# Conductivity measurement/Portable devices

# Conductivity testers Expert CTS

For accurate measurement of conductivity, TDS, and salinity in one single instrument, making it an ideal solution for many applications.

- Large 4 digit double line display

- Display of battery life, status and re-calibration
- Automatic temperature compensation (ATC)
- Auto conductivity buffer recognition and calibration
- Selectable TDS factor: 0.40 to 1.00
- Auto off

Thermo Scientific

# **Specifications**

Conductivity range: 0.00 ... 20.00 mS/cm Resolution: 10 µS/cm below 2.00 mS/cm, 0.10 mS/cm above 2.00 mS/cm

Accuracy: ±2 % full scale ±1 LSD TDS range: 0... 20000 ppm

10 ppm below 2000 ppm, 100 ppm above 2000 ppm Resolution:

±2% full scale ±1 LSD Accuracy: Salinity range: 0... 10000 ppm 100 ppm Resolution:

Accuracy: ±2 % of full scale ±1 LSD

Calibration points: 1 per parameter Temperature range: 0... 50 °C Resolution: 0.1 °C  $\pm 0.5$  °C + 1 digit Accuracy: 5... 45 °C Operating temperature: 45 x 170 x 30 mm Dimensions (W x L x H):

Weight:

Power supply: Incl. 4 batteries (A76 or LR44 equivalent)

IP code: IP 67 Warranty: 1 year

Туре	PK	Cat. No.
Expert CTS	1	6.284 906

# Salt Meter SSX 210

For determination of the relative salt content in fluid and semi-solid food products, such as meat, cold cuts, cheese, salads etc. The measurement is performed by determination of the electrical conductivity, as it is dependent on the salt content. Easy handling, robust and impact-resistant. With 2-conductor measuring probe with gold plated electrodes and silicone cable. Case included.

**Specifications** 

Measuring range: 0 ... 100 Accuracy: ±1 digit Resolution 1 digit +10 ... 40 °C Operating Temperature: Sample Rate: 1 ... 15 s, adjustable Dimensions: 100 x 46 x 25 mm Weight: approx. 200 g IP code: IP 54

Lithium 3V/1Ah, Type CR2477 Power supply:

ebro



Туре	PK	Cat. No.
Salt Meter SSX 210	1	6.228 196

Thermo Scientific

# 3. Analytical measurement and testing

Conductivity measurement/Portable devices



# Conductivity meters Eutech™ CON6+

Sturdy and economical, ease-of-use with high performance. The handy meter is IP54 splashproof and comes with a conductivity electrode with automatic temperature compensation function.

5-point-calibration with ±1% full scale accuracy

- Option of guick, easy automatic calibration or customised, near-to-sample manual calibration.
- Auto-Ranging for Conductivity/TDS measurements for fast response and best resolution over wide measurement range
- Easy-To-Read Display
- Available in kit version with plastic carrying case
- Auto off

Scope of supply: Meter with electrode, CON603+K additionally with conductivity carrying kit set (1 x 1413 μS, 12.88 mS, 84 μS KCL Standard Solutions and 1 x Deionised (Rinse) Water, 60 ml each).

Specifications

0 μS/cm to 200 mS/cm Conductivity range: Resolution: 0.05 % full scale Accuracy: ±1 % of full scale ±1 LSD

Temperature range: 0.0 to 100.0 °C Resolution: 0.1 °C Accuracy: ±0.5 °C

Power supply: 4 x 1.5 V AAA alkaline batteries, >500 h

Dimensions (W x L x H): 85 x 157 x 42 mm

Weight: 255 g IP code: IP 54

Warranty: 3 years on the meter

Туре	PK	Cat. No.
CON603+	1	6.281 845
CON603+K	1	6.263 037



Portable conductivity meter for field work

Conductivity meter FiveGo™ F3

Mettler-Toledo Online

- Measurement made easy: A large, well-structured display, intuitive button arrangement and simple menu ensure measurements can be performed in just a few clicks.
- Ergonomic design for one handed operation: Thanks to its ergonomic design, handling the FiveGo is a comfortable experience. The foldable stand provides optimal viewing on flat surfaces.
- IP67 Water and dustproof: The IP67 waterproof protection makes the FiveGo portables able to withstand wet and demanding environments.

