OMEGA DOH-10 Handheld Dissolved Oxygen Meter Kit with Optional SD Card Data Logger User Guide

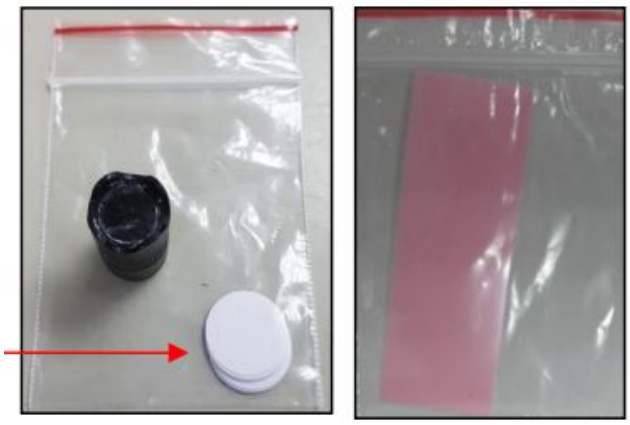
Contents

OMEGA DOH-10 Handheld Dissolved Oxygen Meter Kit with Optional SD Card Data Logger

FEATURES

- Professional look design portable meters with large LCD display,
- Meter is designed with BNC connector compatible to any DO galvanic electrode.
- Hold function, power capacity icon indicator, and automatic power off in 15 minutes and may disable.
- RFS (Recover to Factory Setting) function is included.
- Built-in different temperature compensation selectable: Thermistor 30K, 10K ohm and not25.0 (manual compensation).
- DO 100% air self-calibration is convenient and simple. (Calibrated both Saturated DO / zeroDO (Na2SO3) before shipment)
- Compact DO electrodes supplied with 3M cable and membrane cap, electrolyte.
- Galvanic electrodes do not require long “warm up” time as polarographic type electrodes (Polarization is required about 10-15 minutes).
- Applications: Aquariums, Bio-reactions, Environmental testing (lakes, streams, oceans), Water / Wastewater treatment, Wine production
- Tripod receptacle mountable design for long time monitoring purposes.

SUPPLIED



1. Meter
2. Battery-AAA x 3 pcs
3. Electrode x 1pcs (DO Galvanic type)
4. Black carrying case
5. Electrolyte (0.5M NaOH) x1
6. Membrane cap x 1
7. Membrane x 10pcs
8. Red sandpaper (for polishing DO electrode)
9. 8G SD card (DOH-10-DL only)
10. .Calibration certificate

GENERAL SPECIFICATION

Model	**DOH-10**	**DOH-10-DL**	
Data Hold	Freeze the display readings.		
Meter dimension	175mm x 58mm x 32mm (With BNC connector)		
Power supply	AAA batteries x 3 pcs / 9V AC/DC (Option)		
Parameter	DO, temperature		
SD sampling time Setting range	N/A	Auto	2 secs, 5 secs, 10 secs, 15 secs, 30 secs, 60 secs, 120 secs, 300secs, 600 secs, 900 secs, 1800secs, 1Hr
		Manual	Manual Sample time: 0 second Press the **ADJ** button once will save data one time. @Set the sampling time to 0 second.
Memory Card	N/A	SD memory size 8G	

DO ELECTRODE SPECIFICATION

Temperature	0~90 ℃
Temp. accuracy	±0.5 ℃
DO (Dissolved Oxygen) Electrode	
Measurement range	0~199.9% (In saturation); 0.0~20.0 mg/L
Accuracy	±2% of full scale + 1 digit
Resolution	0.1%, 0.1 mg/L
Calibration	100% Air-Saturated
Flow condition	0.3 mL/s
Dimension	12x120mm
Electrode body	ABS
Sensor type	Galvanic
ATC Temp. sensor probe port	3.5 Ø mm diameter phone jack (10K ohm resistance)

Cable length	3 M

BUTTON DESCRIPTION

PWR	Power on (Press in one second) or power off (Press more than 2 seconds when operation)
SET	Long press to enter/escape salinity/pressure setting. Move to left digit. (Under setting mode). Long press to save setting or calibrate the reading.
CAL	Move to right digit. (Under setting mode).
MODE	Short press to change DO unit (mg/L or %). Short press to enter pressure setting. (Under salinity setting mode.)
UNIT	Short press to change temperature unit ℃/℉. Long press to enter temperature electrode type selection. Short press to select NTC: Negative Temperature Coefficient)/ NOT: no remote temperature electrode. Long press to save setting.
HOLD	Freeze current readings (**Hold** icon shows at top of LCD). Increase value. (Under setting mode).

ADJ	Decrease value. (Under setting mode).
MODE+CAL	Long press to enter DO 100% or zero calibration mode. (Na2SO3 is required).
SET+UNIT	Recover to factory setting (under DO calibration mode).
HOLD+PWR	Disable Auto Power Off.

ELECTRODE INSTALLATION (BNC connector)

1. Insert the DO electrode into the top of right hole. And insert the 3.5mm Ø diameter phone jack ATC sensor plug into the middle hole.
2. Hold the BNC connector in one hand; with the other, insert the braid into the center of the connector. Continuing pushing the braid into the connector until it will not go in any farther.Do this gently and slowly; do not bend the braid.
3. Turn the male BNC connector in a clockwise direction, until you cannot turn it any more.

