KITA®

Professional in development and manufacture | SINCE 1988

PRESSURE SENSOR | MAGNETIC SENSOR | CONNECTOR

www.kita.com.tw

KITA

SINCE 1988

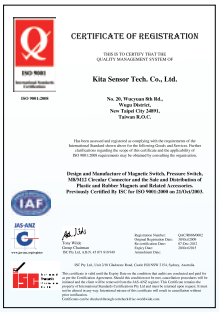
Philosophy of Management

COMPANY HISTORY

KITA SENSOR TECH. CO., LTD. established since Oct. 1988, located in New Taipei Ind. Park, New Taipei City, Taiwan. Aiming at the production of Hydraulic & Pneumatic cylinder magnetic sensor and its peripherals.

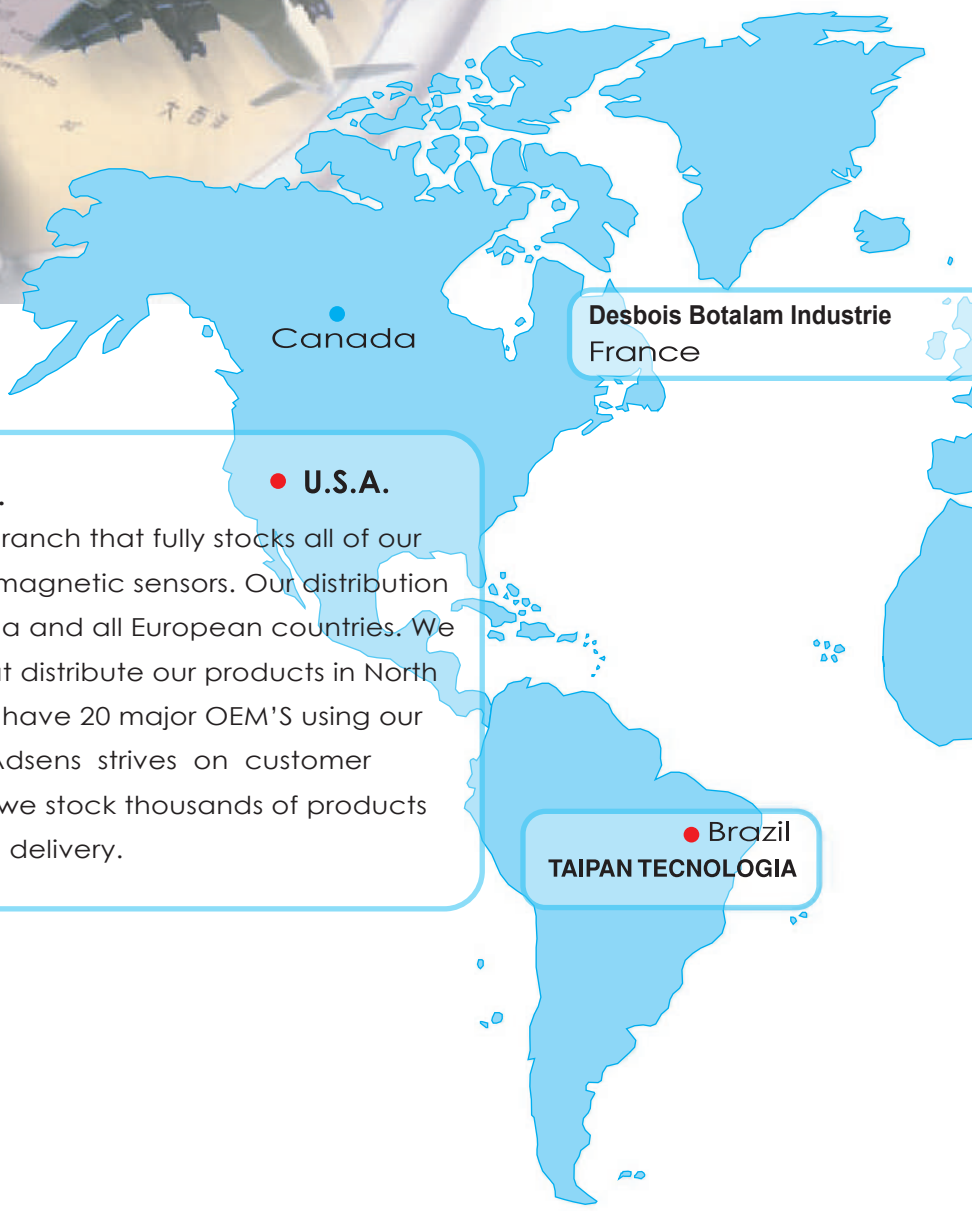
With the efforts in R&D for more than decades in the field of automation, our above-mentioned products have been not only widely accepted by the Taiwan users but also exported to the overseas market since 1996. More over, KITA SENSOR earned ISO 9001 international quality assessment certificate in April 1998 for the quality assurance. QUALITY GUARANTEED.

As of December 2000, our products have been distributed accompanied with CE inspection approval to the developed countries : U.S., Europe, Japan, etc. KITA SENSOR persist in satisfying the customer's needs and pursuing the superiority in product's quality through innovation.



● TAIWAN FACTORY

● CHINA FACTORY

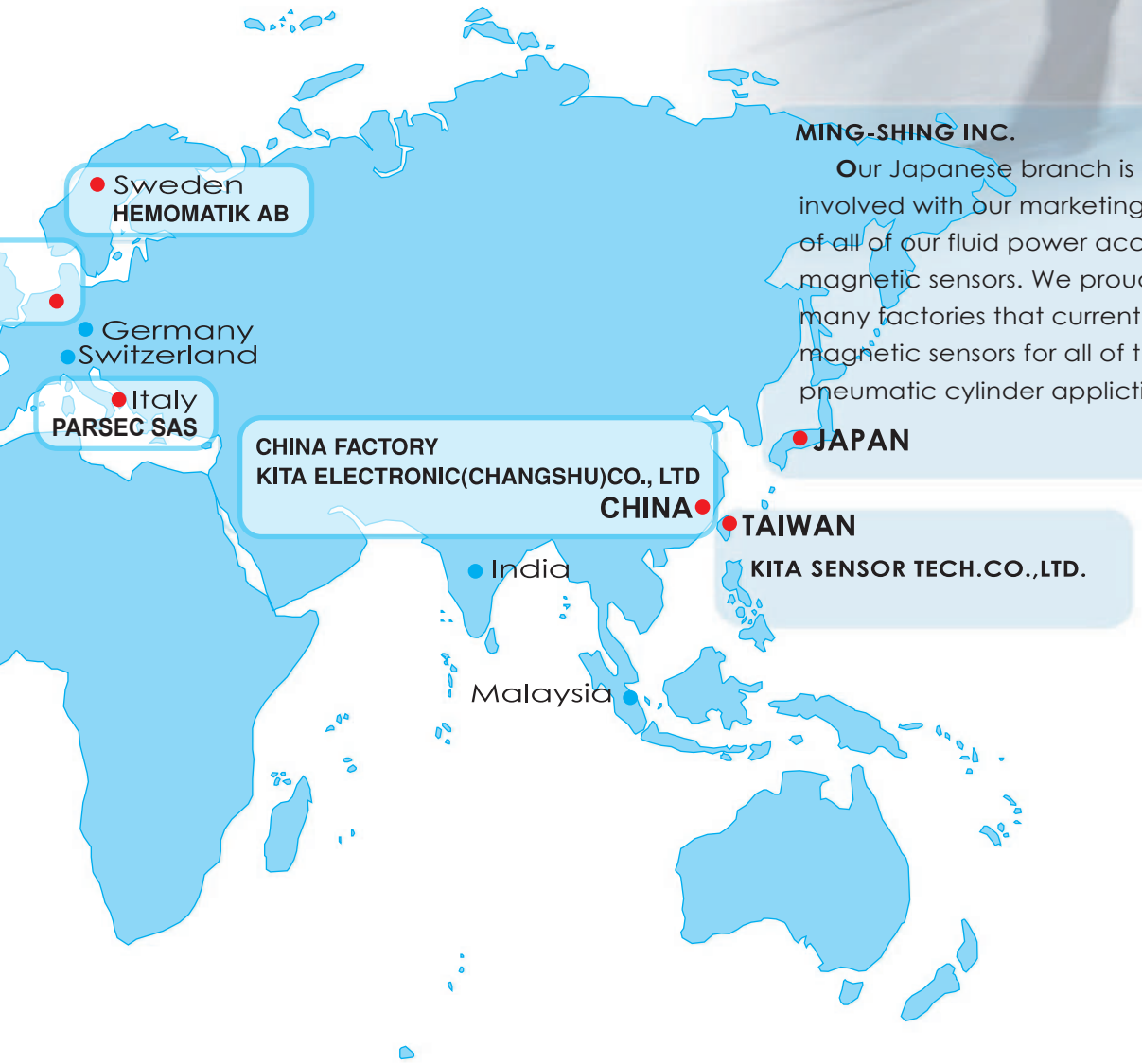


ADSENS TECHNOLOGY,INC.

Serving as our American branch that fully stocks all of our fluid power accessories and magnetic sensors. Our distribution channels cover North America and all European countries. We have over 300 distributors that distribute our products in North America alone. We currently have 20 major OEM'S using our sensors on their cylinders. Adsens strives on customer satisfaction, with this in mind we stock thousands of products that are ready for immediate delivery.

Introduction to Branch Companies

● OVERSEAS OFFICES
● OVERSEAS MARKETS



MING-SHING INC.

Our Japanese branch is strategically involved with our marketing developmant of all of our fluid power accessories and magnetic sensors. We proudly serice many factories that currently utilize our magnetic sensors for all of their pneumatic cylinder appliction.

JAPAN

TAIWAN

KITA SENSOR TECH.CO.,LTD.

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Pressure Sensor

Circular Connector

Magnetic Sensor

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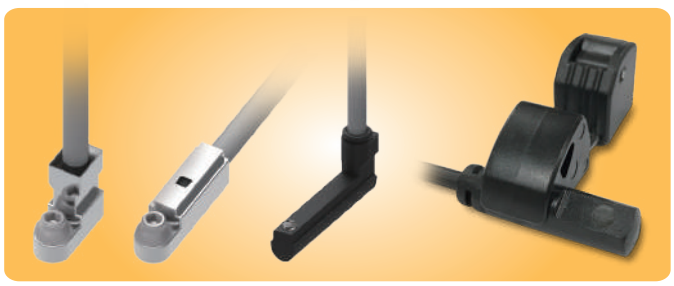

Pressure Sensor

KP10 series

P.10

KP101/102 series

P.18

KP1 series

P.22

KP30 series

P.26

KP43 series

P.30

KP45 series

P.34

KP50 series

P.42

KP60 series

P.46

KP61 series

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KP70 series

NEW

P.50

KP90 series

NEW

P.54

KP400 series

P.58

KP610 series

NEW

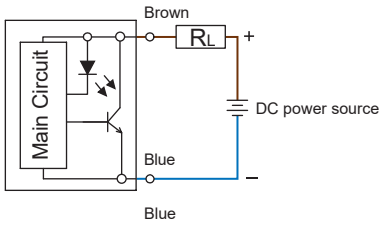
P.62

CAUTION

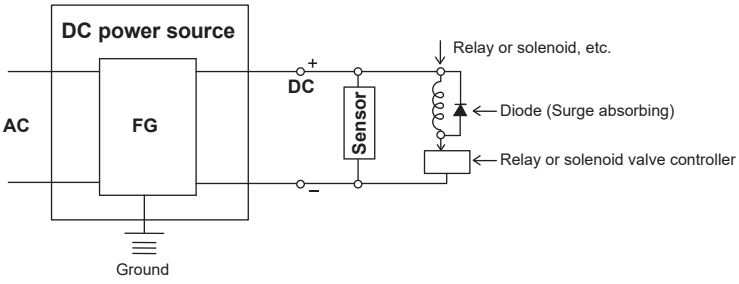
RoHS

1. When using a 2-wire type pressure sensor (KP101/102), please make sure it is connected to a proper resistance load. Otherwise excessive current will damage the sensor permanently.

2. When using a 2-wire type pressure sensor (KP101/102), only connect it to a DC power source, and aware of proper connection.
   Always connect the brown wire to the positive (+), blue wire to the negative (-).
   Permanent damages to the pressure sensor will occur if the connections are reversed.

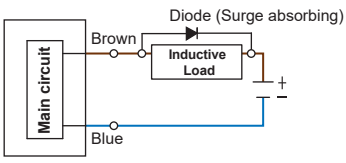


3. To improve stability of the pressure sensor and the whole circuit in general, it is recommended to properly ground the DC power source.
   If the same power source for the pressure sensor is used with other inductive loads (such as relay or solenoid), attach a circuit protection diode or surge suppressor to prevent damages to the pressure sensor.

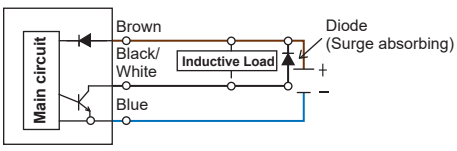


4. When using with inductive load (such as relay or solenoid), please install a protection circuit parallel to the load to prolong the service life of pressure sensor.
   If using with DC inductive load, install a diode across the load to remove surge, but polarity must be observed or damages to pressure sensor may occur.

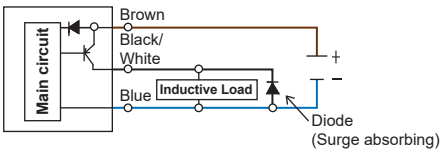
2 wire switch type



NPN type



PNP type



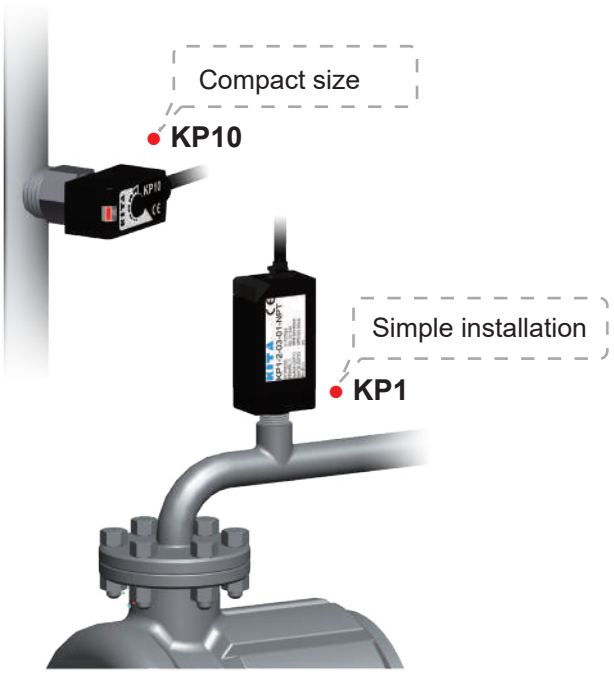
5. Before installation or removal, please make sure the power is OFF, line pressure has been released, to avoid personnel injuries and damages to the pressure switch or other losses.

6. Please properly ground all noise inducing equipment (such as induction motor), avoid noise affect the pressure sensor normal operation.

7. Do not use corrosive gases or liquids as pressure media.

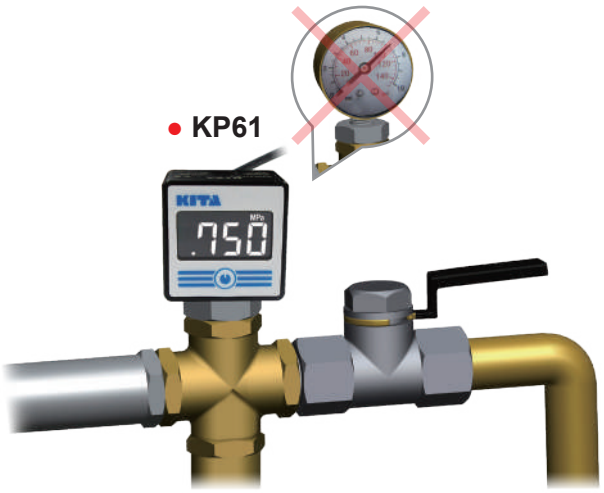
Application

1 Detection of line pressure



2 Pressure display of line pressure

- Digital display, easy readout
- Replace traditional pressure gauge



3 Pressure display and control of pneumatic equipment

- LED display
- 2 outputs and 1 analog output (1~5V or 4~20mA)

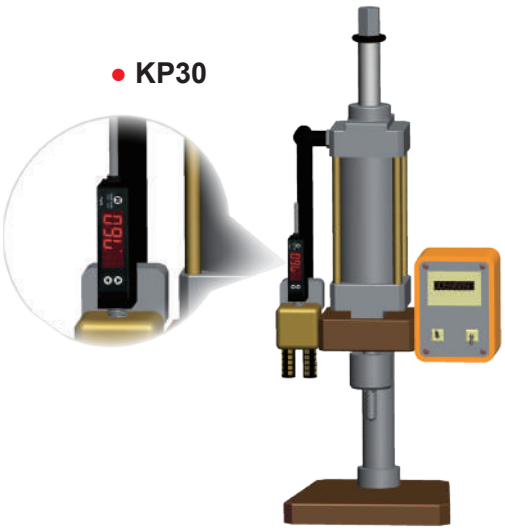
4 Pressure display and control of pressure in reservoir tank

- Programmable pressure unit: 6 types
- IP65 enclosure

5 Pressure display and control of press machine

- Upright pressure sensor save installation space
- 2 outputs and 1 analog output (1~5V)

● KP30



6 Leakage test

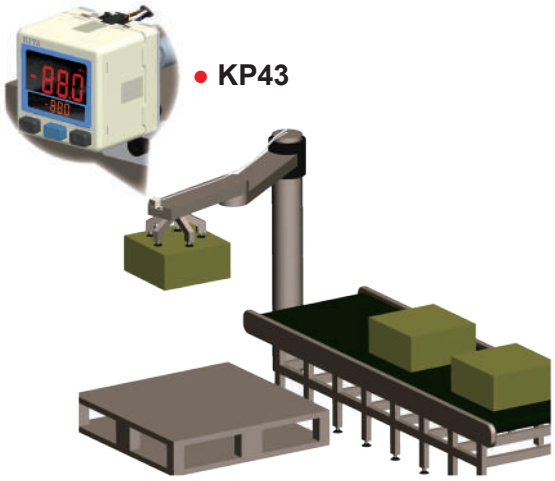
- 3-color digital display, easy readout

● KP43

7 Operation of suction pads, transport

- 3-color digital LCD display
- 7 response time for selection
- 2 outputs and 1 analog output (1~5V or 4~20mA)

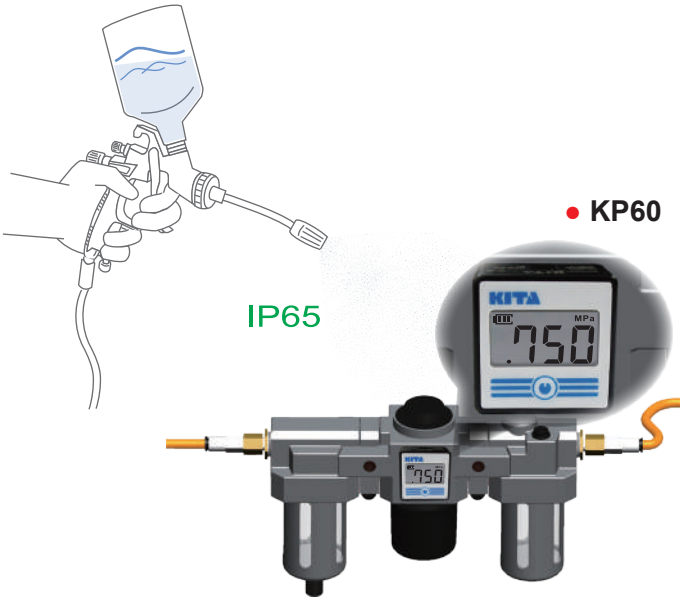
● KP43



8 Pressure display of F.R.L. unit

- Battery type without extra power supply
- 6 pressure units for selection
- IP65 enclosure

● KP60



KP10 SERIES

Features

- Simple installation, plug-in port or thread-in fitting
- Compact size : 26x10x10.4mm
- Setting pressure range :

Switch : Vacuum (0 ~ -101.3 kPa)
Positive (0 ~ 0.6 MPa)
Analog : Compound (-100 ~ 100 kPa)
Compound (-101 ~ 500 kPa)
Low (0 ~ 100 kPa)
Vacuum (0 ~ -101.3 kPa)
Positive (0 ~ 1.0 MPa)

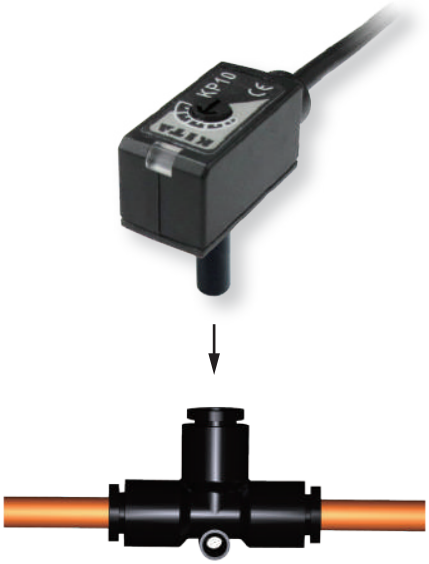
■ SPECIFICATIONS

TYPE	Switch		Analog				
MODEL	KP10V	KP10P	KP10C	KP10L	KP10V	KP10R	KP10P
	1.0 MPa 0 -101.3 kPa						
Setting pressure range	0 ~ -101.3 kPa	0 ~ 0.6 MPa	-100~ 100 kPa	0 ~ 100 kPa	0 ~ -101.3 kPa	-101 ~ 500 kPa	0 ~ 1.0 MPa
Withstand pressure	0.6 MPa	1.5 MPa	0.2 MPa			1.5 MPa	
Fluid	Filtered air, Non-corrosive/Non-flammable gas						

