

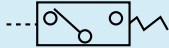


Mechanical Pressure Switch

APE Series

Repeatability : Within ± 0.02 MPa, Set pressure : 0.1 to 0.8 MPa.
● Port Size : Rc 1/4

Circuit Diagram Symbol

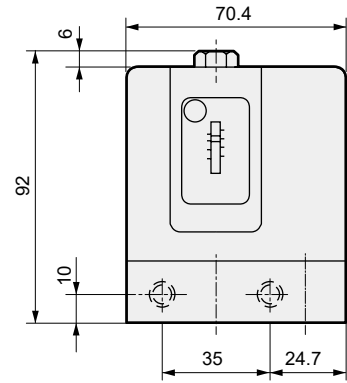


APE Series

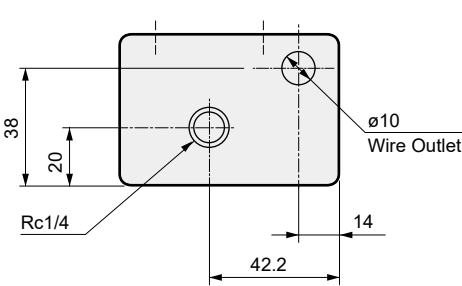
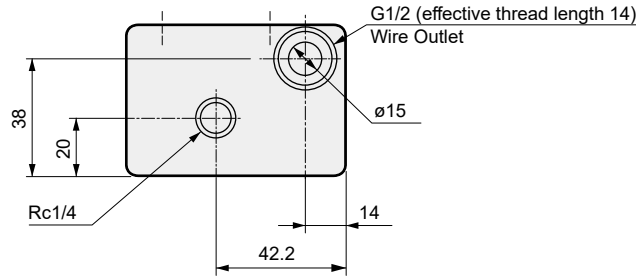
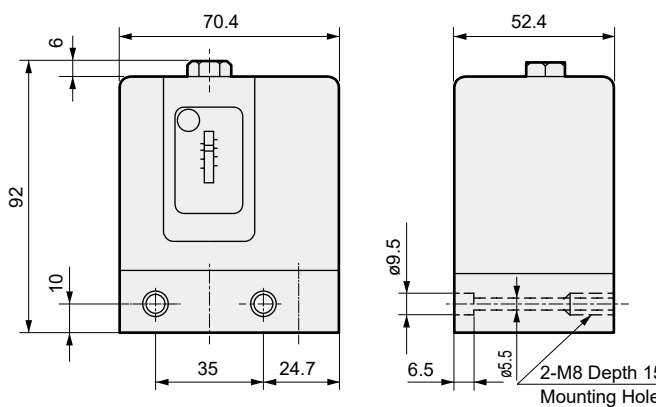
Dimensions

Dimensions

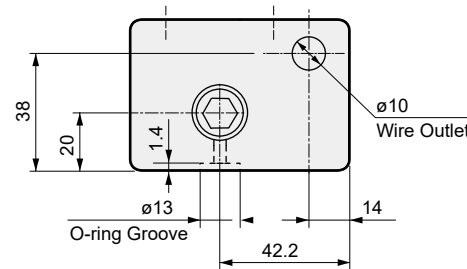
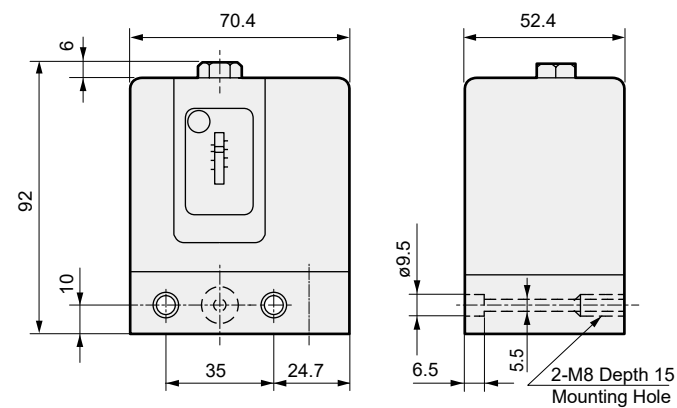
●APE-8T