Power supply

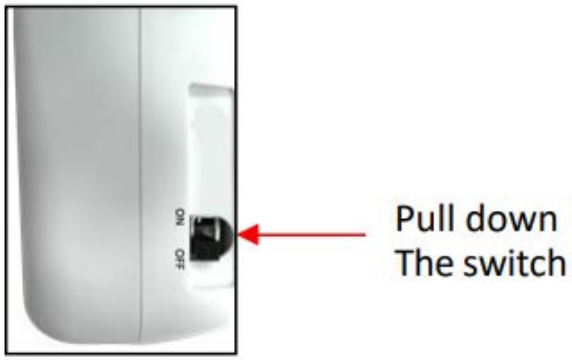
1. AAA batteries x 3pcs. indicates when power is weak, replace with new batteries immediately as the readings now on LCD are incorrect due to weak power. Battery life: Approx. 480 hours for continuous used. .
2. Make sure electrode and meter are well connected. Don't attempt to detach electrode from meter while in operation.
3. When meter shows erratic readings, it must be sensor failed or power is weak or calibration is required.
4. Only select one of the two electrodes while measuring the same water zone, otherwise meter appears erratic readings. Read two parameters at the same time are only available for measuring two different water sources.

POWER

NOTE: Make sure you have connected the electrode to the meter before power on.Momentarily press PWR button to turn on the meter, press and hold PWR button to turn off meter.

NOTE:For each operation, make sure you are using fresh batteries, same brand, same power of batteries is also required, otherwise ,LCD shows erratic readings and leakage may occur. Warranty is void if not follow the notices. (Note Remove batteries when not use Power-off switch: When the meter is turned off, the internal CPU does not shut down completely, it will keep detecting the buttons per milliseconds. Letting meter know if the user wants to

activate the meter or not. It will consume the power by each detecting, in order to save the power, you may pull down the switch.

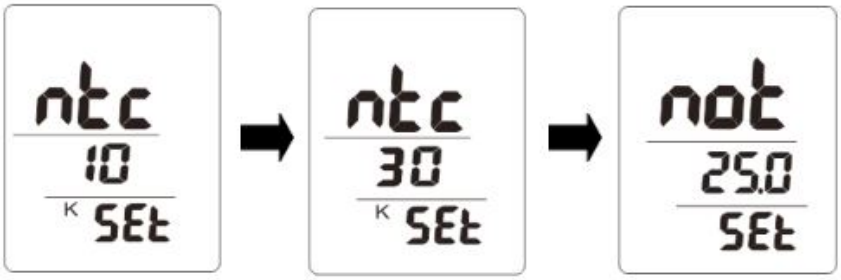


TEMPERATURE COMPENSATION SENSOR TYPE SELECTION

NOTE: Default setting is NTC 10K ohm. There are two fixed 10Kohm and 30Kohm temperature compensation sensors for selection.

NTC 10K:	Negative Temperature Coefficient 25℃ = 10 K ohm
NTC 30K:	Negative Temperature Coefficient 25℃ = 30 K ohm
NOTE:	External temperature electrode is excluded, user can enter the temperature value by their own te mperature instrument, default temperature is 25℃ ,adjustable range is : 0.0℃~90.0℃

1. Step 1: Must select correct electrode type before measurement, otherwise the value would be incorrect.\
2. Step 2: Long press UNIT button, the meter default is “ntc 10k”, short press UNIT button to toggle ntc 30k→ not.
3. Step 3: Long press UNIT button again to save the setting, meter shows “SA” at the bottom of LCD and then return to normal measurement mode.



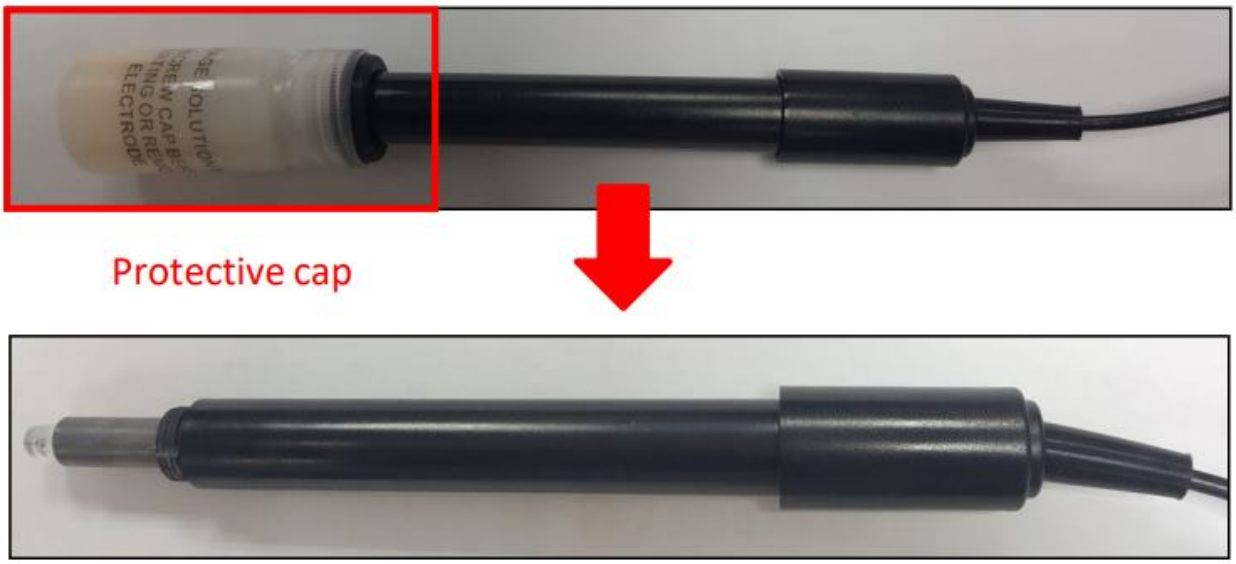
“ATC” ICON INDICATION

Electrode type	**ntc 10K (Default)**	**ntc 30K**	**not**
Plug in	Temp. XX.X	Temp. XX.X	Manual temp.
Un-plugged	“— — —”	“— — —”	
ATC icon	**O**	**O**	**X**

