
OIML Member State SLOVAKIA	OIML Certificate No. R49/2013-A-SK1-25.08
OIML CERTIFICATE ISSUED UNDER SCHEME A	
OIML Issuing Authority Name: Slovak Legal Metrology (SLM) Address: Geologická 9966/1, 821 06 Bratislava-Podunajské Biskupice, Slovakia Product Certification Body Hviezdoslavova 31 974 01 Banská Bystrica, Slovakia Person responsible: Ing. Dušan Šmigura, PhD., Director of PCB	
Applicant Name: Sanchuan Wisdom Technology Co., Ltd. Address: Sanchuan Hydraulic Industrial Park, Longgang Section, Hi-Tech Development Zone Yingtian, Jiangxi, P.R.China 335000	
Manufacturer Name: Sanchuan Wisdom Technology Co., Ltd. Address: Sanchuan Hydraulic Industrial Park, Longgang Section, Hi-Tech Development Zone Yingtian, Jiangxi, P.R.China 335000	
Identification of the certified type <i>(the detailed characteristics are defined in the additional pages)</i> Water meter type LXCY-15K, LXCY-20K, LXCY-25K or Q400	
Designation of the module <i>(if applicable)</i> Ultrasonic water meters with electronic indication device	
<p>This OIML Certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML type evaluation report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):</p> <p>OIML R 49, Edition (year): 2013 For accuracy class: 2</p>	

**OIML Certificate No.
R49/2013-A-SK1-25.08**

This OIML Certificate relates only to metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML Recommendation identified above.

This OIML Certificate does not bestow any form of legal international approval.

The conformity was established by the results of tests and examinations provided in the associated OIML type evaluation report:

No. 2025/ER014/SK1 dated 5th April 2025 that includes 16 pages.

The technical documentation relating to the identified type is contained in documentation file name: „Technical documentation file Sanchuan_LXCY...K_00“ dated 5th April 2025 that includes a sum of documents 58 pages.

OIML Certificate History

Revision No.	Date	Description of the modification
0	5 th April 2025	Certificate first issued

Identification, signature and stamp



The OIML Issuing Authority

Dušan Šmigura

Date: 5th April 2025

Important note: Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate is issued, partial quotation of the Certificate and of the associated OIML type evaluation report(s) is not permitted, although either may be reproduced in full.

1. Designation

The ultrasonic water meters type **LXCY-15K, LXCY-20K, LXCY-25K** or **Q400^{*)}** are designed to measure, memorise and display the volume of water passing through the measurement transducer at metering conditions. The water meters are intended for the measurement of volume of clean water in residential, commercial and light industrial use.

The water meters type **LXCY-15K, LXCY-20K, LXCY-25K / Q400** are compact ultrasonic water meter with electronic indication device. The measurement is based on ultrasonic bidirectional transit-time principle. The water meter type **LXCY-15K, LXCY-20K, LXCY-25K / Q400** can be installed to operate in horizontal or vertical positions and is not designed to measure the reverse flow.

Note: ^{)} name Q400 is for Sanchuan's customer*

2. Description

2.1 Parts of the water meters type LXCY-15K, LXCY-20K, LXCY-25K / Q400

Essential parts of the water meter:

- Flow sensor:
 - the hydraulic stainless-steel body with inlet and outlet threaded connections;
 - the inner plastic tube placed in the body;
 - two mirrors set to create an ultrasound path in the flow meter body;
 - two ultrasonic transducers at the upstream and downstream of the measurement channel (pipe section) to transmit and receive ultrasonic signals.
- Calculator and indication device:
 - the plastic housing of the calculator with indication device mounted on the flow sensor;
 - the PCB board;
 - the electronic LCD display with 11 digits and indication range of 9999999.9999 m³;
The sub-multiples of a cubic meter after decimal point are marked on the LCD display with a frame;
 - one replaceable lithium battery, with a maximum lifetime of 10 years;
 - optical port for the display scrolling.

Non-essential parts of the water meters:

- the valve before and after the meter with motor;
- pressure sensor;
- temperature sensor;
- NB-IOT communication.

2.2 Metrological functions

- measuring, memorizing and displaying the volume of water passing through the water meter.



2.3 Operation and presentation of legal data

The LCD display in normal mode (H1):

- a) the total measured volume (0,0001 m³);
- b) flow rate (0,001 m³/h);
- c) water temperature (°C);
- d) water pressure (MPa);
- e) fault display (E 0000000);
- f) on line – wireless interfaces.