■ FEATURES HIGHLIGHT

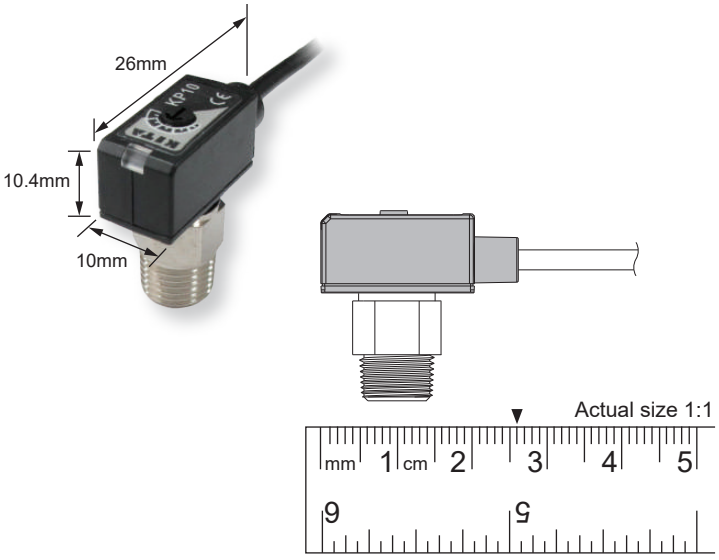
1 Simple installation

Plug-in port for push-to-connect fittings



2 Compact size

Extremely compact size 26(L)x10(W)x10.4(H)mm
to fit the most confined areas

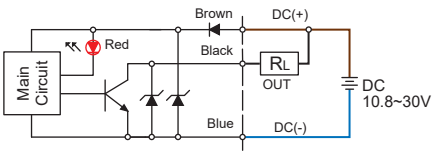


■ SPECIFICATIONS

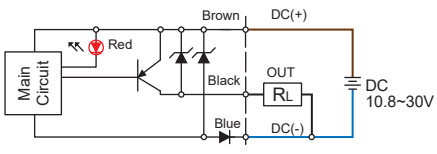
TYPE	KP10V-02/04	KP10P-02/04	KP10C-01	KP10L-01	KP10V-01	KP10R-01	KP10P-01
	1.0 MPa 0 -101.3 kPa						
Setting pressure range	0 ~ - 101.3 kPa	0 ~ 0.6 MPa	-100 ~ 100 kPa	0 ~ 100 kPa	0 ~ -101.3 kPa	-101~ 500 kPa	0 ~ 1.0 MPa
Withstand pressure	0.6 MPa	1.5 MPa	0.2 MPa			1.5 MPa	
Fluid	Filtered air, Non-corrosive/Non-flammable gas						
Power supply voltage	10.8 to 30V DC (include ripple voltage)		12 to 24V DC (5% ripple voltage)				
Load current	80mA max.		-				
Internal voltage drop	NPN ≤0.8V, PNP ≤0.8V		-				
Current consumption	10 mA max.						
Analog output	-		1~5 V ±1% F. S. / Linearity ±0.5% F. S.				
Sensor type	NPN or PNP		-				
Output short circuit protection	Yes		-				
Setting method	Adjusting by VR		-				
Response time	Approx.1ms		-				
Repeatability	±1% F.S.		-				
Hysteresis	3% F.S. max.		-				
Indicator	Red LED turns ON		-				
Enclosure	IP 40						
Temperature characteristic	±3% F.S. of detected pressure (25°C) at temp. Range of 0~50°C		±2% F.S. of detected pressure (25°C) at temp. Range of 0~50°C				
Ambient temp. range	Operation: 0 ~ 60°C (32 ~ 140°F), Storage: -20 ~ 70°C (-4 ~ 158°F) (No condensation or freezing)		Operation: 0 ~ 50°C (32 ~ 122°F), Storage: -20 ~ 70°C (-4 ~ 158°F) (No condensation or freezing)				
Ambient humidity range	Operation/Storage: 35 ~ 85% RH (No condensation)						
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						
Piping method	Push-in tube or thread-in						
Lead wire	Oil-resistance cable, 3 wires (0.18mm²), Ø 2.6mm						
Weight	Approx. 50g (with 3 meter lead wire)						

■ CIRCUIT WIRING DIAGRAMS

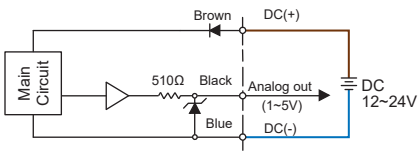
KP10☐ - 02 - ☐ - ☐
NPN Output



KP10☐ - 04 - ☐ - ☐
PNP Output

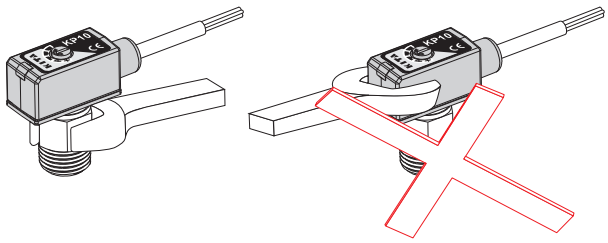


KP10☐ - 01 - ☐ - ☐
Analog Output (1~5V)



■ 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.



KP10 SERIES

■ ORDERING INFORMATION

K P 1 0 V - 0 1 - F 1 - ☐

Pressure Range

C：Compound (-100 ~ 100 kPa)
R：Compound (-101 ~ 500 kPa)
L：Low (0 ~ 100 kPa)
V：Vacuum (0 ~ -101.3 kPa)
P：Positive (0 ~ 1.0 MPa)

Output Specification

01 : Analog output(1~5V)

Optional Part

M8 3Pin female connector

■ M83R-W0114-2M

K P 1 0 V - 0 2 - F 1 - ☐

Pressure Range

V : Vacuum (0 ~ -101.3 kPa)
P : Positive (0 ~ 0.6 MPa)

Output Specification

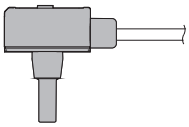
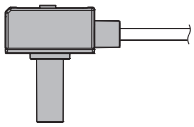
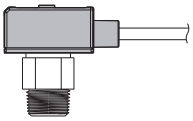
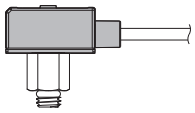
02 : NPN output
04 : PNP output

Cable Length / Connector

Blank : With 3 meter cable
C : With M8 3Pin male connector

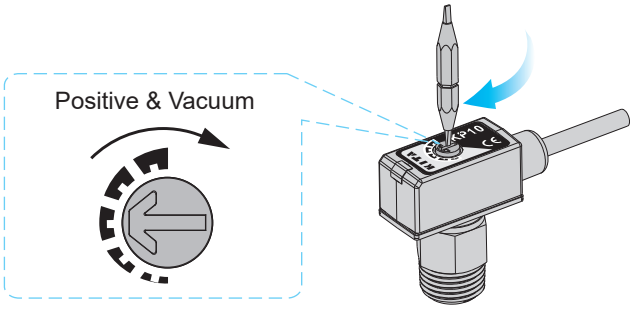
Optional Part

M83R-W0114-2M : With M8 3Pin female connector

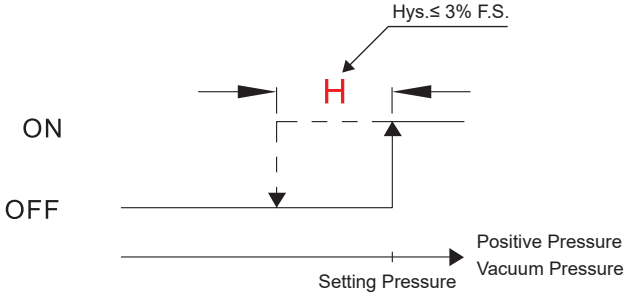
Pressure Port	R4	R6	F1 / F2 / F3	M5
Appearance				
Port size	R4：Ø 4mm	R6：Ø 6mm	F1：R1/8", M5 F2：NPT1/8", M5 F3：G1/8"(BSPP), M5	M5：M5*0.8

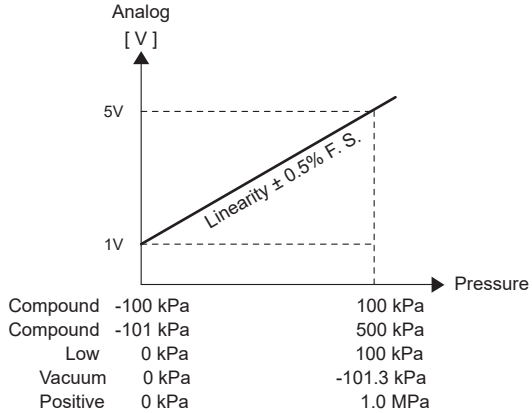
■ HOW TO SET PRESSURE

- Use the pressure setting trimmer to set "ON" pressure. Rotate clockwise to increase pressure setpoint . Rotate counter-clockwise to decrease pressure setpoint .
- Use appropriate size screwdriver for the setting trimmers. Gently turn the screwdriver to make adjustments. To prevent damage to the pressure setting trimmer, DO NOT force the trimmer when it comes to a stop.



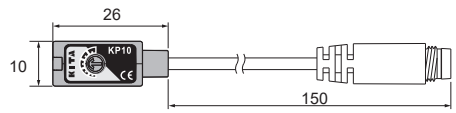
■ OUTPUT TYPE



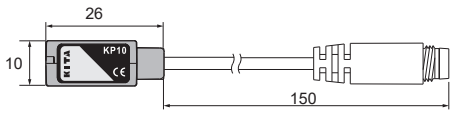


Compound	-100 kPa	100 kPa
Compound	-101 kPa	500 kPa
Low	0 kPa	100 kPa
Vacuum	0 kPa	-101.3 kPa
Positive	0 kPa	1.0 MPa

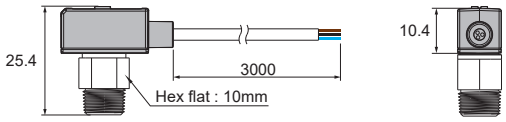
KP10☐ - 02, 04 - ☐ - C



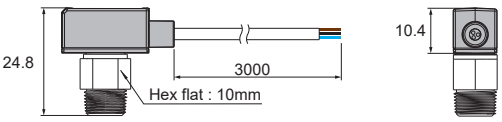
KP10☐ - 01 - ☐ - C



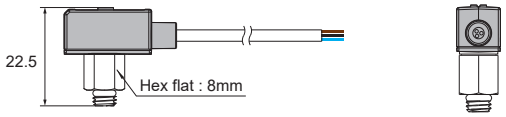
KP10☐ - 02, 04 - F1, F2, F3



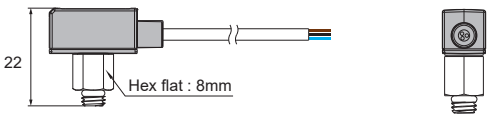
KP10☐ - 01 - F1, F2, F3



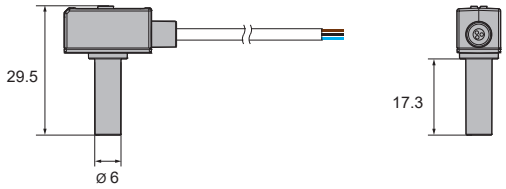
KP10☐ - 02, 04 - M5



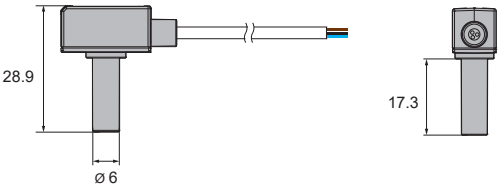
KP10☐ - 01 - M5



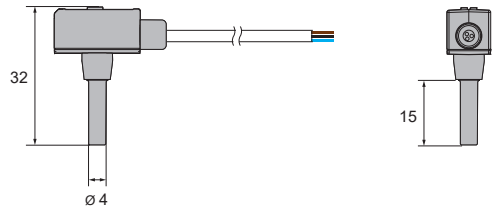
KP10☐ - 02, 04 - R6



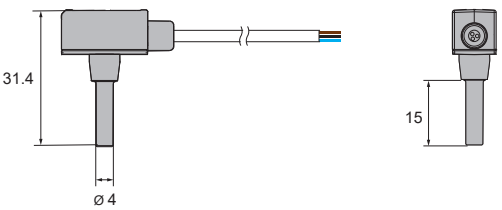
KP10☐ - 01 - R6



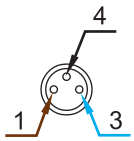
KP10☐ - 02, 04 - R4



KP10☐ - 01 - R4

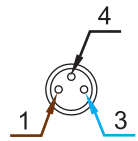


QD PINOUT



(1) Brown(+)
(3) Blue (-)
(4) Black (OUT)

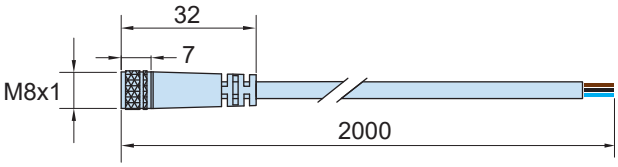
QD PINOUT



(1) Brown(+)
(3) Blue (-)
(4) Black (Analog out)

■ OPTIONAL PART DIMENSIONS

M8 Female Connector model : M83R-W0114-2M



Unit:mm

KP10S SERIES

Features

- Simple installation, plug-in port or thread-in fitting
- Compact size : 26x10x10.4mm
- Setting pressure range :

  Analog : Micro pressure S1 (0 ~ 10 kPa)

  Micro pressure S2 (0 ~ 5 kPa)

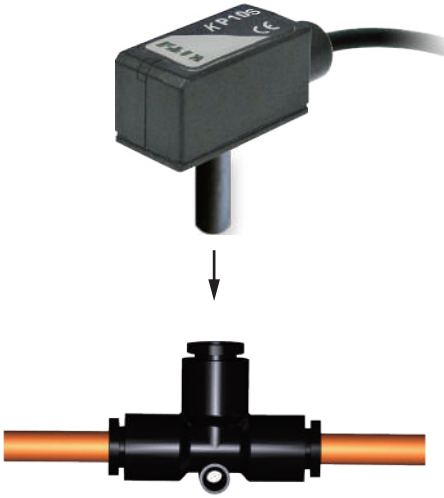
■ SPECIFICATIONS

TYPE	Analog	
MODEL	KP10S1	KP10S2
	10 kPa 5 kPa 0	
Setting pressure range	0 ~ 10 kPa	0 ~ 5 kPa
Withstand pressure	20 kPa	
Fluid	Filtered air, Non-corrosive/Non-flammable gas	

■ FEATURES HIGHLIGHT

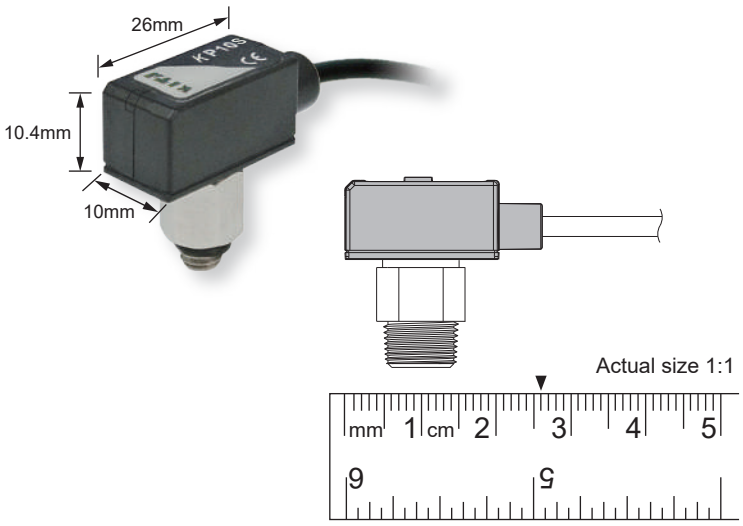
1 Simple installation

Plug-in port for push-to-connect fittings

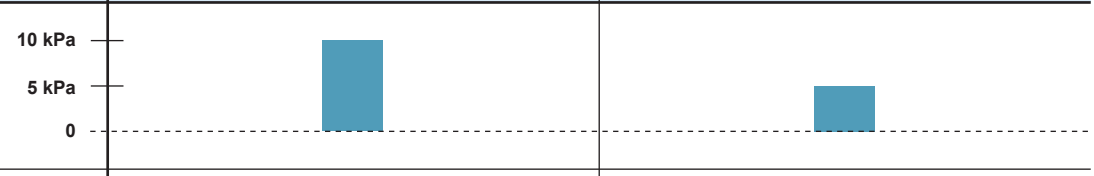


2 Compact size

Extremely compact size 26(L)x10(W)x10.4(H)mm
to fit the most confined areas

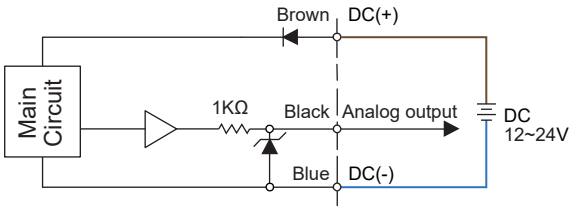


■ SPECIFICATIONS

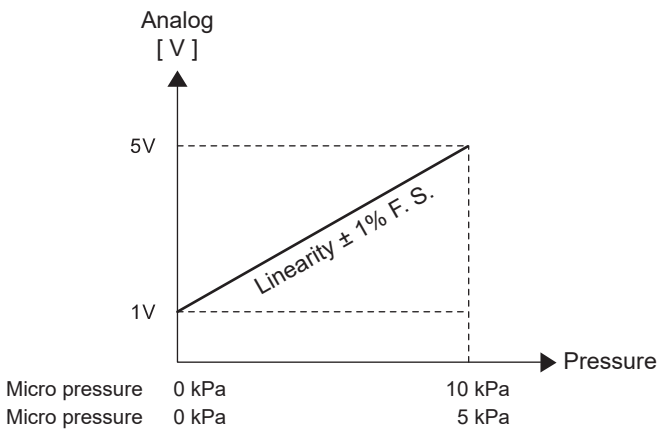
TYPE	KP10S1	KP10S2
		
Setting pressure range	0 ~ 10 kPa	0 ~ 5 kPa
Withstand pressure	20 kPa	
Fluid	Filtered air, Non-corrosive/Non-flammable gas	
Power supply voltage	12 to 24V DC (5% ripple voltage)	
Load current	15mA max	
Analog output	1~5 V ±1% F. S. / Linearity ±0.5% F. S.	1~5 V ±1.5% F. S. / Linearity ±1% F. S.
Enclosure	IP 40	
Temperature characteristic	±3% F.S. (Range of 0~50°C)	
Ambient temp. range	Operation: 0 ~ 50°C (32 ~ 122°F) Storage: -20 ~ 70°C (-4 ~ 158°F) (No condensation or freezing)	
Ambient humidity range	Operation/Storage: 35 ~ 85% RH (No condensation)	
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	
Piping method	Ø 4 mm; Ø 6 mm; R1/8", M5; NPT1/8", M5; G1/8"(BSPP), M5; M5*0.8	
Lead wire	Oil-resistance cable, 3 wires (0.18mm²), Ø 2.6mm	
Weight	Approx. 50g (with 3 meter lead wire)	

■ CIRCUIT WIRING DIAGRAMS

KP10☐ - 01 - ☐ - ☐
Analog Output (1~5V)



■ OUTPUT TYPE



KP10S SERIES

■ ORDERING INFORMATION

K P 1 0 S 1 - 0 1 - [ ] - [ ]

Pressure Range

S1 : Micro pressure (0 ~ 10 kPa)
S2 : Micro pressure (0 ~ 5 kPa)

Output Specification

01 : Analog output (1~5V)

Pressure Port

R4 : ø 4mm Tube
R6 : ø 6mm Tube
F1 : R1/8", M5
F2 : NPT1/8", M5
F3 : G1/8"(BSPP), M5
M5 : M5*0.8

Cable Length / Connector

Blank : With 3 meter cable
C : With M8 3Pin male connector

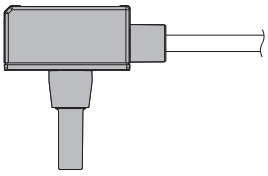
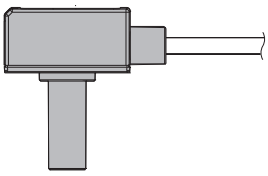
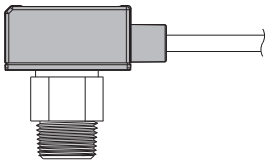
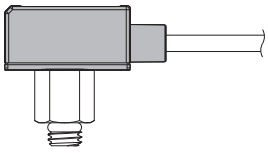
Optional Part

M8 3Pin female connector

■ M83R-W0114-2M

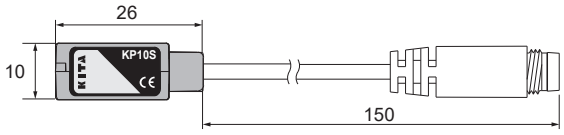
Optional Part

M83R-W0114-2M : With M8 3Pin female connector

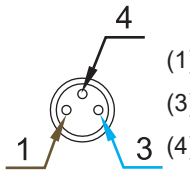
Pressure Port	R4	R6	F1 / F2 / F3	M5
Appearance				
Port size	R4 : Ø 4mm	R6 : Ø 6mm	F1 : R1/8", M5 F2 : NPT1/8", M5 F3 : G1/8"(BSPP), M5	M5 : M5*0.8

■ DIMENSIONS

KP10☐ - 01 - ☐ - C

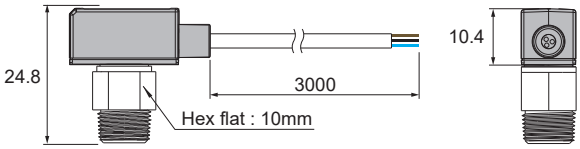


QD PINOUT

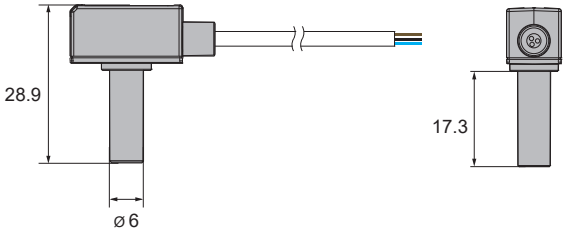


(1) Brown(+)
(3) Blue (-)
(4) Black (Analog out)

