

Model 1151/3051P Pressure Transmitter

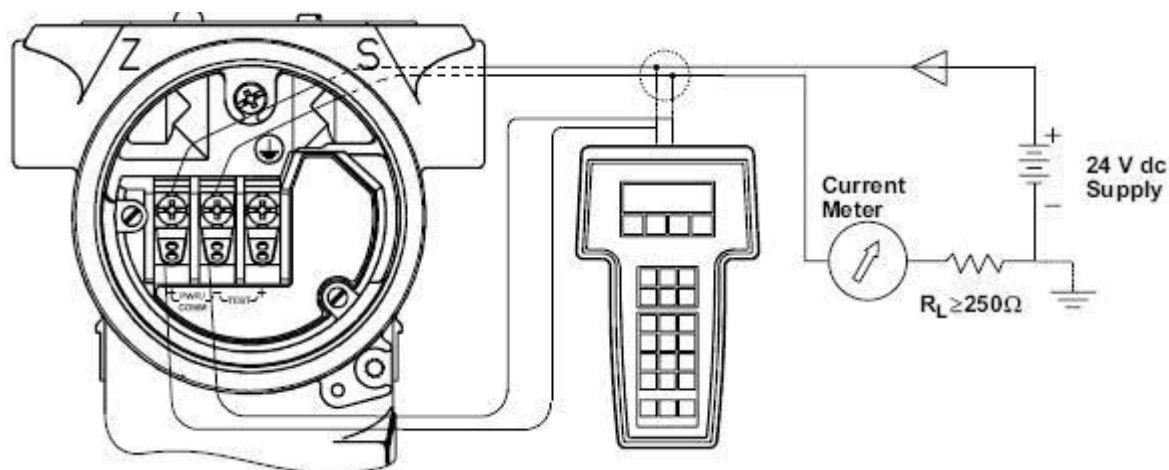


STRONG M&C's 3051(&1151) P pressure transmitter provides a kind of reliable measuring way. It is used for measuring pressure, level, density of liquid, gas or steam and convert the value of above into current signal output or digital protocol output. The pressures are directly applied to the isolating diaphragm that provide isolation and resistance against process fluid corrosion. Being microprocessor based, the electronic circuit is extremely versatile and accurate. Combined with the sensor precision, it provides the high accuracy and range ability. Transmitter performance is improved by continuous monitoring of the sensor temperature and corresponding corrections. A local display permits easy reading and writing of data.

The Model 3051 design is offered for Differential Pressure (DP), Gage Pressure (GP) and Absolute Pressure (AP) measurements. The Model 3051 utilizes capacitance sensor technology for pressure measuring. The major components of the Model 3051 are the sensor module and the electronics housing. The sensor module contains the oil filled sensor system (isolating diaphragms, oil fill system, and sensor) and the sensor electronics. The sensor electronics are installed within the sensor module and include a temperature sensor (RTD), a memory module, and the capacitance to digital signal converter (C/D converter). The electrical signals from the sensor module are transmitted to the output electronics in the electronics housing. The electronics housing contains the output electronics board (microprocessor, memory module, digital to analog signal converter or D/A converter), the local zero and span buttons, and the terminal block.

For the Model 3051 design pressure is applied to the isolating diaphragms, the oil deflects the center diaphragm, which then changes the capacitance. This capacitance signal is then changed to a digital signal in the C/D converter. The microprocessor then takes the signals from the RTD and C/D converter calculates the correct output of the transmitter. This signal is then sent to the D/A converter, which converts the signal back to an analog signal and superimposes the HART signal on the 4-20 mA output.

WIRING DIAGRAMS



Connect the bench equipment as shown in Figure, and turn on the HART-based communicator by pressing the ON/OFF key. The communicator will search for a HART-compatible device and will indicate when the connection is made. If the communicator fails to connect, it will indicate that no device was found.

