BENCHTOP
MULTI-PARAMETER INSTRUMENTS "37 SERIES"
MODEL TP 37, TD 37, TPC 37, TPCD 37, TPI 37 & TMULTI 37

•pH •ORP •ION •Conductivity •TDS •Salinity •Resistivity •Dissolved Oxygen •Air Pressure •Temp.

TP 37

pH	-2 ....20 pH
ORP	±2000 mV
Temperature	-5 .... 105°C

TD 37

Dissolved Oxygen	0 ... 60 mg/l
	0 ... 600%
Temperature	-5 .... 105°C

TPC 37

pH	-2 ....20 pH
ORP	±2000 mV
Conductivity	0 .... 2000 mS/cm
TDS	0 .... 100 g/l
Salinity	0 .... 70 ppt
Resistivity	0 .... 200 MΩ cm
Temperature	-5 .... 105°C

TPCD 37

pH	-2 ....20 pH
ORP	±2000 mV
Conductivity	0 .... 2000 mS/cm
TDS	0 .... 100 g/l
Salinity	0 .... 70 ppt
Resistivity	0 .... 200 MΩ cm
Dissolved Oxygen	0 ... 60 mg/l
	0 ... 600%
Temperature	-5 .... 105°C

TMULTI 37

pH	-2 ....20 pH
mV	±2000 mV
Ion	0.01 ng/l .... 100 g/l
Conductivity	0 .... 2000 mS/cm
Resistivity	0 .... 200 MΩ.cm
Salinity	0 .... 70 ppt
TDS	0 .... 100 g/l
Dissolved Oxygen	0 .... 60 mg/l
	0 .... 600%
Air Pressure	600 .... 1300 hPa
Temperature	-5 .... +105°C

TPI 37

pH	-2 ....20 pH
mV	±2000 mV
ION	0.01 ng/l .... 100 g/l
Temperature	-5 .... +105°C

COMMON FEATURES:

• **pH**
Multi-point (1…5) calibration for more linearity.
Selectable resolution from 0.001pH to 0.1 pH.
Automatic calibration with any of eleven pre-programmed and five user specified pH buffers.
pH electrodes with any zero point (Eo) between ±999 mV.

• **mV**
Features mV calibration for accurate ORP measurements.
Selectable resolution from 0.1 mV to 1 mV.

• **Ion** (in TPI 37 & TMULTI 37)*
Direct concentration measurement.
Ion mode is easily calibrated with any 2...5 standards and a blank correction.
Useable with Ion Selective Electrodes like F^-, Cl^-, NO_3^-, NH_3^-, NH_4^+, Br^-, I^-, CN^-, Ca^{++} etc.
Stores calibration curves for up to 9 different electrodes.

• **Conductivity** (in TPC 37, TPCD 37 & TMULTI 37)*
Multi-point (1…3) calibration for more linearity.
Extended conductivity range; to measure the full range from 0.001 µS/cm to 2000 mS/cm requires 3 electrodes: 0.1, 1 and 10 cm^{-1}.
Selectable reference temperature: 20° or 25°C.
Automatically selects correct range and frequency.
Automatic cell constant determination with any of three preprogrammed standards (0.01, 0.1 or 1M KCl.
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** (in TD 37, TPCD 37 & TMULTI 37)**
Operates with a galvanic dissolved oxygen electrode requiring no polarisation time and no zero calibration.

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Selectable resolution from 0.01 mg/l (0.1%) to 0.1 mg/l (1%).
Manual salinity compensation 0-40 ppt.
Automatic air pressure compensation 600-1300 hPa.
Rapid Air Calibration.

- **Temperature**

  Reads temperatures with 0.1°C resolution.
  Manual or automatic temperature compensation.
  Calibrates temperature probe for quality measurements.

- **Inputs**

  One BNC inputs for pH, mV, Ion, dissolved oxygen & conductivity.
  One corresponding reference inputs.
  Two corresponding temperature inputs.
  Low voltage DC input for e.g. a mains adaptor.

- **Outputs**

  USB interface for connection to a computer.
  RS232 interface for connection to a printer or computer.

