Datasheet

Fluorescence Dissolved Oxygen Electrode

SUP-DO-7012

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The dissolved oxygen sensor uses fluorescence to measure the dissolved oxygen. The sensor is covered with a layer of fluorescent material. When the blue light emitted by the sensor illuminates the fluorescent substance on the fluorescent cap, the fluorescent substance is excited to emit red light, and since the oxygen molecule can carry away the energy (quenching effect), the time and intensity of the excited red light and the concentration of the oxygen molecule become. In inverse proportion, the concentration of dissolved oxygen in water can be obtained by calculation.

Applications

- The DO online monitoring of the regulating tank
- Effluent of sewage treatment plant
- Waterworks
- Industrial production processes
- Surface water

Fluorescence Dissolved Oxygen Electrode

Features

- Multi-parameter measurement
- Versatile and suitable materials
- Universal Communications Protocol
- Wide temperature storage and operation
- High resolution
- Highly repeatable
- Wide temperature storage and operation

Principle

The fluorescence-based dissolved oxygen electrode works on the principle of fluorescence quenching. It has a light-emitting source like an LED to excite a fluorescent dye on the electrode surface, making it emit fluorescence. Oxygen molecules act as quenchers, reducing the fluorescence intensity. A detector measures this intensity, and with a calibration curve correlating fluorescence intensity to oxygen concentration, the dissolved oxygen content in the sample can be accurately determined as the oxygen level changes the fluorescence strength.

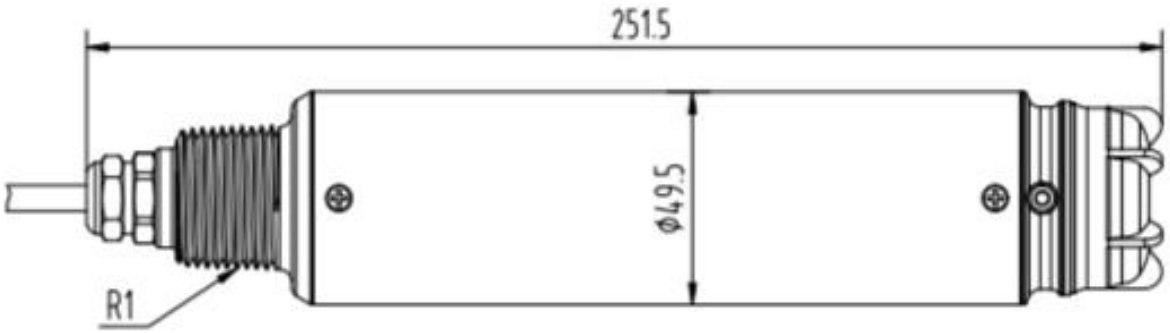
Parameters	
Measurement Range	DO: 0~20mg/L or 0~200% saturability Temperature: 0-45℃ with automatic temperature compensation
Measurement Accuracy	DO: ±3% or ±0.3 mg/L of measured value, maximax criterion; Temperature: ±0.5℃
Repeatability	±0.3mg/L
Resolution	0.01mg/L
Pressure Range	≤0.3Mpa
Materials	SUS316L (Ordinary Version), Titanium Alloy (Seawater Version) Up and down cover: PPS + glass fiber, Cable: PUR
Power Supply	9~28VDC
Communication Protocol	MODBUS RS485
Storage Temperature	-15~60℃
Operating Temperature	0~45℃ (not freeze)
Weight	1.4KG
Level of Protection	IP68/NEMA6P
Cable Length	Standard: 10 m, the maximum can be extended 100m

Wiring

The sensor should be correctly connected by the following definition of wire core:

Serial No.	1	2	3	4	5
Sensor Cable	Brown	Black	Blue	White	Yellow + Green
Signal	+12VDC	AGND	RS485 A	RS485 B	Ground lead/PE

