PHOENIX Instrument

Lab solutions

Mobil Multi Parameter

Salinity and Temperature

pH-Meter Basic Lab

Conductivity Meter

DHS Tester



DHS Chip



Professional Benchtop Meter



Tester



Basic Benchtop Meter

Electrochemistry

PHOENIX Instrument

Lab solutions



The perfect combination

A new line of electrochemistry instruments has been developed, finding the right balance between a state-of-the-art design, innovative ideas in pH and conductivity measurement and easy use.

A famous Swiss producer has developed, exclusively for these instruments, a complete laboratory line of pH electrodes for every type of application. All buffer solutions and calibration standards will be delivered with a NIST-certificate.

Electrochemistry

pH

cond

multi

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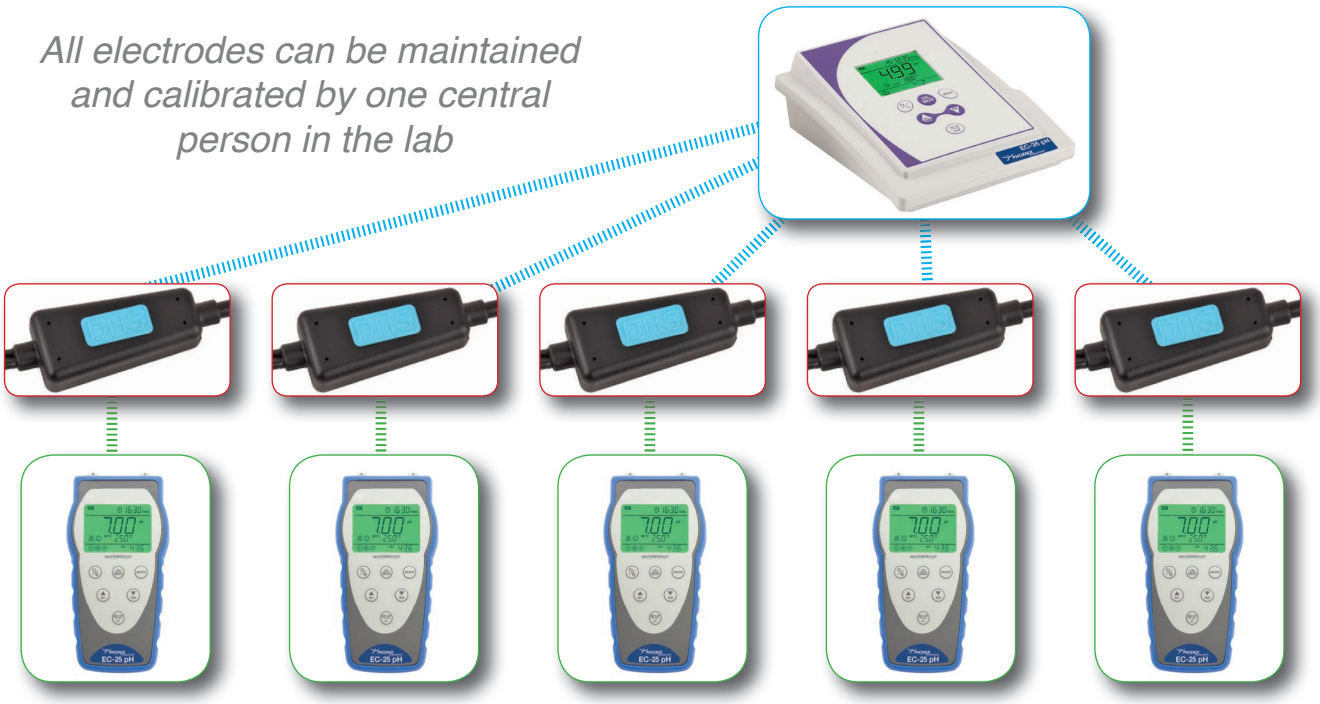
DHS – The digital revolution at Phoenix Instrument

DHS, **Digital High Sensor**, is our new pH-sensor technology. These electrodes have an internal chip and stores all relevant calibration data, date of last calibration, slope, model and production batch.

If you connect a DHS-electrode with an DHS instrument, all data will be transferred from the chip into the instrument and the user can start immediately with its measurements without any additional calibrations.
The new **DHS-electrodes** do not need an internal battery and can be connected by a normal BNC-connector.

All instruments equipped with the new **DHS technology** can also be equipped with normal analog pH-electrodes. PH measurement was never easier.

All electrodes can be maintained and calibrated by one central person in the lab



In use, every electrode will be allocated to one pH-meter



DHS - Digital High Sensor pH Elektrode

Portable Meter EC-20 pH · EC-25 pH

An elegant and ergonomic case, with a practical soft rubber and IP57 protection, contains the best of technology. A large display (3-color backlit for EC-25pH) shows all information that you need.

All the functional parameters of connected electrode, during measurement or calibration, are constantly checked and inform the operator for easy trouble-shooting. The new **DHS-technology** allows the use of digital as well as analog electrodes.
Only 4 keys (6 for EC-25pH) allow the user to control all functions in an intuitive and easy way.



EC-20 pH

EC-20 pH · EC-25 pH

- Display of pH/mV and temperature Parameter simultaneously
- Selectable resolution: 0.1/0.01 pH
- Automatic calibration up to 3 points (2 Standard pH-Puffer Sets)
- Manual calibration up to 2 points (user-defined pH-Puffer)
- DHS-function, automatic recognition of DHS- and analog electrodes
- Stability parameter (Low-Med-High) for high accuracy measurements
- Large Display (backlit on EC-25) with indication of calibration buffers and measurements stability
- Waterproof IP57-protection
- Sturdy carrying case with all accessories to be used as a small portable lab



EC-25 pH

... additional for EC-25 pH

- 3 color backlit display
- GLP
- CAL DUE: set of calibration frequency for high quality of measurements
- Data logger (automatic or manual) 500 data sets with date and time
- USB port to transfer Data and power by Computer or power-supply (included)
- Software PC-Link to download data (included)
- Memory with re-call of last calibration and information about electrode life Date and time

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Portable Meter EC-20 pH • EC-25 pH

Various sets are available:

EC-20-pH-0 Kit without pH electrode, with temperature sensor inside and BNC, pH buffer solution, **DHS-function**, carrying case and accessories.

EC-20-pH-1 Kit included pH electrode201T, cable S7/BNC, temperature probe NT55, pH buffer solution, **DHS-function**, carrying case and accessories

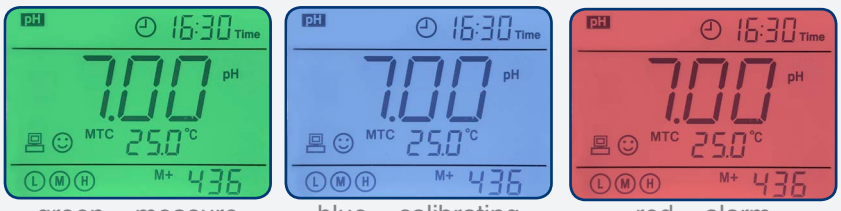
EC-20-pH-5 Kit included pH electrode201T-DHS, cable S7/BNC, temperature probe NT55, pH buffer solution, **DHS-function**, carrying case and accessories

EC-25-pH-0 Kit without pH electrode, with temperature sensor and BNC, pH buffer solution, **DHS-function**, carrying case and accessories.

EC-25-pH-1 Kit included pH electrode201T, cable S7/BNC, temperature probe NT55, pH buffer solution, **DHS-function**, carrying case and accessories

EC-25-pH-5 Kit included pH electrode201T-**DHS**, cable S7/BNC, temperature probe NT55, pH buffer solution, **DHS-function**, carrying case and accessories

Technical Data	EC-20 pH	EC-25 pH
Measuring Range (pH)	0…14	-2…16
Resolution (pH)	0,1/0,01	0,1/0,01
Buffer solution	1…3 /USA, NIST, DIN, User	1…3 /USA, NIST, DIN, User
Calibration points	1…3	1…3
Buffer recognition	yes	yes
Measuring Range (mV)	± 1.000	-1.000 …+1.900
Resolution (mV)	1	0,1 (± 200) / 1
Measuring Range (°C)	0…100,0	-10…110
Resolution (°C)	± 0,5	± 0,5
DHS-Electrode	Yes	Yes
Memory	No	500 Data
Timer	No	Yes
GLP	No	Yes
Interface	No	USB
Anzeige	LCD	LCD-Display, 3-color backlit
IP-Class	IP 57	IP 57
Power	Battery	Battery, via USB
Weight (g)	295	300
Dimension (mm)	86 × 196 × 33 (WxDxH)	86 × 196 × 33 (WxDxH)



green = measure | blue = calibrating | red = alarm

The 3-color backlit display gives full status information of the device (EC-25)



Set EC-20-pH 1

PHOENIX Instrument
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Basic Benchtop Meter EC-30 pH

Laboratory pH-Meter with good performance at a very attractive price. The new **DHS-technology** allows the use of digital as well as analog electrodes.
The backlit LCD display of the basic meter shows all information that you need about measurement, included icon for stability.
Up to 3 point pH calibration with automatic recognition for USA buffers. Icon support all calibration editing function with alarm electrode diagnostics. Easy to calibrate.

