Online Residual Chlorine Dioxide Analyzer MS CL 8711B

MANUAL

102 Chinmay 1103A 10 Lakaki Road Model Colony Shivajinagar Pune Maharashtra 411016 INDIA ☏ +91 (0) 9922200377 | +91 (0) 9850041801
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Table

Attention

- Select suitable electrode and installation method according to the environment.
- Please follow the operating procedures and precautions of this manual when using.
- If you find that the instrument is working abnormally or damaged during use, please contact the dealer, do not repair it yourself.
- In order to make the measurement more accurate, the instrument must be calibrated with the electrode; if your electrode has been purchased for nearly one year or the electrode has quality problems, please pay attention to replace it.
- Before performing the calibration work, please connect the instrument to the electrode and warm it up for 30 minutes.
- Due to product updates, this manual is subject to change without notice.

1. Product configuration

Please confirm the analyzer you purchased, the package is complete, if there is any damage to the package or any shortage of accessories, please contact the dealer as soon as possible.The configuration is as follows.

Standard configuration

- ✧ Chlorine dioxide controller ×1
- ✧ Chlorine dioxide sensor×1
- ✧ Flow sell ×1
- ✧ Locking bars ×2
- ✧ User manual ×1
- ✧ Product certification ×1

Optional accessories

- ✧ 485 communication interface and 485 change into 232 or 485 change into USB interface.

2.Product introduction

Our company's chlorine dioxide meter is a micro-type water chlorine dioxide online measuring and controlling instrument. using advanced non-membrane constant voltage sensor. user do no have to replace diaphragm and pharmacy, high sensitivity, rapid signal response, accurate measurement, stable performance and easy maintenance. Using this series of advanced analytical techniques to ensure the long-term stability and reliability of the instrument. There are English menu operation, 485 communication and other functions.

It can continuous monitoring and control of chlorine dioxide content in aqueous solution for drinking water treatment plants, canning plants, drinking water distribution networks, swimming pools, cooling circulating water, water treatment projects, etc.

2.1 Main features

- ✧ Large screen LCD display, English menu (switching from each other).
- ✧ Simultaneous display of multiple parameters: chlorine dioxide value, output current, etc. are displayed at the same time, which is intuitive and easy to read, and has a range over limit prompt.

- ✧ Capable for factory reset.
- ✧ Communicate function: RS-485 communication interface (optional, MODBUS protocol partially compatible). 4-20mA current output can be arbitrarily set.
- ✧ Photoelectric isolation 4-20mA current output.
- ✧ The hysteresis amount can be arbitrarily set to avoid frequent switching of the switching relays.
- ✧ Watchdog function: make sure the meter doesn't crash.
- ✧ Power off protects>10 years.

3. Technical indicators

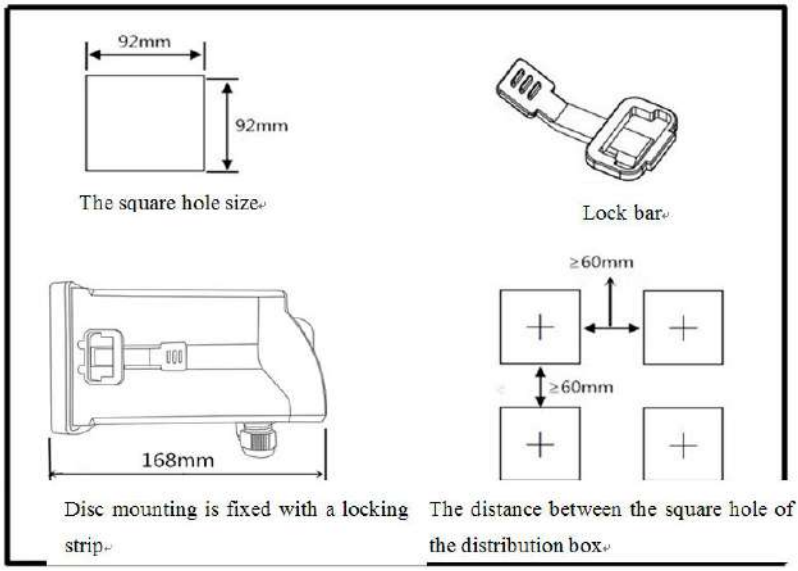
- ✧ Measuring range: 0-20.00mg/L(ppm)
- ✧ Resolution: 0.01mg/L, 0.1°C
- ✧ Accuracy: ±1% FS
- ✧ Control interface: two sets of ON/OFF relay contacts, which are divided into high-point and low-point alarm signals. The third group of relays: automatic cleaning control function analog output.
- ✧ Signal isolated output: optocoupler isolation protection 4~20mA signal output.
- ✧ Relay: The relay hysteresis is arbitrarily set, and the relay load is 3A 220VAC/24VDC.

