

Model 1151/3051LT Flange Differential Pressure Transmitter

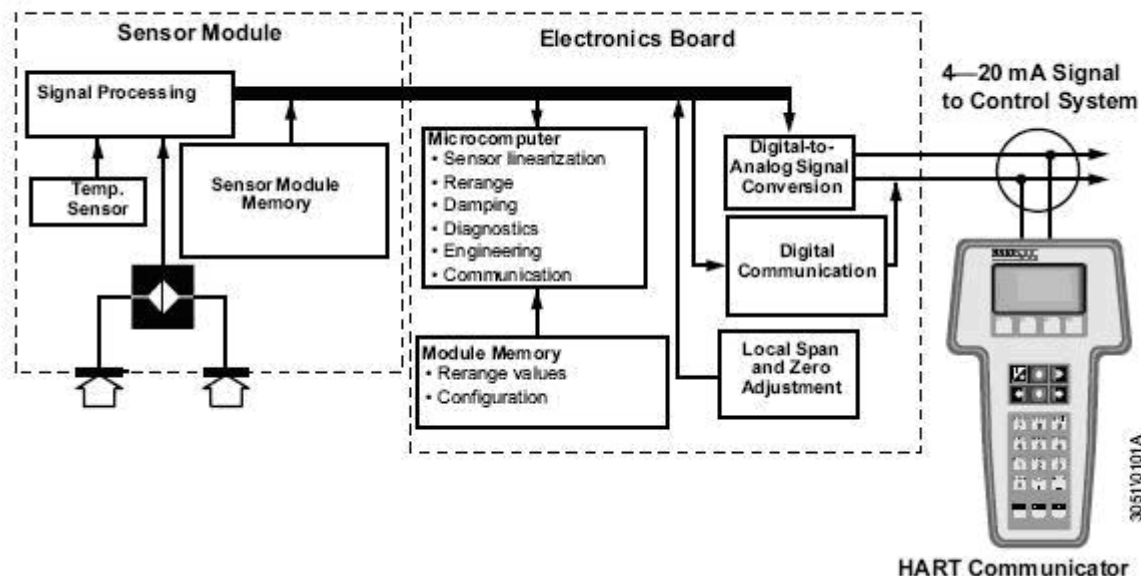


STONG M&C's 3051(&1151) LT flange differential pressure transmitter provides a kind of reliable measuring way. It is used for measuring pressure (or differential pressure), level, density of liquid, gas or steam and converts the value of above into current signal output or digital protocol output. The 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 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, sensor and mounting flange) 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.

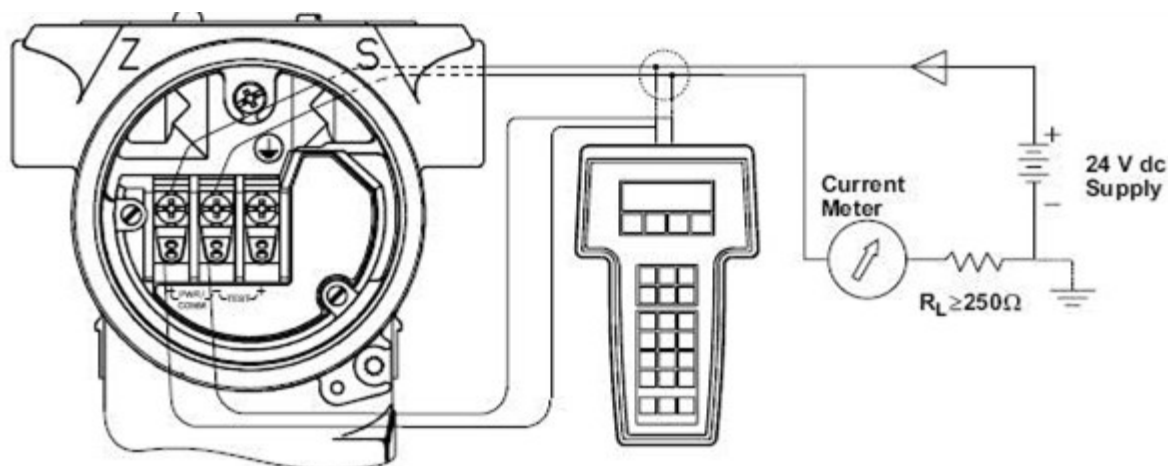
For the Model 3051LT design pressure is applied to the isolating diaphragm which is welded on the flange. Flat flange and insert flange are available. The sizes of the flange can be customized according to use's requirements. The material of diaphragm can be optional for different kinds of corrosive liquid as well.