EC-30 pH

- Display pH/mV and Temperature parameters simultaneously
- Resolution: 0,01 pH
- DHS-function, automatic recognition of DHS- and analog electrodes
- Automatic Calibration up to 3 point, automatic recognized for USA buffers
- Indication stability of the measurement with icon
- IP54 rated housing handles splashes
- 3 years meter replacement warranty



EC-30 pH

Various Sets are available

EC-30-pH-0 Kit without pH-electrode, with Temperature sensor and cable S7/BNC, buffer solution pH4 and pH7, **DHS-function**, electrode holder

EC-30-pH-1 Kit with pH-electrode 201T, Temperature sensor NT55, buffer solution pH4 and pH7, **DHS-function**, electrode holder

EC-30-pH-5 Kit with pH-electrode 201T-**DHS**, Temperature sensor NT55, buffer solution pH4 and pH7, **DHS-function**, electrode holder

Technical Data	EC-30 pH
Measuring Range (pH)	0…14
Resolution (pH)	0,1/0,01
Buffer	1…3 /USA, NIST, DIN, User
Calibration points	1…3
Buffer recognition	Yes
Measuring Range (mV)	± 1.000
Resolution (mV)	1
Measuring Range (°C)	0…100,0
Resolution (°C)	± 0,5
DHS-Electrode	Yes
Memory	-
Timer	No
GLP	No
Interface	No
Display	LCD, backlit
IP-Protection	IP 54
Power	Adapter 5 V DC
Weight (g)	550
Dimension (mm)	160 x 185 x 70 (WxDxH)

PHOENIX Instrument
Lab solutions

Basic Benchtop Meter EC-35 pH

Standard laboratory pH-Meter with excellence performance at a very attractive price. The new **DHS-technology** allows the use of digital as well as analog electrodes.

The 3-color backlit LCD display of the basic meter shows all information that you need about measurement, included icon for stability. Up to 3 point pH calibration with automatic buffer recognition and electrode diagnosis. Memory for 500 Data and Interface are included. Easy to calibrate and easy to use.

EC-35 pH

- Display pH/mV and Temperature parameters simultaneously
- Resolution: 0,01 pH
- DHS-function, automatic recognition of DHS- and analog electrodes
- Automatic Calibration up to 3 point automatic buffer recognition.
- 3-color backlit display
- Data logger for 500 data, USB- and RS-232-interface
- Indication stability of the measurement with icon
- IP54 rated housing handles splashes
- 3 years meter replacement warranty



Printer 1001502

EC-35 pH with electrode holder

Technical Data	EC-35 pH
Measuring Range (pH)	-2…16
Resolution (pH)	0,1/0,01
Buffer	1…3 /USA, NIST, DIN, User
Calibration points	1…3
Buffer recognition	Yes
Measuring Range (mV)	-1.000 …+1.900
Resolution (mV)	0,1 (± 200) / 1
Measuring Range (°C)	-10…110
Resolution (°C)	± 0,5
DHS-Electrode	Yes
Memory	500 Data
Timer	Yes
GLP	Yes
Interface	USB, RS-232
Display	LCD, 3 color backlit
IP-Protection	IP 54
Power	Adapter 5 V DC
Weight (g)	550
Dimension (mm)	160 x 185 x 70 (WxDxH)

Various Sets are available:

EC-35-pH-0	Kit without pH-electrode, with Temperature sensor and cable S7/BNC, buffer solution pH4 and pH7, **DHS-function**, electrode holder
EC-35-pH-1	Kit with pH-electrode 201T, buffer solution pH4 and pH7, **DHS-function**, electrode holder
EC-35-pH-5	Kit with pH-electrode 201T-**DHS**, buffer solution pH4 and pH7, **DHS-function**, electrode holder
1001502	External printer for EC-35 and EC-45

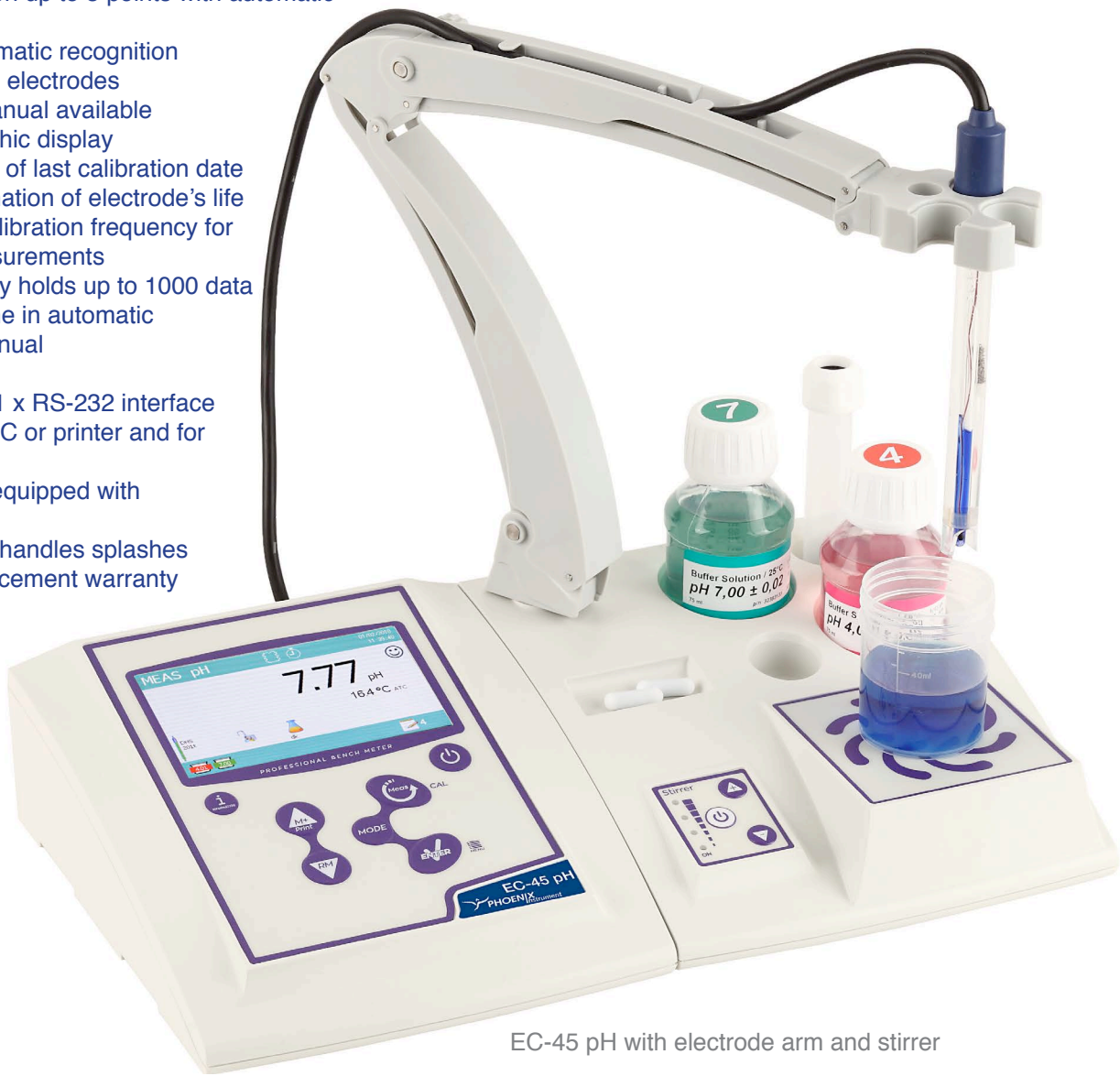
Professional Benchtop Meter EC-45 pH

The large colored graphic display offers perfect readout and shows all information that you need about measurement, buffers used for calibration, electrode's life, GLP information and instrument's memory. Anyone can use this meter easily with its clear menu structure up to 5 languages.

