



OIML Member State
SLOVAKIA

OIML Certificate No.
R49/2013-A-SK1-26.08

OIML CERTIFICATE ISSUED UNDER SCHEME A

OIML Issuing Authority

Name: **Slovak Legal Metrology (SLM)**
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Product Certification Body
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Person responsible: Dušan Šmígura, Director of PCB

Applicant

Name: **Hangzhou Laison Technology Co., Ltd.**
Address: No. 525 Xixi Road
310000 Hangzhou, Zhejiang,
China

Manufacturer

Name: **Hangzhou Laison Technology Co., Ltd.**
Address: No. 525 Xixi Road
310000 Hangzhou, Zhejiang,
China

Identification of the certified type (*the detailed characteristics are defined in the additional pages*)

Water meter type **LXCZ**

Designation of the module (*if applicable*)

Ultrasonic water meters with electronic indication device

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):

OIML R 49, Edition (year): 2013
For accuracy class: 2



**OIML Certificate No.
R49/2013-A-SK1-26.08**

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. 2026/ER017/SK1 dated 31st August 2026 that includes 16 pages.

The technical documentation relating to the identified type is contained in documentation file name: „Technical documentation file Hangzhou Laison_LXCZ_00_plastic“ dated 31st August 2026 that includes a sum of documents 88 pages.

OIML Certificate History

Revision No.	Date	Description of the modification
0	31 st August 2026	Certificate first issued

Identification, signature and stamp

The OIML Issuing Authority



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Dušan Šmigura

Date: 31st August 2026

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 meter type LXCZ (family DN15, DN20, DN25) is designed to measure, memorize and display the volume of water passing through the measurement transducers at metering conditions. The water meters are intended for the measurement of clean water volume in residential use.

The water meter LXCZ is residential compact ultrasonic water meter with electronic indication device. The measurement is based on ultrasonic bidirectional transit-time principle. The flow is measured by the double-pulse system with positive and negative pulses depending on the flow direction.

The water meter LXCZ can be installed to operate in horizontal position with display top and vertical position with flow up. The water meter is not designed to measure the reverse flow.

2. Description

Essential parts of the water meters LXCZ:

Water meter body:

- the plastic cylindrical body firmly connected together with the plastic housing for the calculator;
- the inner plastic elements (pipe support-down and pipe support-up) placed in the plastic body.

Flow sensor:

- two reflection sheets installed in the centre of the cylindrical plastic body (pipe section);
- 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 directly mounted on the flow sensor;
- two PCB boards:
 - the metering PCB board is the basic and core of the water meter remains unchanged;
 - the main PCB board handles service applications and information interacting with the outside
- the electronic scrolling LCD display with 9 digits and indication range of 999999,999 m³. Digits behind the decimal point are marked with white line above them which is printed on plastic housing;
- one replaceable lithium battery (U_{max}: 3,6 V; nominal capacity: 19 Ah, 10 years battery lifetime).

Non-essential parts of the water meter LXCZ:

- filter;
- control valve;
- strainer;
- wireless communication interfaces: IR – infrared communication, Bluetooth, WM-Bus, LoRa, LoRaWAN, NB-IoT Standard, GPRS, Cat.1 and Sigfox.

2.1 Metrological functions

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

2.2 Operation and presentation of legal data

The following options are available on the automatic scroll display:

- a) total measured volume (m³);
- b) flow rate (m³/h);
- c) water temperature (°C);
- d) legal software version;
- e) legal software checksum.

The following options are available in test mode (after entering short code 37 via remote controller):

- a) total consumption (L);
- b) flow rate (L/h).

2.3 Software specification

Legally relevant software version and checksum for water meter LXCZ plastic:

Software versions	Checksum	Remarks
LS456802	759d413A	Plastic body

The checksum and software version can be viewed by pressing "QUERY".

2.4 Accountable alarms

If a fault condition occurs and the measurement stops, follow the user manual issued by the manufacturer.