TECHNICAL SPECIFICATIONS

Measuring object: liquid, gas and steam

Measuring range: 0~0.1kPa to 0~40MPa

Output signal: 4~20mA DC+HART protocol

Power supply: 12~45V DC, generally 24V DC

Range and null point: adjustable

Humidity: relative humidity 5~95%

Precision: 0.25%FS

Converter housing: Low copper cast aluminum alloy with Polyurethane paint

Fill Fluid: Silicon / Fluorine Oil

Process Connections: 1/2NPT, 1/4NPT

Protection Class: IP65

Maximum positive shift is 500% of minimum adjusting span; maximum negative shift is 600% of minimum adjusting span.

Static pressure: 4, 10, 25, 32Mpa

Mounting : Directly supported by piping or optionally with mounting bracket for 2" pipes or with direct or remote seals. 3-way valve

Material:

Flange/Adaptor : Stainless Steel 316/Monel/ Hastelloy/Carbon Steel

Drains/Vents: Stainless Steel 316/Monel / Hastelloy

Diagrams: Stainless Steel 316/Monel /Hastelloy C/ Tantalum

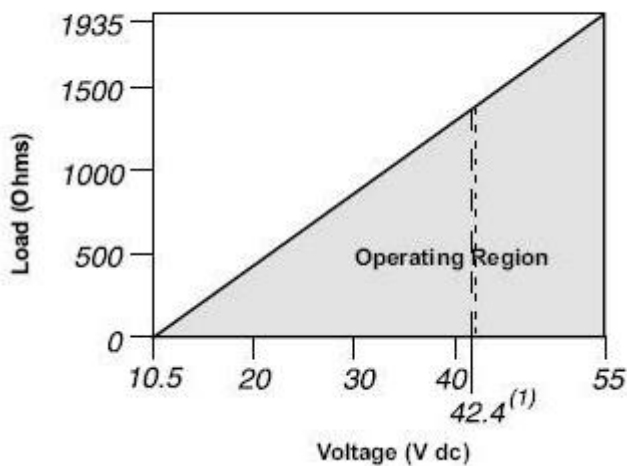
Wetted O-Ring: Viton/ Buna-N

Seal O-Ring: Viton/ Buna-N

Bolts & Nuts: Carbon Steel/Stainless Steel316

POWER SUPPLY LOAD LIMITATIONS, 4–20 MA TRANSMITTERS

Max. Loop Resistance = 43.5 × (Power Supply Voltage – 10.5)



ORDERING CODES

3051P Pressure Transmitter		Introduction
Range	2	0~0.125-1.5KPa
	3	0~1.3-7.5KPa
	4	0~6.2-37.4 KPa
	5	0~31.1-186.8 KPa
	6	0~117-690 KPa
	7	0~345-2068 KPa
	8	0~1170-6890 KPa
	9	0~3450-20680 KPa
	0	0~6890-41370 KPa
Output	E	4-20mADC

Model 1151/3051P Pressure Transmitter

	S	Smart: 4-20mA+Hart protocol			
Material		Flange /Adaptor	Drains/Vents	Diagrams	Fill Fluid
	22	Stainless Steel 316	Stainless Steel 316	Stainless Steel 316	Silicon Oil
	23	Stainless Steel 316	Stainless Steel 316	Haste alloy	Silicon Oil
	24	Stainless Steel 316	Stainless Steel 316	Monel	Silicon Oil
	25	Stainless Steel 316	Stainless Steel 316	Tantalum	Silicon Oil
	33	Haste alloy	Haste alloy	Haste alloy	Silicon Oil
	35	Haste alloy	Haste alloy	Tantalum	Silicon Oil
	44	Monel	Monel	Monel	Silicon Oil
	M1	0-100% Indicator Meter			
	M3	3 1/2 LCD Meter			
		No Meter			
	B1	2" Pipe Mounting Angle Bracket, Carbon steel			
	B2	Wall Mounting Angle Bracket, Carbon Steel			
	B3	2" Pipe Mounting Bracket, Carbon steel			
		No Bracket			
		Static pressure 1MPa			
		Static pressure 4MPa			
	H1	Static pressure 10MPa			
	H2	Static pressure 14MPa			
	H3	Static pressure 25MPa			
	H4	Static pressure 32MPa			