

# SD 300 pH & SD 320 Con (IP 67 waterproof)



Waterproof  
Hand-held Meters  
for  
pH/Redox/Temperature  
Conductivity, TDS,  
Salinity, Temperature

## Highlights

- Rugged, water resistant (IP 67) designed for field use
- PC interface (USB / serial or analog)
- Automatic buffer detection (SD 300 pH)
- Data logger and alarm function (min./max.)
- Good Laboratory Practice (GLP-features)
- Clear, concise result reading: easy-to-read backlit LCD display
- Automatic temperature compensation
- High resolution (0.001 pH / 0.1 mV) (SD 300 pH)
- Dirt-insensitive up-to-date 4-pole conductivity cell offering highest precision (SD 320 Con)

## Applications

- Drinking Water
- Cooling/Boiler Water
- Waste Water
- Pool Water
- Surface Water

## Features SD 300 pH

### Min / Max Value Memory

highest and lowest measured value is saved.

### Auto Hold

freeze and display measurement.

### Auto Power Off

if unused, the meter automatically switches off after a selected period (0 to 120 min, or deactivated)

### Additional Display for pH Electrode and Battery

Bar graph display

### Low Battery Display

"BAT"

### Automatic Temperature Compensation

Automatic Temperature Compensation (ATC) in pH mode (in the range of 0 - 105 °C) when the temperature probe is connected. Temperature can be input manually, when the temperature probe is not attached.

### pH Calibration

Automatic Buffer Recognition.

Permissible electrodes' data: Asymmetry:

$\pm 55$  mV / Slope: 45 ... 62 mV/pH

The condition of pH Electrode is checked at each calibration.

1, 2 or 3 point calibration with Lovibond® Standard Buffer, DIN 19266 Buffer or any manually entered Buffer values.

### Redox Measurement (ORP)

2 options:

"mV" Standard Redox or mV measurement

"mVH" Conversion to hydrogen systems according to DIN38404 Part 6

### rH Measurement

The rH value is calculated from a measured Redox value and a manually input pH value

## Features SD 320 Con

### Min / Max Value Memory

highest and lowest measured value is saved

### Auto Hold

freeze and display measurement

### Auto Power Off

if unused, the meter automatically switches off after a selected period (0 to 120 min, or deactivated)

### Low Battery Display

"BAT"

### Automatic temperature compensation

As conductivity depends strongly on temperature, each conductivity value is only valid at the corresponding temperature.

Therefore the device supports temperature compensation, i.e. referring the conductivity to a reference temperature (selectable: 20 °C or 25 °C).

### Salinity measurement

Salinity means the sum of amount of all dissolved salts in water.

The unit is g / kg.

### TDS measurement (total dissolved solids)

TDS means the mass concentration of dissolved media in a liquid. The unit is mg/l.



# SD 300 pH

## Accessories

Code	Article
721231	pH/temp.-electrode type 230 plastic/gel/temperature NTC30kOhm (SET 1)
721226	pH-electrode plastic/gel-type 225 (SET 2)
721235BNC	pH-electrode glass/gel-type 235
721240BNC	Redox-electrode plastic-type 240
72 12 45	PT1000Temperature sensor (SET 2)
41 86 09	KCl-solution, 3 molar saturated with AgCl, 100 ml
72 12 50	pH buffer-set 4.00/7.00/10.00 (25°C)
72 12 52	pH buffer 4.00 (25°C) 1 litre
72 12 54	pH buffer 7.00 (25°C) 1 litre
72 12 56	pH buffer 10.00 (25°C) 1 litre
19 50 70	Redox calibration solution, 470 mV, 100 ml
72 46 20	USB 300 cable, for connection to a computer
72 46 25	GSOFT 3050 data transmission software with logger for setting, reading and printing of stored data
72 50 60	Case with foam inlet

## Delivery Content

### Order Code: 72 46 00

#### SD 300 pH

without electrode, with batteries, protective armouring, instruction manual, warranty information

### Order Code: 72 46 10

#### SD 300 pH (SET 1)

instrument, batteries, pH/temp. plastic-electrode type 230, pH-buffer-set (pH 4.00/7.00/10.00), in case, manual, warranty information

### Order Code: 72 46 11

#### SD 300 pH (SET 2)

as SET1, but with pH / temperature plastic-electrode type 225, temperature sensor Pt 1000, manual, warranty information



SD 300 pH in case

## Technical Data

### Measuring ranges

**pH** - 2.000 ... 16.000 pH

**Redox /mV** - 2000.0 ... 2000.0 mV

**Temperature** - 5.0 ... + 150.0 °C  
+ 23.0 ... + 302.0 °F

**rH** 0.0 ... 70.0 rH

### Accuracy

**pH** ± 0.005 pH

**Redox / mV** ± 0.05 % FS (mV or mVH)

**Temperature** ± 0.2 °C  
- 5.0 ... + 100.0 °C

**rH** ± 0.1 rH

### Connections

**pH, Redox** BNC female connector, compatible to standard BNC plugs and waterproof BNC plugs, additional banana-jack (4 mm) for separate reference electrode input resistance: 10<sup>12</sup> Ohm

