Diaphragm Level Transmitter

Smart Level Transmitter

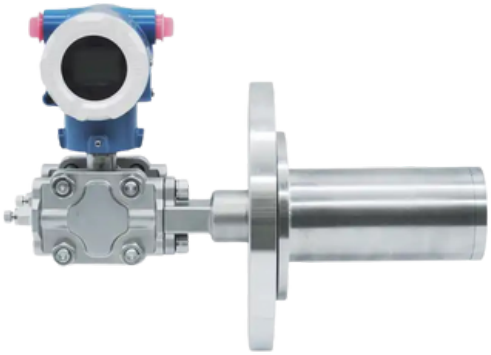
Model AT3051LT Series

& GENERAL

AT3051LT seriesis a digital differential pressure transmitter designed for industrial level measurement applications.
It can be configured to provide intergrated solutions for a broad range of pressure and flow measurement applications.

& FEATURES

Updating time of outputcurrent in 200 ms
Improved performance, increased accuracy and greater stability
Two years stability of 0.15%
0.1% accuracy
Parameter setting by keypad directly
4-20 mA output plus direct digital HART communication
Automatic zero calibration by push-button
Explosion proof and weather proof housing



& STANDARD SPECIFICATION

Process Fluid	Liquid
Application	Liquid Level, Differential Pressure, Gauge Pressure, Absolute Pressure
Measuring Range	0 - 6.0 kPa ~ 0 - 40 kPa (Minimum) 0 - 4.0 MPa ~ 0 - 20.0 MPa (Maximum)
Accuracy	+/- 0.1% of span
Stability	+/-0.15% of URL for 2 years
Working Temperature	-40 to +250 °C
Max. Pressure	40 MPa (Dependent on flange rating)
Material	Flange/Adapter : Carbon Steel / Stainless Steel 304 / : Stainless Steel 316
	Diaphragm : Stainless Steel 316L / Hastelloy B / Hastelloy C / Monel / Tantalum
	Bolts & Nuts : Carbon Steel / Stainless Steel 316
	Name / Tag Plate : Stainless Steel 304 / Stainless Steel 316
	Converter Housing : Low copper cast aluminum alloy with polyurethane, light blue paint
	Fill Fluid : Silicone / High Temperature Silicone Fluorine Oil / Vegetable Oil
Protection Class	IP67 (Standard) Intrinsically Safe EEx ia IIC T5 (Standard) Explosion proof Ex D IIB T5

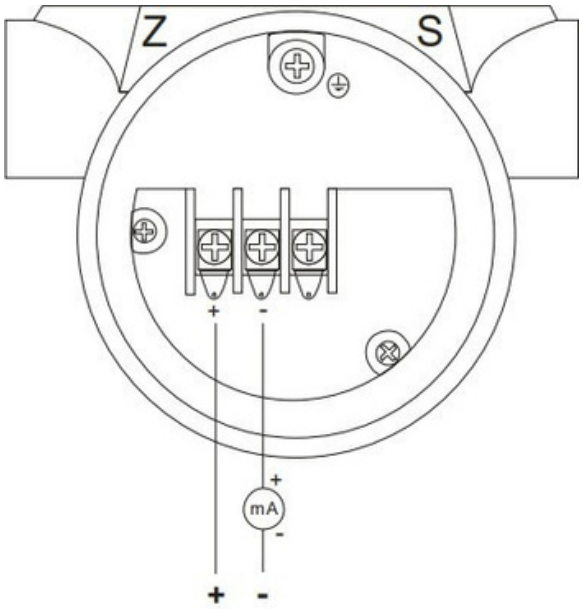
Display	5 Digits programmable & 0-100% Bargraph
Display Unit	Standard 22 different engineering unit 5 Digits programmable for special unit
Keypad	3 internal keys for programming and output setting
Current Output	4 - 20 mA 2 wires with Hart Signal (Compatible) Load : Rohm=(Vdc-9)*50
Power Supply	9 - 32 VDC
Digital Communication	Hart Protocol
Damping	0 - 32 seconds
Response Time	100 mS
Turn on Time	2 Seconds with minimum damping
Zero Calibration	Automatic calibration by push-button
Cable Entry	1/2" NPT(Female) / M20 Conduit Threads
Temperature Effect	+/-0.18% ~ +/-0.5% of span per 20 °C
EMI/RFI Effect	Follow SAMA PMC 33.1 from 20 to 1000 MHz and for field strengths up to 30 V/m
Process connection	High Pressure Side : 1-1/2", 2", 3", 4" Flanges ANSI / DIN / JIS / Tri-Clamp Extended Diaphragm : 2", 4", 6" length Low Pressure Side : 1/4" - 18 NPT , 1/2" - 14 NPT
Ambient Temperature	-25 to +85 °C
Dimensions	102 mm (W) * 188 mm (H) * 189 mm (D)
Weight	8 - 15 Kg