The new **DHS-technology** allows the use of digital as well as analog electrodes. Up to 5-point pH calibration with automatic recognition for USA/NIST/DIN and User buffers. Icon support all calibration editing function with advanced electrode diagnostics. Only a few keys allow the user to control all functions in an intuitive and easy way. The EC-45 pH can be delivered with a stirrer.

EC-45 pH

- Display pH/mV and Temperature parameters simultaneously
- Resolution: 0,001 pH
- Automatic Calibration up to 5 points with automatic buffer recognition
- DHS-function, automatic recognition of DHS- and analog electrodes
- GLP and IQ-OQ manual available
- Large, colored graphic display
- Memory with re-call of last calibration date and time and information of electrode's life
- CAL DUE: set of calibration frequency for high quality of measurements
- Non-volatile memory holds up to 1000 data points with date/ time in automatic (Data logger) or manual
- external keypad
- 2 x USB ports and 1 x RS-232 interface to transfer data at PC or printer and for external keyboard
- Instrument can be equipped with a magnetic stirrer
- IP54 rated housing handles splashes
- 3 years meter replacement warranty



EC-45 pH with electrode arm and stirrer

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Lab solutions

Professional Labor-pH-Meter EC-45 pH

Various sets are available:

EC-45-pH-0 Kit without pH electrode, with cable S7/BNC, temperature probe NT55, **DHS-function**, pH buffer solution pH 7 and pH 4, electrodes arm, keypad, power supply and accessories

EC-45-pH-1 Complete kit included pH electrode STANDARD, **DHS-function**, temperature probe NT55, S7/BNC 1 m cable, pH buffer solution pH 7 and pH 4, electrodes arm, power supply, keypad, accessories

EC-45-pH-2 Kit without pH electrode, with cable S7/BNC, temperature probe NT55, **DHS-function**, pH buffer solution pH 7 and pH 4, electrodes arm, power supply, keypad with magnetic stirrer

EC-45-pH-3 Complete kit included pH electrode STANDARD, temperature probe NT55, S7/BNC 1 m cable, **DHS-function**, pH buffer solution pH 7 and pH 4, electrodes arm, keypad, power supply, with magnetic stirrer

EC-45-pH-5 Complete kit included pH electrode STANDARD-**DHS**, **DHS-function**, temperature probe NT55, S7/BNC 1 m cable, pH buffer solution, electrodes arm, power supply, keypad and accessories

EC-45-pH-6 Complete kit included pH electrode STANDARD-**DHS**, **DHS-function**, temperature probe NT55, S7/BNC 1 m cable, pH buffer solution, electrodes arm, power supply, keypad, accessories, with magnetic stirrer



Optional stirrer



Printer 1001502

Technical Data	EC-45 pH
Measuring Range (pH)	-2…20
Resolution (pH)	0.1 / 0.01 / 0.001
Buffer solution	1…5 /USA, NIST, DIN, User
Calibration points	1…5
Buffer recognition	Yes
Measuring Range (mV)	± 2000
Resolution (mV)	0.1 / 1
Measuring Range (°C)	-20,0…120,0
Resolution (°C)	± 0,5
DHS-Electrode	Yes
Memory	1000 Data
Timer	Yes
GLP	Yes
Interface	2 x USB, RS-232
Display	Colored graphic display
IP-Protection	IP 54
Power	Adapter 12 V DC
Weight (g)	1050, without stirrer
Dimension (mm)	165 x 195 x 68 (WxDxH) without stirrer

Conductivity Portable Meter EC-20 cond • EC-25 cond

An elegant and ergonomic case, with a practical soft rubber and IP57 protection, has inside the best of technology. A large display (backlit for EC-25 COND) shows all information that you need about the measurement, cell's life and instrument's memory.

All the functional parameters of connected cell, during measurement or calibration, are constantly checked and inform the operator for easy trouble-shooting. Only 4 keys for COND 7 (6 for EC-25 cond) allow the user to control all functions in an intuitive and easy way.



EC-20 cond

EC-20 cond • EC-25 cond

- Display Conductivity and Temperature simultaneously
- Automatic calibration 1 to 3 points between 4 conductivity standard values
- Manual calibration on 1 point (User defined)
- Large Display (backlit for EC-25 cond)with indication of standards used for calibration and stability
- Automatic and manual compensation of temperature with reference value 15...30 °C
- Waterproof IP57 protection
- Strong carrying case with all accessories to be used as a small portable laboratory

... additional for EC-25 cond

- TDS measurement with adjustable factor
- GLP
- Memory recall of last calibration with control of cell constant,date and time
- CAL DUE : set of calibration frequency for high quality measurements
- Data logger, manual and automatic with 500 memory values with date and time
- USB port to download data and power by Computer or power supply (included)
- Software PC-Link to download data (included)

Conductivity Portable Meter EC-20 cond • EC-25 cond

Various sets are available:

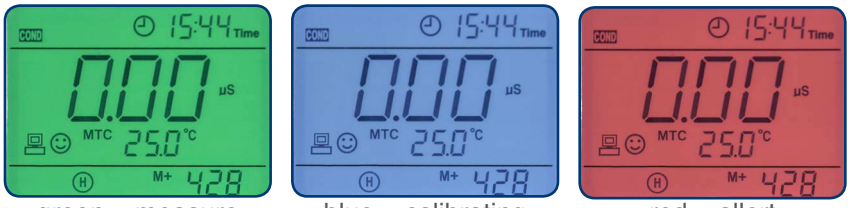
EC-20 cond 0 Kit without cell, with standard calibration solutions,carrying case and accessories

EC-20 cond 1 Complete kit include cond. Cell 2301T with ATC, cable length 1m and BNC plug, standard calibration solutions, carrying case and accessories

EC-25 cond 0 Kit without cell, with standard calibration solutions, power supply, software PC-Link, USB cable, carrying case with accessories

EC-25 cond 1 Complete kit include cond. Cell 2301T with ATC, cable length 1m and BNC plug, Standard calibration solutions, power supply, software PC-Link to download data, USB cable, carrying case with accessories

Large color display



green = measure blue = calibrating red = allert



EC-25 cond

Technical Data	EC-20 cond	EC-25 cond
Measuring Range (cond)	0,00 - 20,00 - 200,0 - 2000 µS 2,00 - 20,00 - 200,0 mS	0,00 - 20,00 - 200,0 - 2000 µS 2,00 - 20,00 - 200,0 mS
Resolution (cond)	0,01/0,1/1 µS 0,01/0,1 mS	0,01/0,1/1 µS 0,01/0,1 mS
Calibration Standards	84, 1413 µS, 12.88, 111.8 mS, User	84, 1413 µS, 12.88, 111.8 mS, User
Calibration points	1…4	1…4
Cell constant selectable (cm-1)	0,1 – 1 – 10	0,1 – 1 – 10
Reference Temp. (°C)	15…30	15…30
Temperature compensation (%/°C)	0,00…10,00	0,00…10,00
Measuring Range (°C)	0…100,0	-10…110
Resolution (°C)	± 0,5	± 0,5
TDS-Measuring Range (g/l)	0…100	0…100
TDS-Factor	0,4…1	0,4…1
Salinity (ppt)	No	0…50
Memory	No	500 Data
Timer	No	Yes
GLP	No	Yes
Interface	No	USB
Display	LCD	LCD, 3 color backlit display
IP-Protection	IP 57	IP 57
Power	Battery	Battery, via USB
Weight (g)	295	300
Dimension (mm)	86 × 196 × 33 (WxDxH)	86 × 196 × 33 (WxDxH)

Basic Conductivity Benchtop Meter EC-30 cond

Basic conductivity meter with good performance and a very attractive price. The LCD backit display shows all information that you need about measurement, included icon for stability.

