

Mobil Multi Parameter Salinity and Temperature pH-Meter Conductivity Meter DHS



DHS Chip



Professional Benchtop Meter



Portable Meter



Portable Meter Kit

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

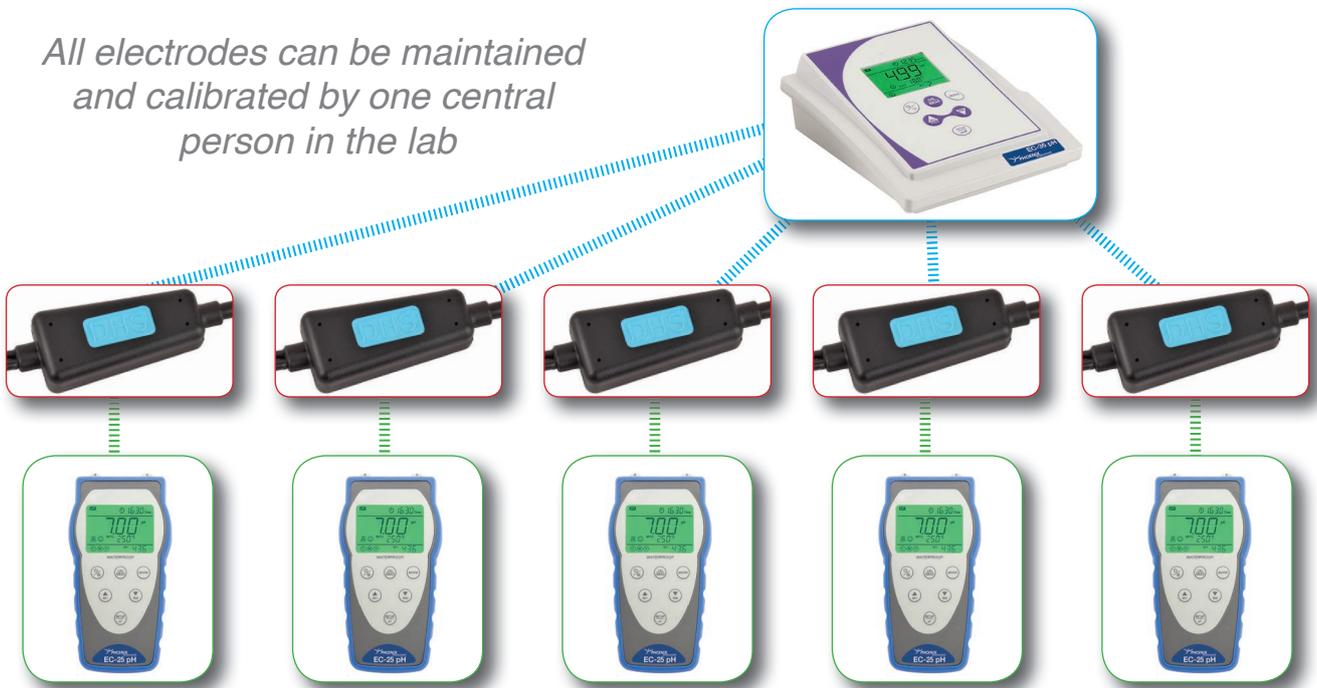
DHS, **Digital High Sensor**, is our new pH-sensor technology. These electrodes have an internal chip and stores all relevant calibration data, date of last calibration, slope, model and production batch.

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 pH-Meter EC-21 pH • EC-26 pH

In the development of the new EC-21/EC-26 series, a particular focus was put on easy handling during daily routine. The high-resolution color display guides the user intuitively through all measurement and calibration processes.



