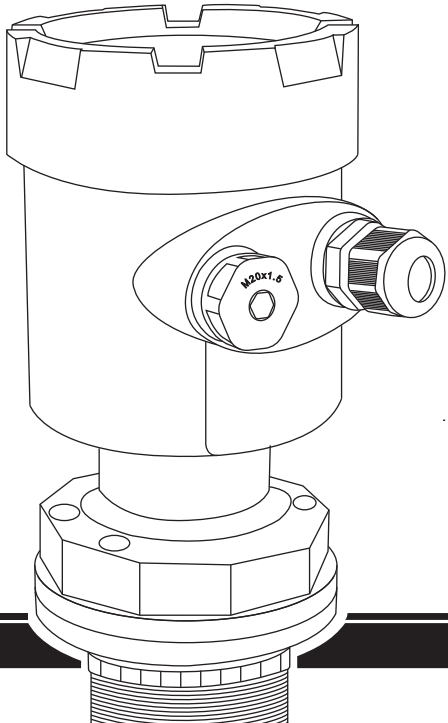
sisco

LEVEL METER




Independent research and development

Convenient operation

High-precision chip


Stable data


Waterproof and moisture-proof

Instruction manual

Foreword

- Thank you for purchasing our products.
- This manual is about the product's various functions, wiring methods, setting methods, operation methods, troubleshooting methods and so on.
- Please read this manual carefully before operation and use the product correctly to avoid unnecessary losses due to incorrect operation.
- After you have read it, please keep it in a place where it can be easily accessed at any time for reference during operation.

Note

- The contents of this manual are subject to change without notice due to functional upgrades.
- We endeavour to ensure that the contents of this manual are correct, but if you find any errors, please contact us.
- Reproduction or duplication of the contents of this manual is strictly prohibited.

Releases First edition July 2024

Packing List

1、	level meter	1 unit
2、	Instruction manual	1 copy
3、	Certificate of Conformity	1 copy

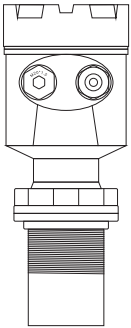
1:Product Description

The microwave transmitter and receiver are mounted above the liquid level, transmitting to the liquid level after the frequency level meter using synchronous frequency modulation pulse technology. The microwave signals are rate modulated. There is a time delay between the transmitted and received microwave signals, and the resulting signal difference is proportional to the distance between the transmitter and the liquid surface. The difference in frequency of the signal is proportional to the distance between the transmitter and the liquid surface. The maximum range of the product can be up to 20m, the area is less than 20cm, with high precision, small area, anti-interference ability
It has the unique advantages of high precision, small area and strong anti-interference ability.

2 :Technical parameters

Communication category	4-20mA/RS485	Range	0-20m(adjustable)
Measurement accuracy	±2mm	Operating humidity	0-95 %
Medium temperature	-20-75°C	Measurement blindness	0-20cm
Measurement Resolution	Measurement range x 0.005%	Working Voltage	DC24V/AC220V
Antenna beam angle	9°	Linkage output method	Relay output
Protection class	IP67	Installation	Thread/Flange
Display Mode	Chinese LCD display	Recommended cable	3.5-6.5mm cable

Regular Model



3:Technical characteristics

(1) The level meter adopts integrated design, no moving parts, no mechanical wear and tear, long service life.

(2)The signal wave emitted during the measurement of the level meter can pass through the atmosphere without transmission medium, which has the characteristics of not being affected by the atmosphere, steam, volatile vapour in the tank, etc. It can be used for volatile media such as liquid level of crude benzene. The characteristics such as the influence of volatile vapour in the tank, can be used for volatile media such as crude benzene level, level measurement.

(3) The level meter can be used for level measurement of almost all liquids. When reflecting on the liquid level surface, the signal will be attenuated, and when the signal attenuation is too small, it will lead to level measurement. When the signal attenuation is too small, it will lead to the level meter can not measure enough signal wave. Conductive media reflect the signal wave very well, and for slightly conductive materials also sufficient signal wave can be reflected. Conductive media reflect signal waves very well, and for slightly conductive materials they also reflect sufficient signal waves. Non-conductive media with a dielectric constant > 1.5 (air has a dielectric constant of 1.0) also ensure sufficient reflection. The higher the dielectric constant, the stronger the reflected signal. In practice, almost all media can reflect enough reflected waves.wave.