Up to 4 point Conductivity calibration with automatic recognition. **Easy to calibrate.**



EC-30 cond

EC-30 cond

- Display COND and Temperature parameters simultaneously
- Resolution: automatic scale
- Selectable cell constant
- Automatic calibration 1 to 4 points between 4 conductivity standard values
- Indication stability of the measurement with icon
- backlit display
- IP54 rated housing handles splashes
- 3 years meter replacement warranty

Various sets are available:

EC-30 cond 0	Meter without cell, incl, Calibration standards1413 µS and 12,88 mS, Cell holder and accessories
EC-30 cond 1	Meter with Conductivity cell 2301T incl. ATC, Cable 1m, Calibration standards 1413 µS and 12,88 mS, Cell holder and accessories

Technical Data	EC-30 cond
Measuring Range (cond)	0,00 - 20,00 - 200,0 - 2000 µS 2,00 - 20,00 - 200,0 mS
Resolution (cond)	0,01/0,1/1 µS 0,01/0,1 mS
Calibration Standards	84, 1413 µS, 12.88, 111.8 mS, User
Calibration points	1…4
Cell constant selectable (cm-1)	0,1 – 1 – 10
Reference Temp. (°C)	15…30
Temperature compensation (%/°C)	0,00…10,00
Measuring Range (°C)	0…100,0
Resolution (°C)	± 0,5
TDS-Measuring Range (g/l)	0…100
TDS-Factor	0,4…1
Salinity (ppt)	No
Memory	No
Timer	No
GLP	No
Interface	No
Display	LCD, backlit
IP-Protection	IP 54
Power	Adapter 5 V DC
Weight (g)	550
Dimension (mm)	160 x 185 x 70 (WxDxH)

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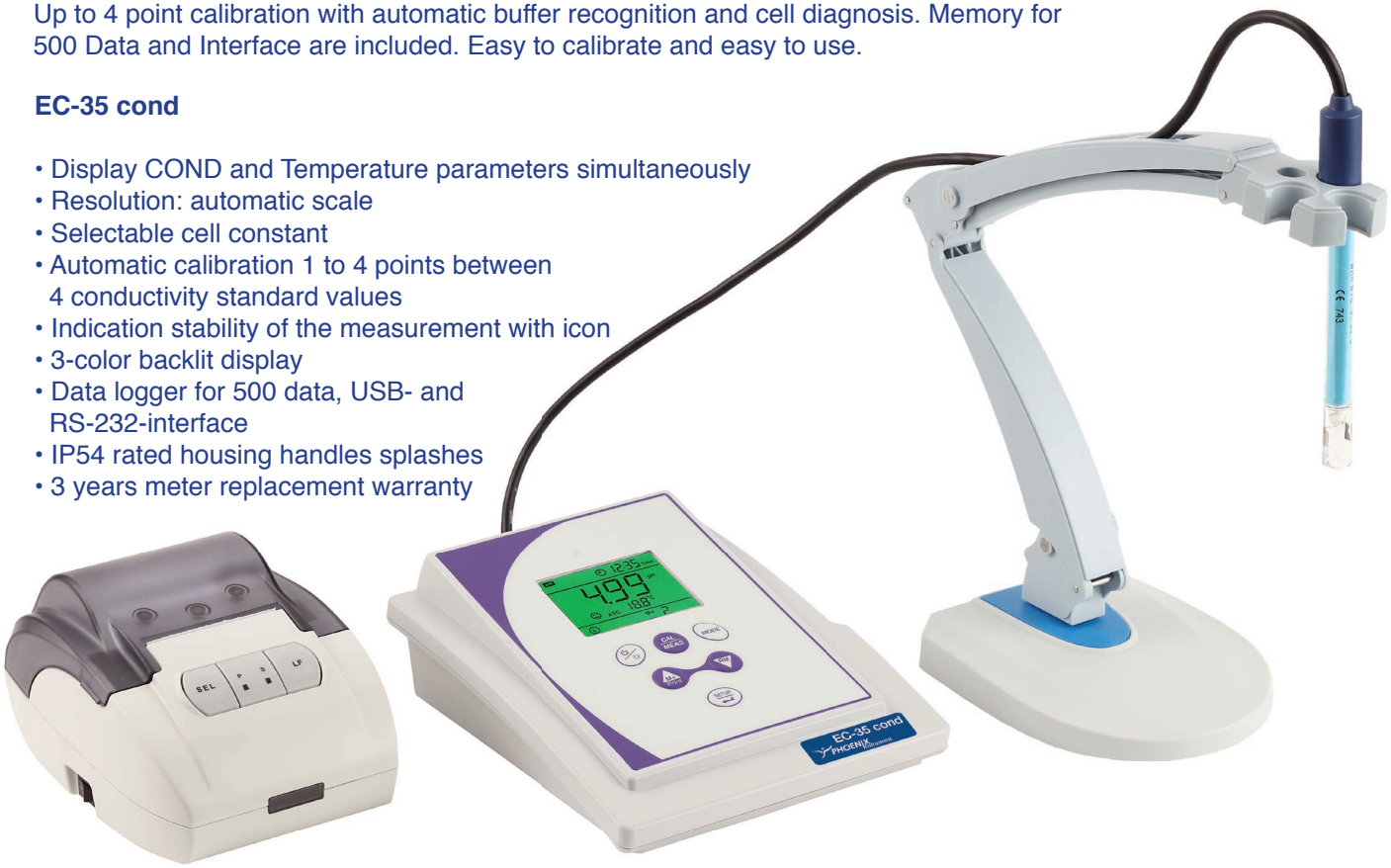
Standard Conductivity Benchtop Meter EC-35 cond

Standard conductivity meter with excellence performance at a very attractive price. The 3-color backlit LCD display of this meter shows all information that you need about measurement, included icon for stability.

Up to 4 point calibration with automatic buffer recognition and cell diagnosis. Memory for 500 Data and Interface are included. Easy to calibrate and easy to use.

EC-35 cond

- Display COND and Temperature parameters simultaneously
- Resolution: automatic scale
- Selectable cell constant
- Automatic calibration 1 to 4 points between 4 conductivity standard values
- Indication stability of the measurement with icon
- 3-color backlit display
- Data logger for 500 data, USB- and RS-232-interface
- IP54 rated housing handles splashes
- 3 years meter replacement warranty



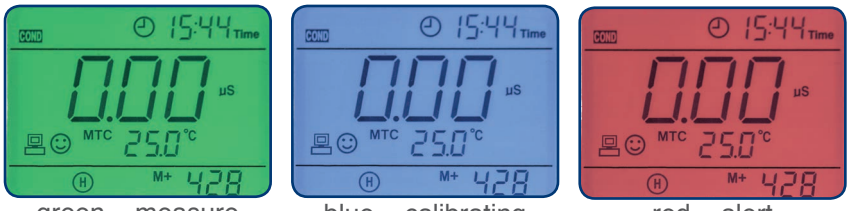
EC-35 cond with printer and arm

Technical Data	EC-35 cond
Measuring Range (cond)	0,00 - 20,00 - 200,0 - 2000 µS 2,00 - 20,00 - 200,0 mS
Resolution (cond)	0,01/0,1/1 µS 0,01/0,1 mS
Calibration Standards	84, 1413 µS, 12.88, 111.8 mS, User
Calibration points	1…4
Cell constant selectable (cm-1)	0,1 – 1 – 10
Reference Temp. (°C)	15…30
Temperature compensation (%/°C)	0,00…10,00
Measuring Range (°C)	-10…110
Resolution (°C)	± 0,5
TDS-Measuring Range (g/l)	0…100
TDS-Factor	0,4…1
Salinity (ppt)	0…50
Memory	500 Data
Timer	Yes
GLP	Yes
Interface	USB
Display	LCD, 3 color backlit
IP-Protection	IP 54
Power	Adapter 5 V DC
Weight (g)	550
Dimension (mm)	160 x 185 x 70 (WxDxH)

Various sets are available:

EC-35 cond 0	Meter without cell, incl, Calibration standards1413 µS and 12,88 mS, Cell holder and accessories
EC-35 cond 1	Meter with Conductivity cell 2301T incl. ATC, Cable 1m, Calibration standards 1413 µS and 12,88 mS, Cell holder and accessories

Large backlit display



green = measure | blue = calibrating | red = alert

Professional Conductivity Benchtop Meter EC-45 cond

The large colored graphic display offers perfect readout and shows all information that you need about measurement, buffers used for calibration, cell condition, GLP information and instrument's memory. Anyone can use this meter easily with its clear menu structure up to 5 languages.

