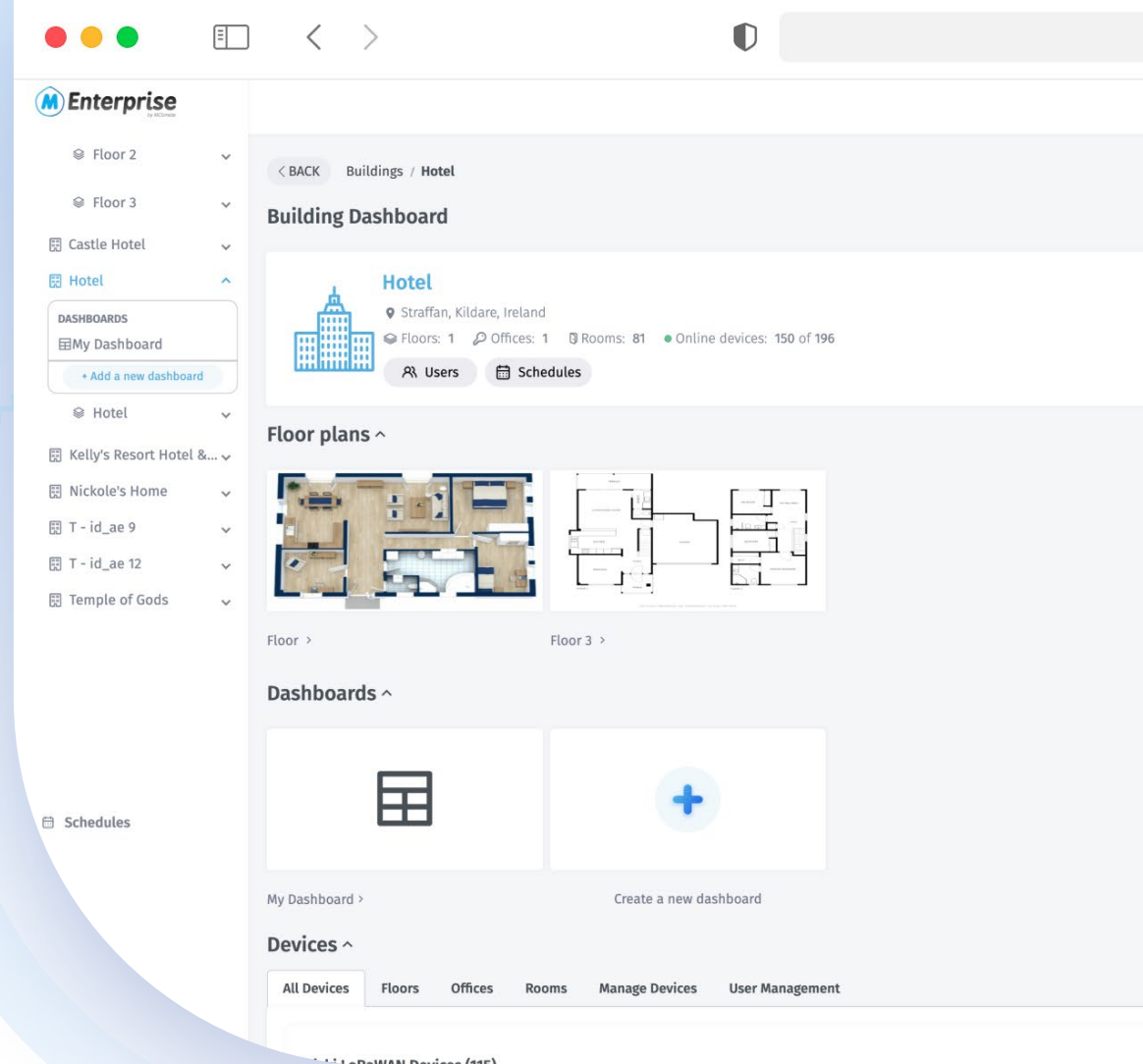