●APE-8N

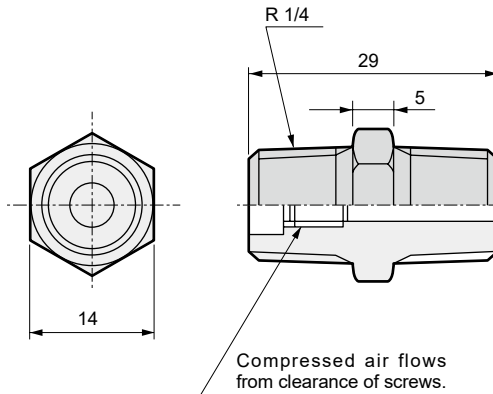


●APE-8F



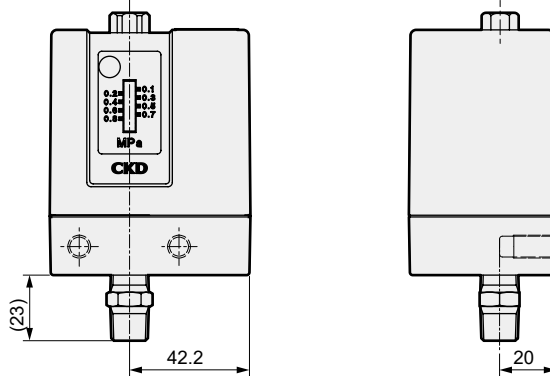
Related Parts

● Pressure Buffer Nipple Part Model No. : APE-6556

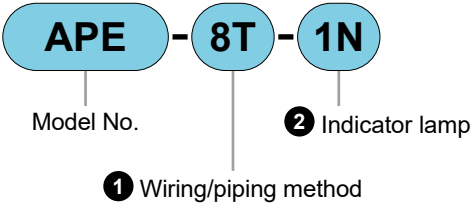


Weight : 27 g

Dimensions when Pressure Buffer Nipple is attached



Model No. Notation



1 Wiring/piping method

Code	Content
8T	Standard Air Piping Port Rc 1/4, Wire Outlet G 1/2
8N	Standard Air Piping Port Rc 1/4, Wire Outlet $\phi 10$
8F	Option Air Piping O-ring, Wire Outlet $\phi 10$

*1 : When NPT port size is required, indicate "N" after "8".
(Example) APE-8NT APE-8NN
*2 : APE-8F has one O-ring (JIS B2401P10) and two hexagon socket head cap screws (M5 x 55L) as accessories.

2 Indicator lamp

Code	Content
Blank	No Lamp
1N	With Lamp for 100/200 VAC
3N	With Lamp for 24 VDC

Specifications

Item	APE							
Operating Fluid	Compressed Air							
Maximum operating pressure MPa	1.0							
Proof pressure MPa	1.5							
Set Pressure MPa	0.1 to 0.8							
Fluid temperature °C	5 to 60							
Microswitch Type	Z-15GD-B (Omron)							
Contact Configuration	1C							
Hysteresis MPa	Within 0.049 hysteresis at 0.1 to 0.49							
	Within 0.078 hysteresis at 0.5 to 0.8							
Repeatability MPa	Within ±0.020 against set pressure							
Ambient Temperature °C	-5 to 60 (No freezing)							
Ambient Humidity %	90 or less							
Max. operating frequency cycle/min.	20							
Insulation resistance MΩ	100 or more (at 500 VDC Megger)							
Mounting Orientation	Any							
Weight kg	0.57							
Microswitch Rating								
Load	Non-inductive Load (A)				Inductive Load (A)			
Circuit	Resistive Load		Lamp Load		Inductive Load		Motor Load	
Voltage	N.C	N.O	N.C	N.O	N.C	N.O	N.C	N.O
125 VAC	15	15	3.0	1.5	15	15	5.0	2.5
250 VAC	15	15	2.5	1.25	15	15	3.0	1.5
30 VDC	6.0	6.0	3.0	1.5	5.0	5.0	5.0	2.5

Air Preparation Components

F.R.L.

Filter

Regulator

Lubricator

Drain Separator

Mechanical Pressure SW

Residual Pressure Exhaust Valve

Slow Start Valve

Antibacterial/Bacteria Removing Filter

Ozone FR

Siloxane/OzoneRemover

Flame Resistant FR

Oil-free Regulator

Medium Pressure FR

No copper/PTFEV Specification

Air Unit Equipment

Adapter Joiner

Pressure Gauge

Compact F.R.L.