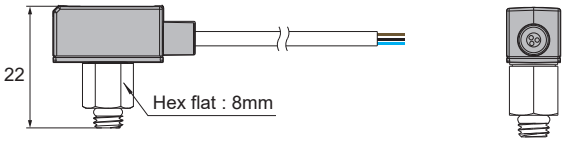
KP10☐ - 01 - F1, F2, F3



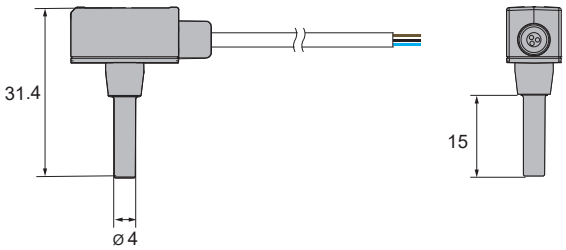
KP10☐ - 01 - R6



KP10☐ - 01 - M5

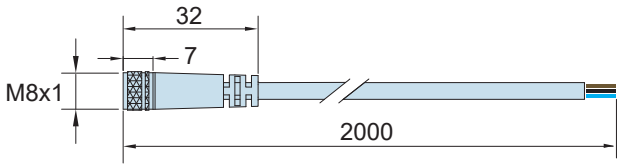


KP10☐ - 01 - R4



■ OPTIONAL PART DIMENSIONS

M8 Female Connector model : M83R-W0114-2M

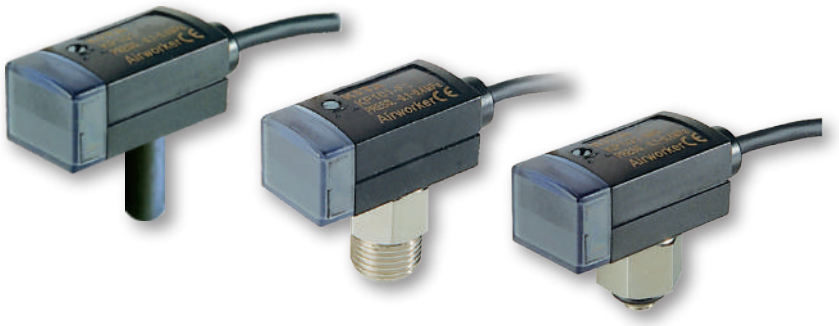


Unit:mm

KP101
KP102 SERIES

Features

- Simple installation, plug-in port or thread-in fitting
- Setting pressure range : -0.1 ~ 0.4 MPa
- Normally Open / Normally Close



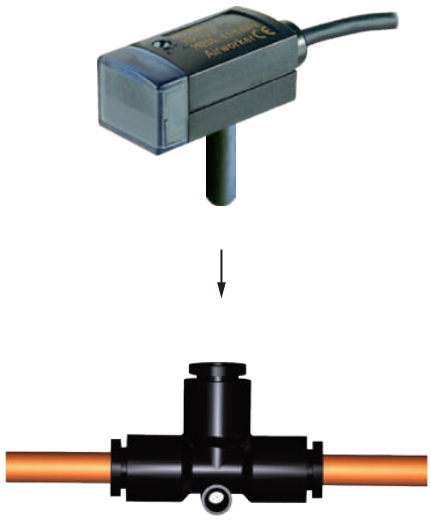
■ SPECIFICATIONS

MODEL	KP101	KP102
	0.4 MPa 0 -0.1 MPa	
Operating pressure range	-0.1 ~ 1.0 MPa	
Setting pressure range	-0.1 ~ 0.4 MPa	
Fluid	Filtered air, Non-corrosive/Non-flammable gas	

■ FEATURES HIGHLIGHT

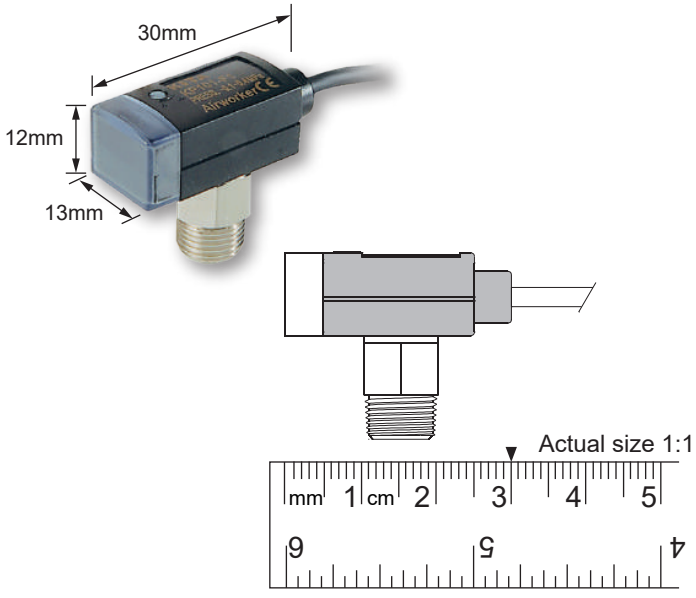
1 Simple installation

Plug-in port for push-to-connect fittings



2 Compact size

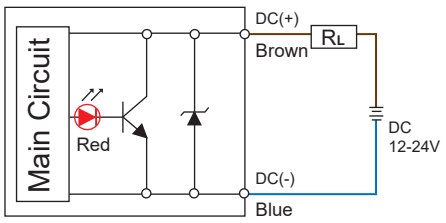
Extremely compact size 30(L)x13(W)x12(H)mm to fit the most confined areas



SPECIFICATIONS

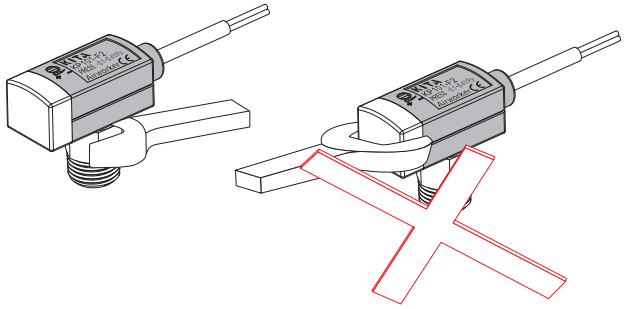
MODEL	KP101	KP102
	0.4 MPa 0 -0.1 MPa	
Operating pressure range	- 0.1 ~ 1.0 MPa	
Setting pressure range	- 0.1 ~ 0.4 MPa	
Fluid	Filtered air, Non-corrosive/Non-flammable gas	
Load voltage	12 to 24V DC ±10%, Ripple (P-P) 10% or less	
Load current	5 ~ 40mA	
Leak current	≤ 1mA	
Internal voltage drop	≤ 5V	
Switch output	Present Press . ≥ Set Press. : ON	Present Press . ≥ Set Press. : OFF
Repeatability	±1% F.S.	
Response time	Approx. 1ms	
Hysteresis	≤ 4% F.S.	
Indicator	Red LED turns ON	
Enclosure	IP 40	
Temperature characteristic	±3% F.S. of detected pressure (25 °C) at temp. Range of 0~50°C	
Ambient temp. range	Operation : 0 ~ 60 °C (No condensation or freezing)	
Piping method	Push-in or screw-in	
Lead wire	Oil-resistance cable, 2 wires (0.18mm²), Ø 2.6mm	
Weight	Approx. 38g (with 2 meter lead wire)	

CIRCUIT WIRING DIAGRAM



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.



KP101
KP102 SERIES

■ ORDERING INFORMATION

K P 1 0 1 - F 1 - ☐

Sensor Specification

101 : Switch turns ON when the pressure is larger than setting pressure.

102 : Switch turns OFF when the pressure is larger than setting pressure.

Cable Length / Connector

Blank : With 2 meter cable
C : With M8 3Pin male connector

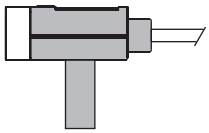
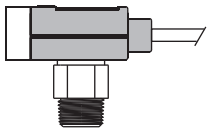
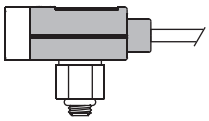
Optional Part

M83R-W0114-2M : With M8 3Pin female connector

Optional Part

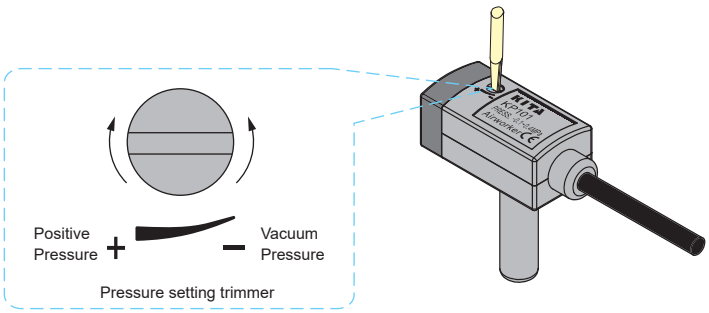
M8 3Pin female connector

■ M83R-W0114-2M

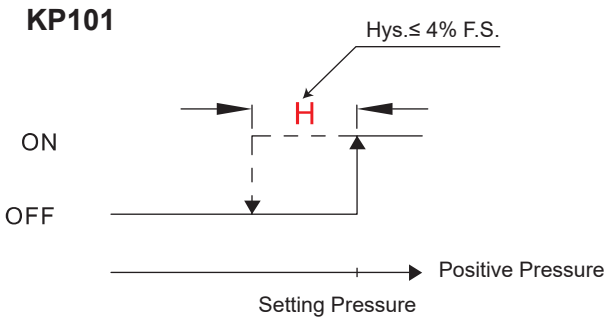
Pressure Port	R6	F1 / F2 / F3	M5
Appearance			
Port size	R6 : Ø 6mm	F1 : R1/8", M5 F2 : NPT1/8", M5 F3 : G1/8"(BSPP), M5	M5 : M5*0.8

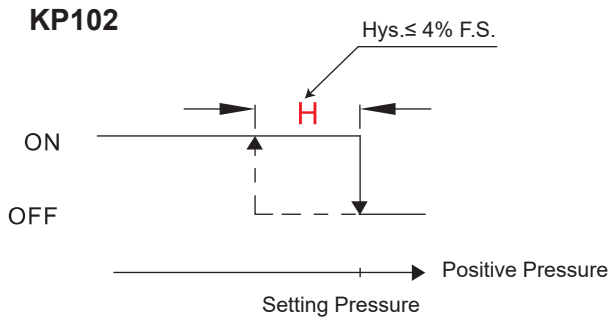
■ HOW TO SET PRESSURE

- Use the pressure setting trimmer to set "ON" pressure. Rotate clockwise to increase pressure setpoint (or to decrease vacuum setpoint). Rotate counter-clockwise to decrease pressure setpoint (or to increase vacuum setpoint).
- Use appropriate size screwdriver for the setting trimmers. Gently turn the screwdriver to make adjustments. To prevent damage to the pressure setting trimmer, DO NOT force the trimmer when it comes to a stop.



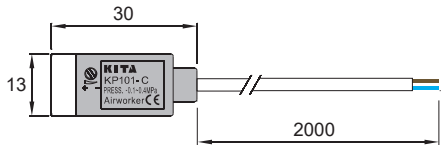
■ OUTPUT TYPE



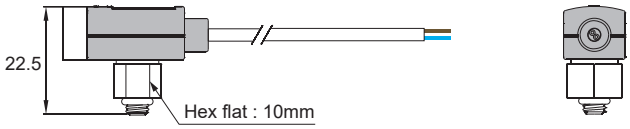


■ DIMENSIONS

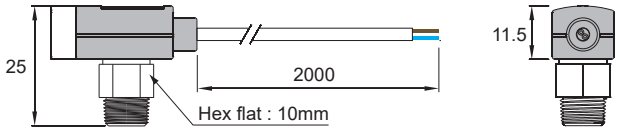
KP10☐ - ☐



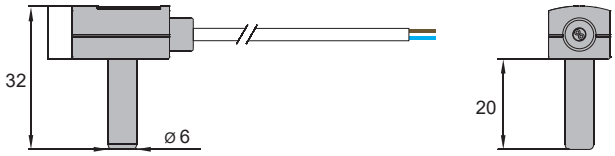
KP10☐ - M5



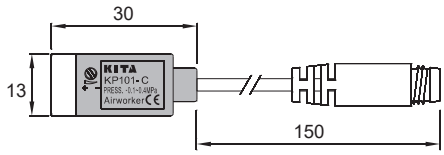
KP10☐ - F1, F2, F3



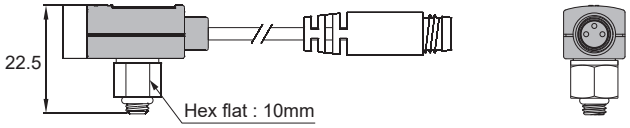
KP10☐ - R6



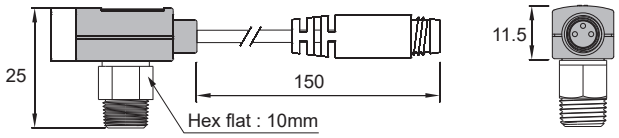
KP10☐ - ☐ - C



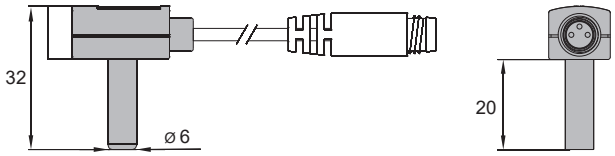
KP10☐ - M5 - C



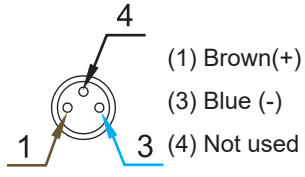
KP10☐ - F1, F2, F3 - C



KP10☐ - R6 - C



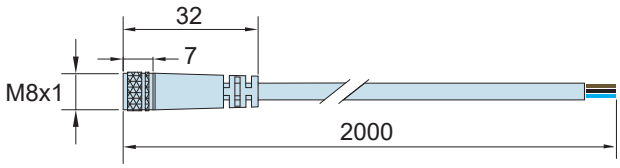
QD PINOUT



■ OPTIONAL PART DIMENSIONS

M8 Female Connector

model : M83R-W0114-2M



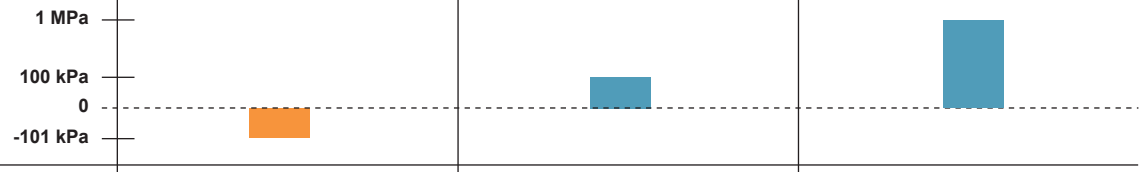
Unit:mm

KP1 SERIES

Features

- 2-color digital LCD display
- Copy function
- Programmable pressure unit :
  kPa、MPa、kgf/cm²、bar、psi、inHg
- IP65 enclosure
- 1 output (hysteresis adjustable)
  2 outputs
- Easy installation
- Fast response : 5ms

■ SPECIFICATIONS

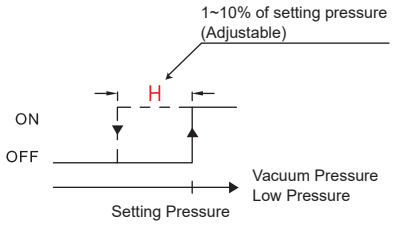
TYPE	Vacuum	Low	Positive
MODEL	KP1-1	KP1-2	KP1-3
			
Setting pressure range	0 ~ -101 kPa	0 ~ 100 kPa	0 ~ 1 MPa
Withstand pressure	300 kPa		1.5 MPa
Fluid	Filtered air, Non-corrosive/Non-flammable gas		

■ FEATURES HIGHLIGHT

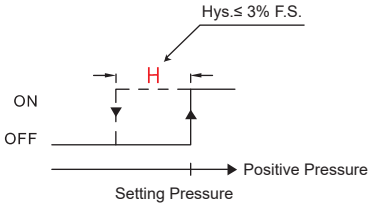
1 Hysteresis adjustable

Output hysteresis (H) is user adjustable

KP1-□-01, 02

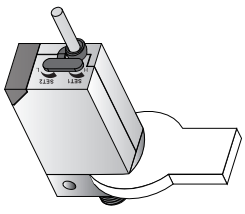


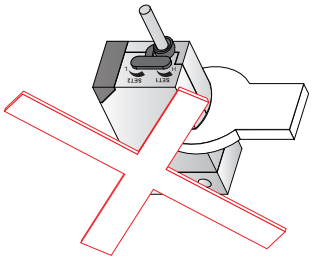
KP1-□-03



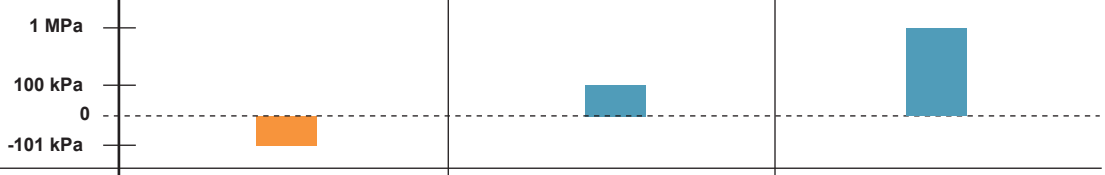
■ INSTALLATION PRECAUTIONS

- 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.

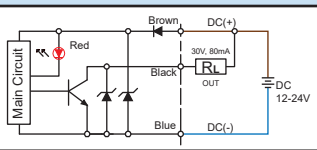
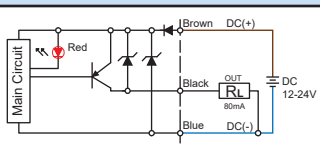
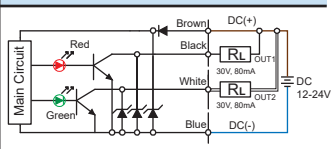




■ SPECIFICATIONS

MODEL		KP1-1 (Vacuum)	KP1-2 (Low)	KP1-3 (Positive)
				
Setting pressure range		0 ~ -101 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

■ 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

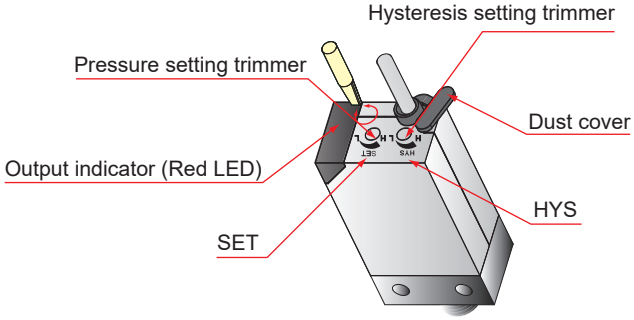
Cable Length / Connector
01 : With 1 meter cable
03 : With 3 meter cable
C : With M8 4Pin male connector

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

■ HOW TO SET PRESSURE

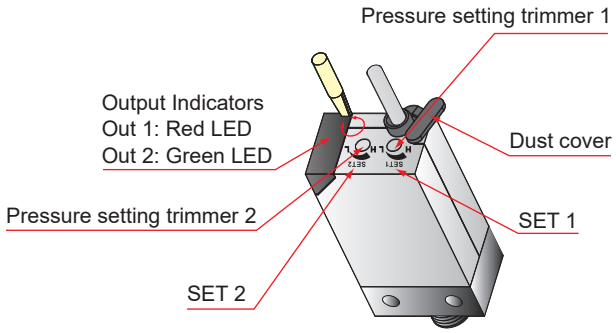
KP1-□- 01,02

- 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.



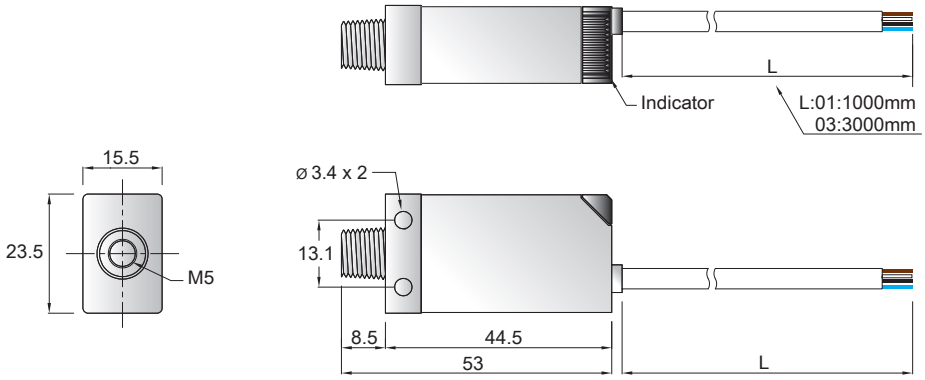
KP1-□- 03

- 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.

