

# PRO 52x

## PORTABLE CONDUCTIVITY METER / DATA LOGGER



### INTRODUCTION

The PRO 521/525 are high class professional handheld conductometers with a rich set of features, high grade robustness and operating comfort for safe and reliable use in water analysis applications.

The PRO 525 has data logging capabilities and a USB interface and power supply. Water, drop and impact protection is making it a perfect choice for field use, the integrated pop-up stand helps in laboratory use.

The practice proven measuring cells are the top choices for any application.

### FEATURES

#### Display

Thanks to the backlight, the large multilingual dot matrix/clear text LCD provides ergonomic wide-angle visibility from daylight to darkness.

It displays either large scale values, statistical data or the live chart of measurement history.

The HOLD feature allows freezing the measurements on display.

Many units of measurement are available, depending on the connected probes.

#### Data Logging (PRO 525 only)

Large storage capacity: up to 1 million data sets, file system based.

The logged data is stored in CVS files that can easily be viewed by connecting the instrument to a PC via USB: the instrument is seen by the PC as a mass storage device, the data can be read out and evaluated without software necessarily needed. Automatic log with configurable interval. The comfortable data management software **ProXware is downloadable at [senseca.com](http://senseca.com) for free.**

Alternatively the logger can be used as a manual data collector: Datasets are recorded on demand into .json-file.

The instruments integrate a real time clock: date and time of each logged sample are stored.

#### Alarm

Configurable alarm thresholds and optionally hysteresis can be set. LCD indication and buzzer activation when thresholds are exceeded.

#### Power supply

Four alkaline batteries, the low power design and the configurable auto-off feature ensure long operation. For permanent operation the instrument can also be powered via its USB C port. Any standard USB-C power adapter with min 800 mA



### HIGHLIGHTS

- IP67 water protected
- Robust user interface: Impact proof, glove operation
- Fix connected cable probes with integrated temperature sensor, long term stable, for highest accuracy
- Variants for wider range universal use and specialized item e.g. for high purity water
- Easy to use due to backlit dot matrix/clear text display, multilingual
- Life chart display
- PRO 525 : Data logger with files read out via USB - no extra software necessary (ProXware data management software free of charge)
- Built-in foldable stand and magnet for flexible operation

or PC USB port can be used.  
Configurable LCD backlight for more energy saving options.

### Connection to PC

Via the USB-C port, for viewing and downloading (PRO 525 only) the files stored in the device or for connecting to the ProXware application software. Once the devices are connected, the power supply gets switched from battery to USB.

## CONFIGURATION & MEASUREMENT

### Probes input via fixed cable connection

The fixed connection to long life measuring cells gives a very economic choice for the referring application field.

By renouncing the flexible connection of measuring cells, the individual adjustment procedure carried out at the factory and the high quality of the cells, the result is the best possible accuracy of the conductometer, which surpasses comparable measuring systems.

The integrated temperature sensors are the basis of the applicable automated temperature compensations – or at least are the perfect source of a reliable precise reference temperature for the correct measurement recording.

### Statistics

Detection of MIN, AVG (average) and MAX. The user can clear the statistical info to start a new statistical calculation.

### Adjustment with reference solutions

Comfortable adjustment (“calibration”) can be accomplished with guided user interface, reliable and precise due to full temperature compensation. In combination with our reference solutions GKL 10x, this is an excellent economic and practicable solution.

### Ergonomics

The construction allows for both one-handed use as well as bench-top use with the foldable back stand.

Side rubber protection offers a secure grip during use in the field.

### Calibration support

Calibration reports or DAkkS/ACCREDIA certificates are available upon request. The last calibration date is stored.



