

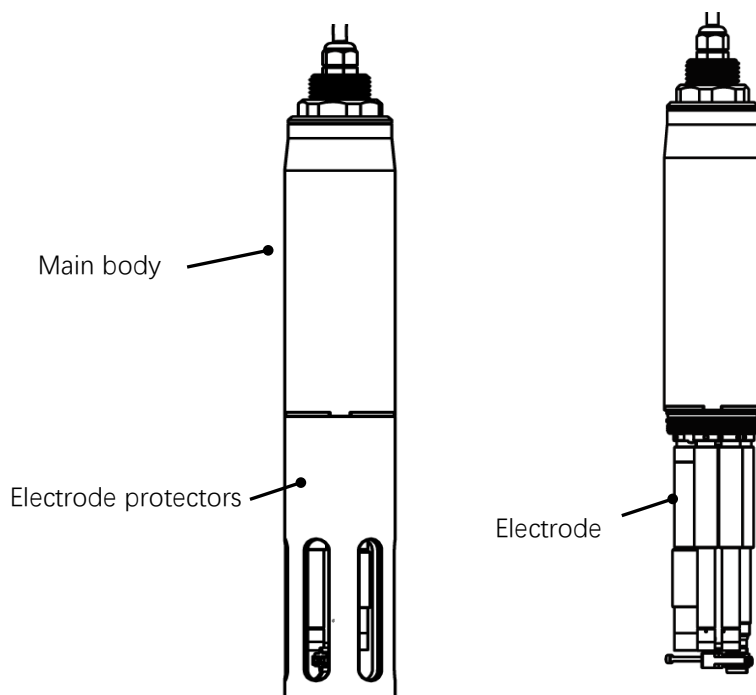
# iSPS-X

## Multi-Parameter Water Quality Measurement Instrument



## Product overview

The iSPS-X multi-parameter measuring instrument can integrate pH/ORP, conductivity, salinity, dissolved oxygen (DO), turbidity, COD, TOC, ammonia nitrogen, oil, chlorophyll and temperature into one instrument. The instrument can be installed up to seven sensors to obtain water quality parameter data. Each sensor through different electrochemical, optical or physical detection means to measure the respective parameters. Users can read the measurement data through handheld instruments, but also through the data acquisition instrument to transfer data to the data acquisition platform.



## Application scenarios

- Monitoring of water in and out of sewage treatment plant
- Water quality monitoring in the treatment process of the sewage treatment plant
- Water quality monitoring of urban pipe network
- Surface water, groundwater monitoring
- Tap water and pipe network monitoring
- Sea water

## Advantages

- Fast measurement, fastest measurement cycle of 10 second
- No reagent consumption, environmentally friendly
- With cleaning brushes, long maintenance-free intervals
- RS485 communication for fast connection to gauge heads
- IP68 protection for harsh environments
- Multi-parameter all-in-one, compact size and high integration

## Principle

pH	Glass electrode method
ORP	Glass electrode method
K <sup>+</sup>	Ion-selective electrode method
NH <sub>3</sub> -N	Ion-selective electrode method
EC	Coaxial 4 graphite electrodes
TDS	Coaxial 4 graphite electrodes
Salinity	Coaxial 4 graphite electrodes
DO	Fluorescence method
Turbidity	Transmission and 90° scattering (ASM002776) Transmission (ASM002777)
COD	Ultraviolet absorption spectroscopy
TOC	Ultraviolet absorption spectroscopy
DOC	Ultraviolet absorption spectroscopy
TSS	Transmission
NO <sub>3</sub> -N	Ultraviolet spectral absorption method (ASM002777) Ion selective electrode (ISE) method (ASM002831)
Chlorophyll-a	Fluorescence method
Blue-green algae	Fluorescence method

## Specification

### Parameter

Power requirements	DC 24 V with battery version and external power supply version
Dimension	Φ66×466 mm
IP rating	IP68
Cable	Customized cable lengths <sup>1</sup>
Depth	Maximum depth 100 m
Main body materials	Poly-ether-ether-ketone (PEEK)
Installation	Submerged
Cleaning method	Automatic cleaning brush <sup>2</sup>
Measurement period	10 to 65535 seconds
Certifications	CE/RoHS

### Communication

Hardware interface	RS485
Protocol	Modbus RTU
Wireless communication	Wi-Fi / Bluetooth

Note:

1 The cable length is customised according to the user's actual needs, the cable length cannot be changed after customisation, please be careful to confirm the length, and will be charged according to the cable length.