Large F.R.L.

Precision Regulator

Clean FR

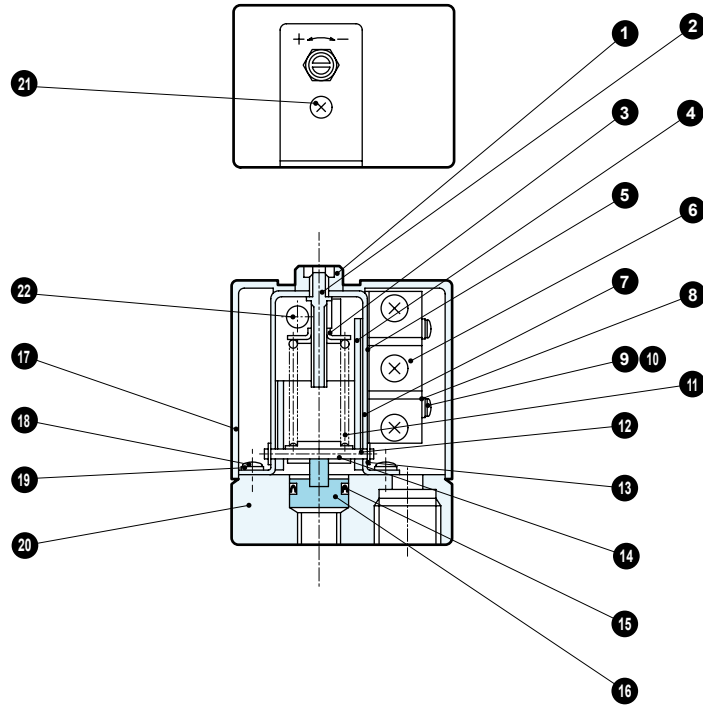
Electro-Pneumatic Regulator

Air Booster

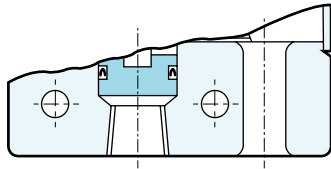
Ending

Internal Structure Diagram/Material

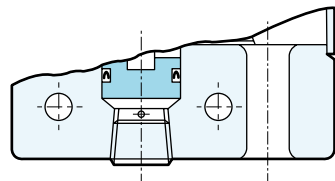
●APE-8T



●APE-8N



●APE-8F



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Nut	Steel		12	Pin	Steel	
2	Adjustment Screw	Steel		13	E-ring	Steel	
3	Spring Retainer	Steel		14	Spring Seat	Steel	
4	Lever	Steel		15	Y Packing	Nitrile rubber	
5	Insulating Plate			16	Piston	Polyacetal	
6	Microswitch		Z-15GD-B	17	Cover	ABS Resin	
7	Frame	Steel		18	Pan Head Machine Screw with Cross Hole	Steel	M4 x 10
8	Flat Washer	Steel	Nominal 3	19	Spring Washer	Steel	Nominal 4
9	Pan Head Machine Screw with Cross Hole	Steel	M3 x 20	20	Body	Zinc Die-casting	
10	Spring Washer	Steel	Nominal 3	21	Cover Tightening Screw	Steel	M3 Countersunk Screw
11	Spring	Piano Wire		22	Lamp		Lamp attached only



Pneumatic components (Mechanical Pressure Switches)
To Use This Product Safely

Please read before use.
For general pneumatic components precautions, see Intro 27 for details.

Individual Precautions : Mechanical Pressure Switches APE Series

At Design / Selection

CAUTION

- Select with considerations to rush current.
Micro switch contact specifications
Regular closed circuit max. 30 A
Regular open circuit max. 15 A
For inrush current, we recommend measuring it in advance.
- Wiring the sensor with lamp
 - The lamp is connected to the micro switch's NC terminal and NO terminal. As a fine current flows even when the load (relay, etc.) is not energized, take care when selecting the load.
100 VAC 1.5 mA
200 VAC 2.0 mA
24 VDC 4.5 mA
 - To turn the lamp ON at the set pressure or more, and OFF at the set pressure or lower, wire to the micro switch COM terminal and NC terminal. Attach the attached plate at a visible section of the cover. Pressure Rise → Lamp ON
 - To turn the lamp ON at the set pressure or lower, and OFF at the set pressure and over, wire to the micro switch COM terminal and NO terminal. Attach the attached plate at a visible section of the cover. Pressure Rise → Lamp OFF
 - If there is a large amount of drainage, pipe so that the pressure adjustment screw is facing upward.

