Panasonic INDUSTRY

Pressure Sensor/PS-A (ADP5)

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 ±1.25% FS (Standard), ±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

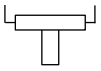
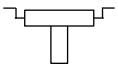
- Industrial use : Pressure switches and pneumatic components, compressed air pressure measuring devices
- Medical use : Blood pressure meters, oxygen generator and airbeds
- Others : Pressure sensing devices for air pressure mediums

[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
1 : DIP terminal 
2 : SMD terminal 

Code	Rated pressure
0	±100 kPa
1	−100 kPa
2	25 kPa
3	50 kPa
4	100 kPa
5	200 kPa
6	500 kPa
7	1000 kPa
A	40 kPa
B6	6 kPa (Low pressure type)

Code	Package/Pressure inlet hole
0	S package length : 3 mm 0.118 inch, dia : 3 mm 0.118 inch
1	M package length : 5 mm 0.197 inch, dia : 3 mm 0.118 inch
2	L package (Only low pressure type) length : 13.5 mm 0.531 inch, dia : 5.45 mm 0.215 inch
3	P package (Only low pressure type) length : 15.6 mm 0.615 inch, dia : 5.45 mm 0.215 inch

Code	Base type
Nil	With glass base (Standard type) Low pressure type
1	Without glass base (Economy 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.

Pressure	Terminal	Part No.						
		Standard type		Standard / Economy type		Low pressure type		
		S package (3 mm 0.118 inch)		M package (5 mm 0.118 inch)		M package (5 mm 0.197 inch)	L package (13.5 mm 0.531 inch)	P package (15.6 mm 0.614 inch)
		DIP terminal	SMD terminal	DIP terminal	SMD terminal	DIP terminal	DIP terminal	DIP terminal
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 ℃ to +60 ℃ 14 ℉ to +140 ℉ (no freezing or condensation)							
Storage temperature	−20 ℃ to +85 ℃ −4 ℉ to +185 ℉ (no freezing or condensation)							
Drive voltage	5±0.25 V							
Temperature compensation	0 ℃ to 50 ℃ 32 ℉ to 122 ℉							
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 ℃ 77 ℉.
*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 ℃ 32 to 122 ℉.
*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 ℃ to +50 ℃ 23 ℉ to +122 ℉ (no freezing or condensation)
Storage temperature	−20 ℃ to +70 ℃ −4 ℉ to +158 ℉ (no freezing or condensation)
Drive voltage	3±0.15 V
Temperature compensation	5 ℃ to 45 ℃ 41 ℉ to 113 ℉
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 ℃ 77 ℉.
*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 ℃ 77 ℉ and the change of output at 5 and 45 ℃ 41 to 113 ℉.
*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.