MClimate T-Valve LoRaWAN®

User manual

Scan the QR Code to access MClimate T-Valve LoRaWAN® extended documentation

mclimate.eu/lorawan-resources

Bulgarian
За да разберете как се инсталира MClimate T-Valve LoRaWAN®, сканирайте QR кода или посетете линка до него.

Czech
Chcete-li zjistit, jak nainstalovat MClimate T-Valve LoRaWAN®, prohlédněte si kód QR nebo navštivte odkaz vedle něj.

Finnish
Tutustu MClimate T-Valve LoRaWAN®-laitteen asentamiseen, skannaa QR-koodi tai vierailla sen vieressä olevassa linkissä.

Danish
For at finde ud af, hvordan du installerer MClimate T-Valve LoRaWAN®, scan QR-koden eller besøg linket ud for det.

Italian
Per installare MClimate T-Valve LoRaWAN® scannerizzare il codice QR oppure aprire il link al suo lato.

German
Um herauszufinden, wie man MClimate T-Valve LoRaWAN® installiert, scannen Sie den QR-Code oder besuchen Sie den Link daneben.

Latvian
Lai uzzinātu, kā instalēt MClimate T-Valve LoRaWAN®, skenēt QR kodu vai apmeklējiet saiti blakus tai.

Spanish
Para saber cómo instalar MClimate T-Valve LoRaWAN®, escanee el código QR o visite el enlace al lado.

Dutch
Om te weten te komen hoe u MClimate T-Valve LoRaWAN® installeert, scan de QR-code of bezoek de link ernaast.

Hungarian
A MClimate T-Valve LoRaWAN® telepítésének kiderítéséhez keresse meg a QR-kódot, vagy keresse fel a mellette található linket.

Irish
Chun a fháil amach conas a shuiteáil MClimate T-Valve LoRaWAN®, scanadh an cód QR nó tabhair cuairt ar an nasc in aice leis é.

French
Pour savoir comment installer MClimate T-Valve LoRaWAN®, scannez le code QR ou visitez le lien à côté de celui-ci.

Estonian
Et teada saada, kuidas installida MClimate T-Valve LoRaWAN®, QR-koodi või külastada linki kõrval.

Swedish
För att ta reda på hur du installerar MClimate T-Valve LoRaWAN®, skanna QR-koden eller besök länken bredvid den.

Portuguese
Para saber como instalar MClimate T-Valve LoRaWAN®, digitalize o código QR ou visite o link ao lado dele.

Maltese
Biex issir taf kif jinstallaw MClimate T-Valve LoRaWAN®, skennjati l-kodiċi QR jew żur il-link li jmiss lilu.

Romanian
Pentru a afla cum să instalați MClimate T-Valve LoRaWAN®, scanați codul QR sau accesați link-ul de lângă acesta.

Slovak
Ak chcete zistiť, ako nainštalovať MClimate T-Valve LoRaWAN®, skenujte kód QR alebo navštívte odkaz vedľa nej.

Russian
Чтобы узнать, как установить MClimate T-Valve LoRaWAN®, отсканируйте QR-код или перейдите по ссылке, расположенной рядом с ним.

Lithuanian
Norėdami sužinoti, kaip įdiegti MClimate T-Valve LoRaWAN®, nuskaitykite QR kodą arba apsilankykite nuorodą šalia jo.

Polish
Aby dowiedzieć się, jak zainstalować MClimate T-Valve LoRaWAN®, zeskanuj kod QR lub odwiedź link obok niego.

Greek
Για να μάθετε πως να εγκαταστήσετε τον MClimate T-Valve LoRaWAN®, σκανάρετε τον QR κωδικό ή επισκεφτείτε τον σύνδεσμο δίπλα του.

Need some help?

