

Dual Input pH/ORP Monitor/Controller Model TP4-PH



Description

The TP4-PH monitor allows for a direct input of one or two pH or ORP (Redox) electrodes and one temperature sensor. If required one input can be set to measure pH and the other ORP. Alternative 4-20mA inputs are provided allowing connection of one or two 4-20mA transmitters instead of direct electrode inputs.

Calibration and set up is achieved by the user via front panel pushbuttons, using easy to follow "on display" message prompts.

Special functions such as peak hold and display hold are provided via an external control input. The front panel **P** pushbutton is also programmable to perform maximum and minimum memory functions.

The input may be calibrated to display directly in pH units or mV for ORP measurement. All calibration and other instrument setup values are retained in non volatile memory.

A programmable digital filter improves stability by smoothing out short term interference.

Four setpoint output relays are provided, form C, rated 5A, 240VAC (resistive load). Relays 1 and 2 may be selected for use as conventional alarm relay operation or PI control output operation.

A 4-20mA output (configurable as retransmission or PI control), is provided as standard. The output can operate from input 1, input 2 or temperature. Non-isolated RS232 communications is also provided as standard.

The TP4 may be installed on a convenient flat wall or may be panel mounted using an optional panel mount kit.

Inputs

- One or two electrodes (pH or ORP) or 4-20mA transmitters

- Temperature sensor

Outputs (standard)

- 4 setpoint relays

- 4-20mA output



- RS232 communications

Options

- RS485 isolated communications

- Inbuilt 32K or 128K data logger

Features

- pH and/or ORP electrode inputs or 4-20mA transmitter inputs (the front panel  and  buttons allow toggling between input 1, input 2 and temperature readings)
- 4-20mA output included as standard, configurable as either retransmission or PI control output
- RS232 communications included as standard
- Pushbutton calibration and setup
- 4 Setpoint relays (form C, voltage free contacts) Relays 1 and 2 are configurable as either alarm (on/off) or PI control (pulse width or frequency output)
- Choice of single point or two point calibration methods
- Temperature sensor input for auto temperature compensation
- Digital filter (improves stability)
- Security lockout of keypad programming functions
- Isolation between inputs, 4-20mA retransmission and power supply
- 240VAC, 110VAC, or DC operation
- High brightness 6 digit 20mm LED display
- Display readable from 10 metres away
- Rugged IP65 enclosure
- Optional isolated RS485 retransmission
- Optional inbuilt Data Logger
- 2 year guarantee

SPECIFICATIONS

Specifications are subject to change without notice

TECHNICAL SPECIFICATIONS

Input Types: One or two high impedance electrode inputs (pH or ORP) (BNC connection). or alternative one or two 4-20mA transmitter inputs.
Pt100, Pt1000, 3KΩ Balco or LM335 temperature sensor or manual temperature compensation

Input Resistance: Greater than $10^{10} \Omega$

Sample Rate: 1 per second

A/D Conversion: 20,000 count quad slope

Microprocessor: MC68HC11 CMOS

Ambient Temp: -10 to 60°C

Humidity: 5 to 95% non condensing

Display: 6 digit red LED, 20mm digit height

Power Supply: AC 240V or 110V 45/65Hz
DC isolated 12-48V (factory configured)

Power Usage: AC supply 15VA max,
DC supply 10VA max.

Relay Outputs: (standard) Four setpoint relays, form C, rated 5A resistive 240VAC. Relays can be assigned to input 1, input 2 or temperature. Relays 1 and 2 are configurable for either alarm (on/off) or PI control (pulse width or frequency)

Relay Action: Programmable N.O. or N.C

Analog Output: (standard) 4-20mA output, configurable as PI control or retransmission output. Retransmission can be set to operate from input 1, input 2 or temperature

Serial Output: (standard) Non-isolated RS232 communication

Transmitter supply: 24V ($\pm 12V$) @ 20mA max.

OPTIONAL OUTPUTS

Retransmission: RS485 serial isolated communication

Data Logger: Data Logger (download via serial output) 32k or 128k memory.