2 The cleaning brush is detachable, please confirm whether to buy it according to your needs before purchase.

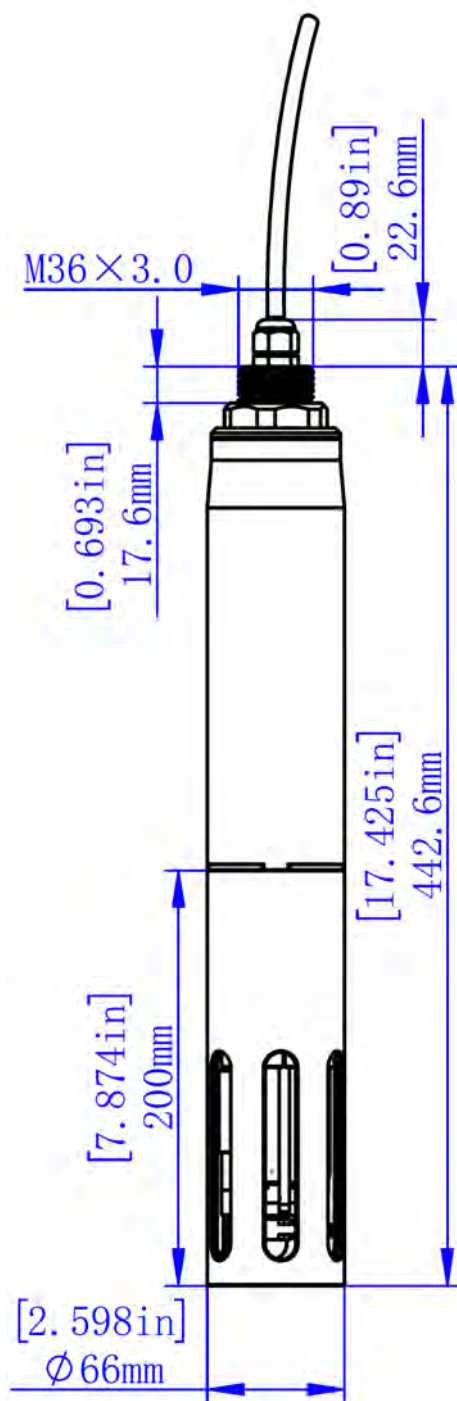


## Parameter information

Parameter	Model No.	Range	Resolution	Accuracy (Standard solution)
<b>pH</b>	ASM002820	0-14	0.01	±0.1
<b>ORP</b>	ASM002821	-1500 mV ~ 1500 mV	1 mV	±20 mV
<b>pH&amp; ORP</b>	ASM002772	0-14	0.01	±0.1
		-1500 mV ~ 1500 mV	1 mV	±20 mV
<b>K<sup>+</sup></b>	ASM002771	0-1000 mg/L	1 mg/L	±5% or ±1 mg/L
<b>NH<sub>3</sub>-N</b>	ASM002770	0-1000 mg/L	1 mg/L	±5% or ±1 mg/L
<b>EC</b>	ASM002774	0.001-200 000 µS/cm	0.001 µS/cm	±5%
<b>Salinity</b>		0.01-120 000 mg/L	0.01 mg/L	±5%
<b>TDS</b>		0.01-100 000 mg/L	0.01 mg/L	±5%
<b>DO</b>	ASM002775	0-20 mg/L	0.01 mg/L	±0.1mg/L
		0-200%		
<b>Turbidity</b>	ASM002776	0-1000 NTU	0.001 NTU	±5% or ±0.015 NTU
<b>TSS</b>		0-2000 mg/L	1 mg/L	±5% or ±5 mg/L
<b>COD</b>	ASM002777	0-500 mg/L	0.01 mg/L	±5% or ±5 mg/L
<b>TOC</b>		0-200 mg/L	0.01 mg/L	±5% or ±2 mg/L
<b>NO<sub>3</sub>-N</b>		0-50 mg/L	0.01 mg/L	±5% or ±1 mg/L
<b>DOC</b>		0-200 mg/L	0.01 mg/L	±5% or ±2 mg/L
<b>Turbidity</b>		0-500 NTU	0.01 NTU	±5% or ±5 NTU
<b>TSS</b>		0-500 mg/L	1 mg/L	±5% or ±5 mg/L
<b>NO<sub>3</sub>-N</b>	ASM002831	0-200 mg/L	1 mg/L	±5% or ±1 mg/L
<b>Chlorophyll-a</b>	ASM002790	0-400 ug/L	0.01 ug/L	R <sup>2</sup> >0.999
		0-100 RFU	0.01 RFU	
<b>Blue-green algae</b>	ASM002791	BGA PC: 0-100 ug/L	0.01 ug/L 0.01 RFU	R <sup>2</sup> >0.999
		0-100 RFU		
		BGA PE: 0-100 ug/L		
		0-100 RFU		
<b>Temperature</b>	/	0-50 °C	0.1 °C	±1 °C
<b>Depth</b>	/	0-100 m	0.001~1 m	±0.05~±10 m

