MPCD56 PH-TERMO-CONDUTTIVIMETER DATALOGGER

MPCD56 is portable instruments with a large LCD display. They measure pH, mV, redox potential (ORP), conductivity, liquid resistivity, total dissolved solids (TDS) and salinity using combined 4-ring and 2-ring conductivity/temperature probes. Temperature only is measured by Pt100 or Pt1000 immersion, penetration or contact probes.

The pH electrode calibration, as well as manual, can be carried out on one, two or three points and the calibration sequence can be chosen from a list of 13 buffers. The probe calibration can be performed automatically in one or more of the 147µS, 1413µS, 12880µS or 111800µS/cm conductivity calibration solutions.

MPCD56 instrument is a datalogger. It memorizes up to 20,000 sets of three measurements composed of pH or mV, conductivity or resistivity or TDS or salinity and temperature: these data can be transferred to a PC from the instrument connected via the multi-standard RS232C serial port and USB 2.0. The storing interval, printing, and baud rate can be configured using the menu.

The device fitted with an RS232C serial port and can transfer the acquired measurements to a PC or to a portable printer in real time. The Max, Min and Avg function calculates the maximum, minimum or average values. Other functions include: the Auto-HOLD function and the automatic turning off which can also be excluded. The instruments have IP67 protection degree.

INSTRUMENT TECHNICAL CHARACTERISTICS

Dimensions:	LxWxH 185x89x40 mm
Weight:	470 g (complete with batteries)
Display:	Visible area 52x42 mm; 2x4 1/2 digits plus symbols
Power:	4x1,5V type AA batteries - 200/h with 1800 mAh alkaline batteries
	power absorbed with instrument off 20microA.
	Output mains adapter 9Vdc /250 mA
Operating conditions:	
Working temperature:	-5…+50°C
Storage temperature:	-25…+65°C
Working relative humidity:	0…90%RH without condensation
Security memorized data:	Unilimited, indipendent of battery charge conditions
Date andTime:	schedule in real time
Accuracy time:	1 min/month max error
Logger :	type 2000 pages containing 10 samples each 20000 sets of three measurements composed of
	pH or mV, χ or Ω or TDS or salinity and temperature
	Storage interval: 1, 5, 10, 15, 30 (s), 1, 2, 5, 10, 15, 20, 30 (m) and 1 h
Serial interface RS232C:	1200 to 38400 baud, 8 bit, Parity None, 1 stop bit, Xon/Xoff
Serial cable lenght:	max 15 m
Immediate print interval:	1, 5, 10, 15, 30 (s), 1, 2, 5, 10, 15, 20, 30 (m) and 1 h
USB interface:	1.1 - 2.0 electrically isolated
Connections:	
ph/mV input:	Female BNC connector
Conductivity input:	8-pole male DIN45326 connector
Serial interface and USB:	8-pole MiniDin connector
Mains adapter:	2-pole connector (positive at centre)

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INSTRUMENT TECHNICAL SPECIFICATIONS