Up to 4 calibration points with buffer recognition. Icon support for all calibration functions and advanced electrode diagnostics. Easy to calibrate.
All functions can be controlled in an intuitive and easy way. The instrument can be delivered with a stirrer.



EC-45 cond

Various sets are available:

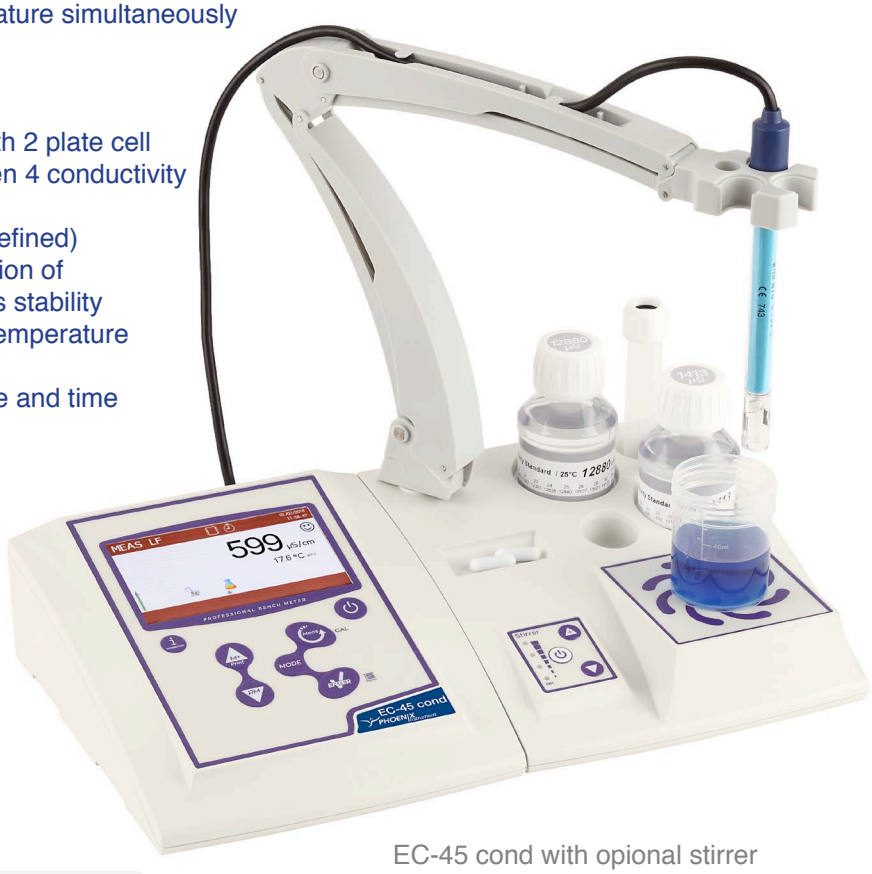
EC-45 cond 0	Kit without cond.- cell, standard solution 1413 µS and 12,88 mS, cell holder and accessories
EC-45 cond 1	Kit included conductivity cell Glass-Pt VPT80/1, standard solution 1413 µS and 12,88 mS, cell holder, power supply and accessories
EC-45 cond 2	Kit without, with standard solution 1413 µS and 12,88 mS, cell holder and accessories, **with magnetic stirrer**
EC-45 cond 3	Kit included cell Glass-Pt VPT80/1, standard solution 1413 µS and 12,88 mS, cell holder and accessories, **with magnetic stirrer**

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Lab solutions

Professional Conductivity Benchtop Meter EC-45 cond

EC-45 cond

- Display COND/TDS, Salinity and Temperature simultaneously
- Resolution: automatic scale
- GLP-conform
- external keypad
- Selectable cell constant allows for use with 2 plate cell
- Automatic calibration 1 to 4 points between 4 conductivity standard values
- Manual-Calibration up to 1 points (User defined)
- Large colored graphic display with indication of Calibration Standards and measurement's stability
- Automatic and manual compensation of temperature with reference value 15...30 °C
- Memory with re-call of last calibration date and time and information of cell constant
- CAL DUE: set of calibration frequency for high quality of measurements
- Non-volatile memory holds up to 1000 data points with date and time Data logger
- 2x USB ports and 1 x RS-232 interface to transfer data and software PC-Link to download data
- Instrument can be delivered with a magnetic stirrer
- IP54 Protection
- 3 years instrument warranty



EC-45 cond with opional stirrer

Technical Data	EC-45 cond
Measuring Range (cond)	0,00 - 20,00 - 200,0 - 2000 µS / 2,00 - 20,00 - 200,0 - 1000 mS
Resolution (cond)	Automatic full scale
Calibration Standards	84, 1413 µS, 12.88, 111.8 mS, User
Calibration points	1…5
Cell constant selectable (cm-1)	0,1 – 1 – 10
Reference Temp. (°C)	15…30
Temperature compensation (%/°C)	0,00…10,00
Measuring Range (°C)	-20,0…120,0
Resolution (°C)	± 0,5
TDS-Measuring Range (g/l)	0…500
TDS-Factor	0.40 … 1.00
Salinity (ppt)	0,01…100
Resistivity (MΩ)	0….20
Memory	1000 Data
Timer	Yes
GLP	Yes
Interface	2 x USB, RS-232
Display	Colored graphic display
IP-Protection	IP 54
Power	Adapter 12 V DC
Weight (g)	1050, without stirrer
Dimension (mm)	165 x 195 x 68 (WxDxH) without stirrer



Magnetic stirrer

Portable multi meter EC-20 multi • EC-25 multi

An elegant and ergonomic case, with a practical soft rubber and IP57 protection, contains the best of current technology. A large display (3-color backlit for EC-25multi) shows all information that you need.
All the functional parameters of connected electrode, during measurement or calibration, are constantly checked and inform the operator for easy trouble-shooting. The new **DHS-technology** allows the use of digital as well as analog electrodes.
Only 4 keys (6 for EC-25multi) allow the user to control all functions in an intuitive and easy way.

EC-20 multi

- Display of pH/mV/Conductivity/TDS and Temperature parameters simultaneously

pH:

- Selectable resolution: 0,1/0,01 pH
- DHS-function, automatic recognition of DHS- and analog electrodes
- Automatic calibration up to 3 points with 2 selectable pH-buffer sets (USA and NIST)
- Manual calibration up to 2 points with User-defined pH-Buffer
- Stability parameter (Low-Med-High) for high accuracy measurement

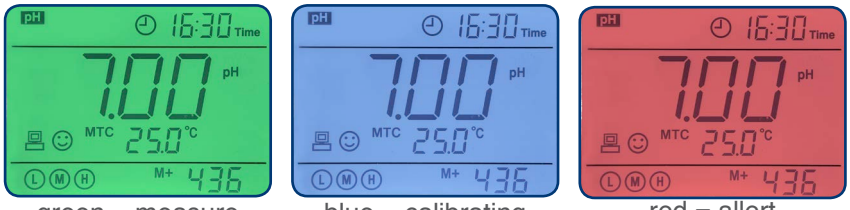
Conductivity:

- Automatic calibration from 1 to 4 points between 4 conductivity standard values
- Manual calibration at 1 point (User defined)
- Automatic and manual compensation of temperature with reference value 15…30 °C
- Large Display with indication of standards used for calibration and stability
- Waterproof IP57 protection



EC-20 multi

Large color display (EC-25 multi)



green = measure | blue = calibrating | red = allert

... additionally for EC-25 multi

- 3-color backlit display
- TDS measurement with adjustable factor
- GLP
- Memory recall of last calibration with control of cell constant, date and time
- CAL DUE : set of calibration frequency for high quality measurements
- Data logger, manual and automatic with 500 memory values with date and time
- USB port to download data and power by Computer or power supply (included)
- Software PC-Link to download data (included)

PHOENIX Instrument

Lab solutions

Portable multi meter EC-20 multi • EC-25 multi

Various sets are available:

EC-20-multi-0 Kit without pH-electrode, with conductivity cell 2301T, **DHS-function**, temperature sensor, cable S7/BNC, with standard calibration solutions, carrying case with accessories

EC-20-multi-1 Complete kit include pH electrode 201T and cond. Cell 2301T with ATC, both cable length 1m and BNC plug, **DHS-function**, standard calibration solutions, carrying case and accessories