Dimension



Installation

Installation

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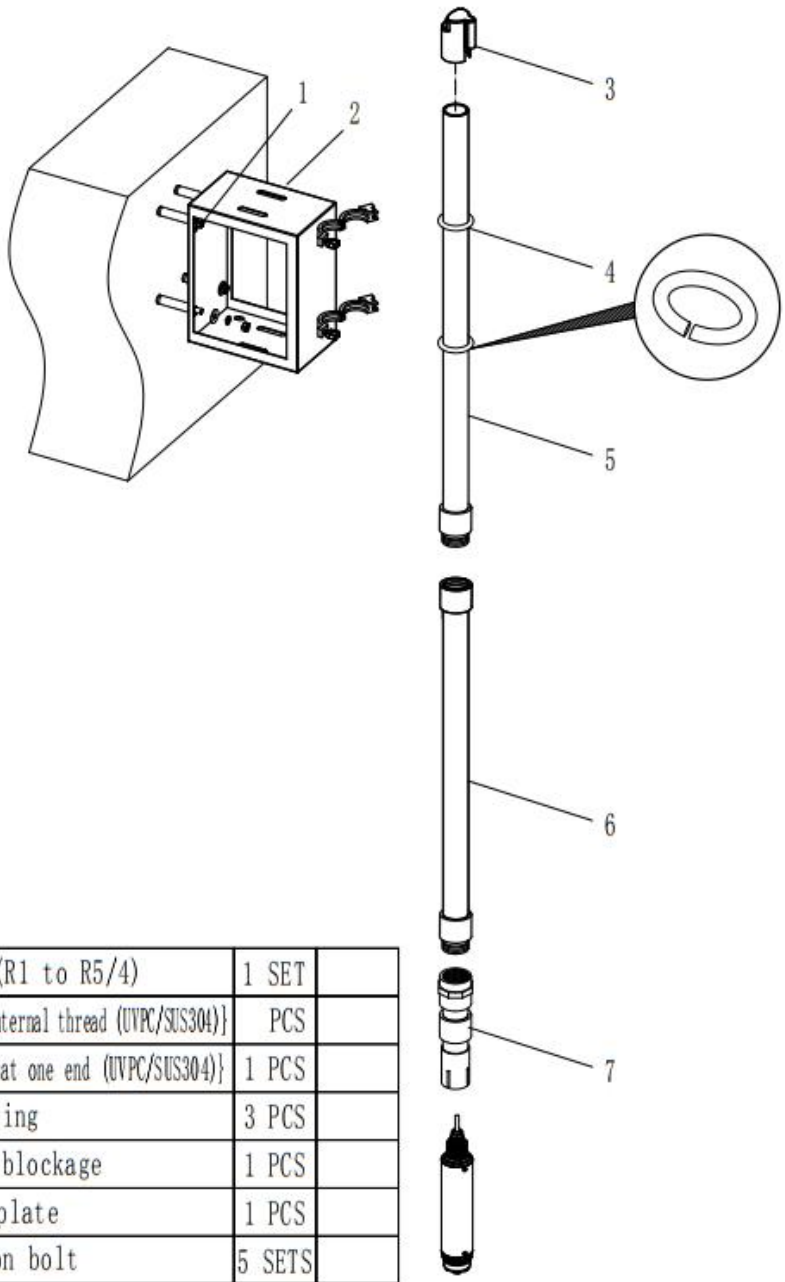
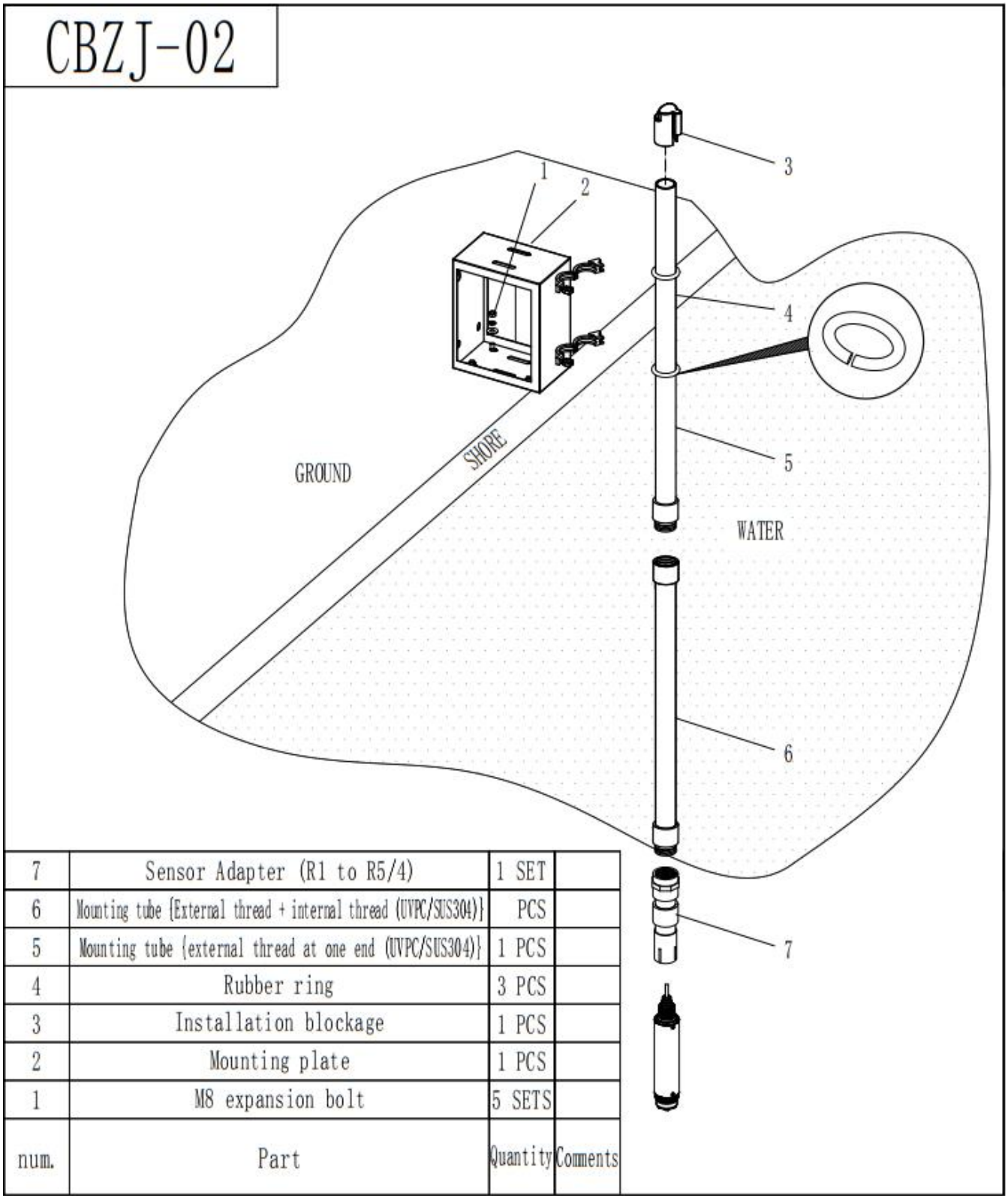


