

ZT64

Battery-operated Digital Pressure Gauge

Outline

This device is a digital pressure gauge with battery operation designed for the need of the pressure gauge / pressure sensor in semiconductor field.

This pressure gauge incorporates battery operational function and semiconductor strain gauge reduces its surface area of wetted parts substantially as compared to bourdon tube pressure gauge (Approximately 20% of bourdon tube type). Because there is no movable parts, the design provides excellent vibration and shock resistance as well as corrosion resistance for adapting to a variety of applications. Choice of UC grade throughout general use of specifications is available to suit for a variety of installation.

Features

- The high corrosion resistant pressure sensor made of Co-Ni alloy or SUS316L is directly welded to the 316Lst.st. coupling portion, demonstrating excellent corrosion resistance, hermetic properties, stability and reliability.

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

- Adjustable-angle display

When installed to pressure regulator of four ports, the digital display can be made level by adjusting its angle to the left or right by 30°. (See the photo on the right)

- Energy-saving function

(1) Automatic power off function can be selected

(2) Adjustable sampling time constant

(Can be selected a display update cycle of 0.5s, 2s, or 10s.)

Please select (1) or (2) to match the selected use time.



* Installation example to pressure regulator of four ports

List of grade

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)	BA (Bright Annealing)	EP (Electro Polishing)	GP (General Purpose)	General-use
Surface roughness of gas contact		0.18 μ m Ra Avg. 0.7 μ m Rz Max.	Approx. Rz 2.5 μ m	0.18 μ m Ra Avg.	0.5 μ m Ra Avg.	Rule anonymous
Wetted parts	Pressure sensor	Co-Ni alloy		SUS316L		SUS630 (17-4PH)
	Fitting *1	SUS316L		SUS316L		SUS316
Maximum allowable pressure *2		200% of rated pressure		150% of rated pressure		200% 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		1 x 10 ⁻⁹ 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)	Degreasing	Ultra clearance (Cleaning)	Degreasing	Use no oil & water
Operating media *3 (Recommended)		High-purity gas, semiconductor material gas, etc.	Purge gas, exhaust gas, etc.	High-purity gas, semiconductor material gas, etc.	Purge gas, exhaust gas, etc.	Corrosion-resistant gas that does not require the cleanliness rating.


*1 For UC Grade, the pressure transmitter can be manufactured in DOUBLE MELT material by request. Please contact us.

*2 Allowable maximum pressure is the upper limit of pressure value which may safely be applied to the product and remain in specification once pressure is returned to the rated pressure range with a couple of times overpressurization for about 10 minutes.
Effects of continuous overpressure are not guaranteed.

*3 Ensure that pressure media is compatible with wetted parts.

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

Specification

Item	Description
Fluid	Process gasses for semiconductor industry
Pressure range	0 to 0.5, 1, 2, 5, 10, 20MPa -0.1 to 0.5, 1, 2MPa
Fitting shape	Fitting: Type S 
Connection	1/4UJR, VCR, etc.
Display accuracy*	± (1.0%F.S.+1 digit) at 23°C
Temperature coefficient	±0.1%F.S./°C (Both Zero and Span)
Power source	Lithium battery CR2032 (3V DC) x1 pc.
Battery life (With low battery voltage monitor)	Continuous use: About 2500 hours (At a display cycle of 0.5s) About 5000 hours (At a display cycle of 2s) About 7000 hours (At a display cycle of 10s) Power OFF: More than a year
Display system	3 digit LCD (Character height: 8.5 mm)
Display cycle	0.5, 2 or 10s can be set
Operating temperature range	-10 to 50°C (No freezing or condensation)
Operating humidity range	35 to 85%RH (No condensation)
Storage temperature range	-20 to 60°C (No freezing or condensation)
Enclosure	Indoor use
Case material	Zinc alloy die-cast (ZDC2) chrome plating
Panel material	Polycarbonate
Weight	Approx. 150 g (Including battery, varies depending on the fitting shape)

* Display accuracy includes the effects of Linearity, Hysteresis and Repeatability.