EC-21 pH

EC-21 pH • EC-26 pH

- high-resolution colour display, adjustable brightness
- DHS function, automatic recognition of DHS and analogue sensors
- Display of pH/mV and temperature values
- automatic pH calibration up to 3 points
- automatic ORP 1-point calibration
- selectable stability parameter (low-medium-high)
- automatic and manual temperature compensation
- Protection class IP 57
- Supplied in a robust transport case with all accessories



EC-26 pH

... additional for EC-26 pH

- GLP functions
- Data logger (automatic or manual) 1000 data records
- Connection to PC via micro-USB
- free DATA LINK +
- automatic brightness adjustment

Portable pH-Meter EC-21 pH • EC-26 pH

Various sets are available

- EC-21-pH-0 Kit without pH electrode, with temperature sensor, cable S7/BNC, pH buffer solution, carrying case and accessories
- EC-21-pH-1 Kit included pH electrode 201T, pH buffer solution, carrying case and accessories
- EC-21-pH-5 Kit included pH electrode 201T-DHS, pH buffer solution, carrying case and accessories
- EC-26-pH-0 Kit without pH electrode, with temperature sensor, cable S7/BNC, pH buffer solution, carrying case and accessories
- EC-26-pH-1 Kit included pH electrode 201T, pH buffer solution, carrying case and accessories
- EC-26-pH-5 Kit included pH electrode 201T-DHS, pH buffer solution, carrying case and accessories

Kit EC-26 pH 1

Model	EC-21 pH	EC-26 pH
Meas. Range/Resolution(pH)	0,00...14,00	-2,00 ... 16,00
Measuring Accuracy (pH)	0,1/0,01	
Calibration points	1...3	
Buffer solutions	USA, NIST and User defined	
Measuring range (mV)	±1.000	-1.000 ... 1900
Resolution (mV)	1	0,1 / 1
Temperature measuring range	0.0...100	-10 – 110
Resolution/Accuracy	0,1 / ± 0,5°C	
GLP	No	Yes
Calibration alarm	No	Yes
Memory	No	1000 Data
Interface	No	Micro USB
IP-class	IP 57	
Dimension	185 x 85 x 45 mm / 400 g	
Warranty Instrument	3 Years	



Basic Benchtop pH-Meter EC-31 pH • EC-36 pH

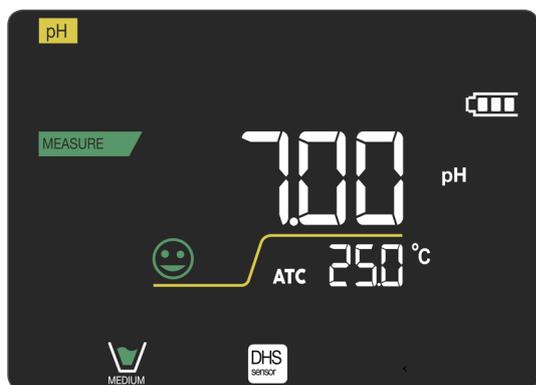
In the development of the new EC-31/EC-36 series, a particular focus was put on easy handling during the daily routine. The high-resolution color display guides the user intuitively through the measurement and calibration process.

EC-31 pH

- high-resolution colour display, adjustable brightness
- DHS function, automatic recognition of DHS and analogue sensors
- Display of pH/mV and temperature values
- automatic pH calibration up to 3 points
- automatic ORP 1-point calibration
- selectable stability parameter (low-medium-high)
- automatic and manual temperature compensation
- Protection class IP 54



