



ZT60 Digital Pressure Gauge

OUTLINE

This pressure gauge is ideal for the semiconductor industry and uses a durable, stable semiconductor strain gauge in its pressure sensitive unit. With various intelligent functions such as comparator output, analog output and loop check functions, very reliable measurements are possible.

FEATURES

- Outstanding corrosion resistance thanks to Co-Ni alloy sensor and 316L st.st. joint part.
- Has a large, bright, easy-to-read 4-digit LED display, and either longitudinal or lateral display can be selected.
- Loop check function reduces inspection work, while scaling function (display, output) and zero adjustment function eliminate troublesome adjustments.
- Horizontal or vertical mounting, and many different connecting joints are available.

SPECIFICATION 1

Fluid:

Various process gas

Operating condition:

Under the normal condition, where there is no inflammable gas or liquid which cause the ignition or explosion.

Configuration:

Horizontal mounting T type
Horizontal mounting S type
Vertical mounting S type

Connection:

1/4", 3/8"
(UJR fitting, VCR fitting, JSK fitting, MCG fitting, CVC fitting)

Gas contact part:

Pressure sensor	Co-Ni alloy
Fitting	316Lst.st.

Pressure range:

0 ~ 200 kPa → 0 ~ 20 MPa (0 ~ 2 → 0 ~ 200 kgf/cm²)
-100 ~ 100 kPa → -0.1 ~ 2 MPa (-1 ~ 1 → -1 ~ 20 kgf/cm²)

Max. allowable pressure:

200% of pressure range)

Operating temperature and humidity range:

-10 ~ 50°C, 35 ~ 80%RH

Storage temperature:

-20 ~ 60°C

Power source:

24V DC±10%, 60mA max.
(80mA max. at 4 ~ 20mA)

Output:

Comparator output

NPN Open collector × Individual 2 output
(Hysteresis, window)

Response time *** Within 5ms

Capacity *** 30V DC 80 mA

Operation mode *** Upper lower limit, dead band,
ON,OFF delay/window

Action display *** LED (Red)Display × 2 (Light at ON)

Repeatability *** ±0.2%F.S.±1digit

Analog output

4 ~ 20 mA DC or 1 ~ 5V DC

Output accuracy *** ±1%F.S. (Standard)

±0.5%F.S. (Depends on range)

Load resistance *** 4 ~ 20mA DC (Load resistance 400Ω max.)
1 ~ 5V DC (Load resistance 10kΩ min.)

Accuracy:

±1.0%F.S.±1digit (Standard)

±0.5%F.S.±1digit (More than 0.5MPa range)

Temperature coefficient:

±0.1%F.S./°C (At accuracy ±1.0%F.S.)

±0.05%F.S./°C (At accuracy ±0.5%F.S.)

Pressure display:

4 digit LED (Hight of letter 8mm)

Operation display:

Red LED (Comparator output use × 2)

Unit change:

kPa, MPa, kgf/cm², psi, bar

SPECIFICATION 2

Scaling function:

Within -1999 ~ 2999 digits for pressure range

Loop check function:

Mimic pressure value is output by manual

Filter function:

Select from 0ms, 25ms, 250ms, 2.5s

Hold function:

Peak hold / bottom hold

ON/OFF Delay:

Maximum 2s to both ON & OFF

One touch zero adjustment:

Press the ADJ key for more than three second

Key lock function:

Operation PB lock

Self-check function:

Over current, Over pressure

Protection function:

Reverse connection, Over pressure

Case material:

PC (Poly carbonate) /ABS (UL-94, V-0)

Surface treatment of gas contact parts:

UC treatment , BA treatment

Leakage: (He leak rate)

$5.07 \times 10^{-12} \text{ Pa} \cdot \text{m}^3/\text{s}$

$(5 \times 10^{-11} \text{ atm} \cdot \text{cc/s})$ or less

Weight:

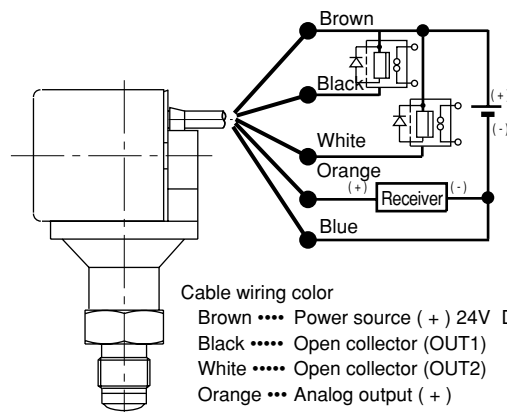
Approx. 200g ~ Approx. 250g

Pressure range and display unit :

Pressure range		Max. pressure display value				
		Pascal unit		kgf/cm ²	psi	
		MPa	kPa			
0	~ 200	kPa	—	200.0	2.039	29.01
0	~ 300	kPa	—	300	3.06	43.5
0	~ 0.5	MPa	0.500	—	5.10	72.5
0	~ 1	MPa	1.000	—	10.20	145.0
0	~ 2	MPa	2.000	—	20.39	290.1
0	~ 3.5	MPa	3.50	—	35.7	508
0	~ 5	MPa	5.00	—	51.0	725
0	~ 10	MPa	10.00	—	102.0	1450
0	~ 20	MPa	20.00	—	203.9	2901
-100	~ 100	kPa	—	100.0	1.020	14.50
-100	~ 200	kPa	—	200.0	2.039	29.01
-100	~ 300	kPa	—	300	3.06	43.5
-0.1	~ 0.5	MPa	0.500	—	5.10	72.5
-0.1	~ 1	MPa	1.000	—	10.20	145.0
-0.1	~ 2	MPa	2.000	—	20.39	290.1

WIRING

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

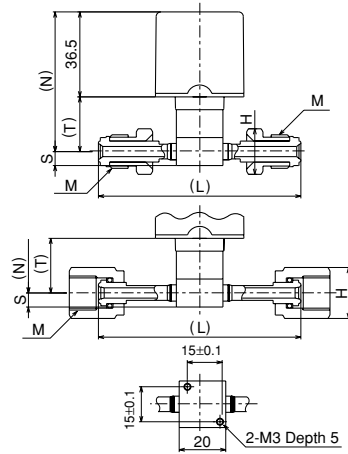
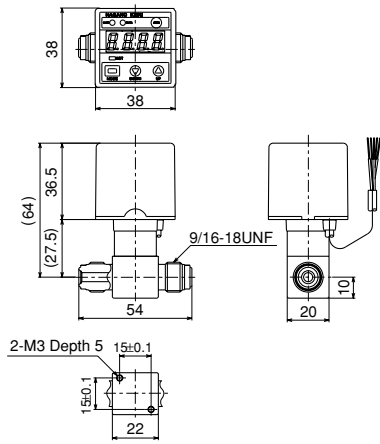


Cable wiring color

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

DIMENSIONS 1

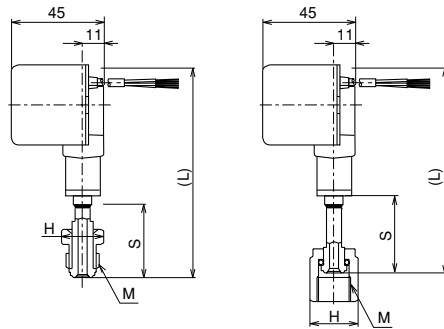
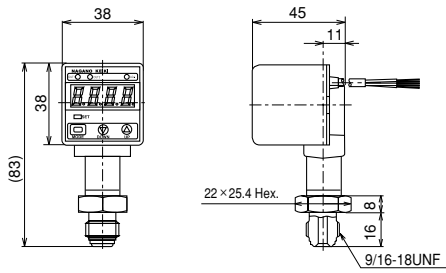
UC grade



Type No.	Connection of fitting	Piping DIA.
ZT60-136	Compatible with VCR male	1/4"

