NIEUWKOOP

METEN.NL

USER MANUAL

Testers

EC2620 / EC2630 / EP2000
PH2620 / PH2630 / PH2720

TO MEASURE = TO KNOW

SUMMARY

PRODUCT SPECIFICATIONS

	PH2620/ pH 1	**EC2620/ COND 1**	**PH2630/pH 5 pH 5 Food**	**PH2720/ ORP 5**	**EC2630/ COND 5**	**EP2000/ PC 5**
pH Range	0...14	-	-2...16	-	-	-2...16
Resolution / Accuracy	0.1 / ±0.1	-	0.01 / ±00.1	-	-	0.01 / ±0.1
MultiPoint Calibration	1...2	-	1...3	-	-	1...3
Buffer Value	3 buffers USA	-	5 buffers USA	-	-	5 buffers USA
mV Range	-	-	±1000		-	±1000
Resolution	-	-	0.1 / 1		-	0.1 / 1
COND Range	-	0...2000µS / 0...20mS	-	-	0...200µS / 0...2000µS / 0...20mS	
Resolution / Accuracy	-	Automatic scale / ±1% f.s.	-	-	Automatic scale / ±1% f.s.	
MultiPoint Calibration	-	1...2	-	-	1...3	
Temperature compensation	-	1.9 %/°C	-	-	0.00...4.00%/°C	
Reference temperature	-	25 °C	-	-	20/25 °C	
TDS Range	-	0.1ppm...10ppt	-	-	0.1ppm...10ppt	
TDS factor	-	0.40...1.00	-	-	0.40...1.00	
Salinity Range	-	-	-	-	0.01...10 g/L	
Temperature Range	0...50°C (n.v)		0...50°C	0...50°C (n.v)	0...50°C	
Resolution / Accuracy	-	-	0.1 / ±0.2°C	-	0.1 / ±0.2°C	
Temperature unit	-	-	°C/°F	-	°C/°F	
Device Indication buffers used for calibration	Yes			-	Yes	
Auto power-off	8 min					
Display	LCD		LCD backlight 3 colors			
IP Protection	IP 67					
Power Supply	4X1.5V battery AAA					

INTRODUCTION

Congratulations for buying one of the most innovative and easy to use Pocket Tester.

Pocket testers series 1 and 5 are very handy for the routine measurements in all applications where fast indication of measurement is required.

These Testers are specially designed for applications like: Agriculture, water and waste water treatment, Hydroponics, Aquaculture, Environmental monitoring, Food and beverage manufacturing, Cooling towers, Printing, Education etc.

Tester series 1 is basic one with fixed sensor and only two keys for all functions.

Tester series 5 is advanced version with replaceable sensor, multicolour backlight display and 3 key for all functions.

SAFETY INSTRUCTIONS

⚠ Read this instruction manual carefully before using your new tester.

⚠ The membrane of pH electrode is made of glass and can be danger in case it breaks.
To avoid damage check the electrode tip after each measurements.

⚠ Replace all batteries together with the same type.

⚠ The manufacturer of these instruments can't be held responsible for any improper use.

⚠ Verification of the measuring results is the responsibility of the operator and the manufacturer doesn't respond to any direct of indirect damage occurred while using this instrument.

DISPOSAL OF ELECTRONIC DEVICES

The electrical and electronic equipment marked with this symbol cannot be disposed of in public landfills.
According to the UE Directive 2002/96/EC, the European users of electrical and electronic equipment can return it to the dealer or manufacturer upon purchase of a new one.
The illegal disposal of electrical and electronic equipment is punished with an administrative fine.

PRODUCT DESCRIPTION

KEYPAD

PH2630-pH5 / EC2630-Cond5 / EP2000-PC5

PH2620-pH1 / EC2620-Cond1

Keypad Functions for Tester PH2630-pH5 / EC2630-Cond5 / EP2000-PC5

Button	Function	Action
ESC	⏻	Press to switch on/off the meter.
	ESC	Press to escape from setup menu or calibration procedure.
	✱	During measurement: Press to turn on/off the back light.
MODE ▲	MODE	During measurement: Press to switch between pH -> mV -> Cond -> TDS -> SAL
	▲	During Setup: Press to scroll in the menu or increase the value of the selected parameter.
CAL ↵	CAL	During measurement: press to start the calibration of the selected parameter.
	↵	Press to confirm the calibration and setup value.