For more product information and issues related to it, visit:
mclimate.eu/lorawan-resources
or write us to:
lorawan-support@mclimate.eu

00359 800 3 1010
Monday-Friday 09:00 - 18:00

Sofia, Bulgaria
Aleksandar Malinov Boulevard 31, Campus X, Building 2, floor 1, office 1-2

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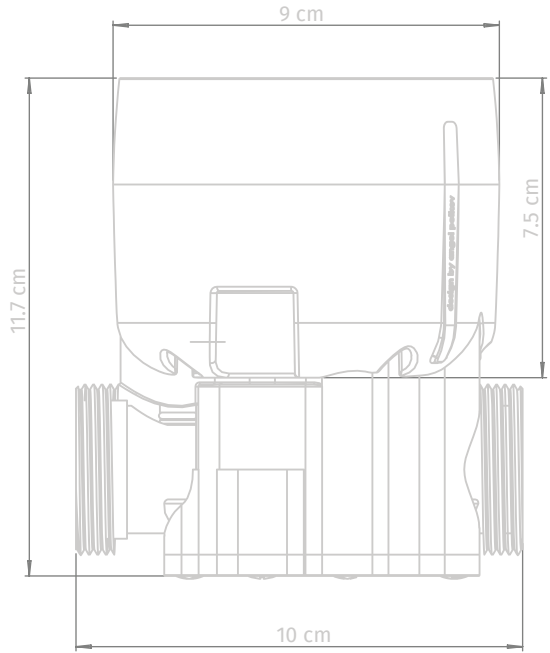
What's inside the box?



MClimate T-Valve LoRaWAN

Technical specifications

T-Valve is a smart LoRaWAN® water valve used in residential or commercial buildings. 3/4" and 1"1/4 versions available, certified for Drinking Water. It has 10 years of battery life calculated with daily on/offs. It also measures water and environment temperature. It has multiple tamper protection mechanisms - tracking magnetic interference and if the device is being physically abused. Optionally a wired flood sensor and external power supply can be installed. T-Valve gives you the opportunity to stop potential water damage from happening, by being able to control the main water supply in your property from a distance. No more floods and damages.

Description: Smart LoRaWAN® water valve
Model: MC-LW-T-VALVE-01
Dimensions: 105 x 117 x 98mm
Weight: 600gr
Frequency range: 863÷870MHz
LoRaWAN® Device type: Class A End-device
Power supply: built-in battery: LiSOCl2 ER26500 3.6V 9000mAh
External power supply: 9VDC
Sensors: 1xWater Temperature Sensor, 1xAmbient Temperature sensor, 1xMagnetic field sensor, 1xWired flood sensor (optional)
Work temperature: 0°C to +60°C
IP protection: IP68
Material: PC/ABS; Valve PPE/PS

Environmental conditions, in which the device is intended to operate:
- Indoor using;
- for altitude up to 2000m;
- for an ambient temperature:0°C to +60°C;
- for maximum relative humidity of 80% for temperature up to 31°C, decreasing linearly to 25% relative humidity at temperature 50°C;
- for environment with a degree of contamination 2 (PD2).

Storage and transportation conditions:
- for an ambient temperature :-40°C to +85°C;
- for relative humidity 5% to 90% without condensation

Manufacturer
Melissa Climate Jsc
Gen. Gurko 4 street
1000 Sofia,Bulgaria

⚠Safety Instructions

Failure to follow the recommended instructions in this manual may be dangerous or be in violation of the law. The manufacturer Melissa Climate Plc., Is not responsible for any loss or damage caused by failure to follow the instructions in the operating instructions. The installation and connection of the device to the power supply must be carried out in accordance with the national electrical installation legislation.

Legal Notices

All information, including but not limited to, features, functionality, and / or other product specifications are subject to change without notice. MClimate retains all rights to review or update its products, software or documentation without being required to notify any natural or legal person.

The MClimate and MClimate logo are trademarks of Melissa Climate Jsc. All other brands and product names mentioned herein are trademarks of their respective owners.