Supplied with: F3-Meter: Meter only

F3-Standard kit: Meter with LE703 sensor

F3-Field kit: Meter with LE703 sensor and carrying case

Specifications Conductivity

Measuring range:  $0.00~\mu S/cm \dots 200~mS/cm$ 

Resolution: automatic range

Accuracy:  $\pm 0.5\%$  of the measured value

Temperature

0 ... 100 °C Measuring range: 0.1 °C Resolution: ±0.5 °C Accuracy:

TDS (Total Dissolved Solids)

0.01 mg/l ... 200 g/l Measuring range: automatic range Resolution:

Temperature compensation: Linear 0.00 ... 10.00 %/°C, reference temperature 20 and 25 °C

1 point, 3 predefined standards Calibration: Memory size: 200 measurements, current calibration

Dimensions (W x D x H): 188 x 77 x 33 mm IP 67 (meter + sensor) IP code:

Туре	PK Cat. No.
F3-Meter	1 6.280 115
F3-Standard kit	1 6.280 116 2
F3-Field kit	1 6.280 117



E & OE 330

Mettler-Toledo Online

# Conductivity measurement/Portable devices

# Conductivity meter Seven2Go™ S3

Portable routine model for conductivity measurement

- New, intuitive menu structure with fast and easy T-Pad navigation
- Robust design with IP67 protection for use in harsh and demanding environments
- Intelligent Sensor Management (ISM®) functionality reduces the risk of errors
- Easy 1 point calibration with option of manual cell constant entry
- 3 predefined standards and 1 user defined standard
- Automatic, manual and time dependant endpoint recording
- Data memory storage for 200 data points
- Power requirements: 4 x 1.5V AA or 1.3V NiMH accumulators

# Supplied with:

S3-Meter: Includes instrument, electrode clip, operating instructions, quick guide, test certificate, declaration of conformity and batteries.

S3-Standard kit: As S3-Meter, but also with InLab 738-ISM and sachets of conductivity standards 1413 μS/cm and 12.88 mS/cm.

S3-Field kit: As S3-Standard kit, but also with bottles for calibration and uGo™ carrying case.

S3-Bioethanol kit: As S3-Field kit, but also with InLab 725 instead of InLab 738-ISM.

#### Conductivity

Measuring range: 0.010µS/cm... 500mS/cm Resolution: 0.001 ... 1 (auto-range)

Accuracy: ±0.5%

Temperature

-5.0 ... +105.0°C Measuring range:

0.1°C Resolution: ±0.2°C Accuracy:

TDS (Total Dissolved Solids)

0.01mg/l ... 300g/l Measuring range: Resolution: 0.01 ... 1 (auto-range)

±0.5% Accuracy:

Specific resistance

 $0.01 \dots 100.0 M\Omega cm$ Measuring range:

Salinity

Measuring range: 0.01 ... 42psu

Туре	PK Cat. No.
S3-Meter	1 6.265 247
S3-Standard kit	1 6.265 248 1
S3-Field kit	1 6.265 249
S3-Bioethanol kit	1 6.265 250

6.265 248

# Conductivity meter CT 830

With automatic measuring range switching.

The meter is the ideal choice for determination of conductivity, salinity and temperature and combines the features for mobile application in the field with the precision and comfort of a laboratory meter. In the standard version the meter CT 830 is supplied with conuctivity sensor AT 830 C and 1.50m cable. It is ideally suited for overall applications in the field and in laboratories. Two parallel, largely dirt-insensitive graphite electrodes, the integrated temperature sensor for parallel temperature measurement, an automatic temperature compensation and the wide measuring range are the benefits of the conductivity sensor.

Supplied with: Meter incl. conductivity sensor, calibration solution 0.1N/KCL 1288µs and case

# Specifications

Measuring range

Conductivity: 0 to 200µS/0 to 20mS/0 to 500mS

TDS: 0 to 200mg/I/0 to 2000mg/I/0 to 20g/I/0 to 500g/I

-10 °C to +100 °C Temperature: Display: 128 x 64 pixel, backlighted

USB with "Interface HMG USB", isolated Interface:

Ambient temperature: -10 °C to +55 °C

Max. <95% (non-condensing) Rel. humidity:

Connector BK for sensor (4-pole USB interface socket) Connections:

Housing:

Dimensions (W x D x H): 200 x 40 x 95 mm

3 batteries Type AA, IEC R6, LR6, 1.5V Batteries:

Protection class:

Туре	Description	PK	Cat. No.
CT 830 Set	Conductivity meter incl. conductivity sensor AT 830 C	1	6.268 947
AT 830 C	C-sensor for CT 830, 3mm	1	6.268 948



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Conductivity measurement/Portable devices



# Conductivity meter SD 325 CON

NEW Lovibond<sup>®</sup>

The portable instrument with data logger is ideal for determining electrical conductivity in aqueous media. With a simple keystroke, further parameters such as TDS, salinity or resistance can be selected and conveniently read off. The selection of different measuring cells allow the determination of low (< 200 µS/cm) and very high conductivities (< 1000 mS/cm) with highest precision.