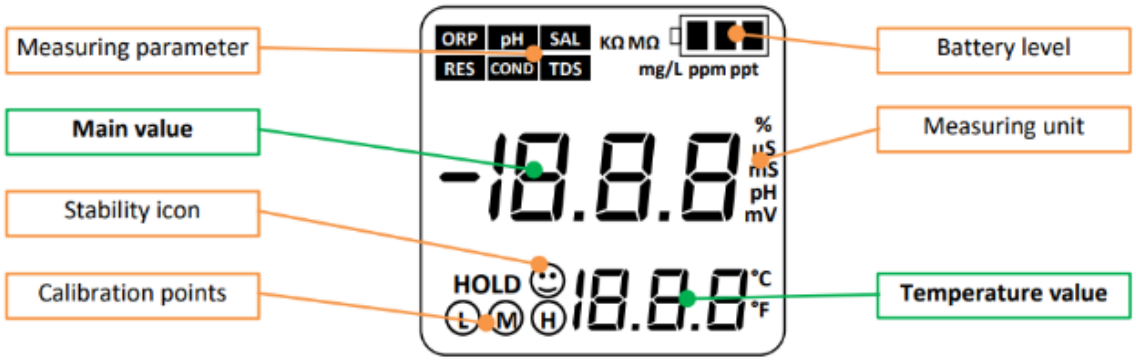
Keypad Functions for Tester PH2620-pH1 / EC2620-Cond1

Button	Function	Action
⏻ / ▲	⏻	Press to switch on/off the meter.
	▲	During Setup: Press to scroll in the menu or increase the value of the selected parameter.
CAL / ↵	CAL	During measurement: press to start the calibration of the selected parameter.
	↵	Press to confirm the calibration and setup value.

DISPLAY

The device is endowed with LCD display for Series 1 and 3 colors backlight LCD for Series 5

• **GREEN**: Setup or measurement mode • **BLUE**: Calibration mode • **RED**: Error/Alarm



CALIBRATION POINTS INDICATOR

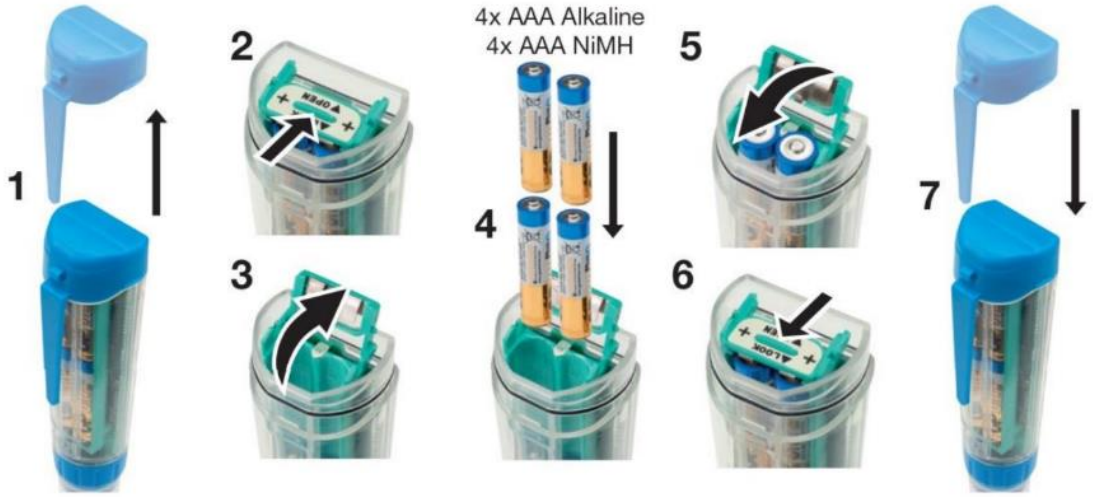
When a calibration is performed these icons indicate the points calibrated and

Icon	Working range	pH mode	Conductivity mode
Ⓛ	Low	4.01 pH	84 uS
Ⓜ	Medium	7.00 pH*	1413 uS
Ⓗ	High	10.01 pH	12.88 mS

*First point for pH calibration is always 7.00 pH

POWER SUPPLY

This tester series works with 4x AAA Alkaline or NiMH rechargeable batteries.



Make sure the batteries have correct polarity with positive pole upside.

⚠ Dispose of discharge batteries correctly according tot he applicable legislation.

⚠ Replace all batteries together with same type.

INSTRUCTIONS FOR PH2620-pH1 / EC2620-Cond1

POWER ON

Press ⏻ key once, the meter will switch ON and the display will show all the segmetns active for 2 sec. and then i twill display the following:

All segments ON -> model name + software release -> measurement

POWER OFF

To turn off the meter press ⏻ key for 3 seconds, the meter will switch OFF.

