C5010

pH - mV - Conductivity - Dissolved oxygen - Temperature

pH	0...14 pH
mV	±1000 mV
Conductivity	0...100 mS/cm
Dissolved oxygen	0...20 mg/l
	0...200%
Temperature	0...100°C

One pH/mV channel
One conductivity/oxygen channel
One temperature channel

- ***pH***
  Multi-point (1...3) calibration with up to three buffers out of eleven pre-programmed pH buffers.
  Reads pH with 0.01 pH resolution.
- ***mV***
  Features mV calibration for accurate ORP measurements.
  Reads potentials with 1 mV resolution.
- ***Conductivity***
  Measures from 0.1 µS/cm to 100 mS/cm with a single 1 cm^{-1} electrode.
  Automatically selects correct range and frequency.
  Selectable reference temperature: 20° or 25°C.
  One-point calibration with any of two preprogrammed standards.
- ***Dissolved oxygen***
  Operates with a galvanic oxygen electrode requiring no polarisation time and no zero calibration.
  Reads dissolved oxygen with 0.01 mg/l or 0.1% resolution.
  Rapid air calibration.
- ***Temperature***
  Reads temperatures with 0.1°C resolution.
  Manual or automatic temperature compensation.
  Calibrates temperature probe for quality measurements.
- ***Inputs***
  One common input for pH and mV.
  One common input for conductivity and dissolved oxygen.
  One input for a Pt1000 automatic temperature probe.
  Low voltage DC input for a mains adaptor.
- ***Display***
  Bright LCD screen for better readability.
  A white backlight automatically illuminates when operated on the mains.
  Stability indicator prompts the user when readings should be taken.
  The interactive LCD screen provides step by step instructions in the language of your choice (English, Dutch, French, German).
  Shows a GLP report on the LCD screen.
- ***Cabinet***
  Robust dust and splash-proof cabinet.
- ***Special features***
  Three year warranty.
  Mains and rechargeable battery operation with programmable automatic switch-off.
  Optional 12 V car adaptor.
- ***Pre-programmed standards***
  pH buffers: 1.68, 2.00, 4.00, 4.01, 6.87, 7.00, 9.18, 9.21, 10.01, 12.00, 12.45 (at 25°C).
  Conductivity: 1413 µS/cm, 12.88 mS/cm (at 25°C).

CODE	DESCRIPTION
C5010	Meter only (without electrodes) + 4 NiMH batteries + mains adaptor
C5010X	Meter kit without electrodes: C5010 + 2x50 ml buffers (pH 4 and 7) + 50 ml electrolyte (3M KCl) + 50 ml conductivity standard (0.01 M KCl) + carrying case
C5010P	Meter kit for pH: C5010 + pH/ATC electrode SP10T + 2x50 ml buffers (pH 4 and 7) + 50 ml electrolyte (3M KCl) + carrying case
C5010K	Meter kit for conductivity: C5010 + conductivity/ATC electrode SK10T + 50 ml conductivity standard (0.01 M KCl) + carrying case
C5010Z	Meter kit for oxygen: C5010 + dissolved oxygen electrode SZ10T + carrying case
C5010T	Meter kit complete: C5010 + pH/ATC electrode SP10T + conductivity/ATC electrode SK10T + dissolved oxygen electrode SZ10T + 2x50 ml buffers (pH 4 and 7) + 50 ml electrolyte (3M KCl) + 50 ml conductivity standard (0.01 M KCl) + carrying case
A4049	Car adaptor, 12 V (optional)

→ Add a $-sign for US plug versions, e.g.: C5010$, → Add a U-sign for UK plug versions, e.g.: C5010U

C5020

pH - mV - Conductivity - Salinity - TDS - Dissolved oxygen - Temperature

pH	0...14 pH
mV	±1000 mV
Conductivity	0...1000 mS/cm
Salinity	0.0...70.0
TDS	0...100 g/l
Dissolved oxygen	0...20 mg/l
	0...200%
Temperature	0...100°C

