User's Manual

Supmea

Conductivity sensor

Supmea

Headquarters

5th floor,Building 4,Singapore Hangzhou Science Technology Park,No. 6 street,
Hangzhou Economic Development Area,Hangzhou 310018,China

Singapore

2 Venture Drive #11-30 Vision Exchange Singapore

info@supmea.com

www.supmea.com

Supmea Automation Co.,Ltd.

Preface

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

Note

- Modification of this manual’s contents will not be notified as a result of some factors, such as function upgrading.
- We try our best to guarantee that the manual content is accurate, if you find something wrong or incorrect, please contact us.
- The content of this manual is strictly prohibited from reprinting or copying.

Version

U-ZWLTDS-MYEN1

Safety Precautions

In order to use this product safely, be sure to follow the safety precautions described.

About this manual

- Please submit this manual to the operator for reading.
- Please read the operation manual carefully before applying the instrument. On the precondition of full understanding.
- This manual only describes the functions of the product. The company does not guarantee that the product will be suitable for a particular use by the user.

Precautions for protection, safety and modification of this product

- To ensure safe use of this product and the systems it controls, Please read carefully the operation manual and understand the correct application methods before putting into operation, to avoid unnecessary losses due to operation mistakes. If the instrument is operated in other ways not described in the manual, the protections that the instrument give may be destroyed, and the failures and accidents incurred due to violation of precautions shall not be borne by our company.
- When installing lightning protection devices for this product and its control system, or designing and installing separate safety protection circuits for this product and its control system, it needs to be implemented by other devices.
- If you need to replace parts of the product, please use the model specifications specified by the company.
- This product is not intended for use in systems that are directly related to personal safety.Such as nuclear power equipment, equipment using radioactivity, railway systems, aviation equipment, marine equipment, aviation equipment and medical equipment.If applied, it is the responsibility

of the user to use additional equipment or systems to ensure personal safety.

- Do not modify this product.The following safety signs are used in this manual:


Hazard, if not taken with appropriate precautions, will result in serious personal injury, product damage or major property damage.


Warning:Pay special attention to the important information linked to product or particular part in the operation manual.

- Confirm if the supply voltage is in consistent with the rated voltage before operation.
- Do not use the instrument in a flammable and combustible or steam area.
- To prevent from electric shock, operation mistake, a good grounding protection must be made.
- Thunder prevention engineering facilities must be well managed: the shared grounding network shall be grounded at is-electric level, shielded, wires shall be located rationally, SPD surge protector shall be applied properly.
- Some inner parts may carry high voltage. Do not open the square panel in the front except our company personnel or maintenance personnel acknowledged by our company, to avoid electric shock.
- Cut off electric powers before making any checks, to avoid electric shock.
- Check the condition of the terminal screws regularly. If it is loose, please tighten it before use.
- It is not allowed to disassemble, process, modify or repair the product without authorization, otherwise it may cause abnormal operation, electric shock or fire accident.
- Wipe the product with a dry cotton cloth. Do not use alcohol, benzine

or other organic solvents. Prevent all kinds of liquid from splashing on the product. If the product falls into the water, please cut off the power immediately, otherwise there will be leakage, electric shock or even a fire accident.

- Please check the grounding protection status regularly. Do not operate if you think that the protection measures such as grounding protection and fuses are not perfect.
- Ventilation holes on the product housing must be kept clear to avoid malfunctions due to high temperatures, abnormal operation, shortened life and fire.
- Please strictly follow the instructions in this manual, otherwise the product's protective device may be damaged.

- Do not use the instrument if it is found damaged or deformed at opening of package.
- Prevent dust, wire end, iron fines or other objects from entering the instrument during installation, otherwise, it will cause abnormal movement or failure.
- During operation, to modify configuration, signal output, startup, stop, operation safety shall be fully considered. Operation mistakes may lead to failure and even destruction of the instrument and controlled equipment.
- Each part of the instrument has a certain lifetime, which must be maintained and repaired on a regular basis for long-time use.
- The product shall be scrapped as industrial wastes, to prevent environment pollution.
- When not using this product, be sure to turn off the power switch.
- If you find smoke from the product, smell odor, abnormal noise, etc., please turn off the power switch immediately and contact the company in time.

Disclaimer

- The company does not make any guarantees for the terms outside the scope of this product warranty.
- This company is not responsible for damage to the instrument or loss of parts or unpredictable damage caused directly or indirectly by improper operation of the user.

Package contents

Serial number	Item Name	Quantity
1	Conductivity sensor	1
2	Manual	1
3	Certificate	1

After opening the box, please confirm the package contents before starting the operation.If you find that the model and quantity are incorrect or there is physical damage in appearance, please contact us.

Content

Chapter 1 Introduction

The conductivity stainless steel electrode is specially used for the conductivity measurement of pure water, water treatment, etc., especially suitable for the conductivity measurement of thermal power plants and water treatment industries.

Chapter 2 Features

- Double-cylinder structure, the material is made of titanium alloy, which can be naturally oxidized to form chemical passivation, and its anti-permeable conductive surface can withstand all liquids except fluorinated acid.
- Temperature compensation components: NTC2.252K, 2K, 10K, 20K, 30K, PT100, PT1000, etc. can be specified by the user, and NTC10K temperature compensation components are the default.
- The electrode with K=10.0 adopts a large area (long distance) platinum structure, which has strong acid and alkali resistance and strong anti-pollution ability. It is mainly used for online measurement of conductivity in special industries, such as: water treatment and sewage industry, seawater Purification industry, etc.