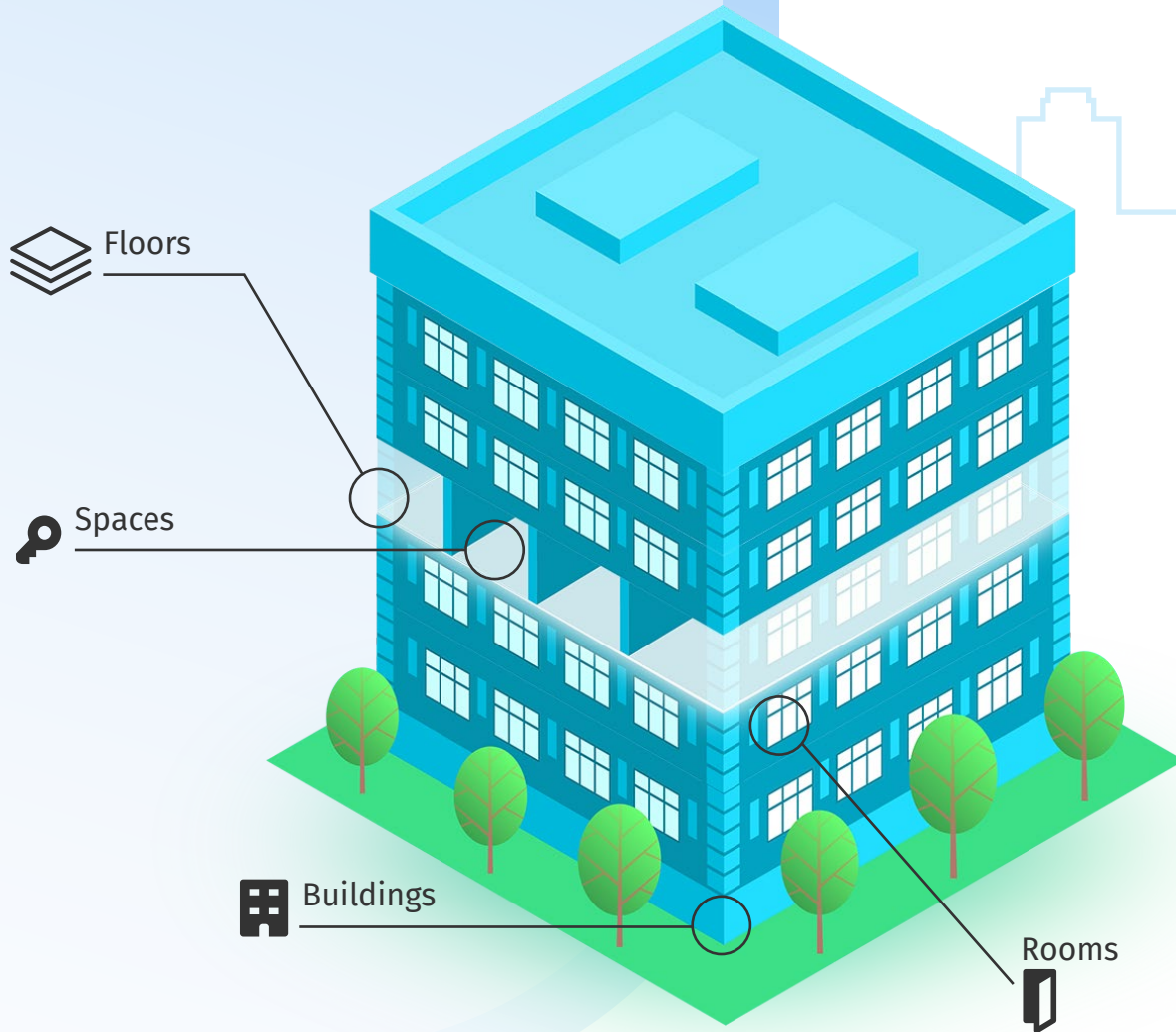
Digital twin of your building

