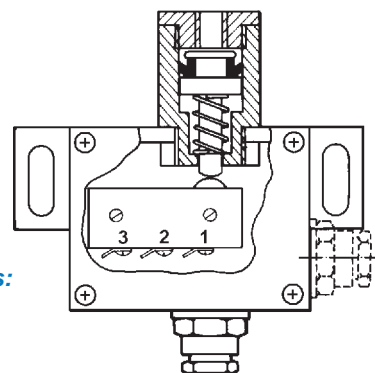


## PRESSURE & VACUUM SWITCHES

### 1. PRESSURE SWITCHES series UNIVER

Pressure switches are used to convert a pneumatic signal into an ON-OFF electric signal.

An example of their application is the piloting of a solenoid valve or other electrical device when there is pressure at a point in the system (the pressure can be of any value provided it falls between the minimum and maximum operating values).



**Connection of terminals:**

- 1 = common terminal
- 2 = NO terminal
- 3 = NC terminal

**General characteristics:**

Body in dielectric material with fitting for wall mounting.  
Protection IP65  
NO or NC function according to the terminals connected.

**Flow capacity:**

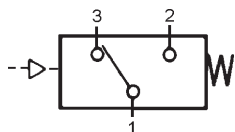
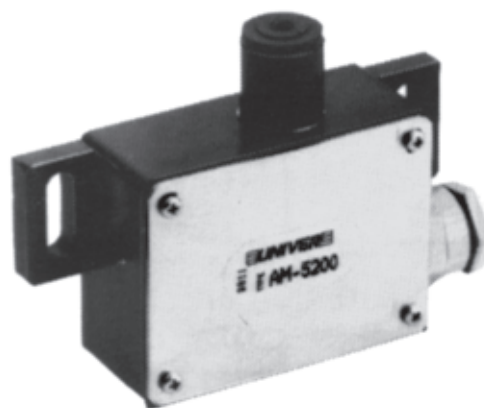
- 16 A at 250 VAC (resistive load)
- 5 A at 250 VAC (inductive load)
- 3 A at 30 VDC

**Ambient temperature:**

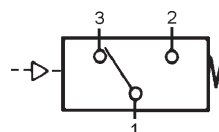
From -20 to +80°C

**Pressure:**

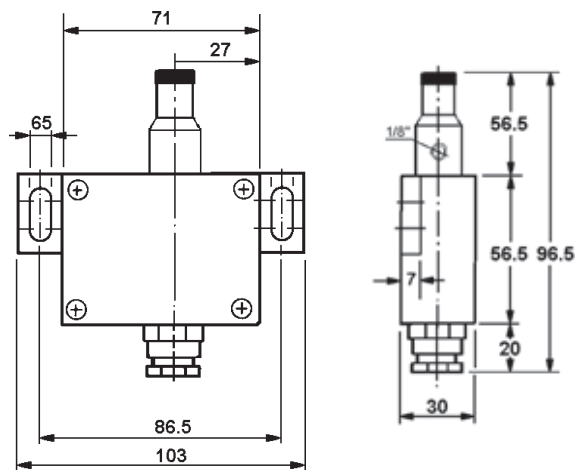
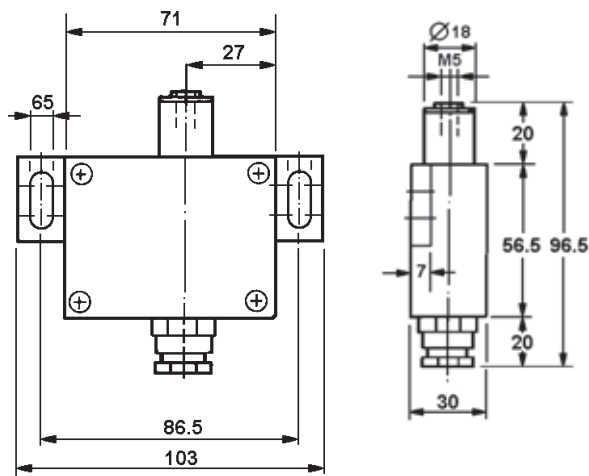
From 1 to 8 bar (max. 10 bar)



**ORDER CODE :**  
**AM5200**  
**(not adjustable)**



**ORDER CODE :**  
**AM5220**  
**(adjustable)**



Technical modifications keep in reserve !

