

Electronic Pressure Sensor With Digital Display PPG-D Series



Features

- Pressure range:
 - Compound pressure (-100.0 to 100.0 kPa)
 - Vacuum pressure (0.0 to -101.3 kPa)
 - Positive pressure (0.000 to 1.000 MPa)
- 2-color display
- Copy function
- Switch output 2 points, analog output 1 point (1 to 5 V or 4 to 20 mA)
- Hysteresis setting possible
- Pressure display accuracy: $\pm 2\%$ F.S. ± 1 digit
- Pressure unit can be switched *1: kPa, MPa, kgf/cm², bar, psi, inHg
- Degree of protection: IP65



2-color display (Green/Red)

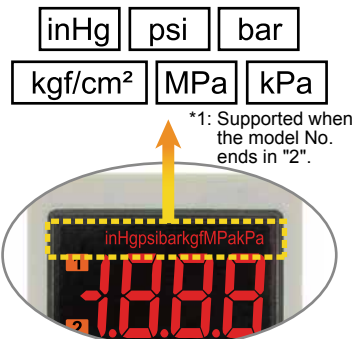
The display color can be set to green or red, allowing the pressure state to be confirmed at a glance.



	sol	5or	urn	rEd
ON	Green	Red	Green	Red
OFF	Red	Green	Green	Red

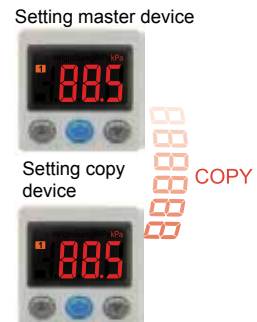
Overseas support *1

The pressure unit can be changed.



Copy function

Ideal for reducing work processes and preventing misoperation.



Dust-proof/waterproof performance

Degree of protection: IP65



Easy installation

Wiring

The cables are connectors, making pressure switch mounting possible after electric wiring.



Piping

Select from male and female threads.



*2: Environment inspection is only available for "RoHS certificate" and "REACH certificate". Parts level detailed data is not supported.

Be sure to read the cautions of the "Pneumatic, Vacuum and Auxiliary Components (Catalog No. CB-024SA)" before use.

