



# ALIADPFLOW

## Smart Transmitter for Differential Pressure Flowmeter

### Model APT950CS Series

## GENERAL

**ALIADPFLOW** The APT950CS Series is a transmitter of differential pressure flowmeter. Differential pressure can be converted into flow value via microcomputer technology and flowrate, totalizer. The differential pressure can be displayed directly in LCD screen. It's equipped with strong output function: 4-20 mA, pulse and HART. APT950CS is widely used in differential pressure sensors flowmeter such as orifice, venturi, annubar, v-cone etc. It has high stability and high accuracy.

## FEATURES

- ❑ Converter can be rotated at six directions for easy installation
- ❑ Can display flow rate, totalizer and differential pressure at the same time
- ❑ Two years stability of 0.2%
- ❑ 0.075% accuracy
- ❑ Parameter setting by keypad directly
- ❑ 4-20 mA and pulse output, HART communication
- ❑ Automatic zero calibration by press-button
- ❑ Explosion Proof and weather proof housing

## STANDARD SPECIFICATION

- |                       |  |                       |   |
|-----------------------|--|-----------------------|---|
| ● Process Fluid       | : Liquid, Gas, Vapor   | ● Display             | : 9-Digit totalizer, 6-Digit flow rate  |
| ● Application         | : Differential pressure flow measurement   | ● Display Unit        | : 32 Flow engineering unit<br>5 Digits programmable for special unit              |
| ● Pressure Range      | : 0-2500 kPa   | ● Keypad              | : 3 Internal keys for programming<br>and output setting                           |
| ● Flow Range          | : 0-999999   | ● Current Output      | : 4-20 mA (2 wires)<br>with HART signal (Compatible)<br>Load : Rohm= (VDC-9) * 50 |
| ● Turndown Ratio      | : 20:1   | ● Pulse Output        | : Scaled Pulse  |
| ● Accuracy            | : +/-0.075% of span  | ● Power Supply        | : 9-36 VDC  |
| ● Stability           | : +/-0.15% of URL for 2 years  | ● Damping             | : 0-32 Seconds  |
| ● Working Temperature | : -25~95 °C  | ● Humidity Limit      | : 0-100% Relative Humidity  |
| ● Max. Pressure       | : 40 MPa   | ● Turn on Time        | : 2 Seconds with minimum damping  |
| ● Material            |  | ● Zero Calibration    | : Automatic zero calibration by press-button                                      |
| Flange / Adapter      | : Stainless Steel 304 / Stainless Steel 316  | ● Cable Entry         | : M20 Conduit Threads / 1/2" NPT (Female)   |
| Drains / Vents        | : Stainless Steel 304 / Stainless Steel 316  | ● Temperature Effect  | : +/-0.18% of span per 20 °C  |
| Diaphragm             | : Stainless Steel 316L / Hastelloy B /<br>Hastelloy C / Monel / Tantalum   | ● Vibration Effect    | : +/-0.05% of URL per g to 200 Hz in any axis                                     |
| Wetted O-Ring         | : Buna N / Viton / PTFE  | ● EMI / RFI Effect    | : Follow SAMA PMC 33.1 from 20-1000 MHz<br>and for field strengths up to 30 V/m   |
| Bolts & Nuts          | : Carbon Steel / Stainless Steel 316   | ● Process Connection  | : 1/4-18 NPT<br>: 1/2-14 NPT (with adapter)                                       |
| Mounting Bracket      | : Carbon Steel / Stainless Steel 304 / 316   | ● Ambient Temperature | : -25~80 °C   |
| Name / Tag Plate      | : Stainless Steel 304 / Stainless Steel 316  | ● Dimensions          | : 102 mm (W) * 188 mm (H) * 130 mm (D)  |
| Converter Housing     | : Low copper cast aluminum alloy with<br>polyurethane, light blue paint  | ● Weight              | : 3.5 kg  |
| ● Fill Fluid          | : Silicone Oil / Fluorine Oil  |                       |   |
| ● Protection Class    | : IP67 (Standard)<br>: Intrinsically Safe, Eex ia IIC T5 (Standard)<br>: Explosion Proof, Ex d IIB T5 (Optional) |                       |   |
| ● Mounting            | : Direct Mounting / Bracket on 2" Pipe   |                       |   |