EC-20-multi-5 Complete kit include pH electrode 201T-DHS and cond. Cell 2301T with ATC, both cable length 1m and BNC plug, **DHS-function**, standard calibration solutions, carrying case and accessories

EC-25-multi-0 Kit without pH-electrode, with conductivity cell 2301T, **DHS-function**, temperature sensor, standard calibration solutions, USB cable, carrying case with accessories

EC-25-multi-1 Kit include pH-electrode 201T and cell 2301T with ATC, **DHS-function**, cable length 1m and BNC plug, standard cal. solutions, USB- cable, carrying case with accessories

EC-25-multi-5 Complete kit include pH electrode 201T-**DHS** and cond. Cell 2301T with ATC, both cable length 1m and BNC plug, **DHS-function**, standard calibration solutions, carrying case and accessories

Technical Data	EC-20 multi	EC-25 multi
Measuring Range (pH)	0…14	-2…16
Resolution (pH)	0,1/0,01	0,1/0,01
Buffer	1…3 /USA, NIST, DIN, User	1…3 /USA, NIST, DIN, User
Calibration points	1…3	1…3
Buffer recognition	Yes	Yes
Measuring Range (mV)	± 1.000	-1.000 …+1.900
Resolution (mV)	1	0,1 (± 200) / 1
Measuring Range (°C)	0…100,0	-10…110
Resolution (°C)	± 0,5	± 0,5
DHS-Electrode	Yes	Yes
Measuring Range (cond)	0,00 - 20,00 - 200,0 - 2000 µS 2,00 - 20,00 - 200,0 mS	0,00 - 20,00 - 200,0 - 2000 µS 2,00 - 20,00 - 200,0 mS
Resolution (cond)	0,01/0,1/1 µS 0,01/0,1 mS	0,01/0,1/1 µS 0,01/0,1 mS
Calibration Standards	84, 1413 µS, 12.88, 111.8 mS, User	84, 1413 µS, 12.88, 111.8 mS, User
Calibration points	1…4	1…4
Cell constant selectable (cm-1)	0,1 – 1 – 10	0,1 – 1 – 10
Reference Temp. (°C)	15…30	15…30
Temperature compensation (%/°C)	0,00…10,00	0,00…10,00
Measuring Range (°C)	0…100,0	-10…110
Resolution (°C)	± 0,5	± 0,5
TDS-Measuring Range (g/l)	0…100	0…100
TDS-Factor	0,4…1	0,4…1
Salinity (ppt)	No	0…50
Memory	No	500 Data
Timer	No	Yes
GLP	No	Yes
Interface	No	USB
Display	LCD	LCD, 3 color backlit
IP-Protection	IP 57	IP 57
Power	Battery	Battery, via USB
Weight (g)	295	300
Dimension (mm)	86 × 196 × 33 (WxDxH)	86 × 196 × 33 (WxDxH)



EC-25 multi

PHOENIX Instrument
Lab solutions

Basic Benchtop Multiparameter EC-30 multi

Laboratory multiMeter with good performance at a very attractive price. The new **DHS-technology** allows the use of digital as well as analog electrodes.
The backlit LCD display of the basic meter shows all information that you need about measurement, included icon for stability. Very easy to use with just 4 keys.
Up to 3 point pH calibration (4-point in conductivity) with automatic buffer recognition for USA buffers. Icon support all calibration editing function with alarm electrode diagnostics. Easy to calibrate.



EC-30 multi

EC-30 multi

- Display of pH/mV, conductivity and Temperature parameters simultaneously
- DHS-function, automatic recognition of DHS- and analog electrodes
- Automatic Calibration up to 3 point, conductivity 4-point calibration.
- Automatic temperature compensation
- Indication stability of the measurement with icon
- IP54 rated housing handles splashes
- 3 years meter replacement warranty

Various sets are available:

EC-30-multi-0 Kit without pH-electrode, with conductivity cell 2301T, DHS-function, temperature sensor, cable S7/ BNC, with standard calibration solutions, carrying case with accessories

EC-30-multi-1 Complete kit include pH electrode 201T and cond. Cell 2301T with ATC, DHS-function, standard calibration solutions, carrying case and accessories

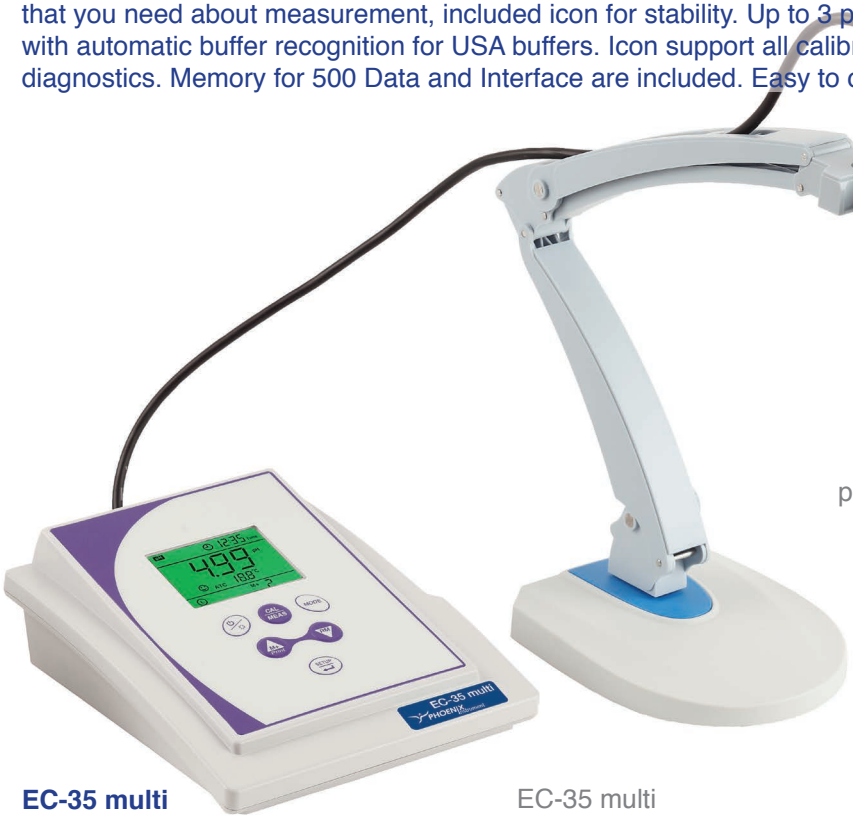
EC-30-multi-5 Complete kit include pH electrode 201T-DHS and cond. Cell 2301T with ATC, DHS-function, standard calibration solutions, carrying case and accessories

Technical Data	EC-30 multi
Measuring Range (pH)	0…14
Resolution (pH)	0,1/0,01
Buffer	1…3 /USA, NIST, DIN, User
Calibration points	1…3
Buffer recognition	Yes
Measuring Range (mV)	± 1.000
Resolution (mV)	1
Measuring Range (°C)	0…100,0
Resolution (°C)	± 0,5
DHS-Electrode	Yes
Measuring Range (cond)	0,00 - 20,00 - 200,0 - 2000 µS 2,00 - 20,00 - 200,0 mS
Resolution (cond)	0,01/0,1/1 µS 0,01/0,1 mS
Calibration Standards	84, 1413 µS, 12.88, 111.8 mS, User
Calibration points	1…4
Cell constant selectable (cm-1)	0,1 – 1 – 10
Reference Temp. (°C)	15…30
Temperature compensation (%/°C)	0,00…10,00
TDS-Measuring Range (g/l)	0…100
TDS-Factor	0,4…1
Salinity (ppt)	No
Timer	No
GLP	No
Interface	No
Display	LCD, backlit
IP-Protection	IP 54
Power supply	Adapter 5 V DC
Weight (g)	550
Dimension (mm)	160 x 185 x 70 (WxDxH)

PHOENIX Instrument
Lab solutions

Laboratory Benchtop Multiparameter EC-35 multi

Laboratory multi Meter with excellent performance at a very attractive price. The new **DHS-technology** allows the use of digital as well as analog electrodes. The 3-colored backlit LCD display of this meter shows all information that you need about measurement, included icon for stability. Up to 3 point pH calibration (4-point in conductivity) with automatic buffer recognition for USA buffers. Icon support all calibration editing function with alarm electrode diagnostics. Memory for 500 Data and Interface are included. Easy to calibrate and easy to use.



