

Loop Powered Transmitter For pH/Redox - Model RT4-PH



Description

The RT4 2 wire loop powered pH transmitter is ideal for remote monitoring of pH or Redox. Complete electrical isolation between measuring circuit and the 4 to 20mA output is provided.

The RT4 offers high performance and reduced installation costs through its 2 wire design. The RT4 is compatible with most pH and Redox electrodes.

The transmitter is housed in a compact IP65 enclosure suitable for wall or surface mounting. An optional DIN rail attachment allows the instrument to be mounted within an alternative enclosure.

The onboard digital display provides a continuous display of the pH or Redox level and provides a convenient 'on the spot' display during calibration and setting up. Easy to follow 'on display' messages assist the user to set up and calibrate the transmitter.

Two levels of calibration allow the RT4-PH to be calibrated to suit the immediate needs of the user. Single point calibration is ideal for fast routine calibration and the two point calibration provides a thorough calibration using two buffer solutions.

A useful display of the electrode "slope" allows the user to monitor the condition and ageing of the pH electrode.

If the electrode or temperature sensor fails and shows an out of range reading the output loop can be programmed to either go high (20mA) or low (4mA) to signal the failure.

Features

- 2 wire loop powered design
 - reduces installation cost
- Electrical isolation between input and output - prevents ground loop problems
- Automatic or manual temperature compensation
- Digital pushbutton calibration and set up - no special tools required
- Single or 2 point calibration
- Selectable pH or Redox
- Useful "uncalibrate" functions for pH/Redox & temperature sets the calibration to that of an ideal input sensor - helps restore display in the event of calibration procedure error
- Calibration offset and gain functions offer alternative scaling to the two point method
- Electrode slope display - indicates condition of the electrode
- Rugged flush mount/wall mount IP65 enclosure
- State of the art microprocessor design
- High reliability surface mount electronics
- Computer tested and pre-calibrated
- Calibration and set up data is stored in EEPROM
- Programmable digital filter
 - reduces susceptibility to interference
- Scalable 4-20mA over any segment of the measuring range
- Inbuilt high contrast LCD display
- Accepts temperature sensor types Pt100 or Pt1000
- Choice of high (20mA) or low (4mA) output for input out or range failure indication
- 2 year guarantee

RT4PH-1.0-2

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SPECIFICATIONS

Specifications are subject to change without notice

TECHNICAL SPECIFICATIONS

pH input: (pH selected)	Any electrode where $E_0=7\text{pH}$ (-1V to 1V nominal)
Redox input: (Redox selected)	Any standard platinum electrode (-1V to 1V nominal)
Loop voltage drop:	12V nominal
Temperature input:	100 Ω RTD, 1000 Ω RTD. May alternatively be set to manual temperature compensation (for pH).
Input resistance:	Greater than $10^{10}\Omega$ (pH & Redox)
Display range:	0.00 to 14.00pH -1000 to 1000mV Redox 0 to 120°C temperature
Accuracy:	0.1% of full scale
Sample rate:	1/sec(pH) 4/sec Redox
A/D conversion:	Dual slope integration
Microprocessor:	MC68HC705

Ambient temp.:	-10 to 50°C
Humidity:	5 to 95% non condensing
Display:	LCD 12.7mm digit height
Power supply:	Powered by 4 to 20mA loop 13.5 to 35 volts DC required

ELECTRICAL CONNECTIONS

pH/Redox input:	BNC connector
Temperature:	Screw terminals (1.5mm wire max)
Loop power:	Screw terminals (1.5mm wire max)

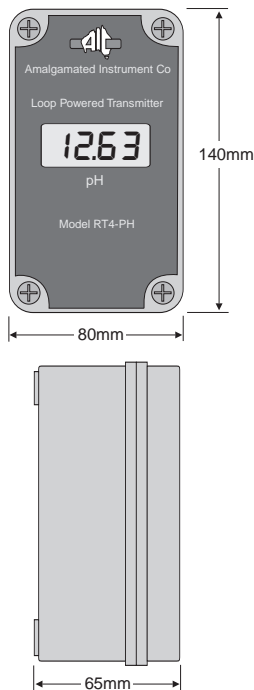
PHYSICAL CHARACTERISTICS

Case dimensions	140mm(h) x 80mm(w) x 65mm(d)
Mounting holes:	120mm (h) x 60mm (w)
Weight:	500g unpacked

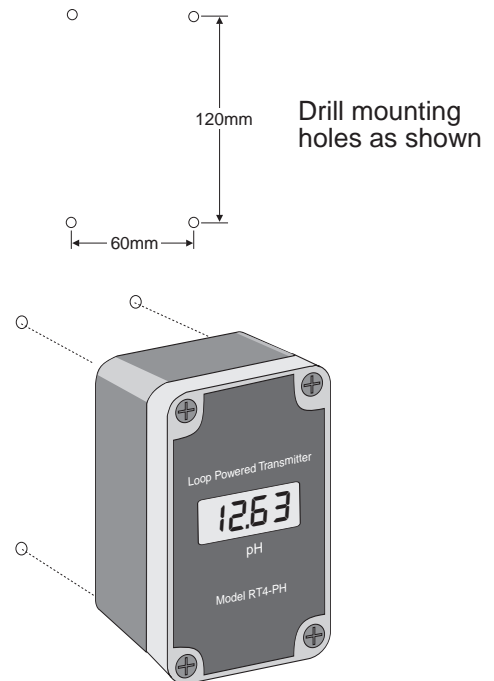
ORDER CODE

pH model:	RT4-PH
Redox model:	RT4-OR

ENCLOSURE DIMENSIONS



MECHANICAL INSTALLATION



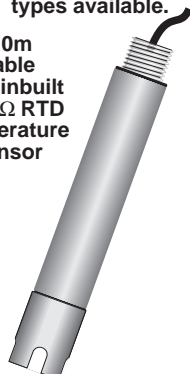
Just some of our wide range of pH electrodes

12mm Lab Electrode
Available in
bulb type or
flat glass.



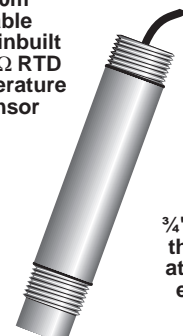
Submersible Type.
A wide range of electrode
types available.

10m
cable
with inbuilt
1000 Ω RTD
temperature
sensor



In Line Type
A wide range of electrode
types available.

10m
cable
with inbuilt
1000 Ω RTD
temperature
sensor



$\frac{3}{4}$ " BSP
thread at both
ends