(97/08)

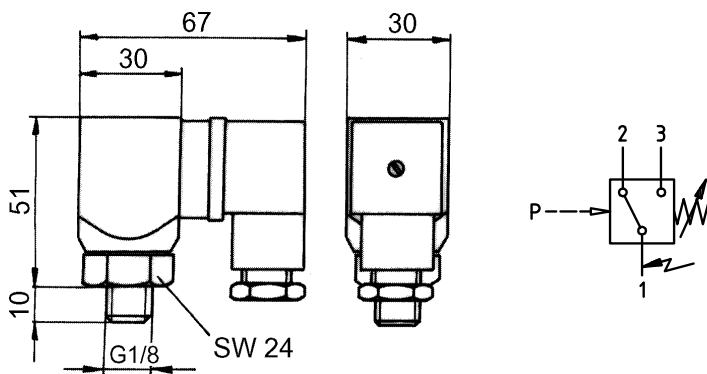
## 2. PRESSURE SWITCH series PE210



connector  
included

Media	Air, non corrosive gases and fluids
Description	Diaphragm
Mounting	Arbitrary
Pressure range	1 - 10 bar (overpressure 100 bar)
Switch difference	15% - 25%
Temperature	-30° to +120° C
Port size	G 1/8"
Electr.connection	Plug connection DIN 43650, form A
Circuit element	Micro-switch, one-pole change
Type of isolation	IP 65, connect IP 00 DIN 40050
Weight	0,230 kg.

**CODE** **PE210**



direct-current switch-power			
[V]	resistor loading [A]	bulb loading [A]	inductive loading [A]
30	5	0,5	5
50	2	0,4	2
75	1	0,3	1
125	0,5	0,2	0,06
250	0,25	0,1	0,03

alternating-current switch-power			
[V]	resistor loading [A]	bulb loading [A]	inductive loading [A]
125	5	0,5	5
250	5	0,5	5

Technical modifications keep in reserve !

(2009/01)

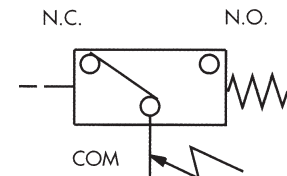
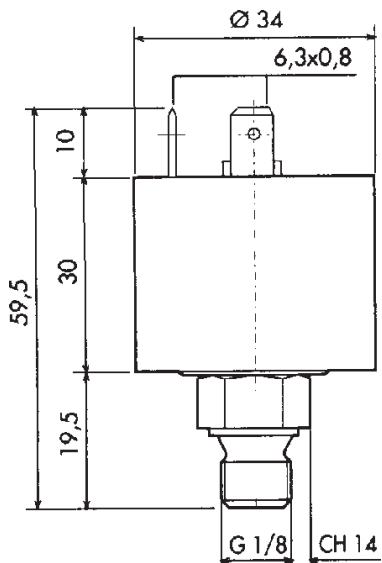
### 3. PRESSURE SWITCH series PN5611



Pressure switches are used to convert a pneumatic signal into an ON-OFF electric signal.

