# ALIADP

## Smart Differential Pressure Transmitter

### Model ADP9000 Series

## GENERAL

*ALIADP* ADP9000 series is a digital differential pressure transmitter designed for industrial pressure measurement applications. The ADP9000 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 0.2%
- 0.075% 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 : Differential Pressure, Gauge Pressure, Absolute Pressure
- Measuring Range : 0 - 0.125 Kpa ~ 0 - 1.5 Kpa ( Minimum )
  : 0 - 4.0 Mpa ~ 0 - 25.0 Mpa ( Maximum )
- Turndown Ratio : 100 : 1
- Accuracy : +/- 0.075% of span
- Stability : +/-0.15% of URL for 2 years
- 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 : 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
- Keyboard : 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 - 36 VDC
- Damping : 0 - 32 seconds
- Response Time : 200 mS
- Mounting : Bracket on 2" Pipe
- Humidity 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% 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

CE

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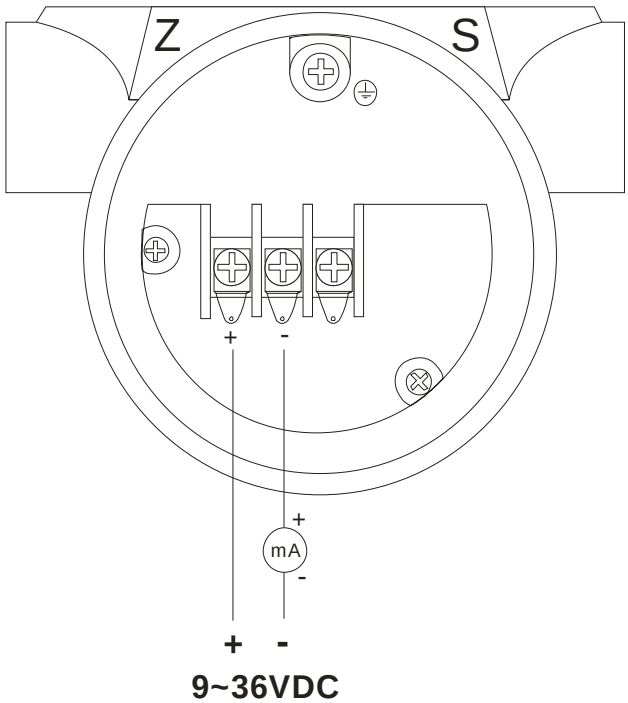
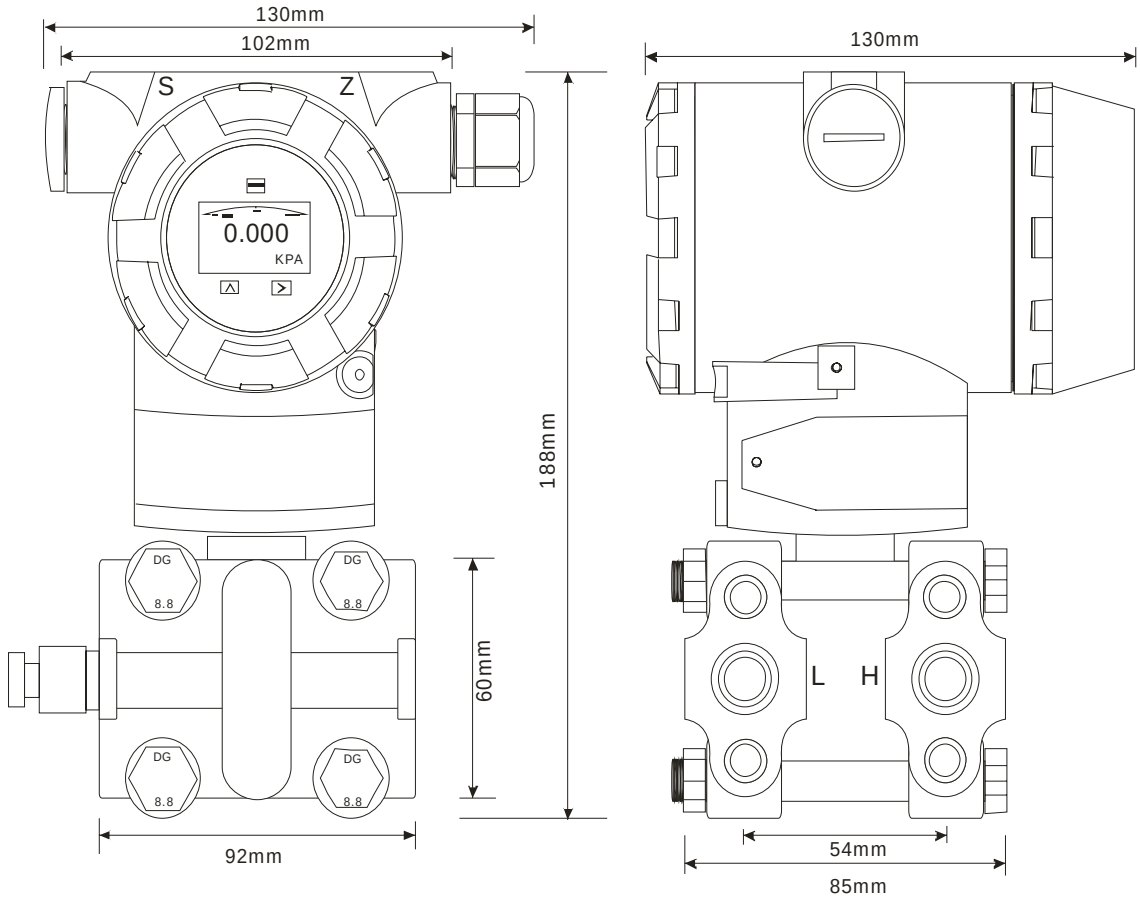
## MEASURING RANGE

