



Recorder



Flow



Pressure



Temp



Analyzer



Level

Datasheet

Fluorescence Dissolved

Oxygen Electrode

SUP-DO-7010



TOTAL
PRESSURE
SOLUTIONS



Datasheet

Fluorescence Dissolved Oxygen Electrode SUP-DO-7010

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

Features

- Adopts MODBUS RS485 communication protocol for easy connection with other devices.
- Captures small changes in dissolved oxygen concentration.
- Relatively lightweight and easy to install
- Repeatability, within $\pm 0.3\text{mg/L}$ continuous measurement error



**Fluorescence Dissolved
Oxygen Electrode**



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: $\pm 3\%$ or ± 0.3 mg/L of measured value, maximax criterion; Temperature: $\pm 0.5^{\circ}\text{C}$
Repeatability	$\pm 0.3\text{mg/L}$
Resolution	0.01mg/L
Pressure Range	$\leq 0.3\text{Mpa}$
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



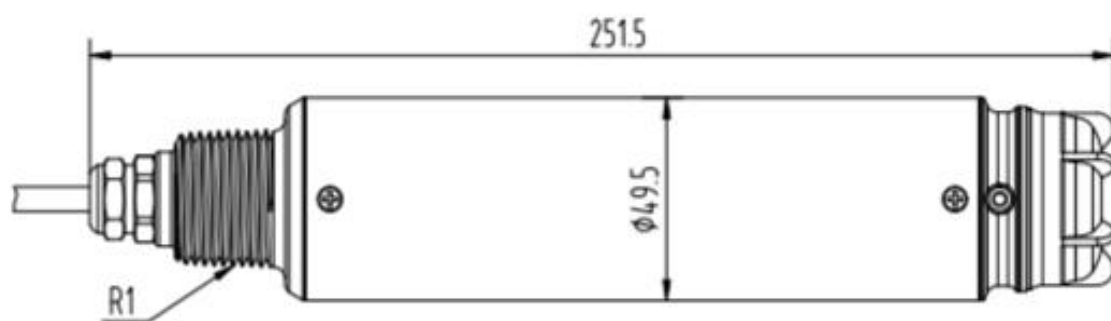
Wiring

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

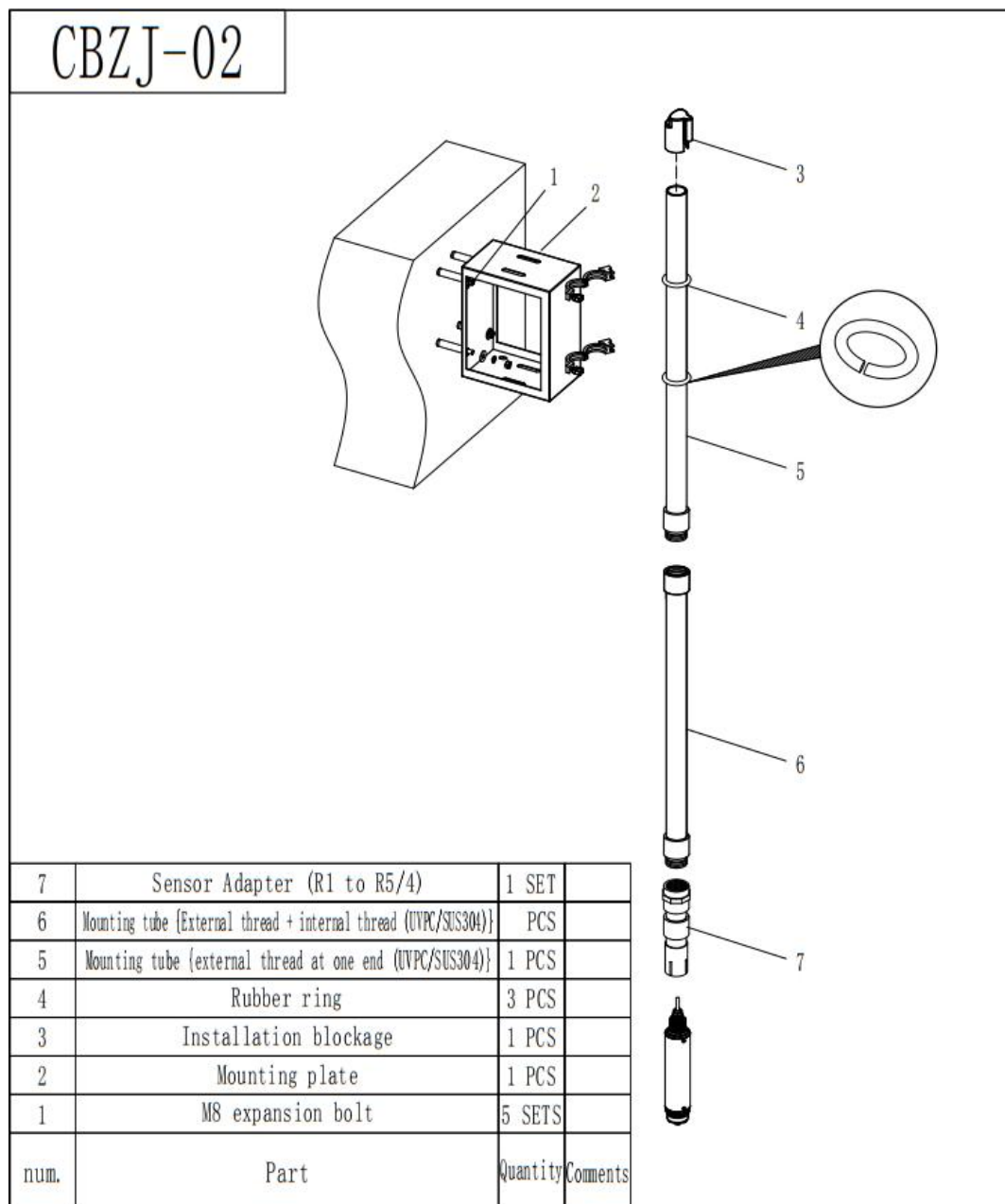




Installation

■ Installation

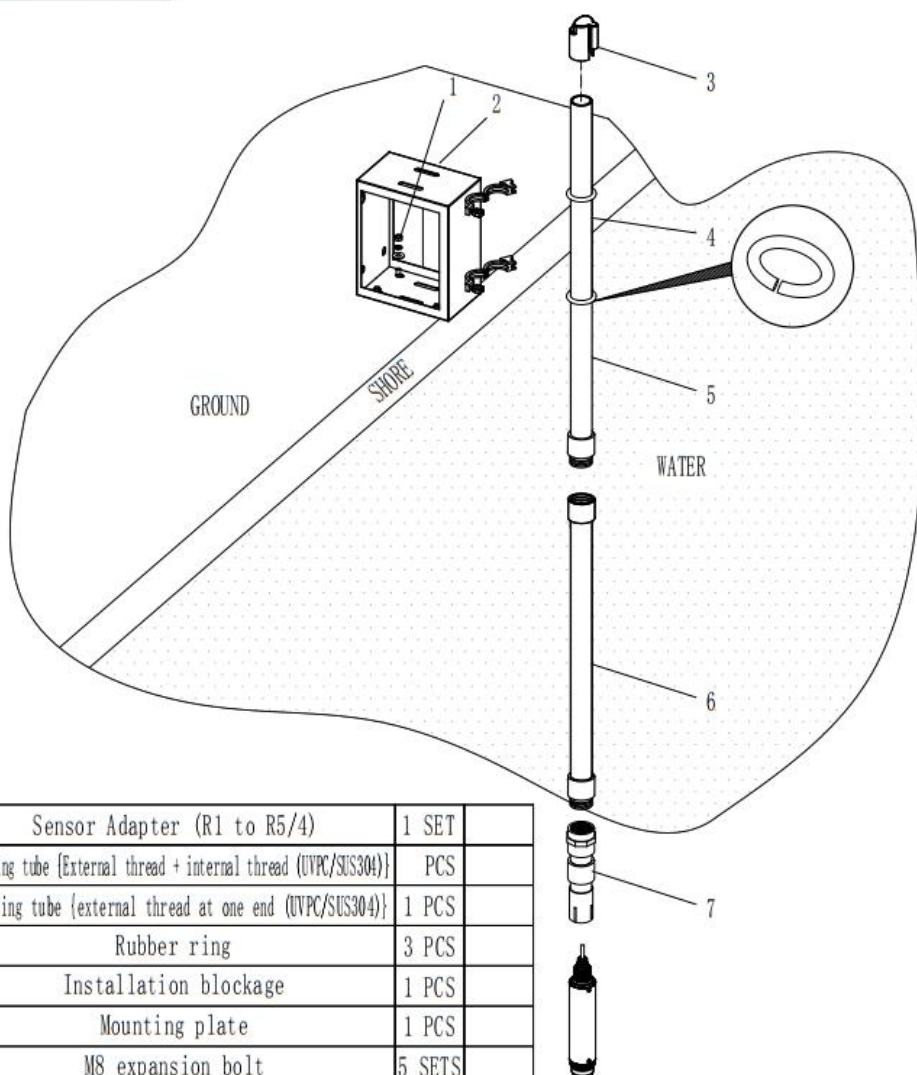
Quick Dismantling Pool Side Fixed Installation



