



SI Analytics

ProLab Series

MEASUREMENT OF pH, ISE, CONDUCTIVITY AND
DISSOLVED OXYGEN – ACCURATE, RELIABLE AND
SENSITIVE

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ProLab 2500

If there is the need for a little more...

The ProLab 2500 is a digital high-performance meter with three channels. With its color graphic display protected by glass, high-quality zinc die-casting base as well as the anti-bacterial keyboard cover, it meets even the highest demands.

- Three universal measuring channels
- Digital sensor recognition
- Antibacterial keyboard
- Any configuration of pH, ORP, conductivity and Optical DO



ProLab 2500



Flexible performance

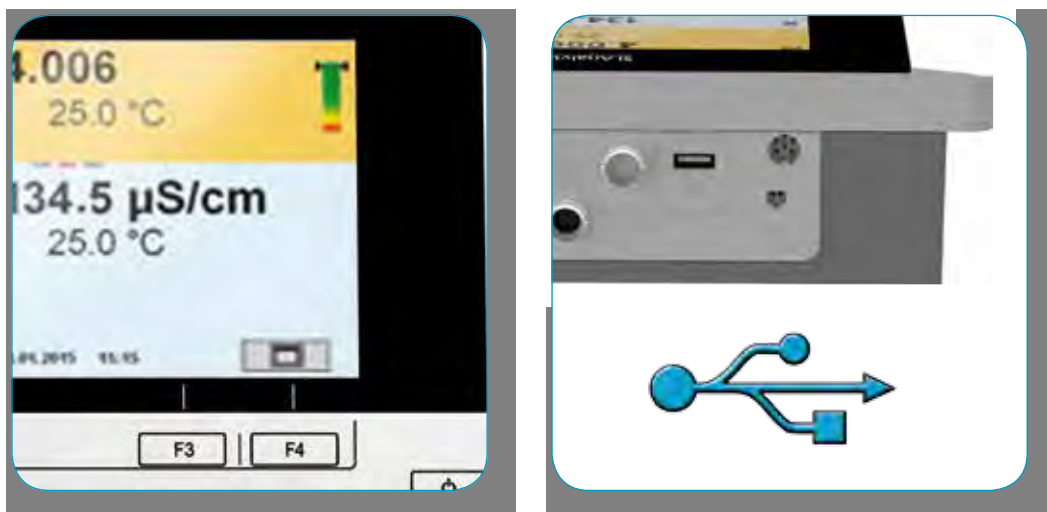
- Measures pH, ORP, ISE, dissolved oxygen, and conductivity.
- Any combination of the same or different parameters.
- Color backlit graphic display with CMC, QSC and channel display.
- An adapter for conventional pH electrodes (DIN plug) included in the delivery.
- Memory with 10,000 possible entries.

Measuring certainty

- The digital signal transfer eliminates interference, safely allocates calibration data, automatically transmits sensor data.
- The Quality Sensor Control (QSC) icon provides precise information about the actual state of the electrode and therefore increases the operational safety.

Documentation

- Automatic, digital capture of all sensor data for retraceability of measured values.
- Available user administration for the safe allocation of user and measuring results or sample and measuring results.
- Data output to PC, USB memory stick or selected printers.



