

Featuring high speed comparator

GC67

Small Digital Pressure Gauge

Fluids and gases measurement
(Featuring stainless diaphragm)

Overview

Small digital pressure gauge, incorporating high reliable proven Chemical Vapor-Deposited Semiconductor Strain Gauge (SS sensor), features 10mm LED indication, switch actuation and analog output in 30 x 30mm compact enclosure for use in FA production line. Application includes hydraulic, air and water pressure monitor and control.



Features

- High-speed comparator is featured: 2.5ms Independent comparator operation can be set on OUT1 and OUT2
- Analog output (option) response time: 1ms or less
- 5 internal time constant filters (OFF, 10ms·50ms, 200ms·600ms)*
- Indication scaling, Peak and bottom hold display, Key lock and Zero point adjustment
- 10mm large LED (3 1/2 digit)

RoHS



*Filter setting doesn't affect performance of analog output operation.

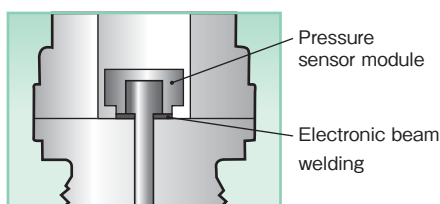
Features of sensor

Chemical Vapor-Deposited Semiconductor Strain Gauge (SS sensor)

Proven Chemical Vapor-Deposited Semiconductor Strain Gauge (SS sensor) achieves integral construction that semiconductor strain gauge, sensing part and fitting are all integrated without using any adhesive or corrosive materials to contributes to high durability and stability. This can be offered for various fluids and gases measurement.



SS Sensor



Fully welded type

Integral safety construction body and fittings are fully welded

Function

• Two open collectors provide highly accurate ON/OFF comparator operation.

Comparator (OUT1,OUT2) operation LED (Red)

They are red lit when comparator output becomes ON status



Pressure and setting value display LED

MODE MODE key

Use the mode key for selecting each operation mode and sub mode.

DOWN key

Sets values and selects items. It displays minimum pressure value in measurement.

UP key

Sets values and selects items. It displays maximum pressure value in measurement.

Specifications

Item		Description
Media		Air, water, hydraulic fluids (Gases and fluids compatible with wetted parts)
Installation environment		Install in location where no gases or liquids may exist that have the potential to become flammable or ignitable under normal operating condition
Mounting		Vertical mounting or horizontal mounting
Connection		R1/8 · M5
Wetted parts		Diaphragm: SUS630 (17-4PH), Fitting: SUS304
Pressure range		-100 to 100kPa, 0 to 1MPa, -0.1 to 1MPa
Maximum allowable pressure		200% of pressure range
Accuracy	Indication accuracy	±(1.0% F.S.+1digit) at 23°C
	Temperature coefficient	±0.1%F.S./°C (Zero, span)
Display		3 1/2 digit, 10mm LED
Display update rate		200ms
Units		kPa, MPa
Power source		12 to 24V DC ±10%
Consumption current		30mA or less
Output signal	Comparator output	Open collector NPN type, 2 outputs (30V DC, 80mA max.) Hysteresis, Window comparator mode Response time: 2.5ms or less (without filter)
	Analog output (Option)	Voltage output: 1 to 5V DC Load resistance 10kΩ min. Analog output accuracy: ±3%F.S. Response time: 1ms or less (Filter function has no effect on analog output)
Function	Scaling	Indication scaling
	Filter	OFF, 10ms, 50ms, 200ms, 600ms (Time constant) * Value set by filter function has no effect on analog output.
	Error indication	Over pressure, Comparator overloaded, Outside of effective range for the zero adjustment
	Hold	Display of peak and bottom values
	Others	Zero adjustment, key lock
Protection circuits		Reverse power connection, Comparator overcurrent protection.
Operating temperature		-10 to 50°C (Non-Freezing and Condensing)
Operating humidity		35 to 85%RH (Non-Condensing)
Storage temperature		-20 to 60°C (Non-Freezing and Condensing)
Enclosure		Indoor use (IP40 IEC Standard)
Case materials		Front case PC/ABS Rear case ADC12
Cable		Length: 2m Cross-sectional area of conductor: 0.18mm ²
Weight		Approx. 95 g (including 2m cable)
CE Compliance*		Applicable Directive: 2004/108/EC Applicable Standards: EN61326-1:2013;EN61326-2-3:2013 (EMI Class A / EMS Table 2)
RoHS Compliance		EU RoHS Directive applicable

* Ensure wirings and connections to eliminate risk of oversupply of electric power due to lightning etc. Not allowed for the use as "Safety accessories."

