

Discontinued some variations

Electronic pressure switch with digital display

PPD3/PPD3-S Series

PPD3(Sensor integrated type) is discontinued.

PPD3(Sensor separate type) and PPD3-S are still on sale.



Refer to Intro 32 for details.



Overview

Pressure switch PPD3 Series is appropriate for pneumatic lines. Due to various port options, in addition to source pressure confirmation, suction confirmation and contact confirmation, etc., are possible.

Features

- Semiconductor pressure sensor and stainless steel diaphragm pressure sensor series are available with common coupling structure. Model can be easily replaced according to air line conditions to improve.
- Push-in joint resin port (6HD/6HT/H6) is available. Light weight and space saving.
- Through type port (6T-6HT-H6) is available. This is appropriate for suction confirmation/contact confirmation. The product can be installed in minimum space.
- Efficient installation setting by convenience functions; peak hold, forcible switching, pressure reading functions, etc.
- CE marking as standard.

Sensor integrated type/sensor separate type specifications

Descriptions	PPD3			PPD3-S		
	R10	R03	R01	R10	R03	R01
Pressure sensitive element	Diffused semiconductor pressure sensor			Single stainless steel diaphragm pressure sensor		
Working fluid	Air/non-corrosive gas			Air/non-corrosive gas/compressed air (including water and drain) Note 2		
Rated pressure range	-100 to 980kPa	-100 to 300kPa	-100 to 100kPa	-100 to 980kPa	-100 to 300kPa	-100 to 100kPa
Display unit	kPa	kPa	kPa	kPa	kPa	kPa
Display min. unit Note 1	1kPa					
Withstanding pressure	1.5MPa	0.6MPa	0.2MPa Note 3	2MPa	0.6MPa	0.6MPa
Display precision (25℃)	± 2%F.S.					± 3%F.S.
Temperature characteristics (0 to 50℃)	± 4%F.S.					± 5%F.S.
Leakage amount	1cm ³ /min. (ANR) or less					
Indicator	3 digit orange LED display character height 8mm					
Power voltage	12 to 24 VDC ±10% (ripple ratio 1% or less)					
Current consumption	50mA or less (60mA or less for sensor separate type)					
Switch output type	Integrated type	N: NPN transistor open collector output 2 point				
		P: PNP transistor open collector output 2 point				
		NA: NPN transistor open collector output 1 point + analog output 1 point				
	Separate type	PA: PNP transistor open collector output 1 point + analog output 1 point				
NA: NPN transistor open collector output 2 point + analog output 1 point						
		PA: PNP transistor open collector output 2 point + analog output 1 point				
Switch output current	50mA or less					
Switch output voltage drop	2.4V or less					
Switch output responsiveness	Approx. 5msec					
Analog output	1 to 5V±0.1 V					
Set point holding	EEPROM					
Lead wire	Main unit: Oil-resistant vinyl cord 4-core (0.3 mm ² insulator outer diameter 1.1) 1m (sensor separated type is 5-core 0.2 mm ² insulator outer diameter 1.0)					
	Sensor-separated sensor: Oil-resistant vinyl cord 3-core (0.15 mm ² insulator outer diameter 1.0) 3 m					
Working temperature/humidity	0 to 50 ℃ / 0 to 85% RH (no dew condensation)					
Mechanical vibration proof	10 to 55Hz compound amplitude 1.5mm, 2 hour per X, Y, Z direction					
Protective structure	Equivalent to IP65 Note 4 (Equivalent to IP40 for sensor separate type display device section)					
Protective circuit Note 5	Power reverse connection protection Switch output reverse connection protection Switch output load short-circuit protection					

Note 1: This indicates minimum display pressure, and does not guarantee display accuracy.

Note 2: Contact CKD about water and other fluids.

Note 3: Sensor separated is 0.3 MPa.

Note 4: When an atmosphere intake port is processed. (See page 1090.)

Note 5: This product's protection circuit is effective only for specific misconnections and load short-circuits. It does not provide protection for all misconnections.

Clean room specifications (catalog No. CB-033SA) Circuit diagram and connection method

- Dust generation preventing structure for use in cleanrooms Refer to page 1137.

PPD3-..... P7*

PPD3-..... P8*

PPD3-..... P9*

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PPD3/PPD3-S Series

How to order

How to order

● Sensor integrated type

PPD3 - R03 NA - 6T

A Sensor type B Pressure range C Output type D Port type

PPD3(Sensor integrated type) is discontinued.

