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Compact Pressure Switch

Series ZSE2/ISE2

For Vacuum For Positive Pressure

For General Pneumatics



Can be integrated with ZX or ZR ejector system.

Easy and simple wiring

Connector type

Series ZSE2/ISE2

How to Order

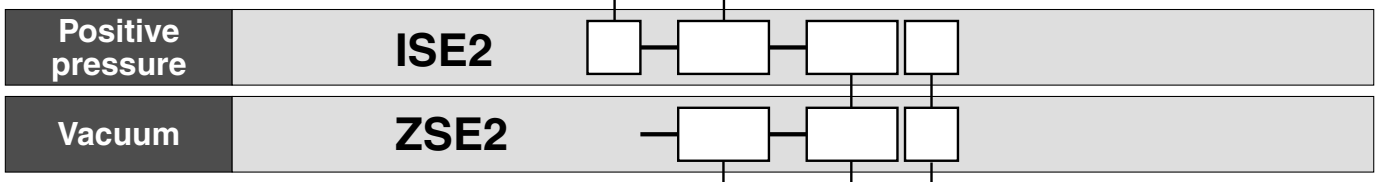
Operating pressure range/ Setting pressure range

Nil	0 to 1 MPa
L	0 to 100 kPa

Piping specifications

01	Single mounting R 1/8, M5 x 0.8
T1	Single mounting NPTF 1/8, M5 x 0.8

Note) M5 x 0.8 (female) thread.



Piping specifications

01	Single mounting R 1/8
T1	Single mounting NPTF 1/8
0X	W/suction filter (Mounting on ZX unit) M5 x 0.8
0XY	W/suction filter (Mounting on ZX unit) M6 x 1 (Option)
0R	Base mounting (Mounting on ZR unit)

Note) Single mounting type: M5 x 0.8 (female) threaded.

Wiring specifications

Nil	Grommet type (Lead wire: 0.6 m)
L	Grommet type (Lead wire: 3 m)
C	Connector type (Lead wire: 0.6 m)
CL	Connector type (Lead wire: 3 m)
CN	Without connector

Output specifications

15	NPN open collector 30 V, 80 mA
55	PNP open collector 80 mA

With Connector/How to Order

- Without lead wire (Connector 1 pc., Socket 3 pcs.) ·····**ZS-10-A**
- With lead wire ·····**ZS-10-5A-**□

Note) When ordering switch with 5 m long lead wire, indicate both part numbers.

Ex.) **ZSE2-01-15CN**·····1 pc.
ZS-10-5 A-50·····1 pc.

Lead wire length

Nil	0.6 m
30	3 m
50	5 m

⚠ Caution

Refer to pages 16-14-3 to 16-14-4 for Safety Instructions and Common Precautions on the products mentioned in this catalog, and refer to pages 16-1-11 to 16-1-13 for Precautions on every series.

ZSE2/ISE2 Specifications

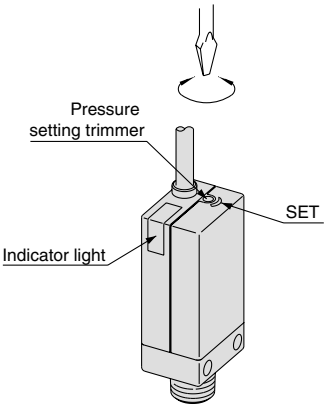
		ZSE2	ISE2L	ISE2
		For vacuum	For low pressure	For high pressure
Operating pressure range/ Regulating pressure range		0 to −101 kPa	0 to 100 kPa	0 to 1 MPa
Proof pressure		500 kPa		1.5 MPa
Fluid		Air/Non-corrosive, non-flammable gas		
Power supply voltage		12 to 24 VDC ±10%, Ripple (P-P) 10% or less		
Current consumption		17 mA or less at 24 VDC		
Response time		5 ms or less		
Repeatability		±1% F.S. or less		
Resistance	Enclosure	IP40		
	Operating temperature range	Operating: 0 to 60°C, Stored: −10 to 60°C (With no condensation, nor freezing)		
	Operating humidity range	Operating/Stored: 35 to 85%RH (With no condensation)		
	Vibration resistance	10 to 500 Hz at whichever is smaller of 1.5 mm amplitude or 98 m/s^2 acceleration, in X, Y, Z directions for 2 hrs. each (De-energized)		
	Impact resistance	980 m/s^2 in X, Y, Z directions, 3 times each (De-energized)		
Temperature characteristics (Based on 25°C)		±3% F.S. or less		
Withstand voltage		1000 VAC for 1 min. (Between lead wires and case)		
Insulation resistance		50 MΩ or more (at 500 VDC by megameter)		
Port size		01: R 1/8, M5 x 0.8 T1: NPTF 1/8, M5 x 0.8 0X: With suction filter (For mounting on ZX unit) 0R: Base mount type (For mounting on ZR unit)		
Weight		35 g (Including 0.6 m—Long lead wire)		

