

# ZT30 ELECTRONIC PRESSURE SWITCH

## OUTLINE

This pressure switch is provided with a digital setting function and a pressure indication function and has an ultra clean specification. It can be set while seeing the LCD indication, without pressurizing, and is used for a device with rapid pressure change thanks to the adoption of high-speed digital comparator.

## FEATURE

- The pressure sensing part is provided with a pressure sensor made of Co-Ni, improving corrosion resistance, durability and stability.
- The surface in contact with gas is of a submicron class, generating no particle.
- The pressure can be set finely and accurately without pressurizing by a switch while seeing LCD indications without pressurizing. The operational state of comparator can be checked by LCD lamps.
- The number of output contacts can be set freely within Setting 1 and Setting 2, where upper and lower limits and cutting difference are set within respective ranges. Further, the set values can be stored for ten years or longer without back-up batteries thanks to the adoption of EEPROM.



## SPECIFICATION 1

**Fluid:**  
Various kinds of process gases

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

**Type:**



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

**Gas contact part:**

Fitting 316L st.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 ~ 300kPa → 0 ~ 20MPa  
-100 ~ 300kPa → -0.1 ~ 2Mpa

**Max. allowable pressure:**  
200% of pressure range

**Operating temperature:**  
-10 ~ 60g

**Storage temperature:**  
-20 ~ 70g

**Indication accuracy:**  
±1.0%F.S.±1 digit

**Pressure indication:**  
3 figure LCD (Character height 6mm)

**Indication period:**  
Approx. 0.2s

**Power source:**  
24V DC±20%, 30mA DC max.

**Output:**  
Open collector output 30V DC 80mA DC max.

**Setting:**  
1 setting or 2 setting

**Response time:**  
Within 10ms

**Setting range:**  
Free in pressure range

**Dead band:**  
Adjustable within pressure range

**Operation light:**  
LEDdisplay (Light at ON)

**Repeatability:**  
Within ±0.2%F.S. (Include hysteresis and short time creep)

**Temperature coefficient:**  
±0.1%F.S./°C (Zero)  
±0.1%F.S./°C (Span)  
\* ±0.05%F.S./°C is available.

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

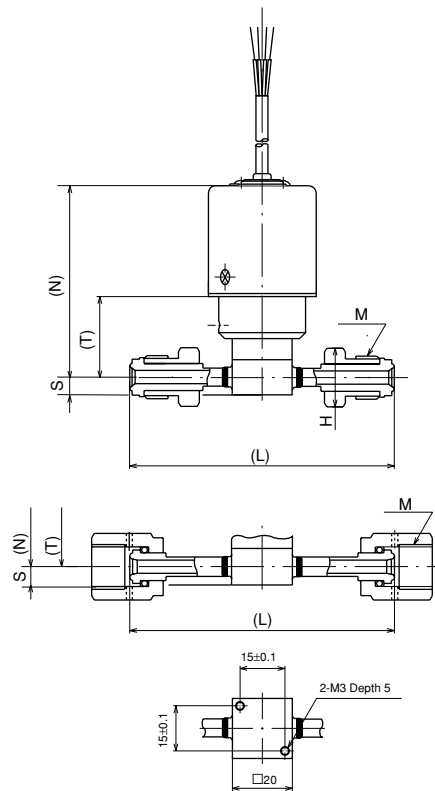
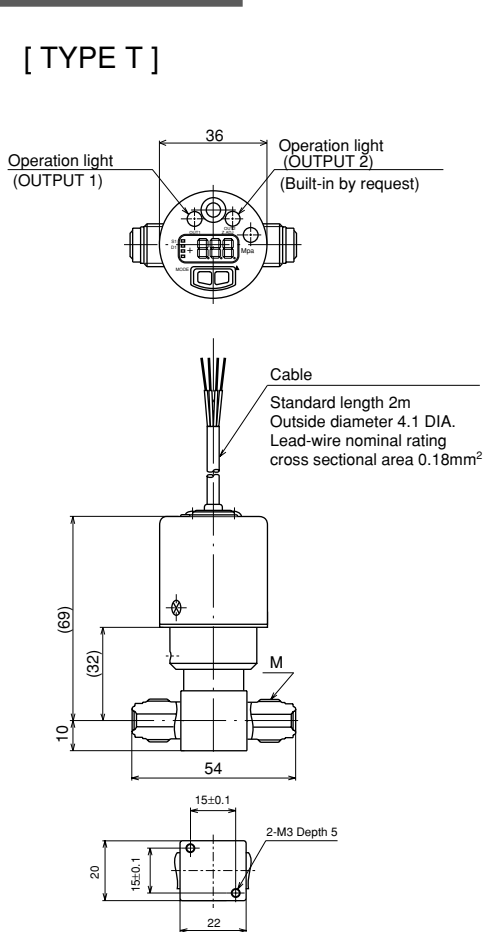
**Particle:**  
Zero count for size 0.1µm or greater (In our inspection standard)