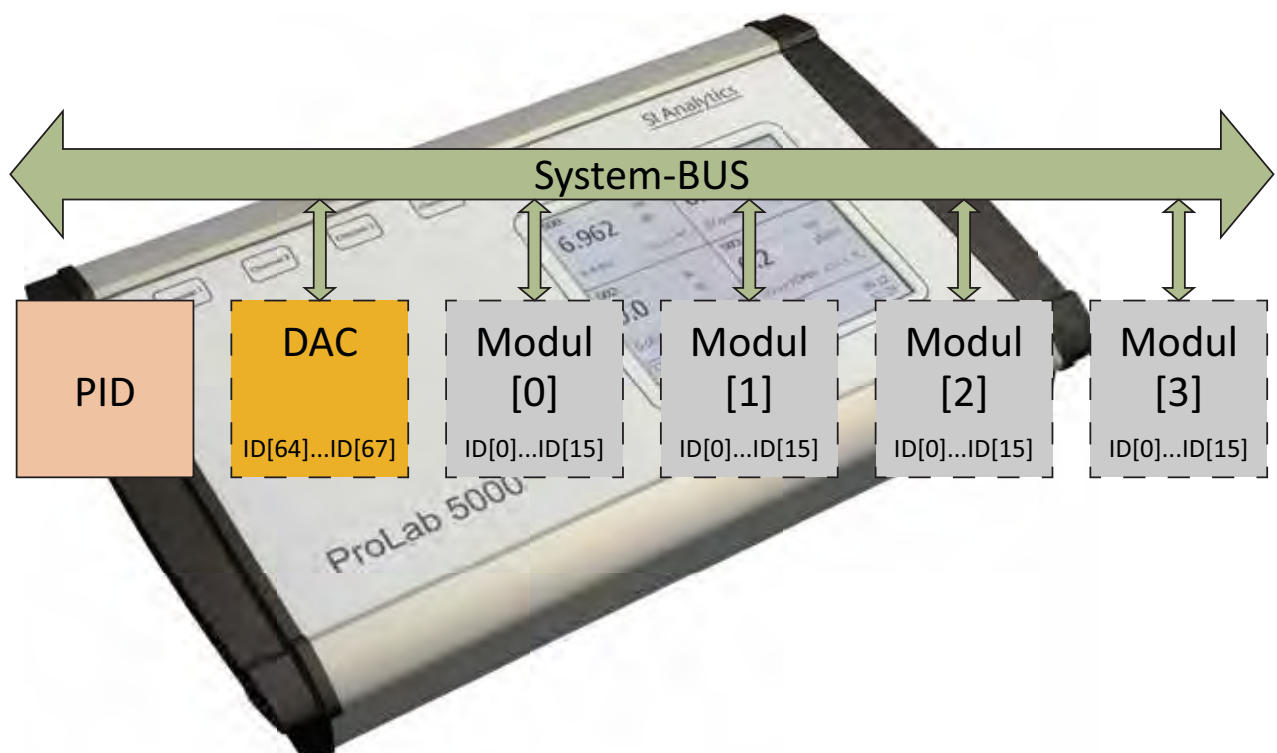
Digital sensor recognition



ProLab 5000

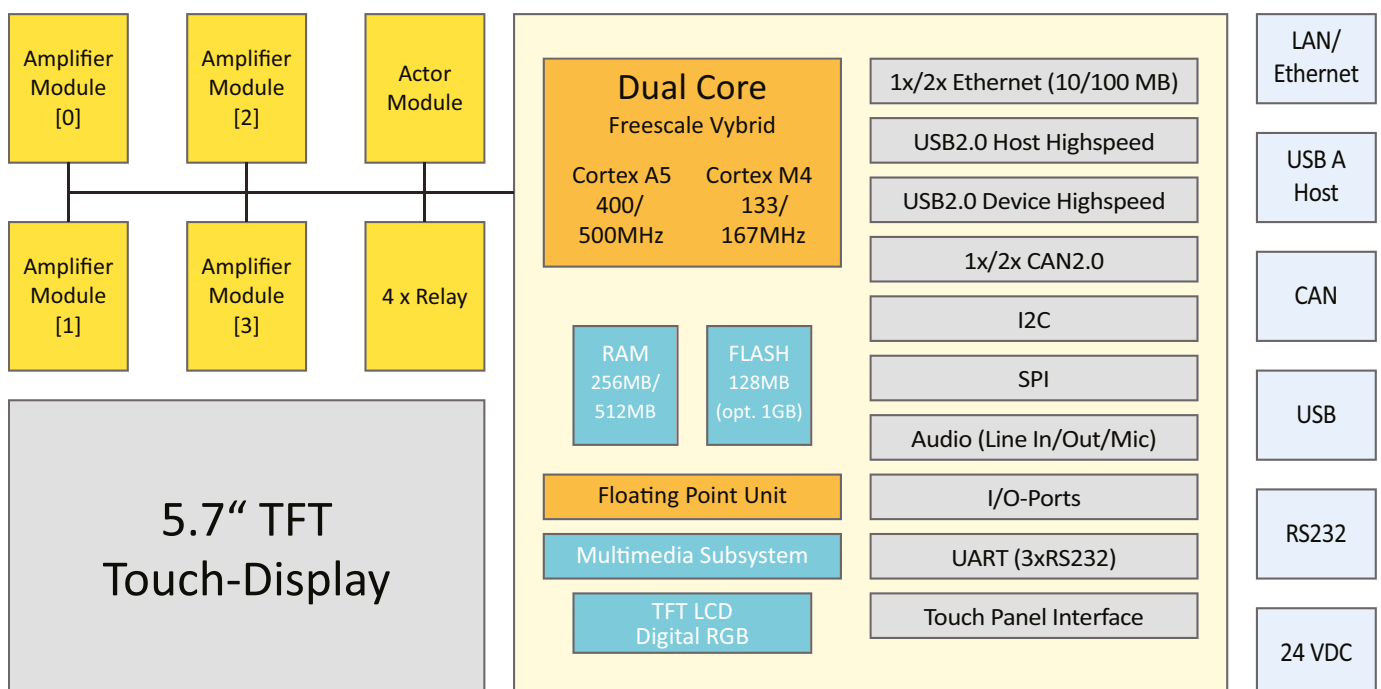
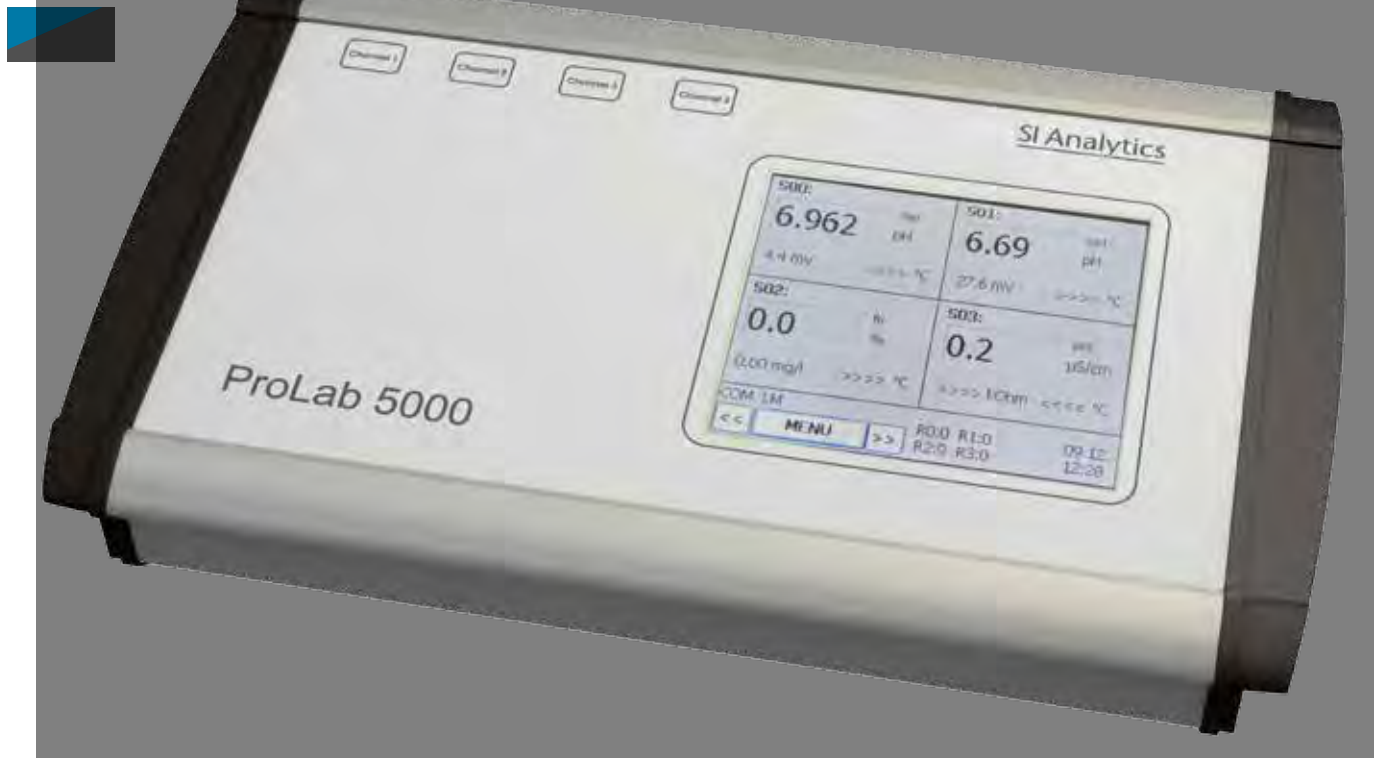
Complete system for measurement, control, and regulation of pH, conductivity, and dissolved oxygen in laboratories and technical centers.