## Technical specifications of PRO52x-425

Inputs	4 pole graphite/epoxy/PVCU
Conductivity	0.0 ... 500.0 $\mu\text{S/cm}$ 0 ... 1000 mS/cm
Temperature	-5.0 ... 80°C, short time (max. 5 minutes) +90°C
Resolution	
Conductivity	min. 0.1 $\mu\text{S/cm}$
Temperature	0.1°C / 0.1 °F
Calculated values	
Resistivity	0.001 ... 100.0 kOhm*cm
Salinity	0.0 ... 70.0 g/kg
TDS	0 ... 2000 mg/l
Accuracy (@ 25°C $\pm 1$ digit)	
Conductivity	0...250 mS/cm: $\pm 0.5\%$ of measure $\pm (0.2\% \text{ FS or } 2 \mu\text{S/cm})$ $\pm 1$ digit > 250 mS/cm: Typ. $\pm 1.5\%$ of measure $\pm 0.2\% \text{ FS} \pm 1$ digit
Temperature	$\pm 0.2\%$ of value $\pm 0.3 \text{ K}$
Cell correction	adjustable 0.800 ... 1.200 1/cm manually or automatically via selectable conductivity control solutions GKL 10x
Temperature compensation	Automatic or can be switched off using the temperature sensor integrated in the sensor.  nLF: Non-linear function of natural water according to DIN EN27888 (ISO 7888) (reference temperature adjustable: 20 or 25 °C)  Lin: Linear compensation of 0.3 ... 3.0 % / K (reference temperature adjustable: 20 or 25 °C)  NaCl: Compensation of weak NaCl solutions only in pure and ultrapure water (reference temperature adjustable: 20 or 25 °C)  off: No compensation
Measurement rate	1 meas/s

## General specifications

LOGGER ONLY PRO 525	Storage capacity	Up to 1 million data sets, file system based. Each data set includes date/time stamp and measurements of all channels. Data is stored in CSV files
	Logging type	Automatic with manual start/stop or manual single recording
	Logging interval	1, 5, 10, 15, 30 s / 1, 2, 5, 10, 15, 20, 30 min / 1 hour
	Clock	User settable RTC Max. drift 1 min/month @ 25 °C
Display	140 x 160 dot matrix backlit LCD / visible area 42 x 50 mm Multiple choice of measurement screens: <ul style="list-style-type: none"><li>• Large digit single value</li><li>• Multi-row</li><li>• Statistical info (Min/Avg/Max)</li><li>• Chart view</li></ul>	
User interface	Multilingual (de, en, it, fr, es)	

PC connection	USB C Mass Storage Device
Power supply	4 x AA NiMH batteries External 5 Vdc via USB C (power adapter or PC USB port)
Power consumption	18 mA typ.
Battery autonomy	~ 150 h typ. continuous operation
Auto power off	Yes, user configurable Automatically disabled if external power is connected
Operating conditions	-5...50 °C / 0...85 %RH non-condensing
Storage temperature	-25...65 °C (without batteries)
Protection degree	IP 67 IK 04
Dimensions	170 x 78 x 38 mm plus measuring cell
Weight	PRO 52x-425: 435 g approx.
Housing material	ABS, TPE (side protection) Polyester (front panel)

### Ordering codes

<b>PRO521-425</b> Art. No. 489193	Waterproof conductivity measuring instrument, graphic display, Scope of delivery: incl batteries, Quickstart Device in carton box, test-protocol, fixed measuring cell 4 pole graphite/epoxy/PVCU.
<b>PRO525-425</b> Art. No. 489194	Waterproof conductivity measuring instrument, graphic display, with data logger. Scope of delivery: incl batteries, Quickstart, USB-C cable. Device in carton box, test-protocol, fixed measuring cell 4 pole graphite/epoxy/PVCU.

### Accessories

Consumables	
<b>GKL 100</b> Art. No. 601396	Calibration solution 1413 µS/cm, 100 ml bottle
<b>GKL 101</b> Art. No. 601398	Calibration solution 84 µS/cm in 250 ml dosing bottle
<b>GKL 102</b> Art. No. 601400	Calibration solution 50 ms/cm, 100 ml bottle (sea water ref.)
For further articles, please visit Senseca website.	
Other accessories	
<b>CASE PRO-400</b> Art. No. 486900	Case for PRO Line. Recess for one instrument, space for accessories, carrying handle, zipper. Dimensions: 415 x 245 x 70 mm (W xHxD). 