Output Specifications

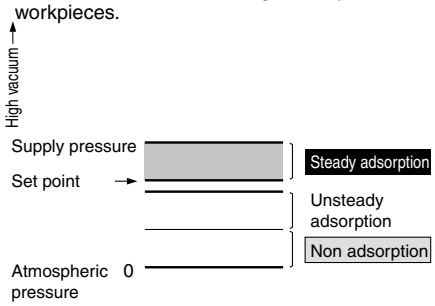
Model	-15	-55
Output type	NPN open collector 30 V, 80 mA	PNP open collector 80 mA
Residual voltage	1 V or less (With load current of 80 mA)	
Hysteresis	3% F.S. or less (Fixed)	
Number of outputs	1	
Indicator light	ON: when output is ON (Red)	

Calibration Procedure

- Set the ON-pressure by the pressure setting trimmer. Turning clockwise can set the high pressure/high vacuum pressure.



- Set the possible min. pressure for adsorption confirmation. If setting the pressure lower than that, switch becomes ON in case that adsorption is not completely done. If setting the pressure higher than that, switch does not become ON even though it may absorb workpieces.



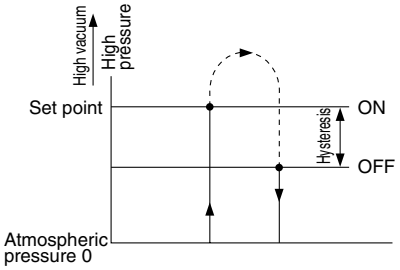
• Regarding the pressure setting

⚠ Caution

Observe the following precautions for setting the vacuum pressure: Use your fingertips to gently turn the screwdriver. Do not use a screwdriver with a large grip or with a tip that does not fit into the trimmer groove because this could strip the groove.

Hysteresis

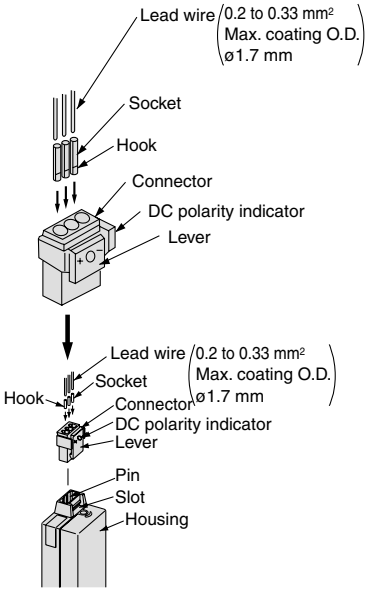
Hysteresis is the pressure difference between the ON and the OFF pressure of the output signal. The set pressure is the pressure selected to switch from OFF to ON condition.



How to Use Connector

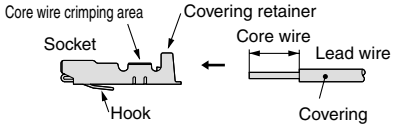
1. Attaching and detaching connectors

- When assembling the connector to the switch housing, push the connector straight onto the pins until the lever locks into the housing slot.
- When removing the connector from the switch housing, push the lever down to unlock it from the slot and then withdraw the connector straight off of the pin.



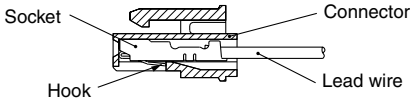
2. Crimping of lead wires and sockets

Strip 3.2 to 3.7 mm at the end of the lead wires, insert the ends of core wires evenly into the sockets, and then crimp with a crimping tool. When this is done, take care that the coverings of the lead wires do not enter the core wire crimping area.
(Crimping tool: model no. DXT170-75-1)



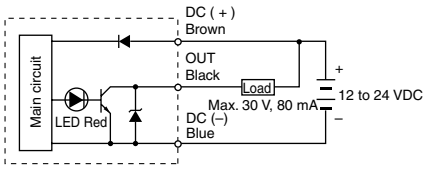
3. Attaching and detaching lead wires with sockets

- Attaching
  Insert the sockets into the square holes of the connector (with +, 0, – indication), and continue to push the sockets all the way in until they lock by hooking into the seats in the connector. (When they are pushed in their hooks open and they are locked automatically.) Then confirm that they are locked by pulling lightly on the lead wires.
- Detaching
  To detach a socket from a connector, pull out the lead wire while pressing the socket's hook with a stick having a thin tip (about 1 mm). If the socket will be used again, first spread the hook outward.