Pressure range and maximum display value

Pressure range	Maximum display value
-100 to 100kPa	100kPa
0 to 1MPa	1.000MPa
-0.1 to 1MPa	1.000MPa

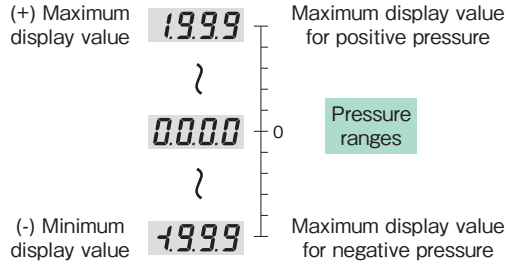
* Negative sign (-) is displayed when the vacuum pressure is measured.

Six Primarily Functions

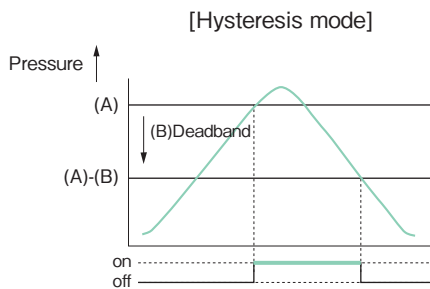
1 Flexible rangeability with accurate pressure value indication and analog output scaling.

● Indication scaling function

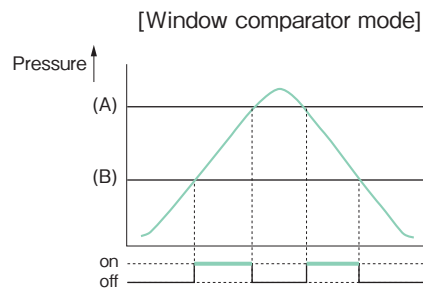
Pressure value can be displayed arbitrarily within the maximum 3 1/2 digits (1999) display ability.



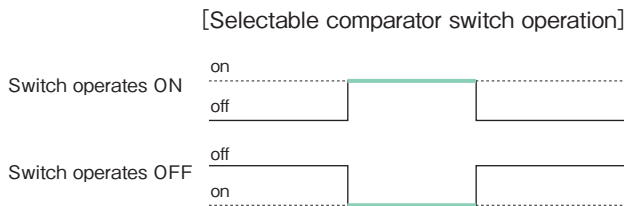
2 Selectable comparator switch operation. OUT1 and OUT2 can be set independently.



This is the mode in which the switch operates with the setting value (A) and (B) for deadband. (Shown is for switch operation "on" when actuated at setting value)



This is the mode in which the switch operates with the setting value (A) and (B). (Shown is for switch operation "on" when actuated at setting values)



Selectable logic of comparator output both in Hysteresis mode and Window comparator mode. Above diagram shows the operation of ON and OFF when the switch is actuated.

3 Digital filter function is used when pressure fluctuations can result in erratic pressure indication (Select from: OFF, 10ms, 50ms, 200ms, 600ms)

4 Zero adjustment is easily available just pressing [MODE] and down key with pressure port open to atmosphere.

5 The unit keeps the maximum and minimum pressure in the internal memory. They are displayed while holding the up or down keys respectively.

6 Other features include key lock function to prevent inadvertent operation, error message indication when pressure is applied beyond rated pressure range or applied pressure is outside of allowable range during zero point adjustment.

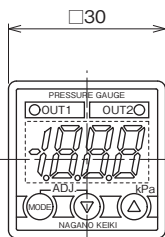
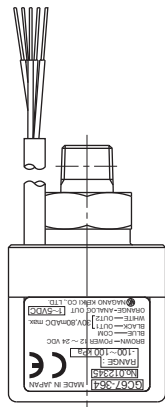
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Small Digital Pressure Gauge

Unit: mm

Dimensions

Horizontal mounting



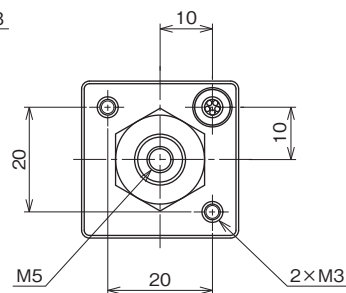
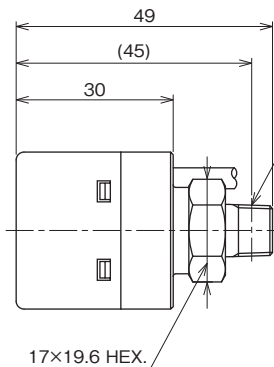
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Wiring

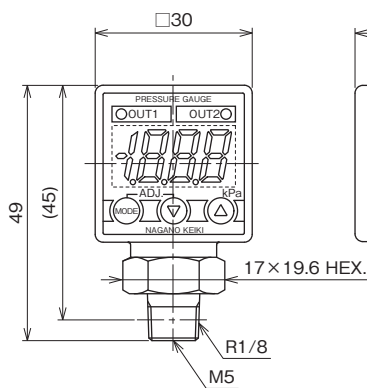
- Brown.....Power source (+)
- Blue.....Power source (-)
- Black.....Open collector output (OUT1)
- White.....Open collector output (OUT2)
- Orange.....Analog output

