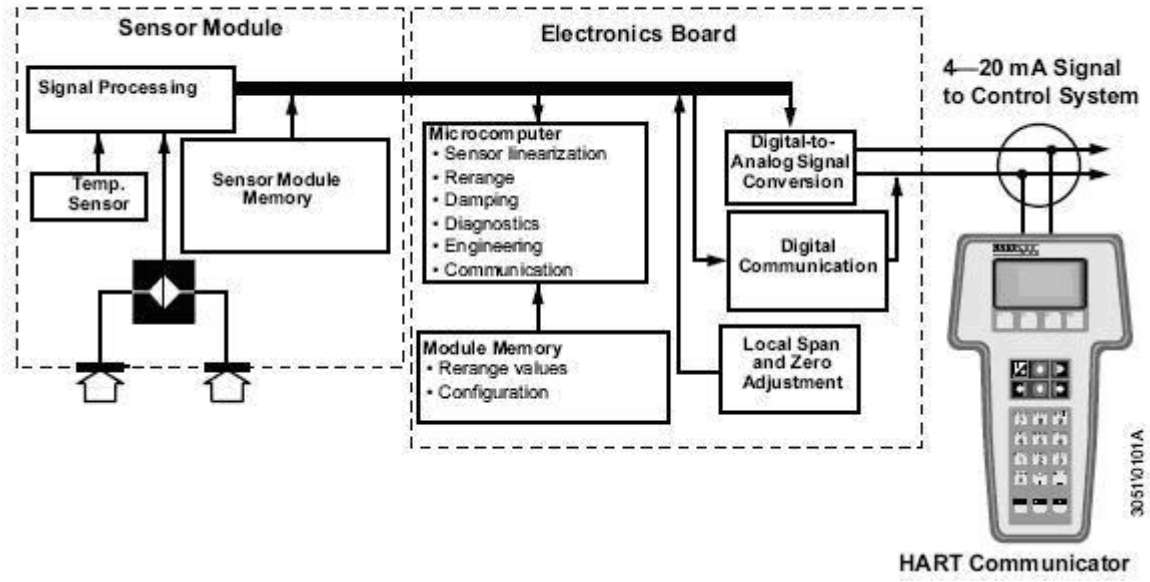
Model 1151/3051LT Flange Pressure Transmitter

STONG M&C´s 3051(&1151) LT flange 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.

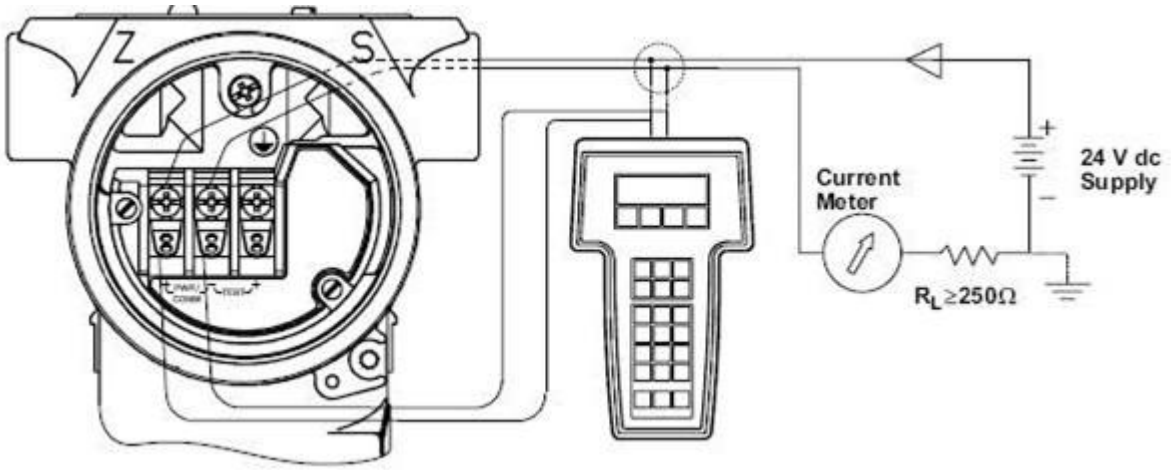
For the Model 3051LT design pressure is applied to the isolating diaphragm which is welded on the flange. Flat flange and insert flange are available. The sizes of the flange can be customized according to use´s requirements. The material of diaphragm can be optional for different kinds of corrosive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

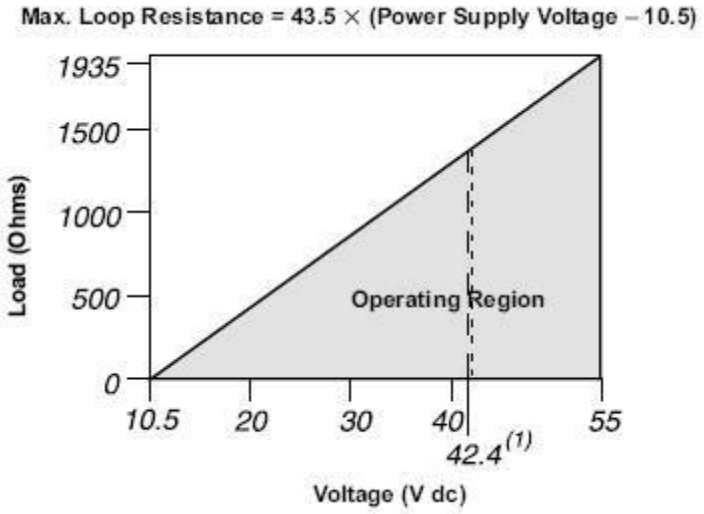
Diagrams: Stainless Steel 316/Monel /Haste alloy C/ Tantalum

Wetted O-Ring: Viton/ Buna-N

Seal O-Ring: Viton/ Buna-N

Bolts & Nuts: Carton Steel/Stainless Steel316

POWER SUPPLY LOAD LIMITATIONS, 4–20 MA TRANSMITTERS



ORDERING CODES

1151/3051LT	**Flange 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	
			B4	4″ 100	100	316LSST	
			B6	4″ 100	150	316LSST	
			C0	3″ 80	Flat Flange	Haste alloy C-276	
			C2	3″ 80	50	Haste alloy C-276	
			C4	3″ 80	100	Haste alloy C-276	
			C6	3″ 80	150	Haste alloy C-276	
			D0	4″ 100	Flat Flange	Haste alloy C-276	
			D2	4″ 100	50	Haste alloy C-276	
			D4	4″ 100	100	Haste alloy C-276	
			D6	4″ 100	150	Haste alloy C-276	
			E0	3″ 80	Flat Flange	Tantalum	
			F0	4″ 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	31/2 LCD Meter
M4	Smart Meter