- ▶ Measurement of pH/ISE/mV, conductivity, and dissolved oxygen
- ▶ Up to 4 measurement modules (inputs) in a variety of configurations
- ▶ 5.7" RGB TFT display with touch control
- ▶ PC software with extensive operating functions
- ▶ Coupling of auto-sampler and burettes for dosing and automated measurements
- ▶ Special electrodes for pH
- ▶ Current outputs for each parameter
- ▶ Additional modules for current output available
- ▶ Timer function
- ▶ Alarm/threshold function
- ▶ 2 PID regulators
- ▶ Virtual channels to calculate different parameters from the measured value



- Data storage and recording
- Data transfer with RS232/USB or ethernet
- Logbook (i.e. documentation of setting changes)
- Password protection

ProLab 5000



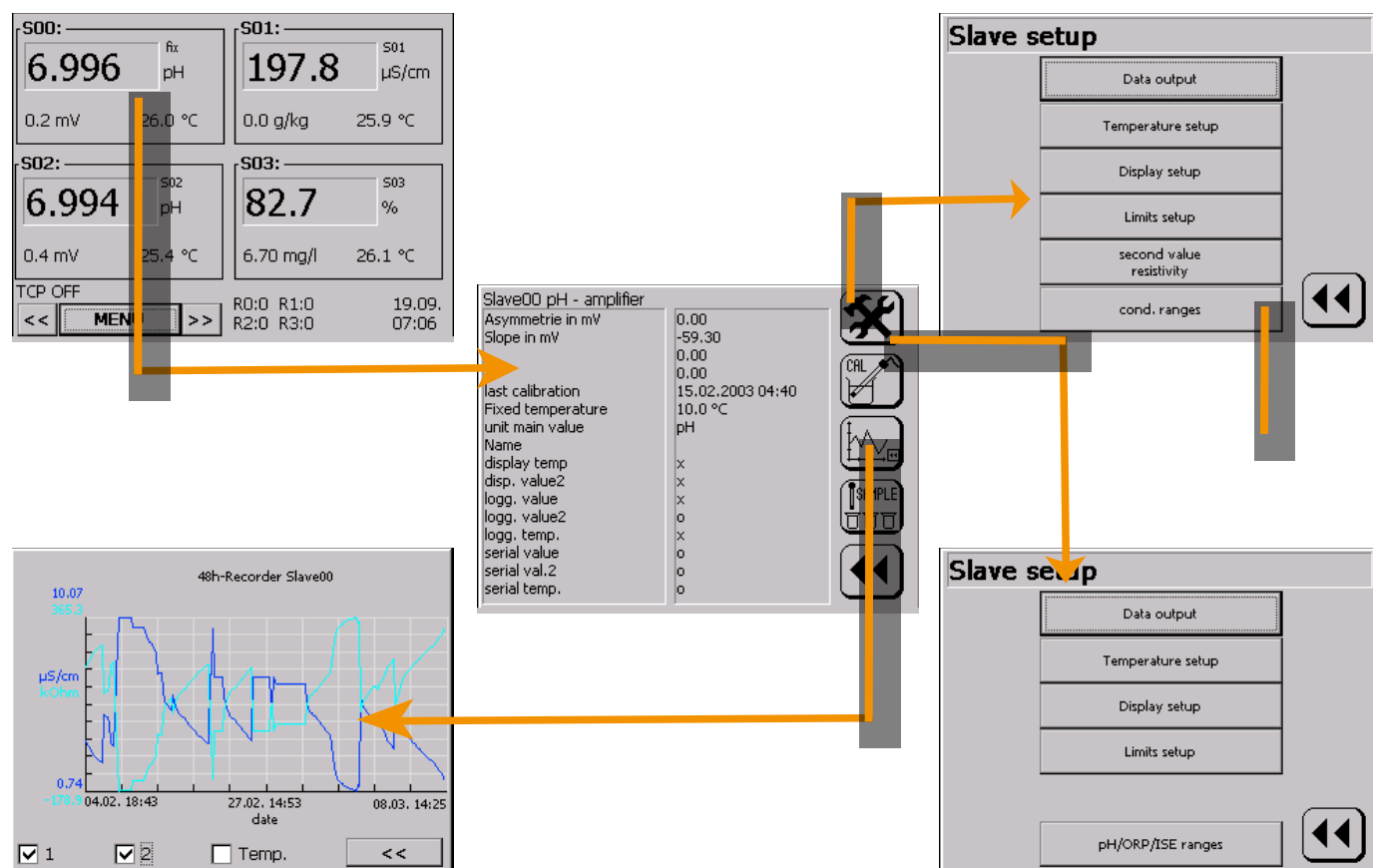
Components of the ProLab 5000

The ProLab 5000 multiparameter measuring instrument is based on a modular system structure that links the measurement modules to the central unit and to each other via a bus connection. It is the complete solution for measurement, control, and regulation in laboratory and technical centers. Choose up to four measurement modules can determine any combination of pH, conductivity, dissolved oxygen, ORP/redox potential, temperature and other parameters.

The main components of the multiparameter laboratory measurement system ProLab 5000 are:

- ▶ ProLab 5000 with power supply, touch screen display, internal modules, data logger and logbook, various digital interfaces such as RS232, USB and ethernet
- ▶ PC visualization program
- ▶ Measurement modules
- ▶ Sensors
- ▶ Optional samplers, depending on type, up to 72 samples (i.e. TW Alpha plus)
- ▶ Optional dosing system (TITRONIC® 500)
- ▶ Optional stirrer

Setting options



Multiparameter laboratory measuring instrument ProLab 5000

Color graphical touchscreen display

The distinguishing outward feature of the ProLab 5000 is the color touchscreen graphical display, which significantly simplifies operation, configuration, and calibration. Up to four measured values with their units, temperature values, a possible second value as well as an individual name can be presented simultaneously on a display page.

Four integrated threshold relays

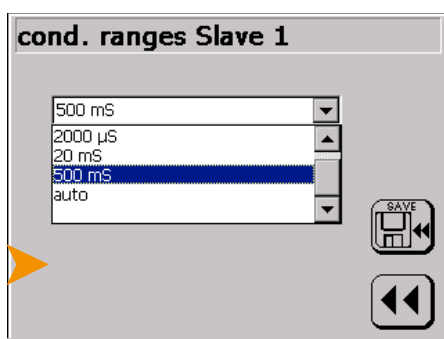
Four integrated threshold relays for simple control, regulation, or alarm tasks are standard. Two PID-regulators that work independently of each other are available for complex regulation tasks. The regulators can be assigned to any parameter and function as analog, pulse width or pulse frequency regulators using the analog current outputs and the relay outputs of the measuring instrument.