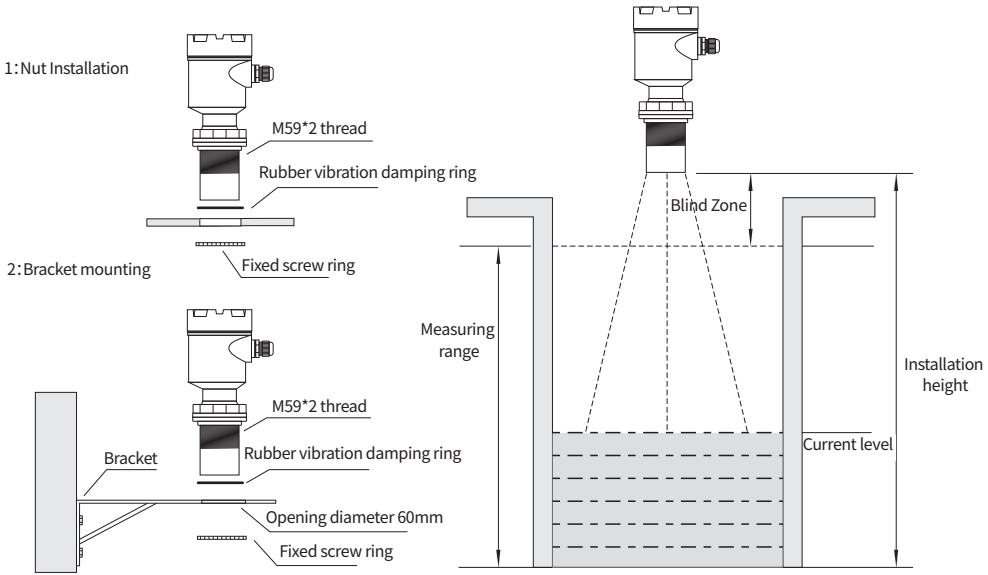
(4) Non-contact measurement, not affected by the density, concentration and other physical characteristics of the liquid in the tank.

(5)Large measuring range, the largest measuring range up to 0 ~ 20m, can be used for high temperature, high pressure liquid level measurement

(6)The key components such as antenna are made of high quality materials with strong corrosion resistance, which can adapt to the very corrosive environment.

(7)Feature-rich, with false wave learning function. Input the actual level of the measured horizontal plane, the software can automatically mark the out the false echo from the level to the antenna, and exclude the interference of these waves.

(8) Convenient parameter setting, can be set by the simple operation key on the level meter.


1：Nut Installation
M59*2 thread
Rubber vibration damping ring
Fixed screw ring
2：Bracket mounting
M59*2 thread
Bracket
Rubber vibration damping ring
Opening diameter 60mm
Fixed screw ring
Blind Zone
Measuring range
Installation height
Current level

The following are the main requirements for the installation of level gauges.

(1) The axis of the level gauge antenna should be perpendicular to the measured reflective surface.

(2)The installation position should be >50cm from the tank wall to avoid false signals on the tank wall to be mistaken as echo signals.

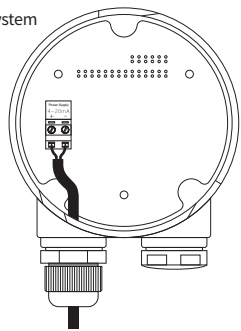
(3) Objects such as stirring valves in the tank, adhesions on the tank wall and steps, if within the signal range of the level meter, will produce interference with the reflected wave and affect the measurement. Choose a suitable installation location to avoid interference from these factors.

(4) The flare of the level gauge should exceed the inner surface of the mounting hole by a certain distance (>10mm).

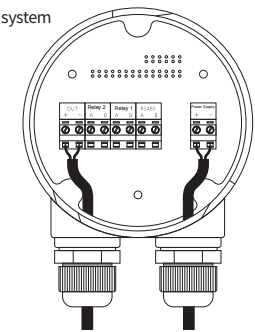
(5) For level measurement of vessels with large level fluctuations, it is necessary to install a pilot tube to reduce the impact of level fluctuations.