Cable Specification [Specifications]

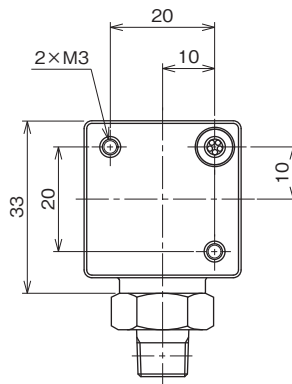
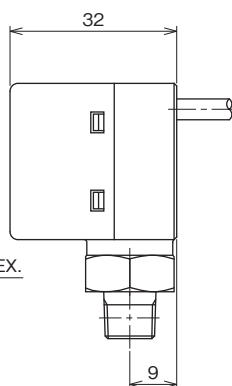
- Conductor
 - Construction: 0.18sq (7quantity/0.18mm)
 - Diameter including cable jacket: 0.86mm
- Sheath
 - Outer diameter: 4±0.15mm



Vertical mounting

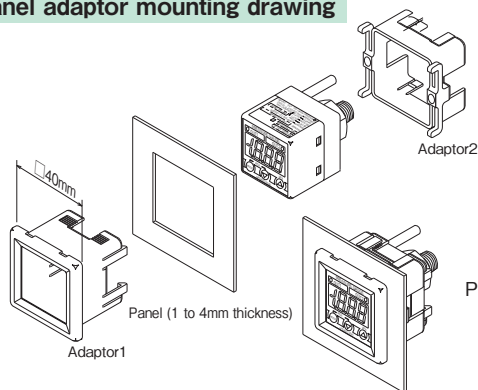


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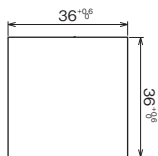


Option

Panel adaptor mounting drawing

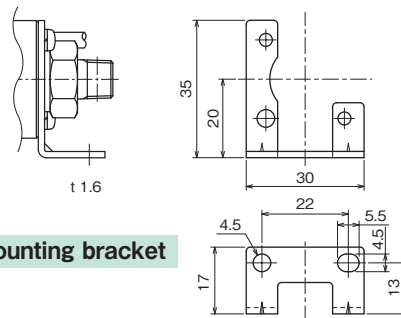


Panel cutout dimension

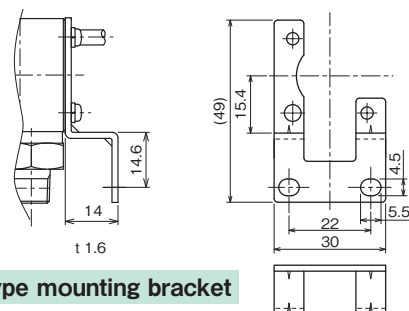


R4 or less

L type mounting bracket



Hook type mounting bracket



Model number configuration

Please specify the model number, each specs and the range for ordering.

Model

Digital pressure gauge

Model number

Product specifications

Additional specifications (Optional)

①	1	Vertical mounting
①	3	Horizontal mounting
②	6	R1/8 (M5 female)
③	4	Diaphragm: SUS630 (17-4PH) Fitting: SUS304
④	1	-100 to 100kPa
	2	0 to 1MPa
	3	-0.1 to 1MPa
⑤	7	±(1.0%F.S.+1digit) at 23°C
⑥	N	12 to 24V DC
⑦	3	NPN open collector × 2 outputs (30V DC, 80mA max.)
	0	Not required
⑧	8	1 to 5V DC
	0	Not required
⑨	1	Use no oil
	2	Use no water
	3	Use no oil & water
⑩	0	Not required
	A	Panel adaptor (horizontal mounting only)
	B	L type mounting bracket
⑩	C	Hook type mounting bracket
	0	Not required
⑮	1	Required (Documents available upon request) Datasheet (Drawing / Specifications) Instruction manual Inspection procedure Calibration test report (One-part one sheet) Inspection / Traceability certificate Strength calculation sheet Attending inspection

Please specify pressure range and unit of measure along with corresponding ordering code.

Treatment against wetted parts

■ Use no oil

Oil used in manufacturing the gauges had been flushed out & no oil residue remained inside its wetted parts.

■ Use no water

Water used in manufacturing the gauges had been flushed out & no water residue remained inside its wetted parts.

■ Use no oil & water

Oil/Water used in manufacturing the gauges had been flushed out & no oil/water residue remained inside its wetted parts.

* Specify code "X" to refer N/A