DO (Dissolved Oxygen) CALIBRATION

Calibration is necessary before measurement, please refer to the following calibration procedures:

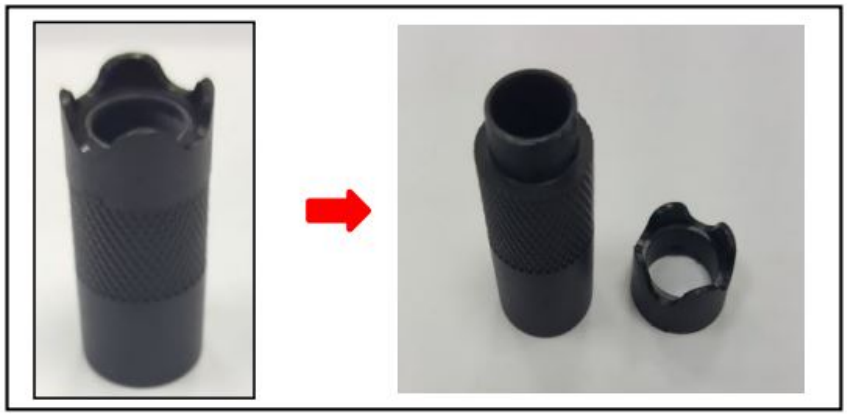
1. Required Equipment
    1.) DO electrode.
    2. Sodium sulfite (Na2SO3) solution (For 0% DO calibration used).
    3. Mini motor / pump in water or air bubbler or magnetic stirrer platform (For 100% Air-Saturated Water Calibration used).
2. DO electrode installation
    1. **NOTE**: DO NOT touch the sensitive membrane when using the electrode or replacing the membrane cap, for the sweat and grease will affect the quality of membrane and decrease the rate of oxygen permeability. Remove protective cap from DO sensor head.



3. Loose the membrane cap and remove it. **NOTE**: We will provide 1 pc membrane cap with membrane (pic.1), if you are first time to use the membrane cap, please skip step 2) and follow step 7) to filling in DO electrolyte

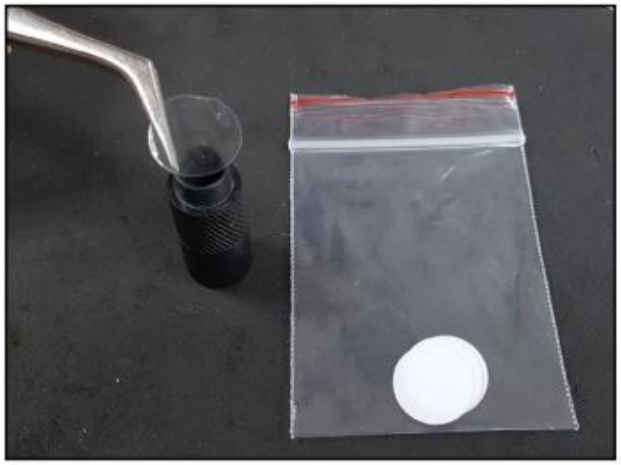
solution. If you want to change membrane, please loose the membrane cap and remove it as pic. 2. Then follow step 3) to clean the membrane cap

Pic. 1

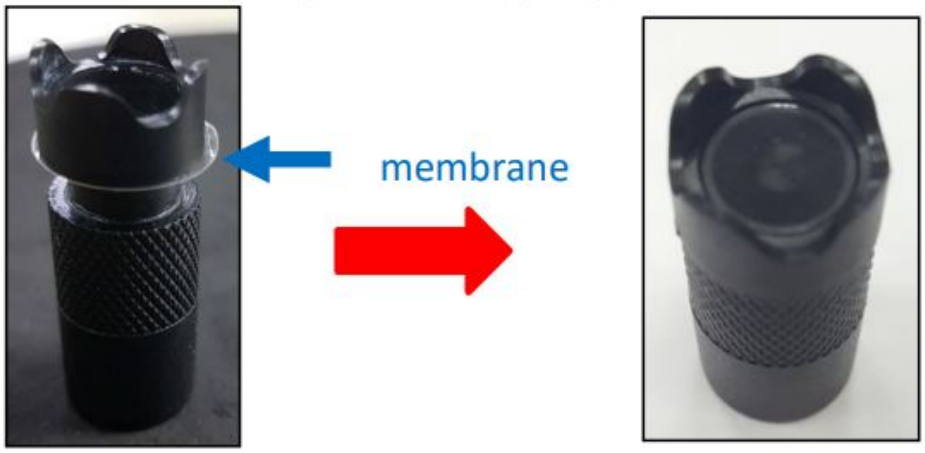


Pic.2

4. Rinse the Membrane Module with distilled water and blot dry with a clean lab wipe.
5. Clip one membrane from white protective round paper.
6. May use tweezers to put the membrane between the membrane cap and membrane base. (See the below picture)