SETUP MENU for PH2620-pH1 / EC2620-Cond1

1. With meter switched off, press and hold **CAL** key and press ⏻ key once.
2. The meter will switch on wit hall the segements active, release **CAL** key, the meter will go into the Setup Menu.
3. The display will show SLT on primary display with COND flashing (only for EC2620-Cond1).
4. Press ▲ to select the parameter between COND or TDS to be used for measurements and press ↵ to confirm (only for EC2620-Cond1).
   - Only if the TDS is selected then the display will show TDS, FCT flashing, press ▲ to change this factor and then press ↵ to confirm (only for EC2620-Cond1).
5. The display will show RST (RESET): nO flashing.
6. Press ▲ and select YES if a reset of the meter is required and then press ↵ to confirm.
7. At this point the meter finishes SETUP menu and switches off.

NOTE: To skip the changing of the value simply confirm the flashing value with ↵ key, the meter will go tot he next Parameter.

METING

Rinse the electrode with distilled water or sample prior to start measurement.
Fill the measuring cap with sample, switch on the meter with ⏻ , immerse the Tester in sample and wait for stability, when stability icon ☺ appears on display take the reading.
During measurement make sure that pH electrode membrane is free from air bubbles, and that there isn't any air bubble around or between conductivity sensor.

CALIBRATION PROCEDURE FOR CONDUCTIVITY (EC2620-Cond1)

1. Power ON the meter by pressing the ⏻ key.
2. Rinse the probe with distilled water.
3. Immerse the probe in the calibration solution (1413µS or 12.88 mS), wait for stability ☺
4. Press **CAL** key.
5. The meter will start calibration procedure and will recognise automatically the standard used.
6. When stable press ↵ to confirm and complete the calibration.
7. The standard value will flash for 3 times and then the meter will go into the measurement mode.
8. If the 2nd point calibration is required then rinse the probe with distilled water and immerse in the second standard solution (1413µS or 12.88 mS), wait for stability ☺
9. Repeat the points 4 to 7.
10. The calibration process is completed and the meter is ready to use.

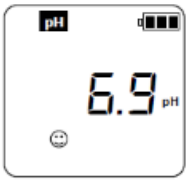
NOTE: Anytime press ⏻ key to abort and exit from calibration procedure.

⬅ Reading based on theoretical cell value C=1
⬅ Standard solution

CALIBRATION PROCEDURE FOR TDS (EC2620-Cond1)

When the meter is set to read TDS then the calibration is done on TDS with 1 or 2 points.
The calibration procedure for TDS is same as for Conductivity.

CALIBRATION PROCEDURE FOR pH (PH2620-pH1)



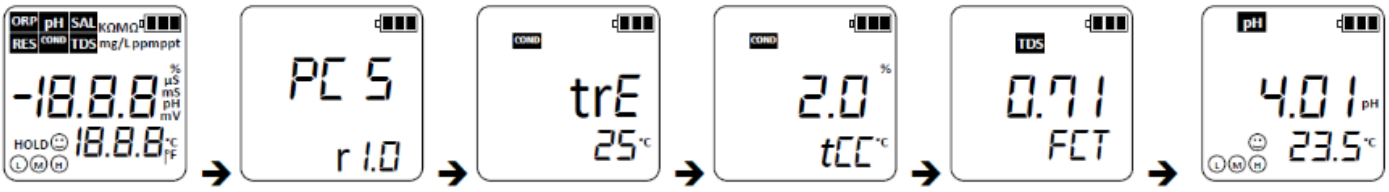
1. Power ON the meter by pressing the ⏻ key.
2. Rinse the electrode with distilled water.
3. Immerse the electrode in the 1st buffer solution pH7.0 and wait for stability ☺
4. Press **CAL** key.
5. The meter will start calibration procedure and will recognize automatically the standard used.
6. When stable press ↵ to confirm and complete the calibration.
7. The standard value will flash for 3 times and then the meter will ask for next point for calibration. If only 1 point calibration is required then press ⏻ to finish and exit.
8. If the 2nd point calibration is required then rinse the electrode with distilled water and immerse in pH4.0 or pH10.0, wait for stability ☺
9. Repeat the points 4 to 7.
10. The calibration process is completed and the meter is ready to use.

NOTE: Anytime press ⏻ key to abort and exit from calibration procedure.
NOTE (2): When the first point calibration is confirmed (point 7) if the sensor is not removed from the buffer solution, the instrument may give wrong buffer error.

