

## GENERAL

**ALIADP** The APT90CS Series is a digital differential pressure transmitter designed for industrial pressure measurement applications. The APT90CS 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
- Flow display is available

## STANDARD SPECIFICATION

- Process Fluid : Liquid, Gas, Vapor
- Application : Differential Pressure, Gauge Pressure, Absolute Pressure
- Measuring Range : 0-0.16 kPa~0-1.0 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 : -25~95 °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 Oil / Fluorine Oil
- Protection Class : IP67 (Standard)  
: Intrinsically Safe, Eex ia IIC T5 (Standard)  
: Explosion Proof, Ex d IIB T5



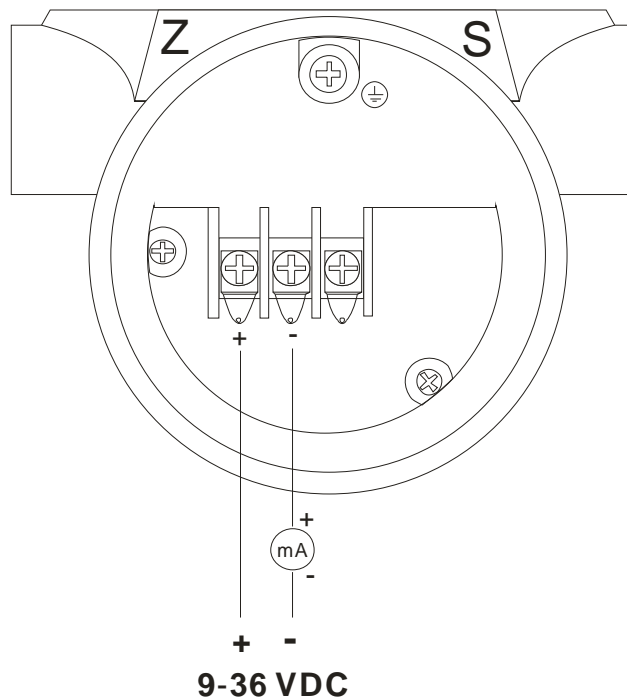
- Display : 5 Digits programmable & 0-100% Bargraph  
Flow rate : 5 Digit
- Display Unit : Standard 22 different engineering unit  
: 5 Digits programmable for special unit
- Keypad : 3 Internal keys for programming and output setting
- Current Output : 4-20 mA (2 wires)  
with HART signal (Compatible)  
Load : Rohm= (VDC-9) \* 50
- Power Supply : 9-36 VDC
- Damping : 0-32 Seconds
- Response Time : 100 ms
- Mounting : Bracket on 2" Pipe
- Humidity Limit : 0-100% Relative Humidity
- 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 20-1000 MHz and for field strengths up to 30 V/m
- Process Connection : 1/4"-18 NPT  
: 1/2"-14 NPT (with adapter)
- Ambient Temperature : -25~80 °C
- Dimensions : 102 mm (W) \* 188 mm (H) \* 130 mm (D)
- Weight : 3.5 kg