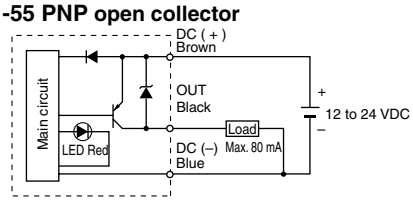
Internal Circuit and Wiring Example

-15 NPN open collector



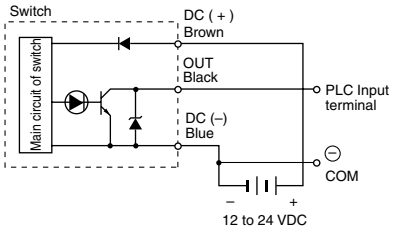
Electric circuit diagram

-55 PNP open collector



Electric circuit diagram

Connection example with a PLC at – common terminal



- **Filter case**

⚠ Caution

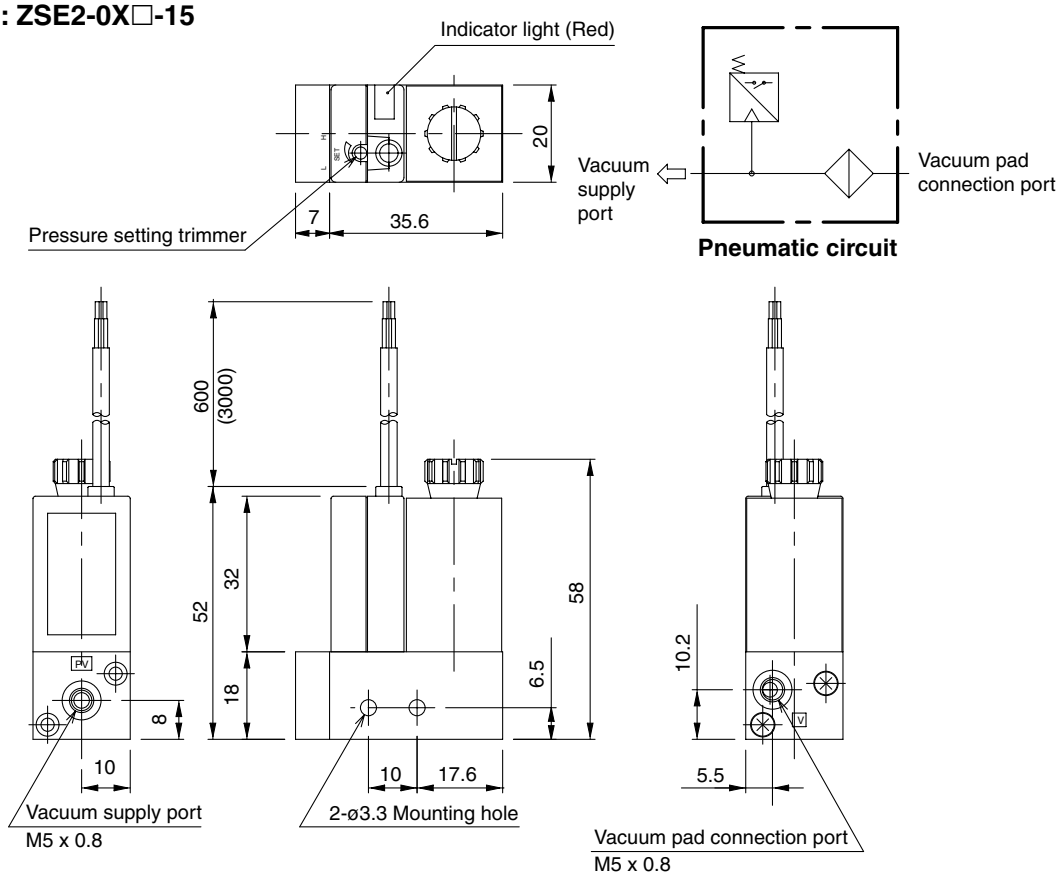
1. Do not use with thinner, carbon tetrachloride, chloroform, acetate, aniline, cyclohexane, trichloroethylene, sulfuric acid, lactic acid and watermiscible cutting fluid (alkaline).
2. Operate it away from direct sunlight.