Diaphragm Level Transmitter

& MEASURING RANGE

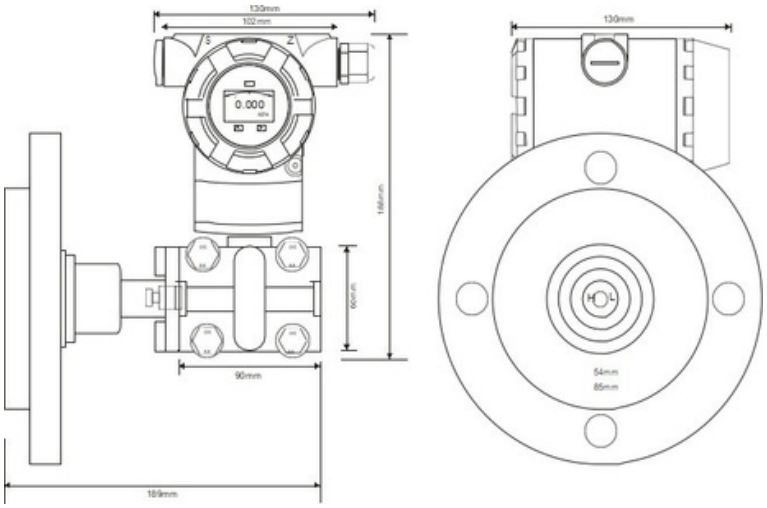
Range Code	Pressure Range				Transmitter		
	Low Range	High Range	Low Range	High Range	Differential Pressure	Level Pressure	Absolute Pressure
4	0 - 6.0 kPa	0 - 40 kPa	0 - 611.82 mmH2O	0 - 4078 mmH2O	◆	◆	◆
	0 - 60 mbar	0 - 400 mbar	0 - 24.088 InH2O	0 - 160.6 InH2O			
	0 - 0.87 psi	0 - 5.802 psi	0 - 0.061 Kg/cm2	0 - 0.408 Kg/cm2			
5	0 - 40 kPa	0 - 200 kPa	0 - 4.079 MH2O	0 - 20.39 MH2O	◆	◆	◆
	0 - 400 mbar	0 - 2000 mbar	0 - 160.6 InH2O	0 - 802.9 InH2O			
	0 - 5.802 psi	0 - 29.0 psi	0 - 0.408 Kg/cm2	0 - 2.039 Kg/cm2			
6	0 - 160 kPa	0 - 1000 kPa	0 - 16.32 MH2O	0 - 101.97 MH2O	◆	◆	◆
	0 - 1.6 bar	0 - 10 bar	0 - 642.3 InH2O	0 - 4014 InH2O			
	0 - 23.21 psi	0 - 145 psi	0 - 1.632 Kg/cm2	0 - 10.197 Kg/cm2			
7	0 - 400 kPa	0 - 2500 kPa	0 - 40.79 MH2O	0 - 254.9 MH2O	◆	◆	◆
	0 - 4.0 bar	0 - 25 bar	0 - 1605 InH2O	0 - 10036 InH2O			
	0 - 58.02 psi	0 - 362.6 psi	0 - 4.079 Kg/cm2	0 - 25.49 Kg/cm2			
8	0 - 1.6 MPa	0 - 8.0 MPa	0 - 163.1 MH2O	0 - 815.76 MH2O		◆	
	0 - 16 bar	0 - 80 bar	0 - 6423.4 InH2O	0 - 32117 InH2O			
	0 - 232.1 psi	0 - 1160.3 psi	0 - 16.32 Kg/cm2	0 - 81.578 Kg/cm2			
9	0 - 4.0 MPa	0 - 20 MPa	0 - 407.9 MH2O	0 - 2039.4 MH2O		◆	
	0 - 40 bar	0 - 200 bar	0 - 16059 InH2O	0 - 80292.6 InH2O			
	0 - 580.2 psi	0 - 2901 psi	0 - 40.79 Kg/cm2	0 - 203.94 Kg/cm2			

