

Model 690 Two Wire Conductivity Transmitters (For Contacting & Electrodeless Type Sensors)

FEATURES

- Two-wire system simplifies wiring
- Local Indication
- Integral calibration controls
- High strength NEMA 4X case
- Dual-scaled analog meter
(Conductivity 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 690C and 690E 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.....	3-1/2 digit LCD with 1/2 (13 mm) high digits
Measuring Range: Model 690C	0-20, 200 & 2000 μS/cm; 0-20 mS/cm
Model 690E	0-200, 2000 ms/cm; 0-20, 200, 2000 mS/cm 0-1000 mS/cm
Ambient Conditions	-22 to 122 °F (-30 to 50 °C), 0 to 100% relative humidity, non-condensing. 70 °C & condensing-optional
Temperature Compensation	Automatic 32-482°F (0-230°C); Fixed at 2% per °C, 0-4% per °C
Sensor-To-Analyzer-Distance: 690C.....	300 ft. max
690E	100 to 300 ft. max.
Power Requirements.....	15 to 40 volts DC, connections via terminal strip
Analog Output.....	Isolated / non-isolated 4-20 mA within set range
System Loads : Minimum.....	For supply less than 40 VDC: zero Ω For supply greater than 40 VDC: use formula
	250 x (supply voltage – 40) = load (in Ω)
Maximum.....	50 x (supply voltage – 15) = (load in Ω) e.g. 450 Ω for 24 VDC supply

Analyzer Performance (Electrical, Analog Output):

Sensitivity	0.1% of span
Stability	0.1% of span per 24 hours, non-cummulative
Non-Linearity	0.11% of span
Repeatability	0.1% of span
Temperature Drift	Zero: 0.02% of span per °C Span: 0.02% of span per °C
Response Time	5 seconds to 90% of value upon step change

Mechanical:

Enclosure	NEMA 4X, 1/2 DIN, Polycarbonate with Two 1/2 -inch conduit holes and two stainless steel mounting brackets
Net Weight	1.7 lbs. (1.35 kg approximately)

Ordering Information

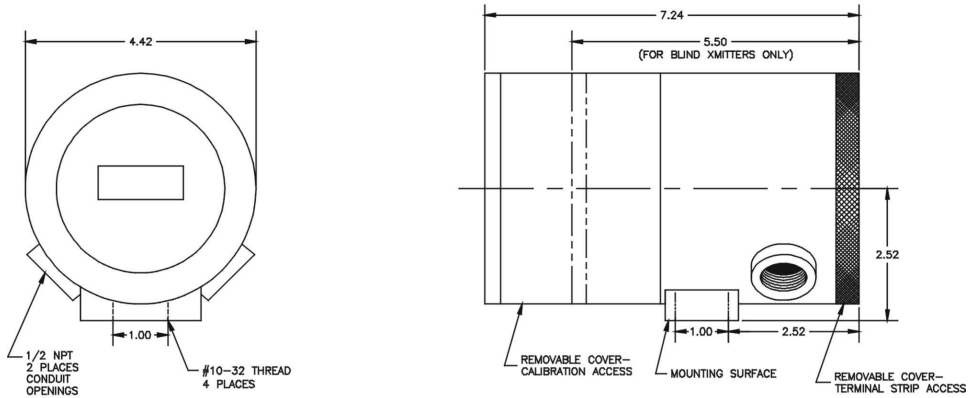
690C3F5AON
690E3F5AON

Accessories

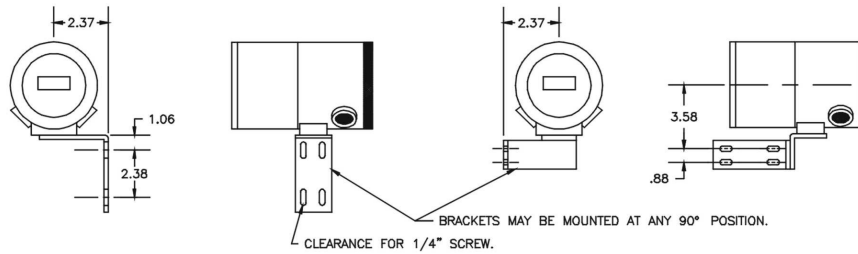
Power Supply – Provides (+) 24, 32 or 40 VVDD, user selectable
Model 3041 Repeater Barrier – for Intrinsically safe applications.

Dimensions and Mounting

Inches (mm)



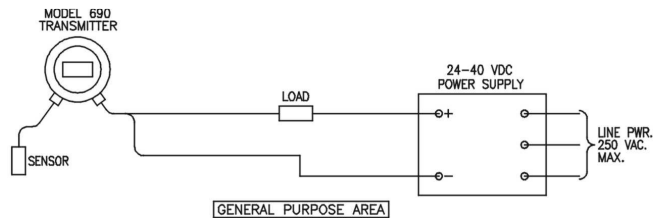
Mounting Configurations



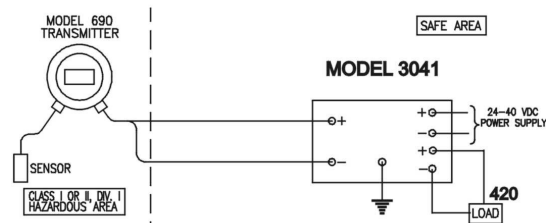
Wall Mount/Horizontal Pipe Mount

Wall Mount/Vertical Pipe Mount

Systems Diagrams



General Purpose Area Use (Powered without Barrier)



Hazardous Area Use (Powered through Barrier)