ProLab 5000 Pilot visualization program

All values can be cyclically output and displayed graphically via the USB interface or ethernet connected to the PC visualization program ProLab 5000 Pilot. The visualization program ProLab 5000 Pilot simultaneously contains all functions for reading the data logger. The data logger can be used via the USB interface and the data can be transferred directly to a USB without the program ProLab 5000 Pilot.

Data recorder

The data recorder graphically displays the measured value curve of the parameters of each measurement module over the past 48 hours on the touch screen. This representation gives the operator a quick overview of the measurement progress, indicating the average, maximum, and minimum readings.



ProLab 5000

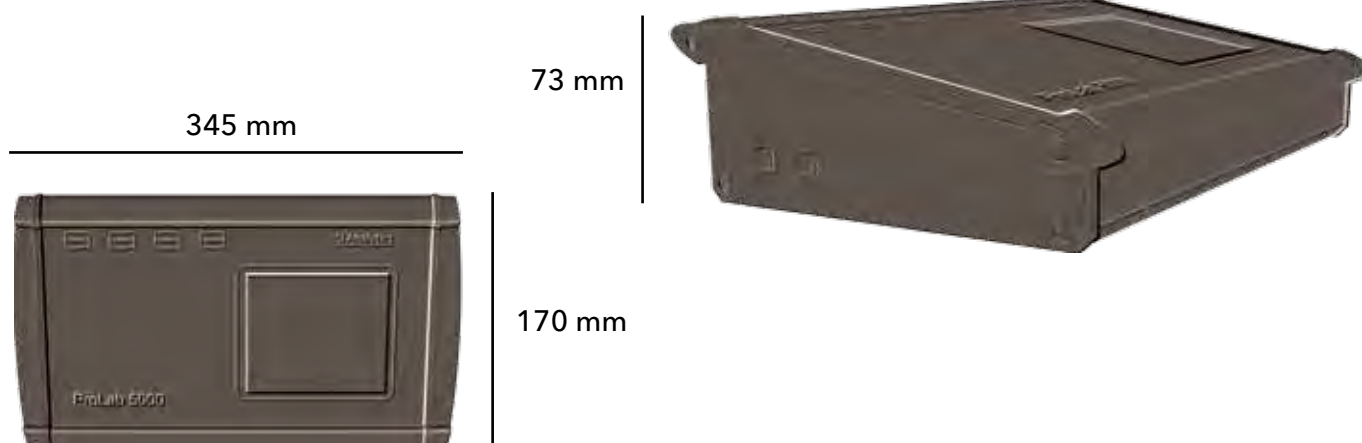
Ordering information

Type No.	Order No.	Product hierarchy No.	Description
PL5000 0D 1pH 0LF 0OX	285206010	07	Multiparameter measuring instrument ProLab 5000 with one pH/mV/ISE module
PL5000 0D 1pH 1LF 0OX	285206020	07	Multiparameter measuring instrument ProLab 5000 with one each pH/mV/ISE and conductivity module
PL5000 0D 1pH 1LF 1OX	285206030	07	Multiparameter measuring instrument ProLab 5000 with one each pH/mV/ISE, conductivity and dissolved oxygen module
PL5000 0D 1pH 2LF 1OX	285206040	07	Multiparameter measuring instrument ProLab 5000 with one each pH/mV/ISE and dissolved oxygen as well as two conductivity modules
PL5000 0D 2pH 0LF 0OX	285206050	07	Multiparameter measuring instrument ProLab 5000 with two pH/mV/ISE modules
PL5000 0D 2pH 1LF 0OX	285206060	07	Multiparameter measuring instrument ProLab 5000 with two pH/mV/ISE and one conductivity modules
PL5000 0D 2pH 2LF 0OX	285206070	07	Multiparameter measuring instrument ProLab 5000 with each two pH/mV/ISE and conductivity modules
PL5000 0D 2pH 1LF 1OX	285206080	07	Multiparameter measuring instrument ProLab 5000 with one each conductivity, dissolved oxygen and two pH/mV/ISE modules
PL5000 0D 3pH 0LF 0OX	285206090	07	Multiparameter measuring instrument ProLab 5000 with three pH/mV/ISE modules
PL5000 0D 3pH 1LF 0OX	285206100	07	Multiparameter measuring instrument ProLab 5000 with three pH/mV/ISE and one conductivity modules
PL5000 0D 3pH 0LF 1OX	285206110	07	Multiparameter measuring instrument ProLab 5000 with three pH/mV/ISE and one dissolved oxygen modules
PL5000 0D 4pH 0LF 0OX	285206120	07	Multiparameter measuring instrument ProLab 5000 with four pH/mV/ISE modules
PL5000 1D 1pH 0LF 0OX	285206130	07	Multiparameter measuring instrument ProLab 5000 with digital-analog converter and one pH/mV/ISE module
PL5000 1D 1pH 1LF 0OX	285206140	07	Multiparameter measuring instrument ProLab 5000 with digital-analog converter as well as one each pH/mV/ISE and conductivity module
PL5000 1D 1pH 1LF 1OX	285206150	07	Multiparameter measuring instrument ProLab 5000 with digital-analog converter as well as one each pH/mV/ISE, conductivity and dissolved oxygen module