- Use the pressure absorbing nipple (APE-6556) to detect sudden changes in pressure, such as when confirming pneumatic cylinder pressure.
- When there are frequent rising and falling pressure pulsations, use the pressure buffering nipple (APE-6556) in combination. If a pressure buffer nipple is not used, the product life may be shortened.
- The scale plate is for reference.
(Scale error within ±0.05 MPa)

For precautions regarding mounting, installation, adjustment, operation, and maintenance, please refer to the CKD Component Products Site(<https://www.ckd.co.jp/kiki/en/>) → 'model No.' → Instruction Manual.



Compact Mechanical Pressure Switch

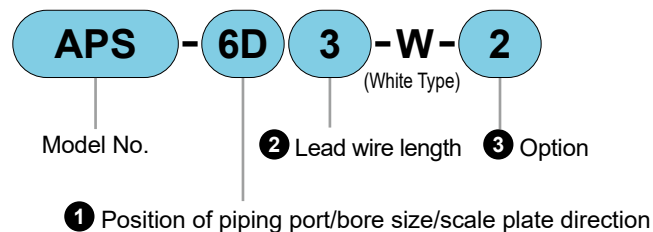
APS-W Series

- Standalone specification compatible with various general-purpose mountings (APS)

Circuit Diagram
Symbol



Model No. Notation



1 Position of piping port/
bore size/scale plate direction

Code	Content
6B	Rear Rc1/8, Vertical
6D	Bottom Rc1/8, Vertical
6F	Rear Flange, Vertical
6L	Both Sides Rc1/8, Vertical
6Y	Rear Flange, Horizontal

*1 : When installing on the bottom, be careful not to block the atmospheric release port.

② Lead wire length

Code	Content
Blank	1 m
3	3 m
5	5 m

3 Option

Code	Content
Blank	None
1	DIN Rail Mounting Bracket Assembled (6D Only)
2	Nipple Attached (6D Only)
4	Fitting for atmospheric pressure inlet port (elbow for M3) attached

Specifications

Item	APS-W
Operating Fluid	Compressed Air
Maximum operating pressure MPa	1.0
Set Pressure MPa	0.1 to 0.6
Hysteresis MPa	0.08 or less
Repeatability MPa	±0.02 or less
Contact Configuration	1a *1
Wiring	Lead wire (oil resistant vinyl cabtyre cable 2-conductor 0.2 mm ²)
Ambient and Fluid Temperature	5 to 60 °C
Degree of protection *2	Equivalent to IP65
Weight g	69

*1 : The contact turns ON when air pressure exceeding the scale setting pressure is applied.

*2: However, mounting direction is to be vertical. When water enters into the atmospheric release port from bottom, connect an optional fitting, and extend the tube until water does not enter. Cannot be used outdoors.

Electrical Specifications

Load Voltage	12/24 VDC	100 VAC
Load Current	5 to 50 mA	7 to 20 mA
Internal Voltage Drop	3 V or less	
Lamp	Light Emitting Diode (Lights up when ON)	
Max. Shock	294 m/S ²	
Insulation Resistance	20 MΩ or more at 500 VDC Megger	
Withstand Voltage	No abnormality when applying 1000 VAC for 1 minute	

Option Weight Table

* Add to the Weight of the standard equipment.

