Datasheet

Residual Chlorine Meter

AI-MC-CL

Arka Instruments LLP

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The online residual chlorine analyzer (hereinafter referred to as the instrument) is an online water quality monitor with a microprocessor.The instrument adopts LCD screen; intelligent Chinese / English menu operation; current output, free measurement range, high and low overrun alarm prompt and three groups of relay control switches, adjustable delay range; automatic temperature compensation; electrode automatic calibration methods.

Applications

- power plant
- Petrochemical industry
- Metallurgy
- Electronics
- mining industry
- paper industry

Residual Chlorine Meter

Features

- Intelligence: using a single-chip microprocessor to complete the residual chlorine value measurement and automatic temperature compensation;
- Double-high resistance preamplifier: high input impedance, noise prevention, strong interference resistance;
- Zero stable, only a little calibration on site, also provides a variety of calibration methods;
- Human-machine dialogue: menu operation structure, the user can follow the prompts on the screen;
- Multi-parameters display on the same screen: simultaneously display the residual chlorine value, current output and working status;
- Two-way output signals: the software selects ~20mA or 20~4mA output;

Principle

Electrodes adopt the original German imported RG brand and adopt the working principle of film covering current method.

Parameters	
Measurement Range	0.0 - 0.5/2.0/5.0/10.0/20.0/200
Resolution	0.001 (Automatic adjustment of visual range)
Basic Error (@25°C, pH7.2)	For calibration at 0.5ppm within the 0 - 1ppm measurement range: Measured value ± 5% or ± 0.03ppm (take the larger value); For calibration at 1.5ppm within the 1 - 2ppm measurement range: Measured value ± 5% or ± 0.03ppm (take the larger value); For calibration at 5.0ppm within the 0 - 10ppm measurement range: Measured value ± 5% or ± 0.3ppm (take the larger value); For calibration at 15.0ppm within the 10 - 20ppm measurement range: Measured value ± 7% or ± 0.5ppm (take the larger value);
Stability	≤0.02mg/L/24h
Signal Output	4 - 20mA (Load resistance < 500 Ω); 20 - 4mA (Load resistance < 500 Ω)
Three Sets of Relay Control Contacts	3A 250VAC, 3A 28VDC or 120VAC
Power Supply (Optional)	220VAC or 24VDC
Working Environment	Ambient Temperature: 0 - 55°C; Relative Humidity: no more than 90%; Water Temperature: 0 - 45°C

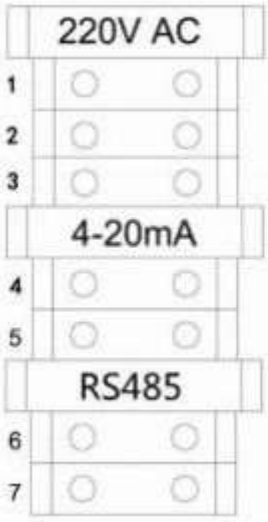
Wiring

Analyzer power supply is 220VAC, the wiring diagram is shown in Figure:

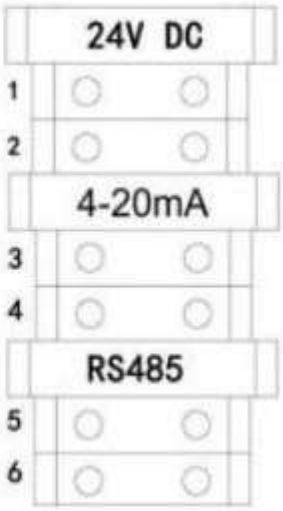
1 --- 220V AC L
2 --- 220V AC N
3 --- 220V AC ⏚
4 --- 4-20 mA +
5 --- 4-20 mA -
6 --- RS485 A
7 --- RS485 B

Analyzerpower supply is 24V DC(apolegamy), the wiring diagram is shown in Figure:

1 --- 24V DC +
2 ---24V GND
3--- 4-20 mA +
4--- 4-20 mA -
5 --- RS485 A
6 --- RS485 B

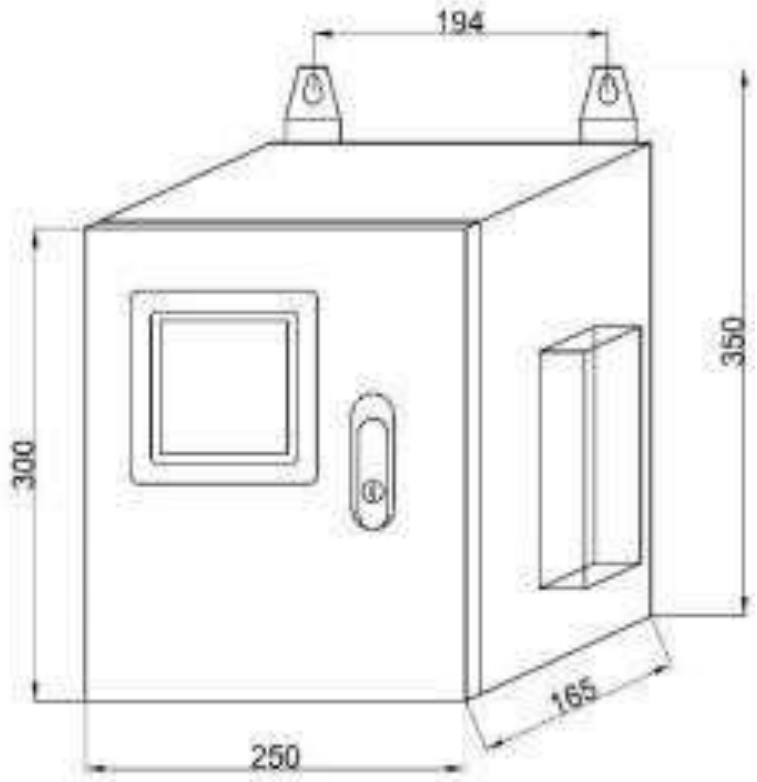


Wiring Diagram of Protective Box



Wiring Diagram of Protective Box

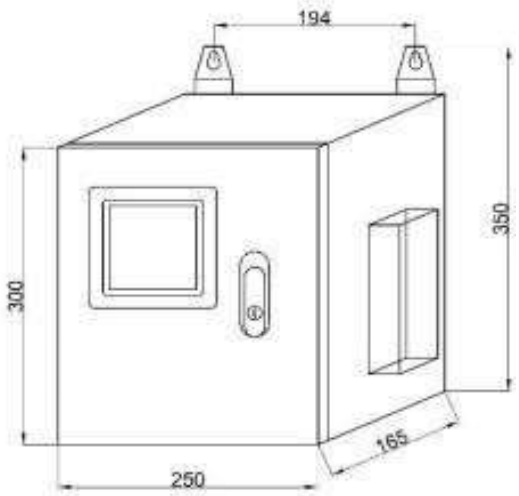
Dimensions



Dimensions

Installation of Protective Box

The protection box integrates analyzer, power supply and electrode, with the characteristics of simple installation and superior protection performance.See the size of the protective box in Figure 1. Install M6-M8 expansion screws on the wall according to the hanging foot spacing and secure the box.Connect with a PE pipe to the inlet and outlet, respectively.If there is no leakage, water test and the next operation.



Electricity Pole Assembly

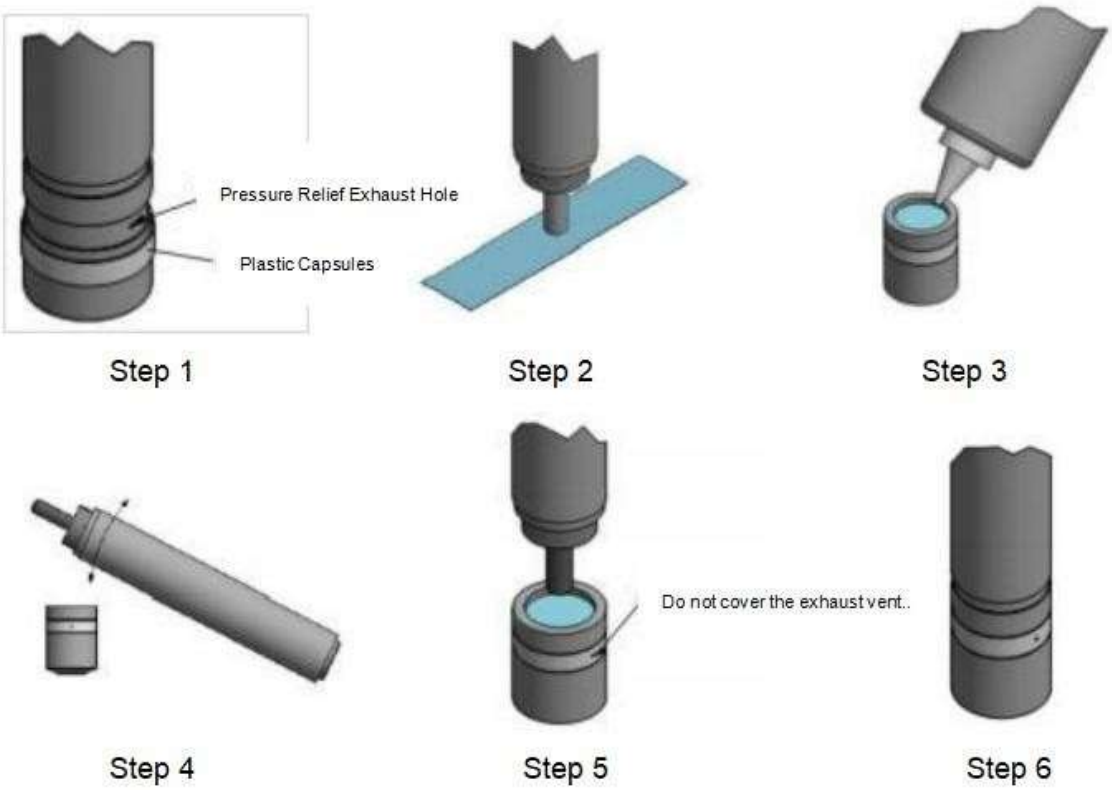
When handling water or solution containing residual chlorine, bring protective glasses and wear protective clothing.