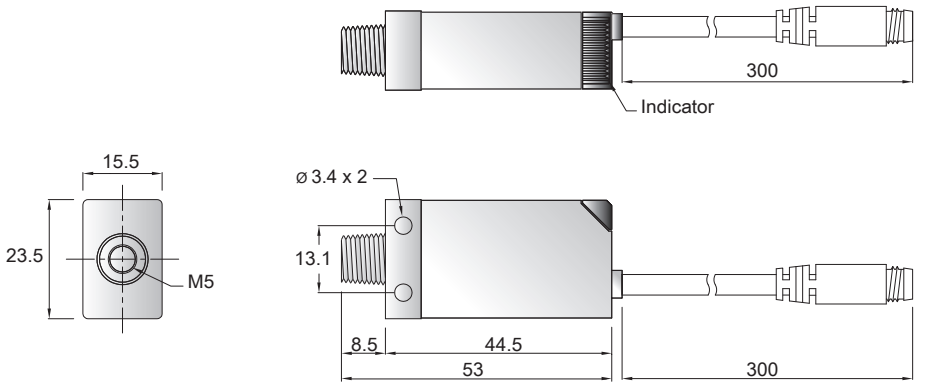


■ DIMENSIONS

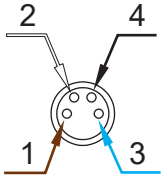
KP1 - ☐ - ☐ - ☐



KP1 - ☐ - C - ☐



QD PINOUT



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

Unit:mm

KP30 SERIES

Features

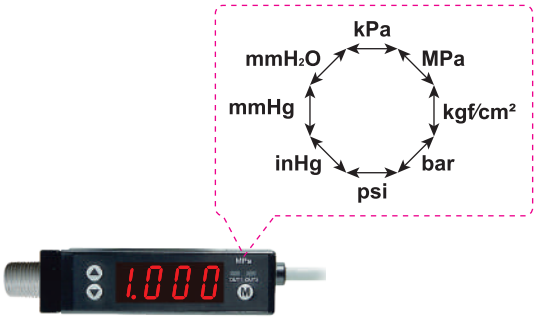
- Setting pressure range : Compound (-100.0~100.0 kPa)
  Vacuum (10.0~-101.3 kPa)
  Positive (-0.100~1.000 MPa)
- 2 outputs & analog output (1~5V)
- Hysteresis adjustable
- Programmable pressure unit :
  kPa、MPa、kgf/cm²、bar、psi、inHg、mmHg、mmH_2O

■ SPECIFICATIONS

TYPE	Compound	Vacuum	Positive
MODEL	KP30C	KP30V	KP30P
	1.0 MPa 100.0 kPa 0 -101.3 kPa		
Rated pressure range	-100.0 ~ 100.0 kPa	0.0 ~ -101.3 kPa	0.000 ~ 1.000 MPa
Setting pressure range	-100.0 ~ 100.0 kPa	10.0 ~ -101.3 kPa	-0.100 ~ 1.000 MPa

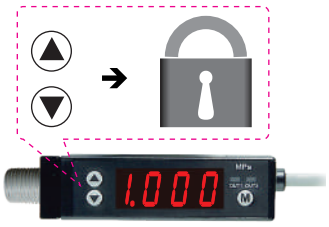
■ FEATURES HIGHLIGHT

1 Programmable pressure unit



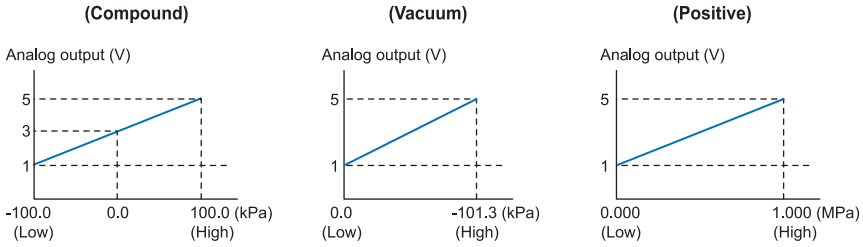
2 Key lock function

Key lock mode to prevent unauthorized adjustments
Press (M) more than 5 seconds to enter key lock mode
Use (▲) or (▼) to select key lock status



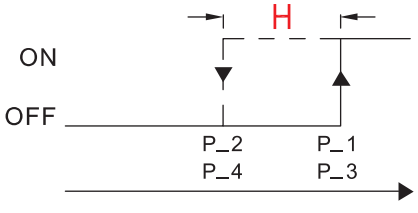
3 Analog output

2 outputs & analog output (1~5V)
Output range 1 to 5V, proportional to the pressure range



4 Hysteresis adjustable

Output hysteresis (H) is adjustable by user



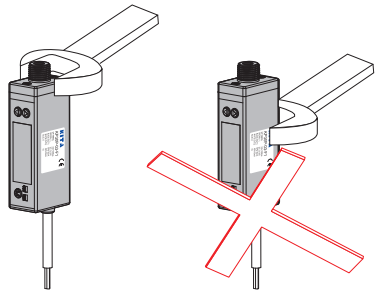
RoHS

■ SPECIFICATIONS

MODEL		KP30C (Compound)	KP30V (Vacuum)	KP30P (Positive)
		1.0 MPa 100.0 kPa 0 -101.3 kPa		
Rated pressure range		-100.0 ~ 100.0 kPa	0.0 ~ -101.3 kPa	0.000 ~ 1.000 MPa
Setting pressure range		-100.0 ~ 100.0 kPa	10.0 ~ -101.3 kPa	-0.100 ~ 1.000 MPa
Withstand pressure		300 kPa		1.5 MPa
Fluid		Filtered air, Non-corrosive/Non-flammable gas		
Set pressure resolution	kPa	0.1		-
	MPa	-		0.001
	kgf/cm²	0.001		0.01
	bar	0.001		0.01
	psi	0.01		0.1
	inHg	0.1		-
	mmHg	1		-
	mmH₂O	0.1		-
Power supply voltage		12 to 24V DC ±10%, Ripple (P-P) 10% or less		
Current consumption		≤ 60mA		
Switch output		NPN : open collector 2 outputs Max. load current : 80mA Max. supply voltage : 30V DC Residual voltage : ≤ 1V	PNP : open collector 2 outputs Max. load current : 80mA Max. supply voltage : 24V DC Residual voltage : ≤ 1V	
Repeatability(Switch output)		±0.2% F.S. ±1 digit		
Hysteresis	Hysteresis mode	Adjustable		
	Window comparator mode	Fixed (3 digits)		
Response time		≤ 2.5ms (chattering-proof function: 24ms, 192ms and 768ms selectable)		
Output short circuit protection		Yes		
7 segment LED display		3 ½ digit LED display (Sampling rate: 5 times/1sec.)		
Indicator accuracy		±2% F.S. ±1 digit (Ambient temperature: 25 ±3°C)		
Indicator		OUT1 = Green, OUT2 = Red		
Analog output (Only type KP30□- 01 -□, KP30□- 03 -□)		Output voltage : 1 to 5V ±5% F.S. (within rated pressure range) Linearity : ±1% F.S.	Output voltage : 1 to 5V ±2.5% F.S. (within rated pressure range) Linearity : ±1% F.S.	
Environment	Enclosure	IP 40		
	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		±2% F.S. of detected pressure (25°C) at temp. Range of 0~50°C		
Port size		F1:R1/8", M5 ; F2:NPT1/8", M5 ; F3:G1/8"(BSPP), M5		
Lead wire		Oil-resistance cable (0.15mm²)		
Weight		Approx. 67g (with 2 meter lead wire), Approx. 35g (with M8 4Pin male connector)		

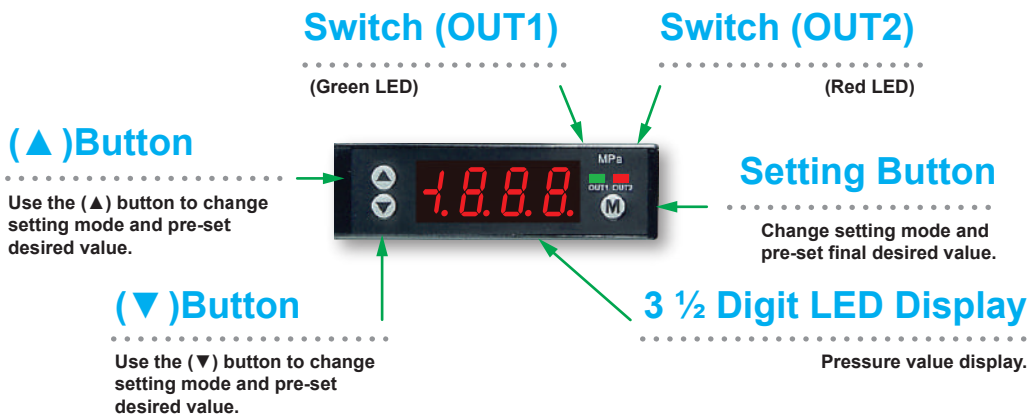
■ INSTALLATION PRECAUTIONS

- 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.



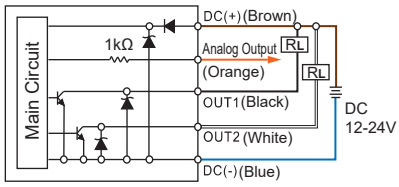
KP30 SERIES

PANEL DESCRIPTION

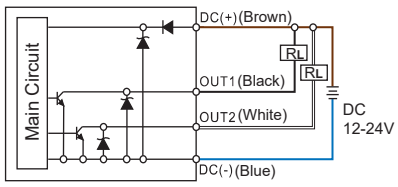


OUTPUT CIRCUIT WIRING DIAGRAMS

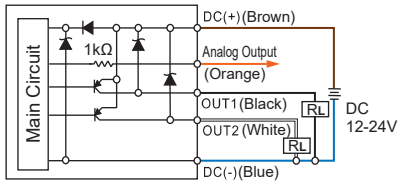
KP30 □- 01 -□-□
NPN Output & Analog Output (1~5V)



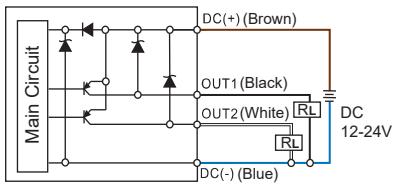
KP30 □- 02 -□-□
NPN Output



KP30 □- 03 -□-□
PNP Output & Analog Output (1~5V)



KP30 □- 04 -□-□
PNP Output



ORDERING INFORMATION

K P 3 0 C - 0 1 - F 1 - □

Pressure Range
C : Compound (-100.0~100.0 kPa)
V : Vacuum (10.0~-101.3 kPa)
P : Positive (-0.100~1.000 MPa)

Pressure Port
F1 : R1/8", M5
F2 : NPT1/8", M5
F3 : G1/8"(BSPP), M5

Output Specification
01 : 2 NPN output & Analog output(1~5V)
02 : 2 NPN output
03 : 2 PNP output & Analog output(1~5V)
04 : 2 PNP output

Cable Length / Connector
Blank : With 2 meter cable
QD : With M8 4Pin male connector
*(Only type KP30 □- 02 -□, KP30 □- 04 -□)

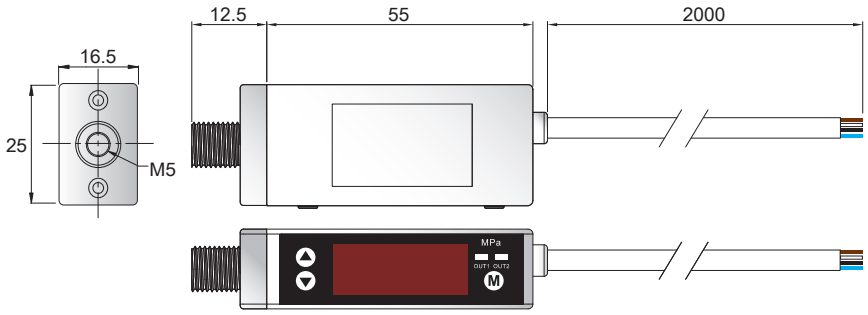
Optional Part
M84R-W0085-2M : M8 4Pin female connector

Optional Part
M8 4Pin female connector

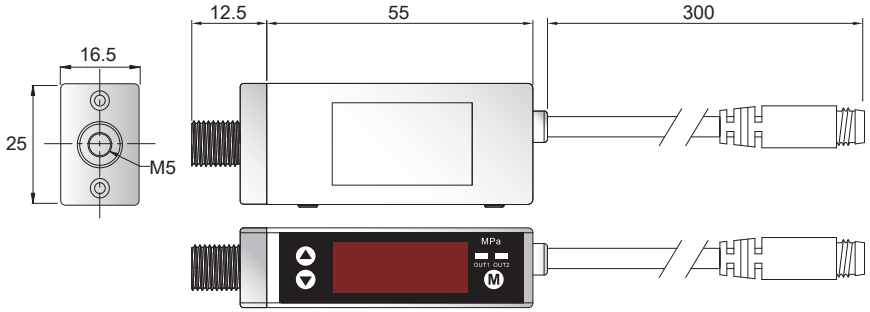
■ M84R-W0085-2M

■ DIMENSIONS

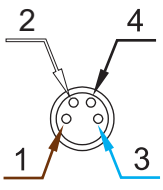
KP30☐ - ☐ - ☐



KP30☐ - ☐ - ☐ - QD



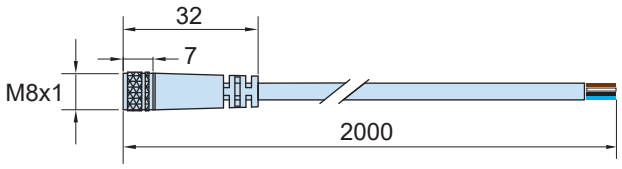
QD PINOUT



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

■ OPTIONAL PART DIMENSIONS

M8 Female Connector model : M84R-W0085-2M



Unit:mm

KP43 SERIES

Features

- 3-color digital LCD display
- Copy function
- Programmable pressure unit :
  kPa、MPa、kgf/cm²、bar、psi、inHg、mmHg
- Dual LCD display allows setting value to be displayed
- Key lock indicator
- Power-save mode

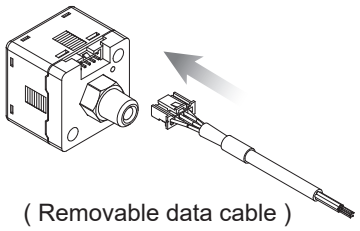
■ SPECIFICATIONS

TYPE	Compound	Vacuum	Positive
MODEL	KP43C	KP43V	KP43P
1.0 MPa 100.0 kPa 0 -101.3 kPa			
Rated pressure range	-100.0 ~ 100.0 kPa	0.0 ~ -101.3 kPa	0.000 ~ 1.000 MPa
Setting pressure range	-101.0 ~ 101.0 kPa	10.0 ~ -101.3 kPa	-0.100 ~ 1.000 MPa

■ FEATURES HIGHLIGHT

1 Quick Installation

- Save Installation Time.
- Easy Removal.



(Removable data cable)

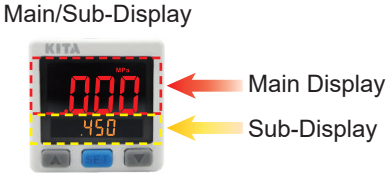
2 Copy Setting

- Avoid setting errors
- Reduce setting time

(Original Parameter) (Copied)

3 Setting Value Easy Indication

- User can easily observe the setting value from sub-display.



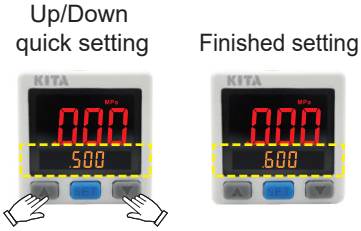
4 2-Color Main Display

- User programmable color mode, for different setting conditions.

	SAb	Sor	brn	rEd
ON	Green	Red	Green	Red
OFF	Red	Green	Green	Red

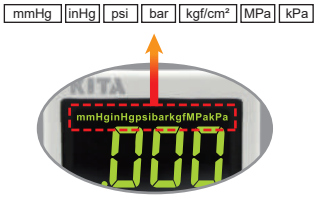
5 OPS Quick Setting

- Sub-display allows changing the parameter directly, reduce setting step by 3/4.



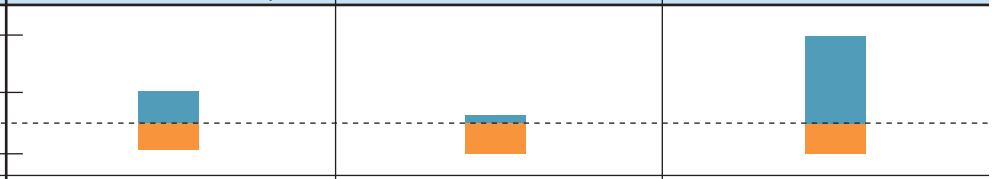
6 Easy Unit Identification

- Conversion unit is on display and easy to read.



RoHS

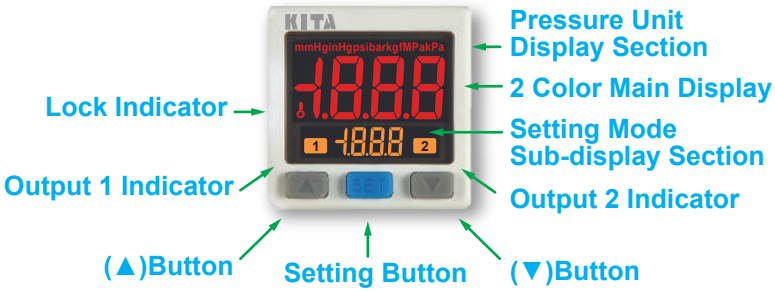
■ SPECIFICATIONS

MODEL		KP43C (Compound)	KP43V (Vacuum)	KP43P (Positive)
				
Rated pressure range		-100.0 ~ 100.0 kPa	0.0 ~ -101.3 kPa	0.000 ~ 1.000 MPa
Setting pressure range		-101.0 ~ 101.0 kPa	10.0 ~ -101.3 kPa	-0.100 ~ 1.000 MPa
Withstand pressure		300 kPa		1.5 MPa
Fluid		Filtered air, Non-corrosive / Non-flammable gas		
Set pressure resolution	kPa	0.1		-
	MPa	-		0.001
	kgf/cm²	0.001		0.01
	bar	0.001		0.01
	psi	0.01		0.1
	inHg	0.1		-
	mmHg	1		-
Power supply voltage		12 to 24V DC ±10%, Ripple (P-P) 10% or less		
Current consumption		≤ 40mA(With no load)		
Switch output		NPN: open collector 2 outputs Max. load current: 125mA Max. supply voltage: 30V DC Residual voltage: ≤ 1.5V		PNP: open collector 2 outputs Max. load current: 125mA Max. supply voltage: 24V DC Residual voltage: ≤ 1.5V
Repeatability(Switch output)		±0.2% F.S. ±1 digit		
Hysteresis	One point set mode	Adjustable(*1)		
	Hysteresis mode			
	Window comparator mode			
Response time		≤ 2.5ms (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selectable)		
Output short circuit protection		Yes		
7 segment LCD display		Two color(Red/Green) main & unit display, Orange sub-display (Sampling rate: 5 times/1sec.)		
Indicator accuracy		±2% F.S. ±1 digit (ambient temperature: 25 ±3°C)		
Switch ON Indicator		Orange (1&2 Indicator) OUT1 OUT2		
Analog output (Voltage Output) (*2)		Output Voltage: 1 to 5V ±2.5% F.S. (within rated pressure range) Linearity: ±1% F.S. Output impedance: about 1kΩ		
Analog output (Current Output) (*3)		Output Current: 4 to 20mA ±2.5% F.S.(within rated pressure range) Linearity: ±1% F.S. Max.Load impedance: 300Ω at power supply of 12V 600Ω at power supply of 24V Min.Load impedance: 50Ω		
Environment	Enclosure	IP 40		
	Ambient temp. range	Operation: 0 ~ 50°C, Storage:-10 ~ 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	100m/s² (10G), 3 times each in direction of X, Y and Z		
Temperature characteristic		±2.5% F.S. of detected pressure (25°C) at temp. Range of 0~50°C		
Port size		F1：R1/8", M5; F2：NPT1/8", #10-32 UNF; F3：G1/8"(BSPP), M5		
Lead wire		Oil-resistance cable(0.15mm²)		
Weight		Approx. 80g (with 2 meter lead wire)		

[NOTE] *1 : Hysteresis value is adjustable within 1 ~ 8 digits for one point set mode and window comparator mode.
*2 : If analog voltage output is selected, the analog current output cannot be selected at the same time.
*3 : If analog current output is selected, the analog voltage output cannot be selected at the same time.

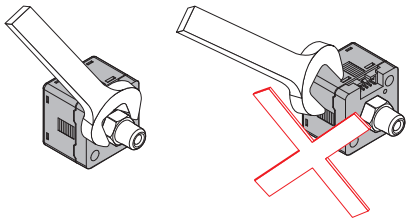
KP43 SERIES

■ PANEL DESCRIPTION



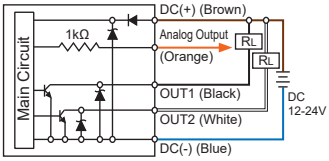
■ INSTALLATION PRECAUTIONS

- 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.