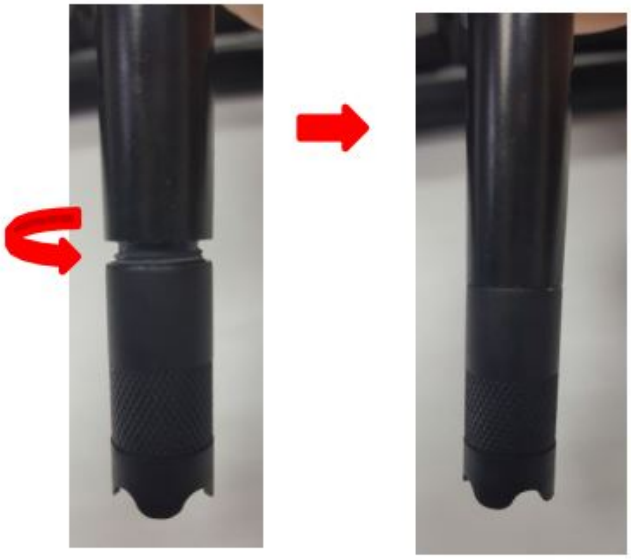


7. Push the membrane cap downward gently until it won't lose.

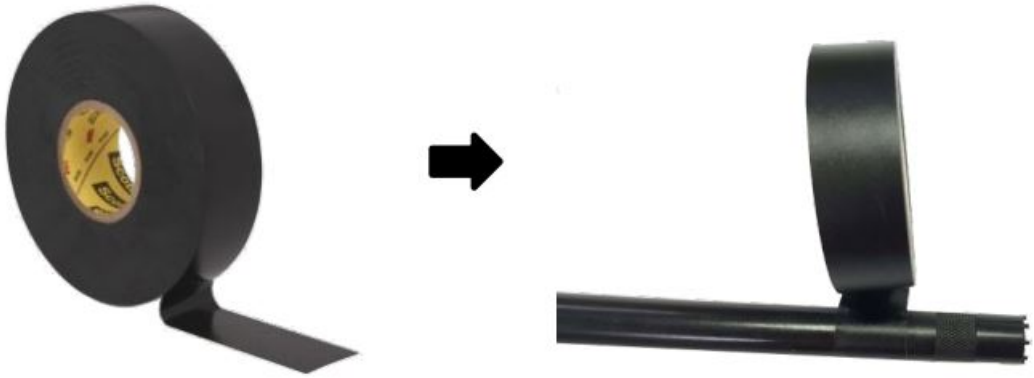


8. Fill the membrane cap with the DO electrolyte solution 0.5M NaOH provided. Some solution will be vented from the overflow port. This is normal. It should be completely filled. After injecting the solution, screw the Membrane module. Finger-tighten until snug. Do not over tighten.

9. After injected the solution, screw the Membrane Module. Finger-tighten until snug. Do not over tighten.



10. After filling the electrolyte solution and screw the membrane cap, please find the insulation tape to seal the seam of the sensor head to reduce solution leakage, please refer to the picture below:



Insulation tape

11. Check the membrane module to see whether there are air bubbles in it. If found there are air bubbles, knock on the membrane cap carefully to dispel them.
12. Inspect the membrane to ensure that the inner cathode element contacts the membrane. The membrane must be taut, without wrinkles or imperfections. <If wrinkles are found, please follow 2) to change the membrane.
13. Connect DO electrode with Meter DO BNC connector.
14. Rinse the assembled electrode with distilled water and blot dry with a clean lab wipe

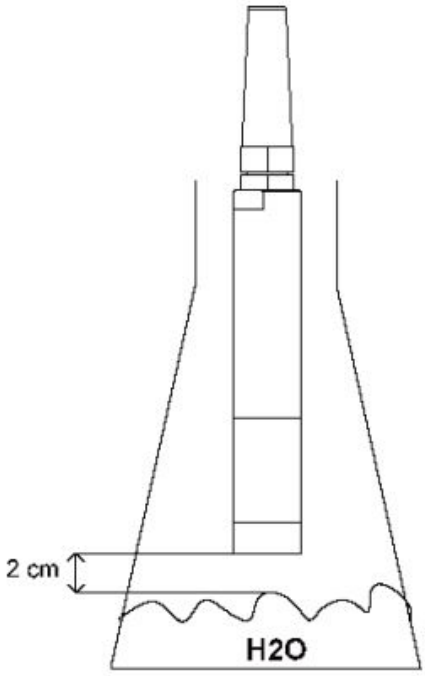
C) DO calibration C-1) or C-2) or C-3)

There are three ways to do the DO calibration, for common and convenient way, follow c-1.For more accurate measurement, follow c-2 and c-3 with necessary devices and solution in laboratories**. NOTE**: First doing zero DO calibration and then doing 100% air-saturated water calibration.

C- 1) 100% Water-Saturated Air Calibration:

(Convenient for self-calibration, common used)

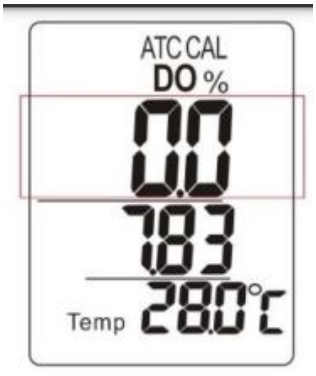
1. Connect the electrode to the meter.
2. By positioning the sensor in air-saturated water (air is directed through water until the water is saturated with it). The illustration below is a representation of the conditions in air- saturated water.



3. Press and hold MODE+CAL buttons to enter calibration mode, screen shows “DO %100” then press and hold SET button to save and screen shows “SA” to complete calibration. Press and hold MODE+CAL buttons, screen shows “ESC” momentarily and return to normal measurement mode.

