# KP1 SERIES

## Features

- 1 output (hysteresis adjustable)
  2 outputs
- Easy installation
- Fast response : 5ms

## ■ SPECIFICATIONS

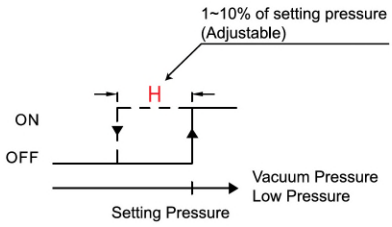
| TYPE | Vacuum | Low | Positive |
|---|---|---|---|
| MODEL | KP1-1 | KP1-2 | KP1-3 |
| 1 MPa<br>100 kPa<br>0<br>-101 kPa | | | |
| Setting pressure range | -101 ~ 0 kPa | 0 ~ 100 kPa | 0 ~ 1 MPa |
| Withstand pressure | 300 kPa | | 1.5 MPa |
| Fluid | Filtered air, Non-corrosive/Non-flammable gas | | |

## ■ FEATURES HIGHLIGHT

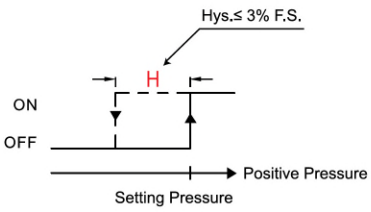
### 1 Hysteresis adjustable

Output hysteresis (H) is user adjustable

KP1-□-01, 02

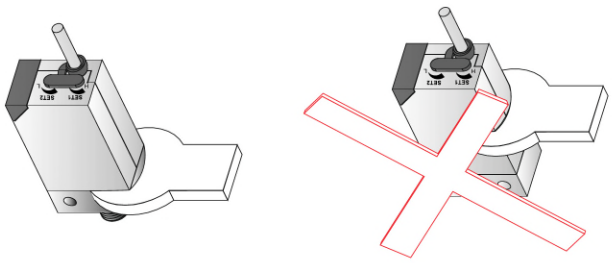



KP1-□-03

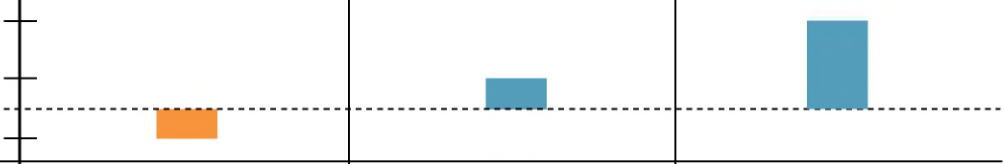



## ■ INSTALLATION PRECAUTIONS

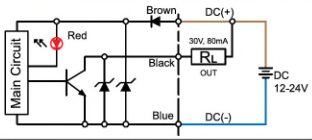
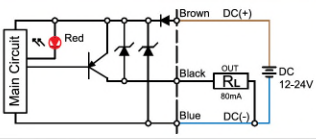
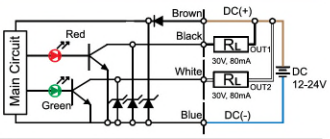
- When mounting, always use the wrench on the metallic area near the pressure port. Never apply a wrench to the plastic body, it will damage the sensor.
- Over tightening may cause damages to the port thread, mounting bracket and pressure sensor. Under tightening may result loosen or leakage.
- Apply pressure and power after installation and make necessary adjustments and inspect any possible signs of leakage to ensure proper installation.



