



## $\mu$ PLT

### Indicator Controller for pH, ORP, Conductivity, Oxygen, Turbidity, Chlorine, Chlorine Dioxide, Chlorites, Peracetic Acid, Ozone and other oxydising substances, Sulphites, Metabisulphites and other reducing substances

Microprocessor based instruments, fully programmable, for the analysis of many physico-chemical parameters. Instrument configuration is easily performed via display and keyboard and calibration is automatic. Measure and temperature are indicated on a 5 digit red LED display. The instrument includes 2 digital outputs (from relay) that can be configured as NC or NO via software and can be programmed as low alarm, high alarm, alarm with hysteresis or windows alarm. Two digital inputs are available, one for digital hold of the measure, and one for the input of an external alarm (e.g. level switch, temperature switch etc.) Typical use of these instruments is for on line measurements of various physico-chemical parameters.



#### Advantages

- Direct input from electrochemical sensors and pertinent temperature sensor
- Automatic thermo compensation of the measure via software through specific algorithms
- Display indication of both analysis and temperature values
- 2 digital outputs from relay, programmable
- 2 digital inputs, programmable
- Advanced self-diagnostic features; sensor diagnostic capability
- Suitable for panel mounting and for outdoor installation (IP 65 protection degree)
- Great flexibility, can measure many other parameters besides the one listed above
- Easy to use: menus and functionalities are the same for all the analysers of the family



#### Operating principle and realization

The Series  $\mu$ PLT includes microprocessor based instruments for the analysis of pH, ORP, ISE, Conductivity, Turbidity, Dissolved Oxygen, Oxygen in air, Oxidising Substances (e.g. Chlorine, Chlorine Dioxide, Chlorites, Ozone, Peracetic Acid, Permanganate, Bromine), Reducing Substances (e.g. Metabisulphites, sulphite, sulphur anhydride etc.) It can be directly connected to the sensor of one of the a.m. parameters and to the pertinent temperature sensing element. The measure is compensated for temperature variations and displayed in engineering units. The instrument provides 4 digital outputs that can be configured as NC or NO via software and can be programmed as low alarm, high alarm, alarm with

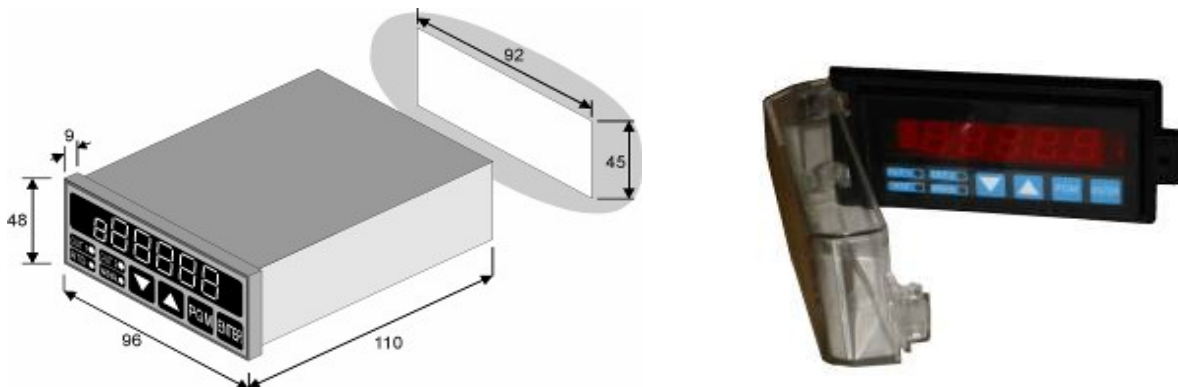
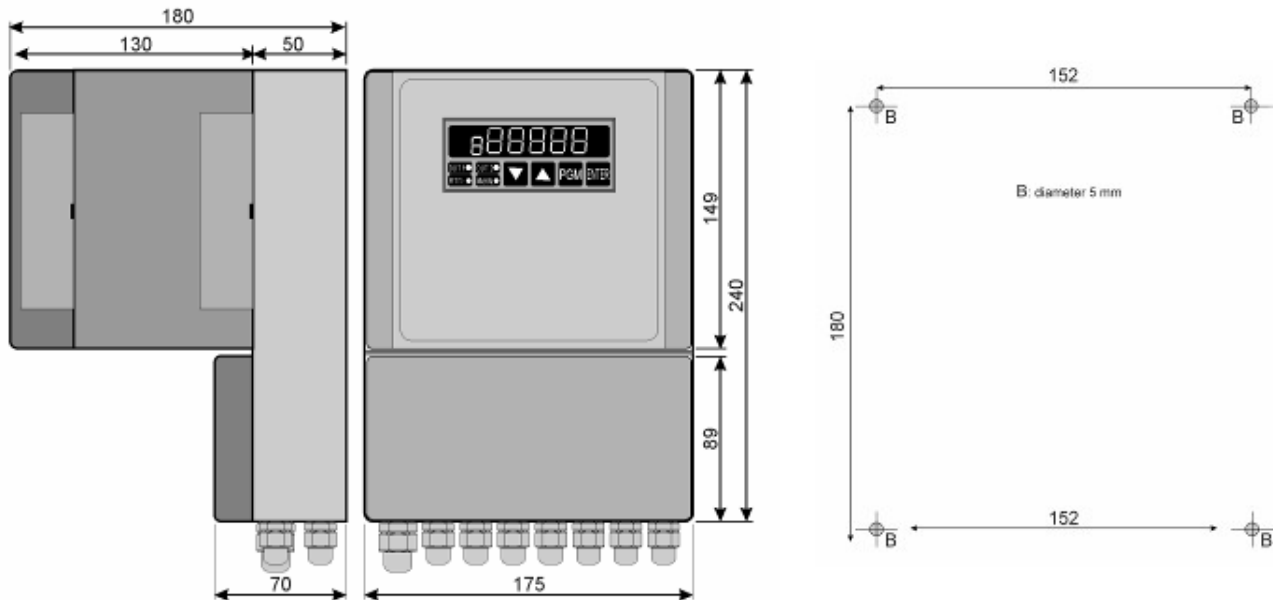
hysteresis or windows alarm. The 2 digital outputs are from relays. Two digital inputs are available, one for digital hold of the measure, and one for the input of an external alarm (e.g. level switch, temperature switch etc.) The instrument is sturdy and compact and is available for outdoor mounting, included in an IP65 housing, for panel mounting included into a plastic case, 48 x 96 mm, IP 54 protection degree and for panel mounting included into a plastic case, 48 x 96 mm, IP 54 protection degree, c/w a transparent front cover.

