⊤RANS INSTRUMENTS

HortiStick
pH – EC – Temp.
Nutrient Meter

Operation Manual

# PRODUCT INSTALLATION & DESCRIPTION:

Hand Strap Hole

AA Size
+
–

Insert this way

Catch: -
Insert probe till Latch
snaps in place for a
secure lock

HOW?
Remove Protective Cap,
hold the body with both
hands and push probe
sensor end on a tabletop
till latch "click"

READ Button

Nutrient
Concentration
Display

LIGHT Button

PH / Temperature
Display

pH⇆°C/F
Button

Latch

Seal O-Ring:
Leave 3mm gap
from edge for
proper installation

Maximum
Immersion
Level

Immersion
Level

Probe

Sensors

Metal
Electrode

pH Electrode

Protective Cap
Always replace
when not in use

1

SPECIFICATIONS:

		PH	EC	Temp.
Operating Range	:	0 to 14pH	0 to 4mS	0 to 50ºC
Display Resolution	:	0.1pH	0.1mS	0.1ºC
Accuracy	:	±0.2pH	±0.2mS	±0.5ºC
Temperature Compensation	:	Automatic 0 to 50ºC / 32 to 122ºF		
Operating Temperature	:	0 to 50ºC / 32 to 122ºF		
Battery Type	:	4 x 1.5V AA size battery		
Battery Life	:	Approximately 50 hours (continuous use)		

SETTING CONCENTRATION DISPLAY UNITS:

1. Press the **READ** button to switch on.

2. This unit is factory preset to display nutrient concentration in EC. To set readings to cF or TDS (ppm) reading, press and hold down the center **LIGHT** button until the next units is displayed then release. Repeat to set to the next unit, you can set to the preferred units of measurement as follows:

Factory preset at EC

Display set to cF

Display set to TDS
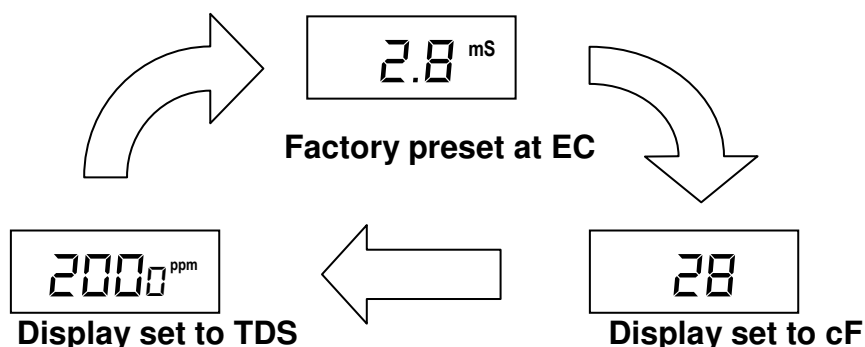
3. After the units of measurement are set, it will remain until you reset it.

SETTING TEMPERATURE DISPLAY UNITS:

1. To set temperature display in Fahrenheit, press and hold down both the **pH⇆ºC/F** and **LIGHT** button until it beeps. ºF will appear on the display.

2. After the unit of measurement is set, it will retain the setting until you reset it.

CALIBRATION:

Calibration should be made as frequently as possible or before a series of test.

__Always soak the sensor in tap water for about 5 minutes before calibration.__

## CALIBRATING NUTRIENT CONCENTRATION READINGS:

1. Use only standard solution 2.8mS or 28cF or 2000ppm for this calibration.
2. Rinse the sensor area with water and dip the sensor into the calibration solution.
3. Press and hold-down both the **LIGHT** and **READ** button until CAL appears on the display.
4. The display will show 2.8 or the corresponding unit in a blinking mode.
5. Wait for the meter to sense a stable reading till it stop.
6. Press the **READ** button to confirm if calibrated reading shows 2.8, otherwise repeat calibration.
7. When reading is repeated, calibration is completed.

CALIBRATING PH READINGS:

1. Use only pH7.0 buffer solution for this calibration.
2. Rinse the sensor area with water then dip the sensor into the calibration solution.
3. Press and hold down both **pH⇆°C/F** and **READ** button until CAL appears on the display.
4. The meter will display 7.0 in a blinking mode.
5. Wait for the meter to sense a stable reading till it stop.
6. Press the **READ** button to confirm if calibrated reading shows 7.0, otherwise repeat calibration.
7. When reading is repeated, calibration is completed.

