

PRESSURE TRANSMITTERS

Pressure Measurement

TG/TA SMART PRESSURE TRANSMITTER - AT3051

& Monitoring



DESCRIPTION

AT3051 TG/TA Smart Pressure Transmitter is a digital pressure transmitter designed for industrial pressure measurement applications. The transmitter offer configurations for gauge pressure, absolute pressure and vacuum including integrated solutions for industrial applications.

TECHNICAL FEATURES

Process fluid	Liquid, Gas or Vapor
Application	Absolute Pressure, Gauge Pressure, Vacuum
Measuring range	0 - 10 kPa ~ 0 - 30 kPa (Minimum) 0 - 32 MPa ~ 0 - 70 MPa (Maximum)
Turndown ratio	100 : 1
Accuracy	+/- 0.1% of span
Stability	+/-0.15% of URL for 2 years
Working temperature	-25 to +95 °C
Max. pressure	70 MPa
Material	
- Connection	SUS 304 / SUS 316
- Diaphragm	SUS 316L / Tantalum
- Housing	Low copper cast aluminum alloy with polyurethane, light blue paint
- Name / tag plate	Stainless Steel 304 / Stainless Steel 316
Cable entry	M20 Conduit Threads / 1/2" NPT (Female)
Process connection	1/2" NPT, 1/2" BSP
Temperature effect	+/-0.18% ~ +/-0.5% of span per 20 °C
Over pressure limit	120% of Full Scale
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
Display	5 digits programmable & 0-100% bargraph

FEATURES

- ✓ Updating time of output current in 90 ms
- ✓ Improved performance, increased accuracy and greater stability
- ✓ Two years stability of 0.15%
- ✓ 0.1% accuracy
- ✓ 4-20 mA output plus direct digital HART communication
- ✓ Automatic zero calibration by simply pressing a button
- ✓ Explosion proof and weather proof

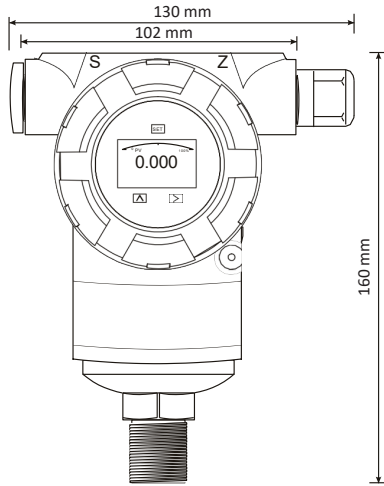
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TECHNICAL FEATURES



Display unit

Standard 22 different engineering unit

Keypad

5 Digits programmable for special unit

Current output

3 internal keys for programming and output setting

Load

4 - 20 mA 2 wires with Hart signal (Compatible)

Power supply

$Rohm = (V_{dc} - 9) * 50$

Digital communication

9 - 36 VDC

Damping

HART Protocol

Response time

0 - 32 seconds

Mounting

100 mS

Humidity limit

Direct installation or bracket on 2" Pipe

Turn on time

0 to 100% relative humidity

Zero calibration

2 Seconds with minimum damping

Ambient temperature

Automatic zero calibration by press-button

Dimensions

-25 to +85 °C

Weight

102 mm (W) x 160 mm (H) x 130 mm (D)

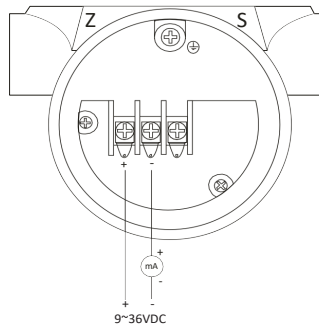
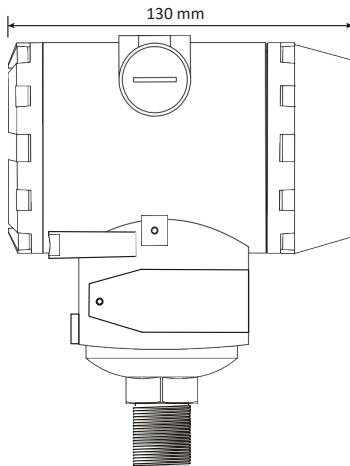
Protection class

1.3 kg

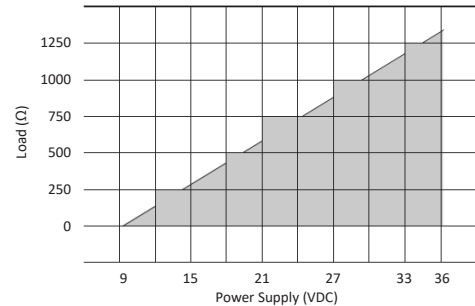
IP67 (Standard)

Intrinsically Safe EEx ia IIC T5 (Standard)