EU Declaration of Conformity
This device complies with the essential requirements and other applicable provisions of the following EU directives:

2014/53/EC
EN 50491-3:2009
EEU 300 220-1 V3.1.1:2017
EEU 300 220-2 V3.1.1:2017
EN 60950-1:2006+A11:2009 +A1:2010+A12:2011+ A2:2013 + AC:2015
EN 301 489-1 V2.1.1:2017

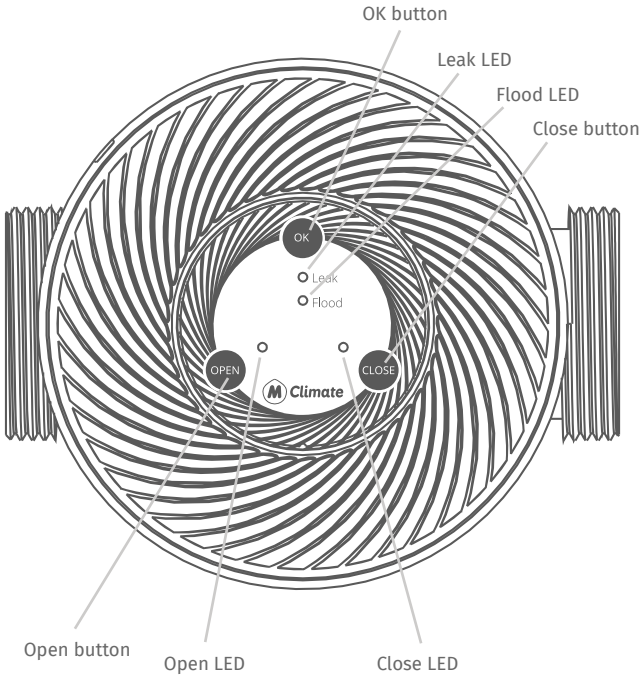
Compliance with the WEEE Directive
The appliance marked with this symbol should not be disposed of with other household waste. It must be handed over to the relevant collection point for the recycling of waste electrical and electronic equipment.

Compatibility

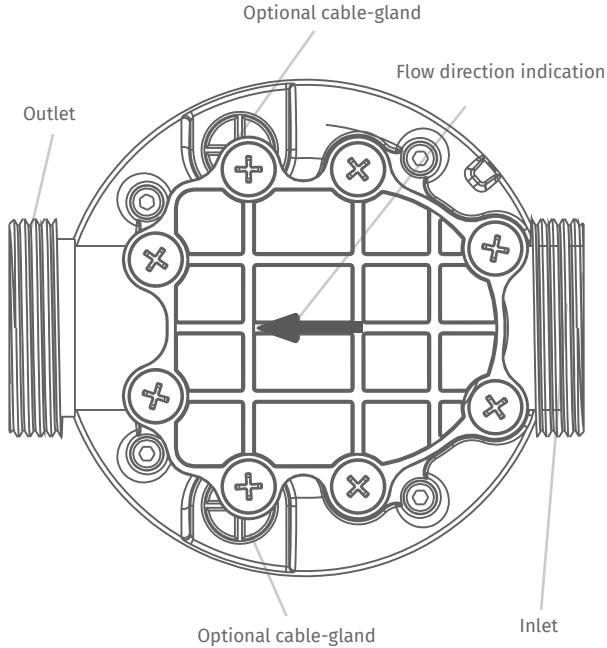
In order to operate MCllimate T-Valve LoRaWAN®, you will need:
LoRaWAN® network

Battery type: built-in battery: LiSOCl2 ER26500 3.6V 9000mAh
Device operating voltage: 2.7 - 3.6VDC

Device parts



Device, top



Device, bottom

Commissioning

1 Open your LoRaWAN® Network provider access panel and add the device using the supplied Serial Number, DevEUI, AppEUI (JoinEUI) and AppKey.

Device ID: 9X7621HS

DevEUI: 70B3D25DD30009E1

AppEUI: 70B3D25DD3000000

AppKey: a0658dfae72131saf1249abc11

Register

The data is example. Do not use.