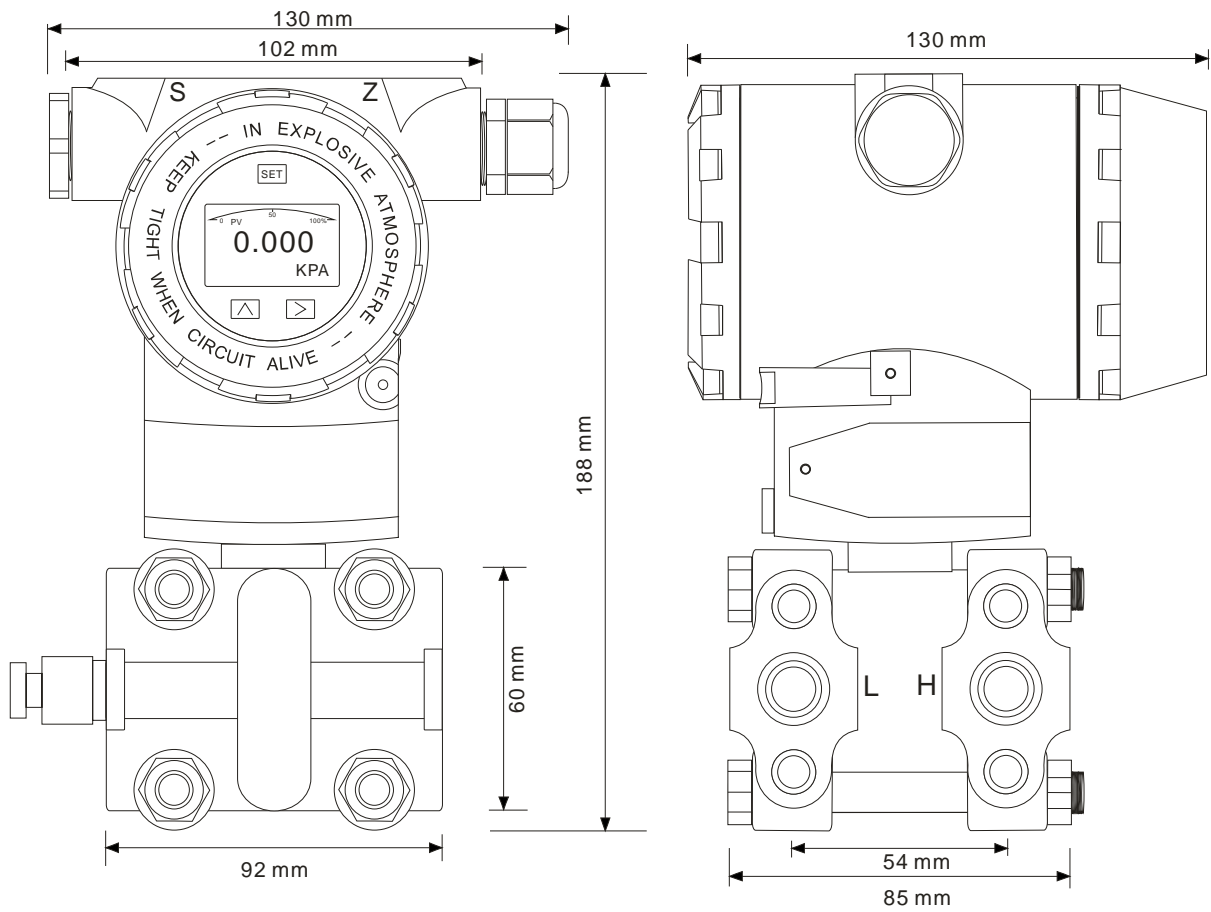
**MEASURING RANGE**

Range Code	Pressure Range				Transmitter		
	Low Range	High Range	Low Range	High Range	Differential Pressure	Gauge Pressure	Absolute Pressure
<b>2</b>	0-0.16 kPa	0-1.0 kPa	0-16.32 mmH <sub>2</sub> O	0-102.0 mmH <sub>2</sub> O	◆	◆	
	0-1.6 mbar	0-10 mbar	0-0.6423 inH <sub>2</sub> O	0-4.015 inH <sub>2</sub> O			
	0-0.023 psi	0-0.145 psi	0-0.001 kgf/cm <sup>2</sup>	0-0.010 kgf/cm <sup>2</sup>			
<b>3</b>	0-1.0 kPa	0-6.0 kPa	0-102.0 mmH <sub>2</sub> O	0-611.82 mmH <sub>2</sub> O	◆	◆	
	0-10 mbar	0-60 mbar	0-4.015 inH <sub>2</sub> O	0-24.088 inH <sub>2</sub> O			
	0-0.145 psi	0-0.87 psi	0-0.010 kgf/cm <sup>2</sup>	0-0.061 kgf/cm <sup>2</sup>			
<b>4</b>	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>			
<b>5</b>	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>			
<b>6</b>	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>			
<b>7</b>	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>			
<b>8</b>	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>			
<b>9</b>	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>			

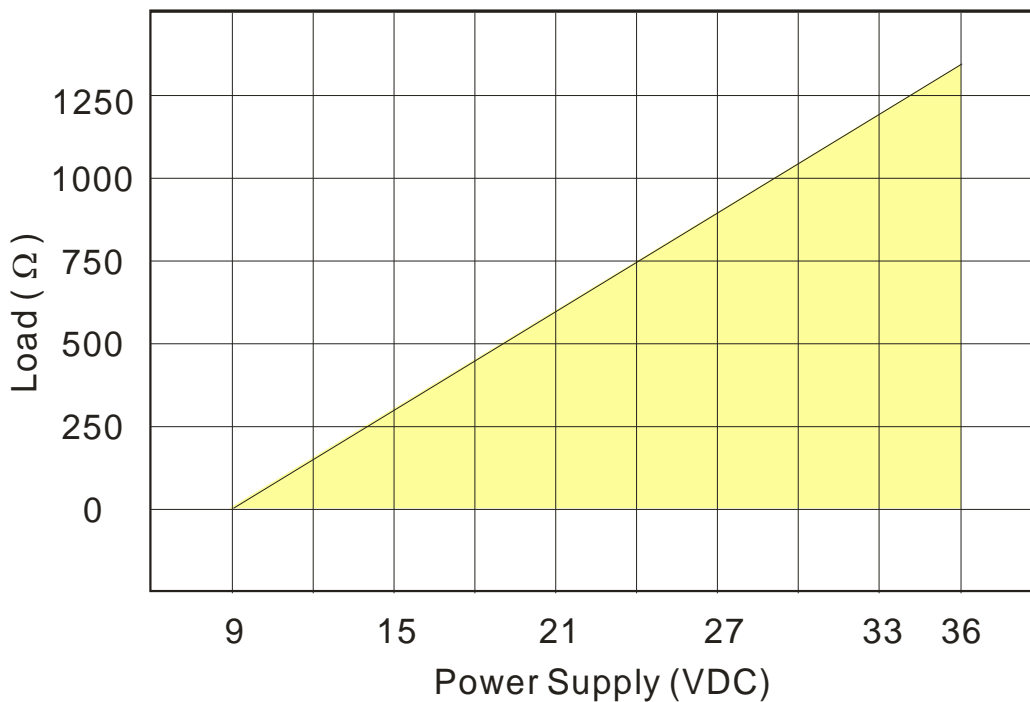
**WIRING DIAGRAM**



**DIMENSIONS**



**Supply Voltage VS Loop Load**



**MODEL SELECTION GUIDE**

APT90CS Series													
Example: APT90CS-D3-CNS-6NF-NNN-EX/S6													
APT90CS-	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												0-0.16 (0.01) kPa ... 0-1.0 kPa (Type D / G)
	3												0-1.0 (0.06) kPa ... 0-6.0 kPa (Type D / G)
	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 (Type G)
	9												0-4.0 (0.20) MPa ... 0-20 MPa (Type G)
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 Oil
	F												Fluorine Oil
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)
	-RS												Customized range setting
	-RC												Customized range calibration
	-ZZ												Others