- Automatic recognition of conductivity standards
- Alarm function with adjustable limit values
- Auto hold function
- Selectable reference temperature (20 °C/25 °C)
- Automatic temperature compensation
- Battery status indicator
- Low power consumption
- Data transfer and evaluation via software possible

#### Scope of supply:

SD 325 CON (Set 1): Conductivity meter, protective covering, transport case, 4-pol graphite electrode (diam. 12 mm, < 200 mS/cm), conductivity standards, batteries, manual

SD 325 CON (Set 2): Conductivity meter, protective covering, transport case, 4-pol graphite electrode

(diam. 16 mm, < 1000 mS/cm), conductivity standards, batteries, manual

SD 325 CON (Set 3): Conductivity meter, protective covering, transport case, 2-pol stainless steel electrode (diam. 10 mm, < 200  $\mu$ S/cm, pure water), flow through cell for pure water, batteries, manual

### Specifications

0.000 ... 1000.0 mS/cm Conductivity: Temperature: -5.0 ... 100.0 °C TDS: 0.000 ... 5000 mg/l Resistance: 0.000 ... 50.0 MOhm/cm Salinity: 0.0 ... 70.0 PSU

Datalogger: 10000 Data sets automatically 1000 Data sets manually

Interface: **USB** 

100 x 164 x 37 mm Dimensions (W x D x H):

Weight: 302 g

Power supply: 2 x AAA batteries (incl.)

IP code: IP 67

Туре	PK Cat. No.
OD 005 00N (0 + 4)	4.4470.004
SD 325 CON (Set 1)	1 4.678 226 <mark>1</mark>
SD 325 CON (Set 2)	1 4.678 227
SD 325 CON (Set 3)	1 4.678 228

# Pocket conductivity meters ProfiLine

The ProfiLine hand-held conductivity meters have a waterproof (IP 67) housing and a completely sealed silicone membrane keypad with tactile feedback. A separate battery compartment allows easy exchange of standard alkaline, or rechargeable, batteries. The carefully laid out, large displays indicate the reading and other important information. The 3310 series meters have a backlit, graphics display and menu-controlled operation. A selection of application specific conductivity cells cover virtually all measurement tasks.



# Conductivity meter ProfiLine Cond 3310

Comfortable and versatile conductivity meter with integral, time controlled, data logger W/TW/8 and 5000 GLP-compliant record memory for extended data collection. Menu controlled, with backlit, graphics display for comfortable, safe operation. Wide range of conductivity cells attachable. GLP-supporting functions, enhanced choice of cell constants, automatic and manual temperature compensation (which can be switched off) with linear and non-linear functions for pure water and natural waters acc. to EN 27888.



# Specifications:

Measuring ranges/Resolution:

as Cond 3110, but additionally with Conductivity:

 $0.00\mu S/cm$  to  $19.99\mu S/cm$  (when  $K=0.1cm^{-1}$ )  $0.000\mu S/cm$  at  $1.999\mu S/cm$  (when K=0.01 cm<sup>-1</sup>)

0 to 1999mg/l, 0.0 to 199.9g/l TDS.

Spec. resistance: 0.0 to  $999M\Omega/cm$ 

36.87	Memory:	5000 records (measured value, temperature, date, time, ID)
	Туре	Description
A 150 V	Cond 3310	meter only
	Cond 3310 Set 1	case set including conductivity probe
		TetraCon 325 and accessories



Cat. No. 9.774 409 9.774 400

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# Conductivity measurement/Table devices

# The inoLab® series from WTW

The inoLab® benchtops are perfectly designed for modern laboratory surroundings. The key pads are clearly outlined and easy-to-operate, their smooth surfaces are easy-to-clean and the operation is self-explanatory. All meters include a universal power supply and a convenient stand with sensor support. If desired they can be ordered in application oriented sets including sensors and accessories.

# Laboratory instrument inoLab® Cond 7110

Modern conductivity measurement is easy to do. the inoLab® Cond 7110 has all important functions WTW<sup>®</sup> for measuring conductivity like adjustable reference temperature and different methods of temperature compensation. A big LCD segment display makes readings easy and a well-arranged keypad provides convenient operation. The automatic AutoRead function supports correct and repeatable results. Each meter come with a stand and accessories.

Specifications

Ranges: All values ±1 digit

Conductivity: 0.00 ... 1000 mS/cm  $\pm 0.5$  % of measured value

 $0.00 \dots 19.99 \,\mu\text{S/cm}$  at  $K = 0.1 \,\text{cm}^{-1}$ )

Salinity: 0.0 ... 70.0 (acc. IOT) -5.0 ... 105.0 °C ±0.1 °C Temperature:

AutoRead: automatic

Power supply: Universal power supply, 100V to 240V, 50/60Hz, 4 x 1.5V AA or 4 x 1.2V NiMH



# Conductivity meter inoLab® Cond 7310

This is the inoLab® Cond 7310 or inoLab® Cond 7310P. A modern backlit graphic display with menu WTW<sup>®</sup> controlled user interface allows easy and intuitive operation. The mini USB-B interface provides fast data transfer to a PC. The internal memory can record up to 5000 GLP complying data including ID, date and time. The housing and the keypad are easy-to-clean. The inoLab® Cond 7310 has the possibility to connect different standard and special conductivity electrodes and has automatic and manual temperature compensation (can even be switched off for pure water measurements according pharmacopeia) for linear and non-linear function according EN 27 888. An integrated thermal printer (58mm width) is ready for printout of the measured data (option). The scope of delivery includes meter, stand, power supply and USB cable.