One pH/mV channel
One conductivity/oxygen channel
One temperature channel

- ***pH***
  Multi-point (1...3) calibration with up to three buffers out of eleven pre-programmed pH buffers.
  Reads pH with 0.01 pH resolution.
- ***mV***
  Features mV calibration for accurate ORP measurements.
  Reads potentials with 1 mV resolution.
- ***Conductivity***
  Use a 1 cm^{-1} electrode (standard) to measure from 0.1 µS/cm to 100 mS/cm.
  Use a 0.1 cm^{-1} electrode to measure from 0.01 µS/cm to 10 mS/cm.
  Use a 10 cm^{-1} electrode to measure from 1 µS/cm to 1000 mS/cm.
  Automatically selects correct range and frequency.
  Selectable reference temperature: 20° or 25°C.
  One-point calibration with any of three preprogrammed standards.
- ***Dissolved oxygen***
  Operates with a galvanic oxygen electrode requiring no polarisation time and no zero calibration.
  Reads dissolved oxygen with 0.01 mg/l or 0.1% resolution.
  Rapid air calibration.
- ***Temperature***
  Reads temperatures with 0.1°C resolution.
  Manual or automatic temperature compensation.
  Calibrates temperature probe for quality measurements.
- ***Inputs***
  One common input for pH and mV.
  One common input for conductivity and dissolved oxygen.
  One input for a Pt1000 automatic temperature probe.
  Low voltage DC input for a mains adaptor.
- ***Display***
  Bright LCD screen for better readability.
  A white backlight automatically illuminates when operated on the mains.
  Stability indicator prompts the user when readings should be taken.
  The interactive LCD screen provides step by step instructions in the language of your choice (English, Dutch, French, German).
  Shows a GLP report on the LCD screen.
- ***Data-logging***
  Storage memory for 300 values including temperature.
- ***Cabinet***
  Robust dust and splash-proof cabinet.
- ***Special features***
  Three year warranty.
  Mains and rechargeable battery operation with programmable automatic switch-off.
  Optional 12 V car adaptor.
- ***Pre-programmed standards***
  pH buffers: 1.68, 2.00, 4.00, 4.01, 6.87, 7.00, 9.18, 9.21, 10.01, 12.00, 12.45 (at 25°C).
  Conductivity: 1413 µS/cm, 12.88 mS/cm, 111.8 mS/cm (at 25°C).

CODE	DESCRIPTION
C5020	Meter only (without electrodes) + 4 NiMH batteries + mains adaptor
C5020X	Meter kit without electrodes: C5020 + 2x50 ml buffers (pH 4 and 7) + 50 ml electrolyte (3M KCl) + 50 ml conductivity standard (0.01 M KCl) + carrying case
C5020P	Meter kit for pH: C5020 + pH/ATC electrode SP10T + 2x50 ml buffers (pH 4 and 7) + 50 ml electrolyte (3M KCl) + carrying case
C5020K	Meter kit for conductivity: C5020 + conductivity/ATC electrode SK10T + 50 ml conductivity standard (0.01 M KCl) + carrying case
C5020Z	Meter kit for oxygen: C5020 + dissolved oxygen electrode SZ10T + carrying case
C5020T	Meter kit complete: C5020 + pH/ATC electrode SP10T + conductivity/ATC electrode SK10T + dissolved oxygen electrode SZ10T + 2x50 ml buffers (pH 4 and 7) + 50 ml electrolyte (3M KCl) + 50 ml conductivity standard (0.01 M KCl) + carrying case
A4049	Car adaptor, 12 V (optional)

➔ *Add a $-sign for US plug versions, e.g.: C5020$,* ➔ *Add a U-sign for UK plug versions, e.g.: C5020U*