Chapter 3 Parameters

Electrode constant	Pressure	Range	Connection	Material	Application
0.01	0.4MPa	0-20μS/cm	NPT1/2, NPT3/4, clamp, flow-through	304 or 316L or titanium alloy	power plant Water treatment
0.1	0.4MPa	0-200μS/cm	NPT1/2, NPT3/4, clamp, flow-through	304 or 316L or titanium alloy	power plant Water treatment
1.0	0.4MPa	0-2000μS/cm	NPT1/2, NPT3/4, clamp, flow-through	304 or 316L or titanium alloy or platinum	Water treatment
10.0	0.4MPa	0-20000μS/cm	NPT3/4 ,flow-through	Polysulfone	Water treatment
30.0	0.4MPa	30-600mS/cm	NPT3/4 ,flow-through	Polysulfone	Acid cleaning

Chapter 4 Constructions

Figure 1 Compression type

Figure 2 Clamp type

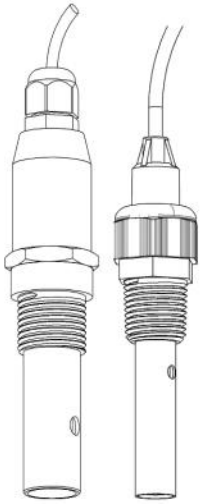


Figure 3 pipeline type

Figure 4 K=10/30

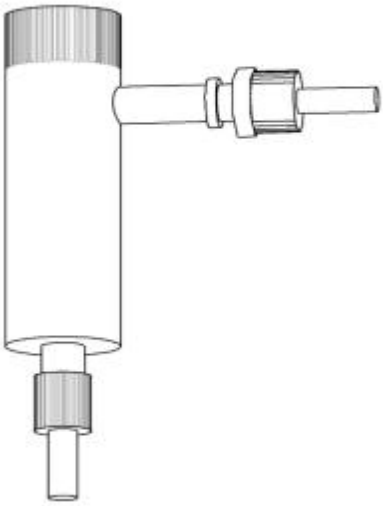
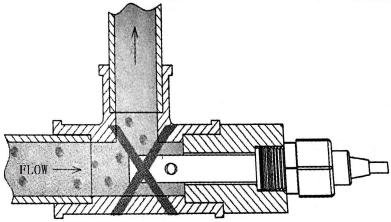


Figure 5 Flowcell

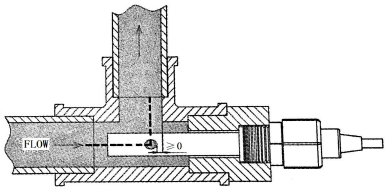
Chapter 5 Installation

Installing the conductivity cell is a very important task. If the installation is abnormal, satisfactory measurement data cannot be obtained. Please choose the installation location carefully when installing the conductivity cell to avoid distortion of the measured quantity data.

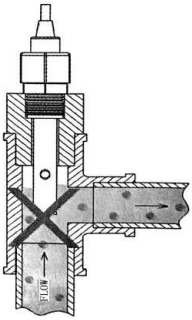
Wrong: Too long the conductivity cell installation seat, resulting in the conductivity cell extension part is too short, can not form active fluid renewal in the conductivity cell, resulting in measurement errors.



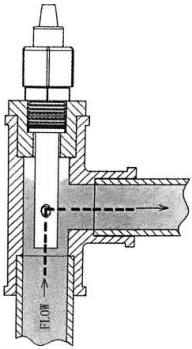
Right: part of the fluid in the pipeline flows through the conductivity cell and is constantly updated, so the measurement is accurate, and the opening of the sensor must face FLOW.



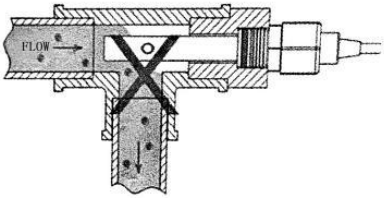
Wrong: An air dead space is formed in the upper part of the pipeline. Although the opening of the conductivity cell affects FLOW, there is still no fluid flowing through the conductivity cell, and the measurement data is worthless and unstable.



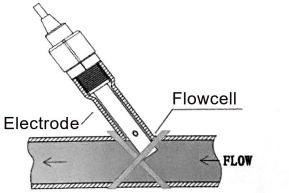
Right: The waist hole of the conductivity cell is located in the fluid, and part of the fluid flows through the conductivity cell to be continuously updated, and the measurement is accurate.



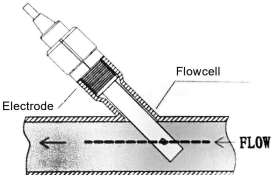
Wrong: The water flow in the pipeline cannot be guaranteed to be full, and the discharged water flow will form higher gas accumulation, the conductivity cell constant is an unknown number, and the data is invalid and unstable.



Wrong: The water flow of the conductivity cell installed in the angular direction cannot flow through the waist hole, and the gas inside the conductivity cell causes the measurement value to be invalid and very unstable.



Right: part of the flow flows through the waist hole of the conductivity cell and is constantly updated, and the measurement data is correct and stable and true.



Chapter 6 Warranty & After-sales Service

We promise to the customer that the hardware accessories provided during the supply of the instrument have no defects in material and manufacturing process. From the date of the purchase, if the user's notice of such defects is received during the warranty period, the company will unconditionally maintain or replace the defective products without charge, and all non customized products are guaranteed to be returned and replaced within 7 days.

Disclaimers:

- During the warranty period, product faults caused by the following reasons are not in the scope of Three Guarantees service
- Product faults caused by improper use by customers.
- Product faults caused by disassembling, repairing and refitting the product.

After-sales service commitment:

- We promise to deal with the customer's technical questions within 2 hours.
- For the instruments returned to the factory for maintenance, we promise to issue the test results within 3 working days and the maintenance results within 7 working days after receiving them.