

ZT16 Pressure Transmitters

1.125 surface
mounting
interface

Outline

The ZT16 pressure transmitter accommodates the use in surface mount gas distribution system. It is available in both W-Seal and C-Seal surface mounting interface. It uses proven Co-Ni alloy with excellent reliability and durability, or SUS316L for sensing element material. It can be applied to use in gas panel and valve manifold boxes etc.

Features

- Due to its miniaturized design, ZT16 can be installed in 1.125 surface mounting interface where space is a consideration.
- Excellent durability due to strain gauge formed on metal diaphragm with PCVD process.
- Highly corrosion-resistant pressure sensors made of Co-Ni alloy or SUS316L are welded directly to the SUS316L joints, giving them excellent corrosion resistance, air-tightness, long-term stability, and reliability.

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



RoHS



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)	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 \times 10 ⁻¹² Pa·m ³ /s and under	5 \times 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).

ZT16

Pressure Transmitter (1.125 surface mounting interface)

Specification

Item	Description												
Fluid	Process gasses for semiconductor industry												
Pressure range	0 to 0.3, 0.5, 1MPa -0.1 to 0.3, 0.5, 1MPa												
Operating temperature	-20 to 70°C (No freezing or condensation)												
Storage temperature	-30 to 80°C (No freezing or condensation)												
Accuracy *1	±1.0%F.S. at 23°C (Standard) or ±0.5%F.S. at 23°C (Option). However, 0.5MPa range or greater can be specified.												
Temperature coefficient	± 0.1%F.S./°C [Accuracy±1.0%F.S.] (Zero, Span) or ±0.05%F.S./°C [Accuracy±0.5%F.S.] (Zero, Span)												
Electrical characteristics	<table border="1"> <thead> <tr> <th>Transmission method</th> <th>2-wire system</th> <th>3-wire system</th> </tr> </thead> <tbody> <tr> <td>Power source</td> <td>24V DC±10%</td> <td>12V DC±10% or 24V DC±10%</td> </tr> <tr> <td>Output</td> <td>4 to 20mA DC</td> <td>1 to 5V DC</td> </tr> <tr> <td>Load resistance</td> <td>500Ω max.</td> <td>10kΩ min.</td> </tr> </tbody> </table>	Transmission method	2-wire system	3-wire system	Power source	24V DC±10%	12V DC±10% or 24V DC±10%	Output	4 to 20mA DC	1 to 5V DC	Load resistance	500Ω max.	10kΩ min.
Transmission method	2-wire system	3-wire system											
Power source	24V DC±10%	12V DC±10% or 24V DC±10%											
Output	4 to 20mA DC	1 to 5V DC											
Load resistance	500Ω max.	10kΩ min.											
Insulation resistance	100MΩ or greater, however measured voltage is 50V DC												
Connection of fitting	1.125 surface mounting interface (W-Seal, C-Seal)												
Weight	Approx. 160 g (Excluding cable)												
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.												
Enclosure	Indoor use												

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

Connector and cable

Connector (Plug):

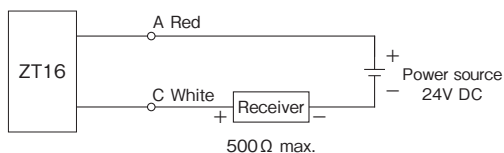
R03-P5M (Manufactured by Tajimi Electronics Co., Ltd.)

Cable:

	Environmental temperature	Conductor		Cable outer diameter (mm)	Minimum bending radius (mm)
		Cross-section area (mm ²)	Twisted conductors (pcs./mm)		
Heat resistant cable	-20 to 105°C	0.3	12/0.18	φ6.0	25

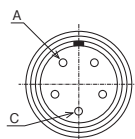
Wiring

2-wire system

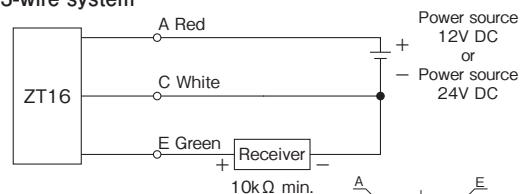


2-wire system Terminal distribution

A-Red: Power source (+)
C-White: Power source (-)

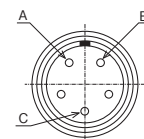


3-wire system



3-wire system Terminal distribution

A-Red: Power source (+)
C-White: Common
E-Green: Output (+)



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.