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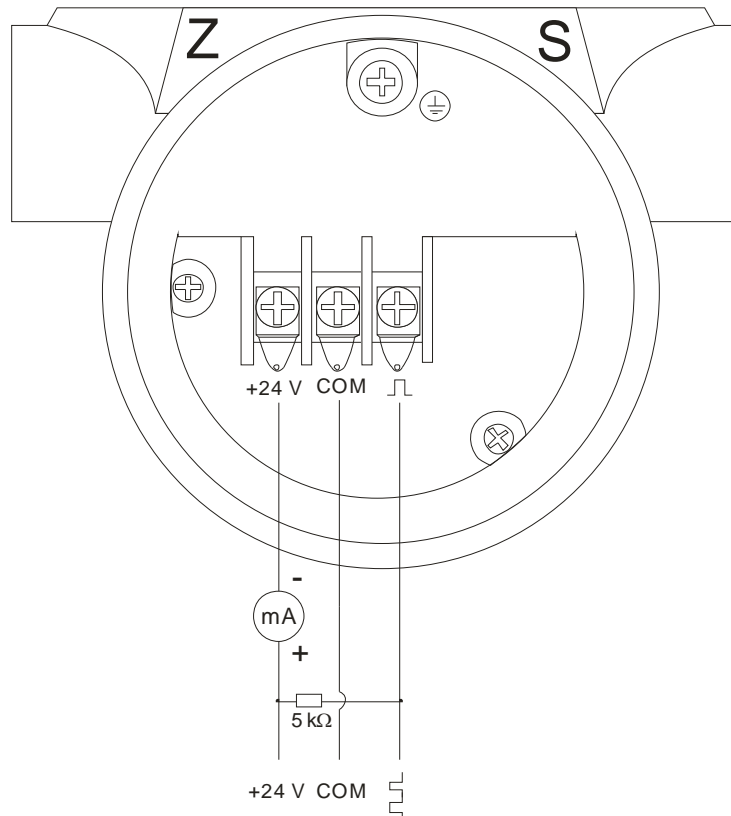
URL : [www.alia-inc.com](http://www.alia-inc.com)  
E-mail : [alia@alia-inc.com](mailto:alia@alia-inc.com)  
APT950CSV1.2.3.A4.en



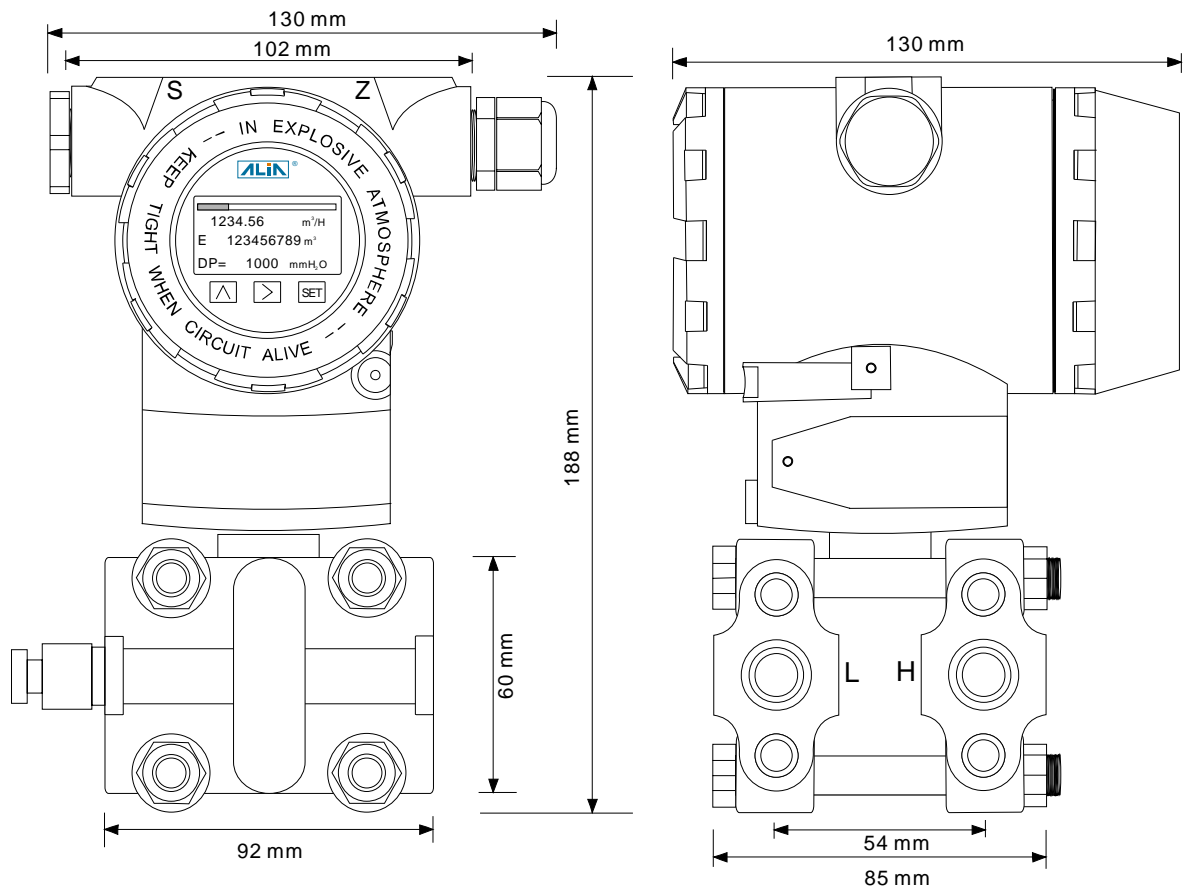
**MEASURING RANGE**

Range Code	Pressure Range			
	Low Range	High Range	Low Range	High Range
<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>

**WIRING DIAGRAM**



**➤ DIMENSIONS**



**➤ APPLICATION EXAMPLES**



**MODEL SELECTION GUIDE**

APT950CS Series												
Example: APT950CS-3-CNS-6NF-NNN-EX/S6												
APT950CS-	X	-X	X	X	-X	X	X	-X	X	X	-XX	Description
Pressure Range	2											0-0.16 (0.01) kPa ... 0-1.0 kPa
	3											0-1.0 (0.06) kPa ... 0-6.0 kPa
	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											
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
	-X											Direct mounting, without 2" Mounting Bracket
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