2 Continue the Installation with the instructions of your LoRaWAN® Network provider.

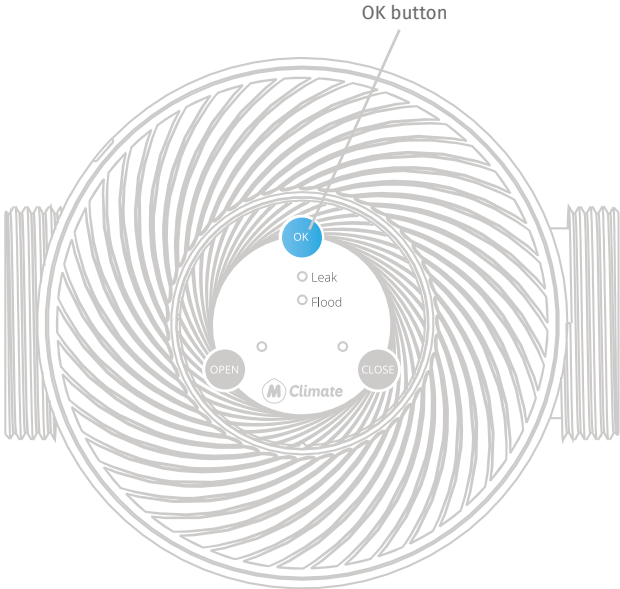
MClimate_LoRaWAN_51177

Serial Number	DevEui	AppEui	AppKey
G[redacted]	70[redacted]	70B3[redacted]	5fc31[redacted]

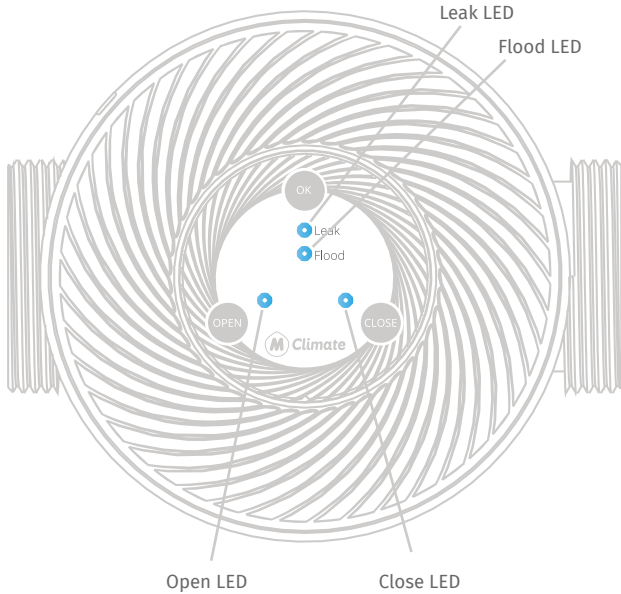
You can get DevEUI, AppEUI (JoinEUI) & AppKey information from the LoRaWAN® credentials .csv file we sent you with the fulfillment confirmation.

Commissioning

3 Out of the factory, T-Valve comes in deep-sleep mode and it has to be initially activated in order to start normal operation. In deep-sleep mode the device is not transmitting or receiving any data in order to preserve the battery before being installed. In order to activate T-Valve, press the OK button 5 times quickly.



4 If T-Valve is NOT connected to a network, when one presses the OK button, an alternating animation of the Flood, Leak, CLOSE & OPEN LEDs will be shown. Once the device has received Join Accept from the LoRaWAN® Network, it will not show the above-described animation. Instead, if one presses the OK button, the LED of the corresponding valve state will be activated shortly - e.g. OPEN LED or CLOSE LED.