⚠ Caution

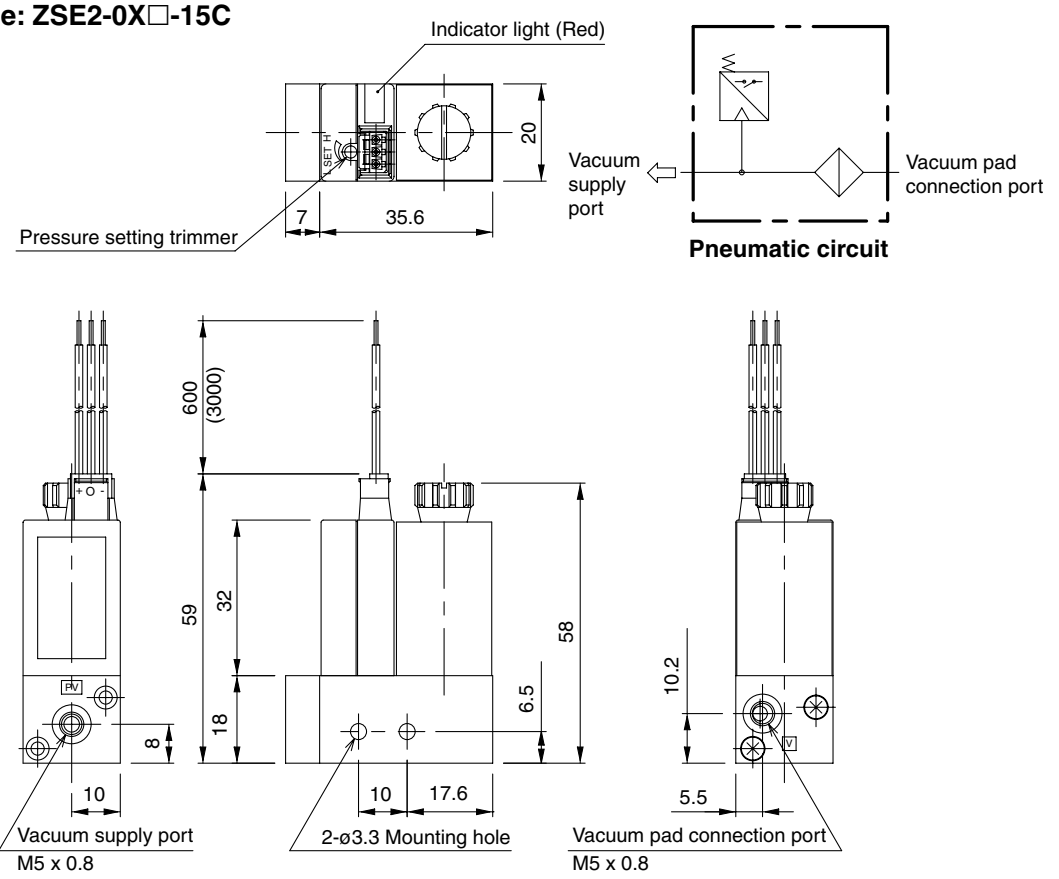
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Dimensions/With Suction Filter: ZSE2-0X□

