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Pressure Gauge with Switch
GP46 Series

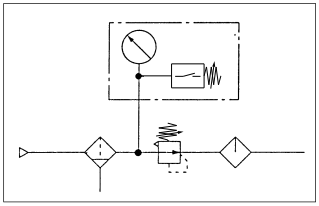
CE [Option]

RoHS



- **A pressure switch function has been added to the gauge.**
- **The pressure switch is equipped with a light for verifying operation.**
- **The pressure gauge is equipped with a limit indicator.**
- **To be used for verifying the supply pressure.**

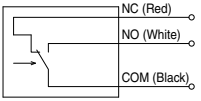
Circuit Example



• Be sure to read the precautions for selection and mounting.

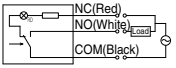
Circuit Diagram

Without indicator light

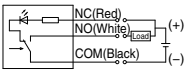


With indicator light

110, 220 VAC



24 VDC



The arrow in the diagram indicates the direction of the pressure increase. The light turns OFF when the pressure becomes higher than the set pressure and turns ON when the pressure becomes lower than the set pressure.

Standard Specifications

Model			GP46
Gauge	Type		Back side thread
	Ambient and fluid temperature		–5 to 60°C (No freezing)
	Indicated pressure rang		0 to 1.0 MPa
	Port size (1)		R 1/8, R 1/4 (Option M: with M5 female thread)
	Fluid (2) (6)		Air
	Indication precision (7)		±0.03 MPa
Pressure switch	Setting range (3) (4)		0.1 to 0.8 MPa
	Hysteresis		0.07 MPa
	Pointer error (5)		±0.05 MPa (5 to 40°C) ±0.08 MPa (–5 to 60°C) No freezing
	Contact		With light: 1a (Normally open) Without light: 1ab (Normally open/ Normally closed)
	Wiring		Lead wire (Length: 300 mm)
	Indicator light	AC	Neon light
		DC	Light emitting diode (LED)
	Clear cover		Part no.: G46-00-00-3
	Attachment:	C	Part no.: 1305104-4A
	With cover ring assembly	C2	Part no.: 1305104-10A
	Weight (kg)		0.12

Note 1) When mounting a pressure gauge, use caution not to tighten excessively. Excessive tightening will cause product to be damaged. Use a pipe tape for sealing.
Note 2) Water is not an acceptable fluid. When using the other fluids, please consult with SMC for compatibility information concerning corrosion.
Note 3) Set value of pressure switch is indicated by pointer (green). It is the point where the circuit between N.O. (white) and COM (black) is turned off during pressure decrease. To set the value, turn needle in clockwise position to the correct value. When setting; if desired set position has been passed, turn needle in a counterclockwise direction back again beyond the desired value and then once again return needle in a clockwise direction stopping at the desired value. Value must be set while needle is traveling in a clockwise direction.
Note 4) Make sure to provide a minimum difference of 0.1 MPa between the set pressure and the operating pressure (including the pressure drop). If the difference is smaller, it could lead to improper operation. Refer to page 890 for details on how to set the setting needle. Use caution: Operating pressure should be the sum of the pressure of the setting needle error (±0.03 MPa), the hysteresis (0.07 MPa), and the display accuracy (±0.05 MPa) on the set pressure value, or the circuit between N.O. (white) and COM (black) may not turn ON while pressure is increasing.
Note 5) Maximum error value: Add the pressure gauge indicator error of 0.03 MPa to the setting needle error.
Note 6) Avoid freezing as this may cause a malfunction.
Note 7) The guaranteed temperature range is 23°C ±5°C.

Model (Standard)

Model	Pressure range (1) MPa	Indication unit	Connection thread	Note
GP46-10-01 to 02 (-Q)	0 to 1.0	MPa	R 1/8 R 1/4	—
GP46-10-01 to 02L2				
GP46-10-01 to 02L5 (-Q)				

Note 1) Do not apply pressure more than the maximum display pressure. This will cause a malfunction.

Model (Made to Order)

Other versions of this unit can be made on a Made-to-Order basis.
Please consult with SMC for details, as delivery times may be extended.

