

**COPAL ELECTRONICS**

All for dreams

# PRESSURE GAUGE PG-20

*Highly visible display  
by LED (3 & 1/2 digit)*

*External diameter  $\phi$  20mm*

*Rotatable display part*

**Best for integrated gas system**



**NEW**

Best for Integrated gas system (for 1.125 and 1.5 inch)

# PRESSURE GAUGE PG-20



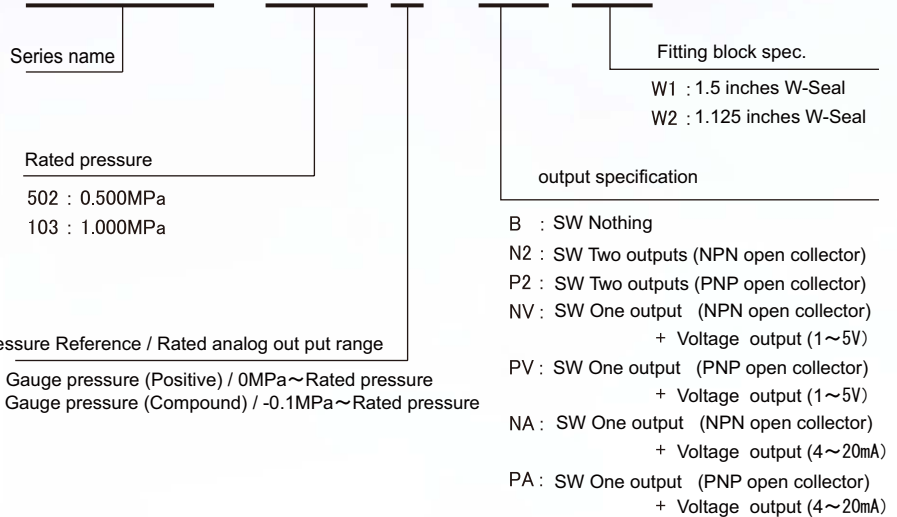
**CE marking**  
Compatible with  
EMC directive

## Features

- External diameter 20mm. Easily installable fitting block
- Highly visible display by LED (3&1/2 digit)
- Rotable display part (90° step, 270° full travel)
- Wide combination of output types (switch, current or voltage) available
- Integrally welded structure of sensing chip and fitting block
- Compatible with CE marking

## Model Number Designation

**PG-20-103R-N2W2**



## List of model numbers

Output specification		Rated Pressure	
Switch output	Analog output	502	103
Nothing	Nothing	PG-20-502R-BW *	PG-20-103R-BW *
Two outputs		PG-20-502R-N2W *	PG-20-103R-N2W *
One output	Voltage output	PG-20-502R-P2W *	PG-20-103R-P2W *
		PG-20-502X-NVW *	PG-20-103X-NVW *
	Current output	PG-20-502X-PVW *	PG-20-103X-PVW *
		PG-20-502X-NAW *	PG-20-103X-NAW *
		PG-20-502X-PAW *	PG-20-103X-PAW *

Note 1. W \* :Fitting block spec. : W1,W2

Note 2. X:G (Positive) / R(Compound)