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## Installation, Maintenance and Calibration

The instrument is supplied completely programmed according to customer specifications (if indicated in the order). Install the instrument and complete wirings according to instruction manuals, then power up and verify that the instrument configuration complies with process requirements. Now operate a calibration of the measuring chain.

The instrument does not require specific maintenance, it is only necessary to periodically check the calibration. The frequency of calibration check depends upon the kind of analysis operated and the process in which the instrument is installed.



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## Technical Specifications

Housing Mod.μPLTxxTxxxAxxx (panel mtg):.Noryl, IP 54 protect., 48 x 96X100 mm. Inst.space: 45 x 92 mm  
Housing Mod.μPLTxxTxxxBxxx (panel mtg), with transparent front cover:.....Noryl, IP 54 protection, 48 x 96X100 mm. Inst.space: 45 x 92 mm; polycarbonate transparent front cover  
Housing Mod.μPLTxxTxxxCxx (outdoor installation):.....ABS, IP 65 prot.degree;  
.....dimensions 175x2400x180 (wxhxd) mm  
Input signal:.....from sensor: pH, ORP, Conductivity, Turbidity, D.O., Cl<sub>2</sub>, ClO<sub>2</sub>, PAA, KMnO<sub>4</sub>, Br<sub>2</sub>,  
.....S<sub>2</sub>O<sub>5</sub><sup>=</sup>, SO<sub>2</sub>, SO<sub>3</sub><sup>=</sup>, or other and from pertinent temperature sensor, Pt100.  
Digital inputs: .....2, from NPN static contact or from voltage free contact,  
.....max.voltage 18 V; max. closure current 4 mA;  
.....In standard functionality mode: IN1 : Digital hold of reading (freezing);  
.....IN2: alarm from external equipment (level switch, pressure switch, temperature switch etc.).  
.....If present, the alarm is locally indicated through LED "WASH/AL" flashing  
Display:.....red LED, h 12.5 mm, 5 digit and algebraic sign, programmable decimal point, selectable range  
Digital outputs:.....2 alarm set points, output from relays, SP, 3A – 250 V, resistive load.  
.....The alarms can be configured as low alarm, high alarm, window alarm, alarm with hysteresis.  
.....Each set-point has programmable differential.  
Measuring range (Where required, specify desired measuring range at order):  
pH and pH(Sb).....-1.00 ÷ +15.00 pH  
ORP.....- 2000 ÷ +2000 mV  
ISE.....- 2000 ÷ +2000 mV or 0÷9999 ppm  
Conductivity:.....0.0÷20.00 / 0.0÷200.0 / 0.0÷2000.0 μS;  
.....0.000÷20.000 / 0.00÷200.00 / 0.0÷2000.0 mS  
Turbidity.....0.0 ÷ 2000.0 NTU  
D.O:.....0.000÷20.000 ppm 0÷100% O<sub>2</sub>  
O<sub>2</sub> in air:.....0÷100% / O<sub>2</sub> 0÷21% O<sub>2</sub>  
Chlorine .....0÷2000 ppb / 0.00÷10.00 ppm  
Oxidising Substances .....0÷2000 ppb / 0.00÷10.00 ppm / 0.0÷2000.0 ppm  
Reducing substances .....0.0÷2000.0 ppb / 0.00÷10.00 ppm / 0.0÷2000.0 ppm  
Temperature.....-50÷+300°C  
Other.....-99999 ÷ + 99999, with selectable decimal point.  
Integration (smoothing): .....programmable  
Temperature compensation range:.....-9.9°C ÷ 99.9°C 0,1°C resolution; -50 ÷ 300°C 1°C resolution  
Power supply: .....Mod.μPLTxxT1xxxxxx : 24 Vac, ±10%, 50/60 Hz, maximum consumption 3.3 VA  
.....Mod.μPLTxxT4xxxxxx : 24 Vdc, ±10%, maximum consumption 3.3 VA  
.....Mod.μPLTxxT5xxxxxx : 115/230 Vac, ±10%, 50/60 Hz, maximum consumption 3.3 VA  
Data storage:.....E<sup>2</sup>prom stores data also during power shut off  
CE compliance:.....according to pertinent rules (93/68CEE – electromagnetic compatibility; low voltage)  
Electrical classification:.....for safe area installation  
Ambient temperature limits during operation:.....0 ÷ 50 °C  
Storage temperature limits:.....0 ÷ 60 °C

