

ZT60-W02 ZT17

Detachable Digital Indicator

With constant output generation from ZT17 Pressure Transducer
(1.5 surface mounting interface)

Outline

We have developed this product to be compatible with 1.5 surface mounting interface, along with the ultra-clean specification pressure transmitters and digital pressure gauges that are often used for semiconductor gas delivery.

The sensors and indicator panel of the digital pressure gauge are detachable, contributing to the power-saving ability of the surface-mounting interface.

Features

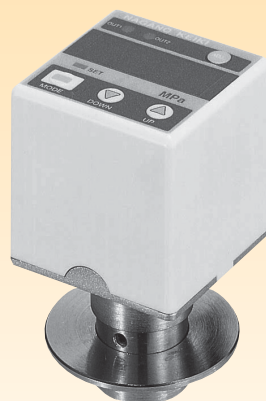
ZT60 Detachable Digital Indicator

The ZT60 Digital Indicator can be combined with the ZT17 Constant Output Pressure Transducer, and is a multi-functional product equipped with analog and comparator outputs.

ZT17 Constant Output Pressure Transducer (1.5 surface mounting interface)

Taking maintainability into account, it maintains the output from the pressure transducer generating constant signal. It is installed via a one-touch type connector, making it easy to attach and detach.

*Please confirm that material in contact with gas is suitable for it.



Detachable by one-touch



RoHS



List of grade (Constant output ZT17)

Cleanliness These pressure transmitters have been assembled, adjusted, inspected and packaged in a clean room, paying special attention for maintaining cleanliness.

Grade		UC (Ultra Clean)	EP (Electro Polishing)	GP (General Purpose)
Surface roughness of gas contact		0.18 μ m Ra Avg., 0.7 μ m Rz Max.	0.18 μ m Ra Avg.	0.5 μ m Ra Avg.
Wetted parts	Pressure sensor	Co-Ni alloy	SUS316L	
	Fitting	SUS316L DOUBLE MELT material	SUS316L	
Maximum allowable pressure *1		200% of rated pressure	150% of rated pressure	
Leakage (Helium leak rate)		5 x 10 ⁻¹² Pa·m ³ /s and under	5 x 10 ⁻¹² Pa·m ³ /s and under	
Particle		Zero count for size 0.1 μ m or greater (In our inspection standard)	Zero count for size 0.1 μ m or greater (In our inspection standard)	—————
Cleaning		Ultra clearance (Cleaning)	Ultra clearance (Cleaning)	Degreasing
Recommended gas *2		High-purity gas, semiconductor material gas, etc.	High-purity gas, semiconductor material gas, etc.	Purge gas, exhaust gas, etc.

*1 Allowable maximum pressure is the upper limit to which pressure may be temporarily increased while still allowing normal pressure to be resumed, when pressure levels return to the normal (Rated) range. It is not guaranteed to have no impact on functionality in the case of repeated pressure or static pressure increases lasting 10 minutes or more.

*2 Please confirm that the gas contact part material is suitable for the gas to be measured.

*UC/EP Grade rises with triple packing (Filled with N₂).

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Detachable Digital Indicator