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

Floor map view

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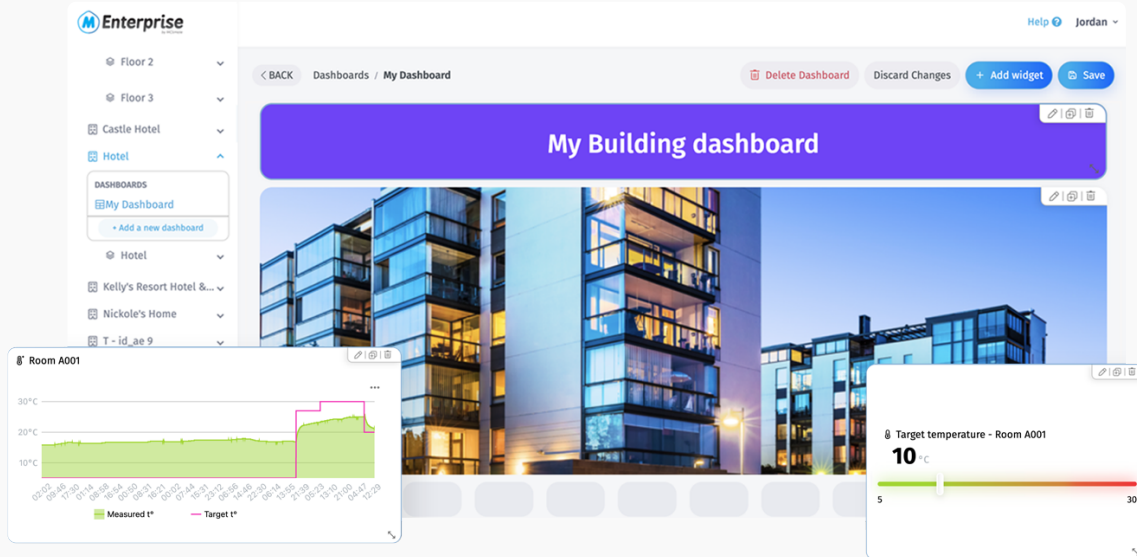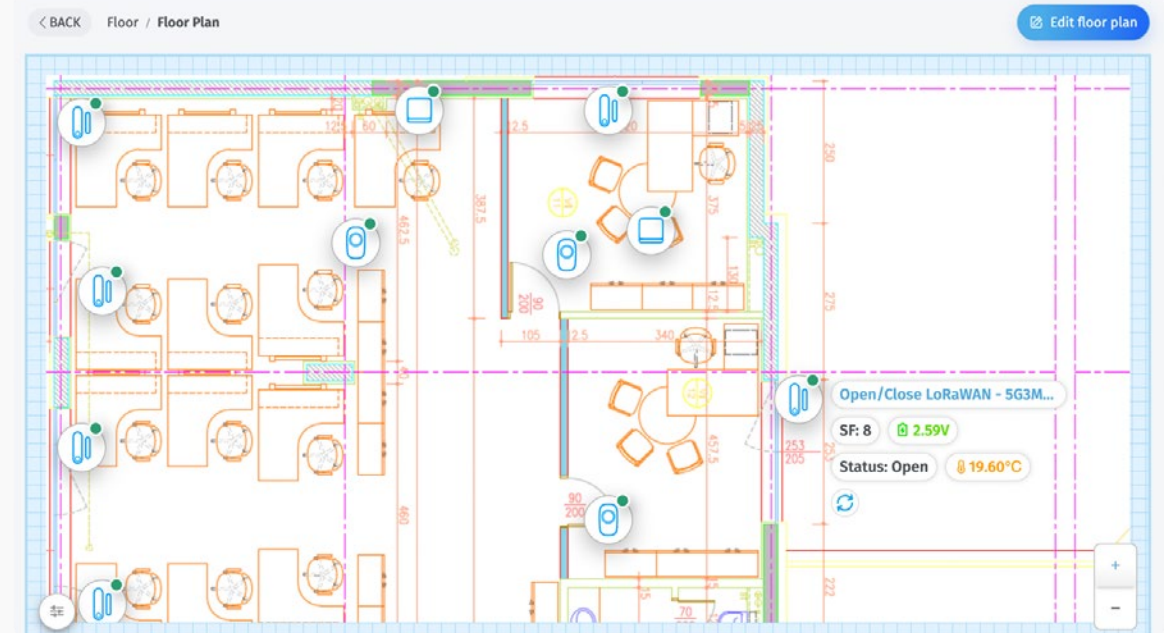
Custom dashboards

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.