Specifications

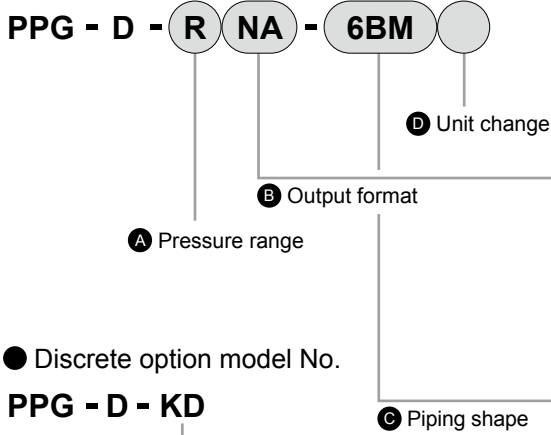
Descriptions		PPG-D-P-□-□ (Positive pressure)	PPG-D-V-□-□ (Vacuum pressure)	PPG-D-R-□-□ (Compound pressure)
Rated pressure		0.000 to 1.000 MPa	0.0 to -101.3 kPa	-100.0 to 100.0 kPa
Set pressure		-0.100 to 1.000 MPa	10.0 to -101.3 kPa	-101.0 to 101.0 kPa
Proof pressure		1.5 MPa	300 kPa	
Applicable fluid		Clean air, non-corrosive/non-combustible gas		
Display units	kPa	-	0.1	
	MPa	0.001	-	
	kgf/cm ²	0.01	0.001	
	bar	0.01	0.001	
	psi	0.1	0.01	
	inHg	-	0.1	
Power supply voltage		12 to 24 VDC ±10%, ripple (P-P) 10% or less or Class 2		
Current consumption		40 mA or less (no load)		
Switch output	Output format	NPN or PNP transistor, open collector 2 points		
	Max. load current	125 mA		
	Max. power supply voltage	NPN output: 30 VDC, PNP output: 24 VDC		
	Internal voltage drop	1.5 V or less		
	Response time	2.5 ms or less (Chattering prevention function: 25 ms, 100 ms, 250 ms, 500 ms, 1000 ms, and 1500 ms are selectable)		
	Switch output load short-circuit protection	Yes		
Analog output *2 *3	Voltage output	Voltage	1 to 5 V (±2.5%)	
		Impedance	Approx. 1 kΩ	
	Current output	Current	4 to 20 mA (±2.5%)	
		Impedance	Max. load impedance: 250 Ω (12 VDC) 600 Ω (24 VDC) Min. load impedance: 50 Ω	
	Linearity	±1% F.S.		
Display	LCD display	3½-digit, 7 segment (Red/Green)		
	Switch ON indicator lamp	Orange (1, 2 indicator lamps) OUT1 OUT2		
	Update time	Approx. 0.2 seconds		
	Display accuracy	±2% F.S. ±1 digit (Reference temperature : 25 ±3°C)		
Repeatability (switch output)		±0.2% F.S. ±1 digit		
Environment conditions	Degree of protection	IP65		
	Operating ambient temperature	0 to 50°C		
	Storage ambient temperature	-10 to 60°C (no condensation or freezing)		
	Ambient humidity	35 to 85% RH (no condensation)		
	Withstand voltage	1000 VAC, 1 minute (between the case and lead wire)		
	Insulation resistance	50 MΩ (500 VDC, between the case and lead wire)		
	Vibration resistance	Compound amplitude 1.5 mm, 10 G, 10 Hz - 55 Hz - 10 Hz per minute, 2 hours each in X, Y, Z directions		
	Shock resistance	100 m/s ² (10 G), 3 times each in X, Y, Z directions		
Temperature characteristics		±2% F.S. (25°C Reference) temperature range 0 to 50°C		
Port size		6BM: R1/8", M5 6 NM: NPT1/8", #10-32UNF 6GM: G1/8", M5 6B: Rc1/8 (female thread), 6N: NPN 1/8 (female thread), 6G: G1/8 (female thread)		
Lead wire		Oil resistant cable (0.15 mm ²)		
Weight		Male thread: approx. 86 g (including lead wire 2 m)/Female thread: approx. 115 g (including lead wire 2 m)		

*1: The hysteresis value of one-point set mode and window comparator mode can be adjusted to between 1 and 8 digits.

*2: Analog current output cannot be selected together with analog voltage output.

*3: Analog voltage output cannot be selected together with analog current output.