& WIRING DIAGRAM



9~32VDC

& DIMENSIONS



Diaphragm Level Transmitter

& MODEL SELECTION GUIDE

Item	Code	Specification
AT3051LT		Smart Level Transmitter
Measurement Range	3	0-4~7.5 Kpa
	4	0~37.4 Kpa
	5	0~186.8 Kpa
	6	0~690 Kpa
	7	0~2068 Kpa
Output	S	4-20mA, HART Protocol, Linear output
Sensor Diaphragm Material/ Fill Fluid	2	Stainless Steel 316L Silicone Oil
	3	Hastelloy C Silicone Oil
	A	Stainless Steel 316L Fluorine oil
Drain hole	B	Back of process flange or none
	U	Process flange side upper
	L	Process flange side lower
Wetted O-ring Material	7	Buna-N (NBR)
	6	Viton (FKM) (Temperature ≥-20°C)
	5	Low Temperature Viton (FKM-GFLT)
Cable Entry	1	M20*1.5
Process Connection	C	2'' ANSI 150#
	D	2'' ANSI 300#
	J	2'' ANSI 600#
	E	3'' ANSI 150#
	F	3'' ANSI 300#
	K	3'' ANSI 600#
	G	4'' ANSI 150#
	H	4'' ANSI 300#
	Q	DN50 PN1.6MPa/4Mpa
	R	DN50 PN6.4Mpa
	M	DN50 PN10Mpa
	S	DN80 PN1.6MPa/4Mpa
	T	DN80 PN6.4Mpa
	N	DN80 PN10Mpa
	U	DN100 PN1.6MPa/4Mpa
	W	DN100 PN6.4Mpa
Flange Diaphragm Material	A	Stainless steel 316L
	B	Hastelloy C
	C	Tantalum
	E	PFA coating
	F	F46 coating
	G	Gold-plated
Insert Tube Length	0	0
	1	50mm
	2	100mm
	3	150mm
Fill Fluid(High pressure side)	A	Silicone Oil
	C	Fluorine oil
Optional	d	Intrinsically safe type, Flameproof (Exd IIC T4~T6)
	i	Intrinsically safe (Exia IIC T4~T6)
	M3	LCD display
	D1	Stainless steel drain valve or screw (2pcs)
	C1	1/2'' NPT female waist flange (2sets)
	C12	1/2'' NPT-M20*1.5-Φ14 pressure pipe (2sets)
	C2	M20*1.5 male thread T joint (2sets)
	C21	M20*1.5 T joint -Φ14 pressure pipe (2sets)
	K1	Degreasing treatment

Remote Diaphragm Seal Level Transmitter

AT3051 RD Series

& GENERAL

AUTO AT3051RD series is a diaphragm seal product , which designed for the high-viscosity/ granular / high-temp/ high-corrosivity situation. RD series diaphragm seal assembles Alia pressure /DP transmitter to form direct-mount / capillary-connections style.

