

Sanitary type**SN9****Digital Pressure Gauges****Outline**

This digital pressure gauge has a highly reliable on-board vaporization-style semiconductor pressure sensor. Because of hygienic sanitary connection, it can be used in a variety of fields, such as food, medicine, cosmetics and fields related to biology.

Features

- Contains a large variety of output functions, so it can be used with wide ranging applications for monitoring.
- The scaling function allows you to change to any display and output.
- The loop check function (mock output) allows for construction and inspection work at reduced labor.
- Contributes to space-saving by being small and light.

**1S Ferrule wetted parts**

The diaphragm is optimized for the inside diameter of ISO (IDF) 1S pipes, keeping contamination to a bare minimum through optimal fitting.

Diaphragm diameter: $\phi 23$ **Specifications 1****Fluid:**

Air or liquid

Mounting:

Vertical mounting

Connection type:

Ferrule, Nut, Male type ISO (IDF) Standard, and Union thread type

Connection size:

1S, 1½S, 2S, G1½B

(1S: Ferrule type only, G1½B: Union thread type only)

Wetted parts material:

Diaphragm SUS316L

Joint SUS316 or SUS316L

Pressure range:

0 to 0.5→0 to 5MPa

-0.1 to 0.5→-0.1 to 2MPa

Operating temperature:

Ambient -5 to 50°C (No freezing)

Wetted parts -5 to 100°C (Radiation fin type: -5 to 135°C)

Allowable temperature range:

Ambient -5 to 60°C (No freezing)

Wetted parts -5 to 150°C

Operating humidity range:

35 to 85%RH (No condensation)

Accuracy:Display accuracy $\pm(2\% \text{ F.S.} + 1 \text{ digit})$ at 23°CTemperature coefficient $\pm 0.15\% \text{ F.S./}^\circ\text{C}$ (Both zero and span)**Display system:**

4 digit, 8mm LED

Display update 0.2s

Power source:12 - 24V DC $\pm 10\%$ (When 15 - 24V DC $\pm 10\%$ 4 - 20mA output is used.)**Consumption current:**

30 mA or less (4 - 20mA: 50 mA or less)

Comparator output:

NPN open collector (30V DC, 80mA max.)

Delay: 0 to 2.00s (ON, OFF)

On/Off pilot lamp:

Red LEDs (OUT1 and 2) remain lit when comparator is on.

Analog output: (Option)4 - 20mA DC (Load resistance 400 Ω or less) or1 to 5V DC (Load resistance 10k Ω or over)

* When 4 to 20mA DC is selected, power source should be

15V DC or over.

Output accuracy: $\pm 2\% \text{ F.S.}$ **Other functions:**

Scaling, loop check, holding, filtering, self-diagnosis, one-touch zero adjustment, and key locking functions

Filled liquid:

Propylene glycol (Compound: Silicone oil)

Case construction:

IP65 (With air inlet port)

Case materials:

Front case PC/ABS (UL-94, V-0)

Rear case ADC12

Cable length:

2m (Standard)

Weight:

Approx. 0.9 kg (Radiation fin with nut connection)

Specifications 2

Pressure range and display maximum value by unit:

Pressure range (MPa)	Display max. value (MPa)
0 to 0.5, -0.1 to 0.5	0.500
0 to 1.0, -0.1 to 1.0	1.000
0 to 2.0, -0.1 to 2.0	2.000
0 to 3.5	3.50
0 to 5.0	5.00

- * Minus symbol is displayed for compound.
- * For 5MPa, only nut (size 1½S or less), male and union thread types can be manufactured.

Display and operation

Comparator (OUT1) operation LED (Red)
Comparator (OUT2) operation LED (Red)
Lights up:
When comparator output is ON

Setup mode (SET) operation LED (Orange)
The setup mode confirmation LED lights up when it is in function setup mode and comparator setup mode, and blinks when it is in loop check mode. Otherwise it does not light up.

MODE MODE key
to select an operation mode and switch between submodes.