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C5030

rH_2 - pH - mV - Temperature

rH_2:	0...42 rH_2
pH:	0...14 pH
mV:	±1000 mV
Temperature:	0...100°C

One pH/mV channel
One mV-H_2/mV channel
One temperature channel

- ***rH_2***
  Bio-electronic multimeter for the study of the biological water quality according to Vincent's method.
- ***pH***
  Multi-point (1...3) calibration with up to three buffers out of eleven pre-programmed pH buffers.
  Reads pH with 0.01 pH resolution.
- ***mV***
  Features mV calibration for accurate ORP measurements.
  Reads potentials with 1 mV resolution.
- ***mV-H_2***
  Features mV calibration for accurate ORP measurements.
  Reads potentials referred to the standard hydrogen electrode with 1 mV resolution.
  Connect a special pH/ORP combination electrode to the meter and reads rH_2 directly on the screen.
- ***Temperature***
  Reads temperatures with 0.1°C resolution.
  Manual or automatic temperature compensation.
  Calibrates temperature probe for quality measurements.
- ***Inputs***
  One common input for pH or mV.
  One common input for mV-H_2 or mV.
  One input for a Pt1000 automatic temperature probe.
  Low voltage DC input for a mains adaptor.
- ***Display***
  Bright LCD screen for better readability.
  A white backlight automatically illuminates when operated on the mains.
  Stability indicator prompts the user when readings should be taken.
  The interactive LCD screen provides step by step instructions in the language of your choice (English, Dutch, French, German).
  Shows a GLP report on the LCD screen.
- ***Cabinet***
  Robust dust and splash-proof cabinet.
- ***Special features***
  Three year warranty.
  Mains and rechargeable battery operation with programmable automatic switch-off.
  Optional 12 V car adaptor.
- ***Pre-programmed standards***
  pH buffers: 1.68, 2.00, 4.00, 4.01, 6.87, 7.00, 9.18, 9.21, 10.01, 12.00, 12.45 (at 25°C).

rH_2
The rH_2 is a measurement for the level of electronic exchanges between water and dissolved ions. It enables to study incomplete, indeterminate and very diluted aqueous redox solutions.

CODE	DESCRIPTION
C5030	Meter only (without electrodes) + 4 NiMH batteries + mains adaptor
C5030X	Meter kit without electrodes: C5030 + 2x50 ml buffers (pH 4 and 7) + 50 ml ORP standard (358 mV) + 50 ml electrolyte (3M KCl) + carrying case
C5030L	Meter kit complete: C5030 + rH_2 glass combination electrode SP35B + temperature probe ST10N + 2x50 ml buffers (pH 4 and 7) + 50 ml ORP standard (358 mV) + 50 ml electrolyte (3M KCl) + carrying case
C5030T	Meter kit complete: C5030 + pH/°C electrode SP10T + ORP electrode SP50X + cable SC01B + 2x50 ml buffers (pH 4 and 7) + 50 ml ORP standard (358 mV) + 50 ml electrolyte (3M KCl) + carrying case
A4049	Car adaptor, 12 V (optional)

→ Add a $-sign for US plug versions, e.g.: C5030$, → Add a U-sign for UK plug versions, e.g.: C5030U