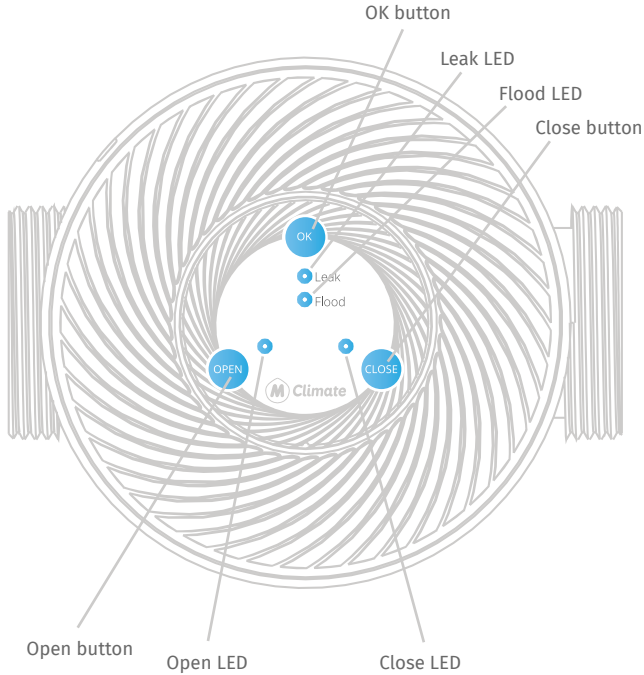


LEDs and behaviour

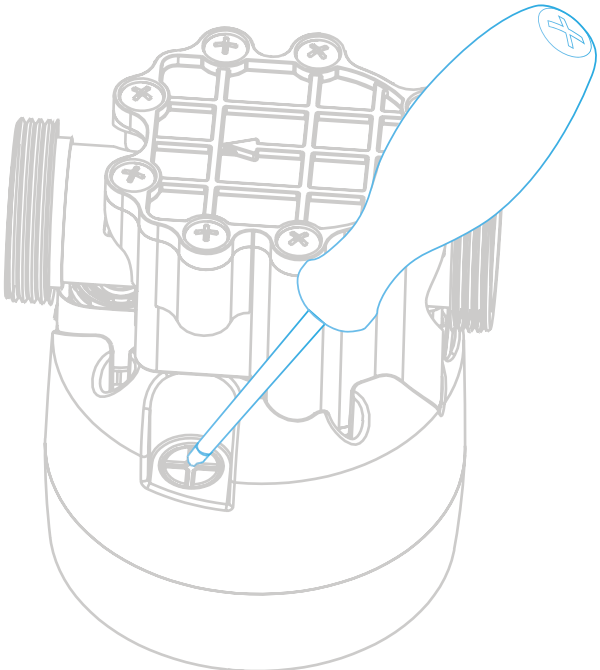
On the side, you can see an illustration of T-Valve's LEDs and buttons. The LEDs have the following purpose:

#	Name	Purpose
1	OPEN	Activates when one presses the OPEN button or the OK button and the valve is currently open.
2	CLOSE	Activates when one presses the CLOSE button or the OK button and the valve is currently closed.
3	Leak	Activated through a downlink command indicating the customer there's a small leakage detected in the system. T-Valve DOES NOT detect small leakages itself.
4	Flood	Activated in case a wired flood sensor is installed and a flood is detected.

Warning: Opening and closing the valve uses a lot of current. If you press the buttons OPEN and CLOSE fast consecutively, T-Valve may indicate that there's not enough to perform the desired action. Inside, a large capacitor is charged, which takes approx 1s to recharge. If you try to OPEN or CLOSE the T-Valve and this capacitor is not yet fully charged, the OPEN or CLOSE LED will blink 3 times.

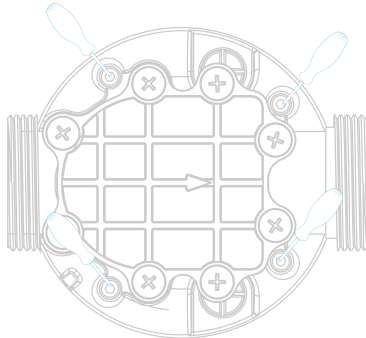


Optional installation of external accessories



T-Valve offers optional installation of a wired flood sensor, which can close the water supply immediately after sensing a flood. T-Valve also offers optional external power supply installation. The power supply DOES NOT charge the battery inside T-Valve. In order to install an accessory, you will need an appropriately IP-rated cable-gland, which can be supplied by MClimate.

In order to install a cable-gland, one has to first press with a screw-driver the openings on the bottom of T-Valve and remove the excess plastic. Whichever cut-hole can be used for the installation of the cable-gland. If required, two cable-glands can be used.