The LCD display in Testing mode (H4):

- a) the total measured volume (0,000001 m³);
- b) instantaneous flow rate (0,001 m³/h);
- c) water temperature (°C);
- d) water pressure (MPa);
- e) fault display (E 0000000);
- f) on line – wireless interfaces.

The LCD display include the following display screens:

- a) test display – all segments on;
- b) test display – all segments off;
- c) firmware version;
- d) checksum;
- e) battery end of life date - is visible on the plate.

2.4 Software specification

Software versions	Checksum	Remarks
V 10732.02	FF17FDD8 (CRC32)	-

The software version is indicated on the display in the form: U1 10732.02

The checksum is indicated on the display in the form: C FF 17Fdd8

2.5 Accountable alarms

During the measuring process the calculator and indication device detects automatically if a fault condition occurs and eventually stops the measurement reporting an alarm indication on the display. See user manual issued by the manufacturer.

2.6 Integrated equipment and functions

- NB-IOT communication.

Via the parts listed in the point 2.6 no legally relevant data shall be altered. Data transferred via these parts are not considered as a metrological relevant data.



3. Technical and metrological data

Type /model		LXCY-15K / Q400	LXCY-20K / Q400	LXCY-25K / Q400
Accuracy class	-	2		
Nominal diameter DN	mm	15	20	25
Permanent flowrate Q_3	m ³ /h	2,5	4	6,3
Minimum flowrate Q_1	m ³ /h	0,00625	0,01	0,01575
Transitional flowrate Q_2	m ³ /h	0,01	0,016	0,0252
Overload flowrate Q_4	m ³ /h	3,125	5	7,875
Ratio Q_3/Q_1	-	400		
Ratio Q_2/Q_1	-	1,6		
Connection thread	-	G ¾	G 1	G1 ¼
Construction length L	mm	165	190	260
Installation position	-	H/V		
Water temperature range	°C	0 to 50		
Meter temperature class	-	T50		
Maximum working pressure MAP	MPa	1,6		
Pressure loss class ΔP	-	40		
Maximum permissible error in upper flowrates range $Q_2 \leq Q \leq Q_4$	%	± 2 (at $\theta \leq 30^\circ\text{C}$) ± 3 (at $\theta > 30^\circ\text{C}$)		
Maximum permissible error in lower flowrates ranges $Q_1 \leq Q < Q_2$	%	± 5		
Scale interval	m ³	0,0001		
Scale interval in test mode	m ³	0,000001		
Capacity of calculator	m ³	9999999,9999		
Capacity of calculator in testing mode	m ³	99999,999999		
Mechanical class	-	M1		
Climatic class	°C	-25 to +55		
Electromagnetic class	-	E1		
Environmental classification	-	O		
Flow profile sensitivity class	-	U0D0		
Battery	-	li-battery 3,6 V, ($U_{\min}=3,2$ V, $U_{\max}=3,7$ V) maximum lifetime 10 years		

4. Marking and inscriptions

The following data shall be marked on the water meter:

- name or trademark of the manufacturer;
- type name of the water meter;
- unit of measurement m³;
- year of manufacture, the last two digits of the year of manufacture, or the month and year of manufacture;



- e) serial number (as near as possible to the indicating device);
- f) direction of flow, by means of an arrow (shown on both sides of the body or on one side only provided the direction of flow arrow is easily visible under all circumstances);
- g) flowrate Q_3 and ratio Q_3/Q_1 indicated as (R) followed by the ratio value;
- h) maximum admissible pressure (MAP);
- i) temperature class;
- j) pressure loss class (Δp);
- k) letter H, if the meter can only be operated in the horizontal position, letter V, if the meter can only be operated in the vertical position;
- l) the latest date by which the battery shall be replaced is visible on the plate;
- m) environmental classification (can be given on a document supplied separately);
- n) installation sensitivity class (where it differs from U0/D0);
- o) electromagnetic environmental class (can be given on a document supplied separately);
- p) type approval sign according to national regulations.