num.	Part	Quantity	Comments
7	Sensor Adapter (R1 to R5/4)	1 SET	
6	Mounting tube {External thread + internal thread (UVPC/SUS304)}	PCS	
5	Mounting tube {external thread at one end (UVPC/SUS304)}	1 PCS	
4	Rubber ring	3 PCS	
3	Installation blockage	1 PCS	
2	Mounting plate	1 PCS	
1	M8 expansion bolt	5 SETS	

Quick Dismantling Pool Side Fixed Installation

Quick Dismantling Pool Side Installation Sketch Map (wall space）



num.	Part	Quantity	Comments
7	Sensor Adapter (R1 to R5/4)	1 SET	
6	Mounting tube {External thread + internal thread (UVPC/SUS304)}	PCS	
5	Mounting tube {external thread at one end (UVPC/SUS304)}	1 PCS	
4	Rubber ring	3 PCS	
3	Installation blockage	1 PCS	
2	Mounting plate	1 PCS	
1	M8 expansion bolt	5 SETS	

Quick Dismantling Pool Side Installation Sketch Map (ground)

Classic pool side fixed installation

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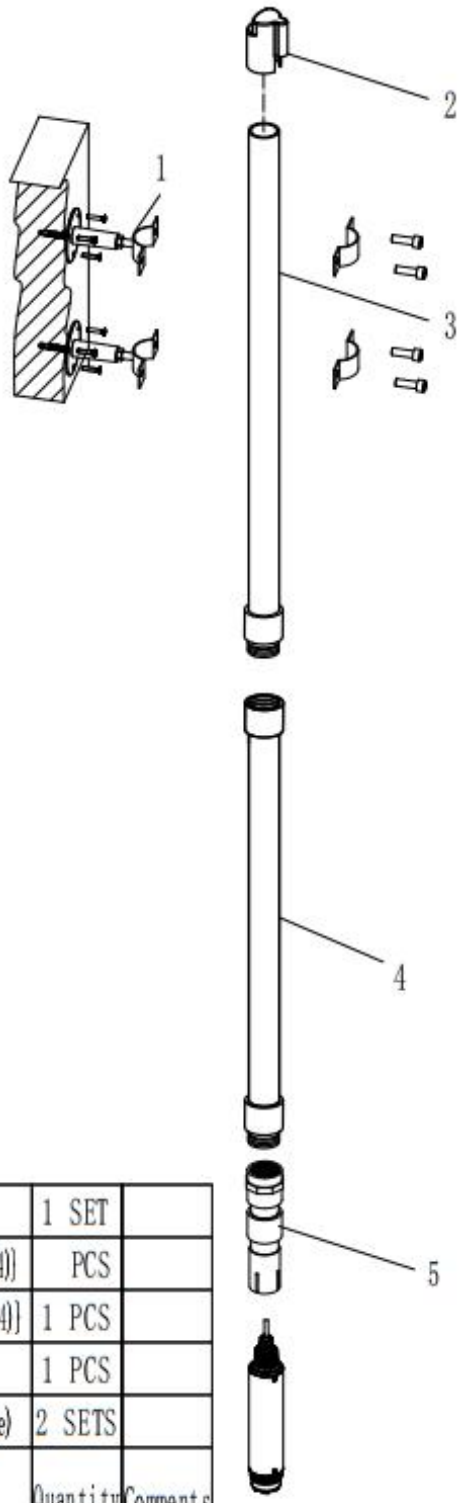
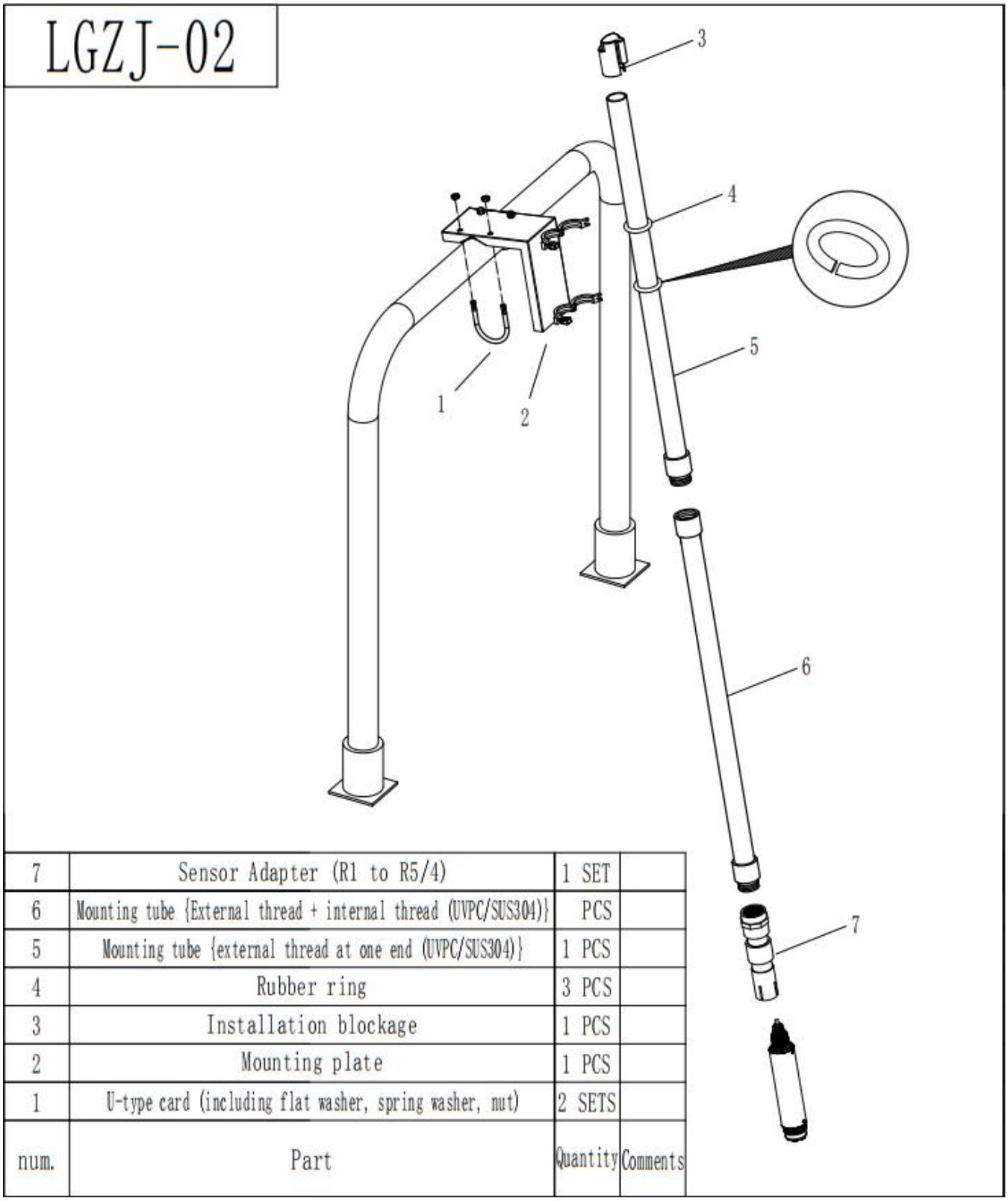