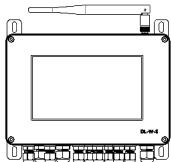


Dimension

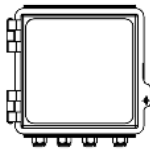


# Product selection

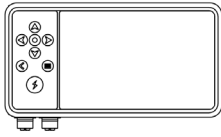
## Meter



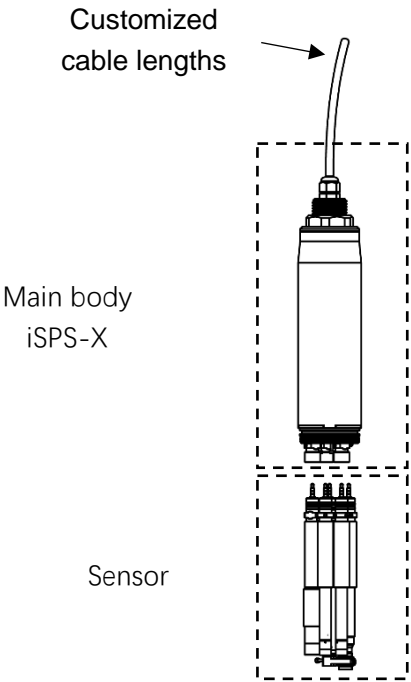
Meter transmitter  
MC-W-S



Meter transmitter  
MC-BW-B



Meter controller  
MC-HC-P01



## Product selection

Meter	Main body	Battery cell	Sensor	Slot	material
Meter controller MC-HC-P01	Main body iSens-X-P01	Battery cell iSens-X-B01	pH sensor ASM002820	Slot 1	PVC+ PEEK
Android OS 5" LCD Support 4G, GIS, SD storage			ORP sensor ASM002821	Slot 1	PVC+ PEEK
			pH & ORP sensor ASM002772	Slot 1	PVC+ PEEK
			K+ sensor ASM002771	Slot 2	PVC+ PEEK
Meter transmitter MC-W-S			NH3-N sensor ASM002770	Slot 3	PVC+ PEEK
Android OS 7" LCD Support 4G/WiFi RS485 output			Chlorophyll-a sensor ASM002790	Slot 3	Titanium
			Blue-green algae sensor ASM002791	Slot 3	Titanium
			EC sensor ASM002774	Slot 4	PVC+ PEEK
Meter transmitter MC-BW-B			DO sensor ASM002775	Slot 5	Titanium
			Turbidity sensor ASM002776	Slot 6	Titanium
Android OS Support Bluetooth 4G/WiFi, RS485 output SD storage			NO3-N sensor ASM002831	Slot 7	PVC+ PEEK
			Multi-wavelength spectrum sensor ASM002777	Slot 7	Titanium