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.
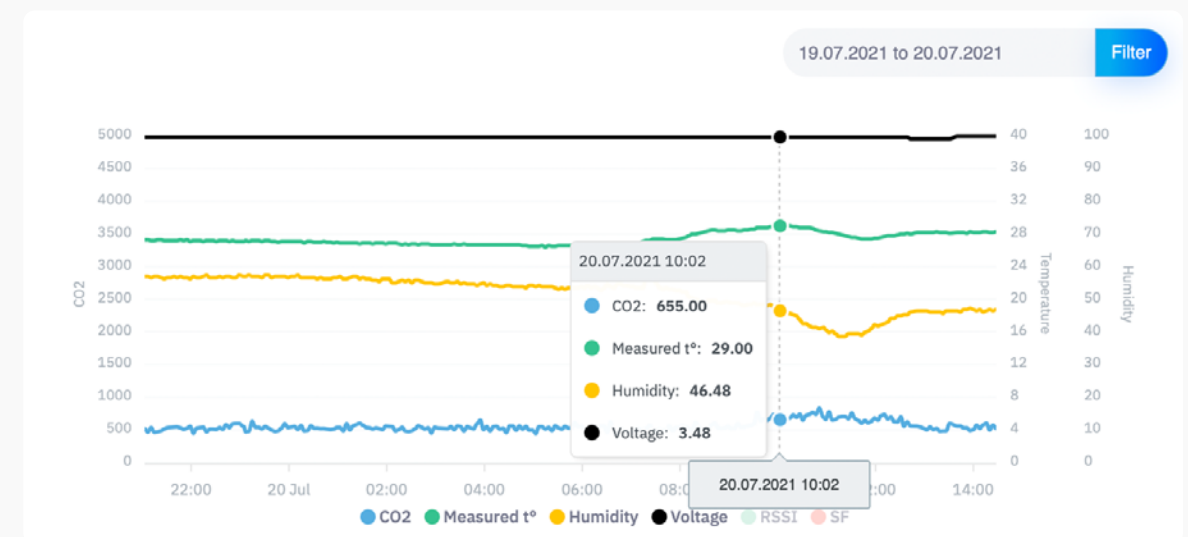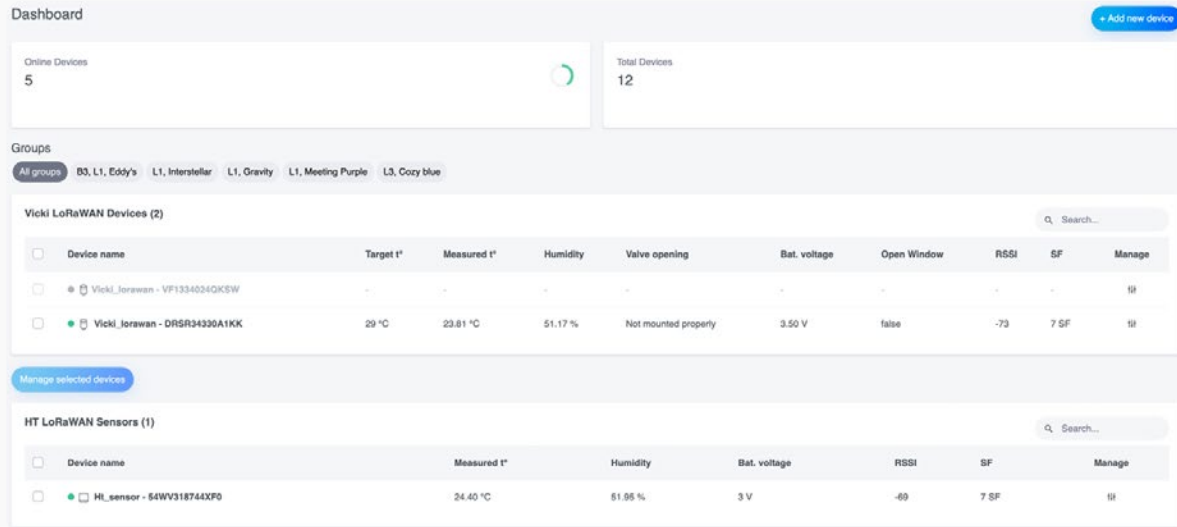
Control assets

Control your all MClimate devices in your building from a 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 appartment or room. Admins have full rights, moderators have full rights except for managing subscriptions.

