

# 98PH pH/ORP Transmitter

- Large LCD backlight display
- Friendly interface
- Robust enclosure
- Easy to use menus
- Multiple mounting methods
- 2 analog and 3 relay outputs
- Auto-cleaning function



LECOL 98 series was designed with the user in mind. Measurement information is easily read on the large liquid crystal display (LCD).

The graphic LCD screen can display multiple parameters simultaneously, including pH value, input mV signal, temperature, output mA signals and smart function keys.

98 series transmitter's interface is user friendly. The smart function keys can be used to navigate through the three submenus: "calibrate", "output", and "configure".

The "calibrate" submenu is for sensor and output signal calibration. During calibration, output signals can be paused in "Output". All measuring parameters can be set through "Configure".

## Enclosure

The powder coated alloy housing meets NEMA 4X and IP65 requirements for use in harsh, industrial environments.

The metal housing suppresses noise and prevents the interference caused by electromagnetic environment.

## Mounting Methods

Pipe, wall, and panel mounting options are available to provide flexibility in different installation scenarios.

# Calibration

Calibration is the process of ensuring that the analyzer will measure accurately. It can be conducted by using lab instruments or standard liquid buffer solutions.

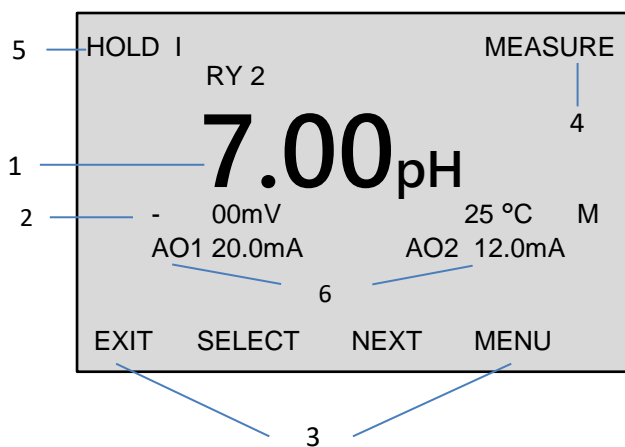
The 98PH transmitter provides two modes for calibration: one-point and two-point.

- One-point calibration mode can adjust the offset to the expected value of the measured solution.
- Two-point calibration mode can adjust the offset and slope, allowing for a more accurate measurement.

The standard calibration usually uses two-point calibration first and conducts one-point calibration to make fine adjustments to improve the accuracy.

The 98PH transmitter allows the user to hold the analog outputs to a fixed value during calibration to avoid process upset. To ensure the best measurement accuracy, please calibrate when the sensor is first used. Moreover, regular calibration is the way to keep the sensor performing with highest accuracy. The 98PH transmitter allows calibration using a grab sample of the process liquid or a standard buffer solution depending upon the process requirements.

## Main screen displays



1. **Main display** – Display of primary measurement
2. **Minor display** – Additional measurements
3. **Function keys** – Select submenus:  
Calibrate  
Output  
Configure
4. **Current mode** – Mode in use
5. **Hold Output** – Manual hold output at a specific value.
6. **Analog Output** – Analog output 1 & Analog output 2

## Selection Keys

There are four selection keys under the screen – EXIT, SELECT, NEXT, MENU. Use the selection keys to:

1. EXIT: To quit, cancel the function
2. SELECT: To select measurement function
3. NEXT: To continue the setting process
4. MENU: To select different measurement modes: calibration mode, output mode, and configuration mode



EXIT



SELECT



NEXT



MENU



**LECOL**

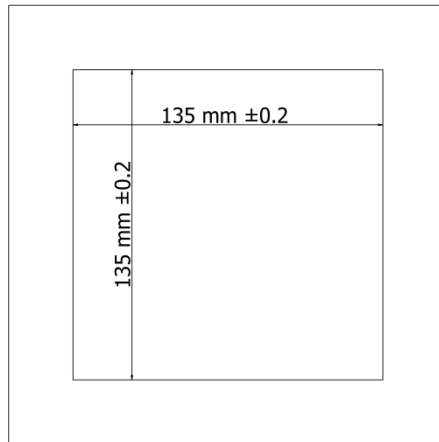
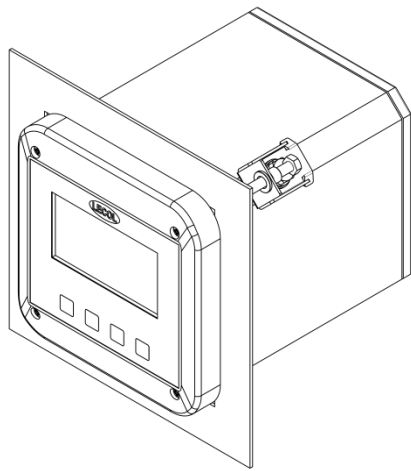
## Specifications