Model	Pressure range (1) MPa	Pressure range (1) psi	Indication unit	Connection thread	Note
GP46-10-01 to 02-X201	0 to 1.0	—	MPa	R 1/8 R 1/4	Lead wire length 3 m
GP46-10-01 to 02L2-X201					
GP46-10-01 to 02L5-X201					
GP46-P10-01 to 02-X30 (2)	0 to 1.0	0 to 140	MPa, psi		—
GP46-P10-01 to 02L5-X30 (2)					

Note 1) Do not apply pressure more than the maximum display pressure. This will cause a malfunction.
Note 2) Under the New Measurement Law, products for overseas use only (SI unit type for use in Japan)

Micro-switch Rated Voltage

Load	Load resistant		
Rated voltage	30 VDC	125 VAC	250 VAC
Operating current range	0.01 to 0.5 A	0.01 to 0.3 A	0.01 to 0.2 A

SMC

CE

[Option]

How to Order

GP 46 – 10 – 01 ❑ ❑ – ❑ – ❑

❶ ❷ ❸ ❹ ❺ ❻

Pressure gauge with switch

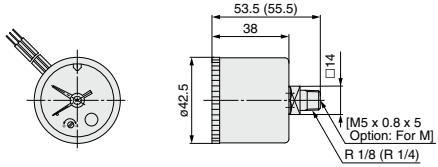
		Symbol	Description	GP46
		+		
❶	Max. display pressure	**10**	1.0 MPa	●
		P10 (1)	1.0 MPa, 150 psi	○ (2)
		+		
❷	Connection thread	**01**	R 1/8	●
		02	R 1/4	●
		+		
❸	Option	**Nil**	—	●
		M (3)	With M5 (Female thread)	●
		+		
❹	Suffix for indicator light Note 4)	**Nil**	Without indicator light	●
		L2	Neon light (100 VAC/220 VAC)	●
		L5	LED/24 VDC	●
		+		
❺	Attachment Note 5)	**Nil**	Without cover ring assembly	●
		C	Clear cover has no protrusion. (Clear cover is irremovable.)	●
		C2	Clear cover has protrusion. (Clear cover is removable.) The wrench flats protrude.	●
		+		
❻	Special specification	**Nil**	—	●
		X30	Both MPa and psi	○ (2)
		X201	Lead wire length 3 m	●
		Q (6)	Compliant with CE marking	●

Note 1) This symbol must be used with Special specification "X30."
Note 2) Under the New Measurement Law, products for overseas use only (SI unit type for use in Japan)
Note 3) To use the pressure gauge with M5 (female thread), attach the joint when piping the tube. For combinations with the special specification products, please consult SMC separately.
Note 4) Please consult with SMC for X30. 220 VAC is not available for -Q.
Note 5) For pressure gauges with the cover ring assembly, it is recommended to select the option M so as to perform the piping.
Note 6) The rated micro switch for CE marked products is under the following conditions.

Load	Load resistant	
Rated voltage	30 VDC	125 VAC
Operating current range	0.01 to 0.5 A	0.01 to 0.3 A

Dimensions (-Q: With ground terminal on back side) ∗ The dimensions in ( ): Connection thread R 1/4

GP46-10-01 to 02 (M) (L2,5)

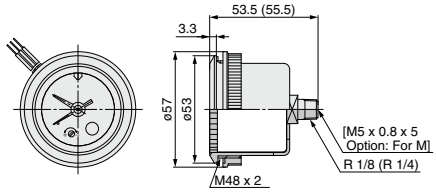


∗ The dimensions in ( ): Connection thread R 1/4

With cover ring assembly (For panel mount)

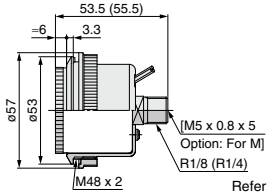
GP46-10-01 to 02 (M) (L2,5)-C

Type C (Clear cover is not removable.)

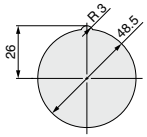


GP46-10-01 to 02 (M) (L2,5)-C2

Type C2 (Clear cover is removable. The wrench flats protrude.)



Panel fitting dimensions
Plate thickness Max. 3.5 t

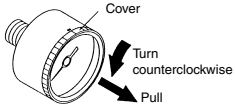


Refer to page 890 for mounting method.

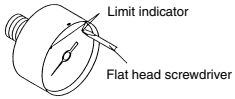
Procedures for Setting and Assembling

Procedure for Setting the Limit Gauge Indicator

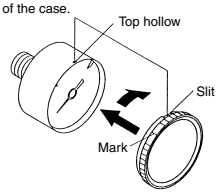
(1) Before setting the (green) limit indicator, turn the cover counterclockwise (approximately 6 to 7 mm) until it stops. Then, remove by pulling it towards you.



