

**DE DYNAMIC**<sup>TM</sup>  
Process Equipment

pH/ORP Transmitter  
**SmartSense PH-1002-AD**

## Core Features of SmartSense Transmitters

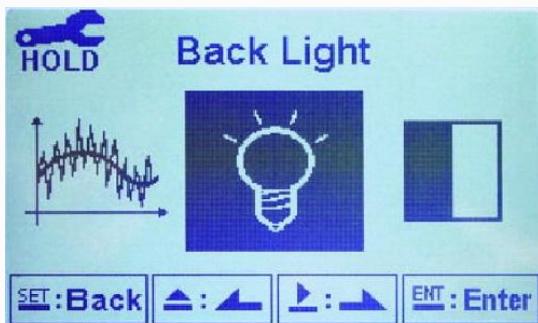
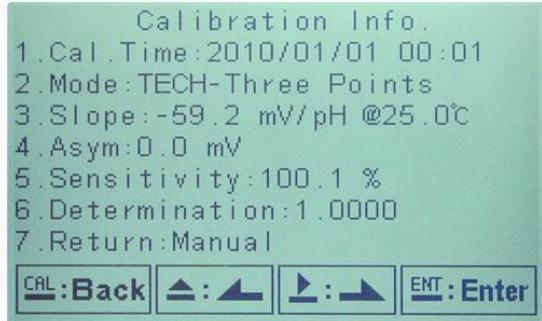


### Waterproof protection

Provides the instrument safety with IP65 waterproof protection and front flap cover design for easy installation and wiring.

### Dot-Matrix LCD

For convenience and better process safety, it reveals the last calibration records and a system setting overview

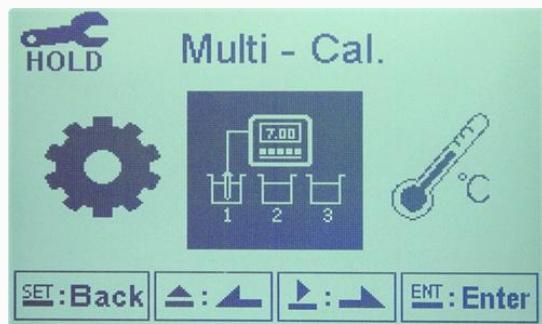


### Auto-Sense Backlight Display

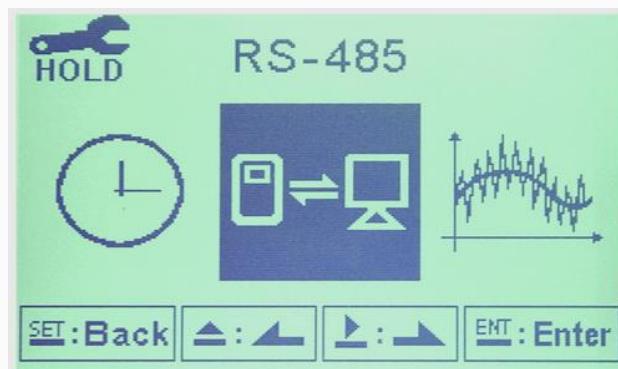
For clear reading and energy saving, it turns on the backlight automatically when the environment becomes dark.

### Graphical Menu

Allows extremely intuitive & quick setting and calibration.



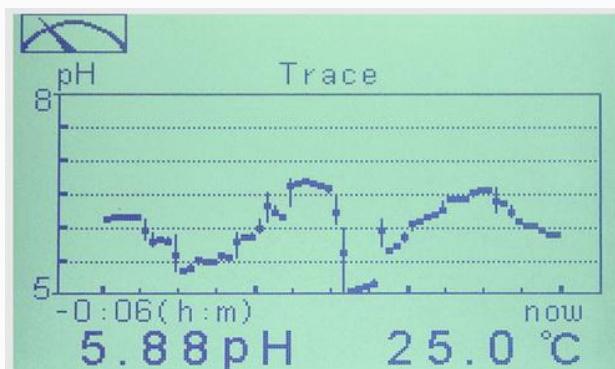
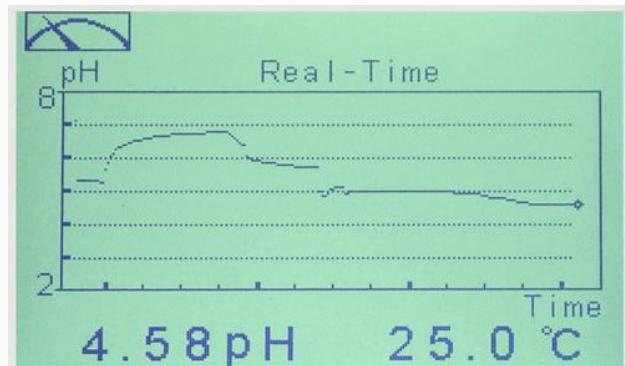
## Special Features of Advanced Version Transmitters



### RS-485 MODBUS protocol

Provides long-distance, multiple values and configuration info transmission and anti-electrical signal protection