Grommet type: ZSE2-0X□-15



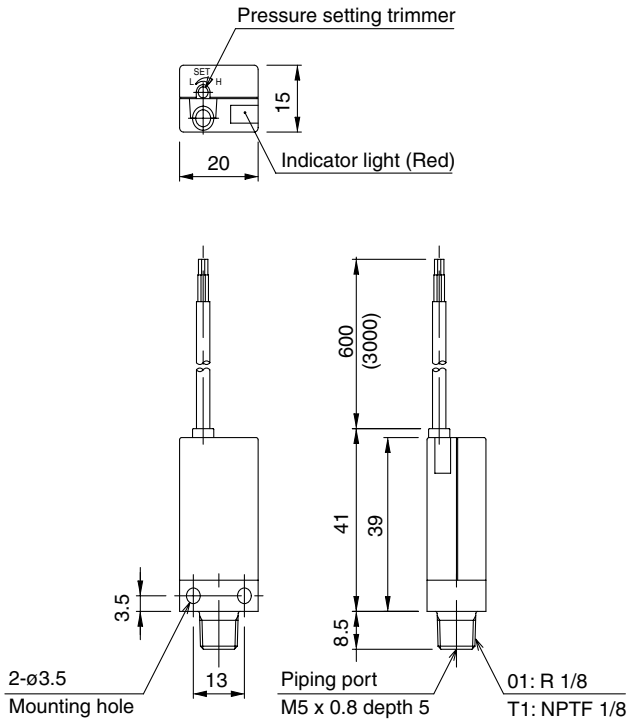
Connector type: ZSE2-0X□-15C



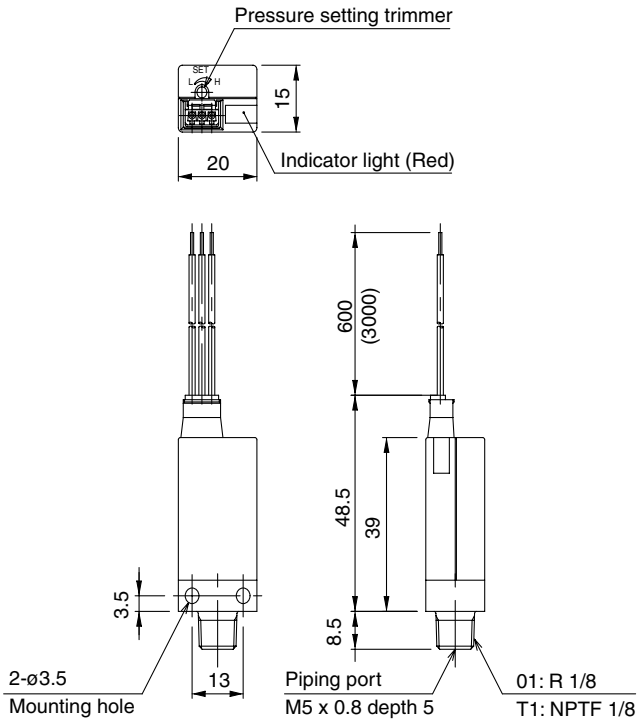
Series ZSE2/ISE2

Dimensions/Standard Type: ZSE2- $^{01}_{T1}$

Grommet type: ZSE2- $^{01}_{T1}$-15

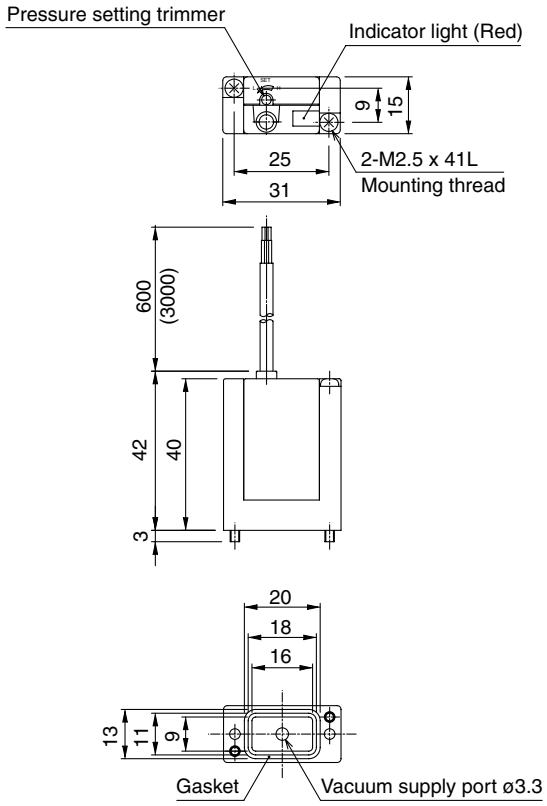


Connector type: ZSE2- $^{01}_{T1}$-15C

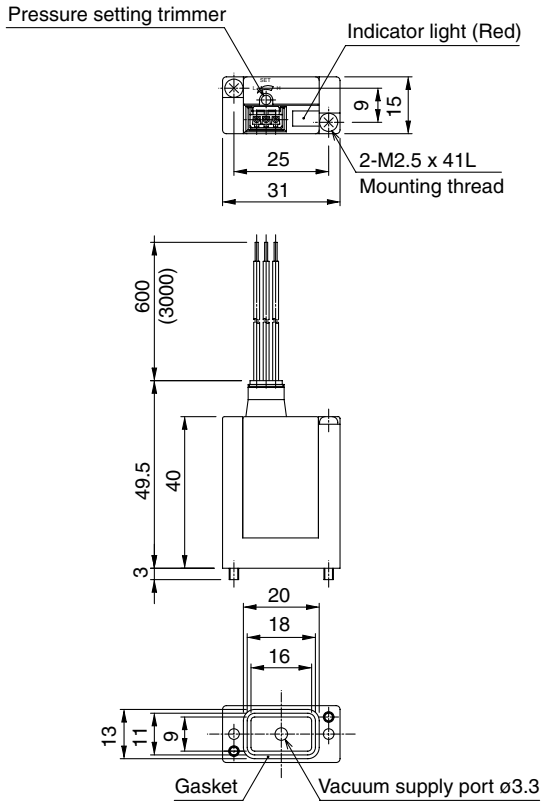