EC-35 multi EC-35 multi



pH-electrode



Conductivity cell

- Display of pH/mV, conductivity and Temperature parameters simultaneously
- 3-color backlit display
- DHS-function, automatic recognition of DHS- and analog electrodes
- Automatic Calibration up to 3 point, conductivity 4-point calibration
- Automatic temperature compensation
- Indication stability of the measurement with icon
- Data logger for 500 data, USB- and RS-232-interface
- IP54 rated housing handles splashes
- 3 years meter replacement warranty

Technical Data	EC-35 multi
Measuring Range (pH)	-2…16
Resolution (pH)	0,1/0,01
Buffer	1…3 /USA, NIST, DIN, User
Calibration points	1…3
Buffer recognition	Yes
Measuring Range (mV)	-1.000 …+1.900
Resolution (mV)	0,1 (± 200) / 1
Measuring Range (°C)	-10…110
Resolution (°C)	± 0,5
DHS-Electrode	Yes
Measuring Range (cond)	0,00 - 20,00 - 200,0 - 2000 µS 2,00 - 20,00 - 200,0 mS
Resolution (cond)	0,01/0,1/1 µS 0,01/0,1 mS
Calibration Standards	84, 1413 µS, 12.88, 111.8 mS, User
Calibration points	1…4
Cell constant selectable (cm-1)	0,1 – 1 – 10
Reference Temp. (°C)	15…30
Temperature compensation (%/°C)	0,00…10,00
TDS-Measuring Range (g/l)	0…100
TDS-Factor	0,4…1
Salinity (ppt)	0…50
Timer	Yes
GLP	Yes
Interface	USB, RS-232
Display	LCD, 3 colors backlit
IP-Protection	IP 54
Power supply	Adapter 5 V DC
Weight (g)	550
Dimension (mm)	160 x 185 x 70 (WxDxH)

Various sets are available:

EC-35-multi-0 Kit without pH-electrode, with conductivity cell 2301T, **DHS-function**, temperature sensor, cable S7/BNC, with standard calibration solutions, USB, carrying case with accessories

EC-35-multi-1 Complete kit include pH electrode 201T and cond. Cell 2301T with ATC, **DHS-function**, standard calibration solutions, USB, carrying case and accessories

EC-35-multi-5 Complete kit include pH electrode 201T-DHS and cond. Cell 2301T with ATC, **DHS-function**, standard calibration solutions, USB, carrying case and accessories

Professional Benchtop Multiparameter EC-45 multi

The large colored graphic display shows all necessary information about measurement, calibration, standards, cell condition, GLP. Anyone can use this meter easily with its intuitive menu available in up to 5 languages.

The new **DHS-technology** allows the use of digital as well as analog electrodes. Up to 5-point pH-calibration and up to 4-point Conductivty calibration with automatic recognition of all standards. Icon support for all calibration functions and advanced electrode diagnostics.

All functions can be controlled in an intuitive and easy way. The instrument can be delivered with a stirrer.



EC-45 multi with stirrer

PHOENIX Instrument
Lab solutions

Professional Benchtop Multiparameter EC-45 multi

Various sets are available:

EC-45-multi-2 Kit without pH electrode and cell, with cable S7/BNC, temp. probe NT55, pH buffer solution pH 7 and pH 4, conductivity solution 1413 µS and 12,88 mS, **DHS-function**, Keypad and accessories, **with magnetic stirrer**

EC-45-multi-3 Kit included pH electrode XS STANDARD S7, 1 mt cable S7/BNC, cell glass VPT 80/1 with ATC, **DHS-function**, pH buffer solution pH 7 and pH 4, standard conductivity solution 1413 µS and 12,88mS, keypad and accessories, **with magnetic stirrer**

EC-45-multi-5 Kit included pH electrode XS STANDARD-**DHS** S7, 1 mt cable S7/BNC, cell glass VPT 80/1 with ATC, DHS-function, pH buffer solution pH 7 and pH 4, standard conductivity solution 1413 µS and 12,88mS, keypad and accessories, **with magnetic stirrer**



DHS-Chip

Technical Data	EC-45 multi
Measuring Range (pH)	-2…20
Resolution (pH)	0.1 / 0.01 / 0.001
Buffer	1…5 /USA, NIST, DIN, User
Calibration points	1…5
Buffer recognition	Yes
Measuring Range (mV)	± 2000
Resolution (mV)	0.1 / 1
Measuring Range (°C)	-20,0…120,0
Resolution (°C)	± 0,5
DHS-Electrode	Yes
Measuring Range (cond)	0,00 - 20,00 - 200,0 - 2000 µS / 2,00 - 20,00 - 200,0 - 1000 mS
Resolution (cond)	Automatic full scale
Calibration Standards	84, 1413 µS, 12.88, 111.8 mS, User
Calibration points	1…5
Cell constant selectable (cm-1)	0,1 – 1 – 10
Reference Temp. (°C)	15…30
Temperature compensation (%/°C)	0,00…10,00
TDS-Measuring Range (g/l)	0…500
TDS-Factor	0.40 … 1.00
Salinity (ppt)	0,01…100
Resistivity (MΩ)	0….20
Memory	1000 Data
Timer	Yes
GLP	Yes
Interface	2 x USB, RS-232
Display	Colored graphic display
IP-Protection	IP 54
Power supply	Adapter 12 V DC
Weight (g)	1050, without stirrer
Dimension (mm)	165 x 195 x 68 (WxDxH) without stirrer

EC-45 multi

- Display pH/mV,COND/TDS, Salinity and Temperature simultaneously
- Resolution: 0,1-0,001 pH; Auto range for Cond
- GLP-conform
- Selectable cell constant allows for use with 2 plate cell
- Large colored graphic display with indication of Calibration Buffers and measurement's stability
- Indication stability of the measurement with icon
- Memory with re-call of last calibration date and time and information of electrode's life
- CAL DUE: set of calibration frequency for high quality of measurements
- Stability Parameter (Low-Med-High) for high accuracy measurement
- Non-volatile memory holds up to 1000 data points with date and time in automatic (Data logger) or manual
- 2x USB ports to transfer data at PC or printer and for external keyboard
- Software PC-Link to download data (included)
- external keypad
- Intrument can be delivered with magnetic stirrer
- IP54 protection
- 3 years instrument warranty



Magnetic Stirrer

PHOENIX Instrument
Lab solutions

Tester EC-15
with replaceable sensor



- automatic calibration function incl. stability icon
- 3-color backlit LCD-display (Measurement – Calibration – Alarm)
- pH-electrodes and conductivity cells also available with cable
- IP 67 waterproof
- easy replaceable sensor
- 2 x 1,5 V AAA Batteries, Display of battery level

EC-15pH pH/mV/°C

- Measuring range: -2…16 pH, Resolution: 0.01 pH
- 1…3 points calibration

EC-15pH Food pH/mV/°C

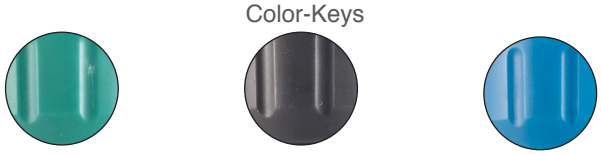
- Measuring range: -2…16 pH, Resolution 0.01 pH
- 1…3 points calibration
- with replaceable spear pH electrode

EC-15-COND 5 Cond/TDS/Salinity/°C

- Cond scale: 0…200µS - 0…2000µS - 0…20mS
- 1…3 points calibration

EC-15-Multi pH/mV/ Cond/TDS/Salinity/°C

- Measuring range: -2…16 pH, Resolution 0.01 pH
- 1…3 points calibration,
- COND scale: 0…200µS - 0…2000µS - 0…20mS
- 1…3 points calibration



Large 3 color backlit display





Box EC-15 cond

ısor

Various sets are available:

EC-15-pH eco

Tester, 1 extra cap, batteries

EC-15-pH /pH Food

Tester, 1 extra cap, pH 7 and pH 4 buffer solution, storage solution, neck strap, paper towel, 2x 1,5V AAA batteries, box

EC-15-Cond eco

Tester, 1 extra cap, batteries

EC-15-Cond

Tester, 1 extra cap, 1413µS and 12,88mS cond. standard solution, neck strap, paper towel, 2x 1,5V AAA batteries, box