How to order

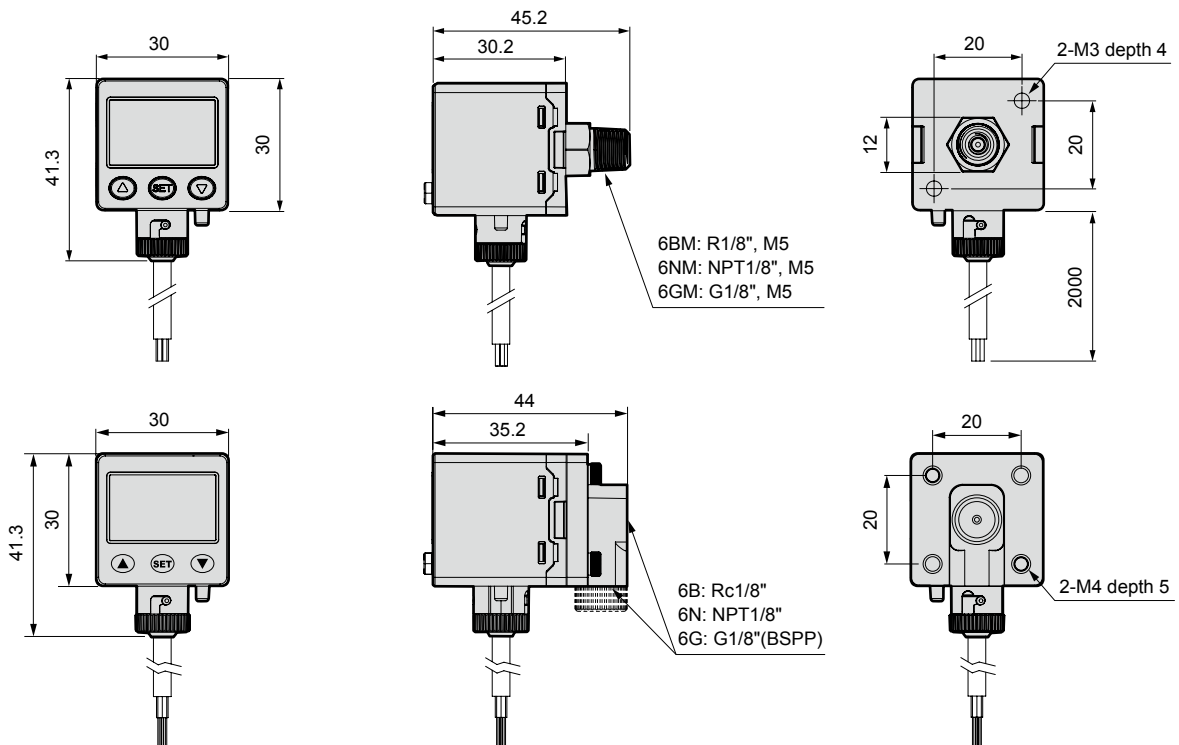


Code	Content
KD	Parallel mounting bracket (for male thread) (mounting screws attached)
KL	L-shaped mounting bracket (for male thread) (mounting screws attached)
KDA	Parallel mounting bracket (for female thread) (mounting screws attached)
KLA	L-shaped mounting bracket (for female thread) (mounting screws attached)
KHS	Panel adapter
KHSCB	Panel adapter + Front protective cover

Code	Content
A Pressure range	
R	Compound pressure (-100 to 100 kPa)
V	Vacuum pressure (0 to -101.3 kPa)
P	Positive pressure (0.000 to 1.000 MPa)
B Output format	
NV	NPN transistor, open collector 2 points + analog (voltage) output (1 to 5 V)
NA	NPN transistor, open collector 2 points + analog (current) output (4 to 20 mA)
NC	NPN transistor, open collector 2 points + copy function
PV	PNP transistor, open collector 2 points + analog (voltage) output (1 to 5 V)
PA	PNP transistor, open collector 2 points + analog (current) output (4 to 20 mA)
PC	PNP transistor, open collector 2 points + copy function
C Piping shape	
6BM	R1/8", M5
6NM	NPT1/8", #10-32UNF
6GM	G1/8", M5
6B	Rc1/8 (female thread)
6N	NPT 1/8 (female thread)
6G	G1/8 (female thread)
D Unit change	
Blank	SI unit fixed (kPa/MPa) Instruction manual: Japanese, English
2	With unit switching function Instruction manual: Traditional Chinese, English *1

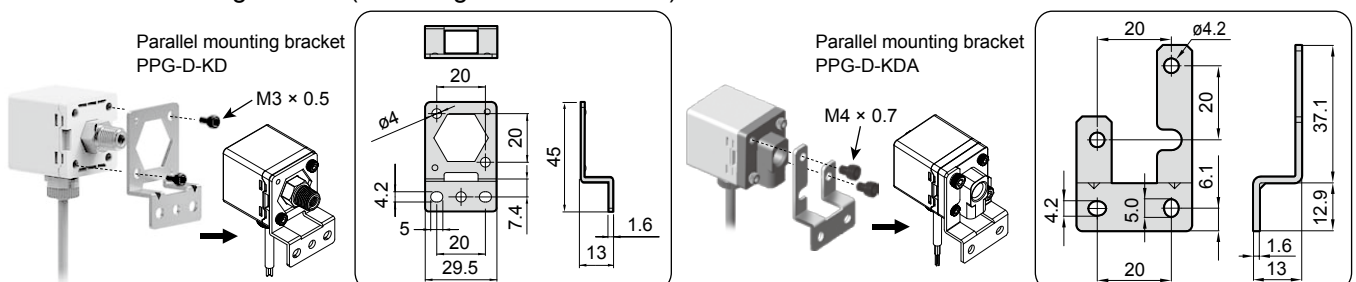
*1: In compliance with the new Measurement Act, it cannot be used in Japan.