Measurement of pH by instrument:	range -2.000…+19.999 pH
Resolution:	0.01 - 0.001 pH selectable from menù
Accuracy:	+/- 0.001 +/-1digit
Input impedance:	> 10^{12} ohm
Calibration error @25°C:	Offset >29mV, Slope >53 mV/pH or slope < 50 mV/pH
	sensitivity >106.5% or sensitivity < 85%
Measurement of mV by instrument:	range - 1999.9…+1999.9 mV
Resolution:	0.1 mV
Accuracy:	+/- 0.1 mV +/-1digit
Drift after 1 year:	0.5 mV/year
Measurement of conductivity:	0.00…19.99 microS /cm Resolution 0.01 microS/cm Kcell 0.1
	0.0…199.9 microS /cm Resolution 0.1 microS/cm Kcell 1
	200…1999 microS-mS/cm Resolution 1 microS/cm Kcell 1
	2.00…19.99 mS-mS/cm Resolution 0.01 mS/cm Kcell 1
	20.00…199.9 mS-mS/cm Resolution 0.1 mS/cm Kcell 1
	200…1999 mS-mS/cm Resolution 1 mS/cm Kcell 10
Accuracy:	+/-0.5% +/-1digit
Measurement of Resistivity:	till 100 Mohm-cm/* Kcell 0.1
	5.0…199.9 Ohm /cm Resolution 0.1 Ohm-cm Kcell 1
	200…999 Ohm-cm Resolution 1 Ohm-cm Kcell 1
	1.00k…19.99kOhm-cm Resolution 0.01 kOhm-cm Kcell 1
	20.00k…99.9kOhm-cm Resolution 0.1 kOhm-cm Kcell 1
	100k…999kOhm-cm Resolution 1 kOhm-cm Kcell 1
	1…10MOhm-cm Resolution 1 MOhm-cm Kcell 1
	0.5…5.0MOhm-cm Resolution 0.1 Ohm-cm Kcell 10
Accuracy:	+/-0.5% +/-1digit

Conductivity microS/mc	Resistivity MOhm-cm	Conductivity microS/mc	Resistivity MOhm-cm
0.001	1000	00:01	100
0.002	500	00:02	50
0.003	333	00:03	33
0.004	250	00:04	25
…	…	…	…

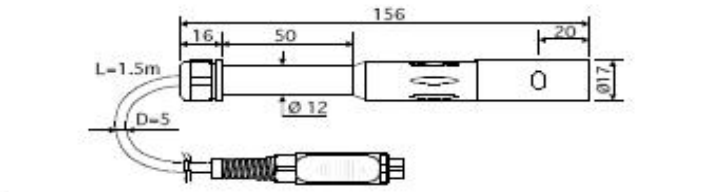
(*) The resistivity measurement is obtained from the reciprocal of conductivity measurement. Close to the bottom of the scale, the indication of resistivity appears like reported in the table below:

Measurement of total dissolved solids	0.00…19,99 mg/l Resolution 0.05 mg/l Kcell = 0.1)
(with coefficient χ/TDS= 0.5)	0.0…199.9 mg/l Resolution 0.5 mg/k Kcell = 1)
	200…1999 mg/l - Resolution 1 mg/l Kcell = 1
	2.00…19.99 g/l - Resolution 0.01 mg/l Kcell = 1
	20.0…99.9 g/l - Resolution 0.1 g/l Kcell = 1
	100…999 g/l - Resolution 1 g/l Kcell = 10
Accuracy:	+/-0.5% +/-1 digit
Measurement of salinity:	0.000…1.999 g/l Risolution 1 mg/l
	2.00…19.99 g/l Risolution 10 mg/l
	20.0…199.9 g/l Risolution 0,1 g/l
Accuracy:	+/-0.5% +/-1 digit
Measurement of temperature:	Pt100 range -50…+200°C Resolution 0.1°C
	Pt1000 -50…+200° Resolution 0.1°C
Accuracy:	+/-0.25°C
Drift after 1 year:	0,1°C/year
Preset cell constant values:	K=0.01 - K= 0.1 - K=1 - K = 10
Standard solutions detected autom.:	147, 1413, 12880, 111800 microS/cm @25°C
Temperature compensation:	0…100°C with Alpha selectable from 0.00…4.00 %/°C
Reference Temperature:	20°C or 25°C
χ / TDS Conversion factor:	0.4…0.8
Cell constant K (cm-1):	0.1-0.7-1.0- and 10.0