& FEATURES

The maximum temperature comes up to 280 °C
Multiple connection modes - Flange style / Tri-Clamp style
Multiple diaphragms/alternative connection material
It can be used for fill fluid for food industry
Extreme hot and cold temperature
Stainless Steel with PPC coatingcapillary
Tri-Clamp or union screw connection for food industry
Oil-free treatment& water-free treatment
Fast and dynamic response
Improved performance, increasedaccuracy and great stability

& STANDARD SPECIFICATION

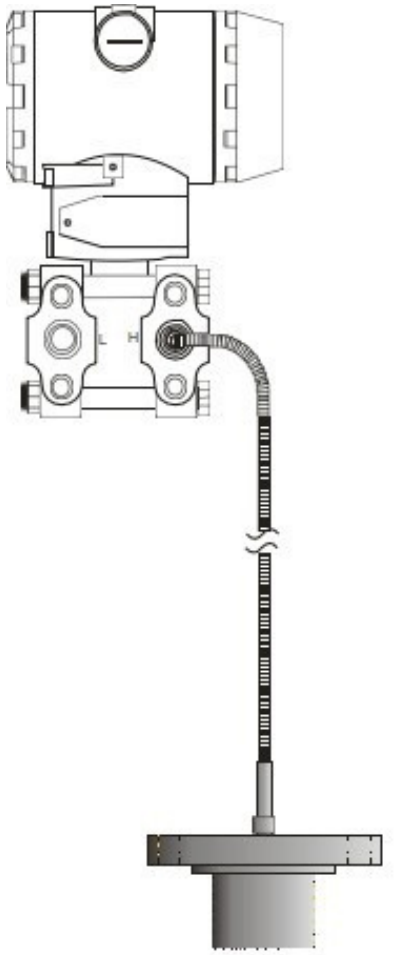
Process Fluid	Liquid, Gas or Vapor
Application	Liquid Level, Differential Pressure, Gauge Pressure, Absolute Pressure
Measuring Range	0 - 6.0 kPa ~ 0 - 40 kPa (Minimum) 0 - 4.0 MPa ~ 0 - 20.0 MPa (Maximum)
Material	Flange : Carbon stee Stainless Steel 304 Stainless Steel 316 Diaphragms : Stainless Steel 316L : Hastelloy B : Hastelloy C : Tantalum : PTFE-coated Tantalum Diaphragm Capillary : Stainless Steel with PVC coating
Flange Size	40mm, 50mm, 80mm, 100mm 1-1/2", 2", 3", 4"
Process Connection	Flange
Flange Rating	JIS 10K / JIS 20K / JIS 40K ANSI 150# / ANSI 300# / ANSI 600# DIN PN10 / PN16 / PN25 / PN40 Tri Clamp (DIN32676 / ISO2852)
Extension Length	2", 3", 4"

Installation Style	Direct-mount: RD One-sided Capillary: RD1 Two-sided Capillaries: RD2
Capillary Length	1.0 M ~ 10 M
Max. Temperature	Direct-Mount : -20 to 80 °C Remote Diaphragm : -40 to 280 °C
Max. Pressure	8.0MPa
Fill Fluid and Maximum	Silicone (Max. Temperature 130 °C)
Temperature	HT Silicone (Max. Temperature 280 °C) Fluorine (Max. Temperature 160 °C) Vegetable Oil (Max. Temperature 130 °C)
Ambient Temperature	+/-0.18% ~ +/-0.5% of span per 20 °C Effect
Time Response	Less than 1.12 seconds
Options	Water-free Treatment :Wetted parts are water-free treated in manufacturing Oil-free Treatment :Wetted parts are oil-free treated in manufacturing
Stability	+/-0.15% of URL for 2 years
Accuracy	+/-0.1% of Span