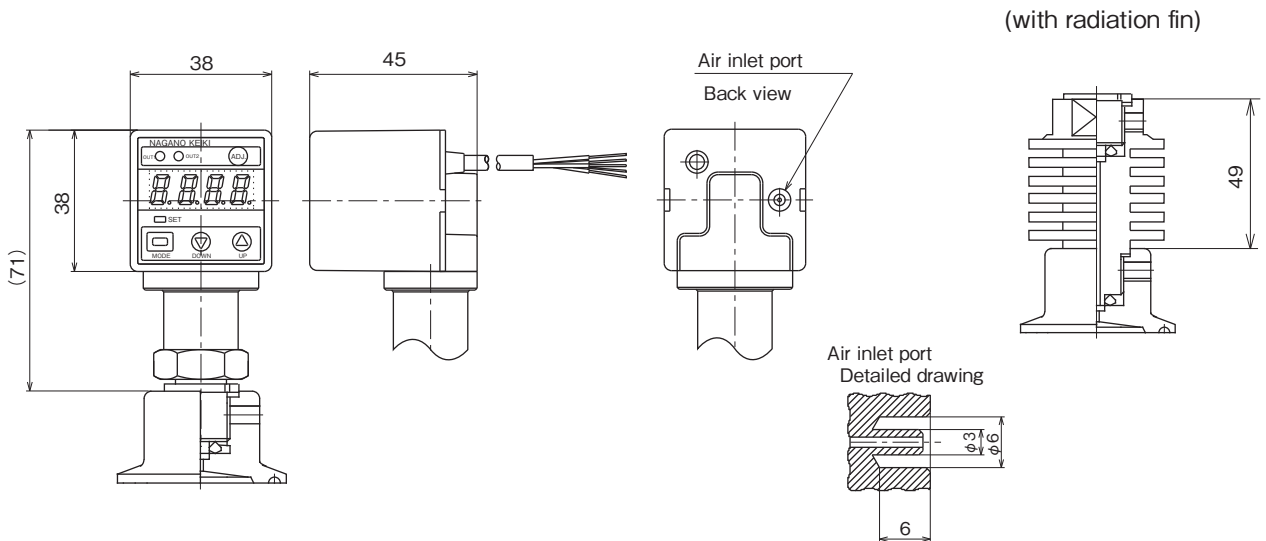
ADJ ADJ. key
Use when performing zero adjustment.

Pressure and setting value display

DOWN DOWN key
to set values and select items. It displays peak hold value in the measurement mode.

UP UP key
to set values and select items. It displays peak hold value in the measurement mode.

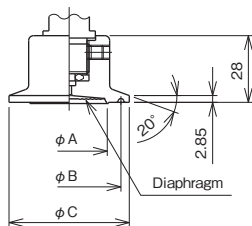
Dimensions 1



Dimensions 2

(Connection type)

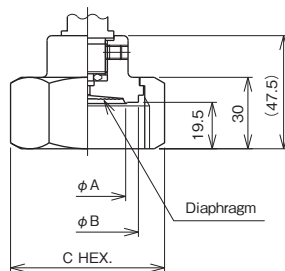
Ferrule type



Ferrule size	A	B	C
1S	23	43.5	50.5
1½S	32	43.5	50.5
2S	47	56.5	64

ISO (IDF) Standard

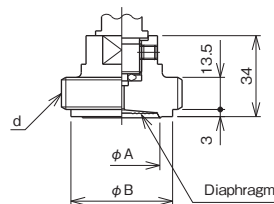
Nut type



Nut size	A	B	C
1½S	32	42.7	56x64.7
2S	47	56.2	71x82

ISO (IDF) Standard

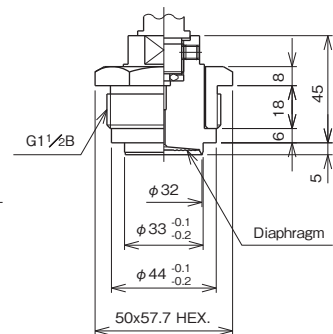
Male type



Thread Size d	A	B
1½S	32	42.7
2S	47	56.2

ISO (IDF) Standard

Union thread type



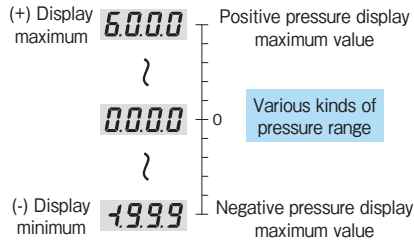
ISO (IDF) Standard

Seven points related to function

1 Flexible range application by the high accuracy of display and output scaling.

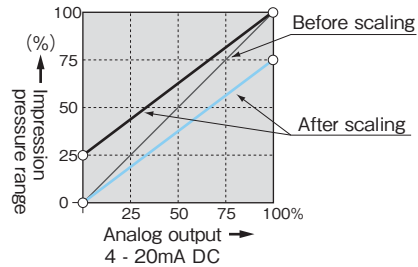
●Display scaling function

Digital display can be set at given values within the limit of a 4 figure display.

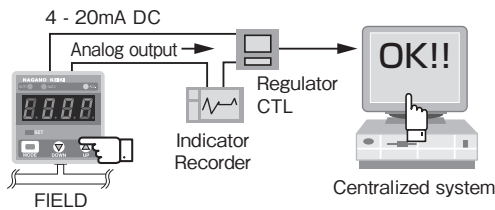


●Analog output scaling function*1

Scaling of the analog output can be arbitrarily carried out to a full-scale display within the limit of a maximum display and rated pressure range.