3. Technical and metrological data

Parameter	Unit	LXCZ		
Material of body	-	plastic		
Nominal diameter DN	mm	DN15	DN20	DN25
Permanent flowrate Q_3	m ³ /h	2,5	4,0	6,3
Minimum flowrate Q_1	m ³ /h	0,00625	0,010	0,01575
Transitional flowrate Q_2	m ³ /h	0,010	0,016	0,0252
Overload flowrate Q_4	m ³ /h	3,125	5,0	7,875
Ratio Q_3/Q_1	-	400	400	400
Ratio Q_2/Q_1	-	1,6	1,6	1,6
Connection thread	-	G $\frac{3}{4}$ B	G1 B	G1 $\frac{1}{4}$ B
Construction length L	mm	165	190	225
Installation orientation	-	H/V		
Water temperature range	°C	0,1 - 50		
Water temperature range class	-	T50		
Maximum admissible pressure (MAP)	bar	16		
Pressure loss	bar	0,63		
Pressure loss class Δp	-	Δp 63		
Ingress Protection (IP) rating	-	IP68		
Maximum permissible error in upper flowrates range $Q_2 \leq Q \leq Q_4$	%	$\pm 2\%$ (0,1 - 30°C) $\pm 3\%$ (30 - 50°C)		
Maximum permissible error in lower flowrates range $Q_1 \leq Q < Q_2$	%	$\pm 5\%$		
Scale range – normal precision	m ³	0,001		
Scale range – high precision	L	0,001		
Capacity of calculator – normal mode	m ³	999999,999		
Capacity of calculator – testing mode	L	999999,999		
Accuracy class	-	2		

Parameter	Unit	LXCZ
Material of body	-	plastic
Mechanical class	-	M1
Environmental class	-	O
Electromagnetic class	-	E2
Climatic class	°C	-25 to +55
Flow profile sensitivity class	-	U0D0
Battery	-	one replaceable lithium battery life time 10 years (Umin=3,2 V, Umax=3,6 V)

4. Marking and inscriptions

The following data shall be marked on the water meter:

- a) unit of measurement (m^3);
- b) flowrate Q_3 and ratio Q_3/Q_1 (R);
- c) type of water meter;
- d) manufacturers name or trademark;
- e) year of manufacture or the month and year of manufacture;
- f) serial number;
- g) the flow direction shall be marked on a water meter's body in form of an arrow;
- h) maximum admissible pressure (MAP);
- i) temperature class (T);
- j) pressure loss class (Δp);
- k) H/V – water meter can operate in the horizontal and vertical position;
- l) the latest date by which the battery shall be replaced;
- m) environmental classification (can be given on a document supplied separately);
- n) electromagnetic environmental class (can be given on a document supplied separately);
- o) type approval sign according to national regulations.

Manufacturer uses the following trademark on the water meter:



5. Security measures

The water meters LXCZ shall be protected against unauthorized manipulation and opening (Fig. 3) by:

- 1) Potting the groove with two-component polyurethane glue – groove around PCB is potted with two-component polyurethane glue, which completely covers the electronic part, and is fully sealed with an upper transparent shell, so that the electronic module has high sealing, waterproof, dustproof and antistatic performance. Meanwhile, it can effectively isolate external damage and modification of electronic devices.
- 2) Sealing plugs and two lead seals – the water meter has left and right separate casings fixed by screws. Sealing plugs are inserted into the screw holes. Meanwhile, two lead seals ensure the connection of the

left and right shells, preventing access to the PCB and software and ensuring that the meter is complete and in the same state as it left the factory.

- 3) Electronic sealing – User STS Protocol.

Figures



Fig. 1a: Illustrative views of water meter type LXCZ



1 – POWER BUTTON – to activate the infrared communication between water meter and remote controller.

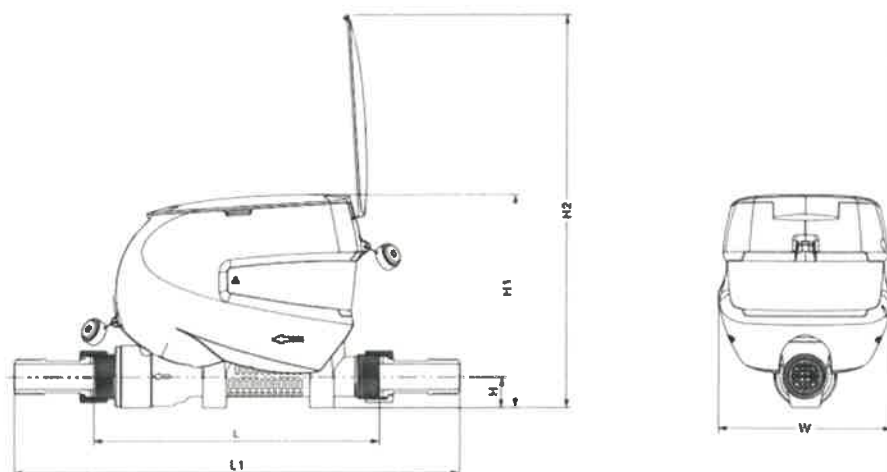
2 – NUMBER BUTTON – to enter short codes