EC-31 pH with electrode holder



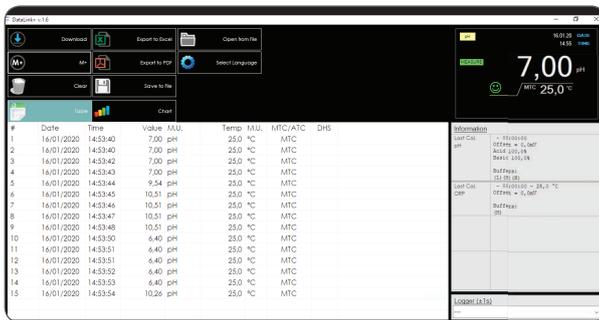
High Resolution colour Display EC-31 pH

Model	EC-31 pH	EC-36 pH
Meas. Range/Resolution(pH)	0,00...14,00	-2,00 ... 16,00
Measuring Accuracy (pH)	0,1/0,01	
Calibration points	1...3	
Buffer solutions	USA, NIST and User defined	
Measuring range (mV)	±1.000	-1.000 ... 1900
Resolution (mV)	1	0,1 / 1
Temperature measuring range	0.0...100	-10 – 110
Resolution/Accuracy	0,1 / ± 0,5°C	
GLP	No	Yes
Calibration alarm	No	Yes
Memory	No	1000 Data
Interface	No	Micro USB
IP-class	IP 54	
Dimension	170 x 145 x 60 mm / 530 g	
Warranty Instrument	3 Years	

Basic Benchtop pH-Meter EC-31 pH • EC-36 pH

... additional for EC-36 pH

- GLP functions
- Data logger (automatic or manual) 1000 data records
- Connection to PC via micro-USB
- free DATA LINK +



#	Date	Temp	Value	HLU	Temp	HLU	MTC/ATC	DHS
1	16/01/2020	14:53:40	7,00	pH	25,0	°C	MTC	
2	16/01/2020	14:53:40	7,00	pH	25,0	°C	MTC	
3	16/01/2020	14:53:42	7,00	pH	25,0	°C	MTC	
4	16/01/2020	14:53:43	7,00	pH	25,0	°C	MTC	
5	16/01/2020	14:53:44	9,54	pH	25,0	°C	MTC	
6	16/01/2020	14:53:45	10,51	pH	25,0	°C	MTC	
7	16/01/2020	14:53:46	10,51	pH	25,0	°C	MTC	
8	16/01/2020	14:53:47	10,51	pH	25,0	°C	MTC	
9	16/01/2020	14:53:48	10,51	pH	25,0	°C	MTC	
10	16/01/2020	14:53:50	6,40	pH	25,0	°C	MTC	
11	16/01/2020	14:53:51	6,40	pH	25,0	°C	MTC	
12	16/01/2020	14:53:51	6,40	pH	25,0	°C	MTC	
13	16/01/2020	14:53:52	6,40	pH	25,0	°C	MTC	
14	16/01/2020	14:53:53	6,40	pH	25,0	°C	MTC	
15	16/01/2020	14:53:54	10,26	pH	25,0	°C	MTC	

DATA LINK +

The software allows remote control of the instrument in measure mode.

It shows all information relating to the instrument and calibrations, data export at the end of the analysis (also in Excel and PDF format) and the display of measurements in the table and in graphic.



EC-36 pH with electrode holder

Various sets are available

EC-31-pH-0 Kit without pH electrode, with temperature sensor, cable S7/BNC, pH buffer solution, electrode holder

EC-31-pH-1 Kit included pH electrode 201T, pH buffer solution, electrode holder

EC-31-pH-5 Kit included pH electrode 201T-DHS, pH buffer solution, electrode holder

EC-36-pH-0 Kit without pH electrode, with temperature sensor, cable S7/BNC, pH buffer Solution, electrode holder

EC-36-pH-1 Kit included pH electrode 201T, pH buffer solution, electrode holder

EC-36-pH-5 Kit included pH electrode 201T-DHS, pH buffer solution, electrode holder

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

Professional Benchtop 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)

Conductivity Portable Meter EC-21 and EC-26 cond

In the development of the new EC-21/EC-26 series, particular emphasis was put on easy handling during daily routine. The high-resolution color display guides the user intuitively through all measurement and calibration processes.