Specification 1

ZT60 Detachable Digital Indicator

Item		Description
Pressure range		0 to 0.5MPa, 0 to 1MPa -0.1 to 0.5MPa, -0.1 to 1MPa
Power source		12 to 24V DC $\pm 10\%$ Power source (When equipped with analog output 4 to 20 mA DC ··· 15 to 24V DC $\pm 10\%$)
Display accuracy*1		$\pm (0.5\%F.S.+1\text{ digit})$ at 23°C
Output	Comparator output	NPN or PNP open collector x 2 independent outputs (Select at the time of order) [Hysteresis mode, Window comparator mode] Load current: 80 mA DC and under Applied voltage: 30V DC and under (NPN output) Residual voltage: 1V DC and under (At 80 mA DC of Load current) Protection circuit: Short-circuit (Over-current) protection Response time: 5 ms and under (No filter) Repeatability: $\pm(0.2\%F.S.+1\text{ digit.})$ at 23°C Deadband: Hysteresis mode (Variable) Window comparator mode (1% F.S. fixed) Delay: 0 to 2.00s Variable (For both ON and OFF) Comparator operation display LED: Red LED (OUT1, 2), Lights when turning on the power
	Analog output (Option/Select)	4 to 20 mA DC or 1 to 5V DC Output accuracy*1: $\pm 0.5\%F.S.$ at 23°C Load resistance: When Current output (4 to 20 mA DC) is selected: 400 Ω max. When Current output (1 to 5V DC) is selected: 10k Ω min.
Current consumption		NPN: 30 mA and under (4 to 20 mA: 50 mA and under) PNP: 40 mA and under (4 to 20 mA: 60 mA and under) *Except comparator output current
Operating temperature and humidity range		-10 to 50°C, 35 to 80%RH (No freezing or condensation)
Storage temperature		-20 to 60°C (No freezing or condensation)
Temperature coefficient		$\pm 0.05\%F.S./^{\circ}C$ (Zero, Span)
Pressure display		4-digit LED (Character height: 8 mm)
Cable length		2 m only
CE compliance		Applicable Standards: EN61326-1: 2013; EN61326-2-3: 2013 *Please use it to connect to the indoor power distribution network which is not affected by the lightning surge voltage and power supply system switching transients.
Function	Display switch	MPa (kPa), etc.
	Display scaling	-1999 to 6000 digits with respect to the ratings range
	Analog scaling	-100 to +200%F.S. with respect to the ratings range
	Loop check	Displayed in manually without application of pressure. The comparator and analog pressures are output simulatively.
	Filter	Selectable among No filter, 25ms, 250ms, 2.5s, 5s or 10s
	Holding function	Both the maximum value and the minimum value can be indicated, reset
	One-touch zero adjustment	Press the ADJ key for more than 3 seconds and then release the key. The zero adjustment is started after one second.
	Key lock	Operation PB lock
Error display		Comparator over-current, over-pressure, outside the range of operating temperature
Protection function		Reverse connection protection, load short protection (Comparator output)
Case material		PC / ABS (UL94V-0)
Enclosure		Indoor use
Connection		One-touch connector Used with the combination of Constant Output ZT17 Pressure Transducer (Sold separately)
Weight		Approx. 190 g

*1 Display and analog output accuracies include the effects of Linearity, Hysteresis and Repeatability.

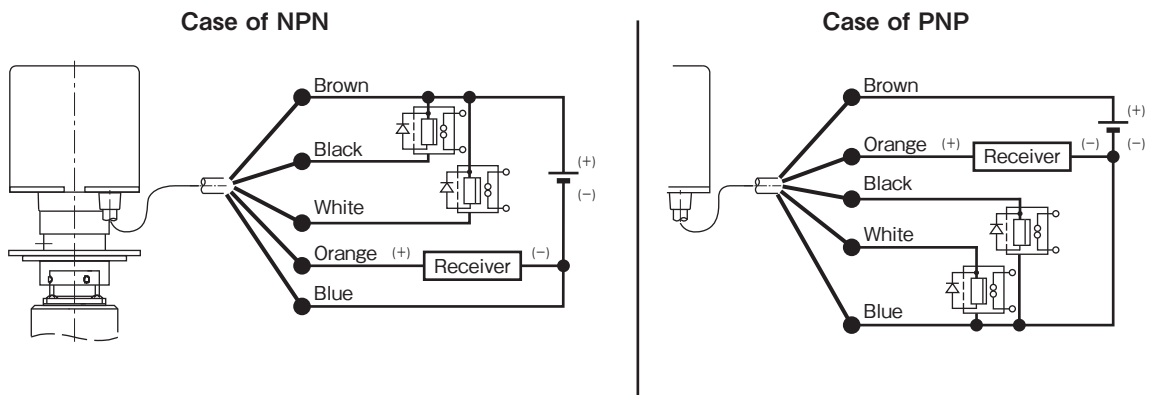
Specification 2

Constant Output ZT17 Pressure Transducer (1.5 surface mounting interface)

Item	Description
Fluid	Process gasses for semiconductor industry
Connection	1.5 W-Seal
Pressure range	0 to 0.5MPa, 0 to 1MPa -0.1 to 0.5MPa, -0.1 to 1MPa
Accuracy*1	±1.0%F.S. at 23°C (Standard) or ±0.5%F.S. at 23°C (Option)
Combinable indicator	ZT60 Detachable Digital Indicator (Sold separately)
Enclosure	Indoor use
Weight	Approx. 180 g

*1 Accuracy includes the effects of Linearity, Hysteresis and Repeatability.