Unit : g

	Lead Wire Length		Option		
Code	3	5	1	2	4
APS	30	60	6	7	1.5

Rechargeable Batteries Compatible Specification

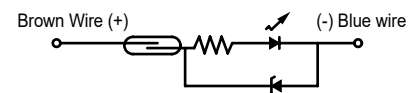
(Catalog No. CC-1226AA)

- Structure usable in rechargeable battery manufacturing process

APS - - P4 ☐

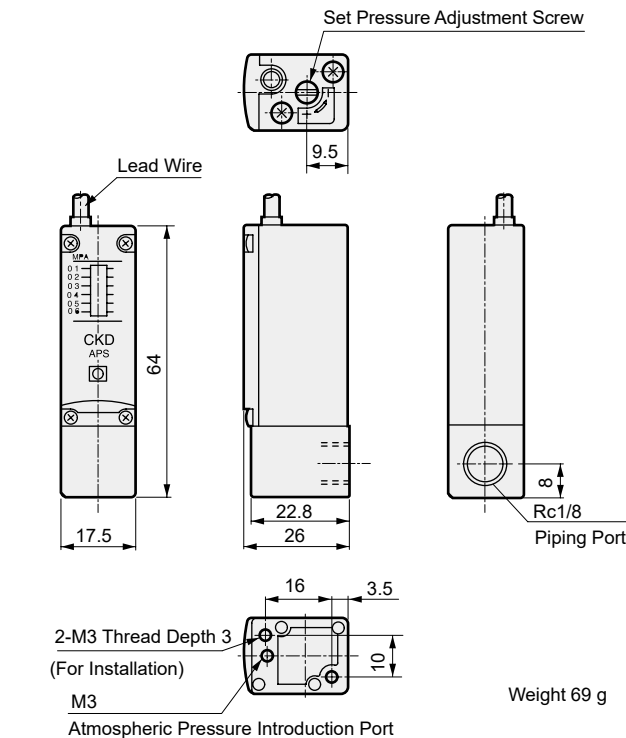
* Please contact us for details.

Internal Circuit Diagram



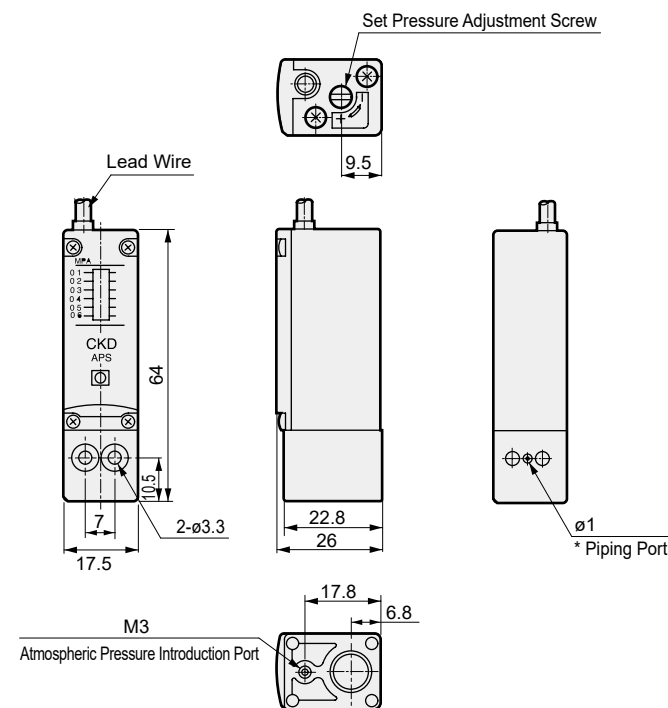
Dimensions

●APS-6B-W



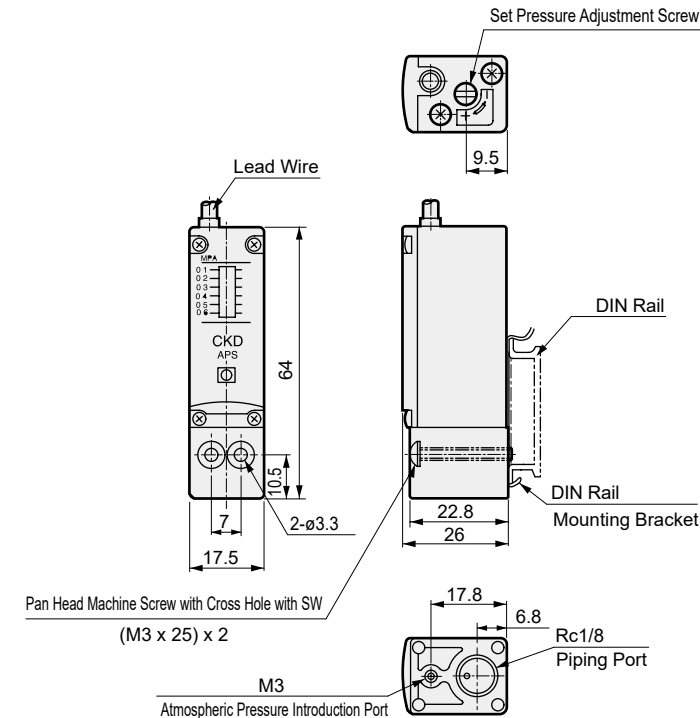
Note) When installing on the bottom, be careful not to block the atmospheric pressure introduction port.

