



# ALIADP

## Smart Differential Pressure Level Transmitter

### Model APT9000L Series

#### GENERAL

**ALIADP** The APT9000L Series is a digital differential pressure transmitter designed for industrial level measurement applications. The APT9000L can be configured to provide intergrated 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 0.15%
- 0.075% 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, Gas, 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)
- Turndown Ratio : 100:1
- Accuracy : +/-0.075% of span
- Stability : +/-0.15% of URL for 2 years
- Working Temperature : -40~250 °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
  - Extended Tube : Stainless Steel 316
  - 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 Oil / High Temperature Silicone Oil  
Fluorine Oil / Vegetable Oil
- Protection Class : IP67 (Standard)  
: Intrinsically Safe, Eex ia IIC T5 (Standard)  
: Explosion Proof, Ex db IIC T6



- 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-Wire)  
with Hart Signal (Compatible)  
Load : Rohm= (VDC-9) \* 50
- Power Supply : 9-36 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 20-1000 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 : -25~85 °C
- Dimensions : 102 mm (W) \* 188 mm (H) \* 189 mm (D)
- Weight : 8-15 kg



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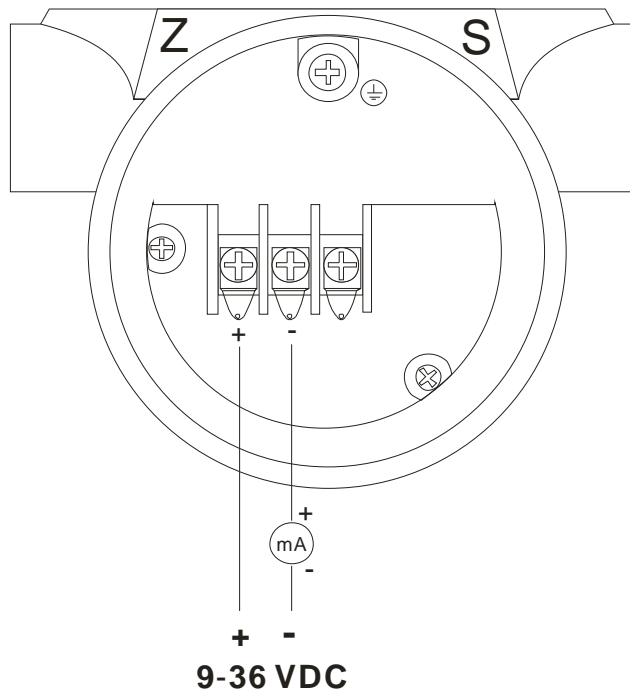


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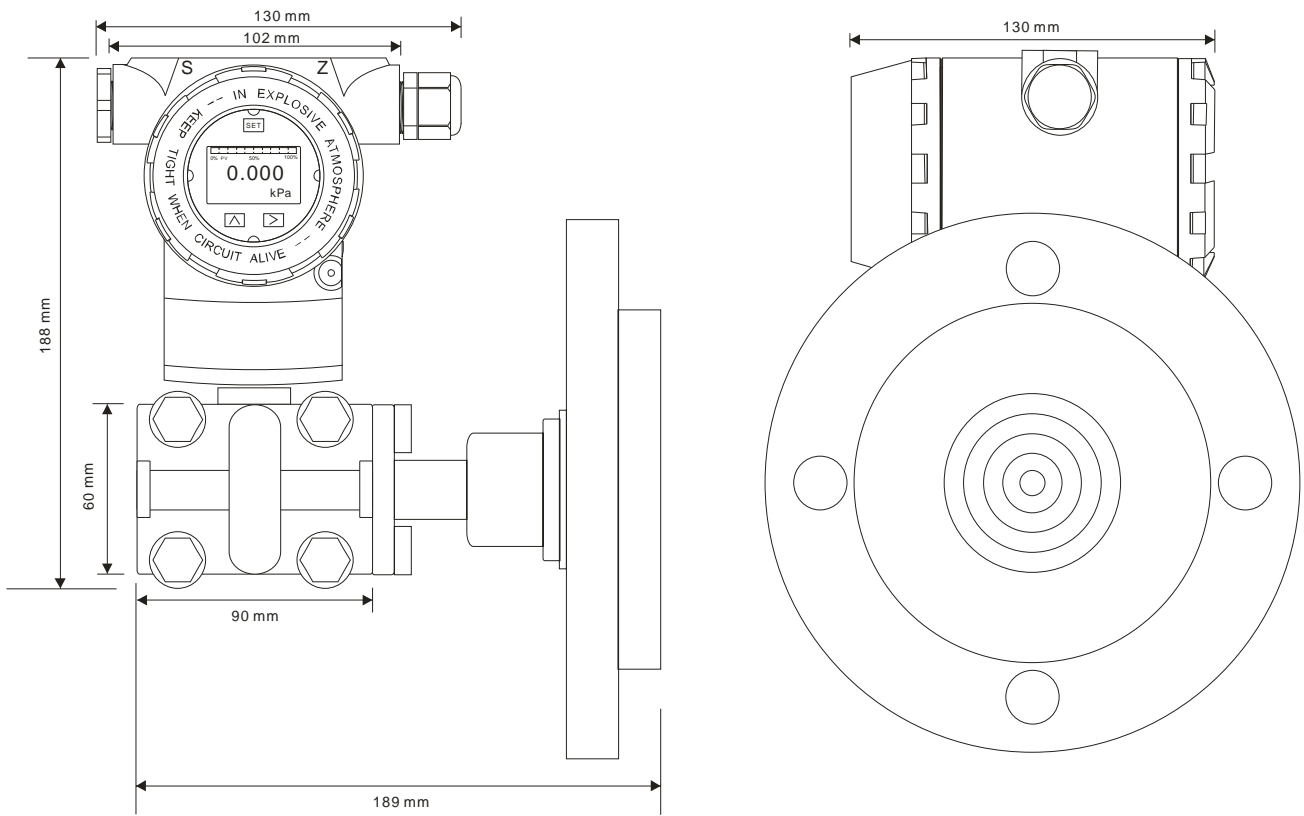
**MEASURING RANGE**

