

AE8409 荧光法溶氧仪

中英文使用说明书



Fluorescence dissolved oxygen meter

引言

- 感谢您购买本公司生产的荧光法溶氧仪
- 本手册仅提供本产品的相关测量功能的使用方法以及使用方面的注意事项,要发挥本产品的最佳使用效能,使用前请详阅本手册,并妥善保管本手册以便不时之需。
- 当您收到此产品时请检查仪器是否完好,配件是否齐全,如有缺失或是其它任何问题请您尽快与供应商联系。

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English

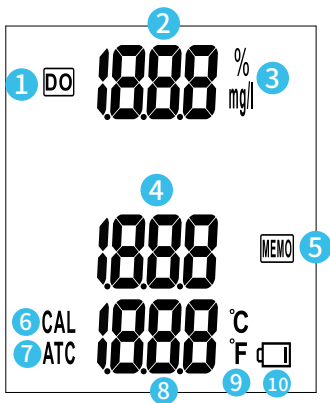
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产品参数

型号: AE8409

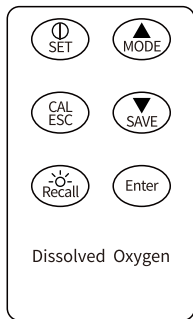
溶解氧测量范围	0.0~15.0毫克/升 (mg/L) 0~119.9%
溶解氧分辨率	0.1毫克/升 (mg/L)
溶解氧精度	±3.0%满量程
溶解氧校正	空气中100%饱和溶氧校正
温度测量范围	0~50℃
温度分辨率	0.1℃
温度精度	±0.5℃
工作环境	0~50℃; 0~80%RH
存储环境	0~60℃; 0~90%RH
温度单位切换	℃/°F切换
记录数据	手动记录99笔
盐度补偿	0~42ppt
海拔补偿	0~1000m
自动温度补偿ATC	支持
自动关机	无操作30分钟后
LCD尺寸	41*50mm
背光	支持
探头线长	约3.5米(加探头)
供电	AAA*4pcs
产品尺寸	65*28*165mm
产品标配	仪器/探头/(1.5V)AAA*4/合格证 说明书/手提箱

屏幕介绍



- | | |
|---------------------------|--------------|
| 1. “DO”测量模式 | 2. 当前读数 |
| 3. 溶氧单位 | 4. 存储笔数 |
| 5. 数据存储在图标 | 6. “CAL”校正模式 |
| 7. “ATC”自动温度补偿 | |
| 8. 温度读数 | 9. 温度单位 |
| 10. 低电量提示, 请更换电池以保证测量的准确性 | |

按键介绍



ⓘ/SET键:短按开关机/长按进入设定模式

CAL/ESC键:测量模式下长按进入校正模式/设定模式下短按退出设定模式

☀/Recall键:短按开启或关闭背光灯/长按查看已保存的数据,按上下键可以逐条查看记录数据,按ESC键可退出记录查看模式。

▲/Mode键:增加数值/切换模式

▼/Save键:减少数值/切换模式/测量模式下短按可手动保存数据(最高99笔)

Enter键:确认键

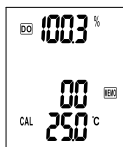
校正步骤

注:出厂时进行了精确的校正,如果测量值符合规格,则无需校正!
按照测量要求,可时常进行饱和氧校正(气温变化比较大时请进行饱和氧校正)

- 1.仪器在温度相对稳定的环境中放置2个小时或以上,尽量关闭电器开关,将仪器置放于台面上。
- 2.按“ $\odot$ /SET”键开机。
- 3.校正时要在百分比“%”模式下,按“ $\blacktriangle$ /Mode”键可以切换。



- 4.按照P70海拔补偿设定,校正前必须手动输入海拔高度。
- 5.长按“CAL/ESC”键大于1秒进入校正,等待5s自动校正完成,校正完成显示99%~101%为正常,超出该数值则需重新校正。



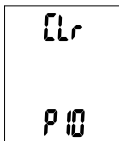
- 6.按“ $\blacktriangle$ /Mode”键切换到毫克/升“mg/L”单位,就可以开始测量了。
- 7.如果**半小时没有任何按键操作就自动关机**;要取消自动关机,则在关机状态下同时长按“ $\odot$ /SET”+“ $\blacktriangle$ /Mode”键开机,直到显示“n”字样则仪器自动关机解除,仪器会一直开机至电池耗尽。