## ■ SPECIFICATIONS

| MODEL | | KP1-1 (Vacuum) | KP1-2 (Low) | KP1-3 (Positive) |
|---|---|---|---|---|
| 1 MPa<br>100 kPa<br>0<br>-101 kPa | |  | | |
| Setting pressure range | | -101 ~ 0 kPa | 0 ~ 100 kPa | 0 ~ 1 MPa |
| Withstand pressure | | 300 kPa | | 1.5 MPa |
| Fluid | | Filtered air, Non-corrosive/Non-flammable gas | | |
| Power supply voltage | | 12 to 24V DC ±10%, Ripple (P-P) 10% or less | | |
| Response time | | 5ms or less | | |
| Repeatability | | ±1% F.S. | | |
| Current consumption | | 1 NPN or 1 PNP output : 21mA max.; 2 NPN output : 35mA max. | | |
| Environment | Enclosure | IP40 | | |
| | Ambient temp. range | Operation : 0 ~ 50°C, storage : -20 ~ 60°C (No condensation or freezing) | | |
| | Ambient humidity range | Operation/Storage : 35 ~ 85% RH (No condensation) | | |
| | Withstand voltage | 1000V AC in 1-min (between case and lead wire) | | |
| | Insulation resistance | 50MΩ (at 500V DC, between case and lead wire) | | |
| | Vibration | Total amplitude 1.5mm or 10G, 10Hz-55Hz-10Hz scan for 1 minute, two hours each direction of X, Y and Z | | |
| | Shock | 980m/s² (100G), 3 times each in direction of X, Y and Z | | |
| Temperature characteristic | | ±3% F.S. of detected pressure (25°C) at temp. Range of 0~50°C | | |
| Port size | | PT:1/8"PT(R1/8"), M5; NPT:NPT1/8", M5; G:G1/8"(BSPP), M5 | | |
| Lead wire | | Oil-resistance cable (0.18 mm²) | | |
| Weight | | Approx. 50g (with 1 meter lead wire) | | |

## ■ CIRCUIT WIRING DIAGRAMS

| MODEL | KP1-□- 01 | KP1-□- 02 | KP1-□- 03 |
|---|---|---|---|
| CONNECT DIAGRAM |  |  |  |
| CHARACTERISTICS | | | |
| Output method | NPN open collector 30V 80mA | PNP open collector 80mA | NPN open collector 30V 80mA |
| Hysteresis | 1~10% of setting pressure (Adjustable) | | 3% F.S.or less (Fixed) |
| Setting points | 1 Point | | 2 Points |
| Operation indicating Lamp | Red LED turns on | | Out1 = Red, Out2 = Green |

# KP1 SERIES

## ■ ORDERING INFORMATION

**K P 1 - 1 - 0 1 - 0 1 - N P T**

***Pressure Range***

**1 : Vacuum (-101 ~ 0 kPa)**
**2 : Low (0 ~ 100 kPa)**
**3 : Positive ( 0 ~1 MPa)**

***Output Specification***

**01 : NPN output**
**02 : PNP output**
**03 : 2 NPN output**

***Cable Length / Connector***

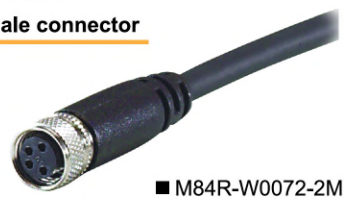
**01 : With 1 meter cable**
**03 : With 3 meter cable**
**C : With M8 4Pin male connector**