- **Data-logging**

  Stores up to 12000 values including temperature, time and date.
  Allows to mix data from all ranges in the same table.
  A powerful data acquisition software for PC is available optionally.

- **Cabinet**

  Robust dust and splash-proof cabinet.

- **Display**

  A large bright LCD screen with white backlight enables to view for better readability.
  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**

  Calibration reminder 0....999h
  Programmable identification number for use with a printer or computer.
  Mains operation with programmable
  Two-way communication with a printer or computer using RS232 or USB.
  Password protection prevents any unauthorised access to the instrument.
  Optional 12V car adaptor.

- **GLP**

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

Standard Supply: Meter + Mains Adaptor + Electrode Stand + Instruction Manual + Test Certificate + Warranty Card + ATC

Essential & Optional Accessories including Electrodes on Order

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Specifications for TP37, TD37, TPC37, TPCD37, TPI37 & TMULTI 37 with difference marked in Blue coloured text in bracket & *'s

Parameter	Property	Value
pH	Range	-2…+20 pH
	Resolution	0.001 pH
	Accuracy	0.1% ± 1 digit (0.022pH)
	Calibration	1…5 points
	Buffers	11 pre-programmed 5 user specified
	Temperature Compensation	-5…+105°C
	ISO-pH	6…8 pH
	Slope	80…120%
	Zero Point (Eo)	±999 mV
mV	Range	± 2000 mV
	Resolution	0.1 mV
	Accuracy	0.1% ± 1 digit
	Calibration	1 point
ION* (in TPI37 & TMULTI 37)	Range	0.01 ng/l…100 g/l
	Resolution	3 digits
	Accuracy	0.5% ± 1 digit
	Calibration	2...5 points + blank
CONDUCTIVITY	Range	0…2000 mS/cm
	Resolution	0.001 µS/cm
	Accuracy	0.5% f.s. of range
	Calibration	1…3 points
	Standards	0.01/0.1/1M KCl 3 user specified
	Cell Constant	0.1/1/10 cm^{-1} ± 30%
	Temperature Compensation	-5…+105°C
	Reference Temperature	20°C or 25°C
	Temperature Coefficient	natural waters (EN27888)
	Range Lock	✓
	Capacitive Compensation	✓
RESISTIVITY	Range	0…200 MΩ.cm
	Resolution	1 Ω.cm
SALINITY	Range	0…70 ppt
	Resolution	0.1 ppt
TDS	Range	0…100 g/l
	Resolution	0.01 mg/l
DISSOLVED OXYGEN (in TD37, TPCD 37 & TMULTI 37)**	Range	0…60mg/l (0…600%)
	Resolution	0.01 mg/l (0.1%)
	Accuracy	1% ± 1 digit
	Calibration	1 point
	Temperature Compensation	0…50°C
	Salinity Compensation	0…40 ppt
	Air Pressure Compensation	600…1300 hPa
TEMPERATURE	Range	-5…+105°C
	Resolution	0.1°C
	Accuracy	0.3°C
	Calibration	1 point
AIR PRESSURE (in TPCD 37 & TMULTI 37)**	Range	600…1300 hPa
	Calibration	1 point
INPUTS	Measurement	1 BNC, 10^{12}Ω
	Temperature	2 banana, for Pt1000 or NTC 30 KΩ
CALIBRATION	Reminder	0…999 h
	GLP	✓
DISPLAY	LCD	240x64 pixels
	White Backlight	✓
	Hold Function	✓
	Selectable Resolution	✓
	Real Time Clock	✓
USB	Interface with computer	✓
RS232	Baud Rate	1200…115200 b/s
DATA-LOGGING	Values	12000 + °C/date/time
	Manual or Timed	✓
	Interval	1…9999 s
SECURITY	Identification number	✓
	Password protection	✓
AMBIENT CONDITIONS	Temperature	0…40°C
	Humidity	0…95%,non-condensing
POWER SUPPLY	Mains	210…250VAC, 50/60Hz
	Low Voltage	9…15 VDC
DIMENSIONS	WxDxH	26x18x10/4 cm
WEIGHT	Meter	765 gms
WARRANTY		3 years