

PORTABLE

MULTI-PARAMETER INSTRUMENTS "27 SERIES" MODEL TP 27, TD 27, TPC 27, TPCD 27, TPI 27 & TMULTI 27

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

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TMULTI 27

рН	-220 pH
mV	±2000 mV
lon	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

рН	-220 pH
ORP	±2000 mV
Temperature	-5 105°C
<u>TD</u>	27
Dissolved Oxygen	0 60 mg/l
73	0 600%
Temperature	-5 105°C
TPC	<u> 27</u>
рН	-220 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
TRC	D 27
	<u>D 27</u>
pH	-220 pH
ORP	±2000 mV
Conductivity	
TDS	
Salinity	0 70 ppt
Resistivity	$0 \dots 200 \ \text{M}\Omega$ cm
Dissolved Oxygen	0 60 mg/l

20 24

0 ... 600%

-5 105°C

-220 pH ±2000 mV

-5 +105°C

0.01 ng/l 100 g/l

COMMON FEATURES:

Temperature

Temperature

рΗ

mV ION

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 27 & TMULTI 27)*

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⁻, NO₃⁻,

 NH_3 , NH_4 , Br, l, CN, Ca^{++} etc.

Stores calibration curves for up to 9 different electrodes.

• Conductivity (in TPC 27, TPCD 27 & TMULTI 27)*

Multi-point (1...3) calibration for more linearity. Extended conductivity range; to measure the full range from 0.001 μ S/cm to 2000 mS/cm requires 3 electrodes: 0.1, 1 and 10 cm⁻¹.

TPI 27

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 KCI).

Allows to lock the initial conductivity range to avoid nonlinear 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 27, TPCD 27 & TMULTI 27)**

Operates with a galvanic dissolved oxygen electrode requiring no polarisation time and no zero calibration.

TOSHNIWAL INSTRUMENTS MANUFACTURING PVT. LTD.,

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PORTABLE

MULTI-PARAMETER INSTRUMENTS "27 SERIES" MODEL TP 27, TD 27, TPC 27, TPCD 27, TPI 27 & TMULTI 27

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

Reference input for special applications.

Separate input for a Pt1000 automatic temperature probe. Low voltage DC input for e.g. a mains adaptor.

Outputs

Galvanically isolated USB communication port for connection to a computer.

Data-logging

Stores 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. A powerful data acquisition software enables to view, store and edit the measurements in your computer.

Cabinet

Robust dust and splash-proof cabinet.

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.

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...999 h.

Programmable identification number for use with a computer.

Password protection prevents any unauthorised access to the instrument.

Two-way communication with a printer or computer using USB.

Mains & rechargeable battery operation with programmable automatic switch-off. Shows level of remaining battery capacity.

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

For more details kindly contact:

A analytical 1@toshcon.com 9351497767

Specifications for TP27, TD27, TPC27, TPCD27, TPI27 & TMULTI 27 with difference marked in Blue coloured text in bracket & *s