**Real-time chart mode**  
3 minutes real-time dynamic graph to help you realize recent development in control



### Trace mode

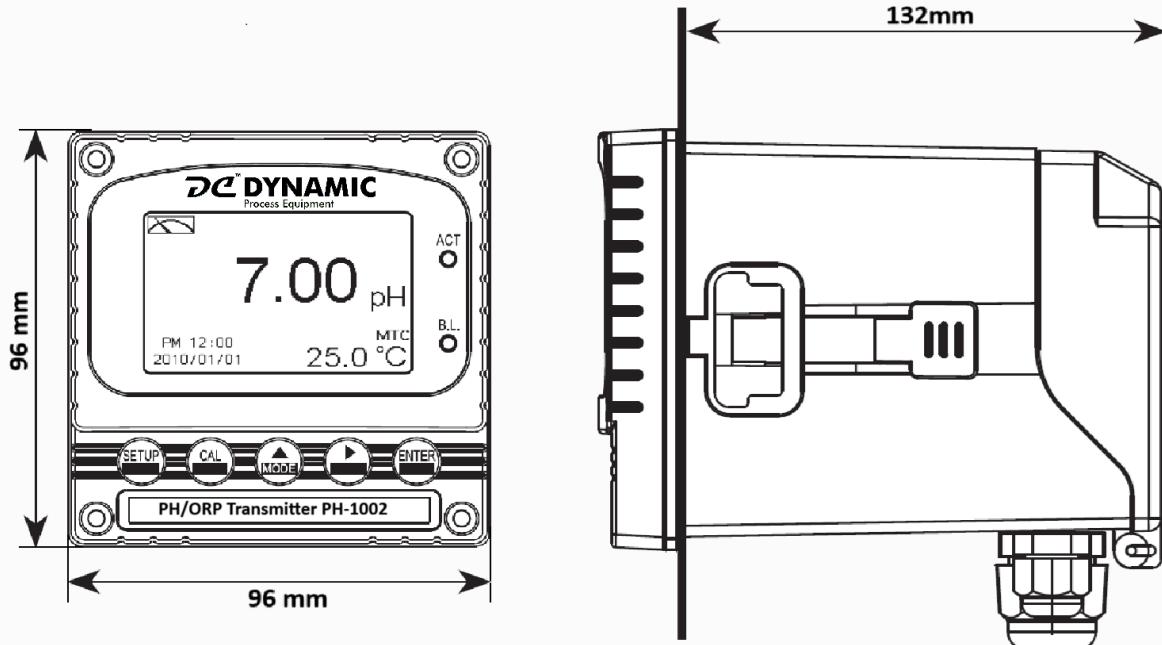
Set up from 3 mins to four weeks duration of the measured value trend graph to help you master the process history

**Events logbook**  
Actions, current output out of range, power outages and error records, no need for standby and record them anymore

Page 1		
11/06/29	15:33:56	Set mode
11/06/29	15:33:49	Mea mode
11/06/29	15:33:47	Set mode
11/06/29	15:31:22	Mea mode
11/06/29	15:30:58	Set mode
11/06/29	15:30:26	Mea mode
11/06/29	15:29:59	Set mode

SET: Back ▲: ▲ ▼: ▼

## Transmitter Dimension DIN 1/4, 96 x 96:



## Flameproof Transmitter Specification:

**Transmitter Type:** DIN1/4 (96 x 96mm)

### Flameproof protection:

EX-d AS PER IS/IEC 60079-1:2014 SUITABLE FOR  
INSTALLATION IN HAZARDOUS LOCATION OF  
GAS GROUP IIA & IIB, ZONE 1 & 2.

### Ingress protection:

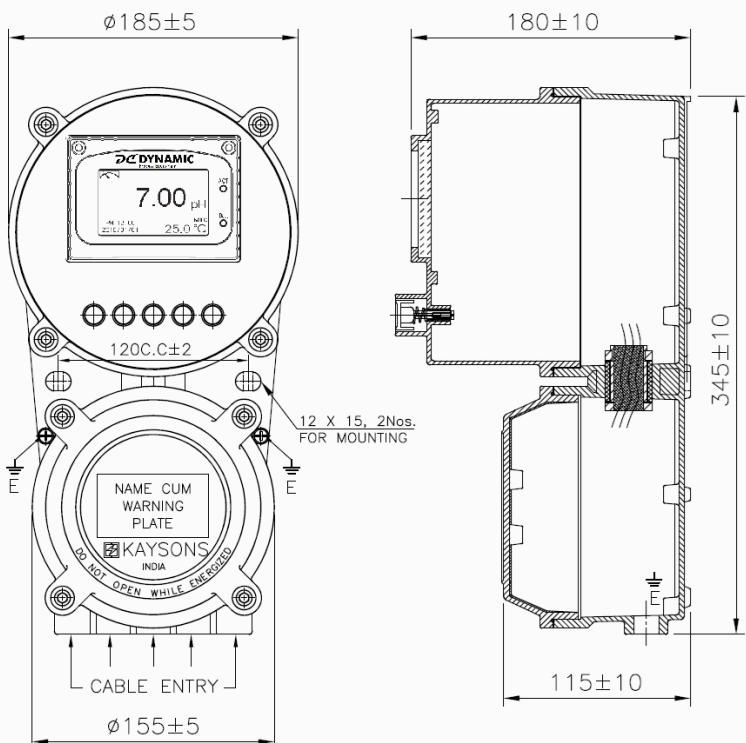
IP-66 AS PER IS/IEC 60529:2001 (REAFFIRMED  
2014)