EC-21 cond

EC-21 cond • EC-26 cond

- high-resolution colour display, adjustable brightness
- DHS function, automatic recognition of DHS and analogue sensors
- Display of Conductivity/TDS and temperature values
- automatic Conductivity calibration up to 5 points
- selectable stability parameter (low-medium-high)
- automatic and manual temperature compensation
- Protection class IP 57
- Supplied in a robust transport case with all accessories



EC-26 cond

... additional for EC-26 cond

- GLP functions
- Data logger (automatic or manual) 1000 data records
- Connection to PC via micro-USB
- free DATA LINK +
- automatic brightness adjustment

Conductivity Portable Meter EC-21 and EC-26 cond

Various sets are available

EC-21-cond-0 Kit without cell, with standard calibration solutions, carrying case and accessories

EC-21-cond-1 Complete kit include cond. Cell 2301T with ATC, cable length 1m and BNC plug, standard calibration solutions, carrying case and accessories

EC-26-cond-0 Kit without cell, with standard calibration solutions, power supply, software PC-Link, USB cable, carrying case with accessories

EC-26-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.

Set EC-26 cond 1



Model	EC-21 cond	EC-26 cond
Meas. Range(Cond-mS)	0,00...200	
Measuring Accuracy (Cond)	0,1/1 µS 0,01/0,1 mS	
Calibration points	1...5	
Selectable cell constant (cm ⁻¹)	0,1 – 1 – 10	
Temperature measuring range	0.0...100	-10 – 110
Resolution/Accuracy	0,1 / ± 0,5°C	
TDS Measuring range	0.1 mg/l...200 g/l	
GLP	No	Yes
Calibration alarm	No	Yes
Memory	No	1000 Data
Interface	No	Micro USB
IP-class	IP 57	
Dimension	185 x 85 x 45 mm / 400 g	
Warranty Instrument	3 Years	

Basic Benchtop Conductivity Meter EC-31-Cond and EC-36-Cond

In the development of the new EC-31/EC-36 series, particular focus was put on easy handling during the daily routine. The high-resolution color display guides the user intuitively through the measurement and calibration process.

EC-31 cond

- high-resolution colour display, adjustable brightness
- Display of Conductivity/TDS and temperature values
- automatic conductivity calibration up to 5 points
- selectable stability parameter (low-medium-high)
- automatic and manual temperature compensation
- Protection class IP 54



... additional for EC-36 cond

- GLP functions
- Data logger (automatic or manual) 1000 data records
- Connection to PC via micro-USB
- free DATA LINK +

Various sets are available

- EC-31-cond-0 Kit without cell, with standard calibration solutions, cell holder and accessories
- EC-31-cond-1 Complete kit include cond. Cell 2301T with ATC, cable length 1m and BNC plug, standard calibration solutions, cell holder and accessories
- EC-36-cond-0 Kit without cell, with standard calibration solutions, power supply, software PC-Link, USB cable, cell holder and accessories
- EC-36-cond-1 Complete kit include cond. Cell 2301T with ATC, cable length 1m and BNC plug, Standard calibration solutions, power supply, software PC-Link, USB cable, cell holder and accessories

Model	EC-31 cond	EC-36 cond
Meas. Range(Cond-mS)	0,00...200	
Measuring Accuracy (Cond)	0,1/1 µS 0,01/0,1 mS	
Calibration points	1...5	
Selectable cell constant (cm ⁻¹)	0,1 – 1 – 10	
Temperature measuring range	0.0...100	-10 – 110
Resolution/Accuracy	0,1 / ± 0,5°C	
TTDS Measuring range	0.1 mg/l...200 g/l	
GLP	No	Yes
Calibration alarm	No	Yes
Memory	No	1000 Data
Interface	No	Micro USB
IP-class	IP 54	
Dimension	170 x 145 x 60 mm / 530 g	
Warranty Instrument	3 Years	

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

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 optional 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)



Magnetic stirrer

Portable multi meter EC-21 multi and EC-26 multi

In the development of the new EC-21/EC-26 series, a particular focus was put on easy handling during daily routine. The high-resolution color display guides the user intuitively through all measurement and calibration processes.