测量

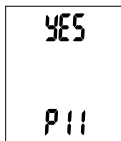
- 1.装好电池,接好探头。**(注:本机需使用碱性电池!)**
- 2.按“⓪/SET”键开机。
- 3.按“▲/Mode”键可以切换“%”/“mg/L”模式。
- 4.在空气中等1~3分钟待数值稳定。
- 5.如果测量海水需要手动设定盐度补偿,设置完以后就可以开始测量了。
- 6.将测棒头放置在待测水层深度**(测棒头不能碰到池底)**,测棒微微摆动,可使数据更快稳定,2~3分钟后,数值稳定,即可记录测量数据。
- 7.每次使用完要用清水冲洗,确保顶端荧光膜干净。如果顶端荧光膜有脏,可以用超声波清洗机清洗,也可以旋下保护罩用软毛牙刷刷洗。

设定

1.P10删除保存数据:测量模式下,长按“ Φ SET”键进入设定模式P10,按“Enter”键到P11,按“ $\blacktriangle$ /Mode”或“ $\blacktriangledown$ /Save”键出现“YES”字样,按“Enter”键删除保存数据并回到P10。



(P10)

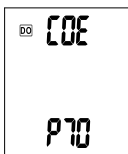


(P11)

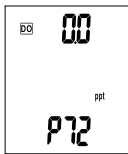
2.P70盐度/海拔高度补偿:在设定模式P10,按“ $\blacktriangle$ /Mode”或“ $\blacktriangledown$ /Save”键切换到P70,

- a) 按“Enter”键到P72盐度补偿,按“ $\blacktriangle$ /Mode”或“ $\blacktriangledown$ /Save”键调整到实际盐度(淡水为0.0ppt),按“Enter”键保存。
- b) 按“Enter”键到P73海拔补偿,按“ $\blacktriangle$ /Mode”或“ $\blacktriangledown$ /Save”键调整到实际地点的海拔高度(百米的倍数),按“Enter”键保存;

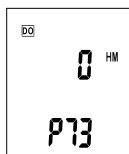
海拔补偿只需在校正时输入当前海拔高度,测量不受海拔高度影响。



(P70)



(P72)

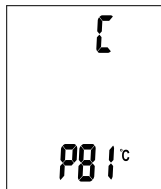


(P73)

3.P80切换温度单位:在设定模式P10,按“ $\blacktriangle$ /Mode”或“ $\blacktriangledown$ /Save”键切换到P80,按“Enter”键进入P81再按“ $\blacktriangle$ /Mode”或“ $\blacktriangledown$ /Save”键切换 $^{\circ}\text{C}/^{\circ}\text{F}$ 单位,按“Enter”键保存,最后按“CAL/ESC”回到测量模式。



(P80)



(P81)

4.测量模式下，按“▼/Save”键保存当前测量数据。

5.测量模式下，长按“↺/Recall”键查看保存数据，按“▲/Mode”或“▼/Save”键翻看保存的数据，按“CAL / ESC”键退回测量模式。

故障代码

- 1) E02:测量值超出下限；
- 2) E03:测量值超出上限；
- 3) E04:测量温度错误；
- 4) E31:硬件问题，需要维修；

使用常见问题

1. 错误操作：**从来不清洗测棒。**

每天测量结束后，**一定要用清水（如自来水）清洗测棒头**，冲洗或漂洗掉泥浆、有机碎屑、藻类等附着物；

2. 错误操作：**使用完没擦干、没晾干。**

使用完要用毛巾或纸巾擦干，放置通风处晾干，否则会慢慢损坏！

3. **长时间不使用，请把电池取出，将探头清洗干净晾干，常温避光保存。否则会影响仪器正常使用！**

特殊声明

- 1.旧电池必须按照地方法律和规则来处理。
- 2.本公司保留对本产品设计规格及说明书内容的更新,修改权利,若有变更恕不另行通知!

保修事项

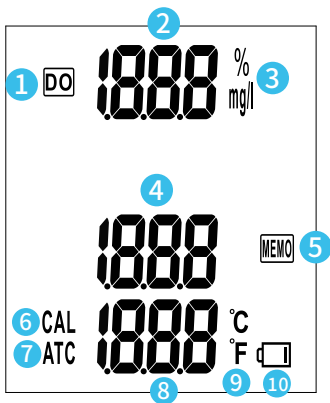
- 1.本产品自购买日起,在正常使用未经拆装,维修或第三方因素的损坏下一年内享受保修服务,在任何正常情况下均提供维修。
- 2.上述保修条款只对主机有效,探头配件等耗材不在保修范围内。