4.1 Designation of trademarks on the water meters

Manufacturer can use following trademarks on its water meters:



or



Honeywell

or

Honeywell

5. Security measures

The water meter shall be protected against unauthorised manipulation and opening by two seals securing the connection between upper and lower covers above the water meter. (Fig.: 2)

6. Figures



Fig 1: Illustrative views of the water meter type LXCY-15K

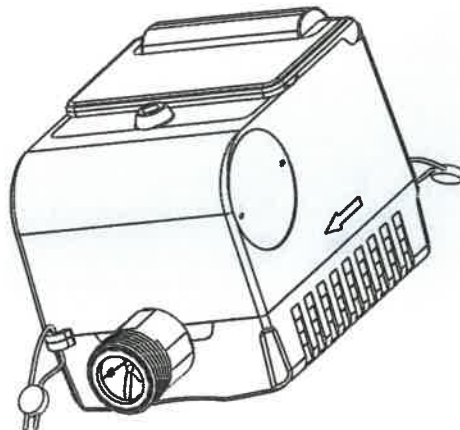
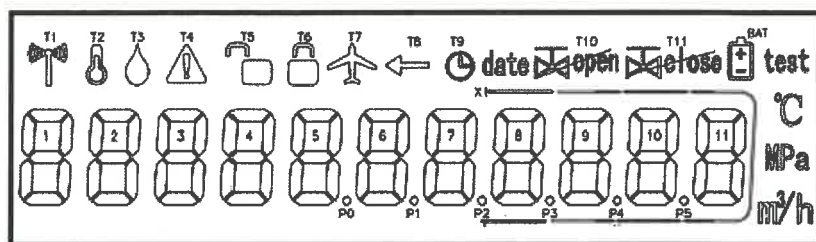


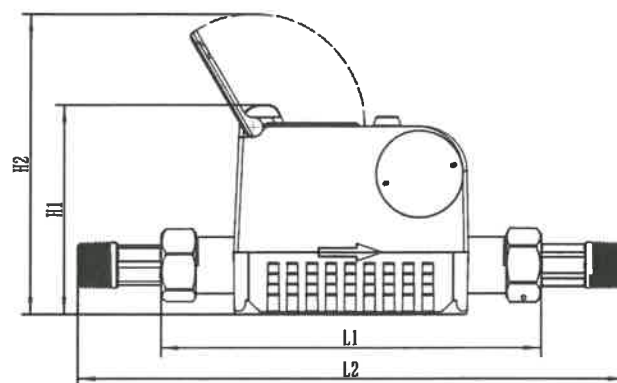
Fig. 2: Sealing of the water meter



Icon	indicates
T1	the current wireless communication status
T2	temperature
T3	the meter currently measured
T4	alarms
T5 / T6	unlock and lock
T7	flight mode is in hibernation state to save power and can work normally after activation
T8	the meter is in a reverse flow
T9	time
T10 / T11	valve open / valve close
BAT	battery is low
Test	water meter is in test mode

Fig. 3: Display icons - description





Type	DN size	L1 (mm)	L2 (mm)	H1 (mm)	H2 (mm)	thread (mm)
LXCY-15K / Q400	DN15	165	255	98	138	G ¾
LXCY-20K / Q400	DN20	190	290			G1
LXCY-25K / Q400	DN25	260	376			G1 ¼