PL5000 1D 1pH 2LF 1OX	285206160	07	Multiparameter measuring instrument ProLab 5000 with digital-analog converter as well as one each pH/mV/ISE, dissolved oxygen and two conductivity modules
PL5000 1D 2pH 0LF 0OX	285206170	07	Multiparameter measuring instrument ProLab 5000 with digital-analog-converter and two pH/mV/ISE-modules
PL5000 1D 2pH 1LF 0OX	285206180	07	Multiparameter measuring instrument ProLab 5000 with digital-analog-converter, two pH/mV/ISE- and one conductivity-modules
PL5000 1D 2pH 2LF 0OX	285206190	07	Multiparameter measuring instrument ProLab 5000 with digital-analog-converter, each two pH/mV/ISE- and conductivity-modules
PL5000 1D 2pH 1LF 1OX	285206200	07	Multiparameter measuring instrument ProLab 5000 with digital-analog converter, one each conductivity and dissolved oxygen as well as two pH/mV/ISE modules
PL5000 1D 3pH 0LF 0OX	285206210	07	Multiparameter measuring instrument ProLab 5000 with digital-analog converter and three pH/mV/ISE modules
PL5000 1D 3pH 1LF 0OX	285206220	07	Multiparameter measuring instrument ProLab 5000 with digital-analog converter, three pH/mV/ISE and one conductivity modules
PL5000 1D 3pH 0LF 1OX	285206230	07	Multiparameter measuring instrument ProLab 5000 with digital-analog converter, three pH/mV/ISE and one dissolved oxygen modules
PL5000 1D 4pH 0LF 0OX	285206240	07	Multiparameter measuring instrument ProLab 5000 with digital-analog converter and four pH/mV/ISE modules
Z570	285206250	04	USB cable for ProLab 5000
Z573	285206260	04	Cable for connecting the ProLab 5000 to sample changer
Z575	285206270	04	Wall mount for ProLab 5000

Technical specifications

Auxiliary energy	24 V DC desktop power supply, voltage disconnect via the unit switch
Ambient temperature	0 ... + 40 °C
Display	Touch screen graphic display 320 x 240 pixel, 256-color, back lit
Menu languages	German, English
Data transmission	Serial interface RS-232, ethernet port, USB port for PC Connection
Control outputs	4 potential-free relay outputs; resistive load $I \leq 1$ A, $U \leq 24$ V DC for threshold or alarm function; including a relay with timer function (wash contact; adjustable time interval 1 ... 9,999 hours)
Data storage	Integrated data logger for approx. 100,000 values including date and time, 48 hour data recorder
Logbook	Approx. 200 activities including date and time
Housing	Aluminum housing IP 40/DIN EN 60529; Dimensions see dimensional drawings, wall-mount kit available
Connections	BNC, banana, 8-pin Din, BK, USB, ethernet
Electromagnetic compatibility	89/336/EEC, EN 61326 Class B
Measurement modules	Four internal measurement modules; in any combination; inputs galvanically separated; calibration data storage; sensor monitoring via adjustable threshold bands; manual and automatic temperature compensation
Regulator module	Optional regulator module PL5000DAC: Standard signal module 4 x 0(4) ... 20 mA
Safety	Protection class III, EC Directive 73/23 EN 61010-1: 2001
GLP	GLP functions (data recording)