| Range Code | Pressure Range | | | | Transmitter | | |
|---|---|---|---|---|---|---|---|
| | Low Range | High Range | Low Range | High Range | Differential Pressure | Gauge Pressure | Absolute Pressure |
| 2 | 0 - 0.125 Kpa | 0 - 1.5 Kpa | 0 - 12.75 mmH2O | 0 - 153.0 mmH2O | ◆ | ◆ | |
| | 0 - 1.250 mbar | 0 - 15 mbar | 0 - 0.5018 InH2O | 0 - 6.022 InH2O | | | |
| | 0 - 0.018 psi | 0 - 0.218 psi | 0 - 0.001 Kg/cm2 | 0 - 0.015 Kg/cm2 | | | |
| 3 | 0 - 1.3 Kpa | 0 - 7.5 Kpa | 0 - 132.6 mmH2O | 0 - 764.8 mmH2O | ◆ | ◆ | |
| | 0 - 13 mbar | 0 - 75 mbar | 0 - 5.219 InH2O | 0 - 30.11 InH2O | | | |
| | 0 - 0.189 psi | 0 - 1.088 psi | 0 - 0.013 Kg/cm2 | 0 - 0.076 Kg/cm2 | | | |
| 4 | 0 - 6.2 Kpa | 0 - 37 Kpa | 0 - 632.2 mmH2O | 0 - 3773 mmH2O | ◆ | ◆ | ◆ |
| | 0 - 62 mbar | 0 - 370 mbar | 0 - 24.89 InH2O | 0 - 148.5 InH2O | | | |
| | 0 - 0.899 psi | 0 - 5.366 psi | 0 - 0.063 Kg/cm2 | 0 - 0.377 Kg/cm2 | | | |
| 5 | 0 - 30 Kpa | 0 - 180 Kpa | 0 - 3.059 MH2O | 0 - 18.35 MH2O | ◆ | ◆ | ◆ |
| | 0 - 300 mbar | 0 - 1800 mbar | 0 - 120.4 InH2O | 0 - 722.6 InH2O | | | |
| | 0 - 4.351 psi | 0 - 26.11 psi | 0 - 0.306 Kg/cm2 | 0 - 1.835 Kg/cm2 | | | |
| 6 | 0 - 117 Kpa | 0 - 690 Kpa | 0 - 11.93 MH2O | 0 - 70.36 MH2O | ◆ | ◆ | ◆ |
| | 0 - 1.170 Bar | 0 - 6.900 Bar | 0 - 469.7 InH2O | 0 - 2770 InH2O | | | |
| | 0 - 16.97 psi | 0 - 100.1 psi | 0 - 1.193 Kg/cm2 | 0 - 7.036 Kg/cm2 | | | |
| 7 | 0 - 350 Kpa | 0 - 2000 Kpa | 0 - 35.69 MH2O | 0 - 203.9 MH2O | ◆ | ◆ | ◆ |
| | 0 - 3.5 Bar | 0 - 20 Bar | 0 - 1405 InH2O | 0 - 8029 InH2O | | | |
| | 0 - 50.76 psi | 0 - 290.1 psi | 0 - 3.569 Kg/cm2 | 0 - 20.39 Kg/cm2 | | | |
| 8 | 0 - 1.17 Mpa | 0 - 6.8 Mpa | 0 - 119.3 MH2O | 0 - 693.4 MH2O | ◆ | ◆ | ◆ |
| | 0 - 11.70 Bar | 0 - 68 Bar | 0 - 4697.1 InH2O | 0 - 27299 InH2O | | | |
| | 0 - 169.7 psi | 0 - 986.3 psi | 0 - 11.93 Kg/cm2 | 0 - 69.34 Kg/cm2 | | | |
| 9 | 0 - 4.0 Mpa | 0 - 25 Mpa | 0 - 407.9 MH2O | 0 - 2549 MH2O | ◆ | ◆ | ◆ |
| | 0 - 40 Bar | 0 - 250 Bar | 0 - 16059 InH2O | 0 - 100366 InH2O | | | |
| | 0 - 580.2 psi | 0 - 3626 psi | 0 - 40.79 Kg/cm2 | 0 - 254.9 Kg/cm2 | | | |