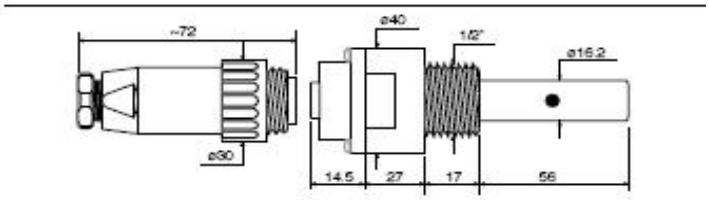
TECHNICAL DATA OF PROBES AND MODULES EQUIPPED WITH INSTRUMENT

CONDUCTIVITY PROBES

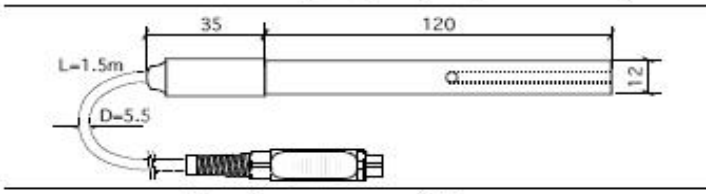
ECP06T Model
K=0.7
5µS…200mS/cm
0…90°C
4-electrode cell in Pocan/Platinum



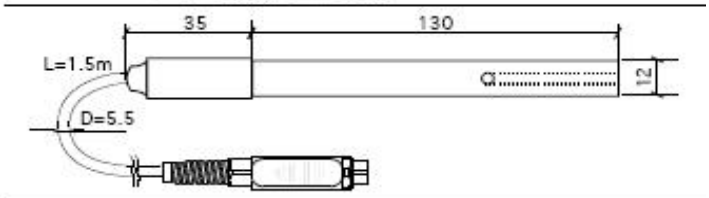
ECP401 Model
K=0.01
0,05…19,9µS/cm
2-electrode cell AISI 316 - Teflon



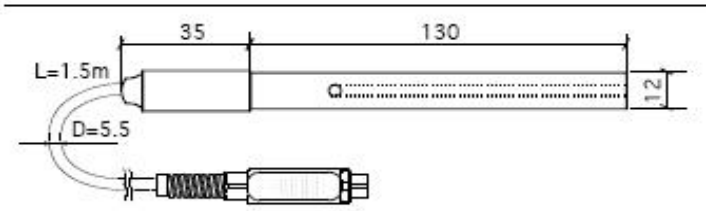
ECP01G Model
K=0.1
0.1µS…500µS/cm
0…80°C
2-electrode cell in Glass/Platinum



ECP1G Model
K=1
10µS…10mS/cm
0…80°C
2-electrode cell in Glass/Platinum



ECP10G Model
K=10
500µS…200mS/cm
0…80°C
2-electrode cell in Glass/Platinum



Temperature probes with connector 4 wire Pt100 and 2 wire Pt1000 sensor

Model	Type	Working range °C	Accuracy	Temperature drift @20°C 0.005%/°C
TP47100	PT100 4 wires	-50…+200	Class A	Immersion Stem 3 mm, L 230 mm. Cable L 2 m
TP471000	PT1000 2wires			Immersion Stem 3 mm, L 230 mm. Cable L 2 m
TP87100	PT100 4 wires			Immersion Stem 3 mm, L 70 mm. Cable L 1 m
TP871000	PT1000 2wires			Immersion Stem 3 mm, L 70 mm. Cable L 1 m

Temperature probes with intelligent module

TP87-----	PT100 sensor immersion probe. Stem 3 mm, length 70 mm. Cable length 1 m
TP472100	PT100 sensor immersion probe. Stem 3 mm, length 230 mm. Cable length 2 m
TP475100	PT100 sensor penetration probe. Stem 4 mm, length 150 mm. Cable length 2 m
TP474100	PT100 sensor contact probe. Stem 4 mm, Length 230 mm. contact surface 5 mm Cable length 2 m
TP475100	Air probe, PT100 sensor. Stem 4 mm, length 230 mm. Cable length 2 m
TP4725100	PT100 sensor immersion probe. Stem 6 mm, length 500 mm. Cable length 2 m
TP47210100	PT100 sensor immersion probe. Stem 6 mm, length 1000 mm. Cable length 2 m

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