AUTO INSTRUMENT

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AT3051 GP DP AP
Smart Pressure Transmitter

GENERAL

AUTO AT3051 series is a digital differential pressure transmitter designed for industrial pressure measurement applications.
The AT3051 can be configured to provide integrated solutions for a broad range of pressure and flow measurement applications.

FEATURES

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

STANDARD SPECIFICATION

- Process Fluid :Liquid, Gas of Vapor
- Application :Absolute Pressure, Gauge Pressure, Differential Pressure
- Measuring Range :0 - 0.16 kPa ~ 0 - 1.0 kPa (Minimum)
  :0 - 4.0 MPa ~ 0 - 20.0 MPa (Maximum)
- Turndown Ratio :10 : 1
- Accuracy : 0.1%
- Stability:+/-0.2% of URL for 2 yearsLoad:R
- Working Temperature :-25 to +95 °C
- Max. Pressure :40 MPa
- Material

Flange/Adapter	: Stainless Steel 304 / Stainless Steel 316
Drains/Vents	: Stainless Steel 304 / Stainless Steel 316
Diaphragm	: Stainless Steel 316L / Hastelloy B / Hastelloy C / Monel / Tantalum
Wetted O-Ring	: Buna N / Viton / PTFE
Bolts & Nuts	: Carbon Steel / Stainless Steel 316
Mounting Bracket	: Carbon steel / Stainless Steel 304 / 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 / Fluorine Oil

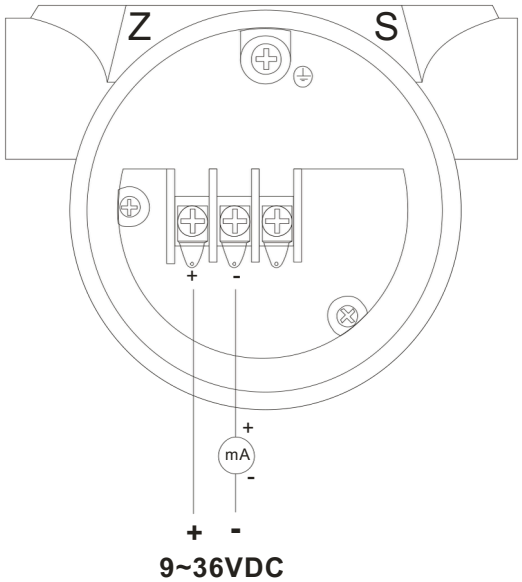
- Protection Class: IP65 (Standard)
  : Intrinsically Safe EEx ia IIC T5 (Standard)
  : Explosion proof Ex D IIB T5

- 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)
  ohm=(Vdc-9)*50
- Power Supply : 9 - 36 VDC
- Damping : 0 - 32 seconds
- Response Time : 200 mS
- Mounting Humidity : Bracket on 2" Pipe
- Limit : 0 to 100% Relative Humidity
- Turn on Time : 2 Seconds with minimum damping
- Zero Calibration : Automatic zero calibration by press-button
- Cable Entry : M20 Conduit Threads / 1/2" NPT (Female)
- Temperature Effect : +/-0.18% ~ +/-0.5% of span per 20 °C
- Vibration Effect : +/-0.05% of URL per g to 200 Hz in any axis
- EMI/RFI Effect : Follow SAMA PMC 33.1 from 20 to 1000 MHz and for field strengths up to 30 V/m
- Process Connection : 1/4" - 18 NPT
  : 1/2" - 14 NPT(with adapter)
- Ambient Temperature : -25 to +80 °C
- Dimensions : 102 mm (W) * 188 mm (H) * 130 mm (D)
- Weight : 3.5 Kg