Type	Four-Wire pH/ORP transmitter	Relay outputs	3 relay contacts SPDT, N.O. and N.C. (user programmable)
Display	240*128 dots graphic LCD display	Maximum contact ratings	100 VA, 250 VAC, 3A
Supply voltage	100~240 VAC, 50/60 Hz	Set points range	0.00 ~ 14.00 pH, -1999 ~ 1999 mV, 0 ~ 100 °C
Power consumption	Less than 15 W	Dead band	10 pH, 200 mV, 10 °C
Input range	pH : 0~14 pH ORP : +/- 1999 mV Temperature : 0~100 °C	Time delay range	0.0 ~ 99.9 minutes
Accuracy / Resolution	± 0.01 pH / 0.01 pH ± 1 mV / 1 mV ± 1 °C / 1 °C	Cleaner setting (Relay 3 only)	Cycle time range : 0.00 ~ 99.99 hours On time range : 0.00 ~ 99.99 minutes Recovery time range : 0.00 ~ 99.99 minutes
Temperature compensation	Manual, Automatic, Auto solution	Lower display	Temperature, mV, current output
Temperature sensor types	3kΩ Balco / PT100	Environmental	Operating temperature : -10 ~ 50 °C Storage temperature : -20 ~ 70 °C Operating humidity : 95% RH Storage humidity : 95% RH
Analog output	Two isolated 4~20mA current outputs (user programmable)	Enclosure	NEMA 4X and IP65 Aluminum alloy with polyester powder coating
Configurable pH/ORP range	pH : 0.00 ~ 14.00 pH ORP : -1999 ~ 1999 mV Temperature : 0 ~ 100 °C	Mounting	Panel, wall, pipe, and pipe mounting with weather shield
Minimum span	pH : 1.00 pH unit ORP : 200 mV Temperature : 10 °C	Dimensions	Size : 144*144*177mm (H*W*D) Panel cut : 135*135(±0.2)mm
Input impedance	> 10 <sup>12</sup> Ω	Weight	2.2 kg 3 kg with pipe mounting kits

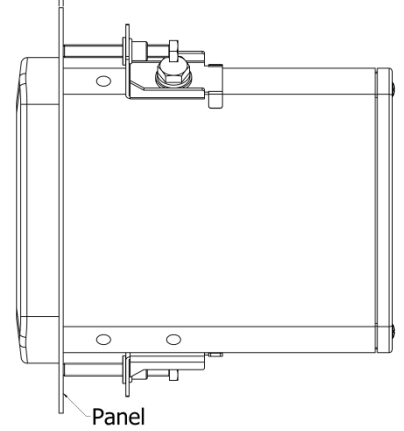
The logo for LECOL, featuring the brand name in white capital letters inside a blue oval.

# Mounting types

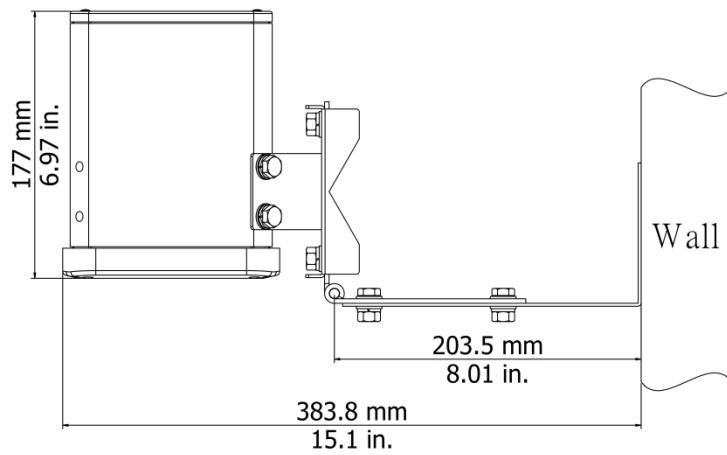
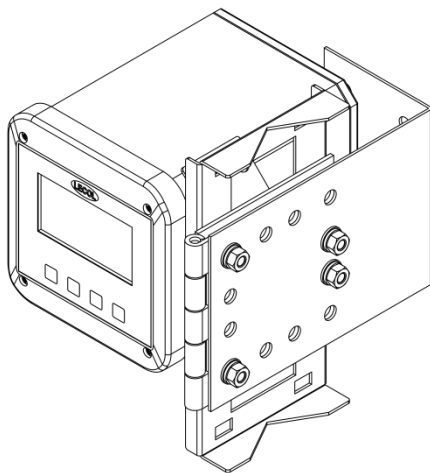
## Panel mounting



