

## C3020 • C3021 pH - mV - Conductivity - Resistivity - Salinity - TDS - Dissolved oxygen - Air pressure - Temperature



**pH:** -2...+16 pH  
**mV:** ±2000 mV  
**Conductivity:** 0...2000 mS/cm  
**Resistivity:** 0...200 MΩ.cm  
**Salinity:** 0.0...70.0  
**TDS:** 0...100 g/l  
**Dissolved oxygen:** 0...60 mg/l  
 0...600%  
**Air pressure:** 600...1300 hPa  
**Temperature:** -5...+105°C

**Two independent channels  
for all measurements !**

- pH**  
 Multi-point (1...5) calibration for more linearity.  
 Selectable resolution from 0.001 pH to 0.1 pH.  
 Automatic calibration with any of eleven pre-programmed and five user specified pH buffers. **Create your own buffer/temperature tables!**  
 Accepts pH electrodes with any zero point (E<sub>0</sub>) between ±999 mV.
- mV**  
 Features mV calibration for accurate ORP measurements.  
 Selectable resolution from 0.1 mV to 1 mV.
- Conductivity**  
 Multi-point (1...3) calibration for more linearity.  
 An electrode with a typical cell constant of 1 cm<sup>-1</sup> (standard) permits to measure from 0.01 μS/cm to 200 mS/cm in five ranges.  
 An electrode with a typical cell constant of 0.1 cm<sup>-1</sup> permits to measure from 0.001 μS/cm to 20 mS/cm in five ranges.  
 An electrode with a typical cell constant of 10 cm<sup>-1</sup> permits to measure from 0.1 μS/cm to 2000 mS/cm in five ranges.  
 Automatically selects correct range and frequency.  
 Selectable reference temperature: 20° or 25°C.  
 Automatic calibration with any of three preprogrammed and three user specified standard solutions. **Create your own standard/temperature tables!**  
 Allows to lock the initial conductivity range to avoid non-linear titration curves.  
 Accurate low conductivity measurements by eliminating the capacitive component of the electrode and its cable (avoid the use of long cables!).
- Dissolved oxygen**  
 Operates with a galvanic dissolved oxygen electrode requiring no polarisation time and no zero calibration.  
 Selectable resolution from 0.01 mg/l (0.1%) to 0.1 mg/l (1%).  
 Automatic air pressure compensation 600-1300 hPa.
- Temperature**  
 Reads temperatures with 0.1°C resolution.  
 Manual or automatic temperature compensation (O<sub>2</sub>: 0...50°C).  
 Calibrates temperature probe for quality measurements.

CODE	DESCRIPTION
C3020	Meter only (USB version) + USB cable + mains adaptor
C3021	Meter only (Ethernet version) + mains adaptor
C3020X	Meter kit without electrodes: C3020 + 3x50 ml buffers (pH 4, 7 and 10) + 50 ml electrolyte (3M KCl) + 3x50 ml conductivity standards (0.01, 0.1 and 1 M KCl)
C3020P	Meter kit for pH: C3020 + pH/ATC electrode SP10T + 3x50 ml buffers (pH 4, 7 and 10) + 50 ml electrolyte (3M KCl)
C3020K	Meter kit for conductivity: C3020 + conductivity/ATC electrode SK10T + 3x50 ml conductivity standards (0.01, 0.1 and 1 M KCl)
C3020Z	Meter kit for oxygen: C3020 + dissolved oxygen electrode SZ10T
C3020T	Meter kit complete: C3020 + pH/ATC electrode SP10T + conductivity/ATC electrode SK10T + dissolved oxygen electrode SZ10T + 3x50 ml buffers (pH 4, 7 and 10) + 50 ml electrolyte (3M KCl) + 3x50 ml conductivity standards (0.01, 0.1 and 1 M KCl)
SH300	Flexible electrode holder (optional)
A4800	Wall mounting kit (optional)
A4049	Car adaptor, 12 V (optional)

→ Add a S-sign for US plug versions, e.g.: C3020S, → Add a U-sign for UK plug versions, e.g.: C3020U

● **Inputs**

Two inputs for pH, mV, dissolved oxygen or conductivity + corresponding temperature and reference inputs.

Low voltage DC input for e.g. a mains adaptor.