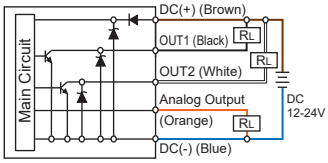


■ OUTPUT CIRCUIT WIRING DIAGRAMS

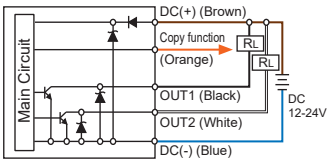
KP43□- 010 -□
2 NPN + Analog Output(1~5V)



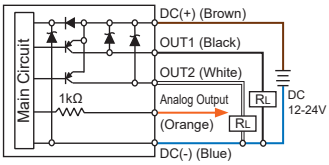
KP43□- 011 -□
2 NPN + Analog Output(4~20mA)



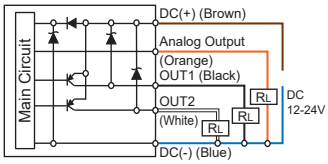
KP43□- 02 -□
2 NPN + Copy Function



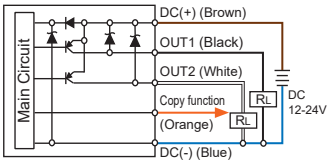
KP43□- 030 -□
2 PNP + Analog Output(1~5V)



KP43□- 031 -□
2 PNP + Analog Output(4~20mA)



KP43□- 04 -□
2 PNP + Copy Function



■ ORDERING INFORMATION

K P 4 3 C - 0 1 0 - F 1

Pressure Range

C : Compound (-101.0 ~ 101.0kPa)
V : Vacuum (10.0 ~ -101.3kPa)
P : Positive(-0.100~1.000MPa)

Output Specifications

010 : 2 NPN Output & Analog Output(1~5V)
011 : 2 NPN Output & Analog Output(4~20mA)
02 : 2 NPN Output & Copy Function
030 : 2 PNP Output & Analog Output(1~5V)
031 : 2 PNP Output & Analog Output(4~20mA)
04 : 2 PNP Output & Copy Function

Pressure Port

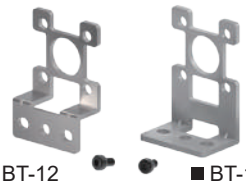
F1 : R1/8", M5
F2 : NPT1/8", #10-32UNF
F3 : G1/8"(BSPP), M5

Optional Parts

BT-12 : Mounting bracket
BT-13 : Mounting bracket
PA-C : Panel adapter
PA-D : Panel adapter + Front protective lid

Optional Parts

Mounting bracket



■ BT-12 ■ BT-13

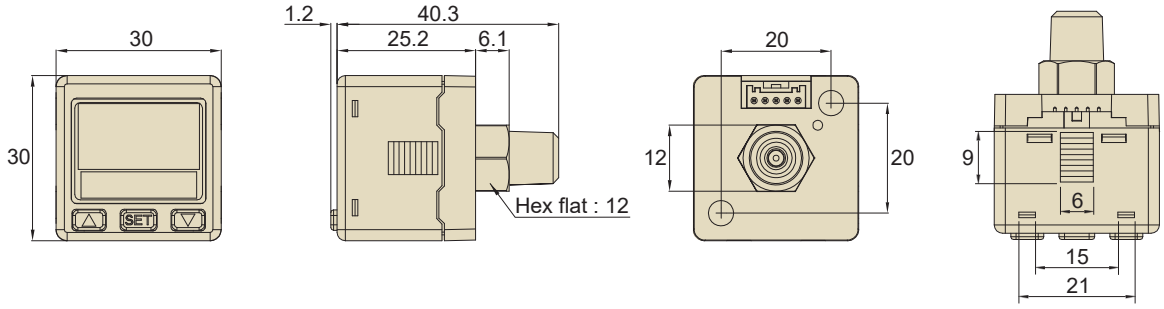
Panel adapter

■ PA-C

Panel adapter + Front protective lid

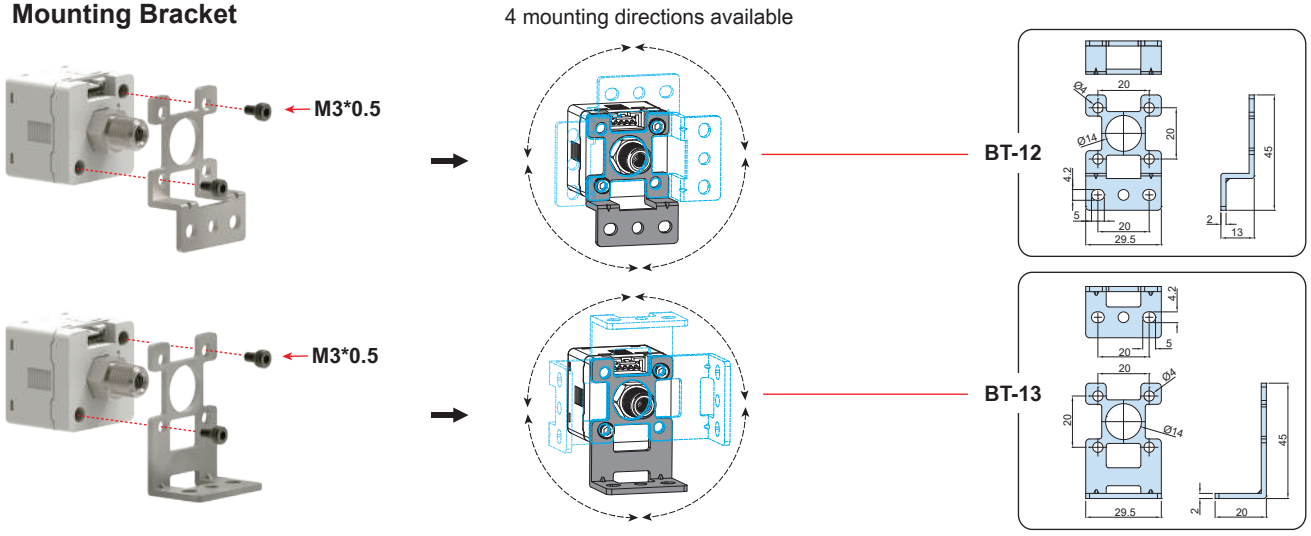
■ PA-D

■ DIMENSIONS

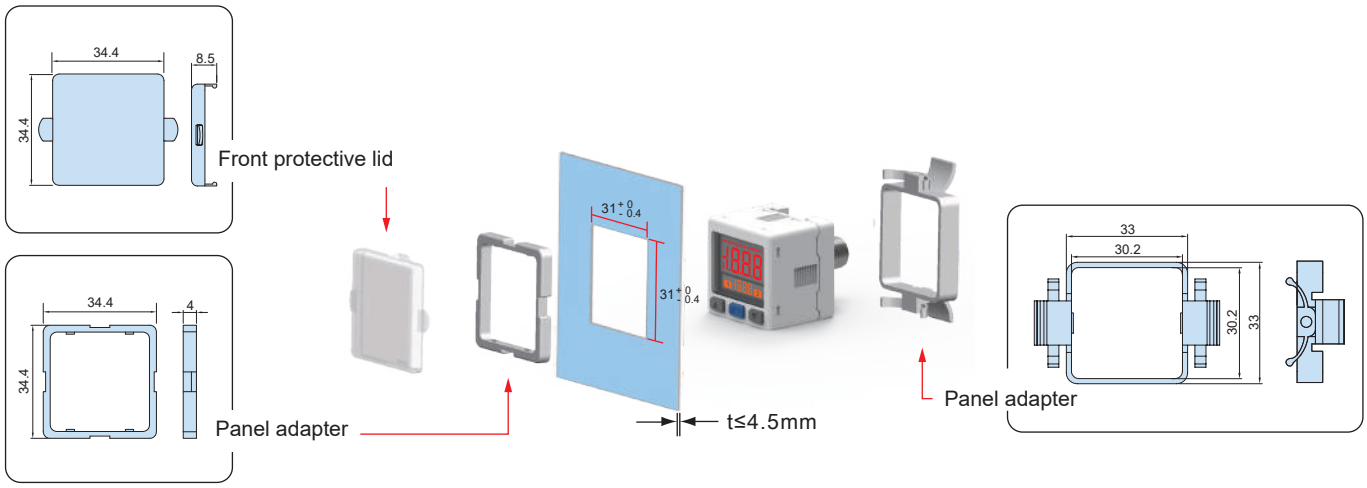


■ OPTIONAL PARTS DIMENSIONS

1 Mounting Bracket



2 Panel Mount Adapter + Front Protective Lid



Unit:mm

KP45 SERIES

Features

- 2-color digital LCD display
- Copy function
- Programmable pressure unit :
  kPa、MPa、kgf/cm²、bar、psi、inHg
- IP65 enclosure

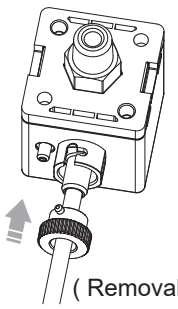
■ SPECIFICATIONS

TYPE	Compound	Vacuum	Positive
MODEL	KP45C	KP45V	KP45P
	1.0 MPa 100.0 kPa 0 -101.3 kPa		
Rated pressure range	-100.0 ~ 100.0 kPa	0.0 ~ -101.3 kPa	0.000 ~ 1.000 MPa
Setting pressure range	-101.0 ~ 101.0 kPa	10.0 ~ -101.3 kPa	-0.100 ~ 1.000 MPa

■ FEATURES HIGHLIGHT

1 Quick Installation

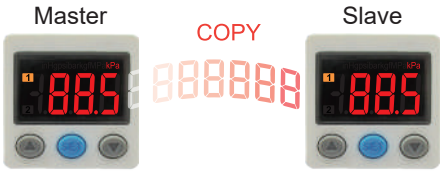
- Save installation time
- Easy removal



(Removable data cable)

2 Copy Setting

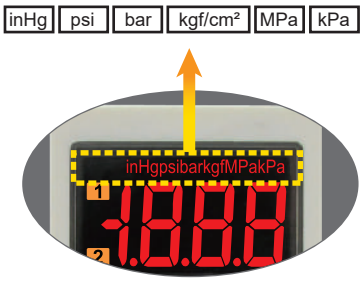
- Avoid setting errors
- Reduce setting time



(Original Parameter) (Copied)

3 Easy Unit Identification

- Conversion unit is on display and easy to read.



4 2-Color Display

- User programmable color mode, for different setting conditions.

	SoU	Sor	Grn	rEd
ON	Green	Red	Green	Red
OFF	Red	Green	Green	Red

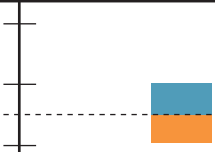
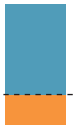
5 IP65 Compliance

- Protected against water and dust splash from all directions.

6 Environmental Protection Design

- RoHS Compliance / Without Harmful Substance

■ SPECIFICATIONS

MODEL		KP45C (Compound)	KP45V (Vacuum)	KP45P (Positive)
1.0 MPa 100.0 kPa 0 -101.3 kPa				
Rated pressure range		-100.0 ~ 100.0 kPa	0.0 ~ -101.3 kPa	0.000 ~ 1.000 MPa
Setting pressure range		-101.0 ~ 101.0 kPa	10.0 ~ -101.3 kPa	-0.100 ~ 1.000 MPa
Withstand pressure		300 kPa		1.5 MPa
Fluid		Filtered air, Non-corrosive / Non-flammable gas		
Set pressure resolution	kPa	0.1		-
	MPa	-		0.001
	kgf/cm²	0.001		0.01
	bar	0.001		0.01
	psi	0.01		0.1
	inHg	0.1		-
Power supply voltage		12 to 24V DC ±10%, Ripple (P-P) 10% or less (UL class 2)		
Current consumption		≤ 40mA(With no load)		
Switch output		NPN: open collector 2 outputs Max. load current: 125mA Max. supply voltage: 30V DC Residual voltage: ≤ 1.5V		PNP: open collector 2 outputs Max. load current: 125mA Max. supply voltage: 24V DC Residual voltage: ≤ 1.5V
Repeatability(Switch output)		±0.2% F.S. ±1 digit		
Hysteresis	One point set mode	Adjustable(*1)		
	Hysteresis mode			
	Window comparator mode			
Response time		≤ 2.5ms (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selectable)		
Output short circuit protection		Yes		
7 segment LCD display		3½ digit, 7 segment (red/green) (Sampling rate: 5 times/1sec.)		
Indicator accuracy		±2% F.S. ±1 digit (ambient temperature: 25 ±3°C)		
Switch ON Indicator		Orange (1&2 Indicator) OUT1 OUT2		
Analog output (Voltage Output) (*2)		Output Voltage: 1 to 5V ±2.5% F.S. (within rated pressure range) Linearity: ±1% F.S. Output impedance: about 1kΩ		
Analog output (Current Output) (*3)		Output Current: 4 to 20mA ±2.5% F.S.(within rated pressure range) Linearity: ±1% F.S. Max.Load impedance: 250Ω at power supply of 12V 600Ω at power supply of 24V Min.Load impedance: 50Ω		
Environment	Enclosure	IP 65		
	Ambient temp. range	Operation: 0 ~ 50°C, Storage:-10 ~ 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	100m/s² (10G), 3 times each in direction of X, Y and Z		
Temperature characteristic		±2% F.S. of detected pressure (25°C) at temp. Range of 0~50°C		
Port size		F1：R1/8", M5; F2：NPT1/8", #10-32 UNF; F3：G1/8"(BSPP), M5 F1C:Rc1/8" ; F2C:NPT1/8" ; F3C: G1/8"(BSPP)		
Lead wire		Oil-resistance cable(0.15mm²)		
Weight (with 2 meter lead wire)		Approx. 86g (with 2 meter lead wire)		

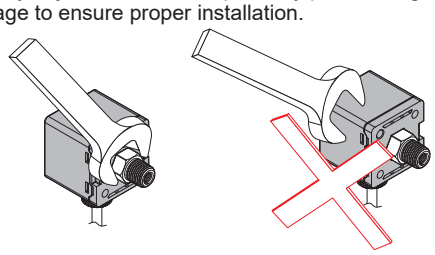
[NOTE] *1 : Hysteresis value is adjustable within 1 ~ 8 digits for one point set mode and window comparator mode.
*2 : If analog voltage output is selected, the analog current output cannot be selected at the same time.
*3 : If analog current output is selected, the analog voltage output cannot be selected at the same time.

KP45 SERIES

■ PANEL DESCRIPTION

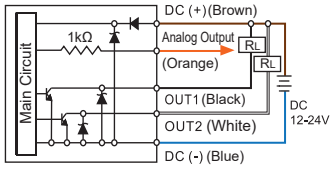
■ INSTALLATION PRECAUTIONS

- 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.

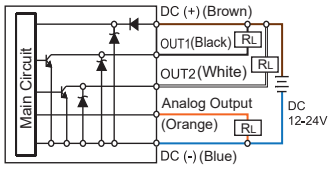


■ OUTPUT CIRCUIT WIRING DIAGRAMS

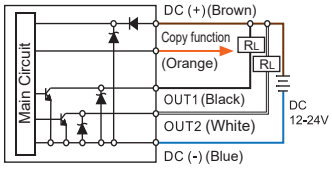
KP45 □- 010 - □
2 NPN + Analog Output(1~5V)



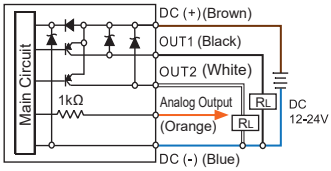
KP45 □- 011 - □
2 NPN + Analog Output(4~20mA)



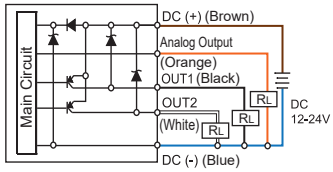
KP45 □- 02 - □
2 NPN + Copy Function



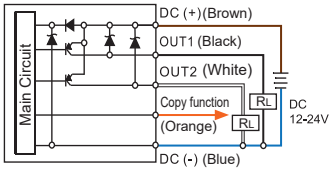
KP45 □- 030 - □
2 PNP + Analog Output(1~5V)



KP45 □- 031 - □
2 PNP + Analog Output(4~20mA)



KP45 □- 04 - □
2 PNP + Copy Function



■ ORDERING INFORMATION

K P 4 5 C - 0 1 0 - F 1

Pressure Range

C : Compound (-101.0 ~ 101.0kPa)
V : Vacuum (10.0 ~ -101.3kPa)
P : Positive(-0.100~1.000MPa)

Output Specifications

010 : 2 NPN Output & Analog Output(1~5V)
011 : 2 NPN Output & Analog Output(4~20mA)
02 : 2 NPN Output & Copy Function
030 : 2 PNP Output & Analog Output(1~5V)
031 : 2 PNP Output & Analog Output(4~20mA)
04 : 2 PNP Output & Copy Function

Pressure Port

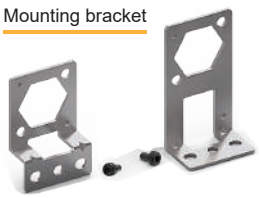
F1 : R1/8", M5 ,with external threads
F2 : NPT1/8", #10-32UNF,with external threads
F3 : G1/8"(BSPP), M5,with external threads
F1C : Rc1/8", with internal threads
F2C : NPT1/8", with internal threads
F3C : G1/8"(BSPP), with internal threads

Optional Parts

BT-10 : Mounting bracket (for Pressure Port F1~F3)
BT-11 : Mounting bracket (for Pressure Port F1~F3)
BT- 1 : Mounting bracket (for Pressure Port F1C~F3C)
BT-17 : Mounting bracket (for Pressure Port F1C~F3C)
PA-E : Panel adapter
PA-F : Panel adapter + Front protective lid

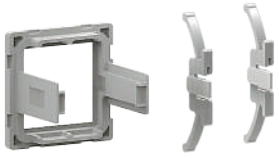
Optional Parts

Mounting bracket



■ BT-10 ■ BT-11 ■ BT-1 ■ BT-17

Panel adapter

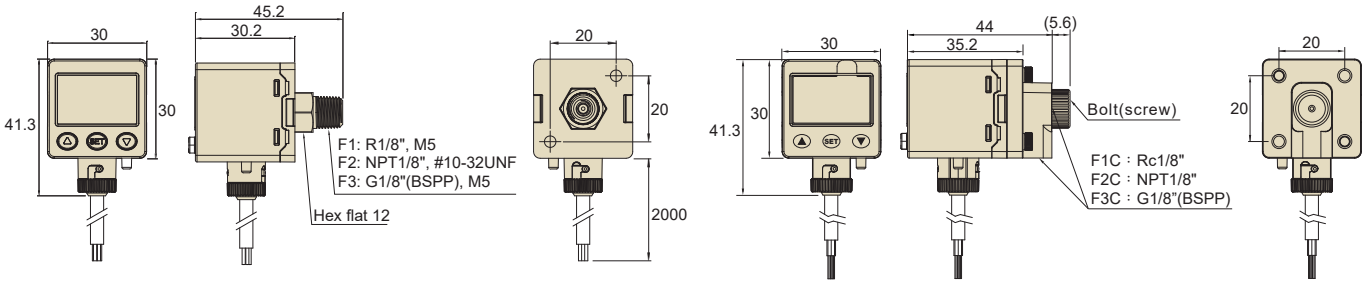


■ PA-E

Panel adapter + Front protective lid

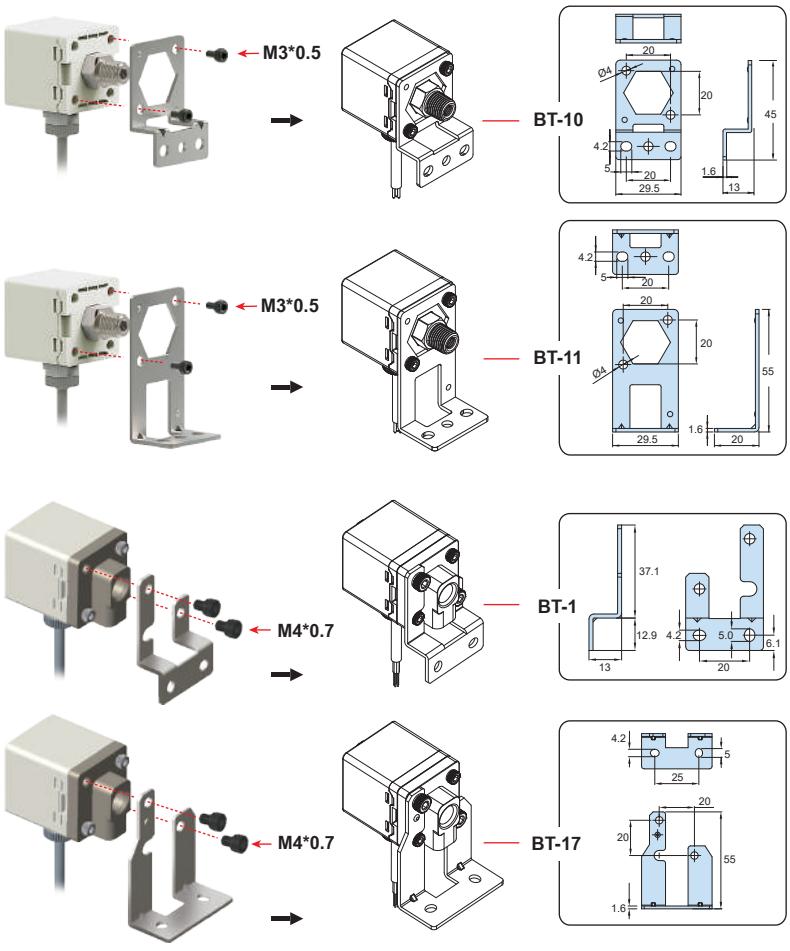
■ PA-F

■ DIMENSIONS

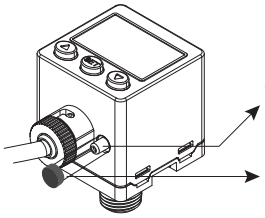


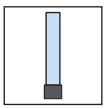
■ OPTIONAL PARTS DIMENSIONS

1 Mounting Bracket



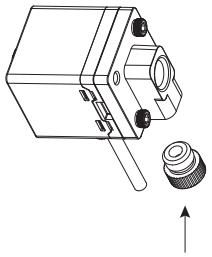
3 IP65 Protector





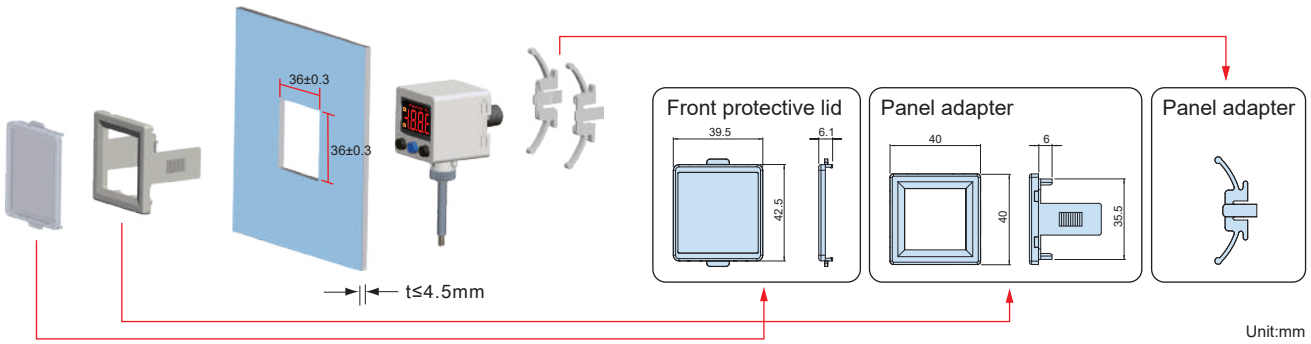
Caution:
This device must be installed to maintain IP 65(Dust and splash proof) enclosure rating.

4 KP45 Accessory for pressure port F1C~F3C



1. This product has two inlet pressure ports, select the one most convenient for installation.
2. Please plug the unused inlet port with supplied port plug. Use seal tape to prevent pressure leak.

2 Panel Mount Adapter + Front Protective Lid



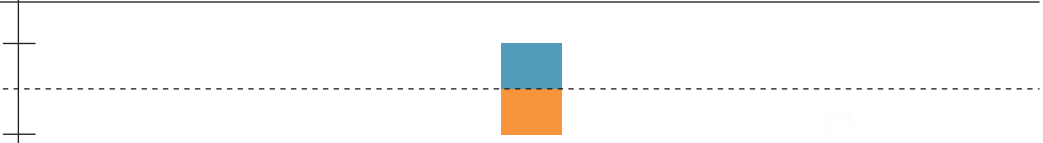
Unit:mm

KP45S SERIES

Features

- 2-color digital LCD display
- Copy function
- Programmable pressure unit :
  kPa、kgf/cm²、bar、psi、inHg
- IP65 enclosure

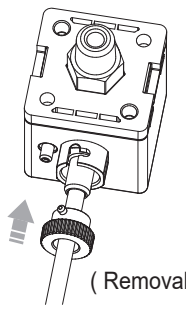
■ SPECIFICATIONS

TYPE	Compound
MODEL	KP45S
10.10 kPa 0 -10.10 kPa	
Rated pressure range	-10.00 ~ 10.00 kPa
Setting pressure range	-10.10 ~ 10.10 kPa

■ FEATURES HIGHLIGHT

1 Quick Installation

- Save installation time
- Easy removal



(Removable data cable)

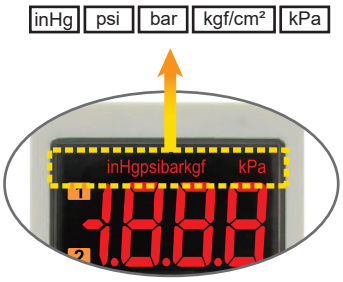
2 Copy Setting

- Avoid setting errors
- Reduce setting time

(Original Parameter) (Copied)

3 Easy Unit Identification

- Conversion unit is on display and easy to read.