## SPECIFICATION 2

Pressure range	Max. indication	Pressure range	Max. indication
0 ~ 500 kPa	500	-100 ~ 500 kPa	500
0 ~ 1 MPa	1.00	-0.1 ~ 1 MPa	1.00
0 ~ 2	2.00	-0.1 ~ 2	2.00
0 ~ 3.5	3.50		
0 ~ 5	5.00		
0 ~ 10	10.0		
0 ~ 20	20.0		

## DEMENSIONS 1

### [ TYPE T ]



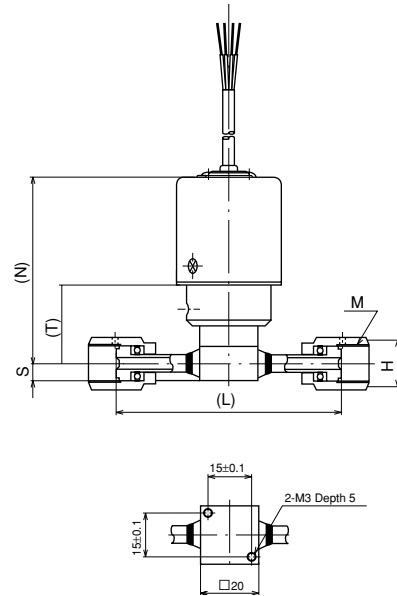
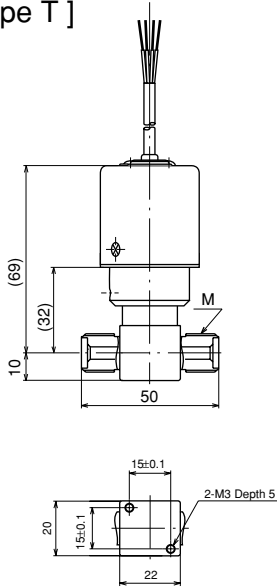
Model No.	Connection	Piping DIA.	Size M
ZT30-136	Compatible with VCR Male	1/4"	9/16-18UNF

Model No.	Connection	Piping DIA.	Size M	Dimensions (mm)				
				N	T	S	H	L
ZT30-1E6	Compatible with VCR Male (TOM JOINT)	1/4"	9/16-18UNF	65	28	6	16×18.5 Hex.	90
ZT30-1F6		3/8"	7/8-14UNF	70.5	33.5	7	24×27.7 Hex.	95
ZT30-1G6	Compatible with VCR Female (SUPER TOMJOIN)	1/4"	9/16-18UNF	65	28	6	19×21.9 Hex.	79
ZT30-1H6		3/8"	7/8-14UNF	70.5	33.5	7	27×31.2 Hex.	83
ZT30-1J6	VCR Male nut	1/4"	9/16-18UNF	65	28	6	16×18.5 Hex.	86
ZT30-1K6		3/8"	7/8-14UNF	70.5	33.5	7	24×27.7 Hex.	90.5
ZT30-1L6	VCR Female nut	1/4"	9/16-18UNF	65	28	6	19×21.9 Hex.	80.8
ZT30-1M6		3/8"	7/8-14UNF	70.5	33.5	7	27×31.2 Hex.	81.8
ZT30-1N6	UJR Male nut	1/4"	9/16-18UNF	65	28	6	17×19.6 Hex.	87
ZT30-1P6		3/8"	7/8-14UNF	70.5	33.5	7	23×26.6 Hex.	100
ZT30-1Q6	UJR Female nut (With pure ring)	1/4"	9/16-18UNF	65	28	6	19×21.9 Hex.	87
ZT30-1R6		3/8"	7/8-14UNF	70.5	33.5	7	26×30 Hex.	100

