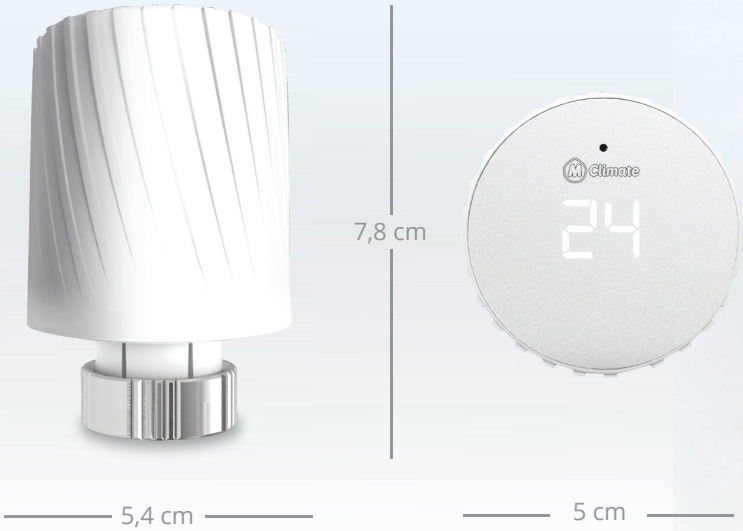
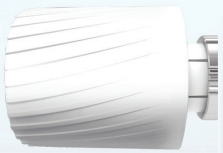
Vicki
by MClimate

LoRaWAN CERTIFIED





Batteries included

Description

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.

SKU: **MC-LW-V02-BI**

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

Applications

- Smart Buildings
- Smart home
- Residential buildings
- Commercial buildings
- Energy optimization
- Environment monitoring

Device specifications

Mechanical specifications

WEIGHT	107gr
DIMENSIONS	54x78x50mm
ENCLOSURE	PC reinforced with Glass Fibers, Anodised copper (metal nut)

Operating conditions

TEMPERATURE	-20-60°C
HUMIDITY	0-80% RH (non-condensing)

Power supply

BATTERY TYPE	2xAA (included in the device)
OPERATING VOLTAGE	3VDC
EXPECTED BATTERY LIFE	Up to 10 years (depending on configuration and environment)

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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

Compatibility

DEFAULT RADIATOR VALVE FITTING	M30x1.5
AVAILABLE ADAPTORS	RA, RAV, RAVL, ORAS, Oventrop, Other types of adapters available upon request

Conformity

CE	Health: EN 62479:2010	
	2014/35/EU Low Voltage Directive	EN 60950-1:2006/ A11:2009 / A1:2010 / A12:2011 / A2:2013
	2014/30/EU EMC Directive	EN 301489-1 V2.1.1; EN 301489-3 V2.1.1
	Radio Equipment Directive (RED)	EN 300220-1 V3.1.1; EN 300220-2 V3.1.1

Communication protocol

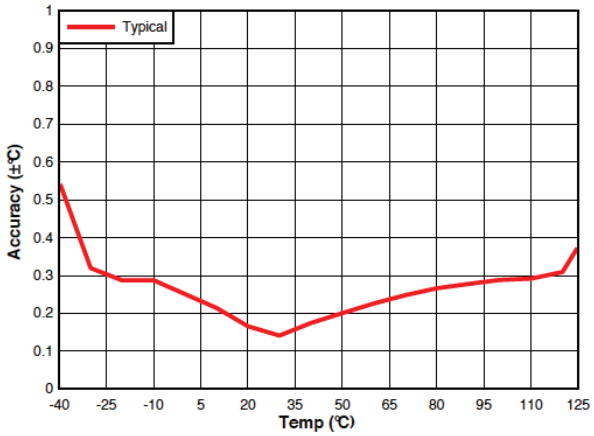
KEEPALIVE	BYTE INDEX	VALUE NAME	DATA SIZE	NOTES
	0	Command type	1	Command type - Keepalive
	1	Target temperature	1	0x05 <= XX <= 0x1E
	2	Measured temperature	1	
	3	Measured relative humidity	1	
	4-6	Motor range and position	3	Valve actuating motor maximum range (steps) and current position
	7	Battery voltage; Status bits	1	Battery voltage; Status bits for: detected open window; Motor consumption status; Temperature and Humidity sensor check
	8	Child lock status	1	Read child lock (enabled/disabled)

UPLINK/DOWNLINK AVAILABLE REQUESTS	Read/Write Keepalive period Recalibrate motor Read device hardware & firmware version Read/Write Motor position Read/Write Target temperature Enable/Disable open window detection and set parameters Enable/Disable Child lock Force close the valve Read/Write Target temperature range Read/Write Internal temperature control algorithm parameters Read/Write Join-request retry period Read/Write confirmed/unconfirmed uplink configuration Read/Write Device operation mode (Online automatic control/Online manual control/Online automatic control with external temperature sensor reading) Write External temperature sensor reading

Sensors

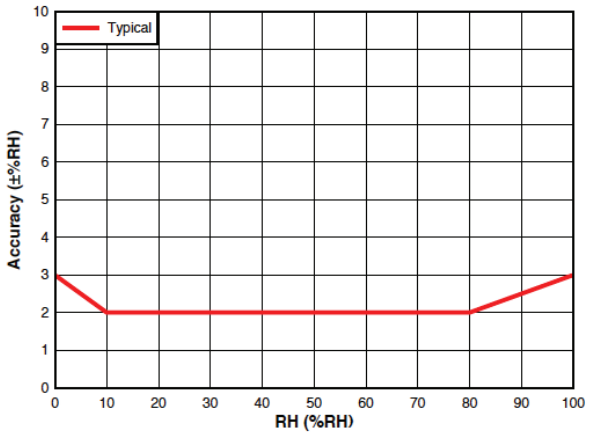
Temperature

RESOLUTION	0,18°C
ACCURACY	±0,2°C



Humidity

RESOLUTION	0.39%RH
ACCURACY	2%RH



Actuator

PUSH FORCE	70N
WITHSTAND PRESSURE AT SPINDLE	150N (min)
WITHSTAND DRAG AT SPINDLE	40N (min)
WITHSTAND PRESSURE AT ACTUATOR	300N (min)
STROKE/STEP	0,00208mm/step