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 mmH <sub>2</sub> O	0-4078 mmH <sub>2</sub> O	◆	◆	◆
	0-60 mbar	0-400 mbar	0-24.088 inH <sub>2</sub> O	0-160.6 inH <sub>2</sub> O			
	0-0.87 psi	0-5.802 psi	0-0.061 kgf/cm <sup>2</sup>	0-0.408 kgf/cm <sup>2</sup>			
5	0-40 kPa	0-200 kPa	0-4.079 mH <sub>2</sub> O	0-20.39 mH <sub>2</sub> O	◆	◆	◆
	0-400 mbar	0-2000 mbar	0-160.6 inH <sub>2</sub> O	0-802.9 inH <sub>2</sub> O			
	0-5.802 psi	0-29.0 psi	0-0.408 kgf/cm <sup>2</sup>	0-2.039 kgf/cm <sup>2</sup>			
6	0-160 kPa	0-1000 kPa	0-16.32 mH <sub>2</sub> O	0-101.97 mH <sub>2</sub> O	◆	◆	◆
	0-1.6 bar	0-10 bar	0-642.3 inH <sub>2</sub> O	0-4014 inH <sub>2</sub> O			
	0-23.21 psi	0-145 psi	0-1.632 kgf/cm <sup>2</sup>	0-10.197 kgf/cm <sup>2</sup>			
7	0-400 kPa	0-2500 kPa	0-40.79 mH <sub>2</sub> O	0-254.9 mH <sub>2</sub> O	◆	◆	◆
	0-4.0 bar	0-25 bar	0-1605 inH <sub>2</sub> O	0-10036 inH <sub>2</sub> O			
	0-58.02 psi	0-362.6 psi	0-4.079 kgf/cm <sup>2</sup>	0-25.49 kgf/cm <sup>2</sup>			
8	0-1.6 MPa	0-8.0 MPa	0-163.1 mH <sub>2</sub> O	0-815.76 mH <sub>2</sub> O		◆	
	0-16 bar	0-80 bar	0-6423.4 inH <sub>2</sub> O	0-32117 inH <sub>2</sub> O			
	0-232.1 psi	0-1160.3 psi	0-16.32 kgf/cm <sup>2</sup>	0-81.578 kgf/cm <sup>2</sup>			
9	0-4.0 MPa	0-20 MPa	0-407.9 mH <sub>2</sub> O	0-2039.4 mH <sub>2</sub> O		◆	
	0-40 bar	0-200 bar	0-16059 inH <sub>2</sub> O	0-80292.6 inH <sub>2</sub> O			
	0-580.2 psi	0-2901 psi	0-40.79 kgf/cm <sup>2</sup>	0-203.94 kgf/cm <sup>2</sup>			