Type No.	Connection of fitting	Piping DIA.	Size M	Dimensions				
				N	T	S	H	L
ZT60-1J6	VCR Male nut	1/4"	9/16-18UNF	60	23.5	6	16×18.5 Hex.	86
ZT60-1K6		3/8"	7/8-14UNF	65.5	29	7	24×27.7 Hex.	90.5
ZT60-1L6	VCR Female nut	1/4"	9/16-18UNF	60	23.5	6	19×21.9 Hex.	80.8
ZT60-1M6		3/8"	7/8-14UNF	65.5	29	7	27×31.2 Hex.	81.8
ZT60-1N6	UJR Male nut	1/4"	9/16-18UNF	60	23.5	6	17×19.6 Hex.	87
ZT60-1P6		3/8"	7/8-14UNF	65.5	29	7	23×26.6 Hex.	100
ZT60-1Q6	UJR Female nut (With pure ring)	1/4"	9/16-18UNF	60	23.5	6	19×21.9 Hex.	87
ZT60-1R6		3/8"	7/8-14UNF	65.5	29	7	26×30 Hex.	100

*Bearings are not included.



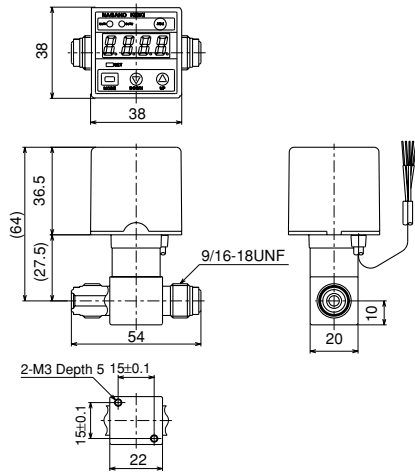
Type No.	Connection of fitting	Piping DIA.
ZT60-A36	Compatible with VCR male	1/4"

Type No.	Connection of fitting	Piping DIA.	Size M	Dimensions		
				S	H	L
ZT60-AJ6	VCR Male nut	1/4"	9/16-18UNF	30.5	16×18.5 Hex.	92.5
ZT60-AL6	VCR Female nut	1/4"	9/16-18UNF	31.4	19×21.9 Hex.	93.4
ZT60-AN6	UJR Male nut	1/4"	9/16-18UNF	37	17×19.6 Hex.	99
ZT60-AQ6	UJR Female nut (With pure ring)	1/4"	9/16-18UNF	34.5	19×21.9 Hex.	96.5

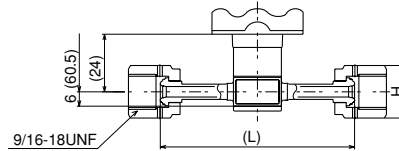
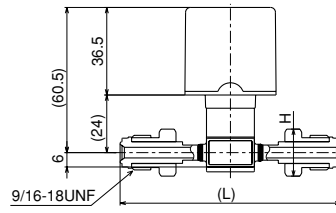
*Bearings are not included.

DIMENSIONS 2

BA grade

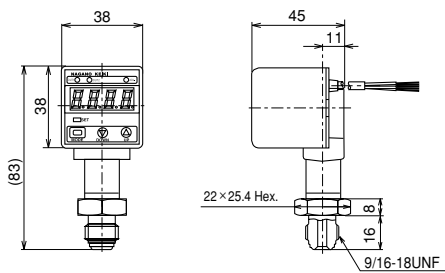


Type No.	Connection of fitting	Piping DIA.
ZT60-13N	Compatible with VCR male	1/4"

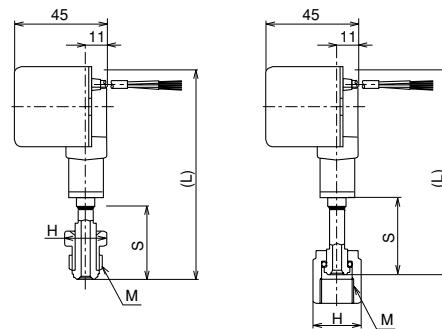


Type No.	Connection of fitting	Piping DIA.	Dimensions	
			H	L
ZT60-1JN	VCR Male nut	1/4"	16 × 18.5 Hex.	86
ZT60-1LN	VCR Female nut	1/4"	19 × 21.9 Hex.	80.8
ZT60-1NN	UJR Male nut	1/4"	17 × 19.6 Hex.	92
ZT60-1QN	UJR Female nut (Without pure ring)	1/4"	19 × 21.9 Hex.	81

* Bearings are not included.