***Pressure Port***

**PT : 1/8"PT(R1/8"), M5**
**NPT : NPT1/8", M5**
**G : G1/8"(BSPP), M5**

***Optional Part***

**M8 4Pin female connector**



■ M84R-W0072-2M

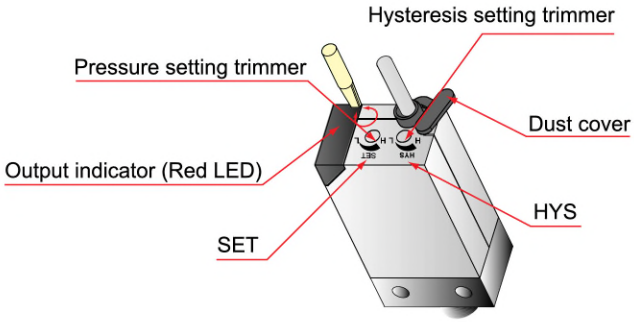
***Optional Part***

**M84R-W0072-2M : With M8 4Pin female connector**

## ■ HOW TO SET PRESSURE

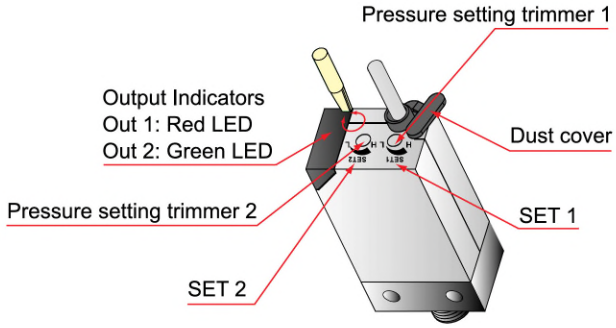
### KP1-□- 01,02

- Remove dust cover to make any adjustments. Replace dust cover when finished to prevent foreign object from entering.
- Pressure setting trimmer (SET) is for setting the output (ON) pressure. Rotate SET trimmer counter-clockwise to increase (Pressure or Vacuum) the ON point. Rotate clockwise will decrease the setting pressure.
- Hysteresis setting trimmer (HYS) is for changing the hysteresis. Rotate trimmer counter-clockwise to increase the range 1~10%.
- Use appropriate size screwdriver for the setting trimmers. Gently turn the screwdriver to make adjustments. Do not force the trimmer when it comes to a stop to prevent damage to the setting trimmer.



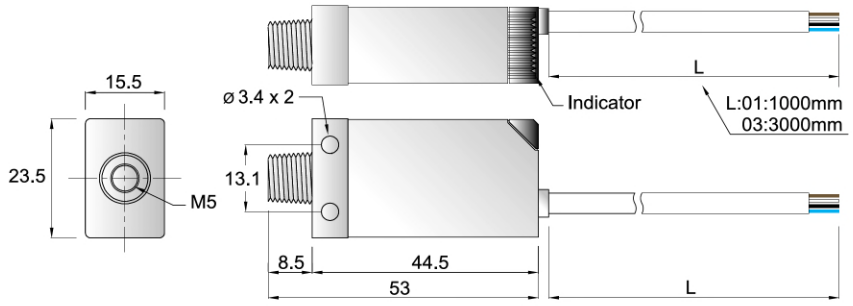

### KP1-□- 03

- Remove dust cover to make any adjustments. Replace dust cover when finished to prevent foreign object from entering.
- Pressure setting trimmer (SET 1, SET 2) is for setting the output (ON) pressure. Rotate SET trimmer counter-clockwise to increase (Pressure or Vacuum) the ON point. Rotate clockwise will decrease the setting pressure.
- Hysteresis for models with two outputs is 3% fixed.

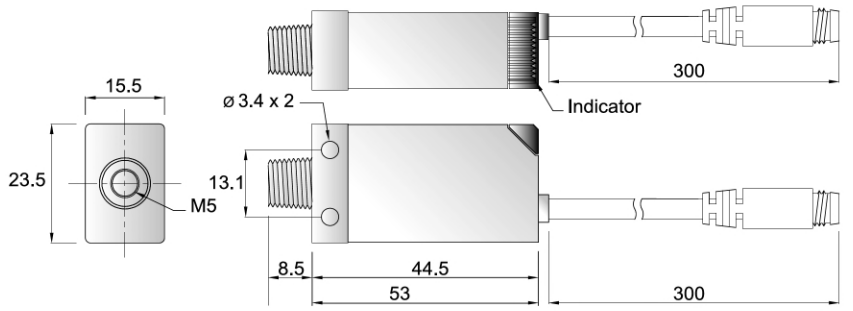


## ■ DIMENSIONS

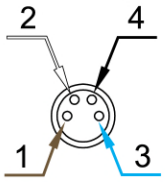
**KP1 - □ - □ - □**




**KP1 - □ - C - □**



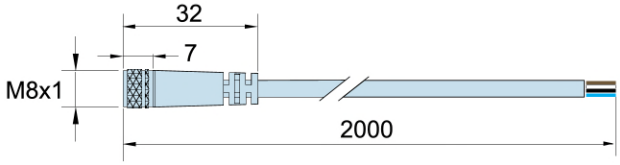

**QD PINOUT**




(1) Brown (+)
(2) White (OUT2)
(3) Blue (-)
(4) Black (OUT1)

## ■ OPTIONAL PART DIMENSIONS

**M8 Female Connector** **model : M84R-W0072-2M**



Unit:mm