Specifications		C5010	C5020	C5030
pH	*Range*	0...14 pH	0...14 pH	0...14 pH
	Resolution	0.01 pH	0.01 pH	0.01 pH
	Accuracy	0.2% ± 1 digit	0.2% ± 1 digit	0.2% ± 1 digit
	Calibration	1...3 points	1...3 points	1...3 points
	Buffers	11 pre-programmed	11 pre-programmed	11 pre-programmed
	Temperature compensation	0...100°C	0...100°C	0...100°C
	ISO-pH	6...8 pH	6...8 pH	6...8 pH
	Slope	80...120%	80...120%	80...120%
mV	*Range*	±1000 mV	±1000 mV	±1000 mV
	Resolution	1 mV	1 mV	1 mV
	Accuracy	0.2% ± 1 digit	0.2% ± 1 digit	0.2% ± 1 digit
	Calibration	1 point	1 point	1 point
rH_2	*Range*			0...42 rH_2
	Resolution			0.1 rH_2
CONDUCTIVITY	*Range (cc dependent)*	0...100 mS/cm	0...1000 mS/cm	
	Resolution (cc dependent)	0.1 µS/cm	0.01 µS/cm	
	Accuracy	1% f.s. of range	1% f.s. of range	
	Calibration	1 point	1 point	
	Standards	2 pre-programmed	3 pre-programmed	
	Cell constant (cc)	1 cm^{-1} ±30%	0.1/1/10 cm^{-1} ±30%	
	Temperature compensation	0...100°C	0...100°C	
	Reference temperature	20° or 25°C	20° or 25°C	
	Temperature coefficient	natural waters (EN27888)	natural waters (EN27888)	
SALINITY	*Range*		0.0...70.0	
	Reference temperature		15°C	
TDS	*Range*		0...100 g/l	
	Resolution		0.1 mg/l	
DISSOLVED OXYGEN	*Range*	0...20 mg/l (0...200%)	0...20 mg/l (0...200%)	
	Resolution	0.01 mg/l (0.1%)	0.01 mg/l (0.1%)	
	Accuracy	1% ± 1 digit	1% ± 1 digit	
	Calibration	1 point	1 point	
	Temperature compensation	0...50°C	0...50°C	
	Salinity compensation	0...40	0...40	
	Air pressure compensation	800...1200 hPa	800...1200 hPa	
TEMPERATURE	*Range*	0...100°C	0...100°C	0...100°C
	Resolution	0.1°C	0.1°C	0.1°C
	Accuracy	0.5°C	0.5°C	0.5°C
	Calibration	1 point	1 point	1 point
INPUTS	*pH/mV*	BNC, 10^{12} Ω	BNC, 10^{12} Ω	BNC, 10^{12} Ω
	Conductivity/Dissolved oxygen	BNC	BNC	
	Temperature	2 banana, for Pt1000	2 banana, for Pt1000	2 banana, for Pt1000
STORAGE MEMORY	*Data sets*		300	300
DISPLAY	*LCD*	122x32 pixels	122x32 pixels	122x32 pixels
	White backlight	✓	✓	✓
AMBIENT CONDITIONS	*Temperature*	0...40°C	0...40°C	0...40°C
	Humidity	0...95%, non condensing	0...95%, non condensing	0...95%, non condensing
POWER SUPPLY	*Mains*	100...240 VAC, 50/60 Hz	100...240 VAC, 50/60 Hz	100...240 VAC, 50/60 Hz
	Low voltage	9...15 VDC	9...15 VDC	9...15 VDC
	Batteries	4x1.2 V, NiMH	4x1.2 V, NiMH	4x1.2 V, NiMH
DIMENSIONS	*WxDxH*	10x20x4 cm	10x20x4 cm	10x20x4 cm
WEIGHT	*Meter*	350 g	350 g	350 g

TDS

Total Dissolved Salts of a solution gives an indication of the total ion concentration. Due to ionic interactions within a solution, the salt concentration cannot easily be related to conductivity. As the dissolved solids are generally unknown, a TDS measurement is always referred to a solution of pure Sodium Chloride.

SALINITY

Salinity gives an indication of the salt content of sea water. It is calculated from the conductivity referred to 15°C.

The salinity is the ratio between the total salt content (g) and the total weight of the sea water (kg). Hence as this is a ratio, it has no units.

Electrodes supplied with kit versions

SP10T
- pH + ATC
- Epoxy body, 1 m cable
- 0...14 pH, 0...80°C
- Single junction, sealed

SK10T
- Conductivity + ATC
- Epoxy body, 1 m cable
- 1 cm^{-1}, 0...80°C
- Dual graphite plates

SZ10T
- Galvanic type + ATC
- Epoxy body, 1 m cable
- 0...60 mg/l, 0...50°C
- 3 m submersible cable

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