ZT64

Digital Pressure Gauge With Battery Operated

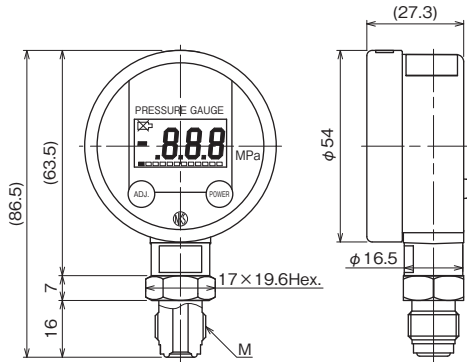
Dimensions 1

UC/BA/EP/GP Grade

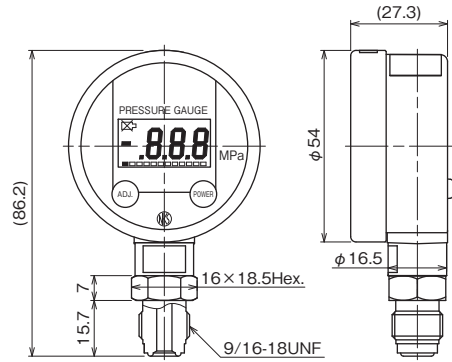
General-use

Unit: mm

Male Integrated



Compatible with 1/4 VCR



ZT64-V02

Grade	Connection	Piping DIA.	Screw size M	Model number
UC	Compatible with VCR Male integrated	1/4	9/16-18UNF	ZT64-236

Grade	Connection	Piping DIA.	Screw size M	Model number
BA	Compatible with VCR Male integrated	1/4	9/16-18UNF	ZT64-23N

Grade	Connection	Piping DIA.	Screw size M	Model number
EP	Compatible with VCR Male integrated	1/4	9/16-18UNF	ZT64-23E

Grade	Connection	Piping DIA.	Screw size M	Model number
GP	Compatible with VCR Male integrated	1/4	9/16-18UNF	ZT64-23G

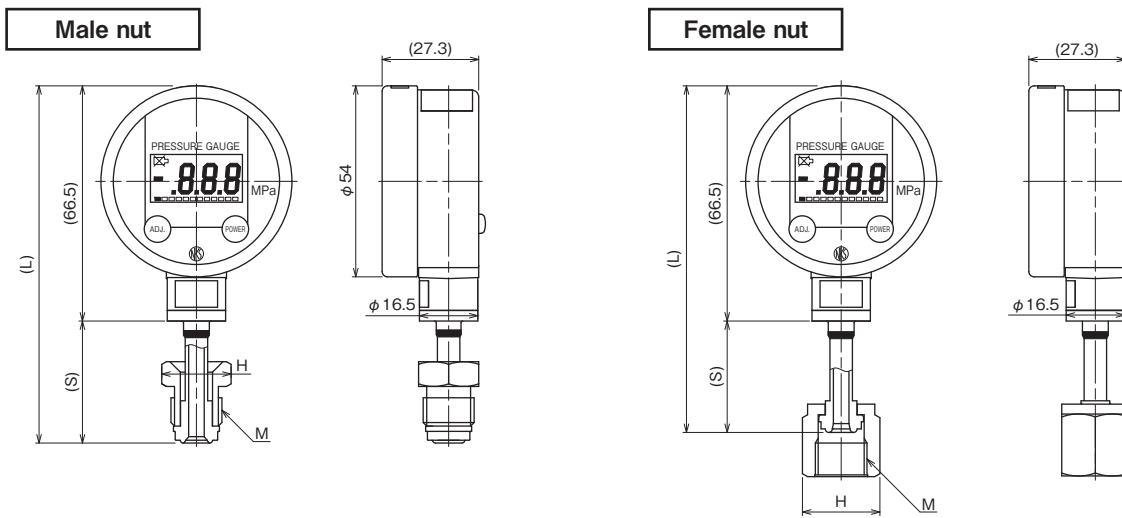
ZT64

Digital Pressure Gauge With Battery Operated

Dimensions 2

UC/BA/EP/GP Grade

Unit: mm



Grade	Connection	Piping DIA.	Screw size M	Dimensions			Model number
				L	S	H	
UC	VCR Male nut	1/4	9/16-18UNF	100.5	34	16 x 18.5 Hex.	ZT64-2J6
	VCR Female nut (Bearings are not included)			97.9	31.4	19 x 21.9 Hex.	ZT64-2L6

Grade	Connection	Piping DIA.	Screw size M	Dimensions			Model number
				L	S	H	
BA	VCR Male nut	1/4	9/16-18UNF	100.5	34	16 x 18.5 Hex.	ZT64-2JN
	VCR Female nut (Bearings are not included)			88.3	21.8	19 x 21.9 Hex.	ZT64-2LN

Grade	Connection	Piping DIA.	Screw size M	Dimensions			Model number
				L	S	H	
EP	UJR Male nut	1/4	9/16-18UNF	101	34.5	17 x 19.6 Hex.	ZT64-2NE
	UJR Female nut (Without pure ring)			98	31.5	19 x 21.9 Hex.	ZT64-2QE