Type No.	Connection of fitting	Piping DIA.
ZT60-A3N	Compatible with VCR male	1/4"



Type No.	Connection of fitting	Piping DIA.	Dimensions		
			S	H	L
ZT60-AJN	VCR Male nut	1/4"	34	16 × 18.5 Hex.	96
ZT60-ALN	VCR Female nut	1/4"	21.8	19 × 21.9 Hex.	83.8
ZT60-ANN	UJR Male nut	1/4"	37	17 × 19.6 Hex.	99
ZT60-AQN	UJR Female nut (Without pure ring)	1/4"	21.7	19 × 21.9 Hex.	83.7

* Bearings are not included.

Type No. constitution

Please specify Type No., each specification and range, when ordering.

Note: For this Model, there is no applicable item for the figures X, but please specify X when ordering.

Selection spec. Additional spec. (Option)

Digital pressure gauge 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Z T 6 0 **1** **0** X X X X X X X X

Type No.

1 Fitting configuration

1	Horizontal mounting T type With cable 2 m
2	Horizontal mounting S type With cable 2 m
A	Vertical mounting S type With cable 2 m

2 Connection
* ○ mark is normal correspondence.
Give inquiry besides follows.

Size	Joint mounting	Mounting		Grade	
		Type	Type	UC	BA
3	1/4" Male *	○	○	○	○
6	1/4" MCG Male	○	○	○	○
7	3/8" MCG Male	○	○	○	○
8	1/4" MCG Female nut	○	○	○	○
9	3/8" MCG Female nut	○	○	○	○
A	1/4" JSK Male	○	○	○	○
B	3/8" JSK Male	○	○	○	○
C	1/4" JSK Female nut	○	○	○	○
D	3/8" JSK Female nut	○	○	○	○
E	1/4" Male nut *	○	○	○	○
F	3/8" (Tom joint)	○	○	○	○
G	1/4" Female nut *	○	○	○	○
H	3/8" (Tom joint)	○	○	○	○
J	1/4" VCR Male nut	○	○	○	○
K	3/8" VCR Male nut	○	○	○	○
L	1/4" VCR Female nut (Bearings are not included)	○	○	○	○
M	3/8" VCR Female nut (Bearings are not included)	○	○	○	○
N	1/4" UJR Male nut	○	○	○	○
P	3/8" UJR Male nut	○	○	○	○
Q	1/4" UJR Female nut	○	○	○	○
R	3/8" UJR Female nut (With pure ring)	○	○	○	○

* Compatible with VCR

3 Gas contact part

6	UC grade Pressure sensor: Co-Ni alloy Fitting: 316Lst.st.
N	BA grade Pressure sensor: Co-Ni alloy Fitting: 316Lst.st.

8 Analog output

0	Nil
1	4 ~ 20mA DC
8	1 ~ 5V DC

7 Signal output

3	NPN Open collector (2 points, standard)
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6 Power source

1	24V DC ±10%
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5 Accuracy

5	± 0.5%F.S. (Available for range 0.5MPa or over)
7	± 1.0%F.S.

4 Pressure range
(When ordering, please specify pressure range & unit.)

1	0 ~ 200 kPa
	0 ~ 300 kPa
	0 ~ 0.5 MPa
	0 ~ 1 MPa
2	0 ~ 2 MPa
	0 ~ 3.5 MPa
	0 ~ 5 MPa
3	-100 ~ 100 kPa
	-100 ~ 200 kPa
	-100 ~ 300 kPa
4	-0.1 ~ 0.5 MPa
	-0.1 ~ 1 MPa
	-0.1 ~ 2 MPa

15 Document

0	Nil
1	Please specify your requirement Drawing one sheet, Instruction manual, Inspection procedure, Mill sheet, Test report