\* Bearings are not included in VCR Female nut.

## DIMENSIONS 2

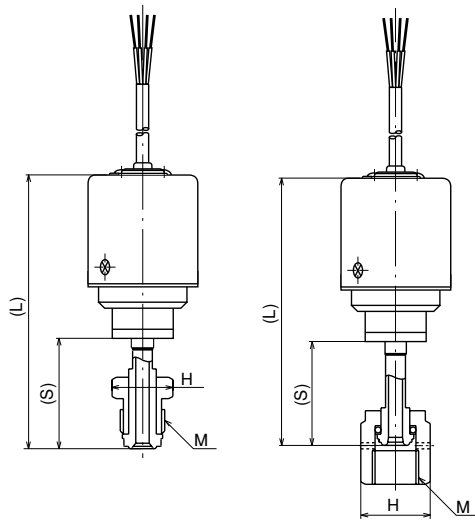
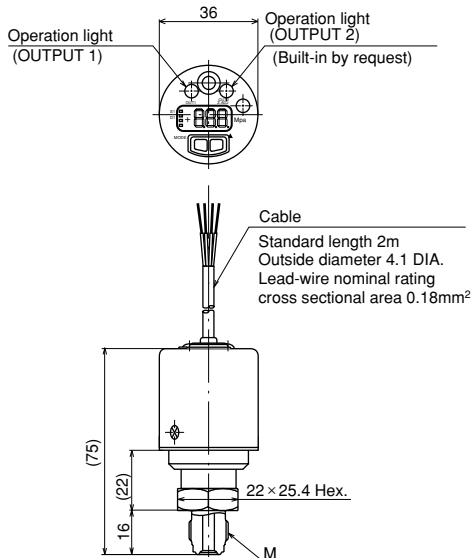
### [ Type T ]



Model No.	Connection	Piping DIA.	Size M
ZT30-166	MCG Male	1/4"	M14×1.25
ZT30-176		3/8"	M18×1.5
ZT30-1A6	JSK Male	1/4"	M14×1.25
ZT30-1B6		3/8"	M18×1.5

Model No.	Connection	Piping DIA.	Size M	Dimensions (mm)				
				N	T	S	H	L
ZT30-186	MCG Female nut	1/4"	M14×1.25	65	28	6	17×19.6 Hex.	76
ZT30-196		3/8"	M18×1.5	70.5	33.5	7	22×25.4 Hex.	80
ZT30-1C6	JSK Female nut	1/4"	M14×1.25	65	28	6	17×19.6 Hex.	76
ZT30-1D6		3/8"	M18×1.5	70.5	33.5	7	22×25.4 Hex.	80

### [ Type S ]



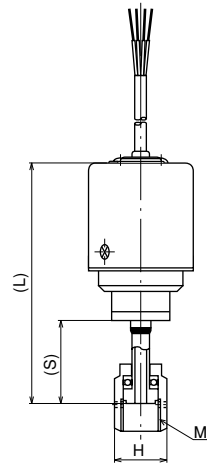
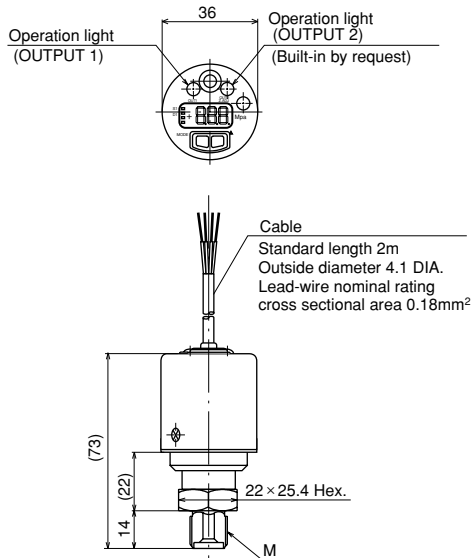
Model No.	Connection	Piping DIA.	Size M
ZT30-236	Compatible with VCR Male	1/4"	9/16-18UNF

