Apure Water Quality Analysis



KDM-202Online Conductivity/ TDS Sensor User Manual



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User Notes

- Please read this manual carefully before use and save it for reference.
- Please follow the operating procedures and precautions in this manual.
- When receiving the instrument, please carefully open the package and check whether the instrument and accessories are damaged due to shipping. If any damage is found, please inform the manufacturer and distributor immediately, and keep the package for return.
- When the instrument fails, do not repair it yourself. Please contact the maintenance department of the manufacturer directly.

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$I \mathrel{\scriptstyle\diagdown}$ Application Environment

- Drinking water/surface water/various water supply/industrial water treatment
- Signal output: RS-485 (Modbus/RTU protocol)
- Easily connect to third-party devices such as PLCs, DCSs, industrial control computers, general-purpose controllers, paperless recording instruments, or touchscreens.
- Submerged installation with 3/4NPT pipe thread for easy submerged installation or installation in pipes and tanks.
- IP68 Protection grade

$II \searrow \mbox{Technical performance and specifications}$

1. Technical parameters

Model	KDM-202		
	EC 0~20µS/cm TDS 0-10mg/l	0.01	
Measuring range	EC 0~200µS/cm TDS 0-100mg/l	0.1	
and resolution	EC 0~5000μS/cm TDS 0-3000mg/l	1	
	$0\sim$ 400 mS/cm	10	
Precision	±1.5%, ±0.3°C		
Working temperature	-5~65°C		
Working pressure	0∼50°C, <0.6MPa		
Power supply	12~24VDC		
Signal output	RS-485 Modbus RTU or 4-20mA		
Wetted material	ABS / SUS316L		
Mounting method	Submersion Mounting, 3/4" NPT Thread		
Cable length	5m length, other can be customized		
Temperature compensation	Automatic temperature compensation (Pt1000)		
Calibration	Two point calibration		

Power consumption	0.2W 12V
Protection grade	IP68

2. Dimensional drawing

KDM-202-0.01



KDM-202-0.1





Note: The sensor connector is M16-5 core waterproof connector male

KDM-203-10.0



Note : the connector of the sensor is M16-5 core waterproof connector

III、Installation and electrical connection

1. Installation



Note: KDM-202 Sensors are installed and tested at least 2 cm from the bottom and side walls of the container.

2. Electrical connection



The wiring sequence should be carefully checked before power-on to avoid unnecessary losses caused by wrong wiring.

Wiring instructions: Considering that the cables are immersed in water (including seawater) or exposed to air for a long time, all wiring points are required to be waterproofed, and the user cables should have certain anti-corrosion capabilities.

$I\!V\,{\scriptstyle\diagdown}\,$ Maintenance

1. Use and maintenance

Conventional electrodes need to be cleaned and calibrated periodically, and the maintenance cycle is determined by the customer according to their own working conditions. Conventional electrode cleaning method: use a soft brush to remove attachments (be careful to avoid scratching the surface of the electrode), then clean with distilled water, and then perform the calibration operation.

Cleaning method of inductive electrode:

- The inductive electrode is basically maintenance-free, and the pollution or mild scaling of the casing will not affect its normal operation.
- If cleaning is required, remove the deposits with a soft brush or sandpaper, rinse with distilled water, and then perform the calibration operation.
- Since the inductive electrode often works in an environment that is easy to scale or dirty, the cleaning force can be appropriately increased. Slightly scratching the surface of the electrode will not affect the normal operation of the electrode, but avoid penetrating the outer shell of the electrode.

2. Calibration

a) Zero calibration

Rinse the sensor with distilled water and blot dry with filter paper. Connect the sensor to the power supply and place it vertically in the air for about 3 minutes. After the value is stable, perform zero calibration. See the appendix for calibration instructions.

b) Slope calibration

Place the sensor vertically in the standard solution (20% full scale - full scale), pay attention to the sensor at least 2 cm from the bottom and side walls of the container, and perform slope calibration. See the appendix for calibration instructions.

$V \smallsetminus \ensuremath{\mathsf{Q}}$ Quality and service

1. Quality assurance

- The quality inspection department has standardized inspection procedures, advanced and perfect testing equipment and means, and inspects products in strict accordance with the regulations, and conducts 72-hour aging experiments and stability experiments on products, and does not allow a substandard product to leave the factory.
- The consignee will directly return the product batches with a failure rate of 2%, and all the costs incurred shall be borne by the supplier. The testing standard refers to the product description provided by the supplier.
- Guaranteed supply quantity and delivery speed.

2. Accessories

This product includes:

One Sensor One User Manual One Certificate of Quality One Cable 5m length

3. After-sales service commitment

The company provides local after-sales service within one year from the date of sale, but does not include damage caused by improper use. If repair or adjustment is required, please return it, but the shipping cost must be conceited. Damaged on the way, the company will repair the damage of the instrument for free.