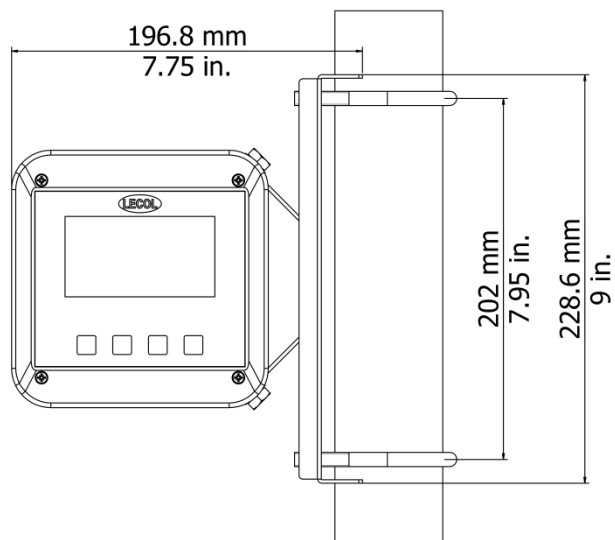
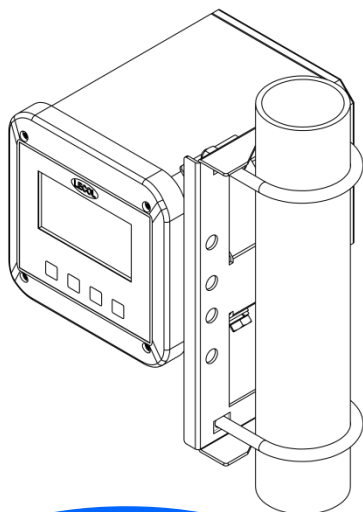
20mm(0.79 in.) max. panel thickness