Figure 1-1. Block diagram of operation



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.

Mounting : Flange

Material:

Flange : Stainless Steel

Drains/Vents: Stainless Steel 316/Monel / Hastelloy

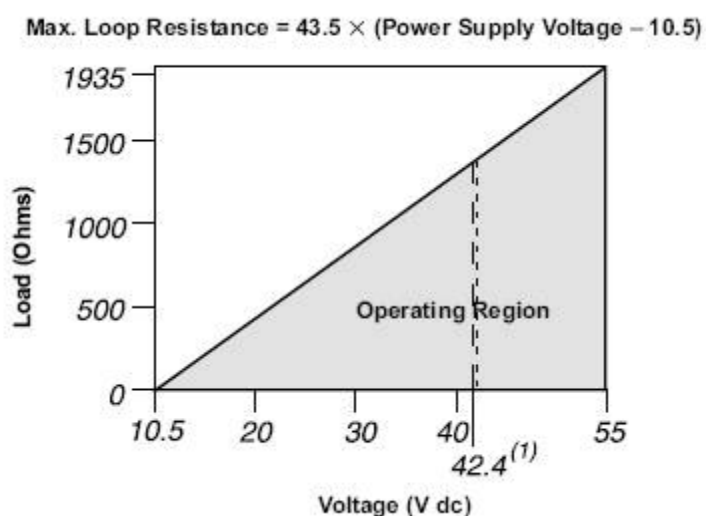
Diagrams: Stainless Steel 316/Monel /Hastelloy C/ Tantalum

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



ORDERING CODES

1151/3051LT Flange Differential Pressure Transmitter			
	Measuring Range		
3	0-1.3~7.5KPa		
4	0-4-40KPa		
5	0-40~200KPa		
6	0-0.16KPa~1MPa		
	Signal Output		
E	4-20mA		
S	Smart 4-20mA+HART Protocol		
	Size of Flange(Flat and Insert), Material of Diaphragm on Flange		
	Nominal Diameter(mm)	Length of Insert Tube (mm)	Material of Diaphragm on Flange
A0	3" 80	Flat Flange	316LSST
A2	3" 80	50	316LSST
A4	3" 80	100	316LSST
A6	3" 80	150	316LSST
B0	4" 100	Flat Flange	316LSST
B2	4" 100	50	316LSST

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	B44" 100	100	316LSST		
	B64" 100	150	316LSST		
	C03" 80	Flat Flange	Haste alloy C-276		
	C23" 80	50	Haste alloy C-276		
	C43" 80	100	Haste alloy C-276		
	C63" 80	150	Haste alloy C-276		
	D04" 100	Flat Flange	Haste alloy C-276		
	D24" 100	50	Haste alloy C-276		
	D44" 100	100	Haste alloy C-276		
	D64" 100	150	Haste alloy C-276		
	E03" 80	Flat Flange	Tantalum		
	F04" 100	Flat Flange	Tantalum		
	Specification of Flange				
	A	3" 150lb			
	B	4" 150lb			
	C	3" 300lb			
	D	4" 300lb			
		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	
	24	Stainless Steel 316	Stainless Steel 316	Monel	
	25	Stainless Steel 316	Stainless Steel 316	Tantalum	
	33	Haste alloy	Haste alloy	Haste alloy	
	35	Haste alloy	Haste alloy	Tantalum	
			Optional		
		M1	0-100% Indicator Meter		
		M3	3 1/2 LCD Meter		
		M4	Smart Meter		