EC-21 cond

EC-21 multi • EC-26 multi

- high-resolution colour display, adjustable brightness
- Display of pH/mV, Conductivity/TDS, temperature values
- automatic Conductivity calibration up to 5 points
- automatic pH calibration up to 3 points
- automatic ORP 1-point calibration
- selectable stability parameter (low-medium-high)
- automatic and manual temperature compensation
- Protection class IP 57
- Supplied in a robust transport case with all accessories

... additional for EC-26 multi

- GLP functions
- Data logger (automatic or manual)
1000 data records
- Connection to PC via micro-USB
- free DATA LINK +
- automatic brightness adjustment



EC-26 cond

Various sets are available

- EC-21-multi-0 Kit without pH-electrode, with conductivity cell 2301T, with standard calibration solutions, Temperature sensor, cable S7/BNC, carrying case with accessories
- EC-21-multi-1 Complete kit include pH electrode 201T and cond. Cell 2301T with ATC, both cable length 1m and BNC plug, standard calibration solutions, carrying case and accessories
- EC-21-multi-5 Kit included pH electrode 201T-DHS, pH buffer solution, carrying case and accessories
- EC-26-multi-0 Kit without pH-electrode and cell, standard calibration solutions, power supply, software PC-Link, USB cable, carrying case with accessories
- EC-26-multi-1 Kit include pH-electrode 201T and cell 2301T with ATC, cable length 1m and BNC plug, standard cal. solutions, power supply, software PC-Link, USB-cable, carrying case with accessories.
- EC-26-multi-5 Kit included pH electrode 201T-DHS, pH buffer solution, carrying case and accessories

Model	EC-21 multi	EC-26 multi
Meas. Range/Resolution(pH)	0,00...14,00	-2,00 ... 16,00
Measuring Accuracy (pH)		0,1/0,01
Calibration points		1...3
Buffer solutions	USA, NIST and User defined	
Meas. Range(Cond-mS)	0,00...200	
Measuring Accuracy (Cond)	0,1/1 µS 0,01/0,1 mS	
Calibration points	1...5	
Selectable cell constant (cm ⁻¹)	0,1 – 1 – 10	
Temperature measuring range	0.0...100	-10 – 110
Resolution/Accuracy	0,1 / ± 0,5°C	
TTDS Measuring range	0.1 mg/l...200 g/l	
GLP	No	Yes
Calibration alarm	No	Yes
Memory	No	1000 Data
Interface	No	Micro USB
IP-class	IP 57	
Dimension	185 x 85 x 45 mm / 400 g	
Warranty Instrument	3 Years	

Basic Benchtop Multi Meter EC-31-Multi and EC-36-Multi

In the development of the new EC-31/EC-36 series, a particular focus was put on easy handling during the daily routine. The high-resolution color display guides the user intuitively through the measurement and calibration process.

EC-31 multi

- high-resolution colour display, adjustable brightness
- Display of pH/mV, Conductivity/TDS and temperature values
- automatic Conductivity calibration up to 5 points
- automatic pH calibration up to 3 points
- automatic ORP 1-point calibration
- selectable stability parameter (low-medium-high)
- automatic and manual temperature compensation
- Protection class IP 54



EC-31 multi with electrode holder

Various sets are available

- EC-31-multi-0** Kit without pH-electrode, with conductivity cell 2301T, with standard calibration solutions, Temperature sensor, cable S7/BNC, pH buffer solutions, electrode holder
- EC-31-multi-1** Complete kit include pH electrode 201T and cond. Cell 2301T with ATC, both cable length 1m and BNC plug, standard calibration solutions, pH buffer solutions, electrode holder
- EC-31-multi-5** Complete kit include pH electrode 201T-DHS and cond. Cell 2301T with ATC, both cable length 1m and BNC plug, standard calibration solutions, pH buffer solutions, electrode holder
- EC-36-multi-0** Kit without pH-electrode, with conductivity cell 2301T, with standard calibration solutions, Temperature sensor, cable S7/BNC, pH buffer solutions, electrode holder
- EC-36-multi-1** Complete kit include pH electrode 201T and cond. Cell 2301T with ATC, both cable length 1m and BNC plug, standard calibration solutions, pH buffer solutions, electrode holder
- EC-36-multi-5** Complete kit include pH electrode 201T-DHS and cond. Cell 2301T with ATC, both cable length 1m and BNC plug, standard calibration solutions, pH buffer solutions, electrode holder