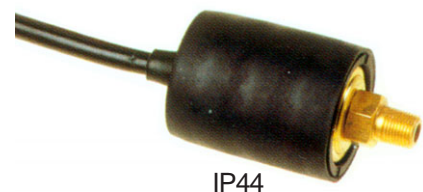


- Pressure:** Fixed at 6 bar (max. 12 bar)
- Contact:** NO or NC (according to the terminals connected)
- Operating voltage:** Max. 250 V
- Parts in contact with the fluid:** Diaphragm in stainless steel AISI 301, brass connection.
- Fluids:** Water, oil, air & steam
- Max. temp:** Fluid 155°C, Ambient 120°C
- Electrical data:** Faston 6.3 x 0.8  
Microswitch:  
NC ≤ 15 A resistance load ≤ 1.5 inductive  
NO ≤ 9 A resistance load ≤ 0.9 inductive  
Life of the electrical contacts: 100.000 cycles
- Mounting position:** Any. Preferred the position with the fastons upwards
- Weight:** 0.060 kg.



**ORDER CODE :  
PN5611**

**(rubber cap included)**



Technical modifications keep in reserve !

(2008/01)

## 4. PRESSURE SWITCHES series DRS



This miniature membrane pressure switches are used to convert a pneumatic signal into an ON-OFF electric signal.

**Materials:** Body: brass, diaphragms: NBR  
**Temperature range:** -25°C to max. +85°C  
**Switchback difference:** < 10 %  
**Protection class:** IP 65 (clamps IP 00)  
**Cable connection:** Flat connector 2 x 6.3 x 0.8  
**Media:** Hydraulic oil, oil emulsion, water, air



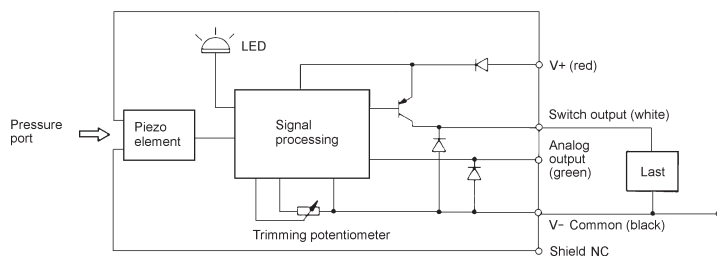
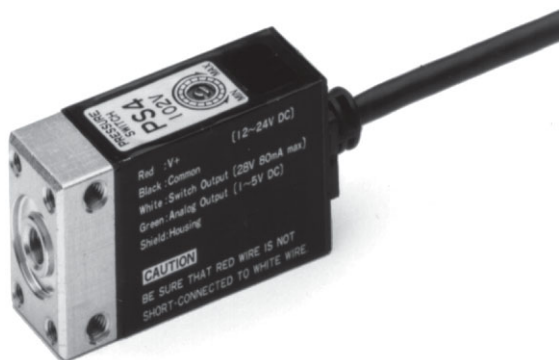
**FOR HIGHER LOADS RELAIS ARE RECOMMENDED**

ORDER CODE	CONTACT	ADJUSTING PRESSURE RANGE	CONNECTION	MAX. PRESSURE	SWITCH CAPACITY
DRSS2MINI	NO	0,3-2 bar	M1/8"	5 bar	42 V / 100 VA
DRSO2MINI	NC	0,3-2 bar	M1/8"	5 bar	42 V / 100 VA
DRSS10MINI	NO	1-10 bar	M1/8"	20 bar	42 V / 100 VA
DRSO10MINI	NC	1-10 bar	M1/8"	20 bar	42 V / 100 VA
DRSM2	<b>Protection cap</b>	It is advisable to protect the electric connections and the internal devices against moisture and dust infiltration by means of this protection cap.			

Technical modifications keep in reserve !

(2014/07)