PHYSICAL CHARACTERISTICS

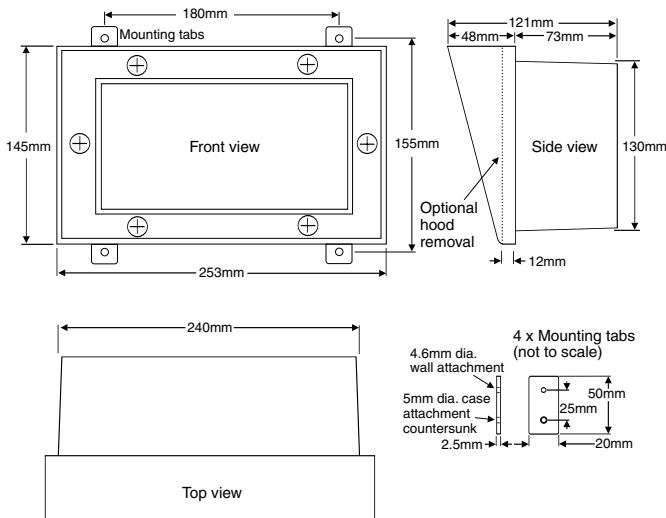
Case Size: 253 x 145 x 121mm (max)

Connections: Plug in screw terminals

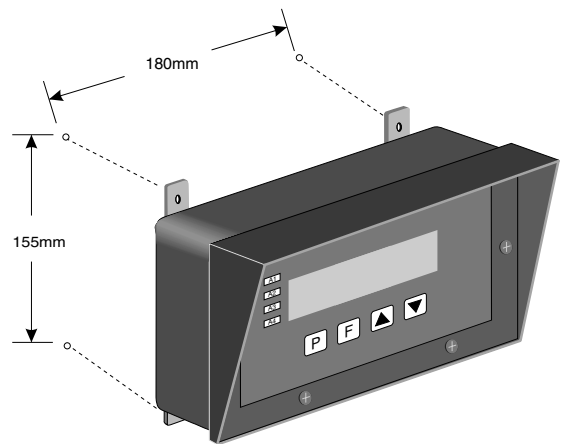
Weight: 1.3 kgs.

Panel Cut Out: 240 x 130mm (-0.00/+0.5mm).
If panel mounting is required an optional panel mount kit is available
The instrument may be ordered with front hood removed (optional)

Case Dimensions

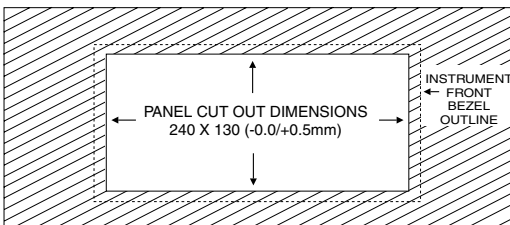
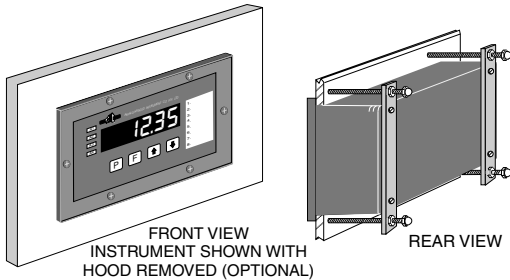


Mechanical Installation



Drill 4 x mounting holes in position shown 180mm(w) x 155mm(h)

Optional Panel Mount Kit



ORDER CODE

TP4 - PH - - 6 E -

POWER SUPPLY

TP4 - PH - - 6 E -

240 VAC

110 VAC

12-48 VDC, isolated

OPTIONS

TP4 - PH - - 6 E -

RS485 isolated Serial Output

Data logger RS232 version 32k memory

Data logger RS232 version 128k memory

Data logger RS485 version 32k memory

Data logger RS485 version 128k memory

Panel mount kit - order code - LD-MTG-PM-KIT

Hood removal - order code - LD-HOOD-REMOVAL