ZT16

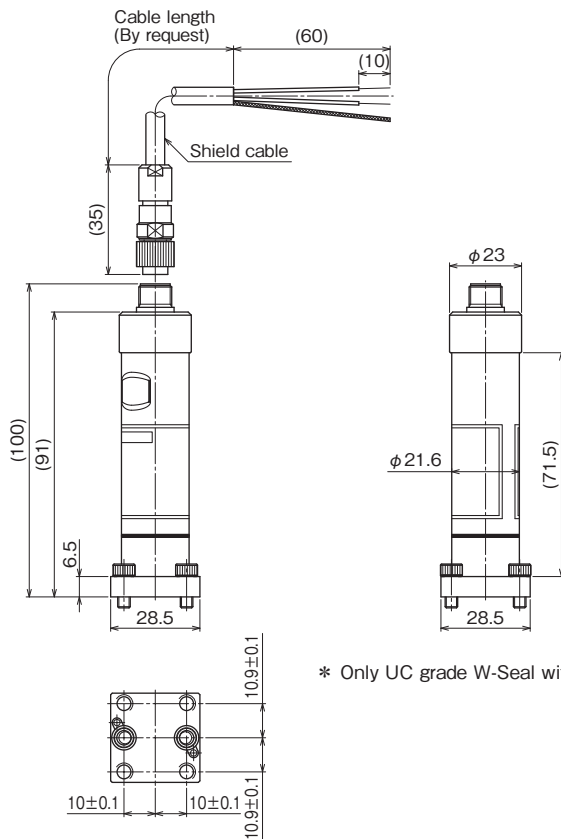
Pressure Transmitter (1.125 surface mounting interface)

Dimensions

UC/EP/GP Grade

Unit: mm

<1.125 W-Seal>



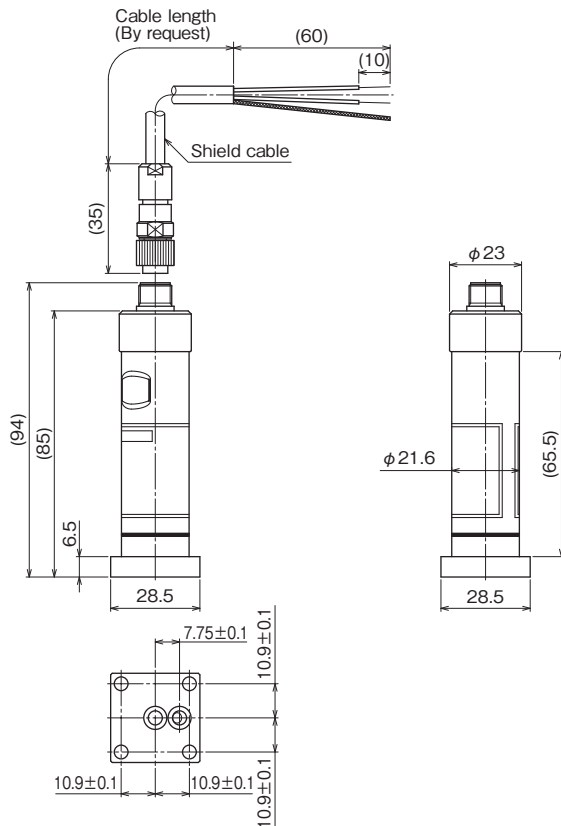
* Only UC grade W-Seal with the bolt.

Grade	Connection	Model number
UC	1.125 W-Seal (With bolt)	ZT16-ZW1

Grade	Connection	Model number
EP	1.125 W-Seal (Without bolt)	ZT16-ZFE

Grade	Connection	Model number
GP	1.125 W-Seal (Without bolt)	ZT16-ZFG

<1.125 C-Seal>



Grade	Connection	Model number
UC	1.125 C-Seal (Without bolt)	ZT16-ZC1

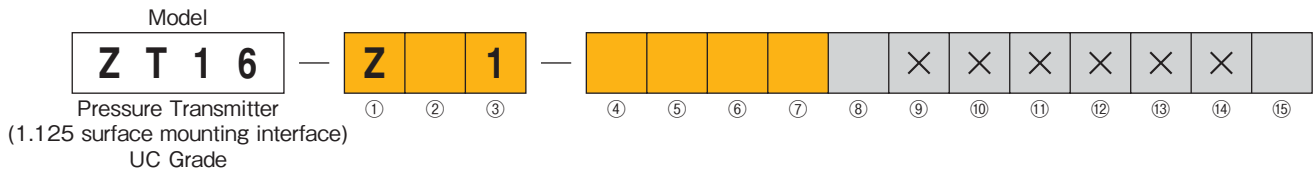
ZT16

Pressure Transmitter (1.125 surface mounting interface)