Quick Dismantling Pool Side Installation Sketch Map (wall space)



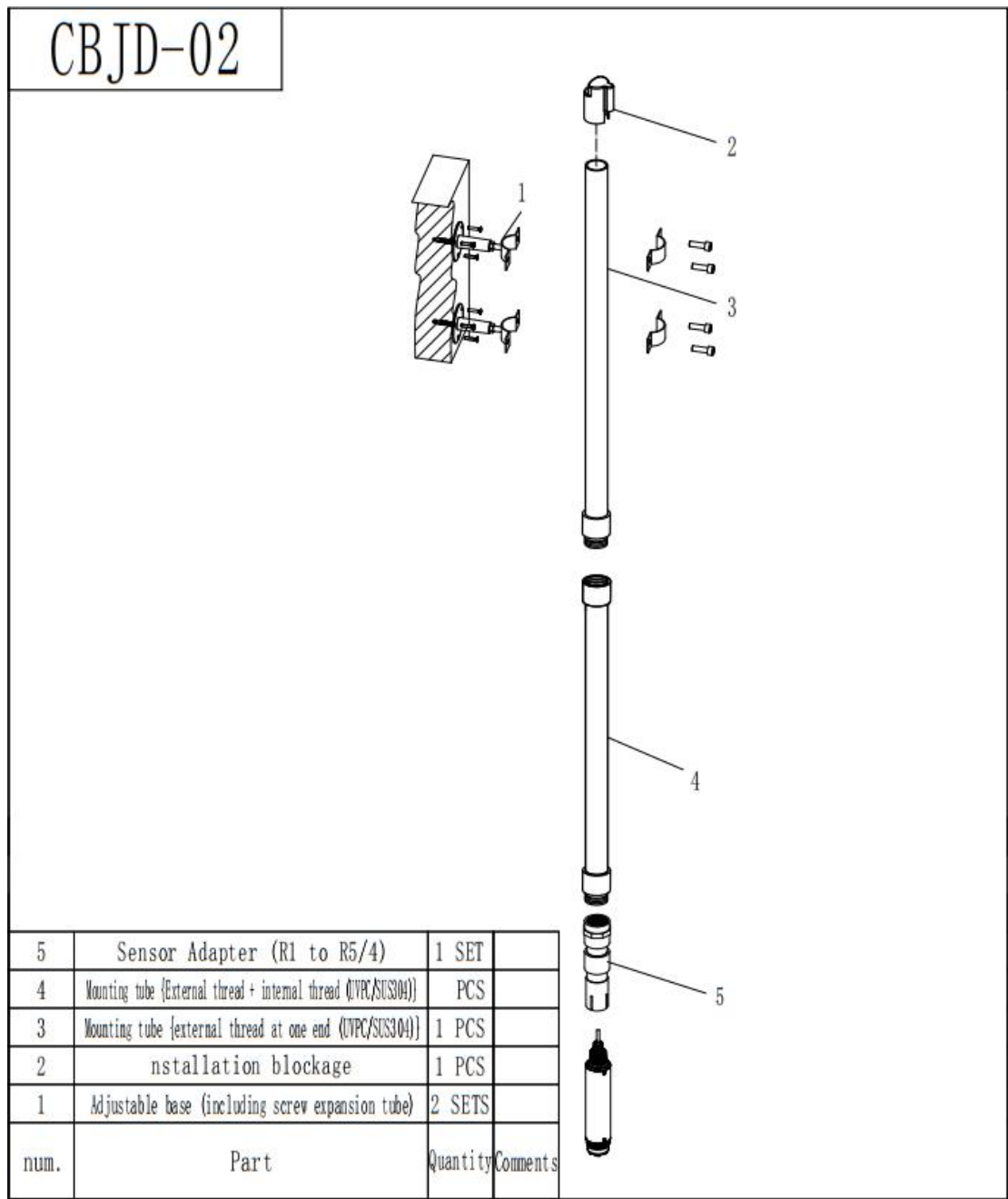
CBZJ-02



Quick Dismantling Pool Side Installation Sketch Map (ground)