## 5. VACUUM/PRESSURE SWITCHES series PS4



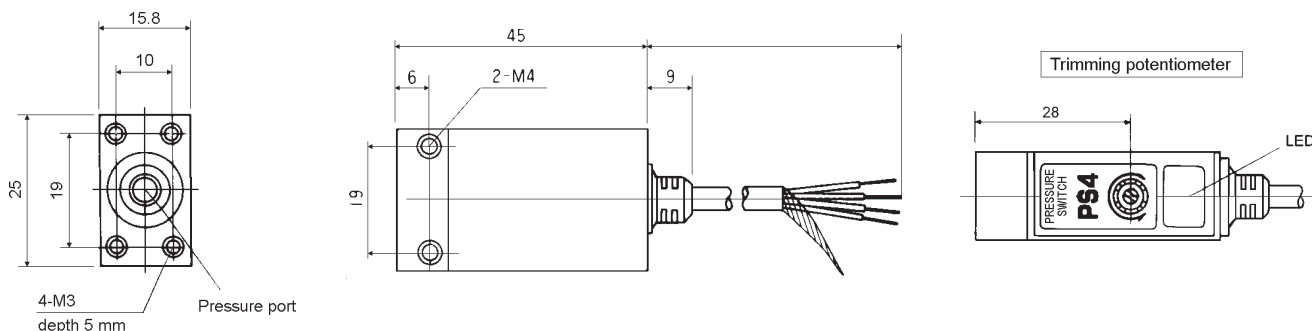
The semi-conductor type pressure sensor and the electronic hybrid circuit are contained in a plastic housing.

The operation principle is based on the piezo resistance effect of 4 semi-conductor strain gages in the silicon element. Because of the elasticity and small dimensions of the element, the sensor has **fast response** and guarantees **optimal repeatability, hysteresis and vibration resistance**.

The sensed pressure is converted to an electric signal which is amplified in the electronic circuit with on the one side the analog output and on the other side the switch without any mechanical and or moving parts which results in long life. **Over 10 million cycles** were run in both inhouse and field tests.

A built in LED indicates the switching position and simplifies presetting by means of the trimming potentiometer on top of the switch-housing. At the front side an aluminium connection block is attached to the plastic housing with port connection M5 and O-ring groove for subplate or manifold mounting.

(also ON SPECIAL REQUEST with connector & cable available).



ORDER CODE	PS4-102V-Z	PS4-103G-Z
Pressure range	-1 ~ 0 bar	-1 ~ 10 bar
Overpressure	3 bar	16 bar
Max. Pressure	5 bar	20 bar
Pressure media	dry, non aggressive gases	dry, non aggressive gases
Working voltage	12 - 24 VDC	12 - 24 VDC
Current consumption	30 mA at 24 VDC	30 mA at 24 VDC
Insulation resistance	min. 100 Mohm at 500 V	min. 100 Mohm at 500 V
Analog output	1±0,4 - 4± 0,4 VDC	1±0,4 - 4± 0,4 VDC
Switch output	PNP open collector output Switching characteristic: Current max. 80 mA Excitation Voltage: max. 2 V	PNP open collector output Switching characteristic: Current max. 80 mA Excitation Voltage: max. 2 V
Switch position indication	LED	LED
Switching pressure setting	Potentiometer	Potentiometer
Switching hysteresis	max. 15 mbar at -1bar	max. 150 mbar at 10 bar
Switching accuracy at constant temperature	5 mbar	50 mbar
Switching frequency	1000 Hz	1000 Hz
Housing material	Aluminium and Polycarbonat	Aluminium and Polycarbonat
Shock resistance	100 G. Time 1 ms	100 G. time 1 ms
Vibration resistance	10 G (10 - 2000 Hz)	10 G (10 - 2000 Hz)
Dielectric strength	500 VAC 1 min.	500 VAC 1 min.
Temperature range	-20°C + 70°C operating temperature -20°C + 80°C storage temperature	-20°C + 70°C operating temperature -20°C + 80°C storage temperature
Electrical connection	4 x 0.13 mm <sup>2</sup> , 3 m shielded cable AWG 26	4 x 0.13 mm <sup>2</sup> , 3 m shielded cable AWG 26
Pressure connection	M5 or O-ring sealed subplate- or manifold mounting	M5 or O-ring sealed subplate- or manifold mounting
Weight	approx. 80 g	approx. 80 g

## 6. VACUUM / PRESSURE GAUGE series PG30



Compact multipurpose compound pressure gauge specifically designed to cover negative to normal pressure.