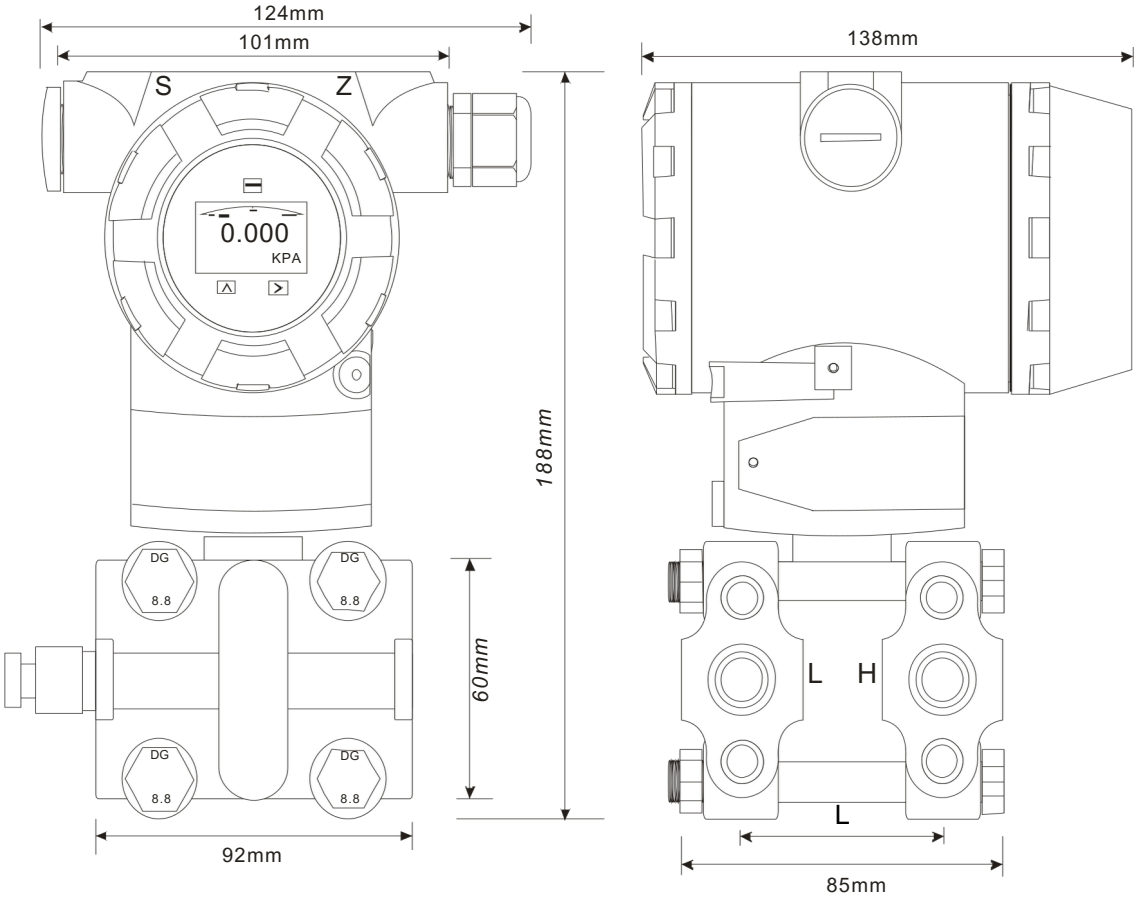
MEASURING RANGE

Range Code	Pressure Range				Transmitter		
	Low Range	High Range	Low Range	High Range	Differential Pressure	Gauge Pressure	Absolute Pressure
2	0 - 0.16 kPa	0 - 1.0 kPa	0 - 16.32 mmH2O	0 - 102.0 mmH2O	✓	✓	
	0 - 1.6 mbar	0 - 10 mbar	0 - 0.6423 InH2O	0 - 4.015 InH2O			
	0 - 0.023 psi	0 - 0.145 psi	0 - 0.001 Kg/cm2	0 - 0.010 Kg/cm2			
3	0 - 1.0 kPa	0 - 6.0 kPa	0 - 102.0 mmH2O	0 - 611.82 mmH2O	✓	✓	
	0 - 10 mbar	0 - 60 mbar	0 - 4.015 InH2O	0 - 24.088 InH2O			
	0 - 0.145 psi	0 - 0.87 psi	0 - 0.010 Kg/cm2	0 - 0.061 Kg/cm2			
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			
X	-90 kPa - 0	0 - 700 kPa	-9.79InH2O - 0	0 - 70.79MH2O	✓	✓	✓
	-0,9 bar - 0	0 - 7 Bar	-361.6InH2O - 0	0 - 2813.06 InH2O			
	-13,05 psi - 0	0 - 101.53 psi	-0.918 Kg/cm2 - 0	0 - 7.14 Kg/m2			

