



TYPE LXSY-TW(VALUE/WITHOUT VALVE) IoT Intelligent water meter

LORAWAN CAT1

Product Selection Table

Model	On-off	LoRaWAN	CAT1
Functional version	K	LR+frequency band	CAT
IoT Intelligent water meter	○	○	○

○ is Optional Features

Product Overview

LoRaWAN IoT water meter is composed of water meter base meter, electric ball valve (valve control), magnetoresistive sensor, MCU, wireless communication module, control circuit and other components. Mechanical and electrical separation structure design. High capacity lithium sub battery pack is used for power supply. It provides long-term stable energy guarantee for data acquisition, valve control and wireless data transmission. LoRaWAN wireless communication module is adopted. Through the spread spectrum communication technology, the user water data is actively uploaded (once a day by default) to the LoRa WAN gateway. The gateway will upload to the system data service center through LTE 4G network or Ethernet. The system has the advantages of long communication distance, large capacity, fast and convenient installation, long service life, etc.

This water meter is of dry structure. The dry water meter is isolated from the measured water due to its counting mechanism. Therefore, it is not affected by the suspended impurities in the water to ensure the normal operation of the counting mechanism and the clear reading. At the same time, it will not, like the wet water meter, affect the reading of the water meter due to the fog or condensation under the glass caused by the temperature difference between inside and outside the meter.

Functions and Features

1. Split structure: The electronic unit is independent from the base table.
2. Accurate measurement: non-contact full-electronic detection logic is adopted. The metering accuracy is 10 liters.
3. It has the functions of touching the key to wake it up and long press key to go online and transmit data remotely.
4. It has infrared communication interface. Relevant parameters can be read and set.
5. It has alarm functions: Abnormal state battery voltage and valve, continuous small and large flow, metering module failure, etc.
6. Timed collection and upload function: Collect data timed. Auto upload data at the set time point (once a day by default). Meanwhile, it can receive and execute instructions from the platform.
7. Auto switching of reporting mode: When the on-site signal is abnormal, it will auto switch to monthly mode. While it's recovered, it will auto resume the daily mode.
8. LP design: 3.6V lithium sub-battery pack (ER26500+HPC1520) is adopted. Sleep current is less than 10uA.
9. Clock calibration function: Auto time calibration and platform remote time calibration after the water meter is online.

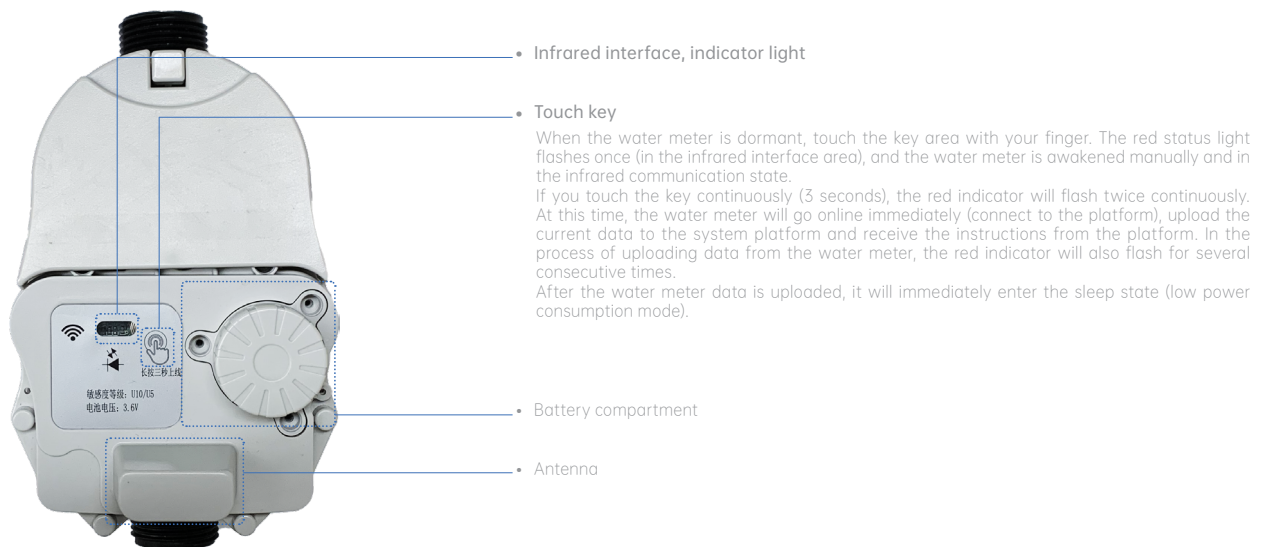
Technical Parameters

Nominal caliber (mm)	15	20	25
Overload flow $Q_4(m^3/h)$	3.1	5.0	7.8
Commonly used flow $Q_3(m^3/h)$	2.5	4.0	6.3