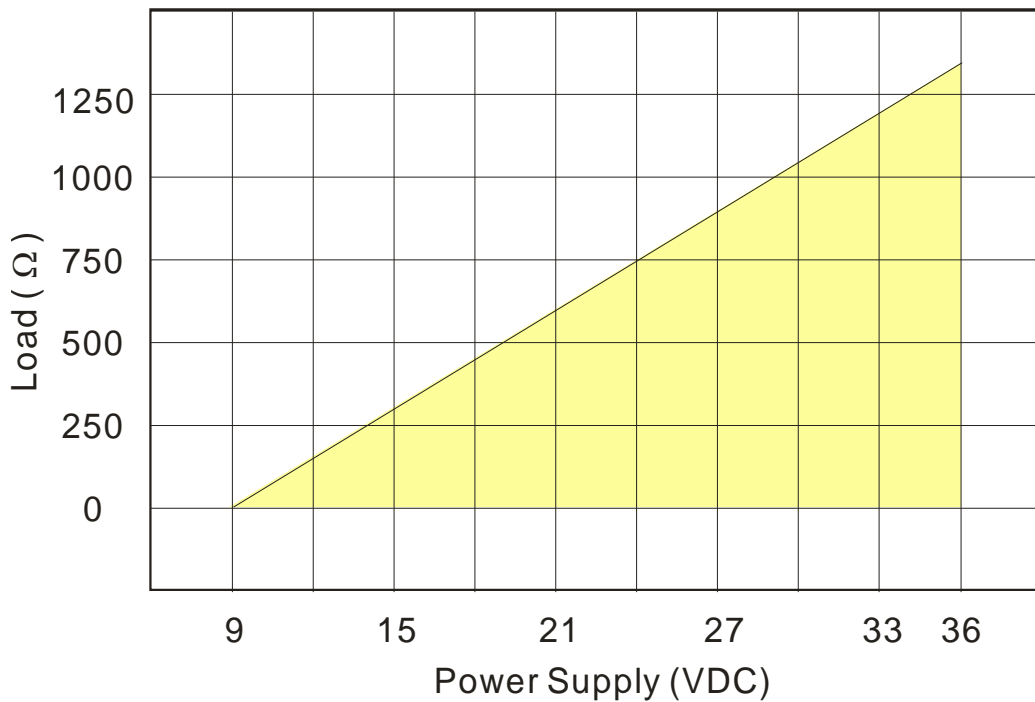
**WIRING DIAGRAM**



**DIMENSIONS**



**Supply Voltage VS Loop Load**



**MODEL SELECTION GUIDE**

APT9000L Series												
Example: APT9000L-4A30N-4NN-NN-EX/HT												
APT9000L-	X	X	X	X	X	-X	X	X	-X	X	-XX	Description
Pressure Range	4											0-6.0 (0.4) kPa ... 0-40 kPa
	5											0-40 (2.0) kPa ... 0-200 kPa
	6											0-160 (10.0) kPa ... 0-1000 kPa
	7											0-400 (25.0) kPa ... 0-2500 kPa
	8											0-1.6 (0.08) MPa ... 0-8.0 MPa
	9											0-4.0 (0.20) MPa ... 0-20 MPa
Process Connection	1											PN10
	2											PN16
	3											PN25
	4											PN40
	A											ANSI 150#
	B											ANSI 300#
	J											JIS 10K
	K											JIS 20K
Z											Other	
Flange Rating	1											1-1/2" (Diaphragm Diameter If Extended: 38 mm)
	2											2" (Diaphragm Diameter If Extended: 48 mm)
	3											3" (Diaphragm Diameter If Extended: 66 mm)
	4											4" (Diaphragm Diameter If Extended: 89 mm)
Extended Diaphragm Length	0											Flush Diaphragm
	2											2" (50 mm) _ Extended Tube Material: S.S. 316
	4											4" (100 mm) _ Extended Tube Material: S.S. 316
	6											6" (150 mm) _ Extended Tube Material: S.S. 316
Diaphragm Material	N											Stainless Steel 316L
	B											Hastelloy B
	C											Hastelloy C
	T											Tantalum
Flange Material	-N											Carbon Steel
	-4											Stainless Steel 304
	-6											Stainless Steel 316
Low Pressure Side Process Connection	N											1/4"-18 NPTF
	A											1/2"-14 NPTF (with Adapter)
	Z											Other
Bolts / Nuts Material	N											Carbon Steel
	S											Stainless Steel 316
Fill Fluid	-N											Silicone Oil (Max. Temperature 130 °C)
	-S											HT Silicone Oil (Max. Temperature 250 °C)
	-F											Fluorine Oil (Max. Temperature 160 °C)
	-V											Vegetable Oil (Max. Temperature 130 °C)
Cable Entry	N											M20 Conduit Threads
	P											1/2" NPT (Female)
	Z											Other
Option	-NN											None
	-EX											Explosion Proof, Ex db IIC T6
	-S6											Stainless Steel 316 Name Plate and Tag Plate
	-HT											HART Signal (Compatible)
	-RS											Customized range setting
	-RC											Customized range calibration
	-ZZ											Others