4 2-Color Display

- User programmable color mode, for different setting conditions.

	SoU	Sor	Grn	rEd
ON	Green	Red	Green	Red
OFF	Red	Green	Green	Red

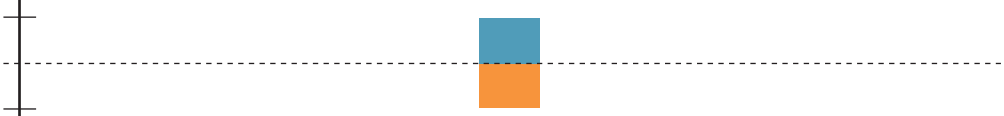
5 IP65 Compliance

- Protected against water and dust splash from all directions.

6 Environmental Protection Design

- RoHS Compliance / Without Harmful Substance

■ SPECIFICATIONS

MODEL		KP45S (Compound)
		10.10 kPa 0 -10.10 kPa 
Rated pressure range		-10.00 ~ 10.00 kPa
Setting pressure range		-10.10 ~ 10.10 kPa
Withstand pressure		20 kPa
Fluid		Filtered air, Non-corrosive / Non-flammable gas
Set pressure resolution	kPa	0.01
	MPa	-
	kgf/cm²	0.001
	bar	0.001
	psi	0.01
	inHg	0.1
Power supply voltage		12 to 24V DC ±10%, Ripple (P-P) 10% or less
Current consumption		≤ 40mA(With no load)
Switch output		NPN: open collector 2 outputs Max. load current: 125mA Max. supply voltage: 30V DC Residual voltage: ≤ 1.5V PNP: open collector 2 outputs Max. load current: 125mA Max. supply voltage: 24V DC Residual voltage: ≤ 1.5V
Repeatability(Switch output)		±0.2% F.S. ±1 digit
Hysteresis	One point set mode	Adjustable(*1)
	Hysteresis mode	
	Window comparator mode	
Response time		≤ 2.5ms (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selectable)
Output short circuit protection		Yes
7 segment LCD display		3½ digit, 7 segment (red/green) (Sampling rate: 5 times/1sec.)
Indicator accuracy		±2% F.S. ±1 digit (ambient temperature: 25 ±3°C)
Switch ON Indicator		Orange (1&2 Indicator) OUT1 OUT2
Analog output (Voltage Output) (*2)		Output Voltage: 1 to 5V ±2.5% F.S. (within rated pressure range) Linearity: ±1% F.S. Output impedance: about 1kΩ
Analog output (Current Output) (*3)		Output Current: 4 to 20mA ±2.5% F.S. (within rated pressure range) Linearity: ±1% F.S. Max.Load Impedance: 250Ω at power supply of 12V 600Ω at power supply of 24V Min.Load impedance: 50Ωz
Environment	Enclosure	IP 65
	Ambient temp. range	Operation: 0 ~ 50°C, Storage:-10 ~ 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	100m/s² (10G), 3 times each in direction of X, Y and Z
Temperature characteristic		±2% F.S. of detected pressure (25°C) at temp. Range of 0~50°C
Port size		F1：R1/8", M5; F2：NPT1/8", #10-32 UNF; F3：G1/8"(BSPP), M5 F1C:Rc1/8" ; F2C:NPT1/8" ; F3C: G1/8"(BSPP)
Lead wire		Oil-resistance cable(0.15mm²)
Weight (with 2 meter lead wire)		Approx. 86g (with 2 meter lead wire)

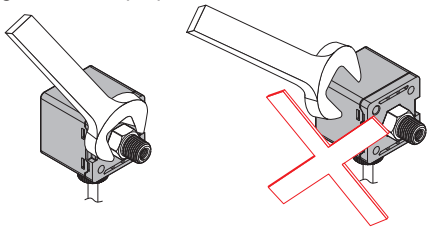
[NOTE] *1 : Hysteresis value is adjustable within 1 ~ 8 digits for one point set mode and window comparator mode.
*2 : If analog voltage output is selected, the analog current output cannot be selected at the same time.
*3 : If analog current output is selected, the analog voltage output cannot be selected at the same time.

KP45S SERIES

■ PANEL DESCRIPTION

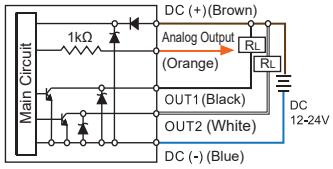
■ INSTALLATION PRECAUTIONS

- 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.

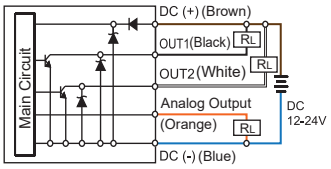


■ OUTPUT CIRCUIT WIRING DIAGRAMS

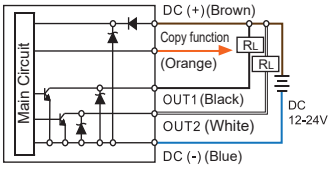
KP45S □- 010 - □
2 NPN + Analog Output(1~5V)



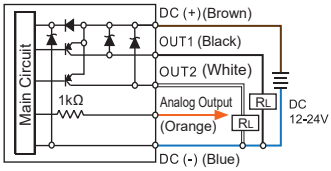
KP45S □- 011 - □
2 NPN + Analog Output(4~20mA)



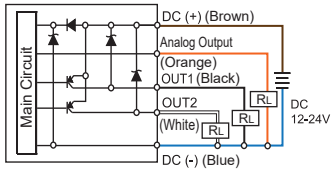
KP45S □- 02 - □
2 NPN + Copy Function



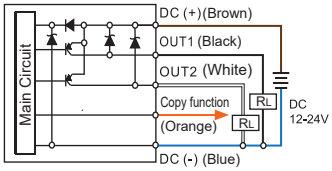
KP45S □- 030 - □
2 PNP + Analog Output(1~5V)



KP45S □- 031 - □
2 PNP + Analog Output(4~20mA)



KP45S □- 04 - □
2 PNP + Copy Function



■ ORDERING INFORMATION

K P 4 5 S - 0 1 0 - F 1

Pressure Range

S : Compound (-10.10 ~ 10.10 kPa)

Output Specifications

010 : 2 NPN Output & Analog Output(1~5V)
011 : 2 NPN Output & Analog Output(4~20mA)
02 : 2 NPN Output & Copy Function
030 : 2 PNP Output & Analog Output(1~5V)
031 : 2 PNP Output & Analog Output(4~20mA)
04 : 2 PNP Output & Copy Function

Pressure Port

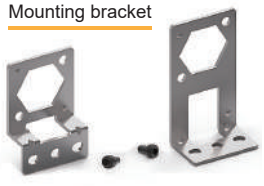
F1 : R1/8", M5 ,with external threads
F2 : NPT1/8", #10-32UNF,with external threads
F3 : G1/8"(BSPP), M5,with external threads
F1C : Rc1/8", with internal threads
F2C : NPT1/8", with internal threads
F3C : G1/8"(BSPP), with internal threads

Optional Parts

BT-10 : Mounting bracket (for Pressure Port F1~F3)
BT-11 : Mounting bracket (for Pressure Port F1~F3)
BT- 1 : Mounting bracket (for Pressure Port F1C~F3C)
BT-17 : Mounting bracket (for Pressure Port F1C~F3C)
PA-E : Panel adapter
PA-F : Panel adapter + Front protective lid

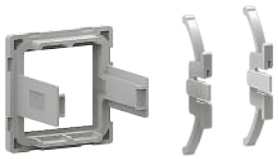
Optional Parts

Mounting bracket



■ BT-10 ■ BT-11 ■ BT-1 ■ BT-17

Panel adapter



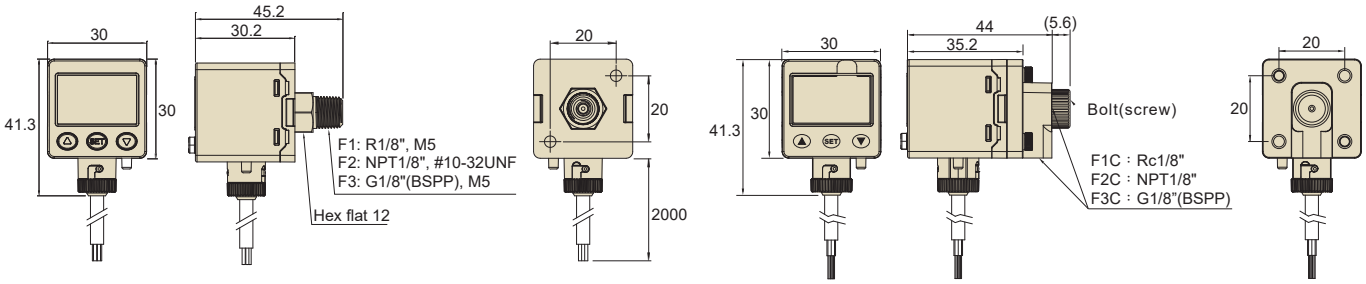
■ PA-E

Panel adapter + Front protective lid

■ PA-F

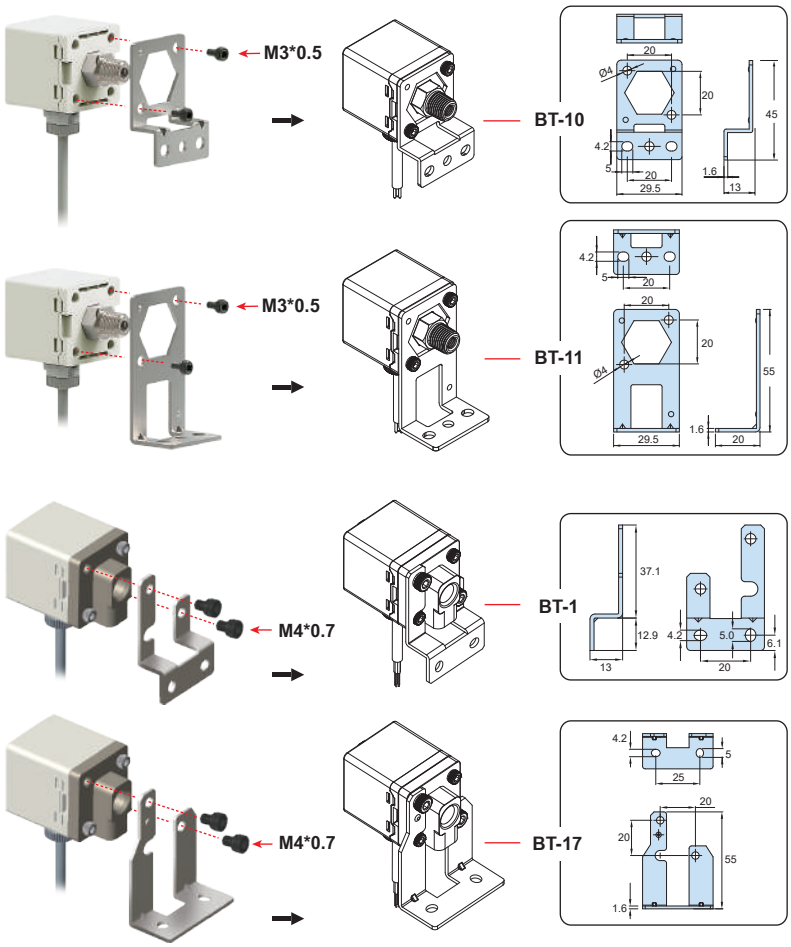
RoHS

DIMENSIONS

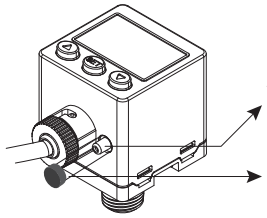


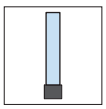
OPTIONAL PARTS DIMENSIONS

1 Mounting Bracket



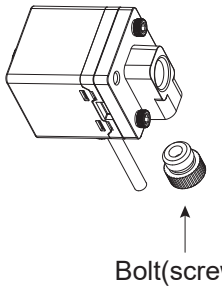
3 IP65 Protector





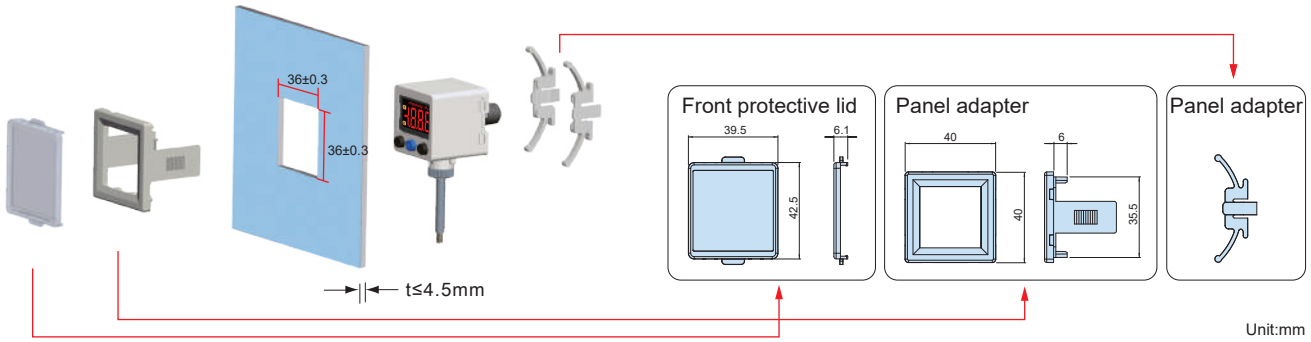
Caution:
This device must be installed to maintain IP 65(Dust and splash proof) enclosure rating.

4 KP45S Accessory for pressure port F1C~F3C



1. This product has two inlet pressure ports, select the one most convenient for installation.
2. Please plug the unused inlet port with supplied port plug. Use seal tape to prevent pressure leak.

2 Panel Mount Adapter + Front Protective Lid



Unit:mm

KP50 SERIES

Features

- Corrosive fluid or gas available
- Sensor parts & Fitting parts : Stainless steel 316L
- 2-color digital LCD display
- Copy function
- Programmable pressure unit :
  kPa、MPa、kgf/cm²、bar、psi、inHg
- IP65 enclosure

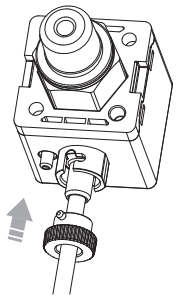
■ SPECIFICATIONS

TYPE	Compound	Vacuum	Positive	High
MODEL	KP50C	KP50V	KP50P	KP50H
				
Rated pressure range	-100.0 ~ 100.0 kPa	0.0 ~ -101.3 kPa	0.000 ~ 1.000 MPa	0.000 ~ 2.00 MPa
Setting pressure range	-101.0 ~ 101.0 kPa	10.0 ~ -101.3 kPa	-0.100 ~ 1.000 MPa	-0.100 ~ 2.00 MPa

■ FEATURES HIGHLIGHT

1 Quick Installation

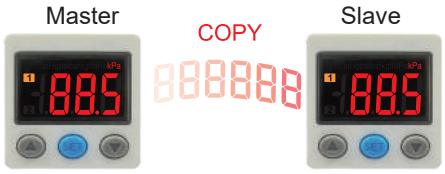
- Save installation time.
- Easy removal.



(Removable data cable)

2 Copy Setting

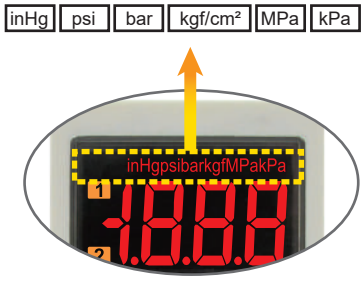
- Avoid setting errors
- Reduce setting time



(Original Parameter) (Copied)

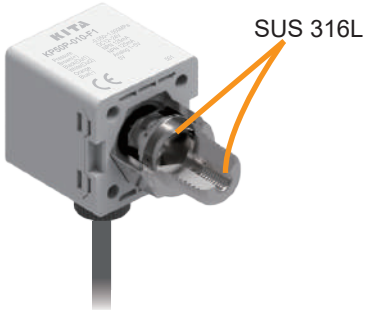
3 Easy Unit Identification

- Conversion unit is on display and easy to read.



4 Applicable for Corrosive Fluid or Gas

- Sensor parts & Fitting parts are SUS 316L, applicable for corrosive fluid or gas equipment.



5 2-Color Display

- User programmable color mode, for different setting conditions.

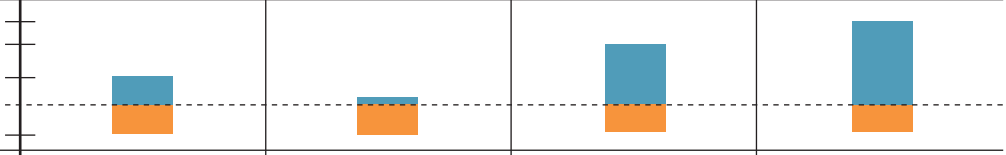
	SEt	Sor	Urn	rES
ON	Green	Red	Green	Red
OFF	Red	Green	Green	Red

6 IP65 Compliance

- Protected against water and dust splash from all directions.

RoHS

■ SPECIFICATIONS

MODEL		KP50C (Compound)	KP50V (Vacuum)	KP50P (Positive)	KP50H (High)
2.0 MPa 1.0 MPa 100.0 kPa 0 -101.3 kPa					
Rated pressure range		-100.0 ~ 100.0 kPa	0.0 ~ -101.3 kPa	0.000 ~ 1.000 MPa	0.000 ~ 2.00 MPa
Setting pressure range		-101.0 ~ 101.0 kPa	10.0 ~ -101.3 kPa	-0.100 ~ 1.000 MPa	-0.100 ~ 2.00 MPa
Withstand pressure		300 kPa		3 MPa	
Fluid		Fluids do not corrode stainless steel 316L			
Sealed liquid		Silicon oil			
Set pressure resolution	kPa	0.1		-	-
	MPa	-		0.001	0.001(~1.999) 0.01(2.00~)
	kgf/cm²	0.001		0.01	0.01(~19.99) 0.1(20.0~)
	bar	0.001		0.01	0.01(~19.99) 0.1(20.0~)
	psi	0.01		0.1	0.1(~199.9) 1(200~)
	inHg	0.1		-	-
Power supply voltage		12 to 24V DC ±10%, Ripple (P-P) 10% or less			
Current consumption		≤ 40mA(With no load)			
Switch output		NPN: open collector 2 outputs Max. load current: 125mA Max. supply voltage: 30V DC Residual voltage: ≤ 1.5V		PNP: open collector 2 outputs Max. load current: 125mA Max. supply voltage: 24V DC Residual voltage: ≤ 1.5V	
Repeatability(Switch output)		±0.3% F.S. ±1 digit			
Hysteresis	One point set mode	Adjustable(*1)			
	Hysteresis mode				
	Window comparator mode				
Response time		≤ 2.5ms (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selectable)			
Output short circuit protection		Yes			
7 segment LCD display		3½ digit, 7 segment (red/green) (Sampling rate: 5 times/1sec.)			
Indicator accuracy		±2% F.S. ±1 digit (ambient temperature: 25 ±3°C)			
Switch ON Indicator		Orange (1&2 Indicator) OUT1 OUT2			
Analog output (Voltage Output) (*2)		Output Voltage: 1 to 5V ±2.5% F.S. (within rated pressure range) Linearity: ±1% F.S. Output impedance: about 1kΩ			
Analog output (Current Output) (*3)		Output Current: 4 to 20mA ±2.5% F.S. (within rated pressure range) Linearity: ±1% F.S. Max.Load impedance: 250Ω at power supply of 12V , 600Ω at power supply of 24V Min.Load impedance: 50Ω			
Environment	Enclosure	IP 65			
	Ambient temp. range	Operation: 0 ~ 50°C, Storage: -10 ~ 60°C (No condensation or freezing)			
	Ambient humidity range	Operation/Storage: 35 ~ 85% RH (No condensation)			
	Withstand voltage	250V 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	100m/s² (10G), 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 (*4)		F1：R1/4", M5; F2：NPT1/4", #10-32 UNF; F3：G1/4"(BSPP), M5; F1C：Rc1/8"			
Lead wire		Oil-resistance cable(0.15mm²)			
Weight (with 2 meter lead wire)		Approx. 110g (Rear ported) , Approx. 150g (Bottom ported)			

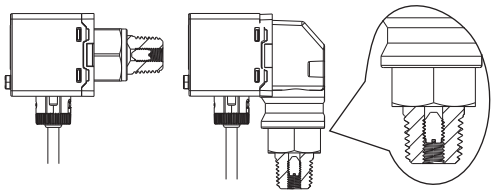
[NOTE] *1 : Hysteresis value is adjustable within 1 ~ 8 digits for one point set mode and window comparator mode.
*2 : If analog voltage output is selected, the analog current output cannot be selected at the same time.
*3 : If analog current output is selected, the analog voltage output cannot be selected at the same time.
*4 : G port O-Ring material is NBR. if any special request, please contact KITA.

■ REMOVABLE SNUBBER INSTALLED

Pressure port equipped with snubber can avoid damage caused by sudden pressure surge of water or oil, improve product durability.

*When snubber is clogged with contaminants, please use a flat head screwdriver to remove the snubber, clean and reinstall.

*Snubber is not applied to F1C port.

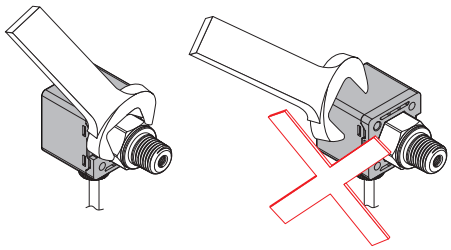


KP50 SERIES

■ PANEL DESCRIPTION

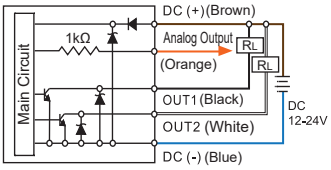
■ INSTALLATION PRECAUTIONS

- 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.