- Remove the electrode front protective cap and unscrew the membrane cap clockwise.
- Remove the O rubber ring on the membrane cap to expose the lower vent.The purpose is to balance the internalpressure to avoid the damage to the permeable membrane, or to eliminate the internal gas, and to avoid the production of air bubbles.(Step 1)
- Place the grinding paper on the horizontal table, hold the electrode vertically to the "8" movement of the electrode front end "gold" and repeat several times.(Refer to Step 2)
- Take out the electrolyte bottle and spin off the bottle cap. Do not shake the electrolyte.
- Fill the electrolyte slowly along the membrane cap side wall until filled.Keeping the membrane cap tilted during perfusion avoids producing bubbles.(Step 3)

If there is gas in the membrane cap, the membrane cover can be gently knocked with an electrode until the bubble no longer appears, in this process the bubble may be attached to the inside of the membrane, the electrolyte can be appropriately supplemented.(Step 4)

- Remove the electrolyte smoothly, cover with the bottle mouth and save properly.
- Place the electrode into the membrane cap and tighten it.It is normal to tighten the membrane cap when the excess electrolyte flows from the vent and membrane cap along the gap.(Step 5)

Wipe off the excess electrolyte with soft paper towels, remove the O adhesive coil back to in situ, and rinse the spilled electrolyte with clear water.(Step 6)



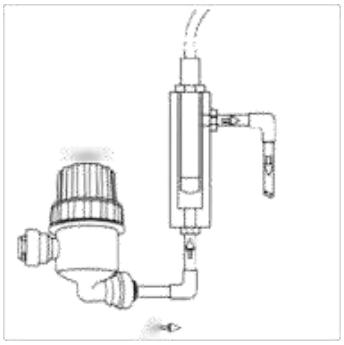
Bypass Installation

- Pass the electrodes through the fixing kit in sequence and tighten to the circulation pool. Do not tighten with tools to avoid damage to the fixing cap.
- The electrode is about 2cm away from the bottom of the circulation pool.

Note:

- Before the sensor is placed into the circulation pool, the system should reduce the pressure and close the stop valve at the front and rear ends of the sampler.
- When the sensor is put into the circulation pool, the probe must be slowly pushed in or pulled out.
- The sensor is not allowed to push into the bottom of the circulation pool and should be at least 2cm from the bottom.

It is recommended to install a front-end filter at the water inlet, as shown in Figure .



Front End Filter Connection Diagram

Ordering Code

AI-MC-CL-WP-B-1-7-3-E-05-NS									Description
AI-MC-CL	-	-	-	-	-	-	-	-	
Measurement Range	WP								0.05-10.00mg/L
	WQ								0.05-20.00mg/L
	WS								0.5-200.00mg/L
	XX								Others
Output		B							4-20mA+RS485
Temperature Compensation Type			1						NTC 10K
Alarm Output				7					3-channel SPDT
Level of Protection					3				IP43
Power Supply						E			220VAC
						X			Others
Cable Length							05		5m
							XX		Others
Housing Material								NS	Plastic ABS

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