

MODEL 210-P pH/ORP SPECIFICATIONS

Measuring Range:

pH: 0 to 14 pH units
ORP: -2000 to +2000 mV

Output Scale Expansion:

Zero anywhere from, 0 to 13 pH, -2000 to +1800mV ORP.
Span anywhere from, 1 to 14 pH, 200 to 4000mV ORP.
Zero and Full Scale, reversible.

Accuracy: Standard deviation $\pm 0.1\%$ of range.

Display Precision: ± 1 digit (0.01 pH units), (± 0.1 mV ORP).

Repeatability: ± 1 digit (0.01 pH units), (± 1 mV ORP).

Stability: ± 0.01 pH/month, non-cumulative), (± 1 mV ORP).

Temperature Coefficient:

Input: ± 0.003 pH/ $^{\circ}\text{C}$, ± 0.2 mV/ $^{\circ}\text{C}$.
Output: ± 0.006 pH/ $^{\circ}\text{C}$, ± 0.4 mV/ $^{\circ}\text{C}$.

Temperature Measurement: -25 to +260 $^{\circ}\text{C}$ (-13 to +437 $^{\circ}\text{F}$).

Response Time:

90% within 3 seconds (default), function of flow/temperature.
Damping Adjustment: 0 to 99 seconds.

Calibration

pH Standardization:

Single-Buffer or Two-Buffer Calibration with auto recognition of IC CONTROLS NIST Traceable pH buffers.

Temperature Standardization:

Direct entry of temperature correction.

Display: Back-lit Dot Matrix (Graphical)

Process Variable Characters, 1.13 cm (0.45 inch) high, for pH, Secondary Characters, 0.75 cm (0.3 inch) temperature, efficiency, errors, prompts and diagnostic information.
3 alarms, 1 fault.

Signal Outputs:

Two (2) 4 to 20 mA, continuous, assignable, programmable, isolated, max. load 600 ohms.

Programmable non-linear characteristic that is graphically displayable: one for acid control with valve or acid titration curve correction, the second for caustic control with separate valve or caustic titration curve. Or your process curve.

Four (4) relays:

1-3 SPST Form A, epoxy sealed, normally open contact

4 SPDT, Form C, epoxy sealed contacts

Rated 115 V 5 Amps Resistive, 3 Amps Inductive

230 V. 5 Amps Resistive, 1.5 Amps Inductive

28vdc 5 Amps Resistive, 3 Amps Inductive

PID Control Functions -11 (optional)

Standard PID using one 4-20mA or dual PID using two 4-20mA;
Pump pulser contact PID control using one relay, or Dual using two relays;. Time Proportional PID (ON/OFF) using one relay or Dual using two relays.

Relay Functions:

Alarms Three independent, assignable, programmable

Assign to: pH, Temperature, timer, ON/OFF control, Time Proportional PID control.

Actions: HI, LO, Deviation

Adjustments: Set-point; 0 to 14 pH units;
-5 to 105 $^{\circ}\text{C}$ (23 to 221 $^{\circ}\text{F}$).
Differential; 0 to 10 pH units.
Delay; 0 to 9999 seconds.

Unit Selection: $^{\circ}\text{C}/^{\circ}\text{F}$ Temperature.

Override: Press "Manual" key, 15 minute OFF.

ON/OFF: Can be set to permanent OFF.

Indication: LCD "flashing" the alarm, relay contact, and serial output.

Fault Alarm One independent, assignable, programmable

Assign to: Sensor and/or Analyzer and/or Process.

Indication: LCD "flashing" the alarm, relay contact, and serial output.

Timer Programmable cleaning or override timer function allows time based automated cleaning of a sensor plus hold of outputs during cleaning and recovery period. Uses one relay.

Advanced Functions:

Intelligence and Real-time Clock

(Communication Protocol Module & Program Recommended)

Internal 1000 point history: pH, temp, time, date.

Last 12 calibration history: time, date, calibration record.

Last 20 event record: time, date, power ON/OFF, error & caution messages, alarm, off-scale.

Real-time Clock: Internal year, month, day, hour, minute, second; maintains date even when power is off.

Communication Protocol (optional alternatives)

-21 RS485 (RS232 compatible) for communication with PC

-22 Hart digital signal superimposed on 4 to 20 mA output one.

Universal Ratings:

Environment Ratings

Operating Temperature Range: -20 to 60 $^{\circ}\text{C}$ (-4 to 140 $^{\circ}\text{F}$)

Relative Humidity: 95% maximum, non-condensing.

Extended Environment Rating: IP66 (NEMA 4X) corrosion resistant.

Pollution Degree: 2

Installation Category: II

Electrical Requirements

115/230 VAC $\pm 10\%$, 0.25 Amp., 50/60 Hz, 50 Watts.

20 to 30 VDC, 50 Watts

Electrical Classification

General Purpose

Enclosure: Panel mounts in Standard 138 x 138 mm cutout.

Epoxy Painted white aluminum case and door.

Front Panel orange membrane keypad with tactile feedback.

144 * 144 * 140 mm, DIN size (5.7 * 5.7 * 5.5 inch)

Weight/Shipping Weight:

1.8 kg / 2.2 kg (4 lb / 8.8 lb)

es-210-P-1.0