	marked in Blue coloured tex	
рН	Range Resolution	-2+20 pH 0.001 pH
	Accuracy	0.1% ± 1 digit (0.022pH
	Calibration	15 points
	Buffers	11 pre-programmed
		5 user specified
	Temperature Compensation	-5+105°C
	ISO-pH	68 pH
	Slope	80120%
	Zero Point (Eo)	±999 mV
mV	Range Resolution	± 2000 mV
	Accuracy	0.1 mV 0.1% ± 1 digit
	Calibration	1 point
ION*	Range	0.01 ng/l100 g/l
(in TPI27 & TMULTI 27)		3 digits
,	Accuracy	0.5% ± 1 digit
	Calibration	25 points + blank
CONDUCTIVITY	Range	02000 mS/cm
	Resolution	0.001 µS/cm
	Accuracy	0.5% f.s. of range
	Calibration Standards	13 points 0.01/0.1/1M KCI
	Standards	3 user specified
	Cell Constant	0.1/1/10 cm ⁻¹ ± 30%
	Temperature Compensation	
	Reference Temperature	20°C or 25°C
	Temperature Coefficient	natural waters (EN27888
	Range Lock	✓
	Capacitive Compensation	✓
RESISTIVITY	Range	0200 MΩ.cm
	Resolution	1 Ω.cm
SALINITY	Range	070 ppt
TDS	Resolution	0.1 ppt
105	Range Resolution	0100 g/l 0.01 mg/l
DISSOLVED OXYGEN		060mg/l (0600%)
(in TD27, TPCD 27 &	Resolution	0.01 mg/l (0.1%)
TMULTI 27)**	Accuracy	1% ± 1 digit
	Calibration	1 point
	Temperature Compensation	
	Salinity Compensation	040 ppt
	Air Pressure Compensation	6001300 hPa
TEMPERATURE	Range	-5+105°C
	Resolution Accuracy	0.1°C 0.3°C
	Calibration	1 point
AIR PRESSURE	Range	6001300 hPa
(in TD 27, TPCD 27 &	Calibration	1 point
TMULTI 27)**		•
INPUTS	Measurement	1 BNC, 10 ¹² Ω
	Temperature	2 banana, for Pt1000
		or NTC 30 KΩ
CALIBRATION	Reminder	or NTC 30 KΩ 0999 h
	GLP	0999 h
	GLP LCD	0999 h √ 240x64 pixels
	GLP LCD White Backlight	0999 h ✓ 240x64 pixels ✓
	GLP LCD White Backlight Hold Function	0999 h √ 240x64 pixels
	GLP LCD White Backlight	0999 h ✓ 240x64 pixels ✓
DISPLAY	GLP LCD White Backlight Hold Function Selectable Resolution	0999 h ✓ 240x64 pixels ✓ ✓
USB RS232	GLP LCD White Backlight Hold Function Selectable Resolution Real Time Clock	0999 h / 240x64 pixels / / / 1200115200 b/s
USB RS232	GLP LCD White Backlight Hold Function Selectable Resolution Real Time Clock Interface with computer Baud Rate Values	0999 h / 240x64 pixels / / / /
DISPLAY USB RS232	GLP LCD White Backlight Hold Function Selectable Resolution Real Time Clock Interface with computer Baud Rate Values Manual or Timed	0999 h / 240x64 pixels / / / 1200115200 b/s 12000 + °C/date/time
DISPLAY USB RS232 DATA-LOGGING	GLP LCD White Backlight Hold Function Selectable Resolution Real Time Clock Interface with computer Baud Rate Values Manual or Timed Interval	0999 h / 240x64 pixels / / / 1200115200 b/s 12000 + °C/date/time / 19999 s
DISPLAY USB RS232 DATA-LOGGING	GLP LCD White Backlight Hold Function Selectable Resolution Real Time Clock Interface with computer Baud Rate Values Manual or Timed Interval Identification number	0999 h / 240x64 pixels / / / 1200115200 b/s 12000 + °C/date/time / 19999 s
USB RS232 DATA-LOGGING SECURITY	GLP LCD White Backlight Hold Function Selectable Resolution Real Time Clock Interface with computer Baud Rate Values Manual or Timed Interval Identification number Password protection	0999 h / 240x64 pixels / / / / 1200115200 b/s 12000 + °C/date/time / 19999 s /
USB RS232 DATA-LOGGING SECURITY AMBIENT	GLP LCD White Backlight Hold Function Selectable Resolution Real Time Clock Interface with computer Baud Rate Values Manual or Timed Interval Identification number Password protection Temperature	0999 h / 240x64 pixels / / / 1200115200 b/s 12000 + °C/date/time / 19999 s / / 040°C
USB RS232 DATA-LOGGING SECURITY AMBIENT CONDITIONS	GLP LCD White Backlight Hold Function Selectable Resolution Real Time Clock Interface with computer Baud Rate Values Manual or Timed Interval Identification number Password protection Temperature Humidity	0999 h / 240x64 pixels / / / / 1200115200 b/s 12000 + °C/date/time / 19999 s / 040°C 095%,non-condensing
USB RS232 DATA-LOGGING SECURITY AMBIENT CONDITIONS BATTERY	GLP LCD White Backlight Hold Function Selectable Resolution Real Time Clock Interface with computer Baud Rate Values Manual or Timed Interval Identification number Password protection Temperature Humidity Rechargeable	0999 h / 240x64 pixels / / / / 1200115200 b/s 12000 + °C/date/time / 19999 s / 040°C 095%,non-condensing 4 x 1.2V, AA, NiMH
USB RS232 DATA-LOGGING SECURITY AMBIENT CONDITIONS BATTERY	GLP LCD White Backlight Hold Function Selectable Resolution Real Time Clock Interface with computer Baud Rate Values Manual or Timed Interval Identification number Password protection Temperature Humidity	0999 h / 240x64 pixels / / / / 1200115200 b/s 12000 + °C/date/time / 19999 s / 040°C 095%,non-condensing 4 x 1.2V, AA, NiMH
USB RS232 DATA-LOGGING SECURITY AMBIENT CONDITIONS BATTERY POWER SUPPLY DIMENSIONS	GLP LCD White Backlight Hold Function Selectable Resolution Real Time Clock Interface with computer Baud Rate Values Manual or Timed Interval Identification number Password protection Temperature Humidity Rechargeable Mains Low Voltage WxDxH	0999 h / 240x64 pixels / / / / 1200115200 b/s 12000 + °C/date/time / 19999 s / / 040°C 095%,non-condensing 4 x 1.2V, AA, NiMH 210250VAC, 50/60Hz 915 VDC 25x12x5 cm
CALIBRATION DISPLAY USB RS232 DATA-LOGGING SECURITY AMBIENT CONDITIONS BATTERY POWER SUPPLY DIMENSIONS WEIGHT WARRANTY	GLP LCD White Backlight Hold Function Selectable Resolution Real Time Clock Interface with computer Baud Rate Values Manual or Timed Interval Identification number Password protection Temperature Humidity Rechargeable Mains Low Voltage	0999 h / 240x64 pixels / / / / 1200115200 b/s 12000 + °C/date/time / 19999 s / 040°C 095%,non-condensing 4 x 1.2V, AA, NiMH 210250VAC, 50/60Hz 915 VDC

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