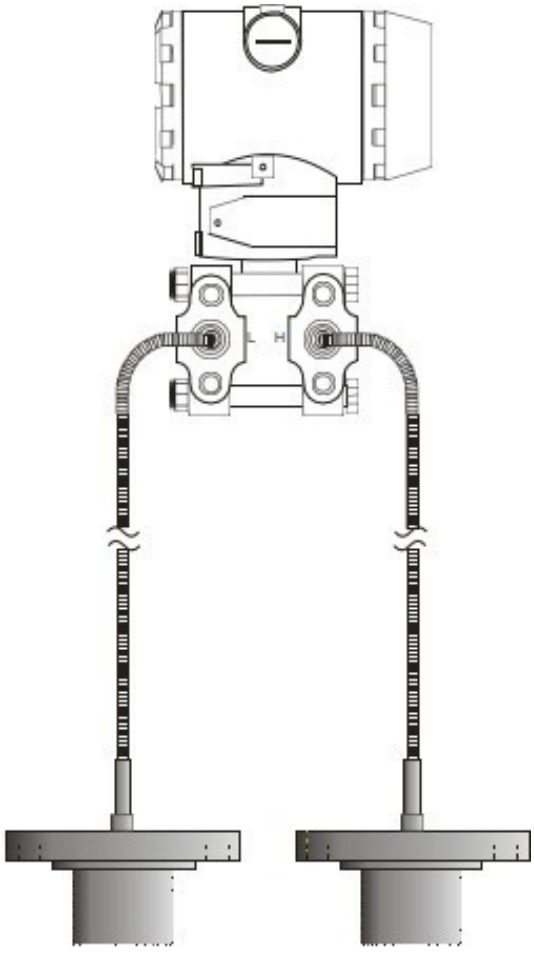
Diaphragm Level Transmitter

& MEASURING RANGE & MAX. STATIC PRESSURE

Direct-Mount Diaphragm	Min. Range	Max. Range	Min. Range	Max. Range	Max. Static Pressure
Pressure Transmitter RD Series	0 - 10 kPa	0 - 100 MPa	0 - 1019.7 mmH2O	0 - 10197 MH2O	100 MPa
	0 - 100 mbar	0 - 1000 bar	0 - 40.15 InH2O	0 - 401463 InH2O	
	0 - 1.45 psi	0 - 14504 psi	0 - 0.1 Kg/cm2	0 - 1020 kg/cm2	
Remote Diaphragm Seal	Min. Range	Max. Range	Min. Range	Max. Range	Max. Static Pressure
Pressure Transmitter RD1 Series	0 - 6.0 kPa	0 - 8.0 MPa	0 - 611.82 mmH2O	0 - 815.76 MH2O	8.0 MPa
	0 - 60 mbar	0 - 80 bar	0 - 24.088 InH2O	0 - 32117 InH2O	
	0 - 0.87 psi	0 - 1160.3 psi	0 - 0.061 Kg/cm2	0 - 81.578 Kg/cm2	
Differential Pressure Transmitter RD1 / RD2 Series	0 - 6.0 kPa	0 - 8.0 MPa	0 - 611.82 mmH2O	0 - 815.76 MH2O	8.0 MPa
	0 - 60 mbar	0 - 80 bar	0 - 24.088 InH2O	0 - 32117 InH2O	
	0 - 0.87 psi	0 - 1160.3 psi	0 - 0.061 Kg/cm2	0 - 81.578 Kg/cm2	
Level Transmitter RD1 Series	0 - 6.0 kPa	0 - 8.0 MPa	0 - 611.82 mmH2O	0 - 815.76 MH2O	8.0 MPa
	0 - 60 mbar	0 - 80 bar	0 - 24.088 InH2O	0 - 32117 InH2O	
	0 - 0.87 psi	0 - 1160.3 psi	0 - 0.061 Kg/cm2	0 - 81.578 Kg/cm2	



RD1 Series



RD2 Series