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Symbol	Descriptions
A Sensor type	
PPD3	Semiconductor sensor
PPD3-S	Stainless steel diaphragm sensor
B Pressure range	
R10	-100 to 980kPa
R03	-100 to 300kPa
R01	-100 to 100kPa
C Output type	
N	NPN transistor output 2 point
P	PNP transistor output 2 point
NA	NPN transistor output 1 point + analog output 1 point
PA	PNP transistor output 1 point + analog output 1 point
D Port type	
6B	Rc1/8, 2 direction port rear side, lower outlet
6T	Axial Rc1/8, through port both sides outlet
6HD	Light weight port with 6mm push-in joint
6HT	Light weight through port with two 6mm push-in joints (horizontal both sides)

⚠ Note on selection guide

Mounting brackets and kits are not enclosed with the product.

Refer to the following "Mounting bracket and kit" model information for the optional mounting bracket and kits.

● Sensor separate type

PPD3 - R03 NA D - H6

A Sensor type B Pressure range C Output type D Port type

Symbol	Descriptions	
A Sensor type		
PPD3	Semiconductor sensor	
PPD3-S	Stainless steel diaphragm sensor	
B Pressure range		
R10	-100 to 980kPa	
R03	-100 to 300kPa	
R01	-100 to 100kPa	
C Output type		
NA	NPN transistor output 2 point + analog output 1 point	
PA	PNP transistor output 2 point + analog output 1 point	
D Port type		
6	R1/8	PPD3 (semiconductor sensor)
H6	6mm push-in joint	
H6-B	6mm plug	
6B	Rc1/8	PPD3-S (stainless steel diaphragm sensor)

● Discrete indicator model no.

E.g.) **PPD3 - R10 NA D**

A Sensor type B Pressure range C Output type D Port type

(Select Item (B) and (C) models from the table at right.)

● Discrete sensor model no.

E.g.) **PPD3 - R03 A - H6**

A Sensor type B Pressure range C Output type D Port type

(Select Item (A), (B) and (D) models from the table at right.)

⚠ Note on selection guide

Mounting brackets and kits are not enclosed with the product.

Refer to the following "Mounting bracket and kit" model information for the optional mounting bracket and kits.

● Mounting bracket and kit

Refer to the following page.

Refrigerating type dryer
Desiccant type dryer
High polymer membrane dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)

Electronic pressure switch
Pressure sensor

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● Mounting bracket and kit

PPD3 - KL - D

A Model no.

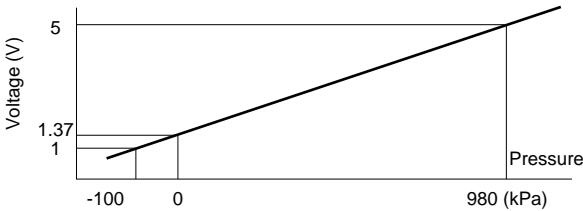
B Shape

Symbol	Descriptions
A Model no.	
PPD3-KL	Single side foot bracket (radial installation) (set screw attached)
PPD3-KD	Both sides foot bracket (axial installation) (set screw attached)
PPD3-KHS	Panel mount bracket set, with guard (ϕ 6 push-in joint attached for integrated type)
PPD3-KC	Operation protective cover *1
B Shape	
Blank	Sensor integrated type
D	Sensor separate type

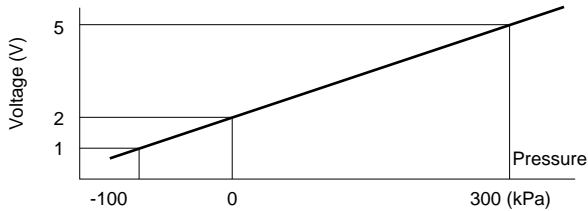
*1 PPD3-KC is common for sensors integrated and separated so when selecting PPD3-KC for the sensor separated type, do not indicate a symbol for item (B) shape.

Analog output voltage - pressure characteristics

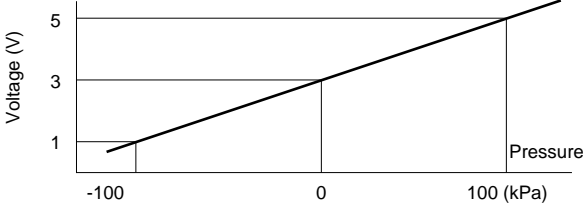
● PPD3 (-S)-R10NA R10PA R10A



● PPD3 (-S)-R03NA R03PA R03A



● PPD3 (-S)-R01NA R01PA R01A



(Cautions)

- Analog output accuracy is affected by temperature and self-heating of power. Be sure to provide a standby time of 5 minutes or more after power is turned on when using.