ProLab 5000 - dimensions:

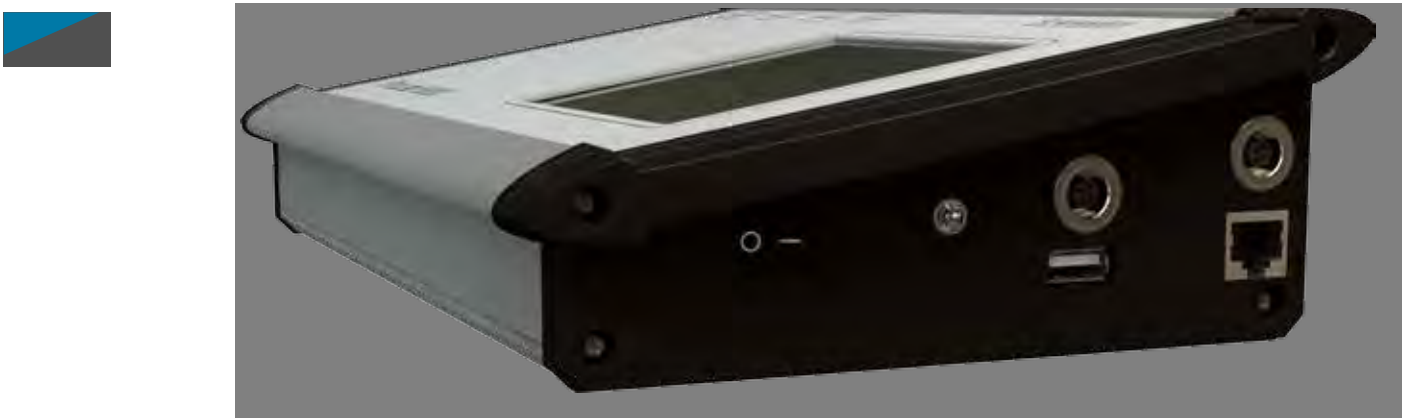


Multifunctional connections:

Back panel connections



Lateral connections



Measurement modules:

Internal modules	Main parameter measuring range/resolution	Secondary parameters/resolution	Temperature measurement measuring range/resolution	Electrodes/sensors
PL5000 pH; ORP, ISE	pH value pH 0 ... 14 / 0.001 pH Accuracy: 0.005 pH	Chain voltage 0.1 mV	-10...130 °C / 0.1 °C	pH single rod measuring cell, separated measuring chain, Pt 1000 temperature sensor
	Redox potential -2000... +2000 mV > 0.1 mV	Redox voltage relative to the standard hydrogen electrode 0.1 mV	-10...130 °C / 0.1 °C	Redox single rod measuring cell, separate measuring chain, Pt 1000 temperature sensor
	Ion concentration corr. sensor specification (ISE) and calibration	Chain voltage 0.1 mV	-10...130 °C / 0.1 °C	Ion-selective electrode (ISE), separate measuring chain, Pt 1000 temperature sensor
PL5000LF	Conductivity 0...200 µS/cm 0.1 µS/cm (4-pol) 0...2 mS/cm 1 µS/cm 0...20 mS/cm 0.01 mS/cm 0...500 mS/cm 0.1 mS/cm automatic switching	Salinity 2 ... 42 g/kg	-10...130 °C / 0.1 °C	4-electrode conductivity measurement cell, NTC30kOhm temperature sensor
PL5000OX	O ₂ saturation 0...120% / 0.1%	O ₂ concentration 0...20 mg/l / 0.1	-10...130 °C / 0.1 °C	Membrane-covered amperometric O ₂ sensor, NTC30kOhm temperature sensor

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