5：Wiring Method

2-wire system

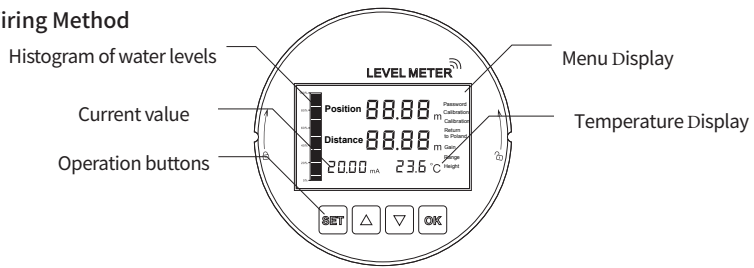


② 4-wire system



- Please observe the requirements of local electrical installation regulations!
- Please observe the requirements of local regulations for the health and safety of personnel.
- All work on the electrical components of the meter must be done by properly trained professionals.
- Check the nameplate of the instrument to ensure that the product specification meets your requirements. Make sure that the supply voltage corresponds to the requirements on the meter nameplate.

6：Wiring Method



SET Setup/Exit ▲ Flip-up/Digital ▼ Flip down/number OK Confirmation

Long press“SET”,key for 3 seconds to set. Default 0000.Input the corresponding password and press“SET”

Key to set Short press “SET” key to exit setting, long press“▼”can directly enter the height setting interface, press “SET” to exit.

1、Level meter installation height setting

Cryptographic	Parameter	Name	Description
1000	20.000 (default)	high degree	Installation height of the liquid level meter (the distance from the bottom of the probe to the bottom of the pool)
2000	20.000 (default)	Range full point	This parameter is 20mA range high point (default corresponds to the factory label range).
3000	00.000 (default)	Range Zero	This parameter is the low point of 4mA range (default corresponds to 0 metres).

2、Filter parameter adjustment (when the data frequent abnormal fluctuations, you need to set this function)

Cryptographic	Name	Parameter	Description
2406	L1(filter coefficient)	1.000 (default)	Adjust this parameter when the value jumps frequently.
	L2(Statistical filtering number)	5 (default)	Adjust this parameter when there is interference at the site and the echo capability is insufficient.
	L3(Acquisition frequency)	500 (default)	The time for the level meter to collect data once Unit:ms

3、Alarm value upper limit and lower limit setting

Cryptographic	Coding	Name	Realm	Description
5000	AH	Upper limit alarm value	-1999~9999	Alarm Setting Value for Upper Limit Alarm
	DH	Upper limit alarm return value	0~9999	Setting value of return difference for upper limit alarm
	AL	Lower limit alarm value	-1999~9999	Alarm setting value of lower limit alarm
	DL	Lower limit alarm return value	0~9999	Setting value of return difference for lower limit alarm

4、Relay alarm type setting

Cryptographic	Coding	Name	Realm	Description	Factory Default Parameters
6000	PH	Upper limit a larm type	00	No alarm Relay is open by default	01
			10	No Alarm Relay defaults to active	
			01	High Alarm Relay is open by default	
			11	High Alarm Relay Absorbed by default	
			02	Low Alarm Relay Disconnected by Default	
			12	Va Alarm Relay Absorbed by Default	
	PL	Lower limit alarm type	02	Commissioning method as above Low alarm Relay disconnected by default	02

7:Caveat

1、The distance from the transmitting surface of the probe to the lowest liquid level should be less than the range of the optional level meter.

2、The distance from the transmitting surface of the probe to the highest liquid level should be greater than the blind zone of the optional level meter.

3、the probe launching surface should be parallel to the liquid surface.

4、the probe should be installed to avoid the location of the liquid level fluctuating as much as possible directly below the inlet and outlet. If the pool wall or wall is not smooth, the installation position of the level meter needs to leave the pool wall or tank wall for more than 50cm.

5、 if the probe launch surface to the highest level of the distance less than the blind zone of the optional level meter, need to install the extension pipe extension pipe diameter greater than 150mm, length higher than 25cm, vertical installation, smooth inner wall of the tank should be greater than the extension hole on the inner diameter of the pipe.

6、If there is agitation in the high mountain, the medium surface has floating objects or bubble bath, need to install the pipe diameter greater than or equal to 150mm wave guide tube, and the inner wall is smooth. Straight installation to the bottom of the container.

LEVEL METER