(2) Use a flat head screwdriver (with a 2.9 mm blade width) to set the (green) limit indicator. Be careful not to bend the other needle or damage the dial plate.

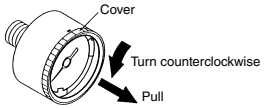


(3) After completing the setting, replace the cover.
Fit the cover by aligning the cutout in the cover to the groove on the top of the black case. Turn the cover clockwise (approximately 6 to 7 mm) until it stops. Make sure that the matching mark on the cover is aligned with the groove on the top of the case.

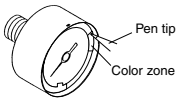


Procedure for Setting the Limit Gauge Indicator (Color Zone Type)

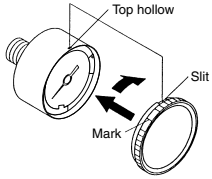
(1) Before setting the color zone (red), turn the cover counterclockwise (approximately 6 to 7 mm) until it stops. Then remove by pulling it towards you.



(2) Use a pen tip to set the color zone (red). Be careful not to bend the other needle or damage the dial plate.

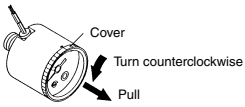


(3) After completing the setting, replace the cover.
Fit the cover by aligning the cutout in the cover to the groove on the top of the black case. Turn the cover clockwise (approximately 6 to 7 mm) until it stops. Make sure that the matching mark on the cover is aligned with the groove on the top of the case.

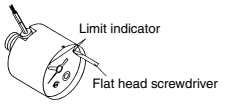


Procedure for Setting the Limit Gauge Indicator and the Setting Needle

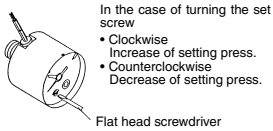
(1) Before setting the limit indicator and the (green) setting needle, turn the cover counterclockwise (approximately 6 to 7 mm) until it stops. Then, remove by pulling it towards you.



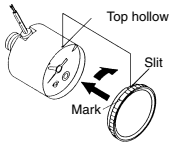
(2) Use a flat head screwdriver (with a 2.9 mm blade width) to set the (green) limit indicator. Be careful not to bend the other needle or damage the dial plate.



(3) Before setting the setting needle, use a flat head screwdriver (with a 2.9 mm blade width) to turn the setting screw and set the setting needle to the set pressure.

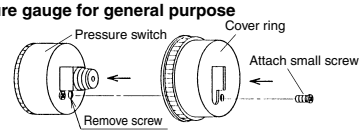


(4) After completing the setting, replace the cover.
Fit the cover by aligning the cutout in the cover to the groove on the top of the black case. Turn the cover clockwise (approximately 6 to 7 mm) until it stops. Make sure that the matching mark on the cover is aligned with the groove on the top of the case.

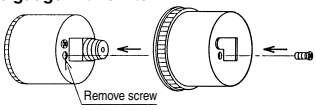


Procedure for Assembling the Cover Ring Assembly

● **Pressure gauge for general purpose**



● **Pressure gauge with switch**



1. Remove the small screw (1 position) from the pressure gauge.
2. Place the cover ring on the pressure gauge.
3. Using the small screw that is provided with the cover ring, install the cover ring. The installation torque is 0.3 to 0.5 N·m.

Pressure Gauge Guide
Specific Product Precautions

Be sure to read this before handling the products.
Refer to back page 50 for safety Instructions.

Selection

⚠Caution

1. **Do not apply high load voltage (current) or surge current as this can cause the switch to malfunction.**
2. **Make sure that no direct impact or vibrations are applied to the body.**
3. **If operating under pressure pulsations or in high frequency operations, please contact SMC.**

Mounting

⚠Caution

1. **During transport and installation, do not apply shock to the product, such as by dropping doing so will affect its precision.**
2. **Regarding the installation posture, place it perpendicular to the ground, with the zero point on the reading of a pressure gauge facing down.**
3. **Do not install it in an area that is exposed to high temperature or humidity, because doing so will lead to improper operation.**
4. **To screw in the pressure gauge, make sure to turn the gauge by placing a wrench over the square wrench flats.**
   If the pressure gauge is screwed in by holding it on some other area, air leakage or damage may result.

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