Specification

Model: AE8409

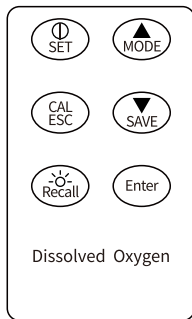
Dissolved Oxygen measuring range	0.0~15.0mg/L 0.0~119.9%
Dissolved Oxygen Resolution	0.1mg/L
Dissolved Oxygen accuracy	± 3%Full Scale
Dissolved Oxygen calibration	100% in free air for Dissolved oxygen calibration
Temperature measurement Range	-5~65.0℃
Temperature Resolution	0.1℃
Temperature Accuracy	± 0.5℃
Working environment	0~50℃; 0~80%RH
Storage environment	0~60℃; 0~90%RH
Unit Selection	℃/°F
Data record	Maximum 99 record (Manually)
Saltine compensation	0~42ppt
Altitude compensation	0~1000meter
Temperature compensation	Automatic temperature compensation (ATC)
Auto Power off	power off after one hour if no any key in action detected.
LCD display size	41*50mm
Backlight	Support
sensor wire length	about 3.5 meter (included sensor probe)
Power supply	AAA Size battery*4pcs
Product size	65*28*165MM
Accessories	Instrument /Probe/(1.5V)AAA*4pcs/ Qualification/Manual/Suitcase

Screen introduction



- | | |
|--|---------------------------|
| 1. "DO" Measurement mode | 2. Current reading |
| 3. Content unit | 4. Number of stored pens |
| 5. Storage icon | 6. "CAL" Calibration mode |
| 7. "ATC" Automatic temperature compensation | |
| 8. Current temperature | 9. Temperature unit |
| 10. Low battery prompt, please replace the battery to ensure the accuracy of measurement | |

Keys function



⏻ /SET key: Depress it to turn unit ON or OFF, depress it more than two seconds go to SETUP mode.

CAL/ ESC key: At normal measurement mode depress it more than 3 seconds go to Calibration mode, in setup mode depress it escape from setup mode.

☀/Recall key: Depress it to turn the backlight ON or OFF, depress it more than 3 seconds to recall the stored data, at this mode depress "▲" or "▼" key to move up or down of the data record. Depress ESC key escape from this mode.

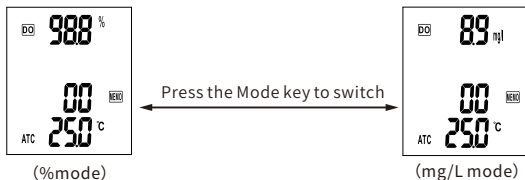
▲/Mode key: Select mode / increase

▼/Save key: Select mode / reduce / in normal measurement mode, depress it can save data (maximum 99 record).

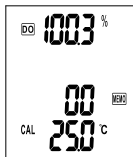
Enter key: confirm key.

Calibration

1. Depress SET key turn unit ON.
2. In Calibration mode, if you want show in %, depress Mode key can be switch between mg/L and %.



3. Set the altitude of the calibration site in P73 setting mode.
4. Depress "CAL/ESC" key more than 1 second go to Calibration mode, wait 5 seconds for auto calibration completed. After calibration LCD display shown 99~101% is normal, if over this range, please repeat the calibration again. sure no water or mud at the golden electrode



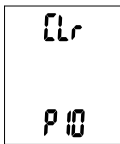
5. Depress "▲/Mode" key to switch between "mg/L" can start to measure.
6. If no any key is detected, unit will be turned off after one hour; To cancel the auto power off function, in unit turn off stage, depress "⊙/SET" + "▲/Mode" at the same time to turn the unit ON, until LCD screen shows "n" wording, it means no auto power off, unit will turn on until you turn it off manually.

measurement

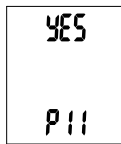
1. Install the battery and connect the probe. (Note: alkaline battery is required for this machine!)
2. press “ Φ /SET” to turn on the meter.
3. press “ $\blacktriangle$ /Mode” to switch unit between % and mg/L.
4. Wait about 1~3 minutes until the measurement data is stable in the air.
5. Salinity compensation should be set first in seawater measuring, then press “ $\blacktriangle$ /Mode” to switch unit to mg/l it's ready to start measuring.
6. Place the probe to the depth of the water layer to be measured, the probe should swing back and forth, not stand still, the temperature of the measuring probe and the temperature of the water layer to be measured reach a balance after 2~3 minutes, then the measurement data can be recorded.
7. Rinse with water after each use to make sure the top fluorescent membrane is clean. If the top fluorescent membrane is dirty, it can be cleaned with an ultrasonic cleaner, You can also remove the protective cover and scrub with a soft bristled toothbrush.