## Specifications

All values ±1 digit Ranges:

Conductivity additional: 0.00 ... 1000 mS/cm  $\pm 0.5$  % of measured value

0.000 ... 1.999 µS/cm, K= 0.01 cm<sup>-1</sup>  $0.00 \dots 19.99 \ \mu \text{S/cm}, \ K=0.1 \ \text{cm}^{-1}$ 

0.00 ... 20 MOhm cm Spcific resistance: Salinity: 0.0 ... 70.0 (acc. IOT)

1 ... 1999 mg/l, 0 to 199.9 g/l TDS: Temperature: -5.0 ... 105.0°C ±0.1°C

Cell constants: Fix 0.01 cm<sup>-1</sup>, calibratable 0.450... 0.500 cm<sup>-1</sup>, 0.800 to 0.880 cm<sup>-1</sup>,

manual/time controlled

calibratable 0.09 ... 0.110 cm-1, 0.250 ... 25.0 cm-1

Calibration: 1 point Tref: 20 °C/25 °C

Temperature compensation: none, nIF, 0.000 ... 10.00 %/K Calibration memory: Up to 10 calibrations recallable LCD Graphic, backlit Display: Memory: manual 200/5000 automatic

Logger: Interface:

Universal power supply, 100V to 240V, 50/60Hz, 4 x 1.5V AA or 4 x 1.2V NiMH Power supply:

Туре	Description	PK	Cat. No.
Cond 7310	Meter incl. accessories	1	9.920 114 2
Cond 7310 Set 1	Meter incl. TetraCon® 325 and accessories	1	9.920 115
Cond 7310P	Meter with built-in printer and accessories	1	9.920 117 3





9.920 114



9.920 117



# Conductivity measurement/Table devices



6.270 549

# Conductivity meter LAB 945

Due to the intuitive operation and robust aluminum housing the conductivity meter LAB 945 is perfect for training and routine purposes.

SI Analytics

- Made in Germany
- USB Interface

TDS:

- Data logger (storage of up to 4000 entries: Date, time, main measured value, secondary measured value, measured temperature) with adjustable interval
- Nummerical password protection
- Selectable user language (German, English, French and Spanish)
- Configurable turn-off time
- Sturdy aluminium housing
- Graphic LCD display, backlit

Scope of supply: Stand, mains adapter, electrode as indicated and 6 ampoules with test solutions 0.01 M KCI

Specifications Measuring range // Resolution // Accuracy

 $0 \dots 200 \, \mu S/cm // \, 0.1 \mu S // \, \pm 1 \, digit$ Conductivity: 0 ... 2000  $\mu$ S/cm // 1 $\mu$ S //  $\pm$ 1 digit

 $0 \dots 20 \text{ mS/cm} // 0.01 \text{ mS} // \pm 1 \text{ digit}$ 0 ... 500 mS/cm // 0.1 mS // ±1 digit 0 ... 200 mg/l // 0.5 % of measured value

0 ... 2000 mg/l // 0.5 % of measured value  $0 \dots 20 \text{ g/l}$  // 0.5 % of measured value 0 ... 500 g/l // 0.5 % of measured value

-10 to 100 °C // 0.1 °C // ±0.1 °C (50 ... 50 °C) Temperature: Temperature compensation: automatic with NTC30kOhm or fix temperature

Туре	PK Cat. No.
Lab 945 without electrode	1 6.270 549 1
LAB 945 Set with LF435T, 4-pole cell	1 6.281 623
LAB 945 Set with LF513T, 2-pole cell	1 6.281 624
LAB 945 Set with LF613T, 4-pole cell	1 6.281 625



# Conductivity meters FiveEasy™ F30/FiveEasy™ Plus FP30

FiveEasy™ and FiveEasy™ Plus benchtop meters provide high quality conductivity measurements with the simple click of a button. They are the perfect choice for reliable measurement data at a reasonable price.

