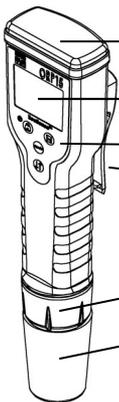




EcoSense® ORP15 ORP/Temperature Pen Operations Manual

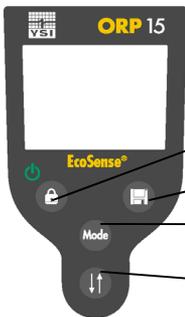
YSI ORP15 OVERVIEW

A. Description



1. Battery cap
2. Graphic LCD screen
3. Keypad
4. Belt clip (Do not remove screw.)
5. Electrode collar
6. Electrode & ATC assembly – outside o-ring on electrode is yellow and inside o-ring is black. (Electrode cap shown covering electrode.)

B. YSI ORP15 Keypad Layout



- Hold – On/Off key
- Store/Save key
- Mode key
- Scroll key

INITIAL INSPECTION AND ASSEMBLY

Carefully unpack the instrument and accessories, and inspect for shipping damages. Notify your local dealer or YSI immediately (800-897-4151 or ecosense@ysi.com) of any damages or missing parts. Save packing materials until satisfactory operation is confirmed.

BEFORE USING

A. Insert the Batteries

1. Remove the battery cap at the top of the unit.
2. Insert the set of batteries (included) ensuring correct polarities.
3. Securely replace battery cap.

B. Soak the Electrode

1. Remove the electrode cap covering the ORP15 meter electrode.
2. Soak electrode in pH 4 buffer for 10 minutes before first use or after storage.

OPERATION

A. Power ON/OFF

Press “HOLD – On/Off”   key for 2 seconds. The unit will turn on and enter the “Measure Mode”. Repeat process to turn off. There is a 10 minute automatic shutoff feature if no keys are pressed.

B. Set Date and Time

1. Press “MODE”  key for 7 seconds to enter “Date/Time Set Mode”.
2. Press “HOLD” key to select date or time parameters.
3. Press “MODE”  or “SCROLL”  keys to increase and decrease values.
4. Press “STORE”  key for 2 seconds to return to “Measure Mode”.

C. Offset Calibration

1. Press “MODE” key for 2 seconds and release to enter “Calibration” mode.
2. Immerse meter into YSI Zobell solution or other known solution.
3. Press “HOLD” key to select the ability to change the offset values.
4. Press “MODE” or “SCROLL” keys to increase and decrease values.
5. Press “STORE” key for 2 seconds to return to “Measure Mode” displaying absolute ORP values.
6. Press “MODE” key to display relative ORP values.

Note: For accuracy, it is recommended the ORP electrode is kept clean. Calibrations may only be needed occasionally.

D. Measure

Dip the electrode into the test solution while in the “Measure Mode”. “MODE” will enable toggling between absolute (direct reading) and relative (corrected based on calibration) ORP values. ABS or REL will appear on the display based on the mode selected.

E. Hold Data

1. When the ORP is stable, press “HOLD” key once to lock the reading on the display.
2. Press “HOLD” key again to unlock reading and the unit will return to “Measure Mode”. The unit is now ready for another measurement.

Note: The unit cannot be powered off in “Hold Mode”.

F. Save Data

Either in the “Hold Mode” or the “Measure Mode”, press “STORE” key for 2 seconds. “SAVE” and “M-XX” will appear indicating the reading has been saved and stored in memory location XX. The unit automatically returns to “Measure Mode”.

Note: The non-volatile memory stores up to 50 sets of data (ABSolute and RELative mV, Temperature, Date, Time) even if power is lost. If memory is full, the next set of data will overwrite the first data set stored, then the second set of data, etc.

G. Recall Data

1. In "Measure Mode", press "SCROLL" key 3 seconds and release, the most recent set of saved data will appear.
2. Press the "SCROLL" key to view previous saved data.
3. Press "STORE" key for 2 seconds to return to "Measure Mode".

H. Erase Data

1. Press "SCROLL" key 10 seconds to enter erase mode.
2. Press "STORE" key to erase **all** saved data. "Data Clear" will appear at the top and the ORP15 will return automatically to "Measure Mode".
3. Press "SCROLL" key to escape to "Measure Mode" without clearing data.

ONGOING MAINTENANCE

A. Electrode Storage

1. Electrodes attached to the instrument should be kept in a moist environment. Keep the sponge in the chamber moist, tap water is acceptable. The single-junction electrode needs to be kept clean; check periodically for cleanliness.
2. For long-term storage, store in pH 4 buffer.

ERROR DISPLAYS AND TROUBLESHOOTING

ORP LCD Display	ATC Display	DISPLAY Mode	Possible cause(s) [Action(s)]
Any Value	"OVER" or "UNDR"	Measure	a. Temperature outside 0 to 99.9°C range. [Bring solution to a lower/higher temp.] b. Bad sensor. [Replace electrode.]
"OVER" or "UNDR"	0.0-99.9°C	Measure	ORP value outside -1200 to +1200 ORP range. [Recalibrate, Clean or Replace electrode.]

SPECIFICATIONS

Range	Resolution	Accuracy
ORP -1200 to +1200 mV	1 mV	1 mV ± 1 LSD
Temp. -5.0 to 99.9 °C Temp. 23.0 to 211.8 °F	Temp. 0.1 °C Temp. 0.2 °F	Temp. ±0.3 °C Temp. ±0.6 °F

ORP

Offset Range User programmable from -999 to 999 mV
Input impedance >10¹²Ω

Temperature

Temperature sensor Thermistor, 10 kΩ at 25°C

General

Battery life Meter: ~40 Hours (low battery indicator)
Ambient temperature range 0.0 to 50.0 °C (32.0 to 122.0 °F)
Display 98x64 graphic LCD
Case IP67 water-tight case
Weight 105 g (3.7 ounces)

REPLACEMENT PARTS

Item Number	Description
605122	Instruction Manual
605123	ORP15 Electrode Replacement Kit (Includes electrode, electrode collar, 3 o-rings, and sensor cap)
605114	Sensor Cap
605115	Battery Compartment Kit (Includes battery cover and battery gasket)
605118	Battery Kit (Includes 4 batteries)

WARRANTY

The YSI ORP15 Instrument is warranted for one year from date of purchase by the end user against defects in materials and workmanship. YSI ORP15 electrodes are warranted for six months from date of purchase by the end user against defects in material and workmanship. Within the warranty period, YSI will repair or replace, at its sole discretion, free of charge, any product that YSI determines to be covered by this warranty.

To exercise this warranty, write or call your local YSI representative, or contact YSI Customer Service in Yellow Springs, Ohio. Send the product and proof of purchase, transportation prepaid, to the Authorized Service Center selected by YSI. Repair or replacement will be made and the product returned, transportation prepaid. Repaired or replaced products are warranted for the balance of the original warranty period, or at least 90 days from date of repair or replacement.

Limitation of Warranty

This Warranty does not apply to any YSI product damage or failure caused by: (i) failure to install, operate or use the product in accordance with YSI's written instructions; (ii) abuse or misuse of the product; (iii) failure to maintain the product in accordance with YSI's written instructions or standard industry procedure; (iv) any improper repairs to the product; (v) use by you of defective or improper components or parts in servicing or repairing the product; or (vi) modification of the product in any way not expressly authorized by YSI.

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Item #605122 • Drawing #A605122 • Rev A

• April 2005 • For the latest version of this manual, visit www.ysi.com/environmental

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