### Full 3-digit red LED

Clear indication even in dark places

### 2-point switch output

8 operation modes available with combination of separate mode and window comparator mode

### Protection grade IP65

Proven IP65 grade gauge body

### Small 30mm-square face

Space-saving design

### Various modes and units can be selected

8 different pressure units

### Analog output 1~5 V

In addition to 2-point switch output, analog voltage output is provided

ORDER CODE	PG30-103R	PG30-102R
Rated pressure range	-1 ~ 10 bar	-1 ~ 1 bar
Maximum pressure	15 bar	2 bar
Media	Non-corrosive gases	
Input voltage	10.8 ~ 30 VDC (including ripple)	
Current consumption	70 mA maximum	
Analog output	Output voltage : 1 ~ 5 V Output impedance : 10 kΩ	
Display	Full 3-digit LED	
Switch state indication	Output 1 (green) and output 2 (red) light up when output is on.	
Temperature / Humidity	-10 ~ 50 °C / 35 ~ 85 %RH	
Insulation resistance	> 100 MΩ at 500 VDC between bundle of lead wire and pressure port	
Dielectric strength	1 minute at 500 VAC between bundle of lead wire and pressure port (leak current : < 1 mA)	
Vibration	10 ~ 500 Hz Amplitude 1.5 mm, 3 directions, 2 h each	
Shock	490 m/s <sup>2</sup> 3 directions for 3 times each	
Thermal error	±3 %F.S. (0 ~ +50 °C)	
Pressure port	1/8", Aluminium die-casting, silicone	
Weight	approx. 80g (including 2 m cable)	
Accessories	Unit seal, seal screw, M5 connecting joint screw	

### SWITCH OUTPUT (PNP)

Switch capacity : 30 VDC 100 mA max.  
Residual voltage : 2,2 V max.  
(at load current or 100 mA)

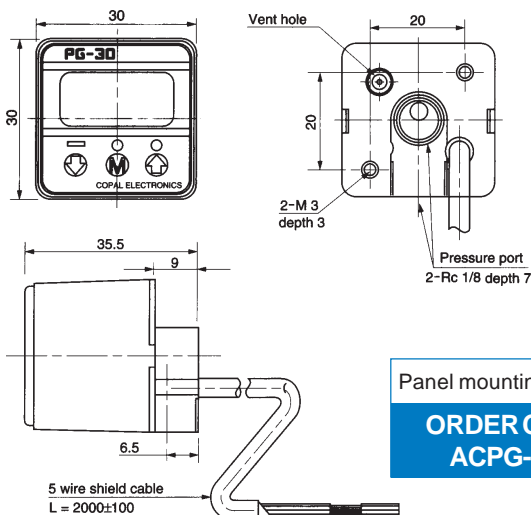
Hysteresis	0 ~ 300 digits (adj.)
Repeatability	±0,2%F.S. ±1digit
Response	5 ms ~ 2,5 s (adj.)
Short-circ. prot.	Provided

### OUTPUT MODE SETTING

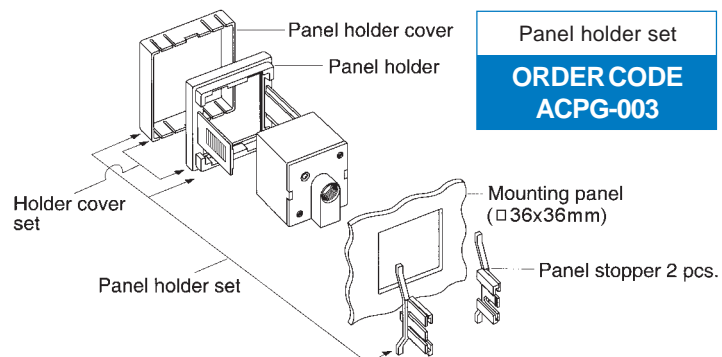
#### Detected pressure (Pin)