Mettler-Toledo Online

- Large, easy to read and easy to understand display with all information visible at a glance
- Five self-explanatory buttons making operation simple and easy
- Fast and easy connectivity for simple and secure data transfer (FP only)
- Electrode arm extension pole included

F30/FP30-Meter: Meter with CD operating instructions, QuickGuide, declaration of conformity,

test certificate and power supply

F30/FP30-Standard: as F30/FP30-Meter, plus LE703 conductivity sensor and 1 each x 1413µs/cm and

12.88mS/cm standard sachets

Specifications

Measuring range (Accuracy)

Conductivity F30/FP30:  $0.01\mu S/cm$  to  $200mS/cm/0.01\mu S/cm$  to 500mS/cm ( $\pm 0.5$  % of measured value)

0.01mg/l to 200g/l/0.01mg/l to 300g/l TDS F30/FP30: Temperature F30/FP30: 0 to 100°C (0.5°C)/-5 to 105°C (0.3°C) Calibration F30: 1 point, 3 predefined standards

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Calibration FP30: 1 point, 3 predefined standards, manual cell constant input

Mini-DIN Input:

Temperature compensation: Linear: 0.00%/°C to 10.00%/°C

Reference temperature: 20°C and 25 °C

Power supply:

100-240 V/50-60 Hz/12V DC FP30 only:

Salinity: 0.00 to 42psu Memory: 200 measurements RS232, USB Interface:

Туре	PK Cat. No.
F30-Meter	1 6.280 107
F30-Standard Kit	1 6.280 108 2
FP30-Meter	1 6.280 109

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# Conductivity measurement/Table devices

# Conductivity meters SevenCompact™ S230

The colour display with its well-designed icons and menu settings in 10 languages makes operation genuinely intuitive. Applications range from routine measurements through sample analysis, data handling and data archiving in compliance with GLP regulations. Simply innovative design that meets the requirements for a universal, easy-to-operate conductivity meter.

Mettler-Toledo Online

- User friendly instrument for demanding users
- Security and high reproducibility thanks to Intelligent Sensor Management (ISM®)
- Improved quality of measurements through professional calibration support
- Comprehensive service package including IQ/OQ
- Integrated USB and RS232 interfaces for data exchange

# Supplied with:

S230-Basic: Instrument, electrode holder, protective cover, operating instructions, quick guide, declaration of conformity and test certificate

S230-Kit: As per S230-Basic, additionally with InLab® 731-ISM, guide to conductivity measurements and 2 calibraton sachets for 1413µS/cm and 12.88mS/cm.

S230-USP/EP: As per S230-Kit, but with InLab® 741-ISM instead of InLab® 731-ISM and without calibration sachets for 12.88mS/cm.



9.704 165

### Specifications:

Calibration: 13 pre-defined and 1 user-defined standard Conductivity range: 0.001µS/cm to 1000mS/cm, autoscaling

Conductivity accuracy: ±0.5%

Salinity range: 0.00 to 80.00psu

TDS range: 0.00mg/L to 1000g/L, autoscaling Resistivity range: 0.00 to 100MOhm\*cm, autoscaling 0.000 to 2022%, autoscaling Conductivity ash range:

Temperature range

MTC: -30.0 to 130.0°C ATC: -5.0 to 130.0°C Temperature accuracy:  $\pm 0.1^{\circ}C$ 

Display: 4.3 inch, TFT color Ext. power supply: 9-12V/10W

Туре	PK	Cat. No.
S230-Basic	1	9.704 164
S230-Kit	1	9.704 165 1
S230-USP/EP	1	9.704 166

# Printers for Mettler Toledo instruments

# Suitable for the following Mettler Toledo instruments:

Mettler-Toledo Online

RS-P25, RS-P26, RS-P28: SevenExcellence™, SevenCompact™, FiveEasy Plus™, SevenMulti™ RS-P25/USB-P25: SevenExcellence™

RS-P26, RS-P28: SevenGo pro™, SevenGo pro Duo™, Densito, Refracto, SevenEasy™

Supplied with: Printer, power cable (country specific), interface cable, paper roll (1 pcs), ribbon cartridge (1 pcs)

**Features** For model RS-P26, RS-P28 Built-in real-time clock, Zero/Tare key:

Statistic application, totalling application: RS-P28 RS232 Schnittstelle: RS-P25, RS-P26, RS-P28 Printer unit: Dot matrix printer

Exchangeable, black ink Ribbon cartridge: Standard paper 57.5 mm (W), max, Ø 60 mm Paper roll: Print quality: Thermally stable and lightfast paper (GxP)

RS232C, 9pin male connector or USB\* (\*SevenExcellence ONLY) Interface:

Dimensions (W x D x H): 120 x 203 x 73mm 740g (paper roll included) Net weight:

Туре	PK	Cat. No.
RS-P25/USB-P25	1	6.252 178 2
RS-P26	1	6.251 155
RS-P28	1	9.773 710 3



6 252 178





# Conductivity measurement/Table devices

# 1 2 Conductivity meter SevenExcellence™ S470

Modular professional system for measurements of pH, redox potential, conductivity, salinity/TDS and ion concentration. Fits up to three modules in any composition and order, can be expanded with additional measurement parameters at any time.

