

# For Semiconductor industry

## ZT77 Digital Pressure Gauge



### OUTLINE

This is a small type digital pressure gauge in which a semiconductor strain gauge is installed. By the application of exclusively designed, hybrid IC and microcomputer, even though it is of small type, this is a pressure gauge with ultraclean specifications equipped with functions including a high-speed, digital comparator.

### FEATURES

- A pressure sensor made of Co-Ni alloy has been applied to the pressure sensing portion as a standard. So, corrosion resistance properties have been further increased, and excellent durability and stability are demonstrated.
- As measuring gas contacting surface finish is at a level of submicron, particle occurrence is prevented.
- A high-speed comparator is equipped as the standard specifications. This comparator responds within a high speed of within 10 ms, and an upper activating limitation (or lower activating limitation) and approaching differential can be freely set.

### SPECIFICATION

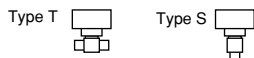
#### Fluid:

Various kinds of process gases

#### Operating condition:

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

#### Configuration:



\* For vertical piping or horizontal piping is also available.

#### Connection:

1/4", 3/8"

(UJR fitting, VCR fitting, JSK fitting, MCG fitting, CVC fitting)

#### Gas contact parts:

Fitting 316Lst.st.

Pressure sensor Co-Ni Alloy

\* For the fitting material, CRP treatment and the double vacuum melting materials are also available. Please contact us for further details.

#### Pressure range:

0 ~ 500kPa → 0 ~ 20MPa (0 ~ 5 → 0 ~ 200kgg/cm<sup>2</sup>)

-100 ~ 500kPa → -0.1 ~ 2MPa (-1 ~ 5 → -1 ~ 20kgf/cm<sup>2</sup>)

#### Max. allowable pressure:

200% of rated pressure

#### Operating temperature and humidity:

-10 ~ 60°C, 5 ~ 80%RH (A thing without dew condensation)

#### Storage temperature:

-20 ~ 70°C

#### Indication accuracy:

±1.0%F.S.±1 digit

#### Temperature coefficient:

±0.1%F.S./°C (Zero)

±0.1%F.S./°C (Span)

\* ±0.05%F.S./°C is available.

#### Pressure indication:

3 figure LCD display (Character height 6mm)

#### Indication period:

Approx. 0.2s

#### Power source:

24V DC ±20%, 35mA max.

#### Output:

Comparator output 1 contact

Response Less than 10ms

Capacity 30V DC80mA max. (Open collector)

The upper limit (Or lower limit movement) • Dead band •••

The operation point is free in pressure range

Action indication LED Indication (Lighting with ON)

#### Analog output

(4 ~ 20mADC) (Option)

Accuracy

±1.0%F.S.

Response

Less than 1ms

Load resistance

400Ω max.

## SPECIFICATION 2

### Surface treatment of gas contact parts:

#### Ultra-clean (UC) treatment

Based on the thorough quality control from the manufacturing to the shipment, we offer "the total clean system" especially our technology for surface treatment, welding and super cleaning is very much characterized and we are very much paying attention to such technology.

### Leakage: (He leak rate)

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

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

### Case material:

Denaturation polyphenylene ether resin (UL-94, V-0)

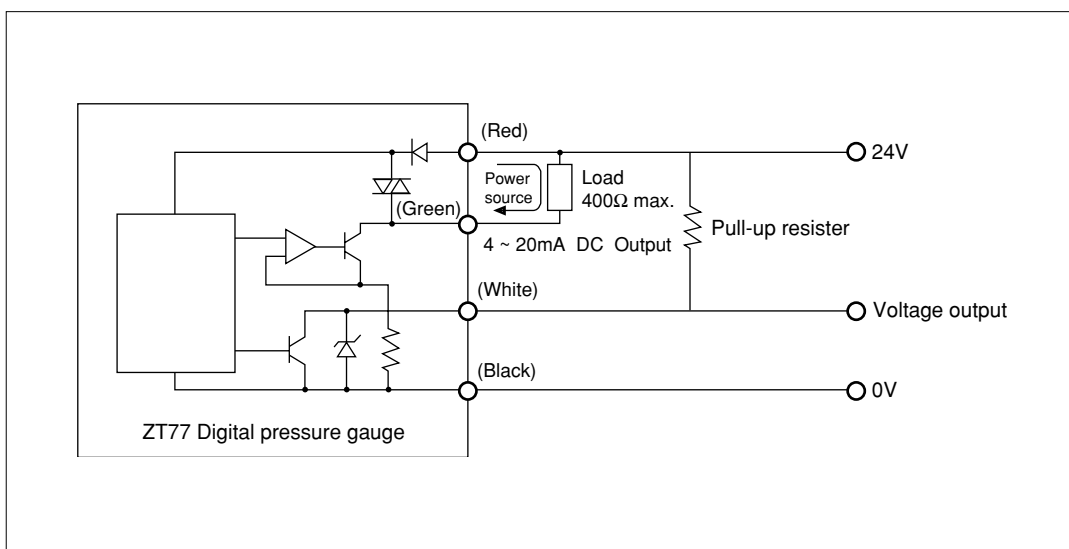
### Particle:

Zero count for size  $0.1 \mu\text{m}$  or greater (In our inspection standard)

### Max. indication:

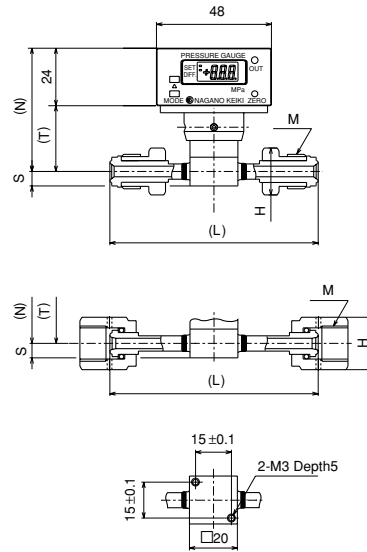
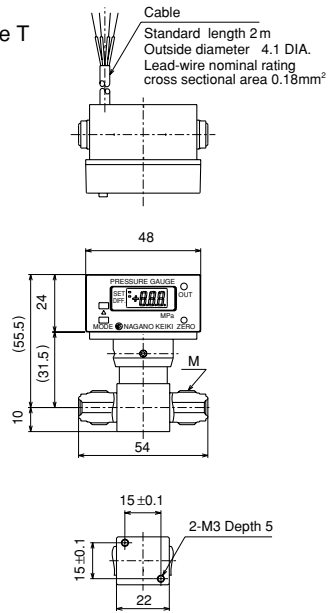
Pressure range MPa (kgf/cm <sup>2</sup> )	Max. indication	Pressure range MPa (kgf/cm <sup>2</sup> )	Max. indication
0 ~ 500kPa (0 ~ 5)	500 (5.00)	-100 ~ 500kPa (-1 ~ 5)	500 (5.00)
0 ~ 1MPa (0 ~ 10)	1.00 (10.0)	-0.1 ~ 1MPa (-1 ~ 10)	1.00 (10.0)
0 ~ 2 (0 ~ 20)	2.00 (20.0)	-0.1 ~ 2 (-1 ~ 20)	2.00 (20.0)
0 ~ 3.5 (0 ~ 35)	3.50 (35.0)		
0 ~ 5 (0 ~ 50)	5.00 (50.0)		
0 ~ 10 (0 ~ 100)	10.0 (100)		
0 ~ 20 (0 ~ 200)	20.0 (200)		

## USE OUTPUT EXAMPLE



# DEMENSIONS 1

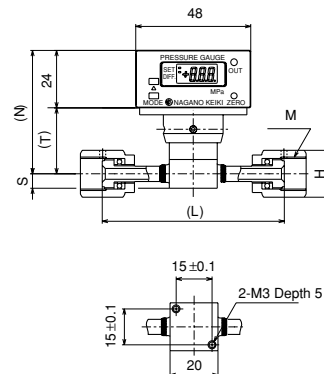
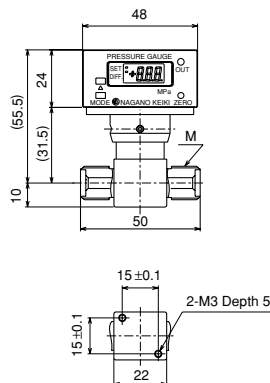
Type T



Model No.	Connection of fitting	Piping DIA.	Size M
ZT77-136	Compatible with VCR Male	1/4"	9/16-18UNF

Model No.	Connection of fitting	Piping DIA.	Size M	Dimensions				
				N	T	S	H	L
ZT77-1E6	Male nut <sup>*1</sup> (TOM JOINT)	1/4"	9/16-18UNF	51.5	27.5	6	16×18.5 Hex.	90
ZT77-1F6		3/8"	7/8-14UNF	57	33	7	24×27.7 Hex.	95
ZT77-1G6	Female nut <sup>*1</sup> (SUPER TOM JOINT)	1/4"	9/16-18UNF	51.5	27.5	6	19×21.9 Hex.	79
ZT77-1H6		3/8"	7/8-14UNF	57	33	7	27×31.2 Hex.	83
ZT77-1J6	VCR Male nut	1/4"	9/16-18UNF	51.5	27.5	6	16×18.5 Hex.	86
ZT77-1K6		3/8"	7/8-14UNF	57	33	7	24×27.7 Hex.	90.5
ZT77-1L6	VCR Female nut <sup>*2</sup>	1/4"	9/16-18UNF	51.5	27.5	6	19×21.9 Hex.	80.8
ZT77-1M6		3/8"	7/8-14UNF	57	33	7	27×31.2 Hex.	81.8
ZT77-1N6	UJR Male nut	1/4"	9/16-18UNF	51.5	27.5	6	17×19.6 Hex.	87
ZT77-1P6		3/8"	7/8-14UNF	57	33	7	23×26.6 Hex.	100
ZT77-1Q6	UJR Female nut (With pure ring)	1/4"	9/16-18UNF	51.5	27.5	6	19×21.9 Hex.	87
ZT77-1R6		3/8"	7/8-14UNF	57	33	7	26×30 Hex.	100

\* 1 Compatible with VCR  
\* 2 Bearings are not included.

