

MDM3051LT Intelligent Flange level Transmitter

Specification

Media: the liquid, gas or stream;

Pressure range:

Range 4 0-1.0~37.4kPa(0-96~3810mmH₂O)

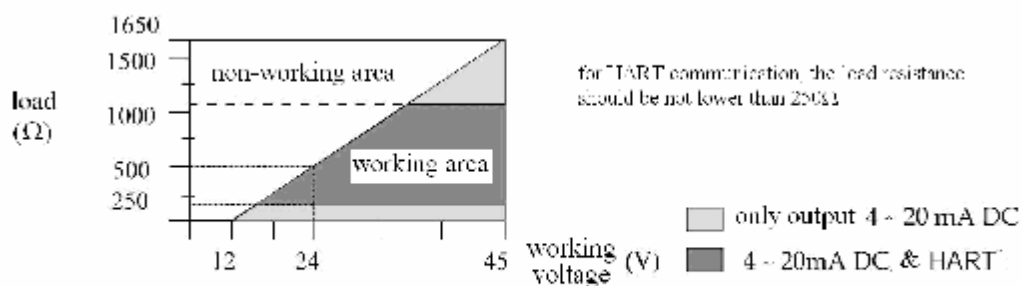
Range 5 0-4.7~186.8kPa(0-477~19050mmH₂O)

Range 6 0-17.3~690kPa(0-0.18~7kgf/cm²)

Output signal: linearity output: 4~20mA with HART[®] digital signal (2-wire)

Power: outside power 24V DC (power range 12V~45V)

Load: the available max. load resistance in the loop, $R_{max}=(E-12)/0.02(\Omega)$



Load Characteristic Chart

Dangerous area options: Exd d II CT5;

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Load: 无 no matter what output is, after positive and negative elevation, the upper and lower limits should not exceed the range limit. For min. range, max. positive elevation is 0.975URL; the max. negative elevation is -URL;

Temperature range:

Media temperature -40~149°C (filled by silicon oil) ;
-18~204°C (filled by inertia liquid) ;

Storage temperature: -40~85°C

Operation temperature: -40~85°C

-20~70°C (with indicator) ;

Relative humidity: 0~100%

Static and overpressure: 150lb flange: 41.37kPa (absolute) ~1.89MPa (at 37°C, filled by silicon oil)

300lb flange: 41.37kPa (absolute) ~4.9MPa (at 37°C, filled by silicon oil)

Cubage change: <0.16cm³

Damp: 时 time constant is adjustable in 0.4~32.0s (filled by silicon oil)

Startup time: 3s, no need to warm up

Specification:

(At standard condition, no elevation and 316 stainless steel isolated diaphragm)

Range proportion: 40: 1

Accuracy: range shrink proportion is 1: 1~10: 1, accuracy is $\pm 0.15\%$ of calibrated range

Range shrink proportion is 10: 1~40: 1, accuracy is $\pm 0.075 (1+0.1URL/range) \%$ range;

Stability: Δ error is $\pm 0.15\%$ of max. range in six months;

Temperature effect: zero error is $\pm 0.375\%/55^\circ\text{C}$ of max. range

Total error including range and zero is $\pm 0.75\%/55^\circ\text{C}$ of max. range;

Power supply effect: $< 0.005\%/V$ of output range

Shock effect: at any axis, frequency 200Hz, the error is $\pm 0.05\%/g$ of max. range;

Load effect: 只 as long as input voltage is higher than 12V, no load effect in load working are;

Installation position effect: when pressure transferring diaphragm is vertical, the possible zero error is max. 0.25kPa; when pressure transferring diaphragm is horizontal, the possible zero error is max. 0.98kPa. (for inserted flange, need to consider the inserted length) , but it has no effect for pressure range, and the error could be avoided by calibration;

Electromagnetism radiation: conform to Standard IEC801

Construction

Construction Material:

Diaphragm: 316 stainless steel, Hastelloy C, tantalum;

Inserted part: 316 stainless steel, Hastelloy C;

Exhaust valve: 316 stainless steel, Hastelloy C;

Flange and connector: 316 stainless steel, Hastelloy C;

O-ring (contact with media): Viton, NBR, ethane-propylene; 0

Installed flange (not contact media) : carbon steel plating cadmium
(or 316 stainless steel) ;

Bolt: carbon steel galvanization, 1Cr18Ni9, 0Cr17Ni4CuNb, 42CrMo;

Filled liquid: silicon oil or inertia liquid;

Electric housing: low copper-aluminum alloy;

Coating: polyester epoxy resin

Pressure leading connector:

high pressure side: 3" or 4"150lb flange or 300lb flange;

Low pressure side: flange thread $1/4$ -18NPT;

connector thread $1/2$ -14NPT;。

Electric connection: use leading tube with $1/2$ -14NPT thread and terminals, as well as matched experimental film;

Weight:

Diaphragm				
Flange	Flat flange	2" inserted tube	4" inserted tube	6" inserted tube