- ✧ Working conditions: ambient temperature is 0~60°C, relative humidity ≤90%.
- ✧ Output load: load<750Ω (4-20mA).
- ✧ Working voltage: 220VAC10%, 50/60Hz.
- ✧ Size: 96×105×168 mm.
- ✧ Opening size: 92×92mm.
- ✧ Weight: 0.9Kg.
- ✧ Protection level: IP65

4. Instrument installation

4.1 Installation of main unit

The instrument should be installed in a clean, dry, well ventilated, vibration-free location with no corrosive gases around it.



4.2 Electrodes

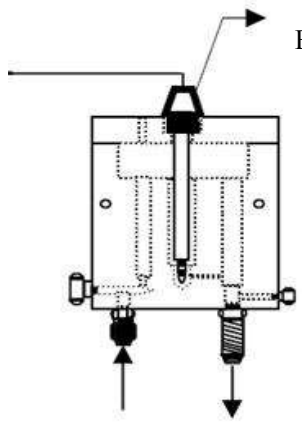
The electrode must be installed in the constant current electrode seat hole of the constant current device if the constant flow device continuously passes water, and ensure that the electrode is always immersed in the water. If the constant current device loses water for a long time, please Take out the sensor and cover it with the original protection cap. And make ensure there is protective liquid in the cap. The specific installation is as follows.

A、Taking out the electrode from the protective cap. Note: If you

try to install it temporarily, it is best to save the protective cap, so that after the test installation, the sensor is suggested to cover with the protective cap. The protective solution is slightly corrosive, and if it gets on the skin, it will be rinsed off with water.

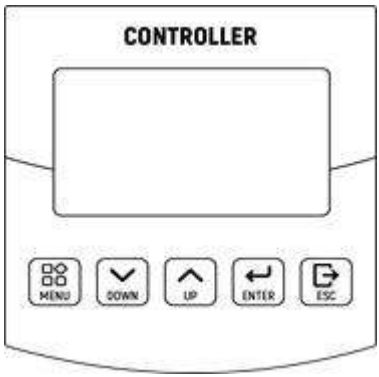
B、Inserting the electrode into the constant hole of the constant current device (close to the hole of the water outlet). Be careful not to damage the glass head on the top of the sensor. Be sure to use the raw material tape (threaded part) for waterproof sealing before installation. The on-line monitoring of the measured medium should be kept at a constant flow rate and constant, with a minimum flow of 15 cm3/s.

Installation diagram



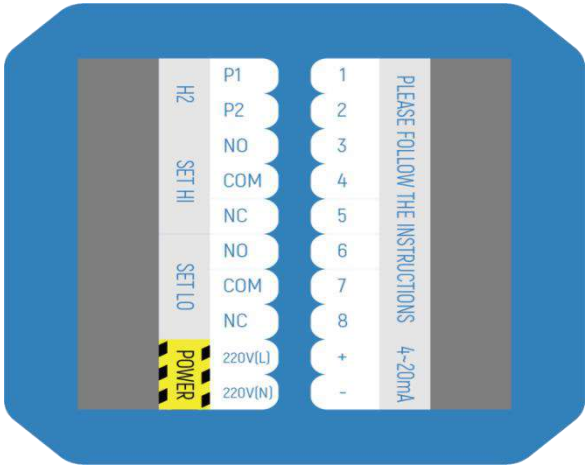
5. Instrument panel and connection instructions