... additional for EC-36 multi

- GLP functions
- Data logger (automatic or manual) 1000 data records
- Connection to PC via micro-USB
- free DATA LINK +

Model	EC-31 multi	EC-36 multi
Meas. Range/Resolution(pH)	0,00...14,00	-2,00 ... 16,00
Measuring Accuracy (pH)	0,1/0,01	
Calibration points	1...3	
Buffer solutions	USA, NIST and User defined	
Meas. Range(Cond-mS)	0,00...200	
Measuring Accuracy (Cond)	0,1/1 µS 0,01/0,1 mS	
Calibration points	1...5	
Selectable cell constant (cm ⁻¹)	0,1 – 1 – 10	
Temperature measuring range	0.0...100	-10 – 110
Resolution/Accuracy	0,1 / ± 0,5°C	
TTDS Measuring range	0.1 mg/l...200 g/l	
GLP	No	Yes
Calibration alarm	No	Yes
Memory	No	1000 Data
Interface	No	Micro USB
IP-class	IP 54	
Dimension	170 x 145 x 60 mm / 530 g	
Warranty Instrument	3 Years	

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 Conductivity 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

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 μ S 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 μ S 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 μ S 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)	\pm 2000
Resolution (mV)	0.1 / 1
Measuring Range ($^{\circ}$ C)	-20,0...120,0
Resolution ($^{\circ}$ C)	\pm 0,5
DHS-Electrode	Yes
Measuring Range (cond)	0,00 - 20,00 - 200,0 - 2000 μ S / 2,00 - 20,00 - 200,0 - 1000 mS
Resolution (cond)	Automatic full scale
Calibration Standards	84, 1413 μ S, 12.88, 111.8 mS, User
Calibration points	1...5
Cell constant selectable (cm-1)	0,1 – 1 – 10
Reference Temp. ($^{\circ}$ C)	15...30
Temperature compensation (%/ $^{\circ}$ C)	0,00...10,00
TDS-Measuring Range (g/l)	0...500
TDS-Factor	0.40 ... 1.00
Salinity (ppt)	0,01...100
Resistivity (M Ω)	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)

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
- Instrument can be delivered with magnetic stirrer
- IP54 protection
- 3 years instrument warranty



Magnetic Stirrer

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...200 μ S - 0...2000 μ S - 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...200 μ S - 0...2000 μ S - 0...20mS
- 1...3 points calibration



Color-Keys



Large 3 color backlit display



Tester EC-15 with replaceable sensor



Box EC-15 cond

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, 1413 μ S 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, 1413 μ S 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	\pm 1000		\pm 1000
mV Resolution	0,1/1		0,1/1
Cond meas. Range		0-200 μ S, 0-2000 μ S, 0-20mS	0-200 μ S, 0-2000 μ S, 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		\pm 1% full scale	\pm 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



pH - Standard electrodes

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-electrodes on request

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



DAKKS certified buffer solutions are available as well

Buffer solutions

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

Redox- buffer

800303	250 ml Redox/ORP 200 mV $\pm 5\text{mV}$ / 25°C
800313	250 ml Redox/ORP 475 mV $\pm 5\text{mV}$ / 25°C
800323	500 ml Redox/ORP 475 mV $\pm 5\text{mV}$ / 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



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Flüssigphase-Absorptionssystem VAS-10

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