3 – BACKSPACE BUTTON – to delete numbers

4 – ENTER – to confirm short codes (tokens)

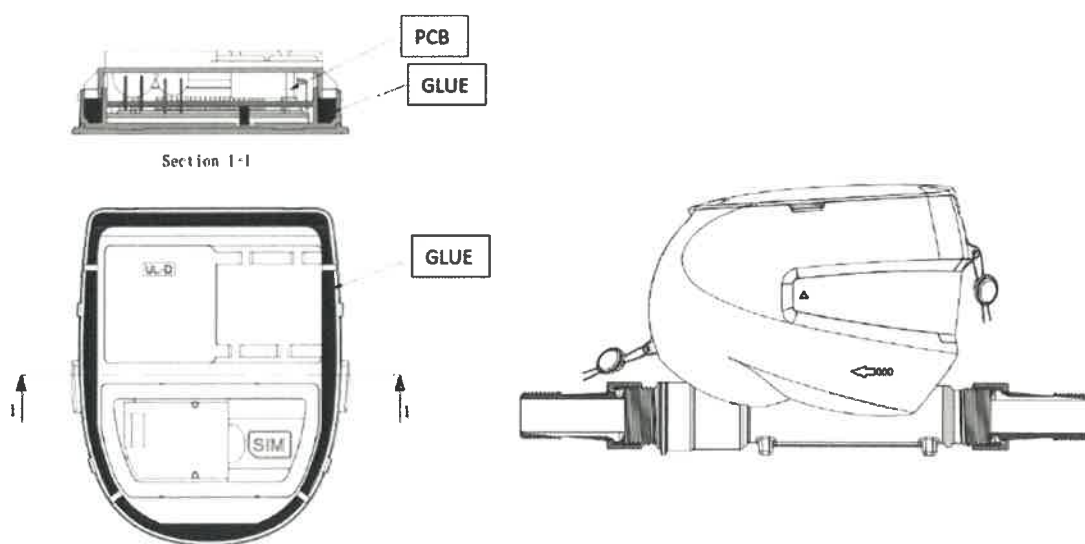
Fig. 1b: Remote controller for communication with water meter LXCZ





DN	L1(mm)	L1(max)	H1(mm)	H2(mm)	H2(max)	W(mm)	Meter Thread	Pipe Thread
15	165	255	18.0	124	231	100	G1/2"	R1/4"
20	190	290	20.0	126	233	100	G1/2"	R1/4"
25	225	345	21.0	127.5	234.5	100	G1/2"	R1"

Fig. 2: Dimensions of water meters LXCZ



Potting the groove with glue

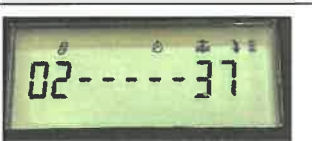
Two lead seals

Fig. 3: Sealing of water meter LXCZ



LCD display symbols	
	
Symbol	Meaning
	Remote communication
	Short-range communication
	Warning (error) message occur in meter
	Water leakage
	Burst pipe
	Empty pipe
	Valve close status
	Valve open status
	Water flow direction
	Remaining battery capacity
V	Voltage unit, V
kPa	Water pressure, kPa
L	Volume unit, L
°C	Water temperature
k\$	Amount, ×1000\$
m³	Volume unit m³
h	Time unit, Hour
m³/h	Flow rate
\$/m³	Water tariff

Fig. 4: LCD display symbols of water meter LXCZ

No.	Picture of position on display	main screen/ Sub-screen	Description	Unit	Mode
1		LCD full display			
2		LCD blank display			
3		XXXXXXX.X XX TOTAL USE	Total consumption	m ³	User
4		XXXXXXX.X XX	Flowrate	m ³ /h	User
5		xx.xxx 2+3 digitals	Temperature	°C	User
6		LSXXXXXX X LS+6 digitals	Software version number		
7		XXXXXXXX X 8 digitals	CRC checksum		
8		EC06	Empty pipe		
9		00-----	Infrared woke up		
10		02----XX	Enter short code 37 to enter test mode		
1		CAL IN	Enter the test mode		



2		XXXXXX.X XX TOTAL USE	Total consumption	L	test
3		XXXXXX.X XX	Flowrate	L/h	test
4		02----XX	Enter short code 38 to exit the test mode		
5		CAL OUT	Exit test mode		

Fig. 5: Scrolling options of electronic LCD display in water meter LXCZ