●APS-6F-W

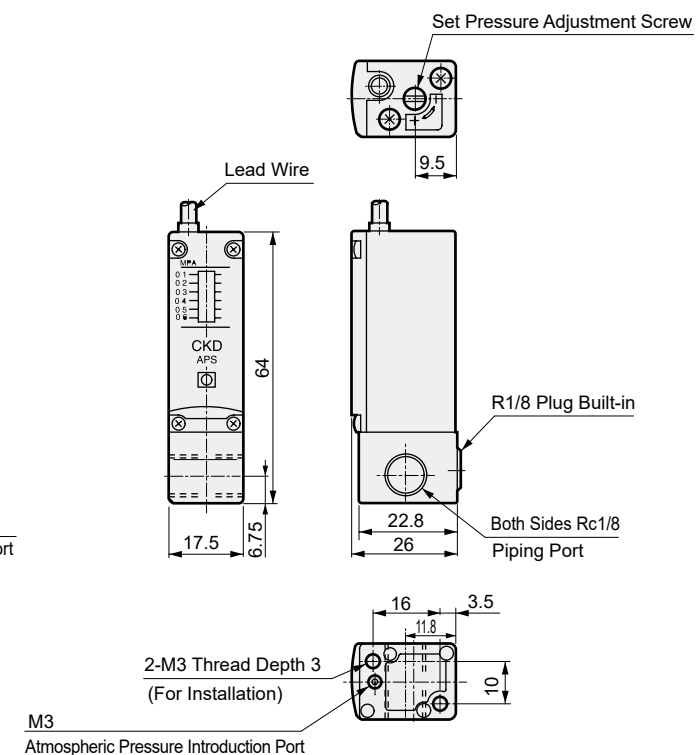


Note) The O-ring size for sealing is bore size $\varnothing 1.2$. Machine the pressure outlet hole on the installation surface to $\varnothing 1$ or less in diameter.

●APS-6D-W



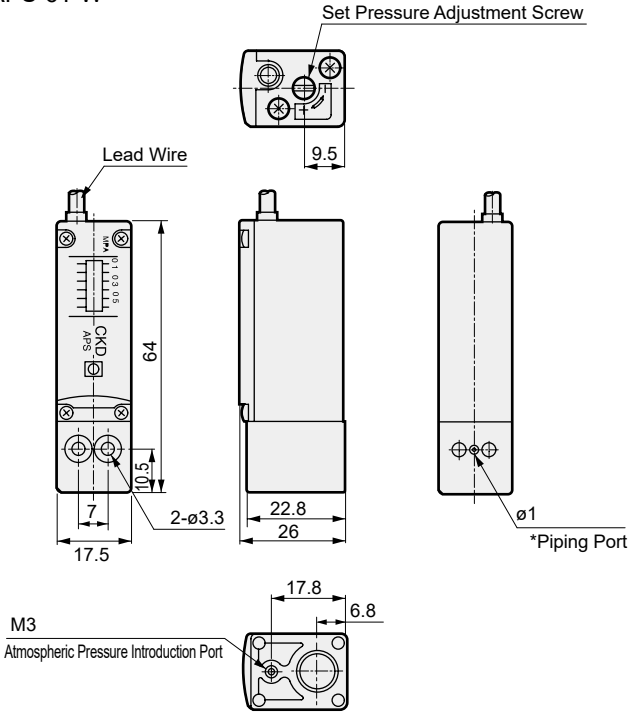
●APS-6L-W



Note) When installing on the bottom, be careful not to block the atmospheric pressure introduction port.

