

## Description

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

## Applications

- Smart Buildings
- Smart Home
- Residential buildings
- Commercial buildings
- Environment monitoring

## Device specifications

### Mechanical specifications

WEIGHT	68gr
DIMENSIONS	80x80x19mm
ENCLOSURE	ABS
BUZZER SOUND PRESSURE LEVEL	80dB at 10cm

### Operating conditions

TEMPERATURE	0 - +50°C
HUMIDITY	0-80% RH (non-condensing)

### Power supply

BATTERY TYPE	2xAA (1,5VDC)
OPERATING VOLTAGE	3VDC
EXPECTED BATTERY LIFE	< 10 years (depending on configuration and environment)

## Radio/Wireless

WIRELESS TECHNOLOGY	LoRaWAN® 1.0.3
WIRELESS SECURITY	LoRaWAN® End-to-End encryption (AES-CTR)
LORAWAN DEVICE TYPE	Class A End-device
SUPPORTED LORAWAN FEATURES	OTAA, ADR, Adaptive Channels setup
SUPPORTED LORAWAN REGIONS	EU863 – 870; Other LoRaWAN regional settings available upon request
LINK BUDGET	130dB
RF TRANSMIT POWER	14dB

## Data types

KEEPALIVE	TYPE VALUE	VALUE NAME	DATA SIZE	NOTES
	0x00	Reason to send message + status	1	Possible reasons: Keepalive; Device test switches
	0x01	Battery voltage	1	
	0x02	CO2 MSB reading	1	
	0x03	CO2 LSB reading	1	
	0x04	Temperature reading	1	
	0x05	Humidity reading	1	

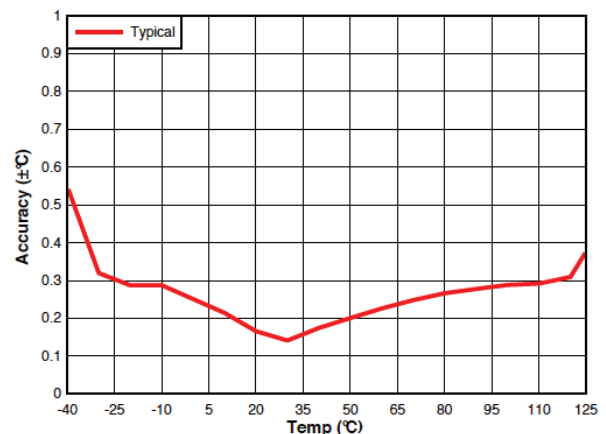
## LIST OF FUNCTIONS FROM THE PROTOCOL DOCUMENTATION

- Configure RGB LED notification thresholds
- Activate RGB LED (different modes available)
- Configure acoustic buzzer notifications thresholds
- Activate acoustic buzzer (different modes available)
- Recalibrate CO2 sensor
- Change up-link messages types
- Write keepalive period

## Sensors

### Temperature

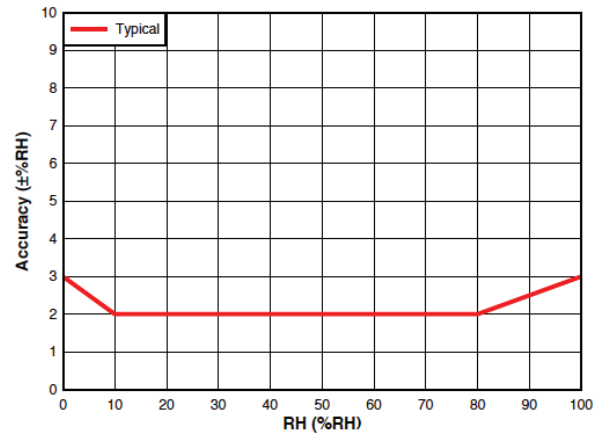
RESOLUTION	0,18°C
ACCURACY	±0,2°C



## Humidity

RESOLUTION 0.39%RH

ACCURACY 2%RH



## CO2

ACCURACY ±3% or 30 ppm at 25°C

RANGE 0-5000ppm

TECHNOLOGY NDIR

PEAK CONSUMPTION 15mA