The buttons of front side



1. MENU
2. DOWN
3. UP
4. ENTER
5. ESC

Wiring instructions for the rear panel



P1: H2 relay normally open port	1. IN: (White transparent wire)
P2: H2 relay common port	2. EL: (Black wire)
HI NO: High point relay normally open port	3. REF: (Yellow wire)
HI COM: High point relay common port	4.Temp
HI NC: High point relay normally closed port	5.Temp
LO NO: Low point relay normally open port	6.empty
LO COM: Low point relay common port	7. RS485 A

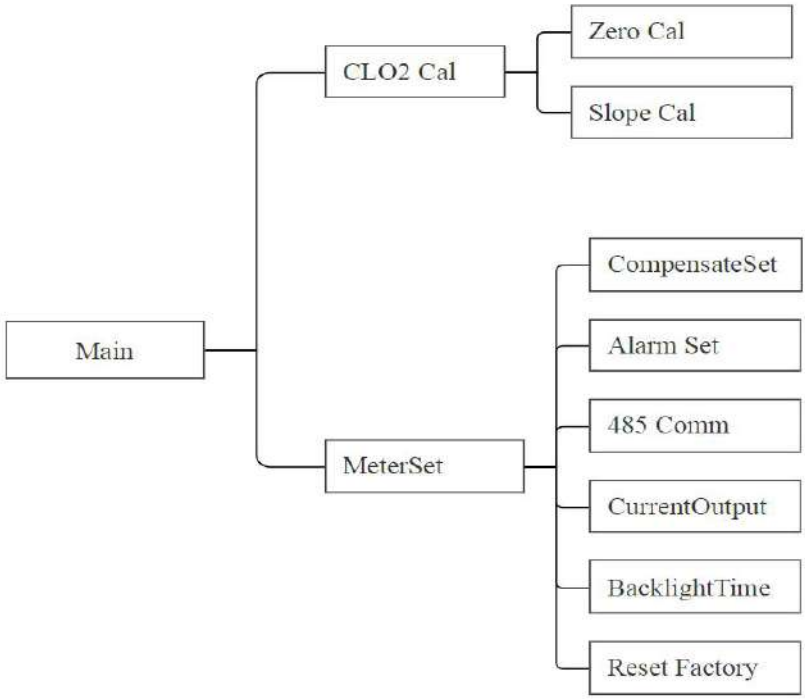
LO NC: Low point relay normally closed port	8. RS485 B
Power： 220V (L)	9. 4~20mA+
Power： 220V (N)	10. 4~20mA-

Attention: If you needs RS-232 communication, please select the appropriate RS-485 to RS-232 device. The RS-485 interface part of this instrument is compatible with MODBUS protocol. For details, please consult the manufacturer or distributor.

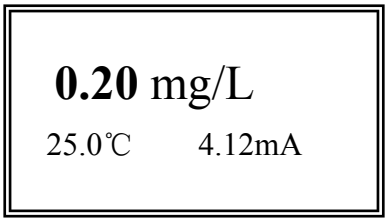
1. Make sure the wiring is correct before powering on. The wrong wiring may cause damage to the instrument.
2. Power can't be bypassed from high-power equipment, power line is separated from signal line.
3. The standard cable of the electrode sensor is 5 meters long. If necessary, the user can extend the cable by himself, but the maximum is no more than 15 meters. For the extension cable, a silver-plated three-core low-resistance cable with shielded wire is required. Extension cords are recommended to be connected with a highly insulated junction box.