Mettler-Toledo Online

- Large, high resolution 7" colour touch display (capacitive), very clear and easy to operate
- Modularity and flexibility; up to 3 measuring modules can work in parallel, expansion to 3 channels possible
- Universal communication via 2 x USB, Ethernet (LAN) and RS232
- Plain text user interface in 10 languages with menu guidance in full sentences
- OneClick™ operation concept to quickly start frequently used functions and preferred methods
- Storage for user methods

Conductivity Ash:

- Highest security and GxP support (ID protection, sophisticated user management, limits/alarms, integrated radio clock, etc.)
- Intelligent sensor management (ISM®)
- Connection of stirrer, sample changer, PC, barcode reader, keyboard, local or network printer possible
- Storage up to 20000 data sets (measurements, calibrations, methods)
- 17 predefined, 60 user-defined methods
- 5 point calibration (pH), 13 pre-defined and 20 user-defined buffer groups, incl. temperature chart
- uPlace™ electrode arm with perfect vertical movement
- Compatible with all METTLER TOLEDO electrodes (Recommended: ISM® electrodes)

S470-Basic: Includes instrument, 1 x conductivity expansion unit, 1 x pH/mV expansion unit, 1 x blank expansion unit, uPlace™ electrode holder, semi-transparent cover, operating instructions, installation and quick guide, LabX® direct pH PC software, declaration of conformity and test certificate. S470-Kit: As S470-Basic but with InLab® Expert Pro-ISM, guide to pH measurements and 2 buffer sachets for pH 4.01, 7.00, 9.21 and 10.00. S470-USP/EP: As S470-Kit but with InLab® 741-ISM instead of InLab® 731-ISM and InLab® Pure Pro-ISM instead of InLab® Expert Pro-ISM, BNC/RCA-MultiPin™ ISM-cable (1.2 m), and without 1413 µS/cm and 12.88 mS/cm calibration sachets

**Specifications** Measuring range // Resolution // Accuracy -30.0 to 130.0 °C // 0.1 °C // ±0.1 °C Temperature MTC/ATC: рН: -2.000 to 20.000 // 0.001/0.01/0.1 //  $\pm 0.002$ mV: -2000.0 to 2000.0 // 0.1/1 //  $\pm 0.1$ Rel. mV: -2000.0 to 2000.0 // 0.1/1 //  $\pm$ 0.1 0.000 to 14.000 // 0.001/0.01/0.1 //  $\pm 0.05$ ISFET pH: Conductivity: 0.001 to 999999  $\mu S/cm$  // 0.001 to 1 //  $\pm 0.5\%$ 0.001 to 2000 mS/cm // 0.001 to 1 //  $\pm$ 0.5% 0.001 to 200 S/m // 0.0001 to 1 //  $\pm 0.5\%$ 0.001 to 200000 mS/m // 0.0001 to 1 //  $\pm 0.5\%$ 0.1 to 999999  $\mu S/m$  // 0.001 to 1 //  $\pm 0.5\%$ 0.001 to 1000 g/L , ppt // 0.001 to 1 //  $\pm 0.5\%$ TDS: 0.001 to 999999 mg/L , ppm // 0.001 to 1 //  $\pm 0.5\%$  0.01 to 80.0 psu , ppt // 0.01 to 0.1 //  $\pm 0.5\%$ Salinity: 0.01 to 100.0 M $\Omega$ xcm // 0.0001 to 1 //  $\pm$ 0.5% Resistivity: 0.01 to 999999  $\Omega$ xcm // 0.01 to 1 //  $\pm$ 0.5%

Туре	PK	Cat. No.
S470-Basic	1	9.704 361
S470-Kit	1	9.704 362
S470-USP/EP	1	9.704 363

0.000 to 2022% // 0.001 to 1 //  $\pm$ 0.5%







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# 3. Analytical measurement and testing Conductivity measurement/Electrodes

# Conductivity cell probes

# Standard conductivity cell probe TetraCon® 325:

WTW

4-pole cell with integral temperature sensor. Cable length 1.5 metres. Measuring range: 1µS/cm to 2S/cm.

TetraCon® 325-3:

Like TetraCon® 325, but cable length 3 m

# Special conductivity cell probe TetraCon® 325/C:

As TetraCon® 325, 4-pole cell with integral temperature sensor, but with sensor head made of chemically resistant PEEK. Cable length 1.5 metres. Measuring range: 1µS/cm to 2S/cm

### Ultra-pure water conductivity cell probe LR 325/01:

With integral temperature sensor and flowthrough vessel D 01/T for measuring very low conductivity ranges (<1 µS/cm) e.g. boiler feed water or deionised water. Cable length 1.5 metres. Min./max. insertion depth 35/110mm and flowthrough, measuring range: 0.001µS/cm to 200µS/cm.