Dimensions

●APS-6Y-W



Note) The O-ring size for sealing is bore size $\phi 1.2$. Machine the pressure outlet hole on the installation surface to $\phi 1$ or less in diameter.



Pneumatic components (Mechanical Pressure Switches)

To Use This Product Safely

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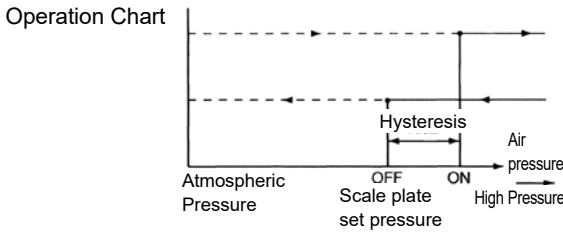
Individual Precautions : Mechanical Pressure Switch APS Series

At Design / Selection

CAUTION

■ Setting pressure

- Pressure displayed on the scale plate is used as a guideline. When setting the pressure, please set it while checking with a separate pressure gauge.
- Pressure displayed on the scale plate is the value when the contact is OFF. To set the value when the contact is ON, set the pressure displayed on the scale plate to a value smaller than that from which hysteresis has been subtracted. (refer to the chart below) If not set, operation may not take place at the set value. (Hysteresis refers to the pressure range from when the switch operates once at the set pressure until the pressure drops and the switch turns off.)



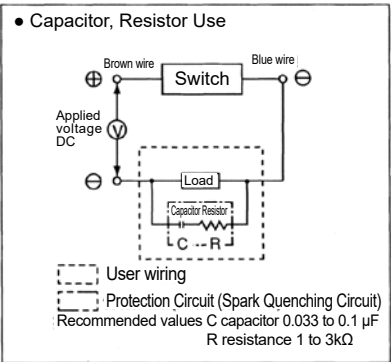
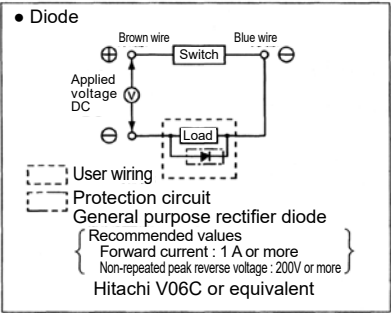
- Turning the adjusting screw in the L (low pressure) direction further from the 0.1 MPa setting will cause the stopper to move and the adjusting screw will not turn. Note that if torque is forcibly applied in the L (low pressure) direction, the adjusting screw may lock and become inoperable.

■ Wiring

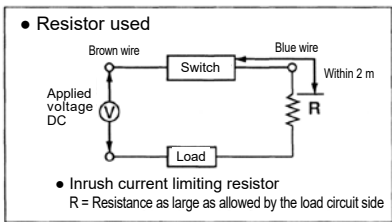
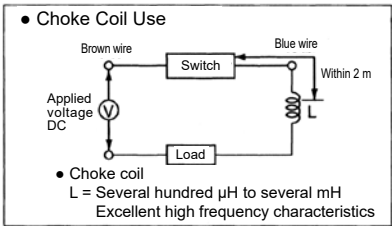
- Connecting the lead wire
 - ① **Do not connect the lead directly to the power supply. Connect the load serially. Failure to do so may result in burning out the lamp or melting the contact.**
 - ② When used for DC, connect the $\oplus$ brown wire on the side and the $\oplus$ blue wire on the side. If connected in reverse, the lamp will not light up.
 - ③ When connected to the AC relay or PC input, the switch lamp may not come on if the circuit is half-wave rectified. In that case, reversing the polarity of the switch lead wire connection will light up the lamp.
- Contact capacity
 - Do not use outside the specified range of load voltage and load current. It may cause failure such as lamp burnout or contact welding. Also, if it falls below the rated current value, the lamp may not light up.

● Contact protection

- ① When using this sensor with an inductive load such as a relay, provide the contact protection circuit shown below. If a protection circuit is not installed, it may cause contact welding.



- ② If DC wiring exceeds 50 m or AC wiring exceeds 10 m, the wiring capacity will be reached, and a rush current will occur, damaging the switch or shortening the service life. If the wiring length exceeds the limit, install a contact protection circuit.



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