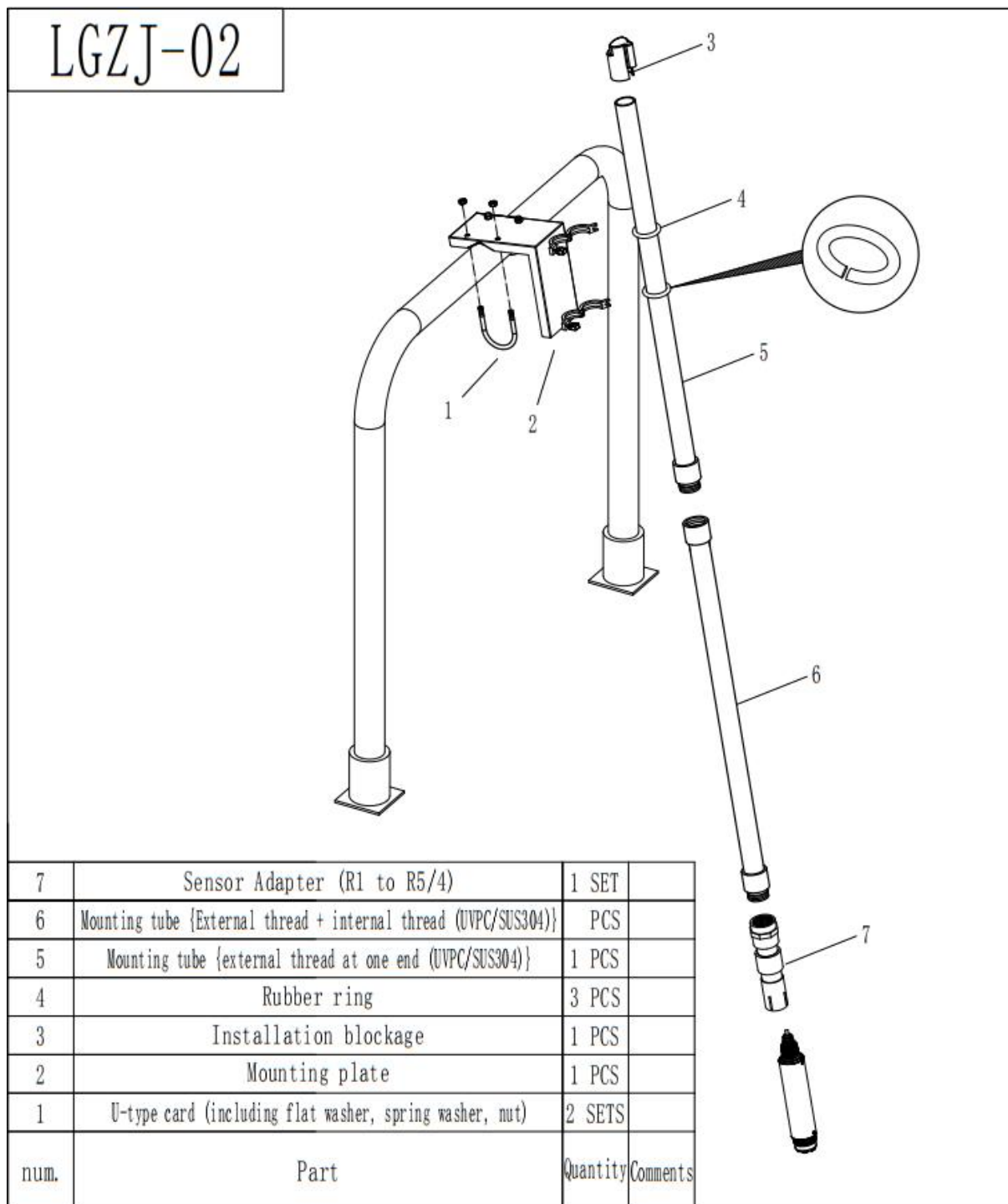
Classic Pool Side Fixed Installation



Classic Pool Side Fixed Installation Sketch Map



Railing Fixed Installation



Railing Fixed Installation Sketch Map



Ordering code

SUP-DO-7010 -A-B-10-ZY-RA						Description
SUP-DO-7010	-	-	-	-	-	RS485
Output	A					12VDC
Power Supply		B				10m
			10			20m
Cable Length			20			30m
			30			Others
			XX			Cable Connector
Cable Connector				ZY		Aviation Plug
				HK		316LSS, R1 Thread
Housing Material and Thread Type					RA	Titanium, R1 Thread
					RB	