# Conductivity flowthrough cell TetraCon® DU/T:

4-pole conductivity cell with integral temperature sensor for standard applications. Connection via 10mm diameter tubing nozzles (the adapter cable KKDU with 1 metre cable is required for connection). Filling volume 7ml. Measuring range: 1µS/cm to 1000µS/cm.

### IDS conductivity cell probe TetraCon® 925:

Intelligent digital 4-pole cell with integral temperature sensor. Automatical transfer of the cell constant. For connection to WTW IDS measuring instruments. Cable length 1.5 metres. Measuring range: 1µS/cm to 2S/cm.

TetraCon® 925-3:

Like TetraCon® 925, but cable length 3 m

# IDS conductivity cell probe TetraCon® 925/LV:

Intelligent digital 4-pole cell with integral temperature sensor. Fork design, suitable for small volumes (at least 2.5ml) as well as for viscous samples. Automatical transfer of the cell constant. For connection to WTW IDS measuring instruments. Cable length 1.5 metres. Measuring range: 1µS/cm to 2S/cm.

#### IDS conductivity cell probe LR 925/01:

Intelligent digital 2-pole cell with integral temperature sensor and flowthrough cell D 01/T for measuring of low conductivity values (<1µS/cm) e.g. in boiler feed water or ion exchange water. Automatical transfer of the cell constant. Cable length 1.5 metres. Min./max. immersion depth 35/110mm and flow through measurement. Measuring range: 0.01µS/cm to 200µS/cm.

Туре	Length	Electrode	Shaft	Cell	PK	Cat. No.
				constant		
	mm					
TetraCon® 325	120	Graphite	Epoxy resin	K =0.475	1	9.704 081 1
TetraCon® 325/C	120	Graphite	Epoxy resin	K = 0.475	1	6.229 561
TetraCon® 325-3	120	Graphite	Epoxy resin	K = 0.475	1	7.008 434
LR 325/01	121	V4A steel	V4A steel	K = 0.1	1	9.704 083
LR 925/01	120	V4A steel	V4A steel	K = 0.1	1	7.656 781 2
TetraCon® DU/T	155	Graphite	Epoxy resin	K approx. 0.8	1	9.704 078 3
TetraCon® 925	120	Graphite	Epoxy resin	K =0.475	1	7.653 077 4
TetraCon® 925-3	120	Graphite	Epoxy resin	K =0.475	1	6.239 576
TetraCon® 925/LV	120	Graphite	Epoxy resin	K = 0.469	1	6.269 370
KKDU 325	100	Connection cable	-	-	1	9.704 079



# Conductivity measuring cell LF413TIDS

For versatile applications. IDS® 4-pole cell, plastic shaft, 1.5m cable with digital plug,

sensor material graphite, temperature sensor NTC 30 kOhm.

### Specifications

Temperature range: -5 to +80°C 1µS/cm to 2000mS/cm Conductivity range: Taper length/Dia.: 120mm/15.3mm

Туре	Length Electrode	Shaft	Cell constant	PK	Cat. No.
	mm				
LF413TIDS	120 Graphite	Plastic	K=0.475	1	6.265 636



SI Analytics

Mettler-Toledo Online

# 3. Analytical measurement and testing

# Conductivity measurement/Electrodes

# Conductivity sensors InLab® for Mettler Toledo conductivity meters

710: 4 platinum poles

720 + 751-4 + 752-6: 2 platinum poles

731 + 738: 4 graphite poles

741 + 742: 2 steel poles

ISM® (Intelligent Sensor Management) is a sophisticated safety concept that leaves nothing to chance. The instrument automatically detects the connected sensor and uses the most up-to-date calibration data stored on the sensor chip.

All Conductivity sensors with integrated probe sensor (NTC 30  $k\Omega$ ), shaft length 120 mm, schaft diameter 12, only type 751-4 has diam. 4 mm and 752-6 diam. 6 mm.