Wiring



Cable wiring color:

- Brown Power source (+) 24V DC
- Black Open collector output (OUT 1)
- White Open collector output (OUT 2)
- Orange Analog output (+) (4 to 20 mA or 1 to 5V DC) (Option)
- Blue Power source (-) COMMON

Cable:

	Environmental temperature	Conductor		Cable outer diameter (mm)	Minimum bending radius (mm)
		Cross-section area (mm ²)	Twisted conductors (pcs./mm)		
PVC Cable	-60 to 90°C	0.18	7/0.18	φ4.0	17

*Cable length: 2 m only

Caution

Avoid installing in location where apparatus or atmosphere (excluding process media) could be cause of initiation of ignition or explosion under normal operating condition.

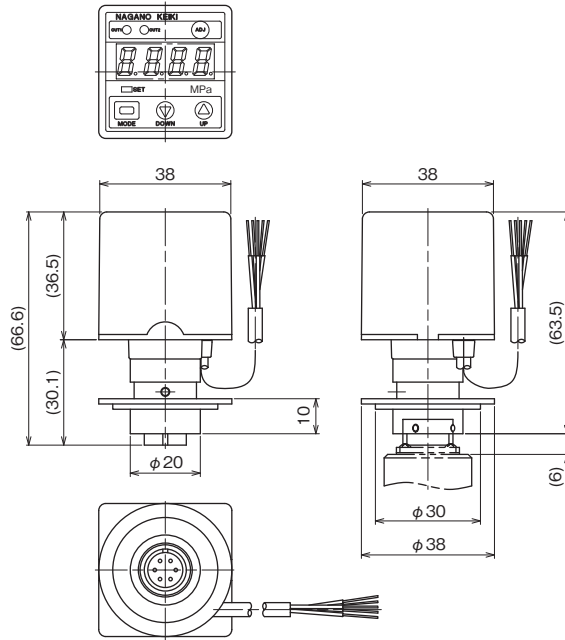
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Detachable Digital Indicator

Dimensions

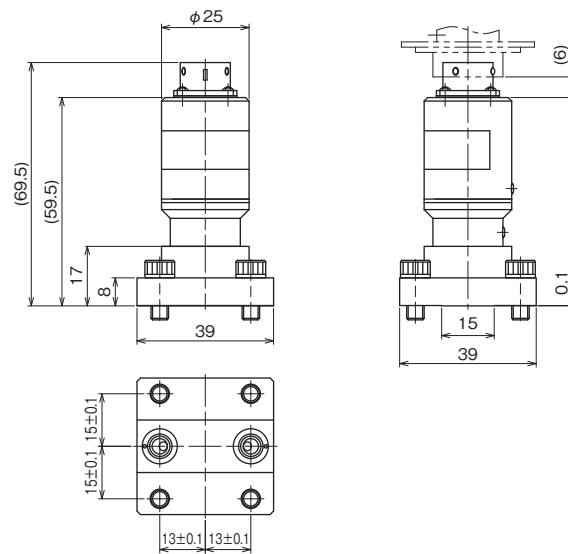
Unit: mm

ZT60-W02



UC/EP/GP Grade

<1.5 W-Seal>



* Bolts are not supplied with the EP and GP grades.

