



Recorder



Flow



Pressure



Temp



Analyzer



Level

Datasheet

Online Residual Chlorine Analyzer

SUP-MCA-CL2

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Datasheet**Online Residual Chlorine Analyzer
SUP-MCA-CL2**

The online residual chlorine analyzer is an intelligent online residual chlorine detection kit for water quality. Adopting high-quality imported components and a hypochlorous acid – selective permeable membrane head, the analyzer operates on the latest polarographic/amperometric technology. Combined with advanced manufacturing and quality control processes, the instrument ensures long-term stability, reliability, and measurement accuracy.

Applications

- Tap water production
- Pipeline networks
- Secondary water supply
- Terminals
- Swimming pools
- Sea water

Features

- Integrated design with unified inlet and outlet connections; wall-mounted installation protects against water flooding and ground moisture, saves floor space, and enables easy installation and maintenance.
- Electrochemical sensors with no reagent consumption and no pollutant discharge.
- Optically isolated (4~20) mA analog output with strong anti-interference capability.
- Optically isolated RS-485 communication.
- High and low alarm thresholds with adjustable hysteresis.
- The buzzer and LCD backlight can be switched on/off.

**Online Residual Chlorine Analyzer**

Principle

The membrane-free residual chlorine sensor employs a three-electrode measurement system with two platinum electrodes and one silver chloride electrode. The built-in high-precision potentiostats enable its working electrode potential to be stable. In operation, disinfectant components such as hypochlorous acid undergo oxidation-reduction reactions at the working electrode, and the generated current follows Faraday's law, thereby measuring the disinfectant concentration.

Parameters	
Measured variables	Residual chlorine
Measurement methods	Reagent-free, electrochemical, 3-electrode amperometric assay system
Working method	Continuous flow monitoring
Measuring range	(0~ 5) mg/L ; (0~ 20) mg/L
Detection limit	0.030 mg/L or lower
Accuracy	±3% of reading (DPD comparison error ±10% or ±0.05 mg/L, whichever is greater)
Repeatability	±3% of reading
Resolution	0.001 mg/L
Response time	$T_{90} \leq 90$ seconds
Transmitter output	Isolated type, (4-20) mA, adjustable measurement range, 500Ω load capacity, output accuracy: ±0.2%FS
Communication	Isolated type, RS-485 output, Modbus-RTU
Alarm output	2-channel SPDT; normally open/closed type; capacity 250V AC, 3A
Power supply	220VAC
Power consumption	≤ 6.5 W
Inlet flow rate	≥ 400mL / min
Pressure resistance	≤ 0.5 MPa
Sample pH range	(4~9) pH
Operating temperature	(0~45) °C
Calibration method	Single-point calibration, two-point calibration
Dimensions	321 mm (W) x 300 mm (H) x 200 mm (D)
Weight	7.5kg

Wiring

Note: The residual chlorine online analyzer operates at 24V DC/220V AC. To sure accurate measurements, please ensure that the ground wire is properly grounded.

Terminal Blocks

The terminal block diagram is shown below.