Dimensions



Dimensions with options

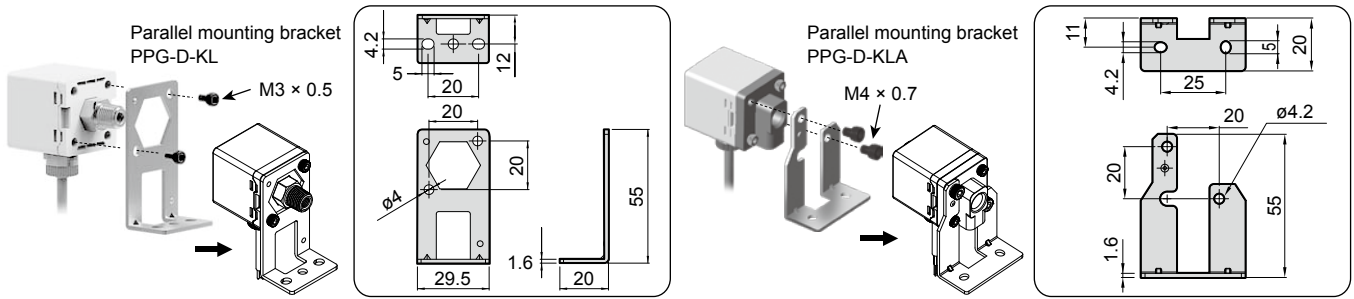
● Parallel mounting bracket (mounting screws attached)



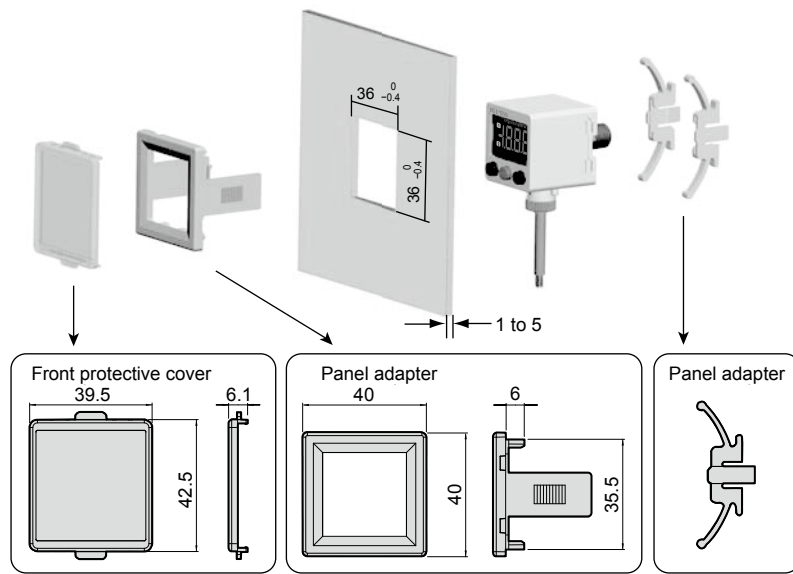
PPG-D Series

Dimensions with options

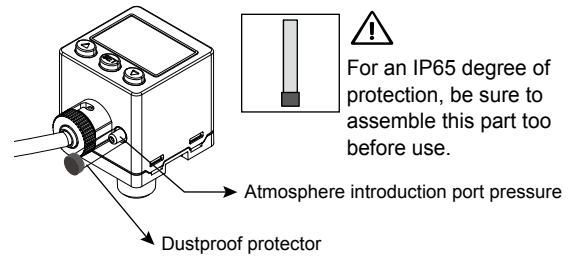
● L-shaped mounting bracket (mounting screws attached)