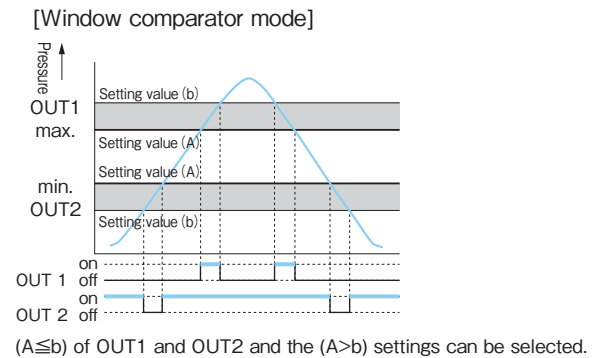
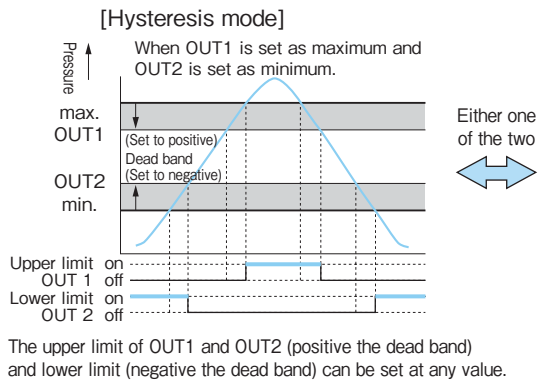
2 By the loop checking, display, analog output*1 and comparator output can be manual tested with up and down keys operation regardless of impression pressure. It is suitable for the simulation operation of a wiring check etc.



Comparator output can also be tested of operation.

*1 With analog output (option) only

3 The operation mode of comparator output can be selected.



The delay of turning on and turning off can be set to the above-mentioned, set value.

4 The digital filter is built in. It is useful, when pressure change is hard and a display is hard to see. Either Nil, 25ms, 250ms, 2.5s, 5s or 10s is selected.

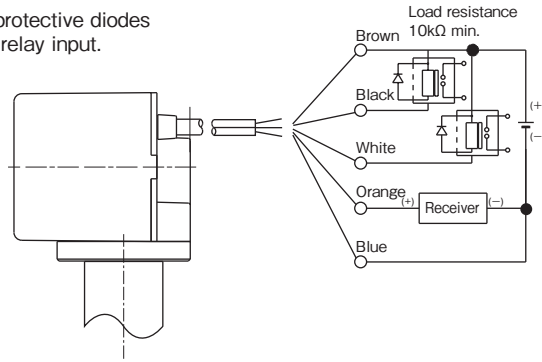
5 Easy zero adjust by setting inlet port to atmospheric pressure and pushing ADJ key for over 3 sec.

6 The peak and bottom value of measured are memorized. It displays, while pushing up and down keys.

7 An error message is displayed when outside of the zero adjustment and excessive pressure is applied. Key lock function for avoiding incorrect operation is prepared.

Wiring

Put the transistor protective diodes in relay in case of relay input.



Load resistance
400Ω max. at 4 - 20mA DC
10kΩ min. at 1 - 5V DC

Cable wiring color

- Brown Power source (+) 12 to 24V DC
- Black Open collector (OUT1)
- White Open collector (OUT2)
- Orange* Analog output (+) (Option)
(4 - 20mA DC or 1 - 5V DC)
- Blue Power source (-)

* Analog output is optional.

Model number configuration

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

Model																			
S	N	9	—	①	②	③	—	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮
Sanitary type Digital Pressure Gauge									4			×	×	G	C	6	1	×	—
Model number									Selective spec.			Additional spec. (Option)							
Model *1		Y	Ferrule type (Please use within proof pressure of the clamp and gasket.)																
		W	Nut type																
		V	Male type																
		U	Union thread type ①5 G1½B only																
① Connection size		3	1S (Only Ferrule type can be manufactured)																
		5	1½S or G1½B (Only union thread type can be manufactured with G1½B)																
		6	2S																
② Shape		Radiation shape																	
		S	Standard																T
③ Wetted parts material		3	SUS316																
		4	SUS316L																
④ Diaphragm diameter		Diaphragm diameter		Pressure range (MPa)															
		1	φ23 (1S)	0 to 0.5, 1.0, 2.0, 3.5										For ① size 3 (Ferrule type only)					
		3	φ32 (1½S)	0 to 0.5, 1.0, 2.0, 3.5, 5.0 (5MPa Ferrule cannot be manufactured)										For ① size 5					
⑤ Diaphragm material		4	SUS316L																
		Wetted parts treatment *2		0	Nil														
⑥ Wetted parts treatment *2		1	Buff finish (Union thread type cannot be manufactured)																
		Instruction part		9⑩⑪⑫	GC61		GC61-W01 Digital Pressure Gauge												
⑬ Additional spec.		0	Nil																
		1	Required with the analog output 4 - 20mA DC or 1 to 5V DC																
⑮ Documents		0	Nil																
		1	Required (Please specify the desired documents separately.) Submission drawings, instruction manual, inspection procedure, mill sheet, test report (1 pc 1 copy), inspection / traceability certificate, attended inspection																

Caution

*1 Please use it within the range of proof pressure of connected parts (clamp, nut, and gasket, etc.). When using Ferrule types, many commercial clamps have a pressure resistance of 1MPa or less. Please keep the pressure at 1MPa or less as long as you are not using special-purpose items.

[Manufacturing range]

*2 Please contact us for electrolytic polishing wetted parts and passivation treatment specifications.

* Parts required for installation, such as clamps, nuts, gaskets, etc., are to be prepared by the user.

* Specify "X" if there is no specification item.