Grade	Connection	Piping DIA.	Screw size M	Dimensions			Model number
				L	S	H	
GP	UJR Male nut	1/4	9/16-18UNF	101	34.5	17 x 19.6 Hex.	ZT64-2NG
	UJR Female nut (Without pure ring)			98	31.5	19 x 21.9 Hex.	ZT64-2QG

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Digital Pressure Gauge With Battery Operated

UC Grade

Model number configuration

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

Model

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

Digital Pressure Gauge
With Battery Operated
UC Grade

Model number		Selective spec.	Additional spec. (Option)
① Mounting	2	Type S	
② Connection	3	1/4	Compatible with VCR Male integrated
	J	1/4	VCR Male nut
	L	1/4	VCR Female nut (Bearings are not included)
③ Wetted parts by grade*1	6	UC Grade Pressure sensor: Co-Ni alloy (All welding) Fitting: SUS316L	
④ Pressure range	D	-0.1 to 0.5MPa (Number of digit indication: .500)	
	E	-0.1 to 1MPa (Number of digit indication: 1.00)	
	F	-0.1 to 2MPa (Number of digit indication: 2.00)	
	2	0 to 0.5MPa (Number of digit indication: .500)	
	3	0 to 1MPa (Number of digit indication: 1.00)	
	4	0 to 2MPa (Number of digit indication: 2.00)	
	6	0 to 5MPa (Number of digit indication: 5.00)	
	7	0 to 10MPa (Number of digit indication: 10.0)	
	8	0 to 20MPa (Number of digit indication: 20.0)	
⑤ Display accuracy	7	± (1.0%F.S.+1digit)	
⑥ Power source	B	Lithium battery (3V DC): CR2032	
⑮ Documents	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	

Please specify the pressure range and units separately besides selection of range code.

* 1 For UC Grade, the pressure transmitter can be manufactured in DOUBLE MELT material by request. Please contact us.

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

ZT64

Digital Pressure Gauge With Battery Operated

BA Grade

Model number configuration

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

Model

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

Digital Pressure Gauge
With Battery Operated
BA Grade

Model number	Selective spec.	Additional spec. (Option)
① Mounting	2	Type S
② Connection	3	1/4 Compatible with VCR Male integrated
	J	1/4 Compatible with VCR Male
	L	1/4 VCR Female nut (Bearings are not included)
③ Wetted parts by grade	N	BA Grade Pressure sensor: Co-Ni alloy (All welding) Fitting: SUS316L
④ Pressure range	D	-0.1 to 0.5MPa (Number of digit indication: .500)
	E	-0.1 to 1MPa (Number of digit indication: 1.00)
	F	-0.1 to 2MPa (Number of digit indication: 2.00)
	2	0 to 0.5MPa (Number of digit indication: .500)
	3	0 to 1MPa (Number of digit indication: 1.00)
	4	0 to 2MPa (Number of digit indication: 2.00)
	6	0 to 5MPa (Number of digit indication: 5.00)
	7	0 to 10MPa (Number of digit indication: 10.0)
8	0 to 20MPa (Number of digit indication: 20.0)	
⑤ Display accuracy	7	± (1.0%F.S.+1digit)
⑥ Power source	B	Lithium battery (3V DC): CR2032
⑮ Documents	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

Please specify the pressure range and units separately besides selection of range code.

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

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Digital Pressure Gauge With Battery Operated

EP Grade

Model number configuration

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

Model

Z	T	6	4	—	2		E	—	7	B	X	X	X	X	X	X	X			
					①	②	③		④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮

Digital Pressure Gauge
With Battery Operated
EP Grade

Model number	Selective spec.	Additional spec. (Option)
① Mounting	2 Type S	
② Connection	3 1/4	Compatible with VCR Male integrated
	N 1/4	UJR Male nut
	Q 1/4	UJR Female nut (Without pure ring)
③ Wetted parts by grade	E	EP Grade Pressure sensor: SUS316L (All welding) Fitting: SUS316L
④ Pressure range	D	-0.1 to 0.5MPa (Number of digit indication: .500)
	E	-0.1 to 1MPa (Number of digit indication: 1.00)
	F	-0.1 to 2MPa (Number of digit indication: 2.00)
	2	0 to 0.5MPa (Number of digit indication: .500)
	3	0 to 1MPa (Number of digit indication: 1.00)
	4	0 to 2MPa (Number of digit indication: 2.00)
	6	0 to 5MPa (Number of digit indication: 5.00)
	7	0 to 10MPa (Number of digit indication: 10.0)
8	0 to 20MPa (Number of digit indication: 20.0)	
⑤ Display accuracy	7	± (1.0%F.S.+1digit)
⑥ Power source	B	Lithium battery (3V DC): CR2032
⑮ Documents	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

Please specify the pressure range and units separately besides selection of range code.