### DUST IGNITION PROTECTION:

(Ex 'db' IIB Gb) (Ex tb IIIC Db) AS PER IS/IEC  
60079-31:2013

**Temperature class:** T6

**Material of construction:** DIE CAST AL. ALLOY  
LM-6.



## SmartSense pH/ORP Transmitter

### PH-1002-AD



Intelligent SmartSense pH/ORP Transmitter with robust protection, the PH-1002 series pH/ORP transmitters have rugged IP65 DIN1/4 96 x 96mm enclosure and outstanding EMC protection ability. The graphical menu driven operation with setting and calibration information in full text pages provide the extremely ease of use in all functions.

#### Applications

- Industrial Process
- Scrubber
- Chemical Process
- Water & Wastewater Treatment
- Biochemistry

#### Features

- Waterproof and dustproof design
- Solution-ground design eliminating interference of ground potential
- User-friendly operation with text and graphic illustration, clear signs and easy to understand
- 5-point calibration and the last calibration data displayable
- TECH, NIST Standard Buffers auto detection
- Chart mode, Trace Mode for graphical data interpretation
- RS-485 MODBUS RTU Digital Output
- With password and multi-key design-security protection enhancement
- Hi/Lo, Hi/Hi, Lo/Lo selectable two limited contact outputs with programmable set-points and hysteresis
- Gradually continuous sample measurements average function to enhance stability
- Automatic sensor clean function with programmable time interval
- LED indicated alarm or washing status signal
- IP 65 (NEMA 4X)

## Specification:

pH/ORP Transmitter SmartSense PH-1002-AD		
Model		PH-1002-AD
Measurement Range	pH	-2.00 to 16.00 pH, $\pm 0.01$ ( $\pm 1$ Digit)
	ORP	-1999 to 1999 mV, $\pm 0.1\%$ ( $\pm 1$ Digit)
	Temperature	-30.0 to 130.0°C, $\pm 0.2^\circ\text{C}$ ( $\pm 1$ Digit)
Temperature Compensation		Automatic (Pt-1000 or NTC 30K) OR Manual Input
Input Impedance		$>10^{12} \Omega$
Display	Large LCD with auto-sense backlight and contrast adjustment	
	Text, Chart or Trace Mode (Selectable)	
Analog Output	pH/ORP	Isolated DC 0/4~20 mA corresponding to pH/ORP, max load 500Ω
Serial Communication		RS-485 (MODBUS RTU or ASCII)
Calibration		5 Point
Event Log		Last 50 Events
Output Relay	Rating	240 VAC, 0.5A max. (recommended)
	Set Point	Hi/Lo, Hi/Hi, Lo/Lo selectable two limited programmable, ON/OFF
Wash Relay	Rating	240 VAC, 0.5A max. (recommended)
	Time	On: 0-99min. 59sec, Off: 0-999hr 59min.
Ambient Temperature		0 to 50°C
Storage Temperature		-20 to 70°C
Power Supply	AC Version	100V to 240V AC $\pm 10\%$ , 50/60Hz, 8W Max.
	DC Version	12V to 36V DC, 8W Max. (Not available for PID Version)
Installation		Wall mounting, Pipe mounting, Panel mounting
Dimensions	Enclosure	H: 96 mm W: 96mm D:132 mm (1/4 DIN)
	Panel Cut out	93 mm x 93 mm
Weight		~ 500 Grams
Protection		IP 65 (NEMA 4X), Flameproof (Optional)

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SmartDip 405M is a retractable electrode housing with pneumatically operated drive Unit. This metal body model can be implemented in harsh chemical applications through flan...



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SmartDip 220M is a compact retractable electrode housing with manual drive Unit. This metal body model can be implemented in different chemical applications including ferment...



**SmartDip 405P**

SmartDip 405P is a retractable electrode housing with pneumatically operated drive Unit. This plastic body model can be implemented in harsh chemical applications through flan...



**SmartDip 250M**

SmartDip 250M is a manually operated Retractable electrode housing with long immersion lengths and ball valve for isolation. It can fit 120mm long Sensor.



**SmartDip 420M**

SmartDip 420M is a compact retractable electrode housing with pneumatically operated drive Unit. This metal body model can be implemented in different chemical applicatio...



**SmartDip 240M**

SmartDip 240M is a compact retractable electrode housing. This version can fit 120mm long sensor. It comes with 1" NPT, Triclover connection.



**SmartDip 450M**

SmartDip 450M is a pneumatically operated retractable electrode housing with long immersion length and isolation ball valve. This unique model can fit 120mm long sensor.