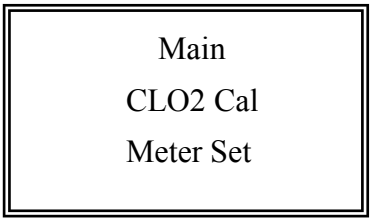
6.Meter function setting

6.1 Menu structure



6.2 Main interface and Main menu





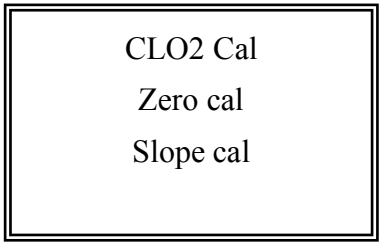
The chlorine dioxide value in the main interface is the main display, and the temperature value and current value are the sub display. Above is the current chlorine dioxide measurement, 4.12mA is the current output value.

6.3 CLO2 Cal

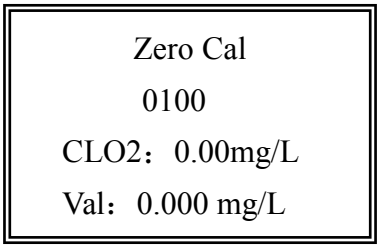
Due to the constant pressure method, the zero potential and the electrode slope of the new chlorine dioxide electrode are basically the same. no calibration is required during normal use. As the use process will gradually change, resulting in aging, which requires a certain period of "calibration" to ensure measurement accuracy. The menu is as follows:

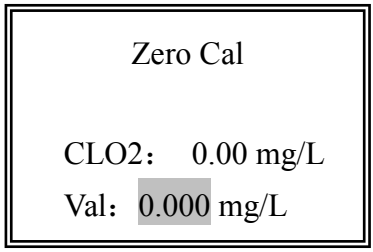
Press the up and down keys on the main menu to select the chlorine dioxide calibration, press ENTER to enter the chlorine dioxide calibration interface.

6.4. CLO2 zero Cal



If you need to calibrate the zero point of the chlorine dioxide electrode, gently blot the electrode before calibration, place the electrode in the chlorine Dioxide-free water (such as distilled water, purified water, etc.), press the ENTER key to enter the instrument, then press the MENU menu selection key to pop up the cursor, press Up and down key modification





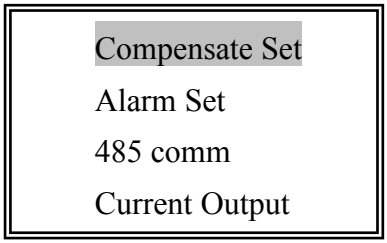
The default value is 0, usually no need to change, wait for stability and press ENTER to save the data. Press the ESC key to return to the previous menu.

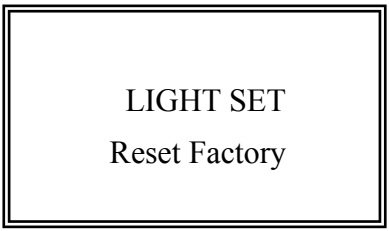
6.5. CLO2 slope cal

If you need to calibrate the slope of the chlorine dioxide electrode. Enter the chlorine dioxide slope calibration menu. Before calibration, place the chlorine dioxide electrode in the residual concentration standard chlorine solution, press the ENTER key to enter the instrument, and then press the MENU menu selection key to pop up the cursor. The default value is 0.20mg/L. Press the up and down keys to change it to already Concentration value, such as 0.30mg/L, wait for the chlorine dioxide value to stabilize and press ENTER to save the data. After the chlorine dioxide value is stable (±0.01mg/L), it indicates that it has been marked. Press the ESC key to return to the previous menu.

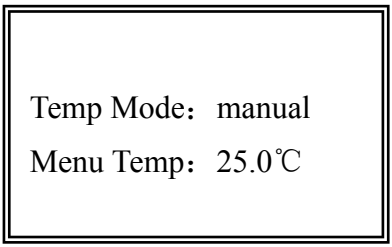
6.6. Compensate set

Pressing the up and down keys in the main menu to select the parameter setting, press ENTER to enter the parameter setting menu, as shown below, the left picture is the first page, and the right picture is the second page. Press the up and down keys to select each setting. The first item is selected in this section.