## Wall mounting

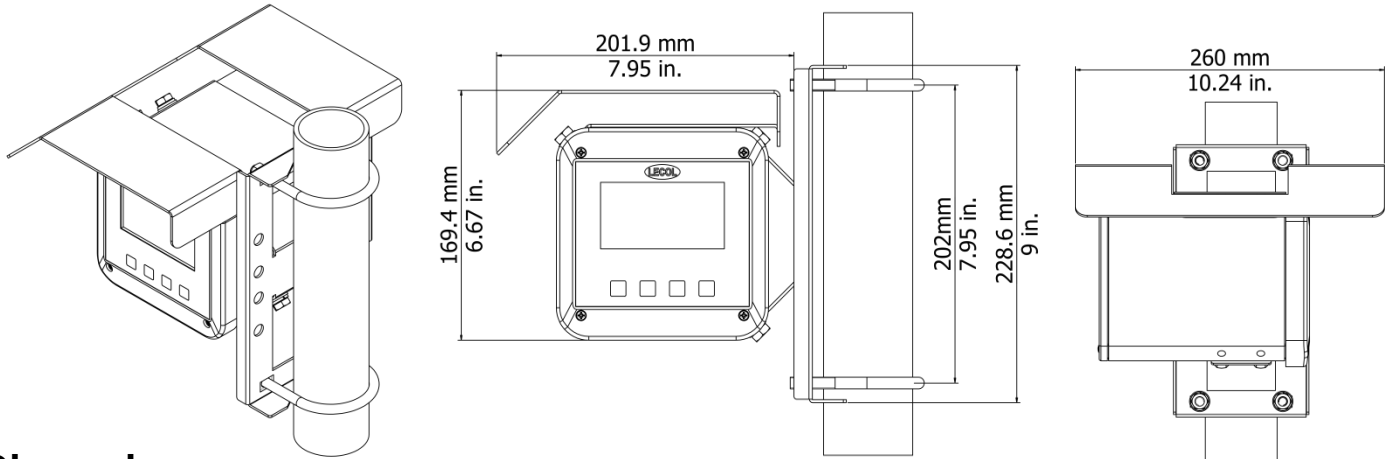


## Pipe mounting

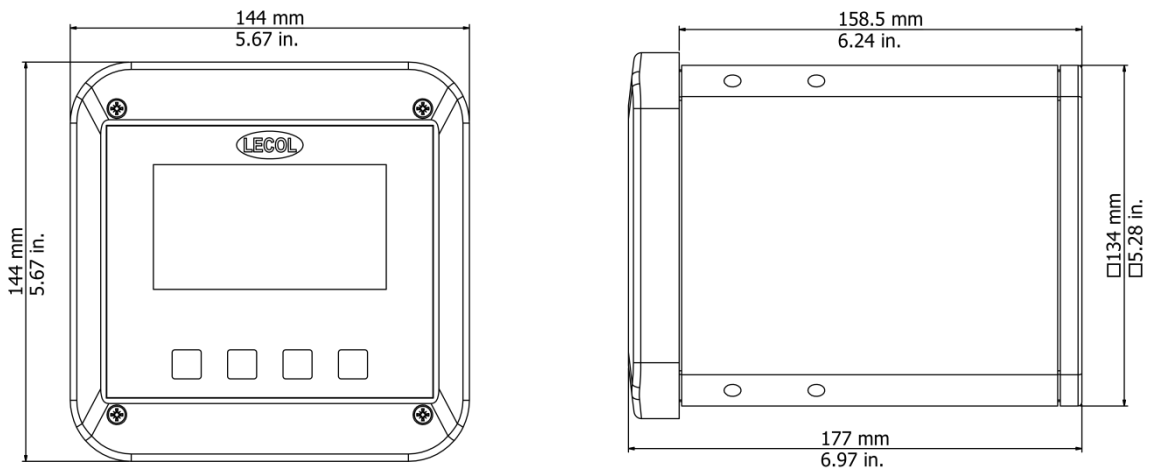


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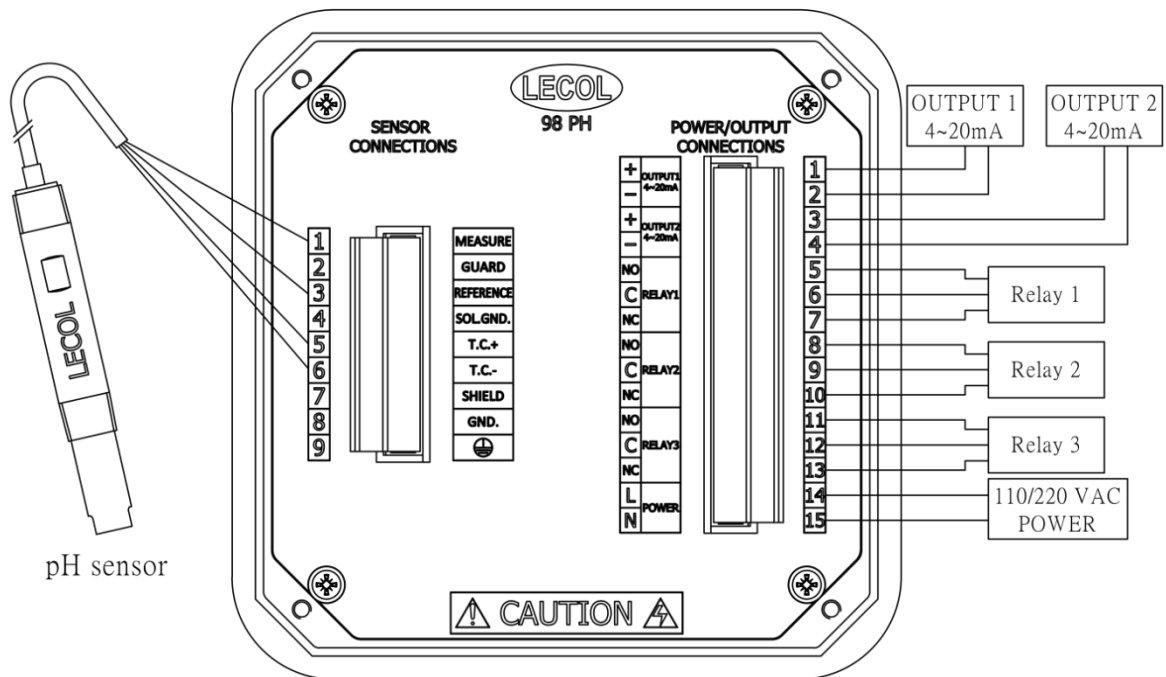
## Pipe mounting with weather shield



## Dimensions



## Electrical & sensor wiring



## Ordering information

<b>Four-Wire pH/ORP Transmitter</b>		(-)	(-)	(-)	(-)	(-)
<b>Model : 98 PH</b>						
<b>A</b>	<b>Programming options</b>	(A)				
0	Basic					
1	Advanced					
<b>B</b>	<b>Mounting type</b>		(B)			
0	Panel mounting					
1	Wall mounting					
2	Pipe mounting					
3	Pipe mounting with weather shield					
<b>C</b>	<b>Instruction manual</b>			(C)		
0	Chinese (traditional)					
1	English					
<b>D</b>	<b>Others</b>				(D)	
0	None					
1	Cable glands					
2	S.S. electrical adaptor -1/2" NPT					
<b>E</b>	<b>Identification Tag</b>					(E)
0	None					
1	Stainless Steel					

\*LECOL reserve the right to make technical changes or modify the contents of this document without prior notice.



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