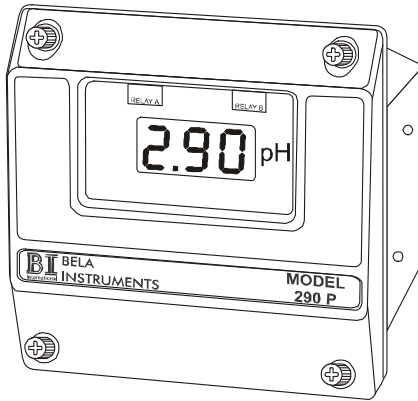


Model 290 TWO-WIRE pH & ORP Transmitters



- 1/2 DIN, NEMA 4X Polycarbonate enclosure
- Universal mounting
- Two-wire system simplifies wiring
- Local indication
- Modular Construction simplifies field servicing
- Intrinsically safe Design

- **Simplified Two-wire Hookup**

Only a two-wire twisted pair is required for power input & output signal transmission, eliminating the need for special cabling.

- **Converts/Transmits measured values to standard 4-20 mA output.**

Each transmitter provides a standard 4-20 mA output signal representing the measured value within 0-14 pH or -2000 to + 2000 mV.

- **Accepts Differential Technique Sensor or Conventional Combination Electrode**

Model 290P will accept BI 5-wire Differential Technique sensor or industrial combination electrode sensor signal preamplified with BI preamplifier (Model 714).

- **NEMA 4X Enclosures are standard**

Optional enclosure are available for applications requiring additional environmental protection.

These two-wire transmitters are well suited for applications where line power is not readily available and local indication and calibration are desired. Multiple transmitters can be powered from a single DC power supply.

- **Ordering Information**

Non Isolated

- pH - 290P3F5AONN (0-14 pH)
- ORP - 290R3F5AONN (-2000 to + 2000 mV)

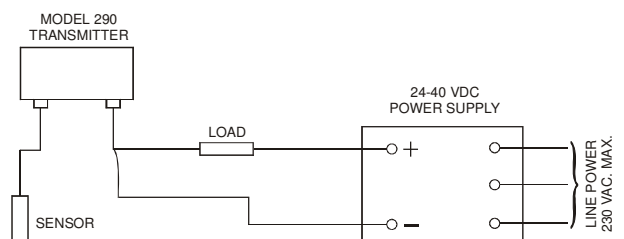
Isolated

- pH - 290P3F5AONI (0-14 pH)
- ORP - 290R3F5AONI (-2000 to + 2000 mV)

Sensors

	pH	ORP
<i>With Integral Preamplifier</i>		
DEMT	7028PO	3028RO
Repairable	6136POA	2136ROA
<i>With External Preamplifier</i>		
FermProbe	F600P	F600R
Retractable	RP6300P	RP6300R
DynaProbe	ST 873P	ST 873R
DuraProbe	AC600P	AC600R
(SS 316/Teflon)		

System Diagram



Specifications

Operational

Display: Digital	3 1/2 digit liquid crystal, 1/2" high digits
Ambient Conditions	-20 to 50 °C (-4 to 122 °F), 0-100% R.H.
Temperature Compensation	Automatic, 0-95 °C (32-203 °F) for pH transmitter
Sensor-to-Transmitter Distance	3000 feet maximum
Power Requirements	15 to 40 volts DC, connections via terminal strip
Analog Output	Isolated/non-isolated 4-20 mA over 0-14 pH or \pm 2000 mV
System loads: ...Minimum	For supply less than 40 VDC: Zero ohms For supply greater than 40 VDC: Use formula $250 \times (\text{supply voltage} - 40) = \text{load (in ohms)}$
Maximum	$50 \times (\text{supply voltage} - 15) = \text{load (in ohms)}$ e.g. 450 ohms for 24 VDC supply

Performance (Electrical, 4-20 mA Output)

Sensitivity	0.1% of full scale
Stability	0.05% of full scale per day, non-cumulative
Repeatability	0.003 mA
Non-Linearity	0.2% of full scale
Temperature Drift	0.002 mA per °C
Response Time	2 seconds

Mechanical

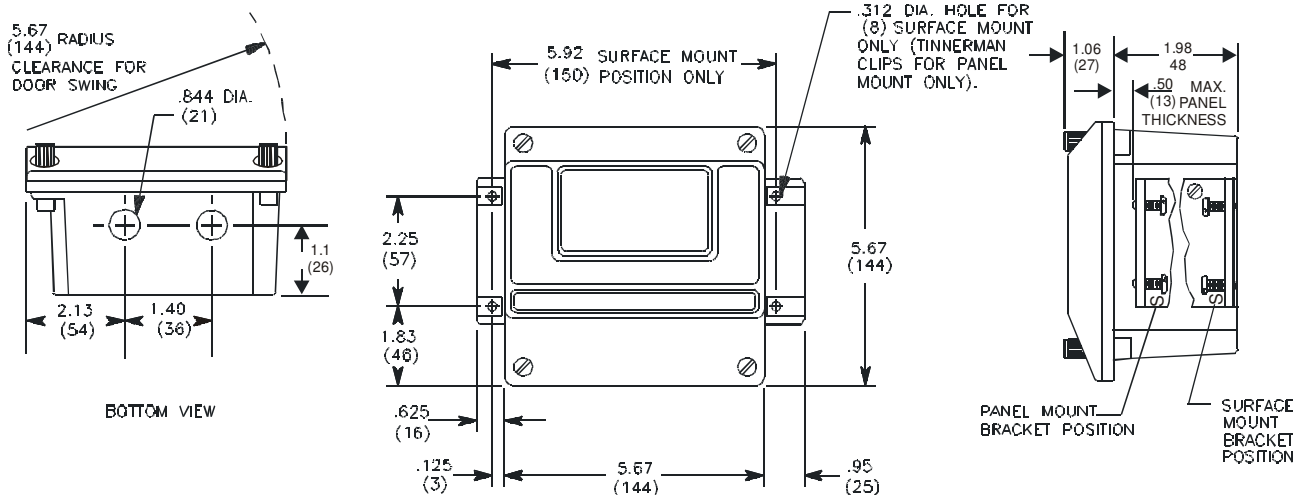
Enclosure	NEMA 4X, 1/2 DIN, polycarbonate, surface or pipe mount, general purpose
Net Weight	1.7 lbs. (0.77 Kgs.)

Sensors & Mounting Hardware (ordered separately)

Refer to data sheets DEMENT, Epoxy, FR, F600 & DynaProbe, Preamplifier (714)

Enclosure Dimensions & Mounting

Inches (mm)



Panel Cutout 5.43 in. (138 mm) square