Туре	Measuring	Cell constant	Material shaft	Cable	PK Cat. No.
	range	CONSTAIN	Silait	m	
710	0,01 500 mS/cm	0,80	Glass	1.2 Mini-DIN	1 9.041 443 1
720	0,1 500 μS/cm	0,06	Glass	1.2 Mini-DIN	1 9.041 446
731	0,01 1000 mS/cm	0,57	Graphite	1.2 Mini-DIN	1 9.041 447
731-ISM	0,01 1000 mS/cm	0,57	Graphite	1.2 Mini-DIN	1 9.041 448
731-2m ISM	0,01 1000 mS/cm	0,57	Graphite	2.0 Mini-DIN	1 9.041 449
738-ISM	0,01 1000 mS/cm	0,57	Epoxy	1.8	1 7.626 197
738	0,01 1000 mS/cm	0,57	Epoxy	1.8	1 <b>7.636 591</b>
738-ISM	0,01 1000 mS/cm	0,57	Epoxy	10.0	1 9.041 519
741	0,1 500 μS/cm	0,105	Stainless steel	1.2 Mini-DIN	1 6.242 844
741-ISM	0,1 500 μS/cm	0,105	Stainless steel	1.2 Mini-DIN	1 9.041 442 2
742	0,001 500 μS/cm	0,105	Stainless steel	1.8	1 9.041 524
751-4	0,01 100 mS/cm	1,0	Glass	1.2 Mini-DIN	1 9.041 475
752-6	0,01 112 mS/cm	1,0	Glass	1.2 Mini-DIN	1 9.041 476 3





# Conductivity sensors for Eutech™ conductivity meters

2-pole cells made of PP and ultem plastic with stainless steel rings.

Thermo Scientific

CONSEN91B: Ag/AgCl reference system, sealed. Used with COND 6+/TDS 6+/Salt 6+

 $\textbf{CONSEN91W:} \ \, \textbf{Ag/AgCl reference system, refillable}.$ 

Used with CON 510/CON 400 /CON 410/PC 300/PC 510/CON 11/CON 110

CONSEN9103J: Ag/AgCl reference system, refillable. Used with COND 610/COND 600/CD 650/PC 650/PCD 650

# Specifications

Type	Connector	Sensor type	Cable	PK Cat. No.
			n	
CONSEN91B	BNC, phono	Platin pin		1 6.230 491 4
CONSEN91W	6-pin	Plating band		1 6.205 314
CONSEN9103J	8-pin	Plating pin	}	1 6.281 895



338 E & OE.

Reagecon

# Conductivity measurement/Solutions

1

# **LLG-Conductivity Solutions**

- Values stated at 25°C: Accuracy ±1%
- Directly traceable to NIST
- Certificate including actual value, expiration date and uncertainty of measurement

Туре	Capacity	PK	Cat. No
	ml		
84 μS/cm	500	1	9.040 861
147 µS/cm	500	1	9.040 862
1.413 µS/cm	500	1	9.040 863
12.880 μS/cm	500	1	9.040 864



# Conductivity Standards

Conductivity standards tested and ISO 17025 certified at 25 °C. Uncertainty of measurement of ±1%. Directly traceable to N.I.S.T. Temperature dependence data is printed on the label as are lot numbers and expiry dates. Supplied in 500 ml HDPE bottle. 1.3  $\mu$ S/cm in 250 ml bottle. Calibration values 84, 147, 1413, 12880  $\mu$ S/cm. Control Values 1.3 - 350000 µS/cm.

Туре	Capacity	PK	Cat. No.
μS/cm	ml		
1,3*	250	1	6.225 059
5	500	1	6.901 629
10	500	1	6.901 622
20	500	1	6.802 901
23,8	500	1	6.259 883
50	500	1	6.074 754
84	500	1	9.040 904
100	500	1	6.234 859
147	500	1	9.040 905
200	500	1	6.802 902
500	500	1	6.205 415
1000	500	1	6.901 670
1413	500	1	9.040 906
3000	500	1	9.040 964
5000	500	1	6.205 412
10000	500	1	6.901 671
12880	500	1	9.040 907
50000	500	1	6.210 129
100000	500	1	6.205 413
350000	500	1	9.040 987



# Calibration and test material for conductivity measurements

Test resistors and calibration solutions to test the meters with conductivity function as well as to calibrate the system from the device and conductivity measuring cell

- Optimal measuring safety by PTB/NIST traceable standard solutions
- Easy device check by highly precise test resistors
- Pharmacopeia conforming test kits



WTW<sup>®</sup>

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1	5		
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100	uara	100	1000

Туре	Description	PK	Cat. No.
USP KIT 2	Kit according to pharmacopeia: LR 325/01 with stainless steel flow vessel, test resistor set, calibration standard 5 μS/cm	1	6.227 656
USP KIT 1	Kit according to pharmacopeia: LR 325/01 with glass flow vessel, test resistor set, calibration standard 5 μS/cm	1	6.093 356
E-SET Trace	Test and calibration standard 1413 μS/cm at 25 °C	1	9.704 137
KS 100 μS	Test and calibration standard 100 μS/cm at 25 °C	1	6.801 249
KS 5 µS	Test and calibration standard 5 μS/cm at 25 °C	1	6.222 865
6R/SET/LAB1	Precision resistor set with calibration certificate	1	7.085 924

<sup>\*1.25 - 1.35</sup> µS/cm at 25 °C.