EC-15-Multi

Tester, 1 extra cap, pH 7 and pH 4 buffer solution, storage solution, 1413µS cond. standard solution, neck strap, paper towel, 2x 1,5V AAA batteries, box

Technical Data	EC-15pH/Food	EC-15 Cond	EC-15-Multi
pH Resolution	-2….16		-2….16
pH Resolution	0,01		0,01
Calibration points	1….3		1….3
Electrode condition alarm	Yes	Yes	Yes
Stability meas. indication	Yes	Yes	Yes
mV meas. range	± 1000		± 1000
mV Resolution	0,1/1		0,1/1
Cond meas. Range		0-200µs, 0-2000µS, 0-20mS	0-200µs, 0-2000µS, 0-20mS
Cond Resolution (mS)		Automatic scale	Automatic scale
Calibration points cond		1….3	1….3
TDS meas. Range		0,1ppm….10ppt	0,1ppm….10ppt
TDS relative accuracy		± 1% full scale	± 1% full scale
Temperature range °C	0….50	0….50	0….50
Resolution °C	0,1	0,1	0,1
Dimension (ØxL) mm	35x175/35x210	35x175	35x175
Weight (gr)	130	130	130



Tester EC-10



Box EC-10 pH





EC-10 pH

EC-10 cond

Tester Serie EC-10

- Large LCD display
- IP 67 waterproof protection
- Buffers used for calibration indication
- Measurement stability indicator
- Automatic temperature compensation
- 2x1,5V AAA batteries for long working time, compatible with rechargeable batteries



Display pH



Display Cond

Various sets are available:

EC-10-pH-Eco
Tester, 1 extra cap, batteries

EC-10-pH
Tester, 1 extra cap, pH 7 and pH 4 buffer solution, storage solution, neck strap, paper towel, 2x 1,5V AAA batteries, box

EC-10-Cond-Eco
Tester, 1 extra cap, batteries

EC-10-Cond
Tester, 1 extra cap, 1x 55ml 1413µS and 12,88mS cond. standard solution, neck strap, paper towel, 2x 1,5V AAA batteries, box

Technical Data	EC-10 pH	EC-10 Cond
pH Meas. Range	0…14	
pH Resolution	0,1	
Calibration points	1…3	
Cond meas. Range		0-2000µS, 0-20mS
Cond Resolution (mS)		Automatic scale
Calibration points cond		1…2
TDS meas. Range		0,1ppm….10ppt
TDS relative accuracy		± 1% full scale
Electrode condition alarm	Yes	Yes
Dimension (ØxL) mm	35x175	35x175
Weight (gr)	120	120

pH - Standard elektrodes

1000203	Gel	pH-electrode, gel-filled with ceramic diaphragma
1000223	Polymer	pH-electrode,polymer-filled with open pore diaphragma
1000443	Polymer Tip	pH-electrode,polymer-filled with double open pore diaphragma
1000363	Standard	pH standard electrode with ceramic diaphragma
1000423	Standard HA	like standard, minimal Alkali error
1000433	Standard HF	like standard, for samples with HF
1000263	STANDARD BNC	like standard, with fix cable BNC
1000273	STANDARD DIN	like standard, with fix cable DIN
1000473	STANDARD T - BNC	like standard, with fix cable BNC and Temperature sensor
1000463	STANDARD T DIN	like standard, with fix cable DIN and Temperature sensor
1000493	Polymer Plast	Polymer electrode with 1 ceramic and 1 x open pore diaphragma, epoxy body
1000503	Polymer Plast BNC	like Polymer, with fix cable BNC
1000513	Polymer Plast DIN	like Polymer, with fix cable DIN
1002002	201T	pH-electrode with epoxy body, temperature sensor and fix cable BNC
1002042	201 T DIN	pH-electrode with Temperature sensor and fix DIN-cable
1000413	Flat	pH-electrode for surface measurements, 3-hole diaphragma with Teflon
1000373	Flow	pH-electrode for viscous samples and low ion media, Teflon sleeve diaphragma
1000383	Semi-Micro	pH-electrode for test tube measurements
1000213	Micro	pH-electrode for small volume samples
1000253	Micro P	pH-electrode for small volume samples with protein, Electrolyte Glycerin
1005223	GEL Plast BNC	pH-electrode with epoxy body, fix BNC-cable and double diaphragma
1000393	FOOD	pH-electrode with Glycerin KCl electrolyte and 3 ceramic diaphragm
1000333	2 PORE	pH-electrode with 2 open pore diaphragma

More pH-Elektrodes on request

Elektrodes with DHS-function

1100103	201T DHS	pH-electrode with epoxy body, temperature sensor and fix cable BNC, DHS-function
1100123	STANDARD T - BNC DHS	pH standard electrode with ceramic diaphragma, fix BNC-cable and Temperature sensor, DHS-function
1100113	2 Pore T DHS	pH-electrode with 2 open pore diaphragma, Temp.-sensor and fix BNC-cable, DHS-function

Electrodes for ORP measurement

2000233	Standard ORP	electrode with platinum ring for ORP/Redox
2000663	Plast ORP	electrode with platinum pin for ORP/Redox
2000673	Plast ORP/BNC	electrode with platinum pin for ORP/Redox, fix cable BNC

Conductivity cells

3004062	VP8	conductivity cell, cell constant c=1, fix cable BNC
3003352	VPT 80/1	conductivity cell, cell constant c=1, fix cable BNC, temperature sensor
3004012	VPT51/01	conductivity cell, cell constant c=0,1, fix cable BNC, temperature sensor for ultrapure water
3004072	VPT 80/10	conductivity cell, cell constant c=10, fix cable BNC, temperature sensor for sea water
3004002	2301T	conductivity cell, cell constant c=1, fix cable BNC, temperature sensor

Buffer solution

800033	Buffer pH4, ± 0,01 / 25°C, 250ml bottle, red
800133	Buffer pH4, ± 0,01 / 25°C, 500ml bottle, red
800233	Buffer pH4, ± 0,01 / 25°C, 5 Liter red
800043	Buffer pH7, ± 0,01 / 25°C, 250ml bottle, green
800143	Buffer pH7, ± 0,01 / 25°C, 500ml bottle, green
800243	Buffer pH7, ± 0,01 / 25°C, 5 Liter green
800073	Buffer pH9,21, ± 0,02 / 25°C, 250ml bottle, blue
800173	Buffer pH9,21, ± 0,02 / 25°C, 500ml bottle, blue
800273	Buffer pH9,21, ± 0,02 / 25°C, 5 Liter blue
800063	Buffer pH10, ± 0,02 / 25°C, 250ml bottle, colorless
800163	Buffer pH10, ± 0,02 / 25°C, 500ml bottle, colorless
800263	Buffer pH10, ± 0,02 / 25°C, 5 Liter colorless



Buffer solutions

DAKKS certified buffer solutions are available as well

Conductivity standard solutions

800613	Conductivity standard 84 µS/cm ± 1% / 25°C, 500 ml bottle
800633	Conductivity standard 1.413 µS/cm ± 1% / 25°C, 500 ml bottle
800643	Conductivity standard 12.880 µS/cm ± 1% / 25°C, 500 ml bottle
850513	Conductivity-Standard 5 µS/cm ± 0,1 / 25°C, 300 ml bottle with N.I.S.T Certificate
850313	Conductivity-Standard 5 µS/cm ± 0,1 / 25°C, 300 ml bottle with DFM Certificate
850303	Conductivity-Standard 1,3 µS/cm ± 0,1 / 25°C, 300 ml bottle with DFM Certificate

Redox- buffer

800303	250 ml Redox/ORP 200 mV ± 5mV / 25°C
800313	250 ml Redox/ORP 475 mV ± 5mV / 25°C
800323	500 ml Redox/ORP 475 mV ± 5mV / 25°C



Buffer solutions



Cond-Solutions



Printer 1001502

More accessories

1001733	Cable S7 / BNC 1 meter
1001743	Cable S7 / DIN 1 meter
1002012	Temperature sensor NT55
1000112	Elektrode holder
1001502	Printer for EC-35 and EC-45

1004403	Replacement pH electrode for Tester EC-15-pH
1004423	Replacement spear electrode with ATC for EC-15-pH food
3004413	Replacement Cond sensor for EC-15-cond
1004433	Replacement pH electrode for Tester EC-15-multi

PHOENIX Instrument

Lab solutions

We offer a wide range of
lab equipment and services



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