Setting

1.P10-Deleting data:while in measuring mode, press “ $\odot$ /SET” more than 1 second to enter Setting mode P10, press “Enter ” to enter to P11, press “ $\blacktriangle$ /Mode” or “ $\blacktriangledown$ /Save” to until “YES” appears, then press “Enter ” to delete the saving data and return to P10.



(P10)

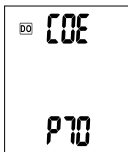


(P11)

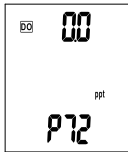
2.P70:while in P10,press “ $\blacktriangle$ /Mode” or “ $\blacktriangledown$ /Save” to switch to P70,

a)press “Enter ” to switch to P72-salinity compensation, press “ $\blacktriangle$ /Mode” or “ $\blacktriangledown$ /Save” to adjust salinity value, press “Enter ” to save the setting.

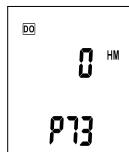
b)press “Enter” to switch to P73-Altitude, press “ $\blacktriangle$ /Mode” or “ $\blacktriangledown$ /Save” to adjust the altitude of the calibration site(Multiple of 100 meters) press “Enter” to save.



(P70)



(P72)

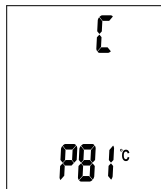


(P73)

3. P80:while in P10, press “Mode / $\blacktriangle$ ” or “Save / $\blacktriangledown$ ” to switch to P80, press “Enter ” to switch to P81, press “Mode / $\blacktriangle$ ” or “Save / $\blacktriangledown$ ” to select $^{\circ}\text{C}$ or $^{\circ}\text{F}$, press “Enter ” to save the setting. Finally, press CAL/ESC to return to the measurement mode.



(P80)



(P81)

4. While in measuring mode, press “▼/Save” to save the measurement data.

5. While in measuring mode, press “↶/Recall” more than 1 second to recall the saved data, press “▲/Mode” or “▼/Save” to view the saved data one by one, press “CAL / ESC” to return to measuring mode.

Error message

- 1) E02: Measurement data is under the lower limit,
- 2) E03: Measurement data is over the upper limit,
- 3) E04: Temperature measurement is error,
- 4) E31: Hardware failure.

Common problems

1. Never clean the probe

Rinse with water after each use to make sure the top fluorescent membrane is clean;

2. If don't use it for a long time:

1) **Rinse with water to make sure the top fluorescent membrane is clean**, let dry in a cool, ventilated place.

2) Take out the battery.

3. If not used for a long time, please take out the battery, clean and dry the probe, and avoid light at room temperature. Save. Otherwise it will affect the normal use of the instrument!

Special announcement

- 1.You,as the end user, are legally bound (Battery or dinance) to return all used batteries and accumulator: disposal in thehousehold garbage is prohibited”
You can hand over your used batteries / accumulators at thecollection points in your community or wherever batteries laccumulator are sold!
Disposal: Follow the valid legal stipulations in respect of thedisposal of the device at the end of its life cycle.
- 2.Our company to reserve the rights to modify and update thecontent of this manual and design specification without furthernotice.

Warranty matters

- 1.The meter is warranted to be free from defects inmaterial andworkmanship foraperiod ofone yearfromthe date of purchase.This warranty covers normaloperation and does notcover batterymisuse, abuse,alteration, tampering, neglect, improper maintenanceordamage resulting from leaking batteries.
- 2.The above warranty terms are only valid forthemain instrumentand consumables such as probeaccessories are not covered by thewarranty.

Dongguan Fulanke Technology Co., LTD

Address: No. 221, Jiaoyu Road, Dalingshan Town
Dongguan City

Official website: www.azovtes.com

Phone: 0769-82788006

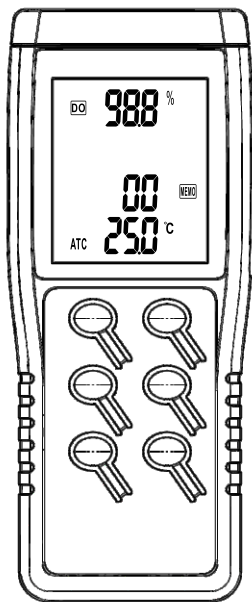
E-mail: azovtes@163.com





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东莞市富兰克科技有限公司

地址:广东省东莞市大岭山镇教育路221号

官网:www.azovtes.com

电话:0769-82788006

邮箱:azovtes@163.com