Output mode	Pin (L)	Pin (H)
R mode	-Pr	+Pr
G mode	0	+Pr
V mode	0	-Pr
Output voltage Vo	Vo (L)	Vo (H)

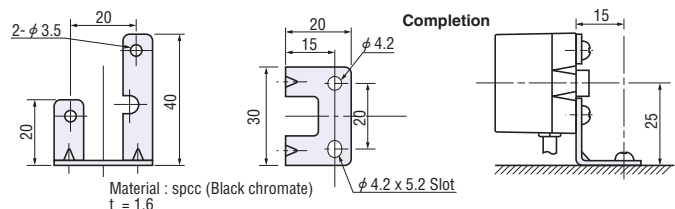
Pressure range (103R) : only for G mode



Panel mounting bracket  
**ORDER CODE**  
ACPG-002



Panel holder set  
**ORDER CODE**  
ACPG-003



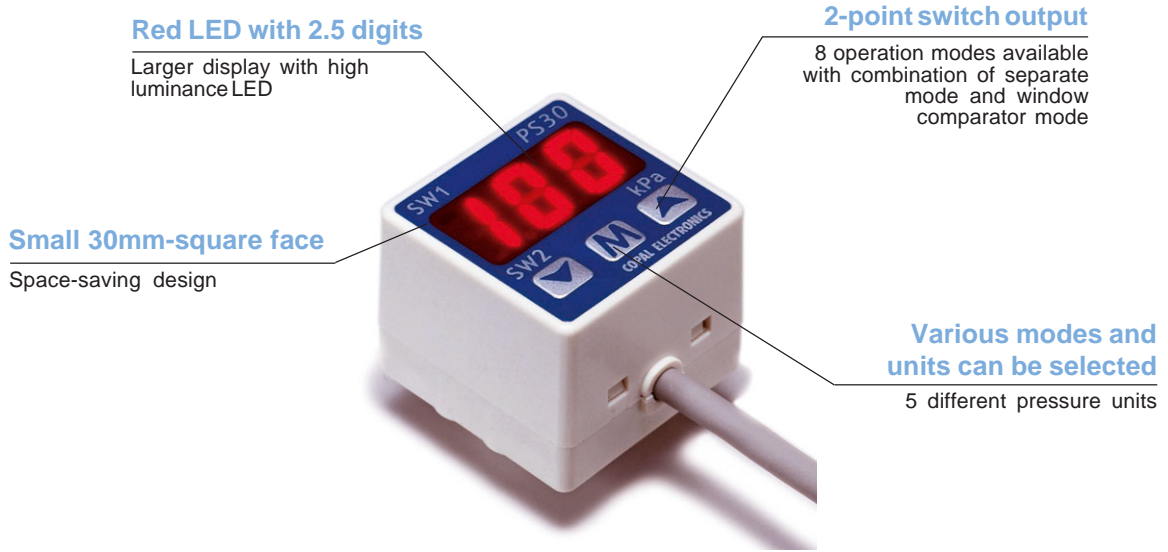
Technical modifications keep in reserve !

(2006/10)