Model No.	Connection	Piping DIA.	Size M	Dimensions (mm)		
				L	H	S
ZT30-2E6	Compatible with VCR Male (TOM JOINT)	1/4"	9/16-18UNF	84.5	16×18.5 Hex.	30.5
ZT30-2G6	Compatible with VCR Female (SUPER TOM JOINT)	1/4"	9/16-18UNF	84.5	19×21.9 Hex.	30.5
ZT30-2J6	VCR Male nut	1/4"	9/16-18UNF	84.5	16×18.5 Hex.	30.5
ZT30-2L6	VCR Female nut	1/4"	9/16-18UNF	85.5	19×21.9 Hex.	31.5
ZT30-2N6	UJR Male nut	1/4"	9/16-18UNF	91	17×19.6 Hex.	37
ZT30-2Q6	UJR Male nut (With pure ring)	1/4"	9/16-18UNF	88.5	19×21.9 Hex.	34.5

\* Bearings are not included in VCR Female nut.

## DIMENSIONS 3

[ Type S ]

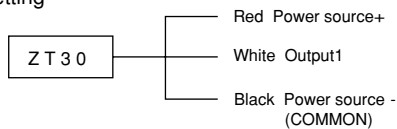


Model No.	Connection	Piping DIA.	Size M
ZT30-266	MCG Male	1/4"	M14×1.25
ZT30-2A6	JSK Male	1/4"	M14×1.25

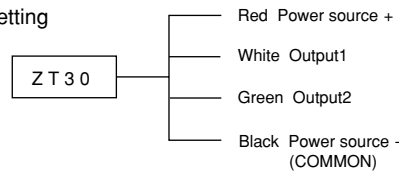
Model No.	Connection	Piping DIA.	Size M	Dimensions (mm)		
				L	H	S
ZT30-286	MCG Female nut	1/4"	M14×1.25	81.4	17×19.6 Hex.	27.4
ZT30-2C6	JSK Female nut	1/4"	M14×1.25	83	17×19.6 Hex.	29

## WIRING

1 setting

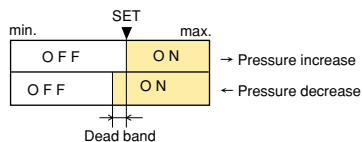


2 setting

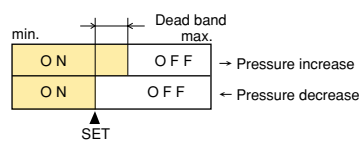


## OPERATION SYSTEM

Upper limit: Transister will be ON at setting point when pressure increase

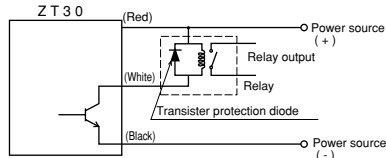


Lower limit: Transister will be ON at setting point when pressure decrease



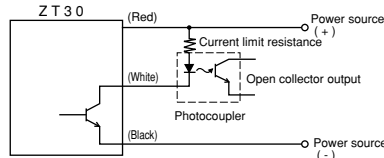
## EXAMPLE OF OPEN COLLECTOR OUTPUT

① Relay connection

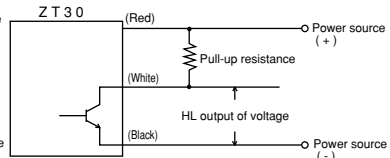


Note  
Rated current and voltage of operation coil of relay should be in transister's rating.

② Photocoupler connection



③ Voltage output



# 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.