Grade	Connection	Model number
UC	1.5 W-Seal (With bolt)	ZT17-Z25

Grade	Connection	Model number
EP	1.5 W-Seal (Without bolt)	ZT17-Z80

Grade	Connection	Model number
GP	1.5 W-Seal (Without bolt)	ZT17-Z81

ZT60-W02 ZT17

Detachable Digital Indicator

UC Grade

Model number configuration

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

Model

	Z	T	1	7	Z	2	5			D	0	0	X	X	X	X	X	X		
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮					

Constant Output
ZT17 Pressure Transducer
(1.5 surface mounting interface) UC Grade

Model number	Selective spec.	Additional spec. (Option)
① Mounting	Z	Surface mounting interface
② Connection	2	1.5 W-Seal (Bolt embodiment type)
③ Wetted parts by grade	5	UC Grade ·Pressure sensor: Co-Ni alloy (All welding) ·Fitting: SUS316L DOUBLE MELT material
Please specify the pressure range and units separately besides selection of range code.	④ Pressure range	D -0.1 to 0.5MPa
		E -0.1 to 1MPa
		2 0 to 0.5MPa
		3 0 to 1MPa
⑤ Accuracy	5	±0.5%F.S.
	7	±1.0%F.S.
⑥ Power source	D	5V DC
⑦ Output	0	Combination with detachable digital indicator
⑧ Additional spec.	0	Nil
⑮ Document	0	Nil
	1	Required (Please specify the desired documents separately.) Submission drawings, instruction manual, inspection procedure, mill test report, test report (1 pc 1 copy), inspection / traceability certificate, strength calculation, attended inspection

[Manufacturing range]

* The ZT17 must be used with Detachable Digital Indicators. Please make sure to set it to the same pressure range as the Detachable Digital Indicators.

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

ZT60-W02 ZT17

Detachable Digital Indicator

EP Grade

Model number configuration

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

Model

Z	T	1	7	—	Z	8	0	—	D	0	0	×	×	×	×	×	×	×		
Constant Output ZT17 Pressure Transducer (1.5 surface mounting interface) EP Grade					①	②	③		④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮

Model number	Selective spec.	Additional spec. (Option)
① Mounting	Z	Surface mounting interface
② Connection	8	1.5 W-Seal (Without bolt)
③ Wetted parts by grade	0	EP Grade ·Pressure sensor: SUS316L (All welding) ·Fitting: SUS316L
Please specify the pressure range and units separately besides selection of range code.	④ Pressure range	D -0.1 to 0.5MPa
		E -0.1 to 1MPa
		2 0 to 0.5MPa
		3 0 to 1MPa
⑤ Accuracy	5	±0.5%F.S.
	7	±1.0%F.S.
⑥ Power source	D	5V DC
⑦ Output	0	Combination with detachable digital indicator
⑧ Additional spec.	0	Nil
⑮ Document	0	Nil
	1	Required (Please specify the desired documents separately.) Submission drawings, instruction manual, inspection procedure, mill test report, test report (1 pc 1 copy), inspection / traceability certificate, strength calculation, attended inspection

[Manufacturing range]

* The ZT17 must be used with Detachable Digital Indicators. Please make sure to set it to the same pressure range as the Detachable Digital Indicators.

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

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Detachable Digital Indicator

GP Grade

Model number configuration

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

Model

	Z	T	1	7	Z	8	1	D	0	0	X	X	X	X	X	X
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	

Constant Output
ZT17 Pressure Transducer
(1.5 surface mounting interface) GP Grade

Model number	Selective spec.	Additional spec. (Option)
① Mounting	Z	Surface mounting interface
② Connection	8	1.5 W-Seal (Without bolt)
③ Wetted parts by grade	1	GP Grade ·Pressure sensor: SUS316L (All welding) ·Fitting: SUS316L
Please specify the pressure range and units separately besides selection of range code.	④ Pressure range	D -0.1 to 0.5MPa
		E -0.1 to 1MPa
		2 0 to 0.5MPa
		3 0 to 1MPa
⑤ Accuracy	5	±0.5%F.S.
	7	±1.0%F.S.
⑥ Power source	D	5V DC
⑦ Output	0	Combination with detachable digital indicator
⑧ Additional spec.	0	Nil
⑮ Document	0	Nil
	1	Required (Please specify the desired documents separately.) Submission drawings, instruction manual, inspection procedure, mill test report, test report (1 pc 1 copy), inspection / traceability certificate, strength calculation, attended inspection

[Manufacturing range]

* The ZT17 must be used with Detachable Digital Indicators. Please make sure to set it to the same pressure range as the Detachable Digital Indicators.

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