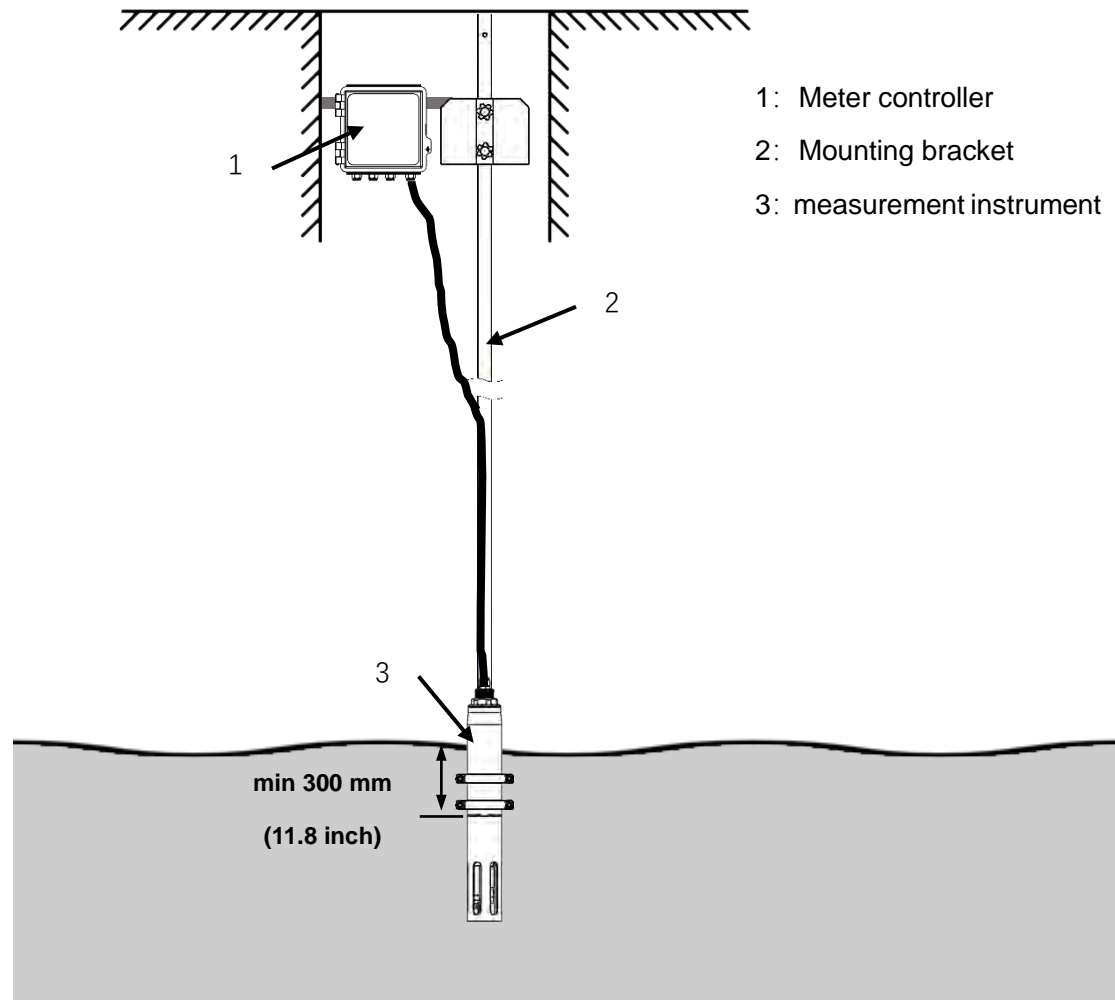
Note:

1 The transmitter is selected according to the need, and the instrument cable is customized length according to the need, and charged accordingly.

2 Sensors can only be connected to the corresponding sensor mounting position, and a mounting position can only be connected to one sensor, please according to the needs of a reasonable combination of parameters. iSPS-X multi-parameter water quality measuring instrument can choose up to 7 water quality sensors.