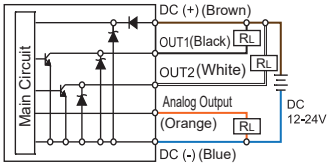


■ OUTPUT CIRCUIT WIRING DIAGRAMS

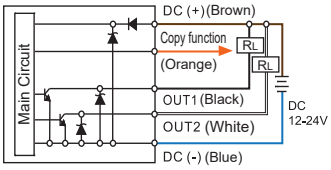
KP50□- 010 - □
2 NPN + Analog Output(1~5V)



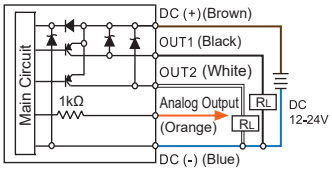
KP50□- 011 - □
2 NPN + Analog Output(4~20mA)



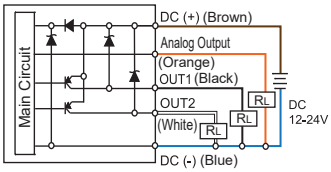
KP50□- 02 - □
2 NPN + Copy Function



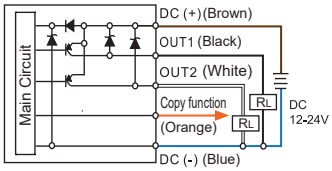
KP50□- 030 - □
2 PNP + Analog Output(1~5V)



KP50□- 031 - □
2 PNP + Analog Output(4~20mA)



KP50□- 04 - □
2 PNP + Copy Function



■ ORDERING INFORMATION

K P 5 0 H - 0 1 0 - F 1 □

Pressure Range

H : High (-0.100 ~ 2.00 MPa)
C : Compound (-101.0 ~ 101.0kPa)
V : Vacuum (10.0 ~ -101.3kPa)
P : Positive (-0.100~1.000MPa)

Output Specifications

010 : 2 NPN Output & Analog Output(1~5V)
011 : 2 NPN Output & Analog Output(4~20mA)
02 : 2 NPN Output & Copy Function
030 : 2 PNP Output & Analog Output(1~5V)
031 : 2 PNP Output & Analog Output(4~20mA)
04 : 2 PNP Output & Copy Function

Pressure Port

F1 : R1/4", M5
F2 : NPT1/4", #10-32UNF
F3 : G1/4"(BSPP), M5
F1C : Rc1/8"

Piping Direction

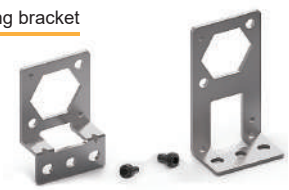
Blank : Rear ported
L : Bottom ported

Optional Parts

BT-10 : Mounting bracket
BT-11 : Mounting bracket
PA-E : Panel adapter
PA-F : Panel adapter + Front protective lid

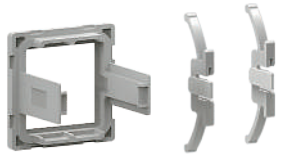
Optional Parts

Mounting bracket



■ BT-10 ■ BT-11

Panel adapter

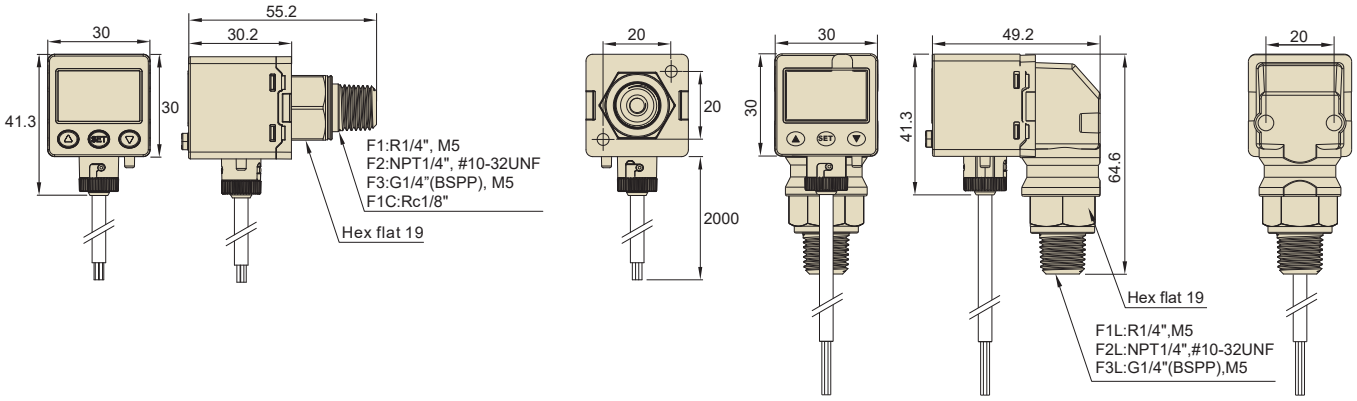


■ PA-E

Panel adapter + Front protective lid

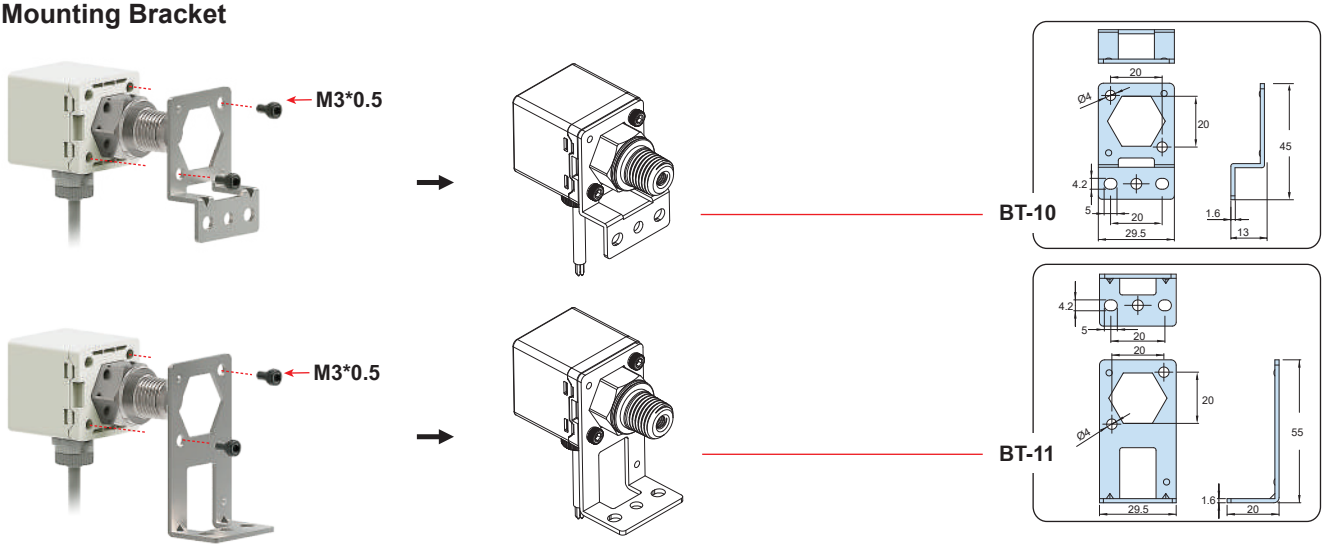
■ PA-F

■ DIMENSIONS

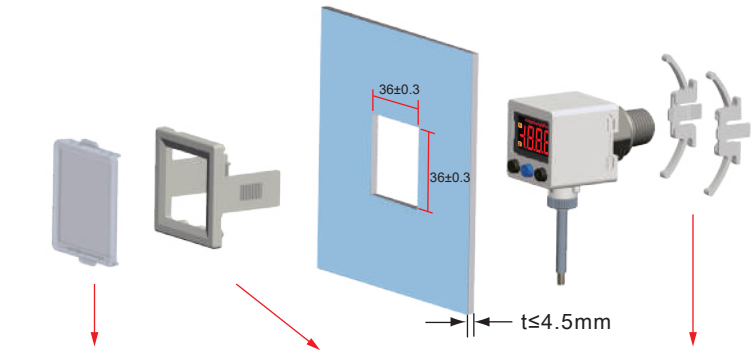


■ OPTIONAL PARTS DIMENSIONS

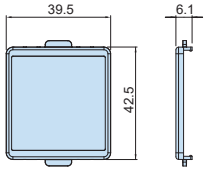
1 Mounting Bracket



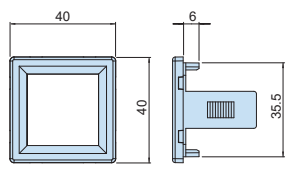
2 Panel Mount Adapter + Front Protective Lid



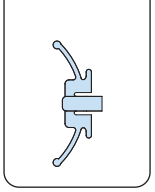
Front protective lid



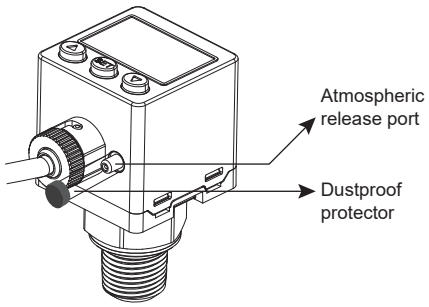
Panel adapter

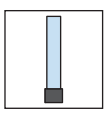


Panel adapter



3 IP65 Protector





Caution:
This device must be installed to maintain IP 65(Dust and splash proof) enclosure rating.

Unit:mm

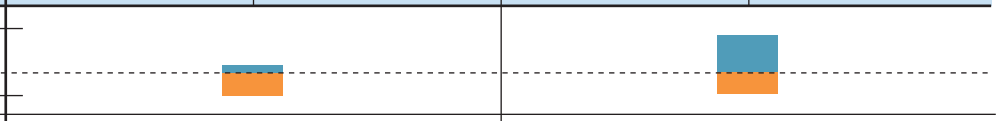
KP60 SERIES

Features

PATENTED

- Digital pressure gauge with battery power
- Programmable pressure unit :
  kPa、MPa、kgf/cm²、bar、psi、mmHg
- Power save function
- Battery meter displayed on LCD
- Backlight type available
- IP65 enclosure

■ SPECIFICATIONS

TYPE		(Vacuum)		(Positive)	
		KP60V	KP60VL	KP60P	KP60PL
1.0 MPa 0 -101 kPa					
Rated pressure range		0 ~ -101 kPa		0.000 ~ 1.000 MPa	
Display pressure range		10 ~ -101 kPa		-0.100 ~ 1.000 MPa	
Withstand pressure		300 kPa		1.5 MPa	
Applicable fluid		Filtered air, incombustible and non-corrosive gases			
Pressure resolution	kPa	1		-	
	MPa	-		0.001	
	kgf/cm²	-		0.01	
	bar	0.01		0.01	
	psi	0.1		0.1	
	mmHg	1		-	
Battery		CR 2032 lithium			
Back light		No	Yes	No	Yes
Battery life		3 years (5 times/day)	1 year (5 times/day)	3 years (5 times/day)	1 year (5 times/day)
Low-power indicator		Yes			
Battery replaceable		Yes			
Turn-on interval		Display turn off after 60 sec.			
Sampling rate		2 Hz (2 times/sec.)			
Programmable pressure unit		psi, bar, mmHg and kPa user selectable		psi, bar, kgf/cm² and MPa user selectable	
Repeatability		±1% F.S. ±1digit		±0.2% F.S. ±1digit	
LCD display		3½ digit, 7 segment			
Indicator accuracy		±2% F.S. ±1 digit (ambient temperature: 25 ±3 °C)			
Environment	Enclosure	IP 65(*1)			
	Ambient temp. range	Operation: 0 ~ 50 ºC, storage: -10 ~ 60 ºC (No condensation or freezing)			
	Ambient humidity range	Operation/Storage: 35 ~ 85% RH (No condensation)			
	Vibration	Total amplitude 1.5mm or 10G, 10Hz-55Hz-10Hz scan for 1 minute, two hours each direction of X, Y and Z			
	Shock	100m/s² (10G), 3 times each in direction of X, Y and Z			
Temperature characteristic		±2% F.S. of detected pressure (25 ºC) at temp. range of 0~50 ºC			
Port size		F1:R1/8", M5; F2:NPT1/8"NPT, #10-32 UNF; F3:G1/8"(BSPP), M5; F4:R1/4", M5; F5:NPT1/4", #10-32 UNF; F6:G1/4"(BSPP), M5			
Weight		Approx. 40g			

【 NOTE 】 *1. Air tube must be installed to maintain IP65.

■ PANEL DESCRIPTION

(Vacuum) (Positive)

■ ORDERING INFORMATION

K P 6 0 P □ - F 1

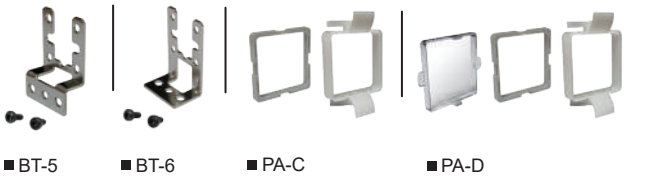
Pressure Range
V : Vacuum (10 ~ -101 kPa)
P : Positive (-0.100 ~ 1.000 MPa)

Back Light
Blank : Back light unavailable
L : Back light available

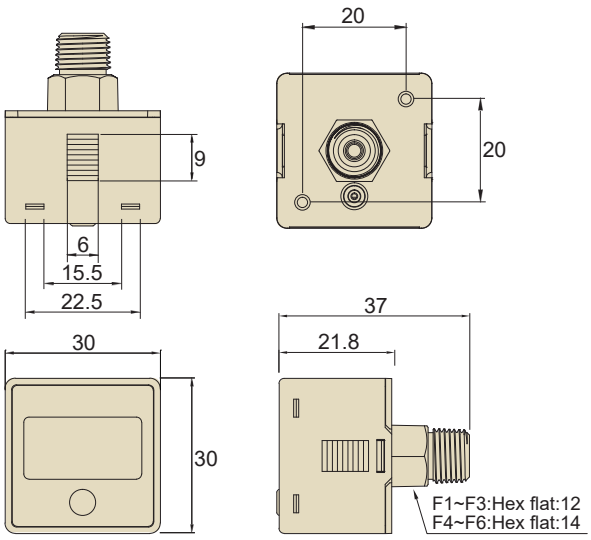
Pressure Port
F1 : R1/8", M5
F2 : NPT1/8", #10-32 UNF
F3 : G1/8"(BSPP), M5
F4 : R1/4", M5
F5 : NPT1/4", #10-32 UNF
F6 : G1/4"(BSPP), M5

Optional Parts
BT-5 : Mounting bracket
BT-6 : Mounting bracket
PA-C : Panel adapter
PA-D : Panel adapter + Front protective lid

Optional Parts

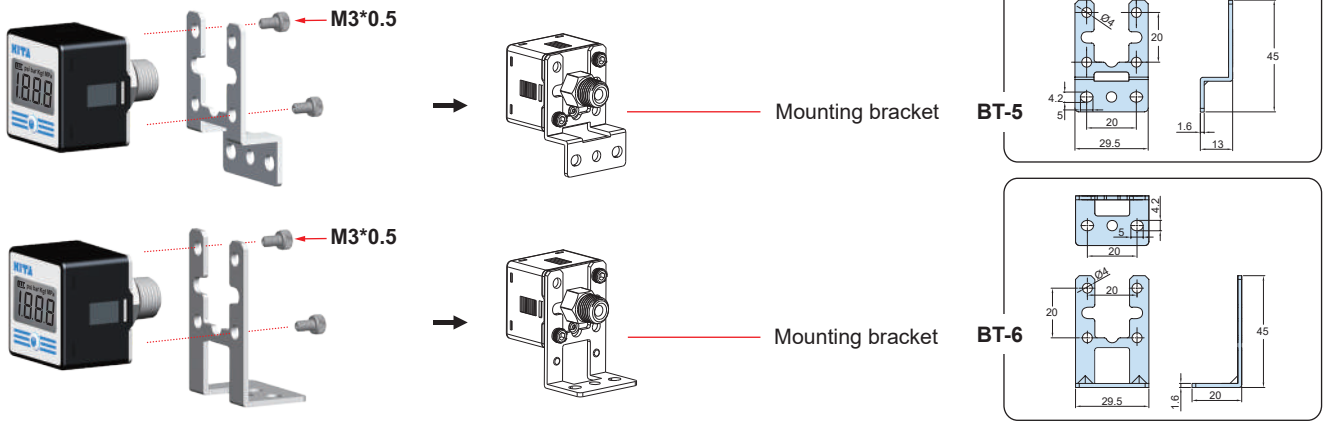


■ DIMENSIONS

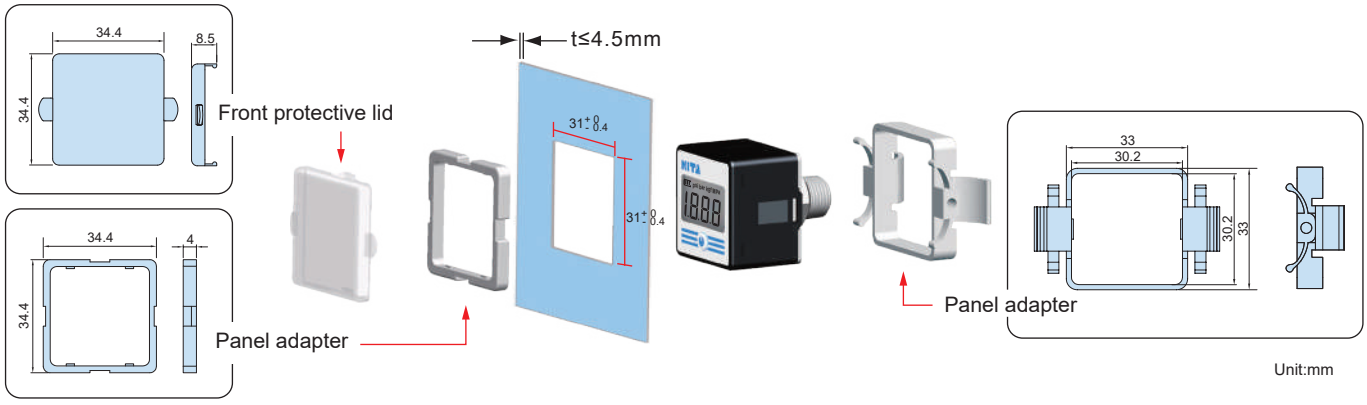


■ OPTIONAL PARTS DIMENSIONS

1 Mounting Bracket



2 Panel Mount Adapter + Front Protective Lid



Unit:mm

KP61 SERIES

Features

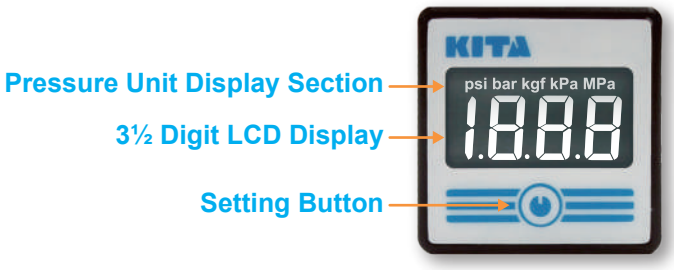
- Digital pressure gauge
- Setting pressure range : Vacuum (10~-101 kPa)
  Positive (-0.100~1.000 MPa)
- Programmable pressure unit :
  kPa、MPa、kgf/cm²、bar、psi
- IP65 enclosure

■ SPECIFICATIONS

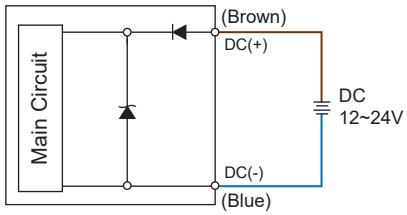
TYPE		KP61V (Vacuum)	KP61P (Positive)
1.0 MPa 0 -101 kPa			
Rated pressure range		0 ~ -101 kPa	0.000 ~ 1.000 MPa
Display pressure range		10 ~ -101 kPa	-0.100 ~ 1.000 MPa
Withstand pressure		300 kPa	1.5 MPa
Applicable fluid		Filtered air, incombustible and non-corrosive gases	
Pressure resolution	kPa	1	-
	MPa	-	0.001
	kgf/cm²	0.01	0.01
	bar	0.01	0.01
	psi	0.1	0.1
Power supply voltage		12 to 28V DC ±10%, Ripple (P-P) 10% or less	
Current consumption		10mA	
Sampling rate		2 Hz (2 times/sec.)	
Repeatability		±1% F.S. ±1 digit	±0.2% F.S. ±1 digit
LCD display		3½ digit, 7 segment	
Indicator accuracy		±2% F.S. ±1 digit (ambient temperature: 25 ±3 °C)	
Environment	Enclosure	IP 65(*1)	
	Ambient temp. range	Operation: 0 ~ 50 ºC, storage: -10 ~ 60 ºC (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	100m/s² (10G), 3 times each in direction of X, Y and Z	
Temperature characteristic		±2% F.S. of detected pressure (25 ºC) at temp. range of 0~50 ºC	
Port size		F1:R1/8", M5; F2:NPT1/8", #10-32 UNF; F3:G1/8"(BSPP), M5	
Lead wire		Oil-resistance cable (0.15mm²)	
Weight		Approx. 60g (with 2 meter lead wire), Approx. 40g (with M8 4Pin male connector)	

【 NOTE 】*1. Air tube must be installed to maintain IP65.

■ PANEL DESCRIPTION



■ CIRCUIT WIRING DIAGRAM



* Pressure display only, no switch output function.

