



Description

T-Valve is a LoRaWAN water valve used in residential or commercial buildings. 3/4" and 1" versions available.

SKU: MC-LW-T-VALVE-01

Product features

- 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

Applications

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

Device specifications

Mechanical specifications

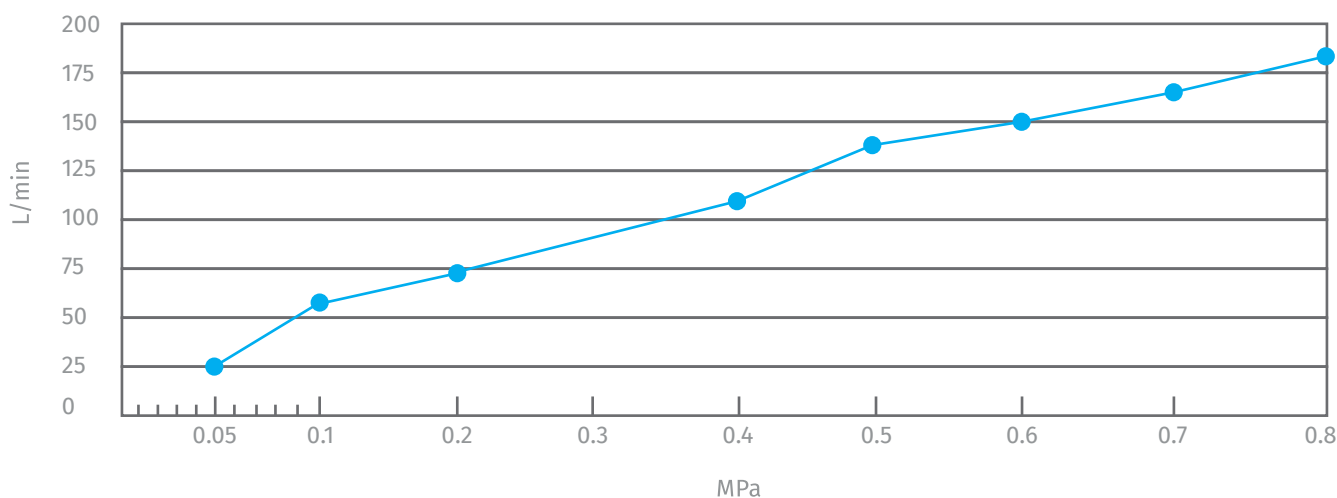
WEIGHT	550gr
DIMENSIONS	105x117x90,8mm
ENCLOSURE	PC/ABS; Valve PPE/PS

Valve Specifications

VALVE TYPE	Solenoid valve
FITTINGS SIZES	DN20 or DN25
OPERATING PRESSURE	5-8 bar
MEDIA TEMPERATURE	1-75°C
VALVE RESPOND TIME	open ≤ 0.15s; close ≤ 2s

PRESSURE/FLOWRATE RATIO

Pressure (MPa)	0,05	0,1	0,2	0,4	0,5	0,6	0,7	0,8	
Flowrate (L/min)	25	55	72	115	135	150	165	180	



Performance test

HIGH WATER PRESSURE CLOSING	At water pressure 0,8MPa, solenoid valve can be closed normally
LOW WATER PRESSURE CLOSING	At water pressure 0,05MPa solenoid valve can be closed manually
LEAKAGE UPON HIGH WATER	1,2Mpa zero leakage
LEAKAGE UPON LOW WATER	0,05MPa ≤ 0,1mL/min
SEALING TEST (STATIC PRESSURE)	

COLD WATER

High pressure 1,2MPa

Low pressure 0,02MPa

HOT WATER

High pressure 0,8MPa

Low pressure 0,02MPa

Service life ≥ 1,000,000 cycles

Operating conditions

TEMPERATURE	0-60°C
HUMIDITY	35%-90% RH (non-condensing)
PERMISSIBLE LIMITING WATER	≤ 1,2MPa

Storage conditions

STORAGE TEMPERATURE	-5-+80°C (no freezing state)
STORAGE HUMIDITY	25%-95% RH (non-condensing)

Operating conditions

TEMPERATURE	0-60°C
HUMIDITY	35%-90% RH (non-condensing)

BATTERY TYPE	LiSOCl2 ER26500 3.6V 9000mAh (included in the device)
OPERATING VOLTAGE	3.6VDC
EXPECTED BATTERY LIFE	Up to 10 years (depending on configuration and environment)
EXTERNAL POWER SUPPLY	Optional

WIRELESS TECHNOLOGY	LoRaWAN® 1.0.1
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

CE	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

DRINKING WATER CERTIFICATION	ACS KTW NSF/ANSI/CAN NSF/ANSI USA California Health and Safety Code 11687 USA S.3874 — 111th Congress (2009-2010)	CARSO - L. S. E. H. L. File reference 17 ACC LY 591 61-2018, Drinking water system components - Health Effects 372-2016, Drinking water system component - Lead content Reduction of Lead in Drinking Water Act Reduction of Lead in Drinking Water Act
---------------------------------	--	---

UPLINK/DOWNLINK AVAILABLE REQUESTS		
Open/Close Valve		
Reduced access mode configuration		E.g. open the valve for 10 minutes every 50 minutes
Temperature water		
Temperature environment		
Configure keepalive period		
Enable/Disable flood sensor		
Request full device information in next transmission		
Flood detection status		
Flood detection wire status (functional or cut/broken)		
Box tampering status		
Magnetic tampering status		
Hardware/Firmware version		
Battery voltage		
LEDs control		Configurable modes and duration
Buzzer control		Configurable modes and duration

Sensors

Temperature

RESOLUTION	0,1° C
ACCURACY	±1° C

Wired flood sensor

FEATURES	Two-wire connection Short-circuit detection Missing sensor detection
----------	--

Magnetic tampering sensor

Plastic enclosure open/close sensor