MAKING MEASUREMENT:

1. Due to storage in different environment, the meter should be re-calibrated before use.

2. ***Always soak the sensor in tap water for about 5 minutes before making measurements or calibration.***

3. Dip the sensor area into measuring liquid up to immersion level and press the **READ** button.

4. The displays will blink, while the meter senses for a stable reading.

5. When the reading stops and beeps, a stable reading is established, you can record the reading.

6. *If large temperature difference between the meter and the solution is apparent, then dip the meter in the solution for at least 10 minutes before beginning any measurement. This is to allow time for the sensor to come in equivalent with the liquid's temperature.*

7. To display temperature reading, press the **pH⇆°C/F** button once will set display to read in temperature. Pressing again will return display to pH.

pH 6.7	⇄	25.8℃
Display in pH		**Display in temperature**
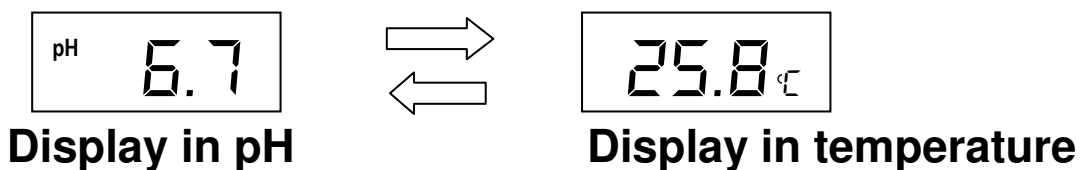
8. The display will light up after a stabilized reading is established. It will automatically switch-off after 20 seconds after the last button activation. Pressing the **LIGHT** button once will light up display.

9. To switch off the meter, press and hold down the **READ** button for 3 seconds.

10. Always replace the Protective Cap after use and before storage.

Notes on measurements

In the presence of certain radio transmitters, this product may produce erroneous readings. If this occurs, measurements should be repeated at another location.


ERROR CODES

1. When **Erb** or **Err** appear during measurement or calibration, it means the meter cannot establish a stable reading during calibration. This could mean an expired or defective sensor. Promptly replace with a new Probe.

2. When "- - -" appear on the Nutrient concentration display, it means the solution is out of the meter's measuring range is too concentrated. Dilute the solution and re-test.

3. When the pH sensor is not dipped into a liquid, "- - -" may appear or shows erratic reading which is a normal behavior, since there is no connection between the sensors. Once the sensor is in contact with any liquid, a reading will reappear. Otherwise, the pH sensor could be expired or damaged.

MAINTENANCE & PROBE CLEANING

1. Always remove the batteries if unit is not used for a long period of time.

2. If the unit is stored for a long period of time, the probes and sensors will become dry. This will result in sluggishness to a stable reading or display ERC or ERB during calibration. To recover from this condition, soak the probe sensor area in tap water for about 10 to 15 minutes before calibration and testing.

3. Do not use strong solvents (e.g. acetone, carbon tetrachloride etc.) to clean the glass sensor.

4. If the sensors become coated with oil or grease, carefully rinse with non-filming dish washing detergent dilute in warm tap water for 5 minutes. Do not use automatic or electric dish washing detergent. Rinse thoroughly with fresh tap water followed by three rinses with distilled water. Soak the electrodes in pH7 solution for 20 minutes after this cleaning procedure.

5. If the metal electrodes become dirty and affect accuracy of nutrient measurement even after calibration, perform the same cleaning procedure in step 4 then re-calibrate after cleaning. If this procedure does not recover the sensor's accuracy, it should be replaced.

PROBE REPLACEMENT:

1. This unit comes with a replaceable probe. Keep in mind that the pH sensor will age and degrade over time subject to usage and storage conditions. The sensor has a usage life of about 1year. When the pH reading becomes erratic or fails to be calibrated, the Probe should be replaced.

2. To replace the Probe, turn to the back of the unit and press down the catch using both thumbs as shown. Once latch is released, pull out the probe.