## 7. VACUUM/PRESSURE GAUGE series PS30

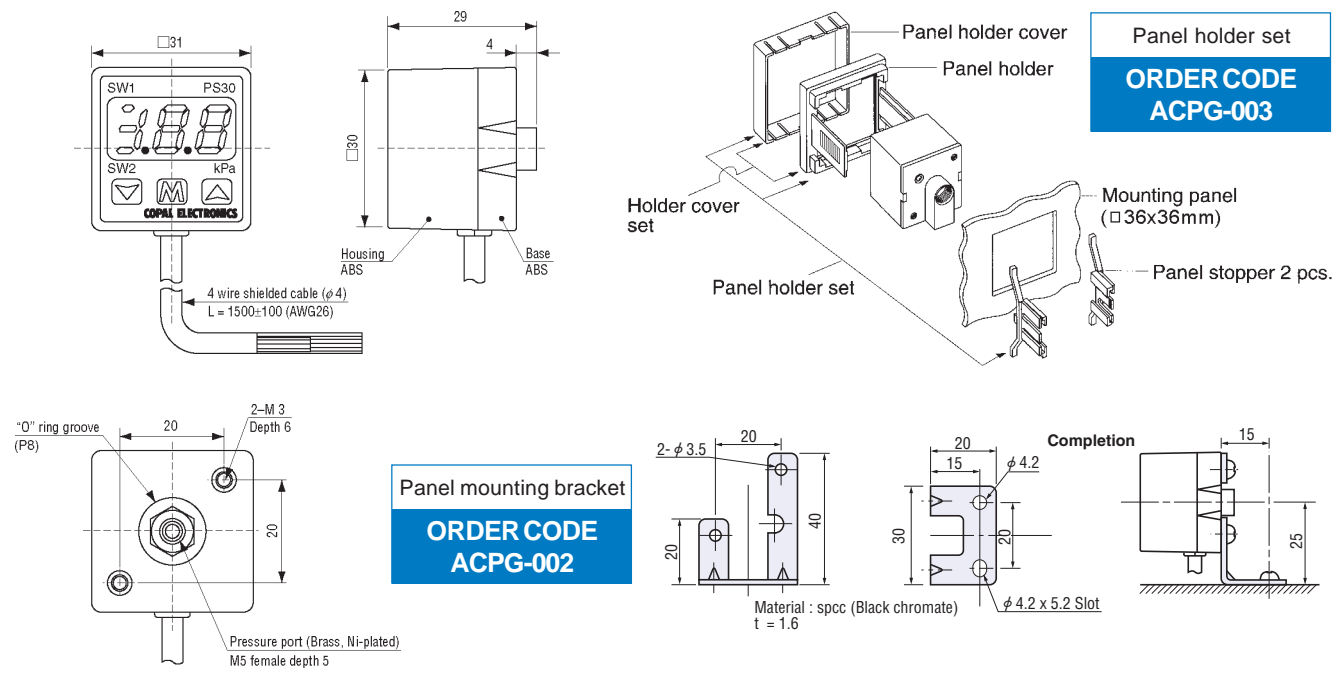


Compact multipurpose compound pressure gauge specifically designed to cover negative to normal pressure.



ORDER CODE	PS30-103R	PS30-102R
Rated pressure range	-1 ~ 10 bar	-1 ~ 1 bar
Maximum pressure	15 bar	2 bar
Media	Non-corrosive gases	
Input voltage	12 ~ 24 VDC (including ripple)	
Current consumption	40 mA maximum	
Display	2.5-digit LED	
Temperature / Humidity	-10 ~ 50 °C / 35 ~ 85 %RH	
Insulation resistance	> 100 MΩ at 500 VDC between bundle of lead wire and pressure port	
Dielectric strength	1 minute at 500 VAC between bundle of lead wire and pressure port (leak current : < 1 mA)	
Vibration	10 ~ 500 Hz Amplitude 1.5 mm, 3 directions, 2 h each	
Shock	490 m/s <sup>2</sup> 3 directions for 3 times each	
Thermal error	±3 %F.S. (0 ~ +50 °C)	
Pressure port	M5, Silicon	
Weight	approx. 60g (including 1.5 m cable)	
Protection	IP40	
Accessories	Unit seal, seal screw, M5 connecting joint screw	

SWITCH OUTPUT (PNP)	
Switch capacity : 30 VDC 100 mA max. Residual voltage : 2,2 V max. (at load current or 100 mA)	
Hysteresis	0 ~ 30 digits (adj.)
Repeatability	±0,3%F.S. max.
Response	5 ~ 250 ms (adj.)
Short-circ. prot.	Provided



Panel mounting bracket  
**ORDER CODE ACPG-002**

Panel holder set  
**ORDER CODE ACPG-003**

Technical modifications keep in reserve !

(2006/10)