# μPLT

## Order code breakdown

	μPLT	xx	T	x	x	x	x	xx	x
<b>Microprocessor based indicator</b>	μPLT								
<b>Measured parameter</b>									
pH		01							
pH with antimony electrode (Sb)		02							
ORP		03							
Conductivity		04							
Turbidity		05							
Dissolved Oxygen (cell Mod.332I, 332C, 332P)		06							
Dissolved Oxygen (cell Mod.332B)		21							
Oxygen in air		66							
Chlorine		22							
Chlorine dioxide		23							
Ozone		24							
Peracetic acid		25							
Permanganate		26							
Bromine		27							
Oxidizing power		28							
Temperature		29							
Ion Selective Electrodes (ISE)		30							
Metabisulphites		33							
Hydrogen Peroxide		40							
Clorites		42							
Conductivity, toroidal cell		44							
Other		99							
<b>Transmitter, fixed code</b>			T						
<b>Power Supply</b>									
24 Vac 50/60 Hz									1
24 Vdc									4
115/230 Vac 50/60 Hz (Note 1)									5
<b>Cell constant of the conductivity cell to be connected</b>									
Standard (for all instruments except uPLT04)									A
Code not in use									B
Only for uPLT04: cell constant K = 0,1 cm									C
Only for uPLT04: cell constant K = 1 cm									D
Only for uPLT04: cell constant K = 10 cm									E
Only for uPLT04: cell constant K = 100 cm									F
Special execution									Z
<b>Fixed Code</b>							1		
<b>Housing</b>									
IP 54 for panel mounting									A
IP 54 for panel mounting, c/w transparent front cover									B
IP 65 housing for outdoor installation									C

Note 1: specify if required power supply is 115 VAC or 230 VAC at order.

# μPLT

Measuring Range

μP	xx	T	x	x	x	x	xx	x
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# μPLT

	μP	xx	T	x	x	x	x	xx	x
Reserved								0	
pH with glass electrode, pH differential electrodes		0-14	pH					10	
pH with Antimony electrodes		0-14	pH					11	
ORP		-2000	mV - + 2000	mV				20	
Dissolved Oxygen			NOT USED					31	
			0-20	ppm				32	
			0-100	%				33	
Oxygen in air		(Note 2)	0-100	%				34	
		(Note 3)	0-21	%				35	
Conductivity			0-20	uS				41	
			0-200	uS				42	
			0-2000	uS				43	
			0-20	mS				44	
			0-200	mS				45	
			0-2000	mS				46	
Reducing Substances			0-2000	ppb				51	
			0-10	ppm				52	
			0-2000	ppm				53	
Oxidising Substances			0-2000	ppb				61	
			0-10	ppm				62	
			0-2000	ppm				63	
Turbidity			0-2	NTU				71	
			0-20	NTU				72	
			0-200	NTU				73	
			0-2000	NTU				74	
Temperature		-50	°C - + 300	°C				80	
Other								99	

## Temperature compensation range

-9.9°C to 99.9°C  
-50°C to 300°C

A  
B

Note 2: in the range 0-100 % O<sub>2</sub> the value 100% corresponds to the normal concentration of oxygen in air, that is 21% O<sub>2</sub> on the total of the other gasses that compose the air.

Note 3: in the range 0-21 % O<sub>2</sub> the value 21% corresponds to the normal concentration of oxygen in air, that is 21% O<sub>2</sub> on the total of the other gasses that compose the air.

## Accessories included in the supply

Support for panel mounting (only for μPLTxxTxxxAxxx and μPLTxxTxxxBxxx).