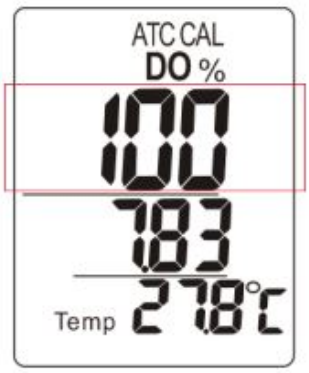
C-2) Zero Dissolved Oxygen Calibration

: (Laboratory calibration with Na2SO3 powder)**NOTE:** Generally need to do zero oxygen calibration in the situation of replacingnew electrode, replacing membrane cap, and long time without using. To do zero dissolved oxygen calibration by the following steps:



1. Connect the electrode to the meter.
2. Use the beaker by dissolving approximately 10 grams of Na2SO3 in 500 ml of distilled water.
3. Place the electrode in the Na2SO3 solution and wait for the reading to stabilize,press and hold MODE+CAL buttons to enter calibration mode, press MODE+ADJ+UNIT buttons again to enter “DO %0.0” mode, then press and hold SET button to save and screen shows “SA” to complete calibration.Press and hold MODE+CAL buttons, screen shows “ESC” momentarily and return to normal measurement mode

C-3) 100% Air-Saturated Water Calibration:



1. Connect the electrode to the meter.
2. Pour 100ml deionized water into a 150mL beaker. Use an air bubbler or sometype of aerator to bubble air through the water while stirring for 20 minutes untilthe water becomes completely saturated with air.
3. Place the electrode in the air-saturated water and wait for the reading to stabilize, press and hold MODE+CAL buttons to enter calibration mode, screen shows “DO %100”, then press and hold SET button to save and screen shows “SA” to complete calibration. Press and hold MODE+CAL buttons, screen shows “ESC” momentarily and return to normal measurement mode.

SALINITY CORRECTION

Due to the solution contains significant concentration of salinity affects the read out values of DO. Thus, to correct salinity value is required in order to get the accurate DO reading. (Refer to page 8, CHART 1. for reference). Use a salinity meter to get the salt concentration reading.

1. To enter the known salinity value by long press SET button and the screen shows “SAL”. HOLD: ↑to increase ADJ: ↓to decrease SET: ← to left digit CAL: → to right digit Adjustable range is 0 to 45.2 ppt.
2. After setting completed, press and hold MODE button to save setting, screen shows “SA” to complete setting.

To escape the setting by press and hold SET button, screen shows “ESC” and return to normal measurement mode.

BAROMETRIC PRESSURE SETTING:

If you are performing measurements at an altitude different from sea level 760 mmhg (default value). It is important to enter correct barometric pressure as barometric pressure affects DO values. (Refer to page 9, CHART 2. for reference)

1. To enter the known pressure value by long press SET button and the screen shows “SAL”.Then, press MODE button again to switch to the pressure setting mode, screenshows “P”.HOLD: ↑to increase ADJ: ↓to decrease SET: ← to left digit CAL: → to right digit Adjustable range is 400 to 850 mmHg.
2. After setting completed, press and hold MODE button to save setting, screen shows “SA” to complete setting. To escape the setting by press and hold SET button, screen shows “ESC” and return to normal measurement mode.

DO MEASUREMENT

1. Make sure that the electrode has been calibrated.
2. Immerse the tip of the electrode in the sample to be tested. And wait for the reading to stabilize.
3. The Dissolved Oxygen value (in mg/L or %) is displayed on the second tier of LCD and the temperature reading is displayed on the third tier of LCD.
   NOTE:For accurate Dissolved Oxygen measurements, stir the electrode while measuring under static solution is required. This is to ensure that the oxygen-depleted membrane surface is constantly replenished.
   A moving stream will provide adequate circulation.

FREEZE READINGS

Freeze the current readings of DO and temperature readings by press HOLD button, then icon “Hold” will appear on the top left of screen.

- **CHANGE DO UNIT to mg/L or %**
  Short press MODE button to toggle mg/L or %.
- **CHANGE TEMPERATURE UNIT to °C or °F**
  Short press UNIT button to toggle ℃ or ℉.
- **AUTO POWER OFF:**

Meter will turn off automatically in 15 minutes when no use, to disable auto power off function by pressing HOLD and PWR buttons, “n” momentarily shows on screen, now meter is at non-sleep mode, then turns to normal measurement, Meter default auto power off.

- **RECOVER FACTORY SETTING**

  Recover factory setting is required at the situation of replacing with a new electrode. Strongly recommend to do RFS function under both DO100% and Zero % modes. See below steps:

1. Long press MODE+CAL buttons to enter DO 100% , by pressing and holding SET+UNIT buttons, screen will show “rFS” momentarily, screen turns to normal measurement mode.
2. Long press MODE+CAL buttons by passing DO100%, press MODE button to enter zero % mode, by pressing and holding SET+UNIT buttons, screen will show “rFS” momentarily, screen turns to normal measurement mode.

CHART 1. Solubility of Oxygen (mg/L) in Water Exposed to Water-Saturated Air at 760 mmHg Pressure

Temp.	Salinity (ppt)						Temp.	Salinity (ppt)					
	0 ppt	9.0 ppt	18.1 ppt	27.1 ppt	36.1 ppt	45.2 ppt		0 ppt	9.0 ppt	18.1 ppt	27.1 ppt	36.1 ppt	45.2 ppt
0.0	14.62	13.73	12.89	12.1	11.36	10.66	**26.0**	8.11	7.71	7.33	6.96	6.62	6.28
1.0	14.22	13.36	12.55	11.78	11.07	10.39	**27.0**	7.97	7.58	7.2	6.85	6.51	6.18
2.0	13.83	13	12.22	11.48	10.79	10.14	**28.0**	7.83	7.44	7.08	6.73	6.4	6.09
3.0	13.46	12.66	11.91	11.2	10.53	9.9	**29.0**	7.69	7.32	6.96	6.62	6.3	5.99
4.0	13.11	12.34	11.61	10.92	10.27	9.66	**30.0**	7.56	7.19	6.85	6.51	6.2	5.9
5.0	12.77	12.02	11.32	10.66	10.03	9.44	**31.0**	7.43	7.07	6.73	6.41	6.1	5.81