INSTRUCTIONS FOR PH2630-pH5, EC2630-Cond5, EP2000-PC5

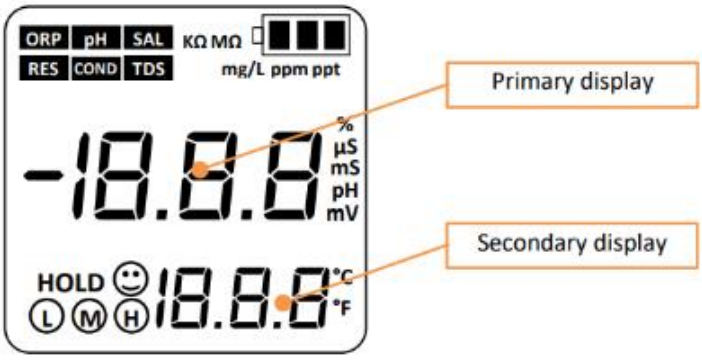
POWER ON

Press ⏻ key once, the meter will switch On and performs a test of 3 colors backlight display and then show all the segments active for 2 sec. Then it will display the following:



SETUP MENU for PH2630-pH5, EC2630-Cond5, EP2000-PC5

1. With meter switched off, press and hold **CAL** key and press ⏻ key once.
2. The meter will switch on with all the segments active, release **CAL** key, the meter will got into the Setup Menu. (green backlight during setup).
3. Press ▲ key to select the parameter to be changed between:



Function	Primary display	Secondary display	Default value
Temperature unit (°C/°F)	t.U	-	°C
Reference temperature for conductivity	trE	20 - 25 °C	25°C
Coefficient for temperature compensation	0...4 %/°C	tCC	1.9
TDS factor	0.40 - 1.00	Fct	0.71
Reset to factory default	nO - YES	rSt	nO

4. Press ↵ to enable the value changing of the selected parameter.
5. The value of selected parameter will start flashing.
6. Press ▲ to change the value and then press ↵ to confirm.
7. The value stops flashing.
8. Press ▲ to select other parameters or press **ESC** to exit the setup menu.

NOTE: Any time press **ESC** key to exit from SETUP menu.

MEASUREMENT

Rinse the electrode with distilled water or sample prior to start measurement.
Fill the measuring cap with sample, switch on the meter with ⏻ and press **MODE** key to select desired parameter to be measured (green backlight during measurement).
Immerse the Tester in sample and wait for stability, when stability icon ☺ appears on display take the reading.
During measurement make sure that pH electrode is free from air bubbles, and that there isn't any air bubble around or between conductivity sensor.

CALIBRATION PROCEDURE FOR CONDUCTIVITY (EC2630-Cond5/EP2000-PC5)

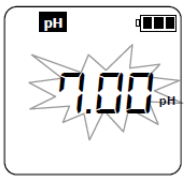
1. Power ON the meter by pressing the ⏻ key.
2. Rinse the probe with distilled water.
3. Immerse the probe in the calibration solution (84µs, 1413µS or 12.88 mS), wait for stability ☺
4. Press **CAL** key, (blue backlight during calibration).
5. The meter will start calibration procedure and will recognise automatically the standard used.
6. When stable press ↵ to confirm and complete the calibration.
7. The standard value will flash for 3 times and then the meter will go into the measurement mode.
8. If the 2nd point calibration is required then rinse the electrode with distilled water and immerse in the 2nd Standard, wait for stability ☺
9. Repeat the points 4 to 7.
10. If the 3rd point calibration is required then rinse the electrode with distilled water and immerse in the 3rd Standard, wait for stability ☺
11. Repeat the points 4 to 7.
12. The calibration process is completed and the meter is ready to use.

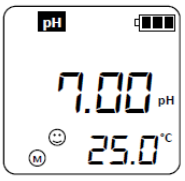
NOTE: Anytime press **ESC** key to abort and exit from calibration procedure.
NOTE(2): In case multipoint calibration is performed it is better to start from the lower value standard first and then go increasing.

CALIBRATION PROCEDURE FOR pH (PH2630-pH5, EP2000-PC5)

1. Power ON the meter by pressing the ⏻ key.
2. Rinse the electrode with distilled water.
3. Immerse the electrode in the 1st buffer solution pH7.00 and wait for stability ☺
4. Press **CAL** key (blue backlight during calibration).
5. The meter will start calibration procedure and will recognize automatically the standard used.
6. When stable ☺ press ↵ to confirm and complete the calibration.
7. The standard value will flash for 3 times and then the meter will ask for next point for calibration. If only 1 point calibration is required then press ⏻ to finish and exit.