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

ZT64

Digital Pressure Gauge With Battery Operated

GP Grade

Model number configuration

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

Model

Z T 6 4	—	2		G	—	7	B	X	X	X	X	X	X	X	X		
		①	②	③		④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮

Digital Pressure Gauge
With Battery Operated
GP Grade

Model number	Selective spec.	Additional spec. (Option)
① Mounting	2	Type S
② Connection	3	1/4 Compatible with VCR Male integrated
	N	1/4 UJR Male nut
	Q	1/4 UJR Female nut (Without pure ring)
③ Wetted parts by grade	G	GP Grade Pressure sensor: SUS316L (All welding) Fitting: SUS316L
④ Pressure range	D	-0.1 to 0.5MPa (Number of digit indication: .500)
	E	-0.1 to 1MPa (Number of digit indication: 1.00)
	F	-0.1 to 2MPa (Number of digit indication: 2.00)
	2	0 to 0.5MPa (Number of digit indication: .500)
	3	0 to 1MPa (Number of digit indication: 1.00)
	4	0 to 2MPa (Number of digit indication: 2.00)
	6	0 to 5MPa (Number of digit indication: 5.00)
	7	0 to 10MPa (Number of digit indication: 10.0)
	8	0 to 20MPa (Number of digit indication: 20.0)
⑤ Display accuracy	7	± (1.0%F.S.+1digit)
⑥ Power source	B	Lithium battery (3V DC): CR2032
⑮ Documents	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

Please specify the pressure range and units separately besides selection of range code.

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

ZT64

Digital Pressure Gauge With Battery Operated

General-use

Model number configuration

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

Model

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

Digital Pressure Gauge
With Battery Operated
General-use

Model number	Selective spec.	Additional spec. (Option)																											
①②③ Mounting	V02	Type S Connection: 1/4 VCR Male Wetted parts material •Pressure sensor: SUS630 (17-4PH) (All welding) •Fitting: SUS316																											
④ Pressure range		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 10%; text-align: center;">D</td><td style="width: 50%;">-0.1 to 0.5MPa</td><td style="width: 40%;">(Number of digit indication: .500)</td></tr> <tr><td style="text-align: center;">E</td><td>-0.1 to 1MPa</td><td>(Number of digit indication: 1.00)</td></tr> <tr><td style="text-align: center;">F</td><td>-0.1 to 2MPa</td><td>(Number of digit indication: 2.00)</td></tr> <tr><td style="text-align: center;">2</td><td>0 to 0.5MPa</td><td>(Number of digit indication: .500)</td></tr> <tr><td style="text-align: center;">3</td><td>0 to 1MPa</td><td>(Number of digit indication: 1.00)</td></tr> <tr><td style="text-align: center;">4</td><td>0 to 2MPa</td><td>(Number of digit indication: 2.00)</td></tr> <tr><td style="text-align: center;">6</td><td>0 to 5MPa</td><td>(Number of digit indication: 5.00)</td></tr> <tr><td style="text-align: center;">7</td><td>0 to 10MPa</td><td>(Number of digit indication: 10.0)</td></tr> <tr><td style="text-align: center;">8</td><td>0 to 20MPa</td><td>(Number of digit indication: 20.0)</td></tr> </table>	D	-0.1 to 0.5MPa	(Number of digit indication: .500)	E	-0.1 to 1MPa	(Number of digit indication: 1.00)	F	-0.1 to 2MPa	(Number of digit indication: 2.00)	2	0 to 0.5MPa	(Number of digit indication: .500)	3	0 to 1MPa	(Number of digit indication: 1.00)	4	0 to 2MPa	(Number of digit indication: 2.00)	6	0 to 5MPa	(Number of digit indication: 5.00)	7	0 to 10MPa	(Number of digit indication: 10.0)	8	0 to 20MPa	(Number of digit indication: 20.0)
D	-0.1 to 0.5MPa	(Number of digit indication: .500)																											
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⑮ Documents	0	Nil																											
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Please specify the pressure range and units separately besides selection of range code.

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