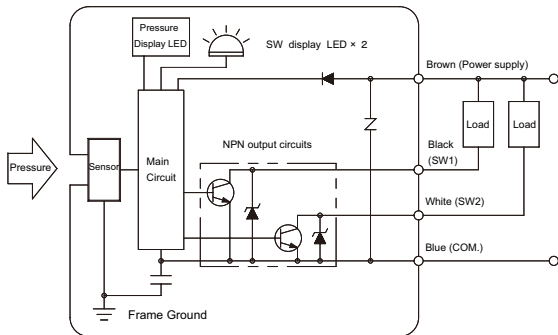
### Standard Specifications

Item / Model number		PG-20		
		502	103	
General Specifications	Pressure reference		Gauge	
	Rated pressure range	Positive (G)	0 ~ 0.5MPa	0 ~ 1.0MPa
		Compound (R)	-0.1 ~ 0.5MPa	-0.1 ~ 1.0MPa
	Maximum pressure		0.75MPa	1.5MPa
	Vacuum pressure		1.4 × 10 <sup>-4</sup> Pa abs maximum	
	Leakage (He vacuum method)		5 × 10 <sup>-12</sup> Pa · m <sup>3</sup> /sec. maximum (Weld in pressure port)	
	Operating temp.range		-10 ~ 50°C (No condensation)	
	Compensated temp. range		0 ~ 50°C	
	Operating humidity range		35 ~ 85%RH (No condensation)	
	Storage temp. range		-20 ~ 60°C (Atmospheric pressure, humidity 65%RH maximum)	
	Media		Gases and Liquids compatible with SUS316L	
	Insulation resistance		50MΩ maximum (Between bundled electrical wirings and the pressure port. at 125VDC)	
	Pressure contact material		SUS316L Double-Melt Material (Fitting and Sensor)	
	Pressure contact roughness		(Ra : 0.15, Rz : 0.7) μm maximum	
	Pressure contact particle		Zero count of particle of the size 0.1μm or bigger (By our inspection standard)	
	Cable connector		Cable length : 2m cable AWG26 / include cable holder	
	Protection grade		IP 40	
Net weight		Approx. 200g (W1) Approx. 110g (W2)		
Voltage	Operating voltage		Current output type : 24VDC±10% (including ripple) Voltage output type and other : 12~24VDC±10% (including ripple)	
	Current consumption		30mA maximum (No current flow from switch / analog output)	
	CE marking		EN61326-1 : 2006, EN61326-2-3 : 2006 EMI : Class B, EMS : Annex BB	
Pressure Display	Display Method		3 - 1/2 LED display ( Red LED)	
	Rotation angle		270° (90° step)	
	Rated display range	Positive (G)	.000 ~ .500MPa	.000 ~ 1.000MPa
		Compound (R)	-.100 ~ .500MPa	-.100 ~ 1.000MPa
	Display cycle		4 times / sec	
	Display accuracy		±1.0%FS (The repeatability, linearity and hysteresis are contained)	
	Thermal error		±0.1%FS/°C (0 ~ 50°C Reference temp. 25°C )	
Resolution		1 digit		
Over range		“***” Blinking of pressure display (110 % F.S.or more)		
Additional function		Zero point adjustment, Panel lock		
Analog output	Output voltage	1 ~ 5VDC Output current : 1 mA maximum / Output resistance: 1.5kΩ		
		Output accuracy		±1.0%FS (The setting error and LIN / HYS are contained)
		Temperature character		±0.1%FS/°C (0 ~ 50°C Reference temp. 25°C )
	Output current	4 ~ 20mA (Vort: 24VDC ±10% / 500Ω maximum)		
Output accuracy		±1.0%FS (The setting error and LIN / HYS are contained)		
		Temperature character		±0.1%FS/°C (0 ~ 50°C Reference temp. 25°C )
Switch output	Number of output		Output 1 or 2	
	Output interface		NPN/PNP transistor open collector	
	Switching capacity		30VDC 100mA maximum	
	Residual voltage		1.2V(NPN) / 2.2V(PNP) maximum (Load current 100mA)	
	Output working chart		Separate mode / Window comparator mode	
	Repeatability		±0.3%FS maximum	
	Thermal error		±0.1%FS/°C (0 ~ 50°C Reference temp. 25°C )	
Response		Approx. 2.5, 25, 250 ms		
Hysteresis setting		0~300 counts (Select panel SW)		