Press ENTER to enter the compensation setup menu. press the MENU menu selection button to pop up the cursor and move the cursor. press the up and down keys to modify. the temperature is divided into manual or automatic mode. if automatic is selected, the manual value is invalid, and vice versa. when equipped with an NTC thermistor, the true value is measured automatically. if there is no NTC thermistor, you can choose manual input.



Press ENTER to save the data, press ESC to return to the previous menu.

6.7. Alarm set

Select the alarm setting in the parameter setting menu and press the ENTER key to enter the alarm setting menu. Press the MENU menu selection button to pop up the cursor and move the cursor. You can press the up and down keys to modify it.

High: 20.0 Lag H: 0.5 Low: 0.0 Lag L : 0.5	High : 20.0 Lag H: 0.5 Low: 0.0 Lay L: 0.5

In order to avoid the relay from beating or controlling the chlorine dioxide value, this instrument has this function. The specific operation is as follows:

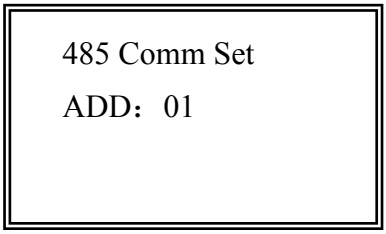
Press the up and down to adjust the hysteresis. That is to adjust the relay hysteresis (customer can adjust in this range according to need, the factory default value is 0.5) After adjusting, press ENTER to store, press ESC to return to the previous menu**.**

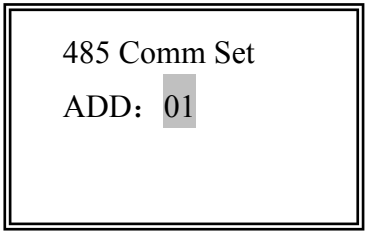
High limit relay: will be in the actual measured value higher than the high alarm setting value HIGH value

Time action, when the actual measured value falls below (high point H value - hysteresis H value)

Low limit relay: It will be operated when the actual measured value is lower than the low alarm set value LOW value, and the actual measured value will rise again when it rises above (low point L value + hysteresis L value). Useful to extend the life of the relay or AC contactor. Therefore, the user must set the high, low and hysteresis according to the actual situation.

6.8. 485 comm Set(optional)





Selecting 485 Communication in the parameter setting menu and press ENTER to enter the 485 communication menu. Press the MENU menu selection button to pop up the cursor and move the cursor.

Press the next button to modify it. The communication address (hexadecimal), press ENTER to store the data, press ESC to return to the previous menu. (Note: Please consult the manufacturer or distributor for specific protocol specifications)

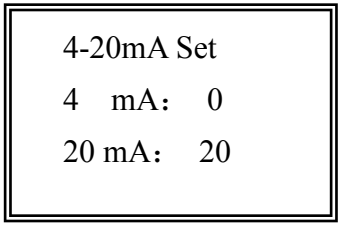
6.9. Current output

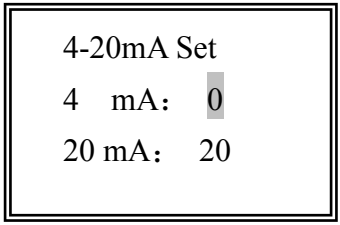
The chlorine dioxide value corresponding to the 4-20 mA output is 0-20 mg/L, but the user can arbitrarily set the corresponding value according to his own requirements to meet the industrial control needs. Press the MENU menu selection button to pop up the cursor, move the cursor, press the up and down keys to modify, press the ENTER key to store the data, press the ESC key to return to the previous menu. Output current (mA): $I=16\times(C-A)/(B-A)+4$

Note: I is the output current value, $4mA\leq I\leq 20mA$.