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

https://mclimate.eu/pages/enterprise

Utilities

Cloud

Behavior DATA

Demand response

Residentals

Electric Utility Company

Smart home

Power plants

Transmission

Solar & Wind Farms

MARKET

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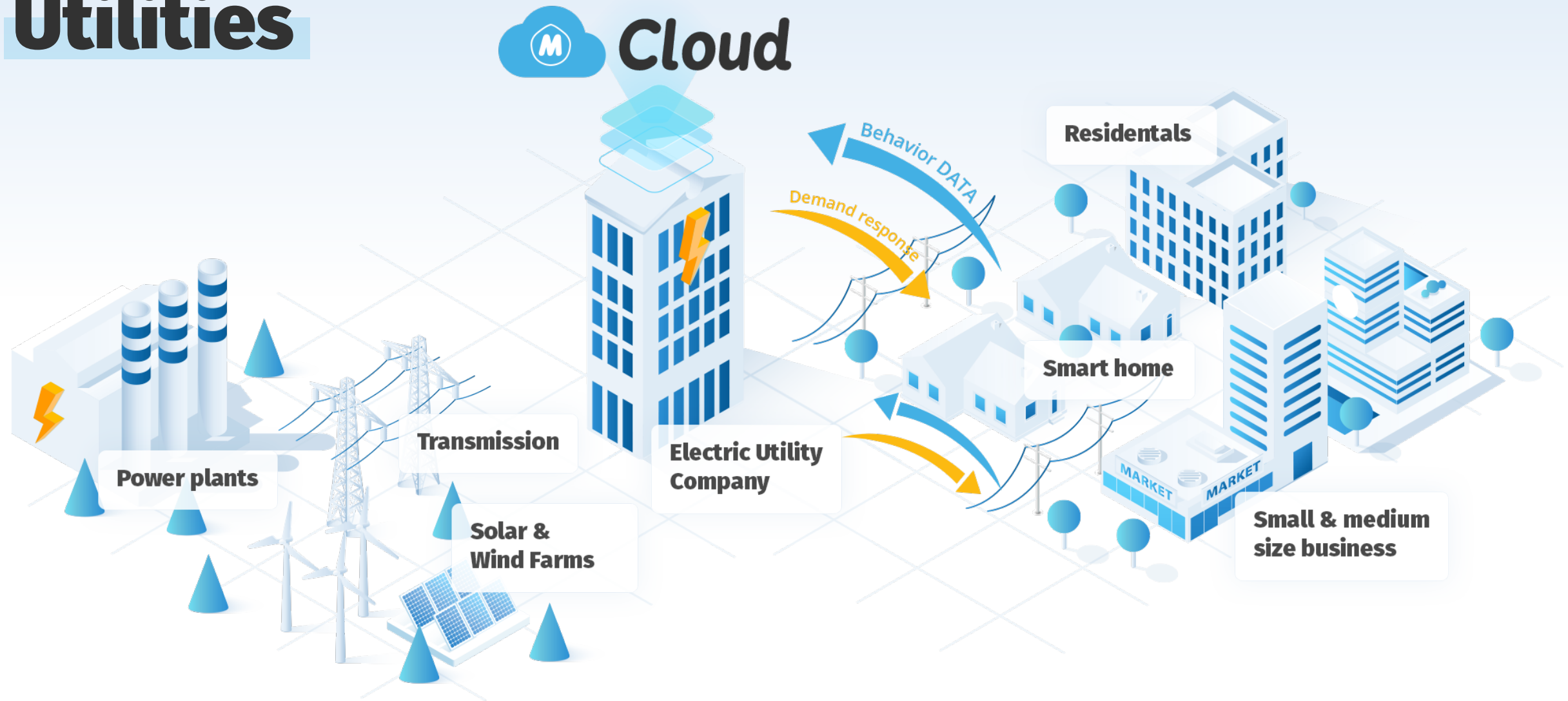
Existing smart meters are far away from giving consumers the "smart home experience" - some of the most intriguing opportunities in the sector are in service and products extending beyond the meter, where consumers interact with their energy use. MClimate offers smart home capabilities and consumer services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

Utilities. Key benefits.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim

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 business 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 which 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
- Thousand 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