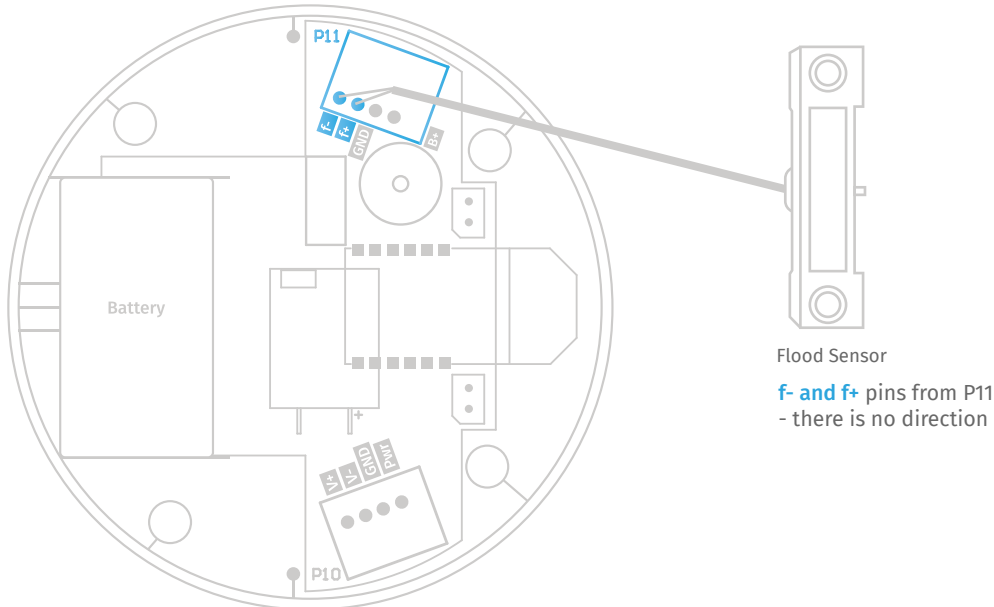


In order to install the cable-gland, one must disassemble the device using the four Phillips screws. If the device is connected to a network, the anti-tamper protection will be activated and the device will signal in the uplink that the device is opened.

Optional installation of external accessories

a.Installation of a wired flood sensor

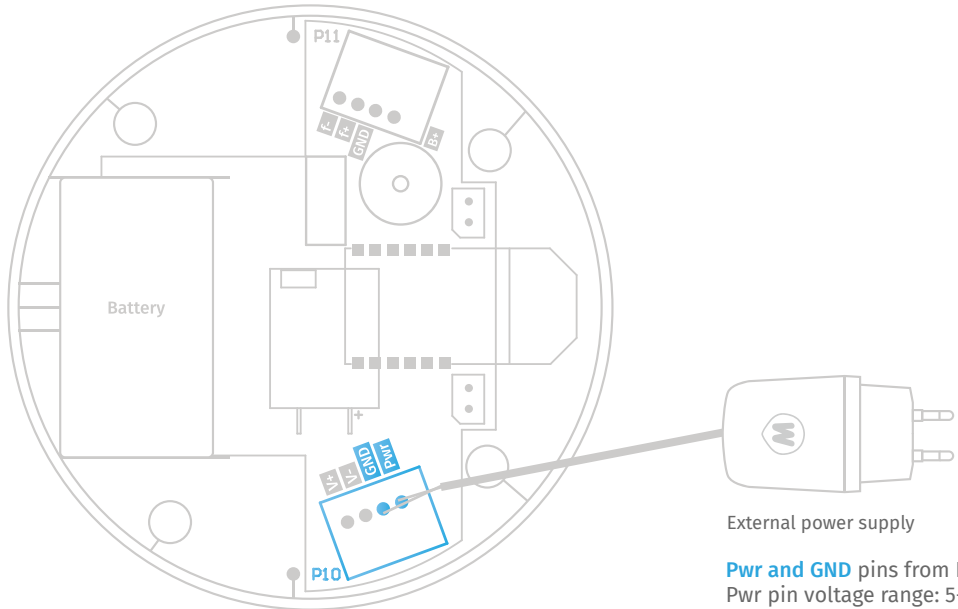
The wired flood sensor can detect whether a cable is broken or cut. Feed the connector through the cable-gland and install it on T-Valve PCB as described in the picture below.



Optional installation of external accessories

a.Installation of external power supply

The external power supply is also fed through a cable-gland and installed on the T-Valve PCB according to the picture below.



External power supply

Pwr and GND pins from P10 connector.
Pwr pin voltage range: 5-9Vdc

MClimate

www.mclimate.eu

Designed & Manufactured by MClimate in Europe.