Dimensions/Base Mount Type: ZSE2-0R

Grommet type: ZSE2-0R-15

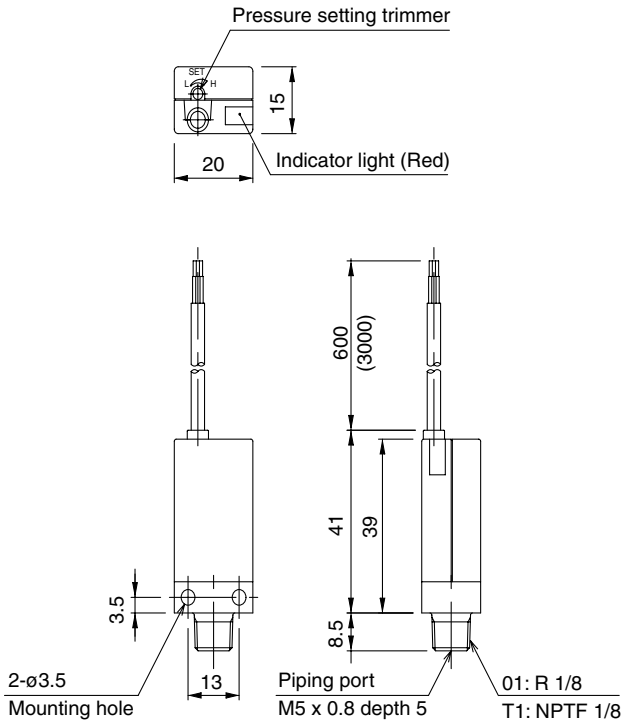


Connector type: ZSE2-0R-15C

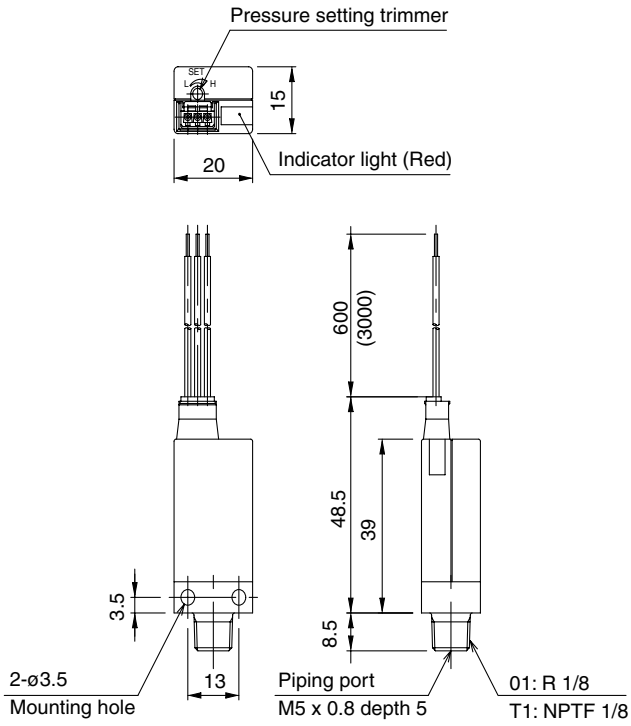


Dimensions: ISE2□-$\frac{01}{T1}$

Grommet type: ISE2-$\frac{01}{T1}$-15



Connector type: ISE2-$\frac{01}{T1}$-15C



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