6.0	12.45	11.73	11.05	10.4	9.8	9.23	**32.0**	7.31	6.96	6.62	6.31	6.01	5.72
7.0	12.14	11.44	10.78	10.16	9.58	9.02	**33.0**	7.18	6.84	6.52	6.21	5.91	5.63
8.0	11.84	11.17	10.53	9.93	9.36	8.83	**34.0**	7.07	6.73	6.42	6.11	5.82	5.55
9.0	11.56	10.91	10.29	9.71	9.16	8.64	**35.0**	6.95	6.62	6.31	6.02	5.73	5.46
10.0	11.29	10.66	10.06	9.49	8.96	8.45	**36.0**	6.84	6.52	6.22	5.93	5.65	5.38
11.0	11.03	10.42	9.84	9.29	8.77	8.28	**37.0**	6.73	6.42	6.12	5.84	5.56	5.31
12.0	10.78	10.18	9.62	9.09	8.59	8.11	**38.0**	6.62	6.32	6.03	5.75	5.48	5.23
13.0	10.54	9.96	9.42	8.9	8.41	7.95	**39.0**	6.52	6.22	5.98	5.66	5.4	5.15
14.0	10.31	9.75	9.22	8.72	8.24	7.79	**40.0**	6.41	6.12	5.84	5.58	5.32	5.08
15.0	10.08	9.54	9.03	8.54	8.08	7.64	**41.0**	6.31	6.03	5.75	5.49	5.24	5.01
16.0	9.87	9.34	8.84	8.37	7.92	7.5	**42.0**	6.21	5.93	5.67	5.41	5.17	4.93
17.0	9.67	9.15	8.67	8.21	7.77	7.36	**43.0**	6.12	5.84	5.58	5.33	5.09	4.86
18.0	9.47	8.97	8.5	8.05	7.62	7.22	**44.0**	6.02	5.75	5.5	5.25	5.02	4.79
19.0	9.28	8.79	8.33	7.9	7.48	7.09	**45.0**	5.93	5.67	5.41	5.17	4.94	4.72

20.0	9.09	8.62	8.17	7.75	7.35	6.96	**46.0**	5.83	5.57	5.33	5.09	4.87	4.65
21.0	8.92	8.46	8.02	7.61	7.21	6.84	**47.0**	5.74	5.49	5.25	5.02	4.80	4.58
22.0	8.74	8.3	7.87	7.47	7.09	6.72	**48.0**	5.65	5.40	5.17	4.94	4.73	4.52
23.0	8.58	8.14	7.73	7.34	6.96	6.61	**49.0**	5.56	5.32	5.09	4.87	4.66	4.45
24.0	8.42	7.99	7.59	7.21	6.84	6.5	**50.0**	5.47	5.24	5.01	4.79	4.59	4.39
25.0	8.26	7.85	7.46	7.08	6.72	6.39							

CHART 2. Calibration Values for Various Atmospheric Pressures and Altitudes

Altitude		**Pressure**	**DO**	**Altitude**		**Pressure**	**DO**
Feet	**meters**	**mmHg**	**%**	**Feet**	**meters**	**mmHg**	**%**
0	0	760	100	5391	1643	623	82
278	85	752	99	5717	1743	616	81
558	170	745	98	6047	1843	608	80
841	256	737	97	6381	1945	600	79
1126	343	730	96	6717	2047	593	78

1413	431	722	95	7058	2151	585	77
1703	519	714	94	7401	2256	578	76
1995	608	707	93	7749	2362	570	75
2290	698	699	92	8100	2469	562	74
2587	789	692	91	8455	2577	555	73
2887	880	684	90	8815	2687	547	72
3190	972	676	89	9178	2797	540	71
3496	1066	669	88	9545	2909	532	70
3804	1160	661	87	9917	3023	524	69
4115	1254	654	86	10293	3137	517	68
4430	1350	646	85	10673	3253	509	67
4747	1447	638	84	11058	3371	502	66
5067	1544	631	83				

SD CARD DATALOGGING

- SD Card Information

- Insert an SD card (8G supplied) into the SD card slot at the side of the meter. SD card must be placed with the front ofthe card (label side) facing toward the front of the meter.Once SD card is inserted properly, icon “SD” will appear on the right of screen.
- If the SD card is being used for the first time, it is recommended that the card must be formatted.

- SD Card Formatting

  NOTE:

  Always make sure that the device is compatible with the SD, SDHC or SDXC memory card before formatting.

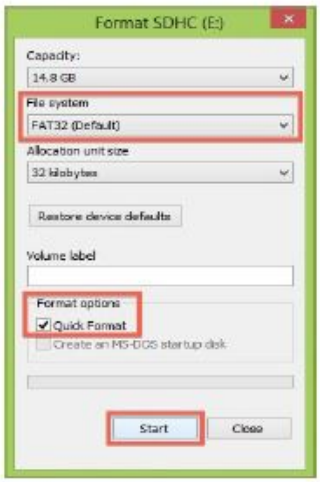
  WARNING: Backup all your data before formatting. Formatting will erase all data on the memory device.