## Downhole Installation

### Well-cellar, closed terrain mounting method



Well-cellar, closed terrain installation method

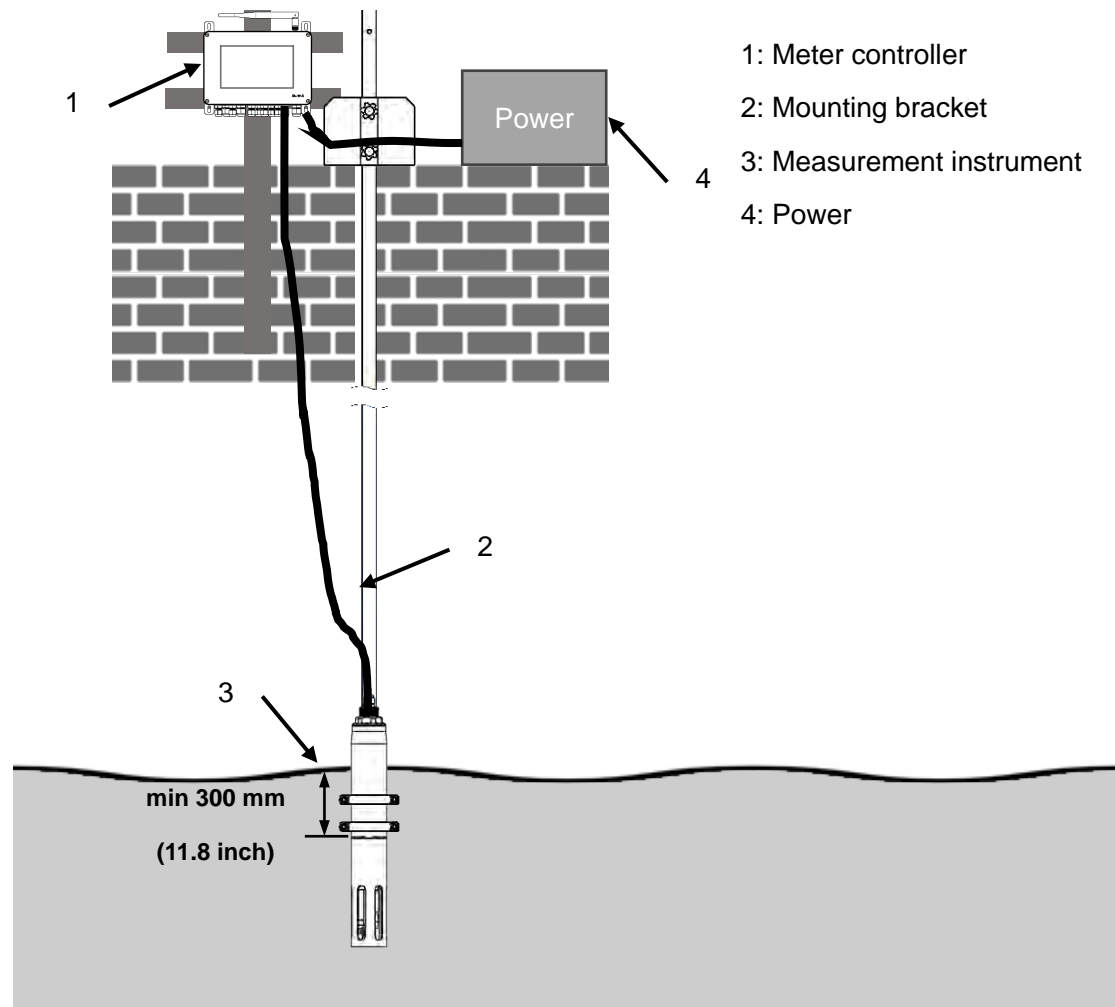
The items in the picture are only examples, please refer to the actual structure.

### Recommended configuration

1	MC-BW-B meter controller (With Battery)
2	Mounting bracket
3	iSPS-X Measurement instrument



## Open terrain installation



Open terrain installation

The items in the picture are only examples, please refer to the actual structure.

### Recommended configuration

1	MC-W-S meter controller
2	Mounting bracket
3	iSPS-X Measurement instrument
4	24 V DC Power Supply

## Handheld connection

Users can use the handheld MC-HC meter controller to connect to the iSPS-X measurement instrument, read the parameters of the iSPS-X, and also use the MC-HC to perform calibration and other operations. See MC-HC manual for detailed instructions.