UC Grade

Model number configuration

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



Model number		Selective spec.	Additional spec. (Option)
① Mounting	Z	Surface mounting interface	
② Connection	C	1.125 C-Seal (Without bolt)	
	W	1.125 W-Seal (Bolt embodiment type)	
③ Wetted parts by grade	1	UC Grade ·Pressure sensor: Co-Ni alloy (All welding) ·Fitting: SUS316L DOUBLE MELT material	
④ Pressure range	C	-0.1 to 0.3MPa	
	D	-0.1 to 0.5MPa	
	E	-0.1 to 1MPa	
	1	0 to 0.3MPa	
	2	0 to 0.5MPa	
⑤ Accuracy	3	0 to 1MPa	
	5	±0.5%F.S. (0.5MPa range or greater can be specified)	
	7	±1.0%F.S.	
⑥ Power source	1	24V DC±10%	
	6	12V DC±10% (3-wire system only)	
⑦ Output	1	4 to 20 mA DC (2-wire system)	
	8	1 to 5V DC (3-wire system)	
⑧ Adjustment cable specification (A heat resistant shield cable)	0	Nil	
	1	Cable length: 1 m	
	2	Cable length: 2 m	
	3	Cable length: 3 m (Standard)	
	5	Cable length: 5 m	
9	Others length specification		
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	

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

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

ZT16

Pressure Transmitter (1.125 surface mounting interface)

EP Grade

Model number configuration

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

Model
Z T 1 6 — **Z F E** — [] [] [] [] [] [] [] [] [] [] [] [] [] [] []

① Mounting **Z** Surface mounting interface

② Connection **F** 1.125 W-Seal (Without bolt)

③ Wetted parts by grade **E** EP Grade
 ·Pressure sensor: SUS316L (All welding)
 ·Fitting: SUS316L

④ Pressure range

C	-0.1 to 0.3MPa
D	-0.1 to 0.5MPa
E	-0.1 to 1MPa
1	0 to 0.3MPa
2	0 to 0.5MPa
3	0 to 1MPa

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

⑤ Accuracy

5	±0.5%F.S. (0.5MPa range or greater can be specified)
7	±1.0%F.S.

⑥ Power source

1	24V DC±10%
6	12V DC±10% (3-wire system only)

⑦ Output

1	4 to 20 mA DC (2-wire system)
8	1 to 5V DC (3-wire system)

⑧ Adjustment cable specification (A heat resistant shield cable)

0	Nil
1	Cable length: 1 m
2	Cable length: 2 m
3	Cable length: 3 m (Standard)
5	Cable length: 5 m
9	Others length specification

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

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

ZT16

Pressure Transmitter (1.125 surface mounting interface)

GP Grade

Model number configuration

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

Model
Z T 1 6 — **Z F G** — [] [] [] [] [] [] [] [] [] [] [] [] [] [] [] []
 Pressure Transmitter (1.125 surface mounting interface)
 GP Grade

Model number		Selective spec.	Additional spec. (Option)
① Mounting	Z	Surface mounting interface	
② Connection	F	1.125 W-Seal (Without bolt)	
③ Wetted parts by grade	G	GP Grade •Pressure sensor: SUS316L (All welding) •Fitting: SUS316L	
④ Pressure range	C	-0.1 to 0.3MPa	
	D	-0.1 to 0.5MPa	
	E	-0.1 to 1MPa	
	1	0 to 0.3MPa	
	2	0 to 0.5MPa	
⑤ Accuracy	5	±0.5%F.S. (0.5MPa range or greater can be specified)	
	7	±1.0%F.S.	
⑥ Power source	1	24V DC±10%	
	6	12V DC±10% (3-wire system only)	
⑦ Output	1	4 to 20 mA DC (2-wire system)	
	8	1 to 5V DC (3-wire system)	
⑧ Adjustment cable specification (A heat resistant shield cable)	0	Nil	
	1	Cable length: 1 m	
	2	Cable length: 2 m	
	3	Cable length: 3 m (Standard)	
	5	Cable length: 5 m	
9	Others length specification		
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	

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

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