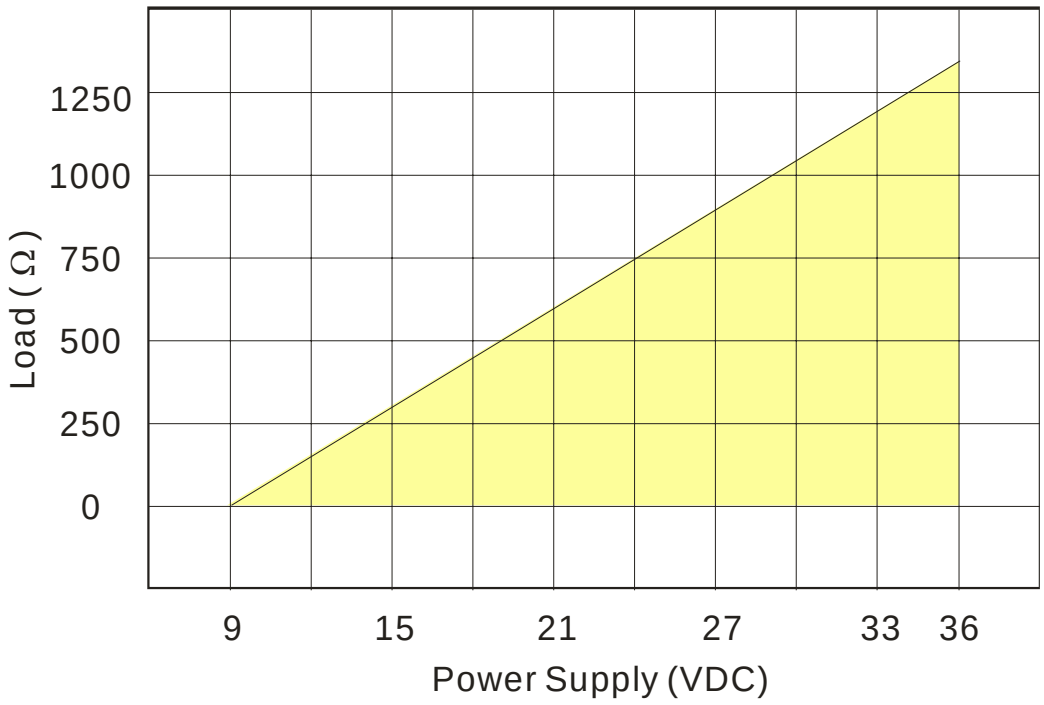
## WIRING DIAGRAM



## DIMENSIONS




## Supply Voltage VS Loop Load



## MODEL SELECTION GUIDE

| ADP9000 Series | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Example:ADP9000-D3-CNS-6NF-NNN-EX/S6 | | | | | | | | | | | | | |
| ADP9000- | X | X | -X | X | X | -X | X | X | -X | X | X | -XX | Description |
| Type | D | | | | | | | | | | | | Differential Pressure Transmitter |
| | G | | | | | | | | | | | | Gauge Pressure Transmitter |
| | A | | | | | | | | | | | | Absolute Pressure Transmitter |
| Pressure Range | | 2 | | | | | | | | | | | 0 - 0.125 (0.015) Kpa ... 0 - 1.5 Kpa (Type D/G) |
| | | 3 | | | | | | | | | | | 0 - 1.3 (0.075) Kpa ... 0 - 7.5 Kpa (Type D/G) |
| | | 4 | | | | | | | | | | | 0 - 6.2 (0.37) Kpa ... 0 - 37 Kpa |
| | | 5 | | | | | | | | | | | 0 - 30 (1.8) Kpa ... 0 - 180 Kpa |
| | | 6 | | | | | | | | | | | 0 - 117 (6.9) Kpa ... 0 - 690 Kpa |
| | | 7 | | | | | | | | | | | 0 - 350 (20) Kpa ... 0 - 2000 Kpa |
| | | 8 | | | | | | | | | | | 0 - 1.17 (0.068) Mpa ... 0 - 6.8 Mpa |
| | | 9 | | | | | | | | | | | 0 - 4.0 (0.25) Mpa ... 0 - 25 Mpa |
| Diaphragm Material | | | -N | | | | | | | | | | Stainless Steel 316L |
| | | | -B | | | | | | | | | | Hastelloy B |
| | | | -C | | | | | | | | | | Hastelloy C |
| | | | -P | | | | | | | | | | Monel |
| | | | -T | | | | | | | | | | Tantalum |
