

## Model 690 Two Wire pH & ORP Transmitters

### FEATURES

- Two-wire system simplifies wiring
- Local Indication
- Integral calibration controls
- High strength NEMA 4X case
- Dual-scaled analog meter (pH or mV and 4-20 mA output),
- Surface or pipe mount (fibreglass bracket included)



### Description:

It is a field mounted transmitter requiring only two wires for output and power connections. Special cables are not required. The Model 690 draws current from a remote DC voltage power supply. This controlled current loop has high noise immunity permitting use of a simple twisted pair of stranded wires. Because current is measured instead of voltage, the resistance of the wire does not affect accuracy.

Model 690P and 690R transmitters are intrinsically safe designed. That is, an explosion combined proof enclosure is not required when located in case I or II, Division I hazardous areas, (Figure B) when powered through a suitable barrier. The barrier and power supply must be located in safe area.

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 voltage power supply.

### Specifications

#### Operational:

Display: Meter (standard).....	3" diameter, dual-scaled
Digital (optional).....	3 ½ digit liquid crystal, ½" high digits
Measuring Range    671P:.....	0.00 to 14.00 pH
671R:.....	Standard 0-500 mV/0-1000 mV/0-2000 mV
Ambient Conditions.....	0 to 50°C (-32 to 122°F), 0-100% R.H.
Temperature Compensation.....	Automatic, 0-95°C (32-203°F)
Sensor-to-Transmitter Distance.....	300 feet maximum
Power Requirements.....	18 to 40 volts DC, connections via terminals strip
Analog Output.....	Isolated 4-20 mA
System Loads: Minimum.....	For supply greater than 40VDC: use formula
	For supply greater than 40 VDC: use formula
	250 X (supply voltage – 40) = load (in Ω)
Maximum .....	e.g. 450 Ω for 24 VDC supply

#### Analyzer Performance (Electrical, Analog Outputs):

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, polyvinylchloride (PVC),
	Surface or pipe mount, general
	purpose - Safe for Division 2.
Net Weight.....	1.7 lbs. (0.77 Kg)

### Ordering Information

#### Product Number Digital Display

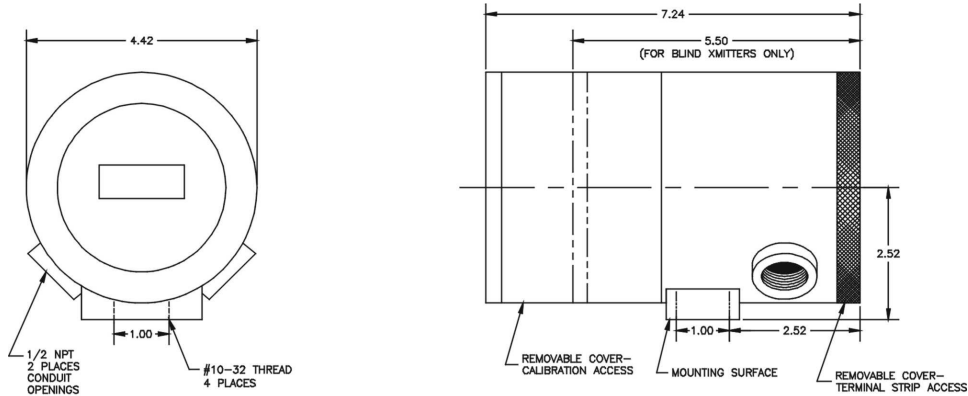
690P3F5A0N  
690R3F5A0N

### Accessories

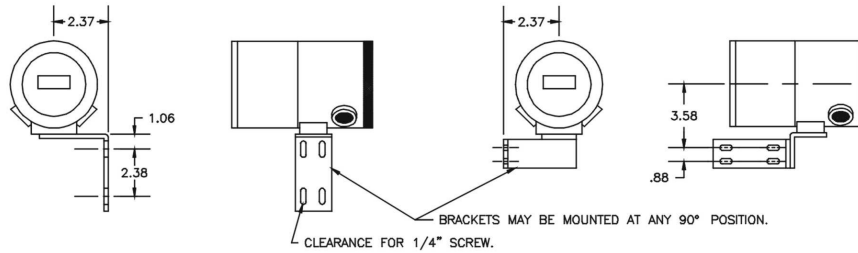
Power Supply – Provides (+) 24, 32 or 40 VVDD, user selectable  
Model 3041 Repeater Barrier – for Intrinsically safe applications.

# Dimensions and Mounting

Inches (mm)



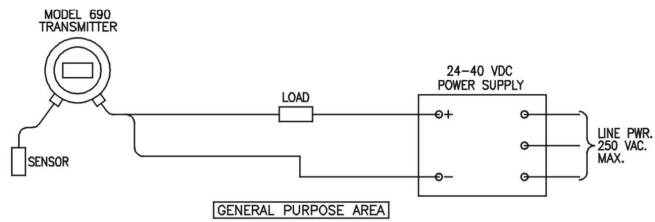
## Mounting Configurations



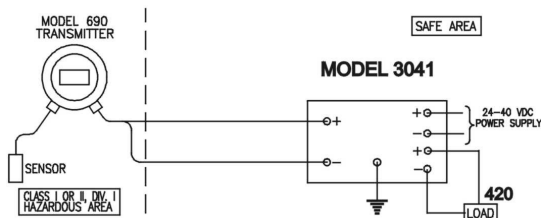
Wall Mount/Horizontal Pipe Mount

Wall Mount/Vertical Pipe Mount

## Systems Diagrams



General Purpose Area Use (Powered without Barrier)



Hazardous Area Use (Powered through Barrier)