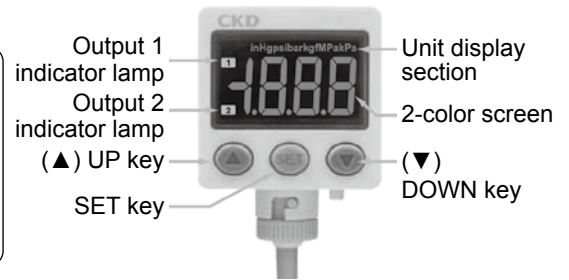
● Panel adapter + front protective cover PPG-D-KHS, PPG-D-KHSCB



● Protector (IP65)



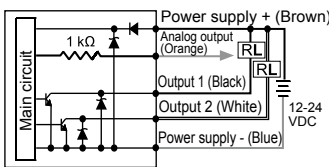
Display description



Internal circuit / connection method

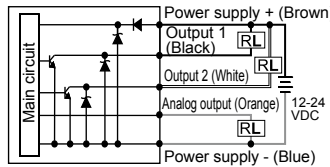
● PPG-D-□NV

2NPN + Analog output (1 to 5 V)



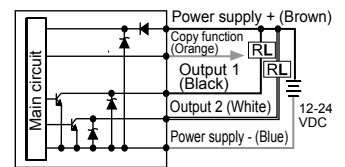
● PPG-D-□NA

2NPN + Analog output (4 to 20 mA)



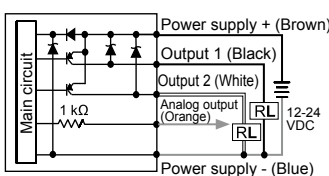
● PPG-D-□NC

2NPN + Copy function



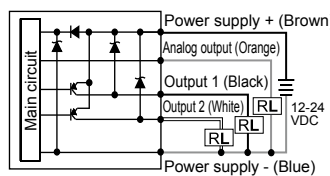
● PPG-D-□PV

2PNP + Analog output (1 to 5 V)



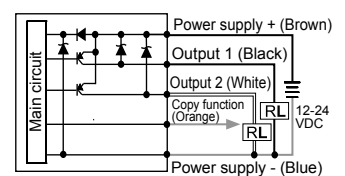
● PPG-D-□PA

2PNP + Analog output (4 to 20 mA)



● PPG-D-□PC

2PNP + Copy function



If the goods and/or their replicas, the technology and/or software found in this catalog are to be exported from Japan, Japanese laws require that the exporter makes sure that they will never be used for the development and/or manufacture of weapons for mass destruction.

CKD Corporation

<Website>
<https://www.ckd.co.jp/>

Head Office • Plant
Sales And Marketing Div.
Overseas Sales Administration dpt.
Tokyo Branch Office
Nagoya Branch Office
Osaka Branch Office

2-250 Uji, Komaki City, Aichi 485-8551
2-250 Uji, Komaki City, Aichi 485-8551
2-250 Uji, Komaki City, Aichi 485-8551
4F, Bunkanousou Media Plus, 1-31-1, Hamamatsu-cho,
Minato-ku, Tokyo 105-0013
2-250 Uji, Komaki City, Aichi 485-8551
1-3-20, Tosabori, Nishi-ku, Osaka 550-0001

TEL(0568)77-1111 FAX(0568)77-1123
TEL(0568)74-1303 FAX(0568)77-3410
TEL(0568)74-1338 FAX(0568)77-3461
TEL(03)5402-3620 FAX(03)5402-0120
TEL(0568)74-1356 FAX(0568)75-1692
TEL(06)6459-5770 FAX(06)6446-1945