● **Outputs**

**Two versions available:**

C3020: with USB communication port and RS232 interface.

C3021: with Ethernet communication port and RS232 interface.

● **Data-logging**

Up to 12000 data sets can be stored manually or at a programmable interval.

Allows to mix data from all ranges in the same table.

Freely downloadable data acquisition software enables to view, store and edit the measurements in your computer.

● **Cabinet**

Robust dust and splash-proof cabinet.

An optional wall mounting kit allows to fix the meter to any wall making more space available on the desk.

● **Display**

A large bright LCD screen with white backlight enables to view all channels individually or simultaneously.

Stability indicator prompts the user when readings should be taken.

Hold function allows to freeze the display for convenient reading or recording.

The interactive LCD screen provides step by step instructions in the language of your choice (English, Dutch, French, German).

Real-time clock displays time and date.

Shows a GLP report on the LCD screen.

● **Special features**

Two-way communication with a computer using USB, Ethernet or RS232.

Can be programmed to continue automatically with the measurements or data-logging after a power failure.

Password protection prevents any unauthorised modification of the instrument's settings.

No electrical interference between pH/ORP and conductivity electrodes in the same solution.

Optional 12 V car adaptor.

Three year warranty.

● **GLP**

All procedures for a "Good Laboratory Practice" are on board.

● **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).

Specifications	C3020 - C3021	
pH	Range	-2...+16 pH
	Resolution	0.001 pH
	Accuracy	0.1% ± 1 digit
	Calibration	1...5 points
	Buffers	11 pre-programmed 5 user specified
	Temperature compensation	-5...+105 °C
	ISO-pH	6...8 pH
	Slope	80...120%
mV	Zero point (Eo)	±999 mV
	Range	±2000 mV
	Resolution	0.1 mV
	Accuracy	0.1% ± 1 digit
CONDUCTIVITY	Calibration	1 point
	Range (cc dependent)	0...2000 mS/cm
	Resolution (cc dependent)	0.001 µS/cm
	Accuracy	0.5% f.s. of range
	Calibration	1...3 points
	Standards	3 pre-programmed 3 user specified
	Cell constant (cc)	0.1/1/10 cm <sup>-1</sup> ±30%
	Temperature compensation	-5...+105 °C
	Reference temperature	20 ° or 25 °C
	Temperature coefficient	natural waters (EN27888)
RESISTIVITY	Range lock	✓
	Capacitive compensation	✓
SALINITY	Range	0...200 MΩ.cm
	Resolution	1 Ω.cm
TDS	Range	0.0...70.0
	Reference temperature	15 °C
DISSOLVED OXYGEN	Range	0...100 g/l
	Resolution	0.01 mg/l
	Range	0...60 mg/l (0...600%)
	Resolution	0.01 mg/l (0.1%)
	Accuracy	1% ± 1 digit
	Calibration	1 point
TEMPERATURE	Temperature compensation	0...50 °C
	Salinity compensation	0...40
	Air pressure compensation	600...1300 hPa
	Range	-5...+105 °C
AIR PRESSURE	Resolution	0.1 °C
	Accuracy	0.1 °C
	Calibration	1 point
CHANNELS	Range	600...1300 hPa
	Calibration	1 point
INPUTS	Measurement	2
	Temperature	2
CALIBRATION	Measurement	2 BNC, 10 <sup>12</sup> Ω
	Temperature	2x2 banana, for Pt1000
DISPLAY	Reminder	0...999 h
	GLP	✓
COMMUNICATION	LCD	240x64 pixels
	White backlight	✓
	Hold function	✓
	Selectable resolution	✓
DATA-LOGGING	Real time clock	✓
	Interface with computer	USB or Ethernet
SECURITY	RS232, baud rate	1200...115200 b/s
	Identification number	✓
	Password protection	✓
AMBIENT CONDITIONS	Data sets	12000
	Modes	all
POWER SUPPLY	Manual or timed	✓
	Interval	1...9999 s
DIMENSIONS	Temperature	0...40 °C
	Humidity	0...95%, non condensing
WEIGHT	Mains	100...240 VAC, 50/60 Hz
	Low voltage	9...15 VDC
WEIGHT	WxDxH	26x18x9 cm
	Meter	1 kg

**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<sup>-1</sup>, 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