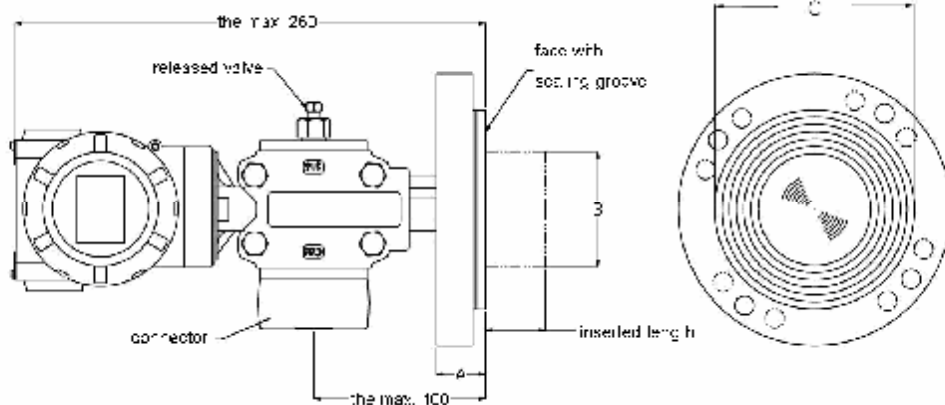
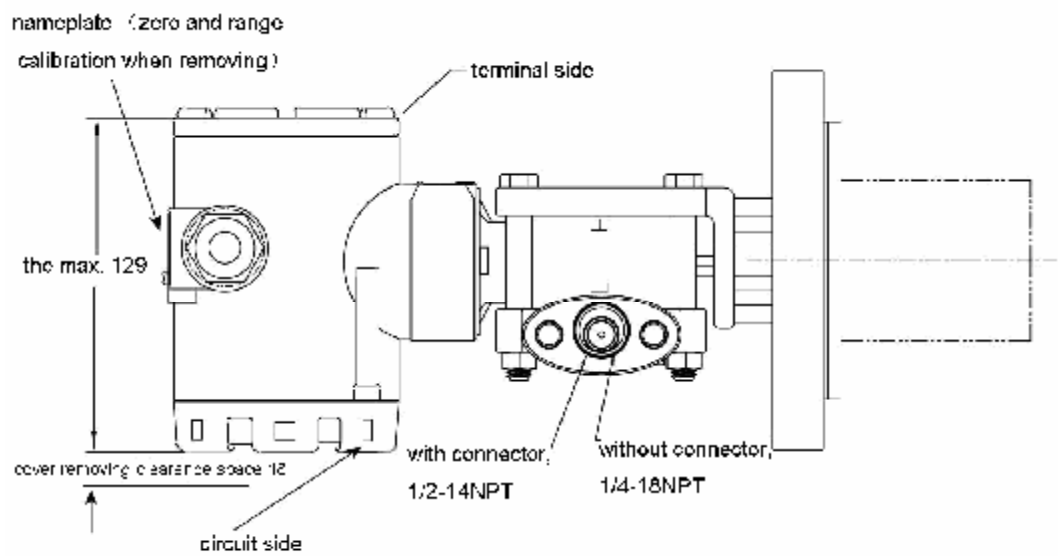


MDM3051 Series Intelligent Pressure/Differential Pressure/Level Transmitter

3"	150lb	8.9kg	9.8kg	10.3kg	10.7kg
4"	150lb	11.6kg	12.9kg	13.9kg	14.8kg
3"	300lb	11.1kg	12.1kg	12.5kg	12.9kg
4"	300lb	15.7kg	17kg	18kg	22.9kg

Flange dimension:

Part number	Flange dimension (Unit: mm)						Bolt hole (Unit: mm)		
	dimension	spec	diameter	A	B	C	qty	diameter	Distributing diameter
A	3"	150lb	190.5	30	66	127	4	19	152
B	4"	150lb	228.6	30	89	157	8	19	190
C	3"	300lb	209.6	35	66	127	8	22.2	168
D	4"	300lb	254	38	89	157	8	22.2	200



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MDM3051LT		Intelligent Flange Level Transmitter			
Code	measure range				
4	0-1.0 ~ 37.4kPa				
5	0-4.7 ~ 186.8kPa				
6	0-17.3 ~ 690kPa				
Code	Output				
E	4~20mA DC output signal with HART protocol output signal				
Code	dimension	inserted length		high pressure side diaphragm material	
A0	3"	0		316L SS	
A2	3"	50.8mm(2inch)		316L SS	
A4	3"	101.6mm(4inch)		316L SS	
A6	3"	152.4mm(6inch)		316L SS	
B0	4"	0		316L SS	
B2	4"	50.8mm(2inch)		316L SS	
B4	4"	101.6mm(4inch)		316L SS	
B6	4"	152.4mm(6inch)		316L SS	
C0	3"	0		Hastelloy C	
C2	3"	50.8mm(2inch)		Hastelloy C	
C4	3"	101.6mm(4inch)		Hastelloy C	
C6	3"	152.4mm(6inch)		Hastelloy C	
D0	4"	0		Hastelloy C	
D2	4"	50.8mm(2inch)		Hastelloy C	
D4	4"	101.6mm(4inch)		Hastelloy C	
D6	4"	152.4mm(6inch)		Hastelloy C	
E0	3"	0		Tantalum	
F0	4"	0		Tantalum	
Code	installation flange spec			remark	
A	3" 150 lb			match to code A□、C□、F0□	
B	4" 150 lb			match to code B□、D□	
C	3" 300 lb			match to code A□、C□、F0□	
D	4" 300 lb			match to code B□、D□	
Code	construction material				
	flange connector	released valve	diaphragm	filled liquid	
22	316L SS	316L SS	316L SS	silicon oil	
23	316L SS	316L SS	Hastelloy C		
25	316L SS	316L SS	Tantalum		
33	Hastelloy C	Hastelloy C	Hastelloy C		
35	Hastelloy C	Hastelloy C	Tantalum		
2A	316L SS	316L SS	316L SS	inertia liquid	
2B	316L SS	316L SS	Hastelloy C		
2D	316L SS	316L SS	Tantalum		
3B	Hastelloy C	Hastelloy C	Hastelloy C		
3D	Hastelloy C	Hastelloy C	Tantalum		
Code	high pressure side filled liquid		operation temperature(°C)		
D	silicon oil		-40~149		
F	inertia liquid		-18~204		
S	syltherm800 silicon oil		-40~205		
Code	Others				
refer to specification					
MDM3051LT 4 E A0 A 22 D M4Da ← typical part number					



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