

Operating instructions PUROTAP® EC-18



**Installation
Function
Operation
Maintenance**



ELYSATOR 
engineering water
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1. Safety instructions



Wear safety goggles



Maximum 50 °C



Wear protective gloves

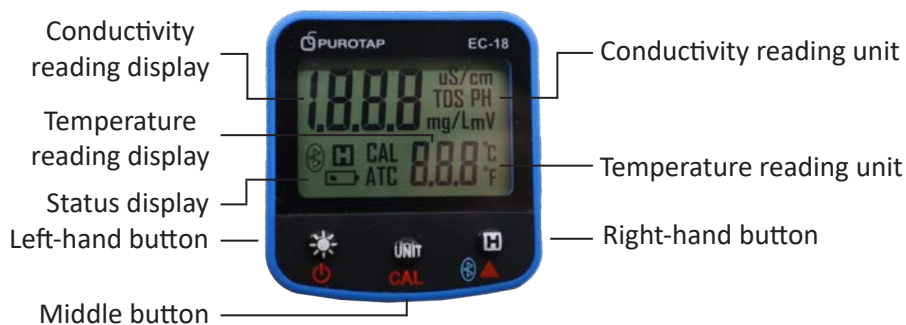
2. Function

The PUROTAP® EC-18 tests the conductivity, salts and salt concentration. The device has automatic temperature compensation (ATC). The LCD screen simultaneously shows the temperature compensated conductivity reading and the temperature of the liquid. The meter can be carried around as easily as a pen and has its own clip. The display has a backlight for work in dark places. The AAA batteries have a life of up to 400 hours. The automatic switch-off function extends the battery life.

The conductivity meter PUROTAP® EC-18 is factory calibrated and will generally not need recalibration.



PANEL



3. Standard delivery

- Meter (incl. batteries)
- Case for meter
- Screwdriver

4. Specification

4.1. Device description

	Symbol	Description
Display		Low battery charge
		Hold reading display
	ATC	Autom. temperature compensation
	CAL	Calibration mode
		Bluetooth function (not active) / deactivate automatic switch-off
	$\mu\text{S}/\text{cm}$	Conductivity test ($\mu\text{S}/\text{cm}$)
	TDS	Total dissolved salts test (ppm)
	mg/l	Salinity test (mg/l)
Left-hand button		Backlight ON or OFF/switch on device In calibration mode: reduce calibration temperature
		Switch off: press and hold down for 3 s
Middle button		Change temperature unit In calibration mode: store data
	CAL	Call up calibration mode: press and hold down for 3 s. End calibration mode: press and hold down for 3 s
Right-hand button		Hold reading display
		In calibration mode: change calibration point In calibration mode: increase calibration temperature
		Activate Bluetooth (not active)/deactivate automatic switch-off: press and hold down for 3 s

4.2. Performance data

Conductivity test range:	0 - 1999 $\mu\text{S}/\text{cm}$ (0 - 1280 TDS)
Conductivity resolution:	1 $\mu\text{S}/\text{cm}$
Conductivity test accuracy:	$\pm 2\%$ (% FS)
Temperature range:	0 - 50 °C (32 - 122 °F) (ATC autom. temperature compensation)
Setting range, ATC correction factor:	0.000 - 0.999 / °C (default 0.020)
Resolution/accuracy:	0.1 °C (0.2 °F) / ± 0.5 °C (1 °F)
Transfer unit:	Solids content (ppm), salt (mg/l)
Adjustable transfer rate unit:	Conductivity -> solids content 0.000 -0.999 Default value 0.500 Conductivity -> salt 0.000 -0.999 Default value 0.500
Power supply:	2 $\times$ AAA batteries
Battery life:	Typically 400 hours (at 25 °C using alkali batteries)
Degree of protection:	IP 65
Dimensions (L×W×D):	153×40×38 mm
Weight:	100 g

5. Operation

5.1. Commissioning

Twist the cap anti-clockwise to remove it from the test probe. Then press the left-hand (power) button to switch on the device. The device starts up in test mode. The reading display shows the temperature compensated reading (ATC) of the **conductivity** and **temperature**. If no button is pressed for 15 minutes, the device switches off automatically.

5.2. Testing

Dip the meter into the sample at least up to the "MIN" mark but no further than the "MAX" mark until the reading stabilises.

5.2.1. Water hardness conversion factor for domestic hot water

Electrical conductivity is a measure of the total mineral and salt content in the water. The mineral content of untreated drinking water is composed almost exclusively of the hardness-forming substances calcium and magnesium. This means that a formula can be used to convert the mineral content into water hardness. The measurement in microsiemens per cm ($\mu\text{S}/\text{cm}$) divided by 20 gives the water hardness in $^{\circ}\text{fH}$. The measurement in microsiemens per cm ($\mu\text{S}/\text{cm}$) divided by 35 gives the water hardness in $^{\circ}\text{dH}$.

Conductivity reading $\mu\text{S}/\text{cm}$ / 20 = $^{\circ}\text{fH}$ value (French hardness)

Conductivity reading $\mu\text{S}/\text{cm}$ / 35 = $^{\circ}\text{dH}$ value (German hardness)

5.2.2. Corrosion at high conductivity levels

Corrosion in heating systems is caused by oxygen, acid and dissolved salts. The speed at which corrosion takes place is mainly dictated by electrical conductivity. The higher the electrical conductivity, the faster the process of corrosion.

Reading 0 – 100 $\mu\text{S}/\text{cm}$	inhibited corrosion
Reading 100 – 350 $\mu\text{S}/\text{cm}$	very slow corrosion
Reading 350 – 500 $\mu\text{S}/\text{cm}$	slow corrosion
Reading > 500 $\mu\text{S}/\text{cm}$	accelerated corrosion

5.3. Backlight

Pressing the left-hand button switches on the backlight. Press the left-hand button again to switch the backlight back off.

5.4. Selecting the test category

To toggle the test category between conductivity ($\mu\text{S}/\text{cm}$), total dissolved salts (TDS) and salinity (mg/l), press the middle button in test mode. The temperature display can be toggled between degrees Celsius ($^{\circ}\text{C}$) and degrees Fahrenheit ($^{\circ}\text{F}$).

5.5. Hold function

To activate or deactivate the hold function (display value is no longer updated), press the right-hand button in test mode.

5.6. After use

Clean the test probe carefully with demineralised water and refit the cap. To switch off, press and hold down the left-hand button for 3 seconds.



The test probe must be cleaned with demineralised water after each test!



If only one water sample is available for pH and conductivity testing, the conductivity test must be carried out before the pH test. Conductivity is increased by pH testing!

6. Maintenance

6.1. Battery replacement

If the symbol for low battery appears on the display, replace the batteries with 2 AAA batteries.

- 1) Insert a tool (screwdriver) into the clip opening marked with an "OPEN" symbol.
- 2) Turn the tool upwards.
- 3) Separate the upper and lower halves of the casing.
- 4) Replace the batteries in the battery compartment with new ones.
- 5) Join the two casing halves together again.



6.2. Test probe maintenance

Clean the test probe carefully with demineralised water, dry it and refit the cap.

6.3. Cleaning the surface

Clean the casing (except the test probe and display) by wiping it with alcohol.

NOTE

To protect the test probe, always store the meter with the probe cap securely fitted.

Never perform tests too close to the rim of the vessel.

7. Spare parts

Item no.	Designation
100 280	PUROTAP® device batteries AAA (2 required)