8. If the 2nd point calibration is required then rinse the electrode with distilled water and immerse in pH4.01 or pH10.01, wait for stability ☺, otherwise press **ESC** to finish and exit.
9. Repeat the points 4 to 7.
10. If the 3rd point calibration is required then rinse the electrode with distilled water and immerse in the last buffer, wait for stability ☺, otherwise press **ESC** to finish and exit.
11. Repeat the points 4 to 7.
12. De calibration procedure is completed and the meter is ready to use.





NOTE: Anytime press **ESC** key to abort and exit from calibration procedure.

POWER OFF

To turn off the meter press ⏻ key for 3 seconds, the meter will switch off. The instrument can not be switched off during calibration.

REPLACEMENT OF SENSOR

Tester 5 series has replacement sensors which can be replaced in case it expires of damages.

1) To replace the sensor unscrew the dial in anti-clock wise.
2) Pull out sensor from unit body.
3) Put a new sensor by matching correctly the sign of dent.
4) Be sure that all the gaskets are good and in correct position.
5) Screw the dial tightly.

⚠ SENSOR MAINTENANCE

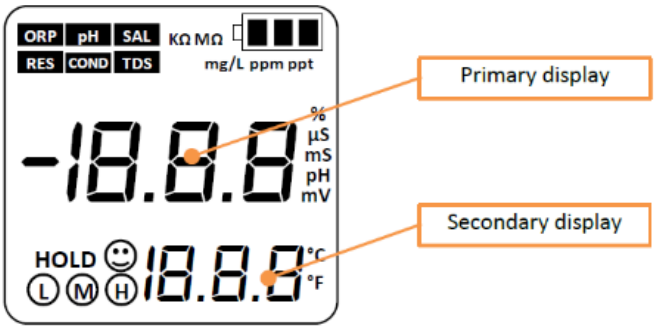
Before first time use or after long time dry storage, leave the probe in tap water or storage solution for at least 30 minutes to activate the sensor.

EC2620-Cond1 / EC2630-Cond5:
- Rinse the probe with distiller water or sample before use.
- For short time storage use distiller water. For long time store dry.

PH2620-pH1 / PH2630-pH5 pH5 Food / PH2720-ORP5 / EP2000-PC5:
- Rinse the probe with distiller water or sample before use.
- Store the probe in storage solution for regular use. For long time store dry.
- Never store pH sensor in distilled water

⚠ Never touch conductivity probe with paper, for cleaning purpose only rinse with distilled water. If touched the probe may damage.

SETUP MENU FUNCTIES voor alle Testers



Function	PH2620/ pH1	EC2620/ Cond1	PH2630/pH5 (+Food) PH2720/ORP5	EC2630/ Cond5	EP2000/ PC5	RESET
COND / TDS selection		✓				-
TDS factor		0.40 - 1.00		0.40 - 1.00	0.40 - 1.00	0.71
°C / °F			✓	✓	✓	°C
T ref for COND		25 °C		20 / 25 °C	20 / 25 °C	25 °C
T Coefficient				0 ... 4% / °C	0 ... 4% / °C	1.9
RESET	✓	✓	✓	✓	✓	

ERROR DESCRIPTION

Error	Contents	Checking
Er 1	Wrong pH buffer solution or the recognition of calibration solution out of range.	1. Check whether buffer solution is correct. 2. Check whether the meter connects the electrode well. 3. Check whether the electrode is damaged.
Er2	Press ↵ key when measuring value is not stable during calibration.	Press ↵ key when ☺ icon appears.
Er3	During calibration, the measuring value is not stable for ≥3min.	1. Check whether there are bubbles in glass bulb. 2. Replace with new electrode.
Er4	Electrode zero electric potential out of range (<-60mV or >60mV).	1. Check whether there are bubbles in glass bulb. 2. Check whether pH buffer solution is correct. 3. Replace with new pH electrode.
Er5	Electrode slope out of range （<85% or >110%）	
Er6	pH measuring range out of range (<0.00 pH or >14.00pH) 1 Series (<-2.00 pH or >16.00pH) 5 Series	1. Check whether the electrode is suspended. 2. Check whether the meter connects the electrode well. 3. Check whether the electrode is damaged

TO MEASURE = TO KNOW

Nieuwkoop BV
Aalsmeerderweg 249 -S
1432 CM AALSMEER

0297 325836
info@nieuwkoopbv.nl
www.meten.nl

NIEUWKOOP