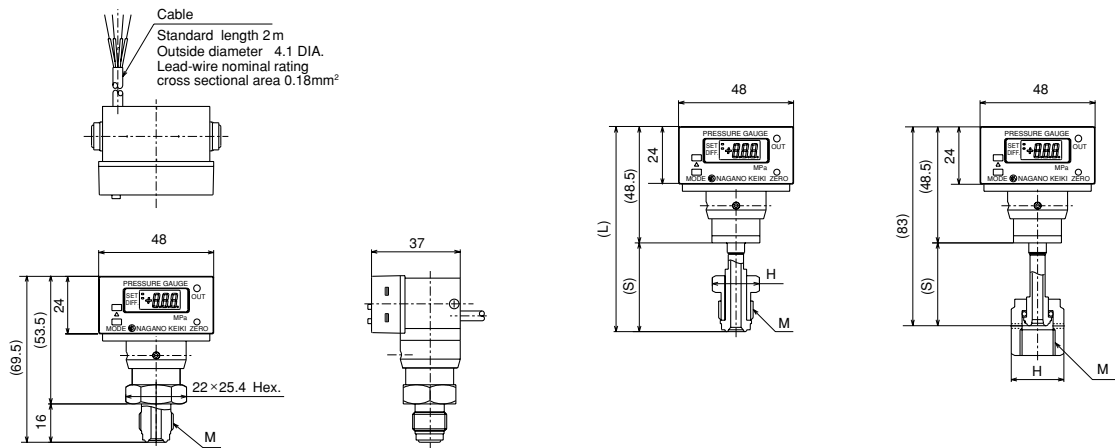


Model No.	Connection of fitting	Piping DIA.	Size M
ZT77-166	MCG Male	1/4"	M14×1.25
ZT77-176		3/8"	M18×1.5
ZT77-1A6	JSK Male	1/4"	M14×1.25
ZT77-1B6		3/8"	M18×1.5

Model No.	Connection of fitting	Piping DIA.	Size M	Dimensions				
				N	T	S	H	L
ZT77-186	MCG Female nut	1/4"	M14×1.25	51.5	27.5	6	17×19.6 Hex.	76
ZT77-196		3/8"	M18×1.5	57	33	7	22×25.4 Hex.	80
ZT77-1C6	JSK Female nut	1/4"	M14×1.25	51.5	27.5	6	17×19.6 Hex.	76
ZT77-1D6		3/8"	M18×1.5	57	33	7	22×25.4 Hex.	80

## DEMENSIONS 2

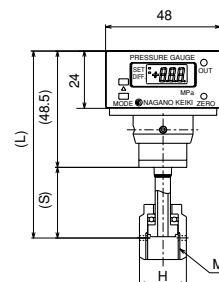
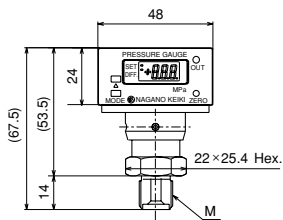
### Type S



Model No.	Connection of fitting	Piping DIA.	Size M
ZT77-236	Compatible with VCR Male	1/4"	9/16-18UNF

Model No.	Connection of fitting	Piping DIA.	Size M	Dimensions		
				L	H	S
ZT77-2E6	Male nut (TOM JOINT) <sup>*1</sup>	1/4"	9/16-18UNF	79	16×18.5 Hex.	30.5
ZT77-2G6	Female nut (SUPER TOM JOINT) <sup>*1</sup>	1/4"	9/16-18UNF	79	19×21.9 Hex.	30.5
ZT77-2J6	VCR Male nut	1/4"	9/16-18UNF	79	16×18.5 Hex.	30.5
ZT77-2L6	VCR Female nut <sup>*2</sup>	1/4"	9/16-18UNF	80	19×21.9 Hex.	31.5
ZT77-2N6	UJR Male nut	1/4"	9/16-18UNF	85.5	17×19.6 Hex.	37
ZT77-2Q6	UJR Female nut (With Pure ring)	1/4"	9/16-18UNF	83	19×21.9 Hex.	34.5

\* 1 Compatible with VCR  
\* 2 Bearings are not included.



Model No.	Connection of fitting	Piping DIA.	Size M
ZT77-266	MCG Male	1/4"	M14×1.25
ZT77-2A6	JSK Male	1/4"	M14×1.25

Model No.	Connection of fitting	Piping DIA.	Size M	Dimensions		
				L	H	S
ZT77-286	MCG Female	1/4"	M14×1.25	75.9	17×19.6 Hex.	27.4
ZT77-2C6	JSK Female	1/4"	M14×1.25	77.5	17×19.6 Hex.	29

# 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.

