

**SERIES 6100MP/FM
FLANGE MOUNTED LEVEL TRANSMITTER**



FEATURES

- Continuous Output
- Non Fouling Flush Diaphragm Design
- For Sludge & Sewage Applications
- 316SS Construction
- Teflon, 316SS, Viton Diaphragm
- Microprocessor Based Electronics
- Ultra Stable/High 0.2% Accuracy
- 4/20MA and/or RS485 MODBUS® Outputs
- Ranges to 115 Feet Water Plus
- No Desiccants or Breather Tubes
- Fully Repairable & Field Calibrateable

CONSTRUCTION

The Series 6100MP/FM Microprocessor Based level system is composed of a lower flanged mounted assembly sensor, electrical cable and optional meter/controller. The lower assembly sensor has a 2" heavy duty PVC flange, a 2-1/2" diameter Viton* or stainless steel convoluted diaphragm and an isolated solid state piezo-resistive pressure transducer. The integral microprocessor based electronics provide active temperature compensation and significantly improved performance while offering a range of outputs including 4/20MA, RS485, MODBUS®.

The electrical cable is 20-gauge direct burial polyurethane jacket shielded cable available in unspliced lengths to 1000 feet. Mounted on a pipe or tank flange, the series 6100MP/FM sensor measures the pressure imposed on the diaphragm by the liquid pressure. Calibrated to specific gravity of the process fluid, the sensor operates reliably on process piping or tank connections, especially if the process contains sludge or slurry.

The straight-forward design and construction of the 6100MP/FM sensor recommends it for use in water, wastewater and process

applications whenever an analog or digital signal is required for pump control, indication, alarm or telemetry applications.

MOUNTING & PROCESS MEDIA REQUIREMENTS

The 6100MP/FM sensor can be either pipe or tank flange connected. The process media can be any type compatible with the sensor and cable materials, (316SS, PVC, or Viton*).

SOLID STATE PRESSURE SENSOR

The sensing element of the solid state pressure sensor consists of four nearly identical piezo-resistors buried in the surface of a thin circular silicon diaphragm. Gold wires attached to the silicon chip surface provide connection to the piezo-resistors and serve as pads for bonding of the wire leads. Pressure causes the thin diaphragm to flex, inducing a stress or strain in the diaphragm and also in the buried resistors. Therefore, a change in pressure (mechanical input) is converted to a change in resistance (electric output). The sensing element converts (tranduces) one form of energy to another. Viton and 316SS diaphragms are available.

SERIES 6100MP/FM FLANGE MOUNTED LEVEL TRANSMITTER

TYPICAL SPECIFICATIONS

The liquid level of the _____ shall be sensed by a Sigma Controls Series 6100MP/FM flange mounted level sensor. The transducer shall be microprocessor based with active temperature compensation offering \pm accuracy, 4/20MA and/or digital data output directly proportional to the measured liquid level over a factory calibrated range of zero to _____ feet of water. The sensor shall be of the solid state head sensing type, suitable for continuous operation and shall be installed in accordance with the manufacturer's directions.

The bottom face of the sensor shall be installed _____ inches above the tank floor at elevation _____. The sensor shall be mounted using a 2", 150# ANSI flange.

The sensor housing shall be machined from 316SS with a 2-1/2 inch diameter Viton* convoluted diaphragm clamped between two rings to provide a water tight pressure seal.

A silicon oil fill liquid behind the diaphragm shall transmit the sensed pressure to a solid state isolated piezo-resistive pressure transducer which shall convert the sensed pressure to a corresponding electrical value.

The sensed pressure shall cause a thin silicon diaphragm to flex, inducing a strain or stress in both the diaphragm and the attached piezo-resistors. Any change in pressure shall result in a change in output reading.

The optional meter/controller shall be a microprocessor based device with graphical backlit LCD display and 5 user function keys. The meter/controller shall be fully user configurable an offer as standard 2 or 4 output relays and 4/20MA retransmission signals. It shall be a Myriad LC1 or LC2 manufactured by Sigma Controls, Inc.

The fiberglass re-enforced polyester enclosure is Nema 4X with a molded clear window and an aluminum hinged instrumentation panel.

*Teflon & 316SS Diaphragms are available. Contact Factory.

Teflon & Viton are E. I. DuPont Products.

SENSOR SPECIFICATIONS

**Ranges:

ft of Water: 0/5, 0/12, 0/16, 0/35, 0/70,

0/115

Pressure (PSIG): 0/2, 0/5, 0/7, 0/15, 0/30,

0/50

**Contact factory for additional ranges.

Thermal Limits:

Max: Operating:

-40° C/85°C (-40°F/185°F)

Compensated:

0C/50°C (32°F/122°F)

Temp. Effects:

\pm 0.2% Output Span within compensated range

Accuracy:

\pm 0.2% of Span

Input:

7.8 – 36 VDC (See Table)

Output:

4/20MA

4/20MA and MODBUS®

Electrical Connection:

Attached Two Wire Submersible Polyurethane Jacketed Cable.

Cable Color Code:

Red (+) Power

Black (2) Power

Yellow Digital 'A'

Blue Digital 'B'

Materials of Construction:

316SS body and PVC Clamp Rings

300 Series SS Bolts

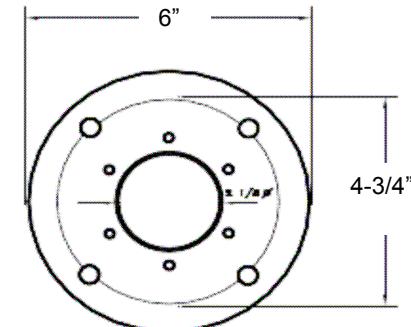
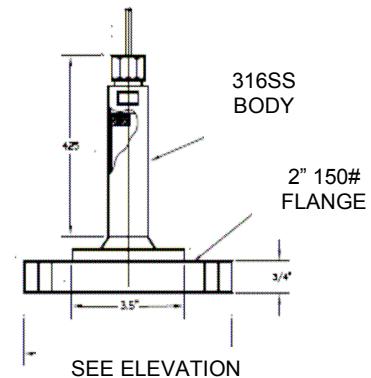
Convoluted Molded Viton*

Diaphragm

Buna 'O' Ring

Neoprene Grommet

Polyurethane Jacketed Cable



FRONT ELEVATION

MODEL	RANGE	I/O	FILL	OPTIONS	CABLE LENGTH
6100MP/FM	*	*	*	*	SPECIFY
MODEL					
6100MP/FM = 316 SS BODY					
RANGES					
002 = 0/2 = 0/5 FT WC					
005 = 0/5 = 0/12 FT WC					
007 = 0/7 = 0/16 FT WC					
015 = 0/15 = 0/35 FT WC					
030 = 0/30 = 0/70 FT WC					
050 = 0/50 = 0/115 FT WC					
FILL LIQUID					
DS = SILICONE 200 FILL LIQUID					
VOLTAGE					
7.8 – 36 VDC					
OUTPUT					
1) 4/20MA					
2) 4/20 + MODBUS®					
OPTIONS					
CD = CONDUIT ADAPTER					
CABLE LENGTH					
SPECIFY LENGTH IN FEET					