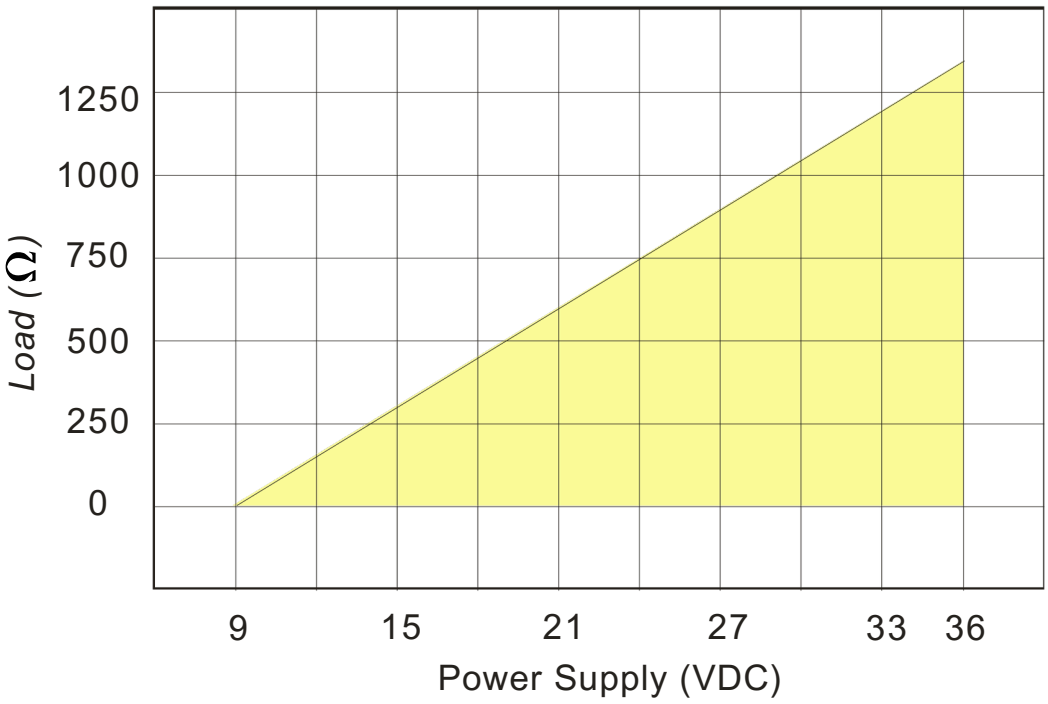
WIRING DIAGRAM



DIMENSIONS



Supply Voltage VS Loop Load



& MODEL SELECTION GUIDE

ITEM	CODE	SPECIFICATION
AT3051DP		Differential Pressure Transmitter
AT3051GP		Gauge Pressure Transmitter
AT3051AP		Absolute Pressure Transmitter
Measurement Range	2	0~1.5 Kpa
	3	0~7.5 Kpa
	4	0~37.4 Kpa
	5	0~186.8 Kpa
	6	0~690 Kpa
	7	0~2068 Kpa
	8	0~6890 Kpa
	X	-100~400 Kpa
Output	S	4~20mA, HART Protocol, Linear Output
	J	4~20mA, HART Protocol, Square Root Output (Range≥5Kpa)
Diaphragm Material / Fill Fluid	2	Stainless Steel 316L/Silicone Oil
	3	Hastelloy C(range > 3Kpa)/Silicone Oil
	A	Stainless Steel 316L/Silicone Oil
Drain Hole	B	Back of Process Flange or None
	U	Upper Side Process Flange
	L	Lower Side Process Flange
Wetted O-ring Material	7	Buna-N (NBR)
	6	Viton (FKM) (Temperature ≥ -20°C)
	5	Low Temperature Viton (FKM-GFLT)
Process Connection	H	1/4" NPT F
Maximum Pressure Limit	1	14 Mpa (4Mpa for Range 2)
	3	25 Mpa
Cable Entry	1	M20*1.5
	2	1/2"NPT
Mounting Bracket	B00	None
	B01	Tube-type Curved Bracket (Carbon Steel)
	B02	Wall Mounting Bracket (Carbon Steel)
	B03	Tube-type Flat Bracket (Carbon Steel)
	B04	Tube-type Curved Bracket (Stainless Steel)
	B05	Wall Mounting Bracket (Stainless Steel)
	B06	Tube-type Flat Bracket (Stainless Steel)
Optional	d	Intrinsically Safe Type, Flameproof (Exd IIC T6 Gb)
	i	Intrinsically Safe (Exia IIC T6 Ga)
	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 to Joint (2sets)
	C21	M20*1.5 T Joint -Φ14 Pressure Pipe (2sets)
	K1	Degreasting Treatment