Fig. 4: Dimensions of the water meters types LXCY-15K, LXCY-20K, LXCY-25K / Q400



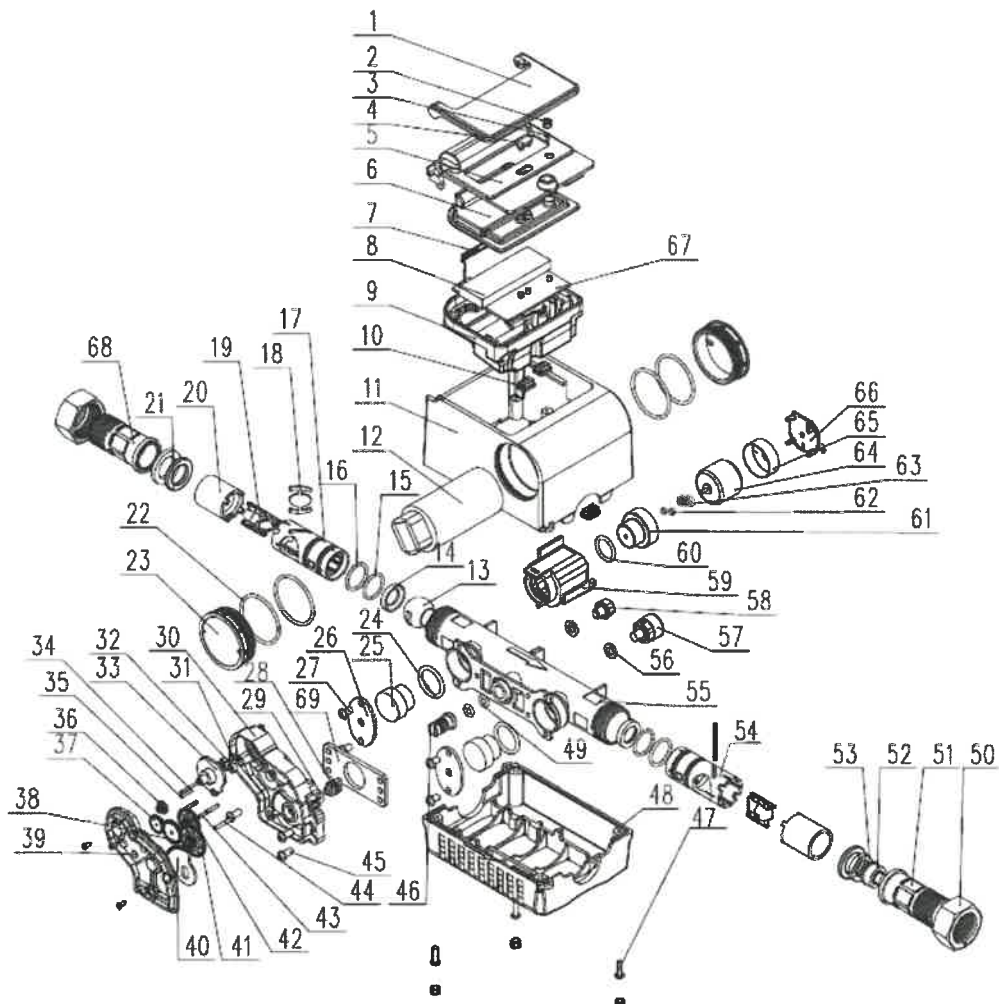


Fig. 5: Exploded view of water meter LXCY-15K

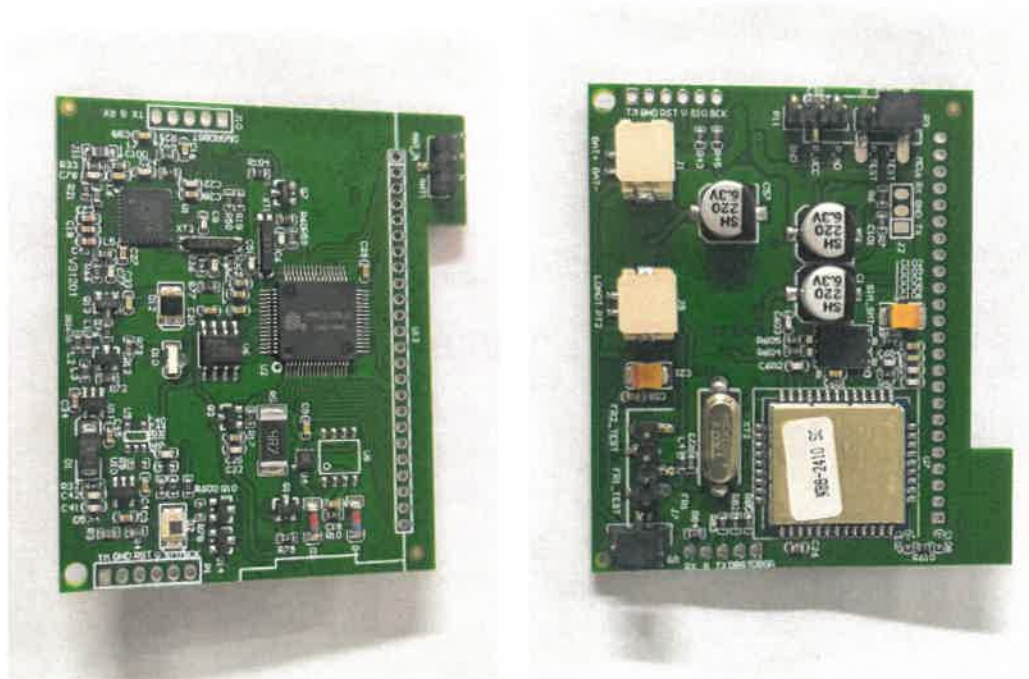


Fig. 6: PCB of water meter