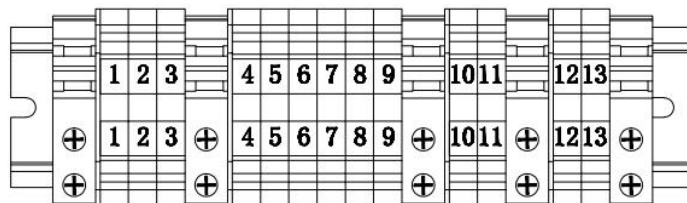


Fig.1 Internal wiring terminals

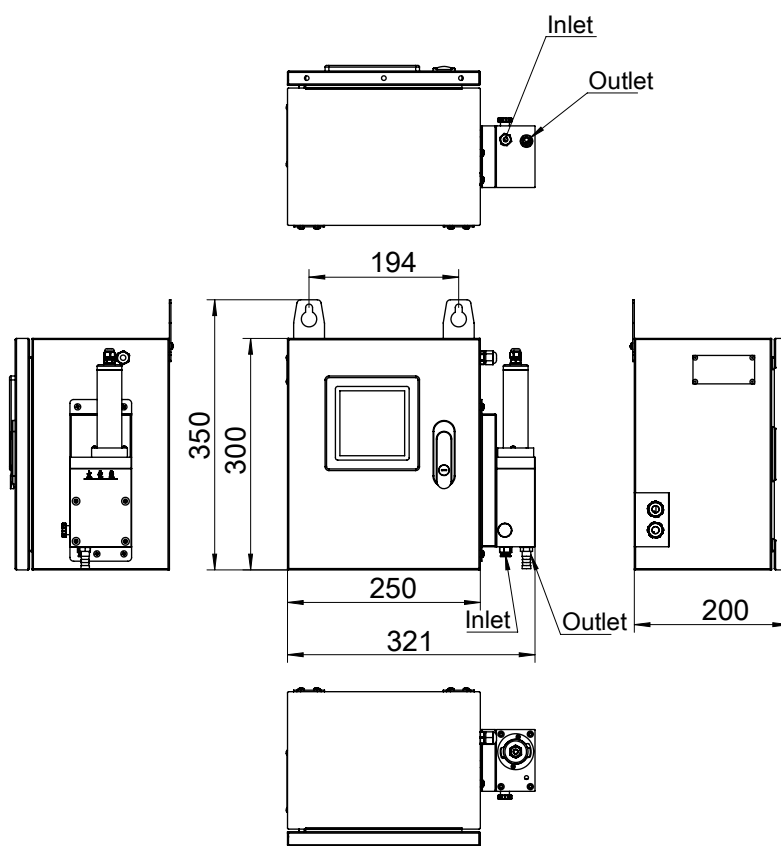
Terminal Definition

Table 1 Terminal Definition

No.	Meaning
1	L: AC 220 V power input-Line
2	NC: Not connected
3	N: AC 220 V power input-Neutral
4	HO: High-alarm relay — normally open (NO) contact
5	HC: High-alarm relay — normally closed (NC) contact
6	COM: Common terminal for high-alarm relay
7	LO: Low-alarm relay—normally open (NO) contact
8	LC: Low-alarm relay—normally closed (NC) contact
9	COM: Common terminal of low-alarm relay
10	485A: RS485 communication — A(+) terminal
11	485B: RS485 communication — B(-) terminal
12	I+: (4-20) mA output positive terminal
13	I-: (4-20) mA output negative terminal

Dimension

External Dimensions



Structure

The residual chlorine online analyzer is shown below.

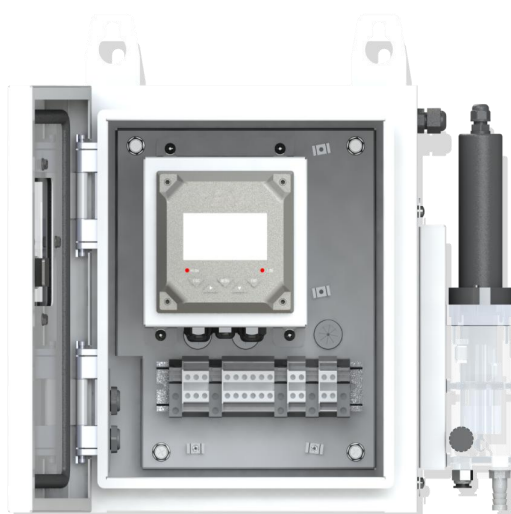


Fig.2 Internal structure diagram

Ordering code

SUP-MCA-CL2														Description
SUP-MCA-CL2	-	-	-	-	-	-	-	-	-	-	-	-	-	
Measurement	WB													0-5mg/L
Range	WC													0-20mg/L
Output	B													4-20mA + RS485
Temperature Compensation Type		1												NTC 10K
Alarm Output			4											2-channel SPDT
Electrical interface				4										PG9 cable gland
Protection level					4									IP54
Power supply							E							220VAC
							C							24VDC

Note:

For the Measuring Range: The specified accuracy of $\pm 3\%$ is validated against the DPD method, with an allowable comparison error of $\pm 10\%$ or ± 0.05 mg/L, whichever is greater.

"Power consumption $\leq 6W$ " is specifically for the 220VAC power supply option (Code E).