num.	Part	Quantity	Comments
5	Sensor Adapter (R1 to R5/4)	1 SET	
4	Mounting tube (External thread + internal thread (UVPC/SUS304))	PCS	
3	Mounting tube (external thread at one end (UVPC/SUS304))	1 PCS	
2	nstallation blockage	1 PCS	
1	Adjustable base (including screw expansion tube)	2 SETS	

Classic Pool Side Fixed Installation Sketch Map

Railing Fixed Installation



num.	Part	Quantity	Comments
7	Sensor Adapter (R1 to R5/4)	1 SET	
6	Mounting tube {External thread + internal thread (UVPC/SUS304)}	PCS	
5	Mounting tube {external thread at one end (UVPC/SUS304)}	1 PCS	
4	Rubber ring	3 PCS	
3	Installation blockage	1 PCS	
2	Mounting plate	1 PCS	
1	U-type card (including flat washer, spring washer, nut)	2 SETS	

Railing Fixed Installation Sketch Map

Ordering code

SUP-DO-7012 -A-B-10-ZY-RA						Description
SUP-DO-7012	-	-	-	-	-	
Output	A					RS485
Power Supply		B				12VDC
Cable Length			10			10m
			20			20m
			30			30m
			XX			Others
Cable Connector				ZY		Cable Connector
				HK		Aviation Plug
Housing Material and Thread Type					RA	316LSS，R1 Thread
					RB	Titanium，R1 Thread