| Process Flanges, Drain/Vent valve Material | | | | N | | | | | | | | | Stainless Steel 304 |
| | | | | S | | | | | | | | | Stainless Steel 316 |
| Bolts / Nuts Material | | | | | N | | | | | | | | Carbon Steel |
| | | | | | S | | | | | | | | Stainless Steel 316 |
| Mounting Bracket Material | | | | | | -N | | | | | | | Carbon Steel |
| | | | | | | -4 | | | | | | | Stainless Steel 304 |
| | | | | | | -6 | | | | | | | Stainless Steel 316 |
| Wetted O-ring Material | | | | | | | N | | | | | | Buna-N |
| | | | | | | | V | | | | | | Viton |
| | | | | | | | P | | | | | | PTFE |
| Fill Fluid | | | | | | | | N | | | | | Silicone |
| | | | | | | | | F | | | | | Fluorine |
| Process Connection | | | | | | | | | -N | | | | 1/4" - 18 NPT |
| | | | | | | | | | -A | | | | 1/2" - 14 NPT( with Adapter) |
| | | | | | | | | | -Z | | | | Other |
| Cable Entry | | | | | | | | | | N | | | M20 Conduit Threads |
| | | | | | | | | | | P | | | 1/2" NPT( Female) |
| | | | | | | | | | | Z | | | Other |
| Maximum Pressure Limit | | | | | | | | | | | N | | 4 MPa |
| | | | | | | | | | | | 1 | | 6.4 MPa |
| | | | | | | | | | | | 2 | | 16 MPa |
| | | | | | | | | | | | 3 | | 40 MPa |
| Option | | | | | | | | | | | | -NN | None |
| | | | | | | | | | | | | -EX | Explosion proof Ex D IIB T5 |
| | | | | | | | | | | | | -S6 | Stainless Steel 316 Name Plate and Tag Plate |
| | | | | | | | | | | | | -HT | Hart Signal (Compatible) |
| | | | | | | | | | | | | -ZZ | Others |