C is the current chlorine dioxide value measured by the meter, $0.00\leq C\leq 20mg/L$.

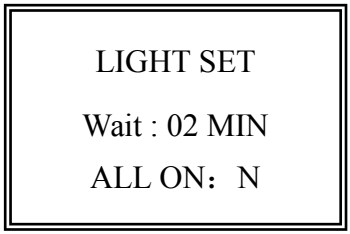
A is the number corresponding to 4 mA in the setting. B is the value corresponding to 20 mA in the setting.

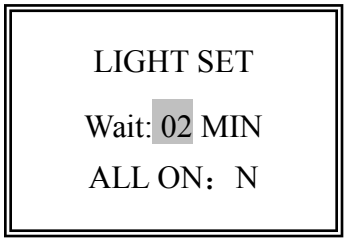




6.10. Backlight time

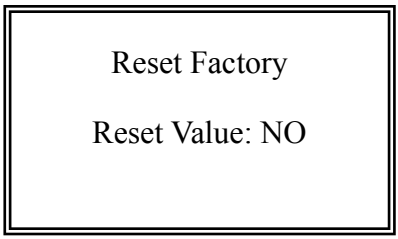
Selecting the backlight time in the parameter setting menu and press the ENTER key to enter the backlight setting menu. Press the MENU menu selection button to pop up the cursor and move the cursor. You can press the up and down keys to modify. Press ENTER to store the data, press ESC to return to the previous level.
menu. Backlight control allows the meter to save power, protect the display, and extend life

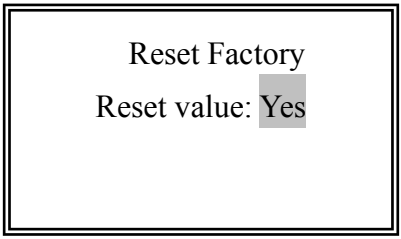




6.11. Reset Factory

In the parameter setting menu, select Reset factory value and press ENTER to enter the factory default menu. Press the MENU menu selection button to pop up the cursor, you can press the up and down keys to modify. Press ENTER to store the data, press ESC to return to the previous menu





7. Daily maintenance points

The instrument has been calibrated before leaving the factory and can be put into use directly by the user.

The on-line monitoring of the measured medium should be kept at a constant flow rate and constant, with a minimum flow of 15 cm3/s. General instrument failure rate is low.

MicroSet INSTRUMENTATION & CONTROLS

TEST / CALIBRATION CERTIFICATE

Calibration Date: __ __ / __ __ / 2 0 __ __

ITEM DETAILS

Name : **Chlorine Dioxide Indicating Controller Transmitter**

Make : MicroSet

Model : MS CL 8711B

Serial No : __ __ __ __ __

Input : Chlorine Sensor SN : __ __ __ __ __

READING

Standard Solution ppm	Observed Reading Before Calibration ppm	Observed Reading After Calibration ppm	Observed Reading After Calibration mA

Relay RL–1 Working OK ☐

Relay RL–2 Working OK ☐

Calibrated By,

Sign *Seal*

Initials

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MicroSet
INSTRUMENTATION & CONTROLS

WARRANTY CERTIFICATE

MicroSet warrants each instrument to be free from defects in material & workmanship. This obligation to servicing or part returned to the company for that purpose & making good any parts thereof which shall be within warranty period, returned to the company under a written intimation & which to the company's satisfaction to be found defective. The company reserves the right to decide the workplace for the repair work. The freight for defective material will have to be borne by the buyer, & the transit risk for such material will rest with the buyer. The warranty is applicable only if the instrument is used within its specification.

THIS WARRANTY IS VALID UP TO 12 months from date of Tax Invoice (Sensors Carry No Warranty since Consumables)

ITEM DETAILS

Name	:	Chlorine Indicating Controller Transmitter
Make	:	MicroSet
Model	:	MS CL 8711
Serial No.	:	__ __ __ __ __

Seal

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