

Pressure Sensor

PS-A series

Built-in amplifier and compensating circuit



Feature

- Built-in amplifier and temperature compensation circuit, no need for circuit design and characteristic adjustment.
- High accuracy and reliability : overall accuracy $\pm 1.25\%$ FS (Standard), $\pm 2.5\%$ FS (Low-pressure type)
- Compact size, space-saving : compatible size for PS type (Standard/Economy, S and M packages)
- RoHS compliant

Typical applications

- Industrial use : Pressure switches and pneumatic components, compressed air pressure measuring devices
 - Medical use : Blood pressure meters, oxygen generator and airbeds
 - Others : Pressure sensing devices for air pressure mediums
- [Low-pressure type]
- Water level detection for domestic appliances : Washing machines and dishwashers
 - Air pressure control : Cleanrooms and smoking rooms
 - Medical applications : Breathing pressure measuring devices

Ordering information

ADP5

Terminal profile	Code	Rated pressure	Code	Package/Pressure inlet hole	Code	Base type
1 : DIP terminal	0	± 100 kPa	0	S package length : 3 mm 0.118 inch, dia : 3 mm 0.118 inch	Nil	With glass base (Standard type)
	1	-100 kPa	1	M package length : 5 mm 0.197 inch, dia : 3 mm 0.118 inch	1	Low pressure type
	2	25 kPa	2	L package (Only low pressure type) length : 13.5 mm 0.531 inch, dia : 5.45 mm 0.215 inch		Without glass base (Economy type)
	3	50 kPa	3	P package (Only low pressure type) length : 15.6 mm 0.615 inch, dia : 5.45 mm 0.215 inch		
	4	100 kPa				
2 : SMD terminal	5	200 kPa				
	6	500 kPa				
	7	1000 kPa				
	A	40 kPa				
	B6	6 kPa (Low pressure type)				

Note : Some part numbers may not be available depending on the combination.
Please refer to the Table of PRODUCT TYPES on the next page.

Product types

Standard packing : Carton : 100 pcs.; Case : 1,000 pcs.

Package (Pressure inlet hole length)		Part No.						
		Standard type S package (3 mm 0.118 inch)		Standard / Economy type M package (5 mm 0.118 inch)		Low pressure type		
Pressure	Terminal	DIP terminal	SMD terminal	DIP terminal	SMD terminal	M package (5 mm 0.197 inch)	L package (13.5 mm 0.531 inch)	P package (15.6 mm 0.614 inch)
Standard								
± 100 kPa		ADP5100	ADP5200	ADP5101	ADP5201	—	—	—
-100 kPa		ADP5110	ADP5210	ADP5111	ADP5211	—	—	—
25 kPa		ADP5120	—	ADP5121	—	—	—	—
50 kPa		ADP5130	—	ADP5131	—	—	—	—
100 kPa		ADP5140	ADP5240	ADP5141	ADP5241	—	—	—
200 kPa		ADP5150	ADP5250	ADP5151	ADP5251	—	—	—
500 kPa		ADP5160	ADP5260	ADP5161	ADP5261	—	—	—
1000 kPa		ADP5170	ADP5270	ADP5171	ADP5271	—	—	—
Economy type (without glass base)								
40 kPa		—	—	ADP51A11	—	—	—	—
Low pressure type								
6 kPa		—	—	—	—	ADP51B61	ADP51B62	ADP51B63

Rating

● Standard type

Item	Standard type (with glass base)							
Type of pressure	Gauge pressure							
Pressure medium	Air ^{*1}							
Rated pressure (kPa)	±100	-100	25	50	100	200	500	1000
Max. applied pressure	Twice of the rated pressure							1.5 times the rated pressure
Ambient temperature	-10 °C to +60 °C 14 °F to +140 °F (no freezing or condensation)							
Storage temperature	-20 °C to +85 °C -4 °F to +185 °F (no freezing or condensation)							
Drive voltage	5±0.25 V							
Temperature compensation	0 °C to 50 °C 32 °F to 122 °F							
Offset voltage ^{*2,3,5}	2.5±0.05	0.5±0.05 V						
Rated output voltage ^{*2,3,5}	4.5±0.05 (+when +100kPa)	4.5±0.05 V						
Overall accuracy	±1.25 %FS ^{*3,4,5}							
Current consumption	Max. 10 mA ^{*2,3}							
Output impedance	15 Ω (Typical) ^{*2}							
Source current	Max. 0.2 mA ^{*2,3}							
Sink current	Max. 2 mA ^{*2,3}							

*1: Please consult us for pressure media other than air.

*2: Indicates output when temperature is 25 °C 77 °F.

*3: Indicates output when drive voltage is 5 V. Although output fluctuates due to fluctuations in the drive voltage, this is not included.

*4: Overall accuracy indicates the accuracy of the offset voltage and rated output voltage at a temperature compensation range of 0 to 50 °C 32 to 122 °F.

*5: Accuracy is the value at the time of our shipping. Please set Zero-point calibration function on your products in order to safely use if the offset voltage is shifted.

● Economy type

Item	Economy type (without glass base)							
Type of pressure	Gauge pressure							
Pressure medium	Air ^{*1}							
Rated pressure (kPa)	40							
Max. applied pressure	Twice of the rated pressure							
Ambient temperature	-5 °C to +50 °C 23 °F to +122 °F (no freezing or condensation)							
Storage temperature	-20 °C to +70 °C -4 °F to +158 °F (no freezing or condensation)							
Drive voltage	3±0.15 V							
Temperature compensation	5 °C to 45 °C 41 °F to 113 °F							
Offset voltage	0.3±0.09 V ^{*2,3,5}							
Span voltage	2.4±0.03 V ^{*2,3,5}							
Offset voltage temperature characteristics	±4.0 %FS ^{*3,4,5}							
Sensitivity temperature characteristics	1.3 %FS ^{*3,4,5}							
Current consumption	Max. 3 mA ^{*2}							
Output impedance	20 Ω (Typical) ^{*2,3}							
Source current	Max. 0.15 mA ^{*2,3}							
Sink current	Max. 1.5 mA ^{*2,3}							

*1: Please consult us for pressure media other than air.

*2: Indicates output when temperature is 25 °C 77 °F.

*3: Indicates output when drive voltage is 3 V. Although output fluctuates due to fluctuations in the drive voltage, this is not included.

*4: Indicates from output value at 25 °C 77 °F and the change of output at 5 and 45 °C 41 to 113 °F.

*5: Accuracy is the value at the time of our shipping. Please set Zero-point calibration function on your products in order to safely use if the offset voltage is shifted.