**Temperature** 2 banana jacks (4 mm) for temperature probe (Pt1000 or NTC 10K)

**Interface / Supply** 4-pole bayonet connector for serial interface and supply (with accessory USB 300)

**Display** two 4.5 - digit seven-segment display (15 mm and 12 mm)

### pH Calibration

**Automatically** 1, 2 or 3 point calibration, Lovibond® Standard Buffer or Buffer to DIN19266

**Manually** 1, 2 or 3 point calibration

**Protection class** IP67 (housing and connections)

**Dimensions** 160 x 86 x 37 mm (H x W x D) incl. protection cover

**Weight** 250 g incl. battery and protective armouring

**Housing** impact resistant PA 6 G B30 housing with pop-up clip

**Armouring** Shock-absorbing protective armouring

**Power supply** 2 x AAA-battery (included) power consumption: < 1.0 mA

**Battery life** 1000 hours

# SD 320 Con

## Technical Data

### Measuring ranges

<b>Number</b>	5
<b>Smallest range</b>	0.000 ... 5.000 $\mu\text{S} / \text{cm}^*$ or 0.0 ... 500.0 $\mu\text{S} / \text{cm}^{**}$
<b>Biggest range</b>	0 ... 5000 $\mu\text{S} / \text{cm}^*$ or 0 ... 1000 $\text{mS} / \text{cm}^{**}$
<b>Resistivity</b>	0.005 ... 500.0 $\text{k}\Omega / \text{cm}$ (depends on cell constant)
<b>TDS</b>	0 ... 5000 $\text{mg/l}$ (depends on cell constant)
<b>Salinity</b>	0.0 ... 70.0 (g salt / kg water equals PSU = Practical Salinity Unit)
<b>Temperature</b>	- 5.0 ... + 150.0 $^{\circ}\text{C}$ , Pt1000 or NTC (10 $\text{k}\Omega$ )
<b>Supported cell constants</b>	4.000 ... 15.000 / $\text{cm}^{-1}$ 0.4000 ... 1.5000 / $\text{cm}^{-1}$ 0.04000 ... 0.15000 / $\text{cm}^{-1}$ 0.004000 ... 0.015000 / $\text{cm}^{-1}$

### Accuracy

<b>Conductivity</b>	$\pm 0.5\%$ of reading $\pm 0.1\%$ FS (depends on electrode)
<b>Temperature</b>	$\pm 0.2\text{ }^{\circ}\text{C}$ (- 5.0 ... + 100.0 $^{\circ}\text{C}$ )

### Connection

<b>Conductivity, Temperature</b>	1 x 7 pole bayonet connector for connection of different measuring cells
<b>Supported temperature sensors</b>	Pt1000 or NTC (10k)
<b>Interface / ext. supply</b>	4-pole bayonet connector for serial interface and supply (with accessory USB 300)
<b>Display</b>	two 4.5 - digit seven-segment display (15 mm and 12 mm)
<b>Protection class</b>	IP67 (housing and connections)
<b>Dimensions</b>	160 x 86 x 37 mm (W x H x D) incl. protection cover
<b>Weight</b>	250 g incl. battery and protective armouring
<b>Housing</b>	impact resistant PA 6 G B30 housing with pop-up clip
<b>Power supply</b>	2 x AAA-battery (included) power consumption: < 6,25 mA
<b>Battery life</b>	160 hours

depends on cell constant  
of used electrode  
\* cell constant 0.01 / cm  
\*\* cell constant 0.1 ... 1.2 / cm

## Accessories

Order code	Article
19805040	Conductivity cell LC 12, measuring range 0 - 200 $\text{mS}/\text{cm}$
19805045	Conductivity cell LC 16, measuring range 0 - 1000 $\text{mS}/\text{cm}$
72 22 50	Calibration solution 1413 $\mu\text{S}/\text{cm}$
72 46 20	USB 300 cable, for connection to a computer
72 46 25	GSOFT 3050 data transmission software with logger for setting, reading and printing of stored data
72 50 60	Case with foam inlet

## Delivery Content

**Order Code: 72 47 00  
SD 320 Con (SET 1)**  
instrument, batteries,  
conductivity cell LC 12  
(measuring range 0 - 200  $\text{mS}/\text{cm}$ ),  
manual, warranty information  
in case

**Order Code: 72 47 20  
SD 320 Con (SET 2)**  
instrument, batteries,  
conductivity cell LC 16  
(measuring range 0 - 1000  $\text{mS}/\text{cm}$ ),  
manual, warranty information  
in case



SD 320 Con in case