  - **Activate Windows**

    Click the Start or Windows menu and select Computer (Windows Vista/7) or My Computer (Windows XP). For Windows 8 users, type “computer” and click the Computer icon in the Apps search results. For Windows 10, open the File Explorer. Then find “This PC”.
  - **Find your SD card.**

    The removable drive that appears last in the “Devices with Removable Storage” list should be the SD card that you just connected to your computer. Right-click on your SD card to bring up the right-click menu options.Select Format. Keep “Capacity” and “Allocation unit size” set to be default.
  - **Select the file system.**

    This is the way that files are stored on the card. Different systems use different file structures. In order for the SD card to be read by cameras, phones, printers, Windows, Mac, and Linux computers, and more.
    - . Select Quick Format.
    - Click “Start”.
    - Once the formatting is complete, you can close the window.



AUTOMATIC DATALOGGING

The meter stores a reading at a user-selected sampling rate onto an SD memory card. The meter defaults to a sampling rate of 2 seconds.
NOTE 1: The sampling rate cannot be “0” for automatic datalogging.
NOTE 2: It is recommended that plug in the adaptor for long time using in order to avoid data lost. (Adaptor is optional.)

1. **Setting the datalogger clock timE NOTE**: Make sure the clock of the meter is set up correctly in order to get accurate date/time during datalogging sessions.
    1. Power off the meter, press MODE+POWER buttons to enter setting. YEAR digit “17” will flash.
    2. Short press CAL button go to Month Day Hour Minute setting.
    3. Press and hold SET button to save setting and screen will show “SA” then “End”.
    4. Re-power on the meter to back to normal measurement mode. **NOTE**: To escape setting by turning off the meter without any change.
2. Setting the datalogger sampling rate
    1. While meter is power on, press and hold MODE button to enter setting.
    2. Press HOLD button to increase the value ; press ADJ button to decrease the value.
3. **Start datalogging**

    Warning: SD recording the selected temperature unit (℃or℉). If changing the temperature unit during the datalogging sessions, the recorded data will be switched into the selected temperature unit.

    1. After inserting the SD card, display will show icon “Logging” on the bottom of the screen.
    2. Long press ADJ button to starts recording until icon “Logging” flashing on the bottom of screen.
    3. When “-Sd-” disappear, SD stop to record data or SD card is not being inserted.
    4. When an SD card is used for the first time ,a folder is created on the card and named with the model number. Under the MODEL number folder, the MODEL number and AUTO+YEAR folder will be automatically created. e.g.:
4. When starts datalogging, a new folder named M(month)/D(date)/H(hour)/M(minute) is created on the SD card in the AUTO+YEAR folder. At the same time, a new spreadsheet document (CSV.) named M/D/H/M is also created under its folder.
5. e. g.: /DOH-10/AUTO2017/04051858/04051858.c sv Each CSV. file can be stored up to 30,000 points.Once 30,000 points are stored, a new file name will be auto created as M/D/H/M right after the last recording time. Unless you interrupt recording, this process continues in the initial created M/D/H/M folder.
6. e. g.: /DOH-10/AUTO2017/12261858/12262005.csv

    NOTE1: Datalogging stopped when replacing the electrode or removing the SD card or resetting thesampling rate.

    NOTE2: When the recording is been stopped, a new folder will be created as M/D/H/M from the next datalogging. **NOTE3**: When the recording year and model number is changed, the new folder will be also created

MANUAL DATALOGGING (MAX 199 POINTS)

1. Set the sampling rate to “0” (Refer to “Setting the datalogger sampling rate”).
2. In the manual mode, data is logged when press and hold ADJ button and screen shows recorded points “00X” in the temp. block with icon “MEM” flash in few seconds.e. g. Recorded 1st point, then bottom screen shows “001”.
3. Long press CAL button to clear data (Removed MANUAL.csv), screen shows “CLr”.

NOTE 1: While screen shows “Err” by long pressing CAL button, it stands for no data can be cleared or SD card isn’t being inserted. **NOTE 2**: Once clear the data by long press CAL, there is no way to recover the data. If you want to keep the previous data, rename the file “MANUAL.csv” in /DOH-10/ MANUAL.csv is required.

4. Data directory in SD card : /DOH-10/ MANUAL.csv **NOTE** : When manual data records full (199 points), logging will continue, but with new data overwriting old. If you want to keep the previous data, rename the file “MANUAL.csv” in /DOH-10/ MANUAL.csv is required.

TRANSFERRING SD DATA TO PC

- Remove SD card from the meter.
- Insert SD card directly into a PC SD card slot or use a SD card reader.
- Open the saved documents (CSV.) (Data stored) in the folder from PC.
- File name /Product number/ Sample rate/ Recording point/ Start recording time/ End recording time/ Recording date/time /Recording parameters will be shown in the CSV. file.
- Data show “-49” stands for no measured value during recording period.

	A	B	C	D	E	F	G	H	I	J
1	#A	FileName:	05171721.CSV							
2	Prod.No:	98721SD								
3	Sample Rate(s):	10								
4	Point(s):	5700								
5	Start:	2017/5/17 17:21								
6	End:	2017/5/18 09:11								
7										
8	#Point(s)	DATE	TIME	Temp.	PH	mV	COND	TDS	salt	
9	Point(s)	(Y/M/D)	(H:M:S)	(C/F)	(PH)	(mV)	(uS/mS)	(ppm/ppt)	(ppt)	
10	1	2017/5/17	17:21:55	35	7.13	-7.7	2281	1518	0.87	
11	2	2017/5/17	17:22:05	35	7.13	-7.7	2281	1518	0.87	
12	3	2017/5/17	17:22:15	29.4	7.1	-6.2	2073.5	1379.9	0.94	
13	4	2017/5/17	17:22:25	29.3	7.07	-4.2	2073.7	1380.1	0.94	
14	5	2017/5/17	17:22:35	29.4	6.95	2.6	2081.2	1385	0.94	
15	6	2017/5/17	17:22:45	29.3	6.87	7.1	2096.7	1394.7	0.94	
16	7	2017/5/17	17:22:55	29.5	6.94	3.3	2087.3	1389.1	0.94	
17	8	2017/5/17	17:23:05	29.5	7.02	-1.2	2089.8	1390.7	0.94	
18	9	2017/5/17	17:23:15	29.4	7.03	-2.2	2084.1	1387	0.95	
19	10	2017/5/17	17:23:25	29.4	7.03	-2.2	2085.5	1387.9	0.94	
20	11	2017/5/17	17:23:35	29.5	7.05	-3.1	2090.8	1391.4	0.95	
21	12	2017/5/17	17:23:45	29.4	7.06	-3.9	2091.1	1391.6	0.95	