Explosion proof Ex D IIB T5



Wiring Diagram



Supply Voltage VS Loop Load

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MEASURING RANGE

Range Code	Pressure Range				Pressure Transmitter	
	Low Range	High Range	Low Range	High Range	Gauge	Absolute
2	0 - 10 Kpa	0 - 30 Kpa	0 -1020 mmH2O	0 - 3059 mmH2O	✓	✓
	0 - 100 mbar	0 - 300 mbar	0 - 40.15 InH2O	0 - 120.4 InH2O		
	0 - 1.450 psi	0 - 4.351 psi	0 -0.102 Kg/cm2	0 - 0.306 Kg/cm2		
3	0 - 30Kpa	0 - 100 Kpa	0 - 3059 mmH2O	0 - 10197 mmH2O	✓	✓
	0 - 300 mbar	0 - 1000 mbar	0 - 120.4 InH2O	0 - 401.5 InH2O		
	0 - 4.351 psi	0 - 14.50 psi	0 - 0.306 Kg/cm2	0 - 1.020 Kg/cm2		
4	0 - 100 Kpa	0 - 200 Kpa	0 - 10.20 MH2O	0 - 20.39 MH2O	✓	✓
	0 - 1000 mbar	0 - 2000 mbar	0 - 401.5 InH2O	0 - 802.9 InH2O		
	0 - 14.50 psi	0 - 29 psi	0 - 1.020 Kg/cm2	0 - 2.039 Kg/cm2		
5	0 - 200 Kpa	0 - 700 Kpa	0 - 20.39 MH2O	0 - 71.38 MH2O	✓	✓
	0 - 2.0 Bar	0 - 7.0 Bar	0 - 802.9 InH2O	0 - 2810 InH2O		
	0 - 29psi	0 - 101.5 psi	0 - 2.039 Kg/cm2	0 - 7.138 Kg/cm2		
6	0 - 700 Kpa	0 - 1.7 Mpa	0 - 71.38 MH2O	0 - 173.4 MH2O	✓	✓
	0 - 7.0 Bar	0 - 17.0 Bar	0 - 2810 InH2O	0 - 6825 InH2O		
	0 - 101.5 psi	0 - 246.6 psi	0 - 7.138 Kg/cm2	0 - 17.34 Kg/cm2		
7	0 - 1.7 Mpa	0 - 3.5 Mpa	0 - 173.4 MH2O	0 - 356.9 MH2O	✓	✓
	0 - 17.0 Bar	0 - 35.0 Bar	0 - 6825 InH2O	0 - 14051 InH2O		
	0 - 246.6 psi	0 - 507.6 psi	0 - 17.34 Kg/cm2	0 - 35.69 Kg/cm2		
8	0 - 3.5 Mpa	0 - 7.0 Mpa	0 - 356.9 MH2O	0 - 713.8 MH2O	✓	✓
	0 - 35.0 Bar	0 - 70.0 Bar	0 - 14051 InH2O	0 - 28102 InH2O		
	0 - 507.6 psi	0 - 1015 psi	0 - 35.69 Kg/cm2	0 - 71.38 Kg/cm2		
9	0 - 7.0 Mpa	0 - 32 Mpa	0 - 713.8 MH2O	0 - 3263 MH2O	✓	✓
	0 - 70.0 Bar	0 - 320.0 Bar	0 - 28102 InH2O	0 - 128468 InH2O		
	0 - 1015 psi	0 - 4641.2 psi	0 - 71.38 Kg/cm2	0 - 326.3 Kg/cm2		
A	0 - 32 Mpa	0 - 70 Mpa	0 - 3263 MH2O	0 - 7137.9 MH2O	✓	✓
	0 - 320 Bar	0 - 700.0 Bar	0 - 128468 InH2O	0 - 281024 InH2O		
	0 - 4641.2 psi	0 - 10152.6 psi	0 - 326.3 Kg/cm2	0 - 713.8 Kg/cm2		



MODEL SELECTION

Model	Pressure Transmitter	AT3051TG/TA	X	X	X	X	X	X	X	X
Measurement Range	0~7.5 kpa		3							
	0~37.4 kpa		4							
	0~186.8 kpa		5							
	0~690 kpa		6							
	0~2068 kpa		7							
	0~6890 kpa		8							
	0~20680 kpa		9							
	0~41370 Kpa		0							
Output	4-20mA, HART Protocol, Linear Output			S						
Sensor Type	Capacitive pressure sensor				C					
	Diffused silicon				D					
Diaphragm Material / Fill Fluid	Stainless Steel 316L Silicone Oil					2				
	Hastelloy C (range>3Kpa) Silicone Oil					3				
	Tantalum (range>3Kpa) Silicone Oil					T				
Process Connection	1/2" NPT F						D			
	M20*1.5						A			
	1/2" NPT M						B			
	1/2" G						S			
	Customize						C			
Cable Entry	M20*1.5							1		
	1/2" NPT							2		
Mounting Bracket	None								B00	
	With mounting bracket (stainless steel)									B018
Optional	Intrinsically safe type, Flameproof (Exd IIC T4~T6)									d
	Intrinsically safe (Exia IIC T4~T6)									i
	LCD display									M3
	Degreasing treatment									K1
	Hanging tag									L1
	Lightning protection									5C6

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