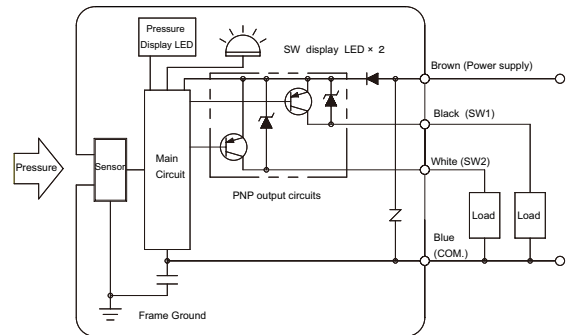


## Internal Electrical Schematics

PG-20-\*\*\*\*-N2\*\*

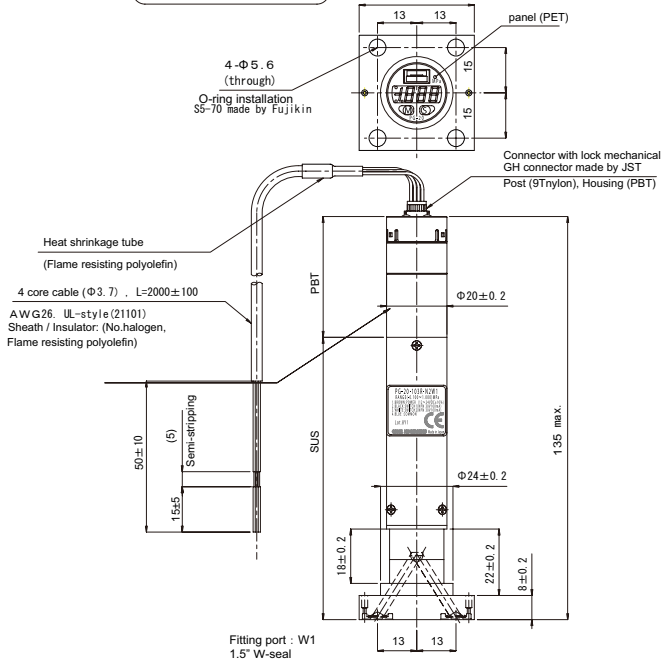


PG-20-\*\*\*\*-P2\*\*

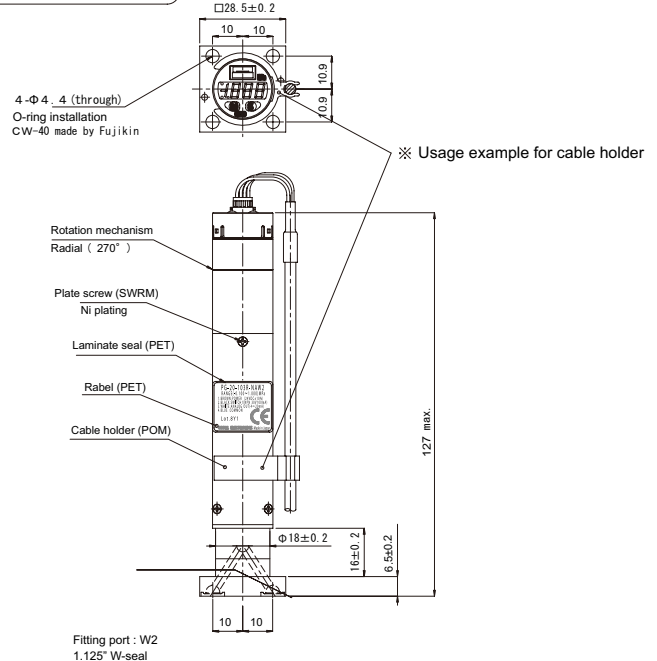


## Outline Dimensions

PG-20-\*\*\*\*R/G-\*\*W1



PG-20-\*\*\*\*R/G-\*\*W2



### Terminal wiring list

LEAD	Model	(e x.) PG-20-103R-**W1			
		-BW1	-(N/P)2W1	-(N/P)VW1	-(N/P)AW1
BROWN			12 ~ 24VDC ± 10%		24VDC ± 10%
BLACK		No Connection		SW1(NPN/PNP)	
WHITE		No Connection	SW2(NPN/PNP)	1 ~ 5V	4 ~ 20mA
BLUE			Common		

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