▲ Auto Datalogging▲

	A	B	C	D	E	F	G	H	I	J
1	#M#055#182	FileName:	MANUAL.CSV							
2	Prod.No:	98721SD								
3	Point(s):	55								
4										
5	#Point(s)	DATE	TIME	Temp.	PH	mV	COND	TDS	salt	
6	Point(s)	(Y/M/D)	(H:M:S)	(C/F)	(PH)	(mV)	(uS/mS)	(ppm/ppt)	(ppt)	
7	1	2017/5/17	15:15:23	29.6	7.16	-9.7	2090.3	1391.1	0.94	
8	2	2017/5/17	15:15:30	29.6	7.16	-9.7	2093.7	1393.3	0.94	
9	3	2017/5/17	15:15:35	29.7	7.16	-9.7	2096	1394.9	0.94	
10	4	2017/5/17	15:26:25	29.5	7.16	-9.7	2082.4	1385.9	0.94	
11	5	2017/5/17	15:26:40	29.7	7.16	-9.7	2084.6	1387.3	0.94	
12	6	2017/5/17	15:26:44	29.6	7.16	-9.7	2085.4	1387.8	0.94	
13	7	2017/5/17	15:26:50	29.6	7.16	-9.7	2084.2	1387	0.94	
14	8	2017/5/17	15:26:55	29.6	7.16	-9.7	2085	1387.6	0.94	
15	9	2017/5/17	15:26:59	29.7	7.16	-9.7	2087.8	1389.4	0.94	
16	10	2017/5/17	15:27:01	29.6	7.16	-9.7	2086.7	1388.7	0.94	
17	11	2017/5/17	15:27:06	29.7	7.16	-9.7	2083.8	1386.7	0.94	
18	12	2017/5/17	15:27:11	29.7	7.16	-9.7	2087.7	1389.3	0.94	

▲ Manual Datalogging▲

Troubleshooting

If the electrode reading is not at (or very close to) zero in oxygen-free DI water, then polish the tip (cathode) of the electrode. If the electrode readings are not within the normal ranges given above, or the electrode reading drifts, inspect the Membrane Module. If it is visibly torn, punctured, or fouled, replace the Membrane Module. Then follow the Electrode Preparation procedure. If the electrode response is still outside the normal range after this procedure, please contact the manufacturer’s technical service department.

DO reading accuracy improvements

Some considerations to get accurate measurements with your DO electrode include:

- DO measurements are very dependent on barometric pressure, temperature and salinity factors. If your meter allows for inputs on these factors, make sure you use them correctly and accurately.
- Replace the DO electrolyte and calibrate the DO electrode when your measurements seem to be drifting, or inaccurate.
- Replace the Membrane Module if it becomes fouled by the sample, or if it gets torn or punctured.

- Follow the Electrode Storage procedure to get the best life from your DO electrode.

DO (Dissolved Oxygen Galvanic type) ELECTRODE MAINTENANCE

Proper maintenance ensures faster measurements, improve accuracy and may extend the lifetime of the electrodes.

- When not in use—Long termFor long term storage or to take the electrode out of service, disconnect the electrode from the meter. Disassemble the electrode membrane cap. Rinse the anode, cathode and membrane cap assembly with distilled water. Blot the anode and cathode elements with a clean lab wipe.Shake the membrane cap assembly to expel the DI water. The Membrane Module should be stored WITHOUT 0.5M NaoH electrolyte to prevent the galvanic depletion of the electrode's anode.Thread the membrane cap assembly loosely onto the body of the electrode. Do not tighten.Place the electrode in the box, away from direct sunlight.
- When not in use—Short term(Over night or the weekend)The DO electrode should be stored in DI water to prevent electrolyte evaporation.It is better to disconnect the galvanic DO electrode from the meter when not in use.
- Probe head replacement:When electrode response time to be longer and displaying value appear obviously error, or when sensitive membrane of DO electrode has a wrinkle, crack or damaged, should replace a membrane.

TROUBLE SHOOTING

- Q1: **Wrong temperature**
  A1: Refer to page 3 (TEMPERATURE ELECTRODE TYPE SELECTION), you must use the correct temperature sensor type
  or adjust temperature manually (Long press UNIT button then press UNIT to select "not").
- Q2: **Meter shows erratic readings**
  A2: Make sure electrode and meter are well connected, or it must be sensor failed, or power is weak.

ERROR CODES

Code	Description
OL2	Measurement is out of range of the display.

e-mail: info@omega.com For latest product manuals: omega.com/en-us/pdf-manuals

Documents / Resources

OMEGA DOH-10 Handheld Dissolved Oxygen Meter Kit with Optional SD Card Data Logger [pdf] User Guide

DOH-10 Handheld Dissolved Oxygen Meter Kit with Optional SD Card Data Logger, DOH-10, Handheld Dissolved Oxygen Meter Kit with Optional SD Card Data Logger

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