Specific parameters	Cold water meter	Hot water meter
$R=Q_3/Q_1$	100 (Dry Type)	
Range ratio	$Q_2/Q_1=1.6$ $Q_4/Q_3=1.25$	
Pressure loss level	$\Delta p \leq 0.063\text{MPa}$	
Maximum allowable water pressure	$\leq 1.2\text{MPa}$	
temperature grade	T30	T90
Flow characteristics	Comply with GB/T 778.1~3-2007 standard, accuracy Class: Class 2	
Maximum allowable error	high area ($Q_2 \leq Q \leq Q_4$) is $\pm 2\%$, the low area ($Q_1 \leq Q < Q_2$) is $\pm 5\%$	
Water meter type	Electronic remote transmission water meter with electronic device	
design criteria	CJT224-2012 Electronic Remote Water ter	
Communication mode	LoRaWAN:CN470,RU864,IN865,EU868,US/AU915,KR920,AS923_1/2/3/4,Custom Channels	
quiescent current	$< 10\mu\text{A}$	
Communication current	Data collection and generating currents $< 50\text{mA}$, and peak current $< 100\text{mA}$	
work environment	$0 \sim +45^\circ\text{C}$ (cold water), $0 \sim 95\% \text{RH}$	$0 \sim +90^\circ\text{C}$ (hot water), $0 \sim 95\% \text{RH}$
working voltage	$2.7 \sim 3.6 \text{ V}$	
operative norm	GB/T 778-2018	

Display Description

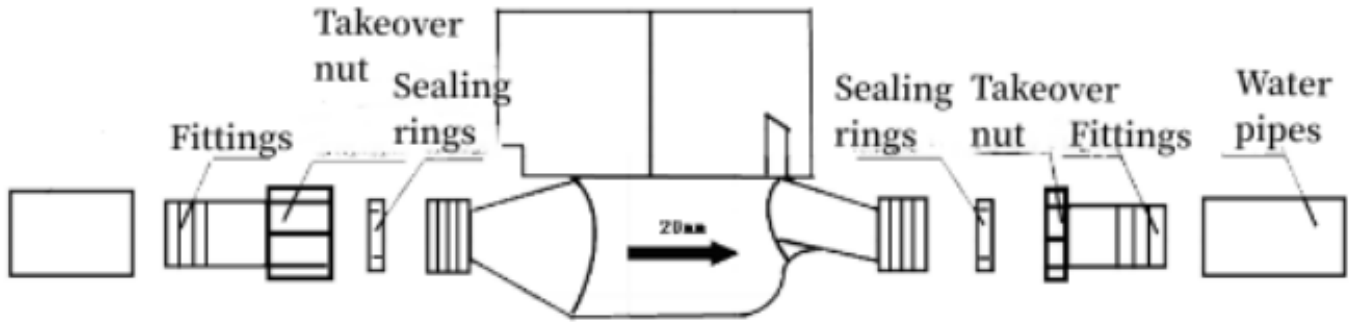
Under normal conditions, the water meter will automatically go online once a day (settable). Upload the water meter data to the system platform through wireless communication. At the same time, receive and execute the relevant instructions of the system platform (parameter setting, valve control, etc.).



In order to prevent malicious people from triggering the water meter online for many times (loss of battery power). We have specifically set the time interval (5 minutes) between keys triggering the launch, that is, the time interval between two consecutive launches must be greater than 5 minutes. At the same time, it stipulates that the number of times that a key is pressed to trigger the launch cannot be greater than 8 times per day (the launch command of infrared communication setting is not affected by this number of times).

When the water meter is closed, press the trigger button for 3 seconds for the first time every month. The water meter valve will be opened, and 3m^3 water can be used for overdraft. When the overdraft is 3m^3 is used up, the water meter will automatically close the valve.

Overall dimension (unit: mm)



Model	Nominal diameter	L(mm)	B(mm)	H(mm)	Junction pipe	Nut
LXSY-15	15	165	90	106	R1/2	G3/4
LXSY-20	20	195	90	108	R3/4	G1
LXSY-25	25	225	96	130	R1	G1 1/4

Large diameter model	Nominal diameter (mm)	L (mm)	Flange connections are in accordance with GB/T 17241.6-2008		
			Flange outer diameter D(mm)	Bolt hole center circle diameter D1(mm)	Number of bolts on one side and hole diameter
LXSY-50	50	200	165	125	4-Ø19

Precautions

1. Water meters should be checked frequently to prevent water meter leakage accidents;
2. In winter, it is necessary to prevent the water meter from freezing and bursting. Installing insulation measures to the water meter when necessary;
3. When the home is not occupied for a long time, should close the valve in front of the table to prevent water leakage accidents;
4. Water meter is a measuring product and shall not be destroyed. Destroying water meter is an illegal action.