Press the catch with both Thumbs till probe latch is released

Pull probe out this way after latch is released
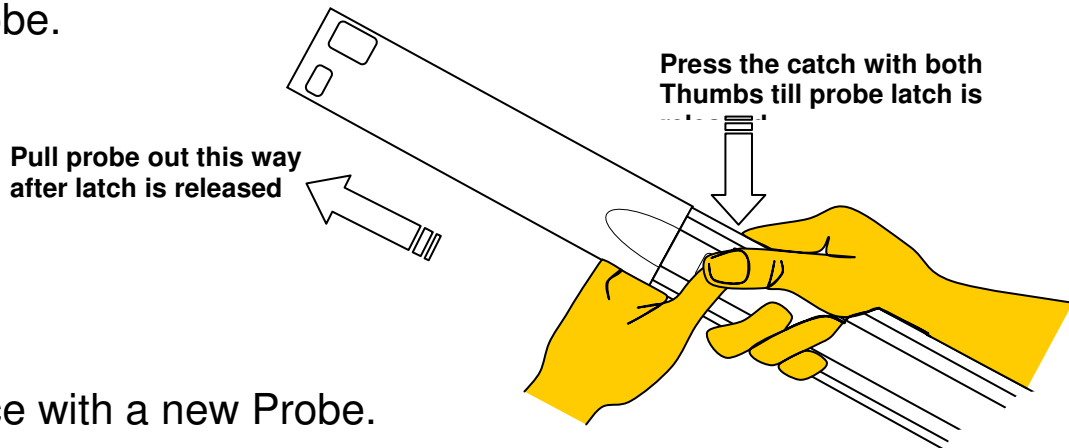
3. Replace with a new Probe.

4. Be sure to leave a 3mm gab on the "O" ring as figured in page 1.

5. Re-calibrate the unit before proceeding with any tests.

BATTERY REPLACEMENT

(Caution: Wrong battery placement will damage meter and void warranty)

1. When the low battery sign persistently appear on the display, it indicates that the meter has remaining 2 hours of usage, after which reading accuracy will be affected.

2. To replace battery, unscrew the Battery Cap on the unit.

3. Slide out the batteries and replace with four 1.5volts AA size battery according to the direction shown.

Battery Cap
Turn anti-clockwise to open

Insert this way

‒ AA Size +
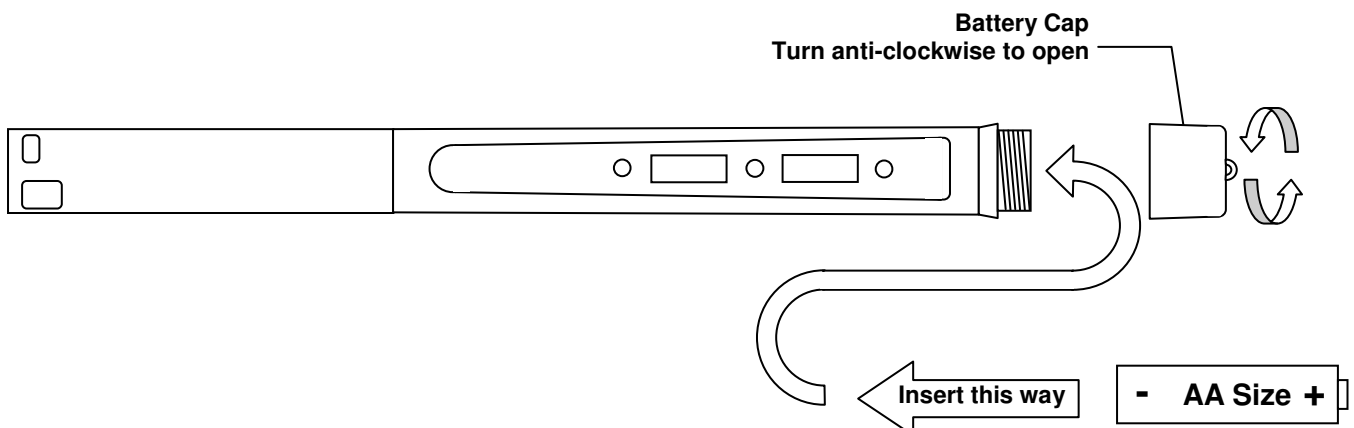
LIMITED WARRANTY

Trans Instruments (S) Pte. Ltd. warranties the main unit for a period of **18 months** and the probe for **12 months or about 700 tests (whichever comes first)** from date of purchase against all defects in material and workmanship. This warranty does not apply to the abuse, misused, probe expiry or tampering of the product.

If repairs or adjustments are required, upon sending, the product must be properly packaged and insured against possible damage or loss in the shipment. Purchase invoice **MUST** be accompanied in returned product or else warranty is considered void.

Send the product via courier service or parcel postage with freight fully paid. After verification that the product is within warranties, it will be repaired and returned free of charge. Trans Instruments reserve the rights of final decision of the verification. The product will be returned via courier service on freight collect basis.

TRANS INSTRUMENTS

(Singapore) Pte Ltd
email: sales@transinstruments.com
Website: www.transinstrumnets.com
ISO9001 Certified Firm