■ ORDERING INFORMATION

K P 6 1 P - F 1 - ☐

Pressure Range

V : Vacuum
(10 ~ -101 kPa)
P : Positive
(-0.100 ~ 1.000 MPa)

Pressure Port

F1 : R1/8", M5
F2 : NPT1/8", #10-32 UNF
F3 : G1/8"(BSPP), M5

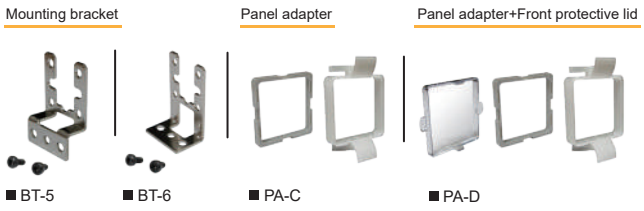
Cable Length / Connector

Blank : With 2 meter cable
QD : With M8 4Pin male connector

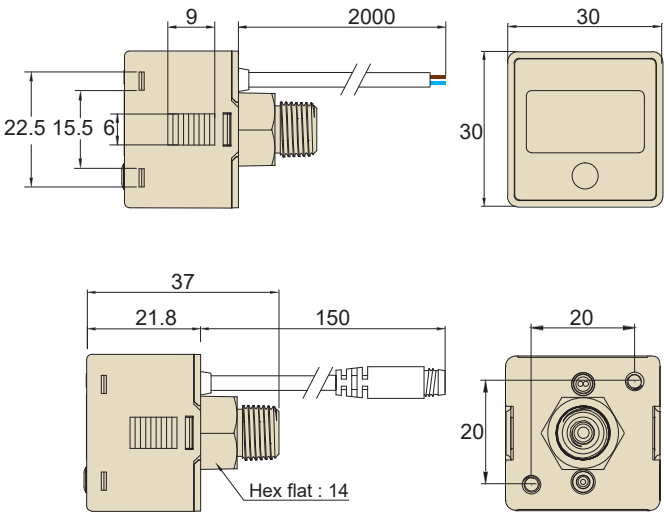
Optional Parts

M84R-W0039-2M : M8 4Pin female connector
BT-5 : Mounting bracket
BT-6 : Mounting bracket
PA-C : Panel adapter
PA-D : Panel adapter + Front protective lid

Optional Parts

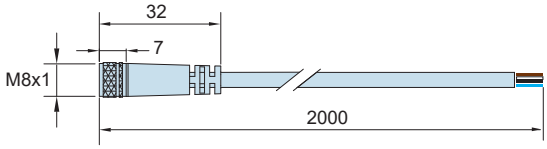


■ DIMENSIONS



■ OPTIONAL PARTS DIMENSIONS

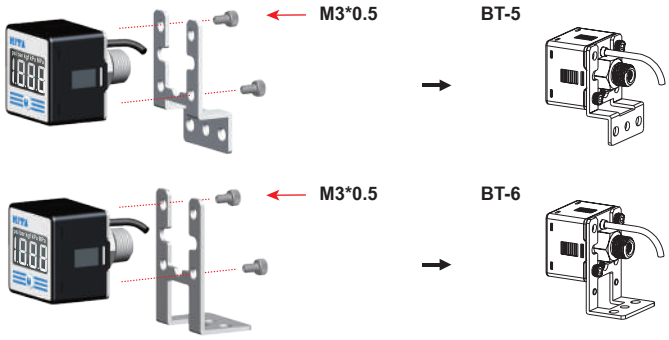
1 **M8 Female Connector** model : M84R-W0039-2M

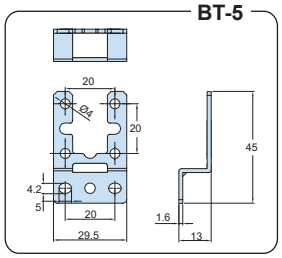


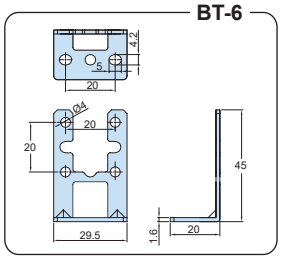
QD PINOUT

(1) Brown (+)
(2) Not used
(3) Blue (-)
(4) Not used

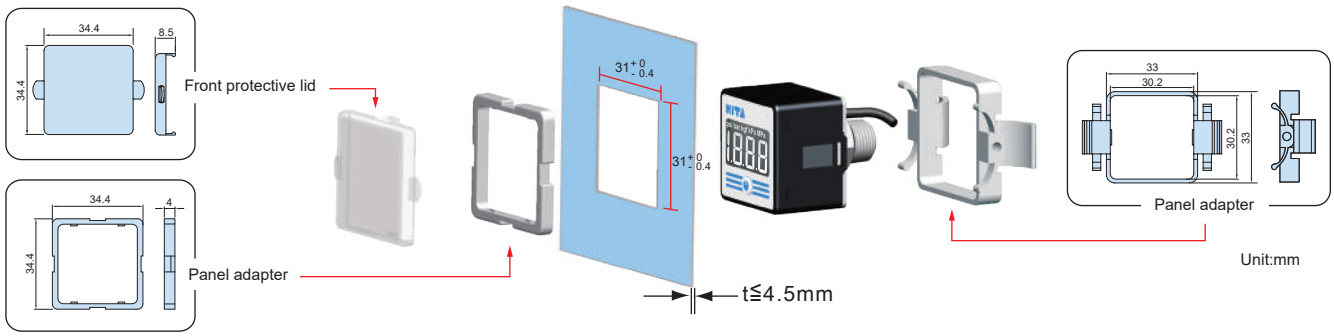
2 **Mounting Bracket**







3 **Panel Mount Adapter + Front Protective Lid**



KP70 SERIES

Features

- Smart pressure sensor
- Remote control
- Real-time monitoring
- RS-485 Modbus RTU/ASCII
- 4 digits, 7 segment LCD display

■ SPECIFICATIONS

TYPE	Compound	Vacuum	Positive
MODEL	KP70C	KP70V	KP70P
	1.0 MPa 100.0 kPa 0 -101.3 kPa		
Rated pressure range	-100.0 ~ 100.0 kPa	0.0 ~ -101.3 kPa	0.000 ~ 1.000 MPa
Setting pressure range	-101.0 ~ 101.0 kPa	10.0 ~ -101.3 kPa	-0.100 ~ 1.000 MPa

■ FEATURES HIGHLIGHT

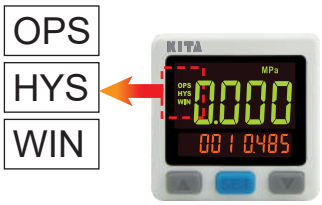
1 Station Setting Display

- Provide 0 ~ 255 station to set the sensor.

ID number display

2 Modes Display

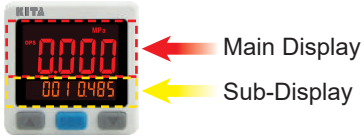
- Three modes show on the screen.



3 Setting Value Easy Indication

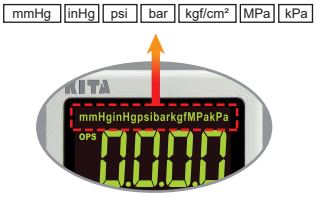
- User can easily observe the setting value from sub-display.

Main/Sub-Display



4 Easy Unit Identification

- Conversion unit is on display and easy to read.



5 2-Color Main Display

- User programmable color mode, for different setting conditions.

	Set	Set	Func	red
ON	Green	Red	Green	Red
OFF	Red	Green	Green	Red

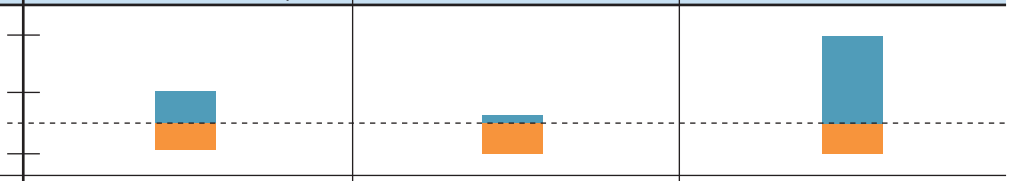
6 OPS Quick Setting

- Sub-display allows changing the parameter directly, reduce setting step by 3/4.

Up/Down quick setting

Finished setting

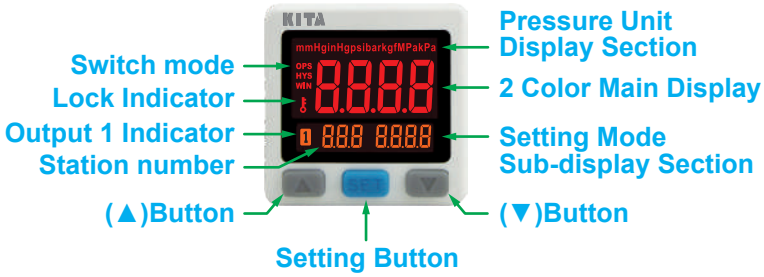
■ SPECIFICATIONS

MODEL		KP70C (Compound)	KP70V (Vacuum)	KP70P (Positive)
				
Rated pressure range		-100.0 ~ 100.0 kPa	0.0 ~ -101.3 kPa	0.000 ~ 1.000 MPa
Setting pressure range		-101.0 ~ 101.0 kPa	10.0 ~ -101.3 kPa	-0.100 ~ 1.000 MPa
Withstand pressure		500 kPa		1.5 MPa
Fluid		Filtered air, Non-corrosive / Non-flammable gas		
Set pressure resolution	kPa	0.1		-
	MPa	-		0.001
	kgf/cm²	0.001		0.01
	bar	0.001		0.01
	psi	0.01		0.1
	inHg	0.1		-
	mmHg	1		-
Power supply voltage		12 to 24V DC ±10%, Ripple (P-P) 10% or less		
Current consumption		≤ 40mA(With no load)		
Switch output		NPN: open collector 1 outputs Max. load current: 125mA Max. supply voltage: 30V DC Residual voltage: ≤ 1.5V		PNP: open collector 1 outputs Max. load current: 125mA Max. supply voltage: 24V DC Residual voltage: ≤ 1.5V
Repeatability(Switch output)		±0.2% F.S. ±1 digit		
Hysteresis	One point set mode	Adjustable(*1)		
	Hysteresis mode			
	Window comparator mode			
Response time		≤ 2.5ms (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms, 1500ms, 2000ms and 5000ms selectable)		
Output short circuit protection		Yes		
7 segment LCD display		Two color(Red/Green) main & unit display, Orange sub-display (Sampling rate : 0.2 , 0.5 , 1 seconds/time selectable)		
Indicator accuracy		±2% F.S. ±1 digit (ambient temperature: 25 ±3°C)		
Switch ON Indicator		Orange (1 Indicator) OUT1		
Environment	Enclosure	IP40		
	Ambient temp. range	Operation: 0 ~ 50°C, Storage:-10 ~ 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	100m/s² (10G), 3 times each in direction of X, Y and Z		
Temperature characteristic		±2.5% F.S. of detected pressure (25°C) at temp. Range of 0~50°C		
Communication interface		RS-485		
Port size		F1：R1/8", M5; F2：NPT1/8", #10-32 UNF; F3：G1/8"(BSPP), M5		
Lead wire		Oil-resistance cable(0.15mm²)		
Weight		Approx. 80g (with 2 meter lead wire)		

[NOTE] *1 : Hysteresis value is adjustable within 1 ~ 8 digits for one point set mode and window comparator mode.

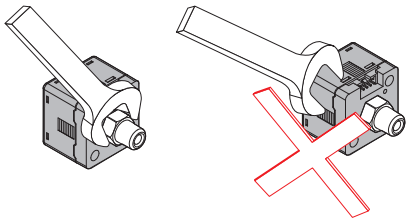
KP70 SERIES

■ PANEL DESCRIPTION



■ INSTALLATION PRECAUTIONS

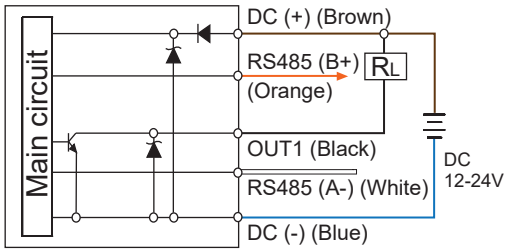
- When mounting, always use the wrench on the metallic area near the pressure port. Never apply a wrench to the plastic body, it will damage the sensor.
- Over tightening may cause damages to the port thread, mounting bracket and pressure sensor. Under tightening may result loosen or leakage.
- Apply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



■ OUTPUT CIRCUIT WIRING DIAGRAMS

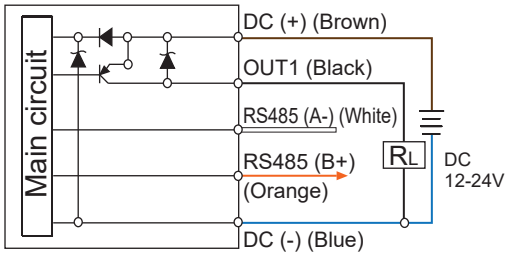
KP70 □ - 02 - □

NPN output + RS485



KP70 □ - 04 - □

PNP output + RS485



■ ORDERING INFORMATION

K P 7 0 C - 0 2 - F 1

Pressure Range

C : Compound (-101.0 ~ 101.0kPa)
V : Vacuum (10.0 ~ -101.3kPa)
P : Positive (-0.100~1.000MPa)

Output Specifications

02 : 1 NPN output + RS485
04 : 1 PNP output + RS485

Pressure Port

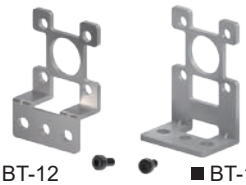
F1 : R 1/8", M5
F2 : NPT 1/8", #10-32UNF
F3 : G 1/8"(BSPP), M5

Optional Parts

BT-12 : Mounting bracket
BT-13 : Mounting bracket
PA-C : Panel adapter
PA-D : Panel adapter + Front protective lid

Optional Parts

Mounting bracket



■ BT-12 ■ BT-13

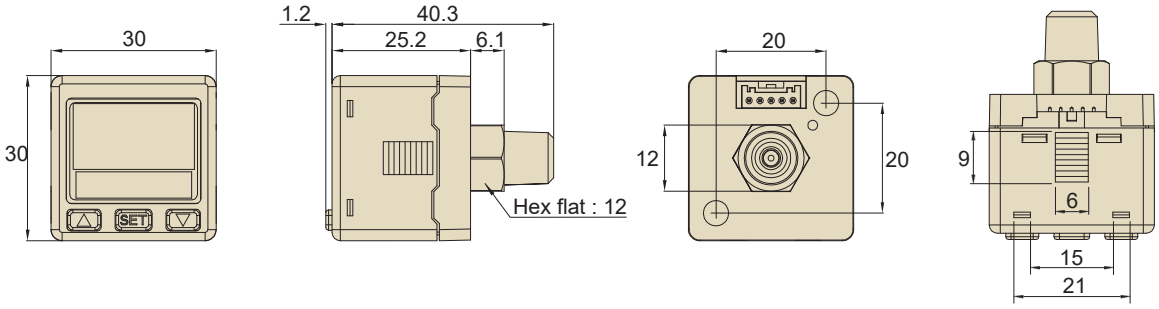
Panel adapter

■ PA-C

Panel adapter + Front protective lid

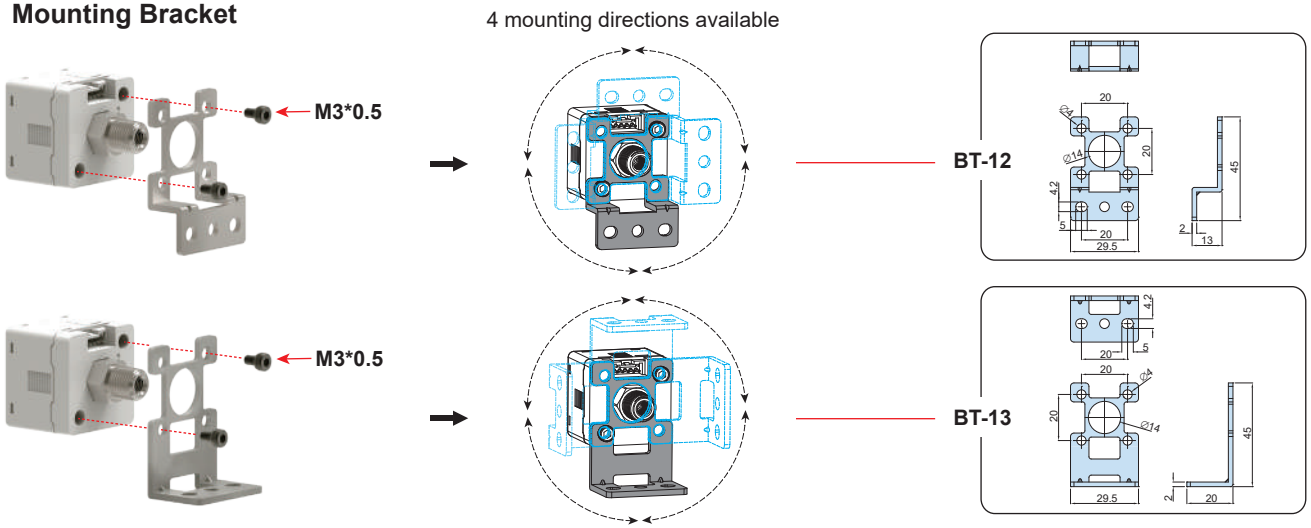
■ PA-D

■ DIMENSIONS

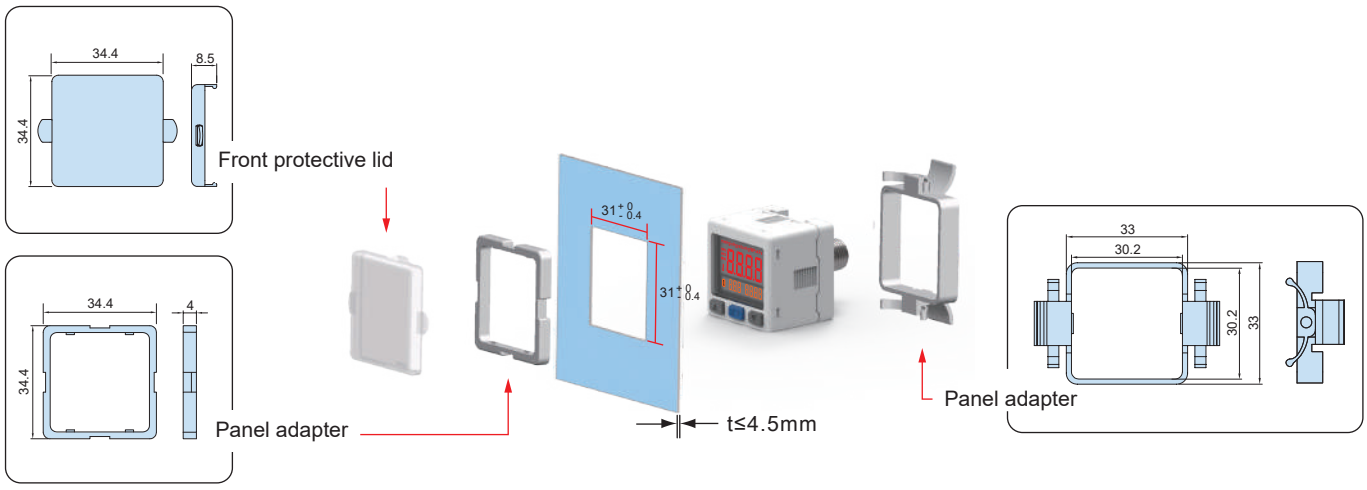


■ OPTIONAL PARTS DIMENSIONS

1 Mounting Bracket



2 Panel Mount Adapter + Front Protective Lid



Unit:mm

KP90 SERIES

Features

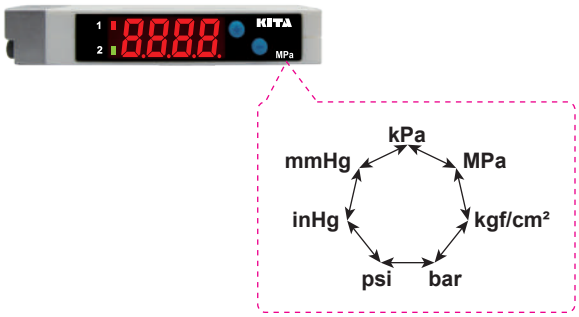
- 2 output & analog output (1~5V)
- 10mm width with compact size
- Key lock function
- Programmable pressure unit :
  kPa、MPa、kgf/cm²、bar、psi、inHg、mmHg

■ SPECIFICATIONS

TYPE	Compound	Vacuum	Positive
MODEL	KP90C	KP90V	KP90P
	1.0 MPa 100.0 kPa 0 -101.3 kPa		
Rated pressure range	-100.0 ~ 100.0 kPa	0.0 ~ -101.3 kPa	0.000 ~ 1.000 MPa
Setting pressure range	-101.0 ~ 101.0 kPa	10.0 ~ -101.3 kPa	-0.100 ~ 1.000 MPa

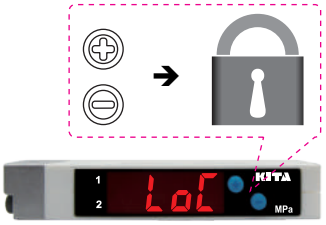
■ FEATURES HIGHLIGHT

1 Programmable pressure unit



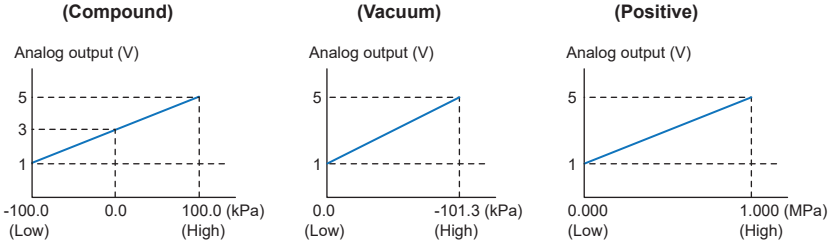
2 Key lock function

Key lock mode to prevent unauthorized adjustments
Press ⊕ and ⊖ button at the same time for 3 sec.



3 Analog output

Output range 1 to 5V, proportional to the pressure range



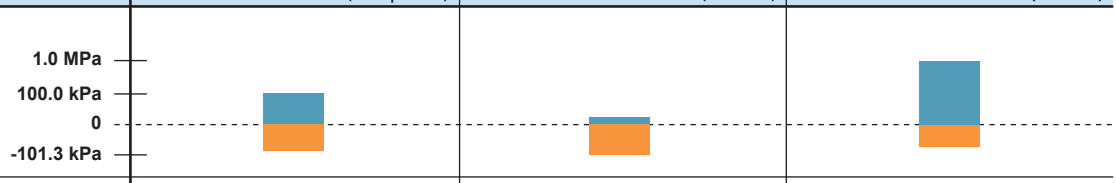
4 Compact size

KP90

VS.

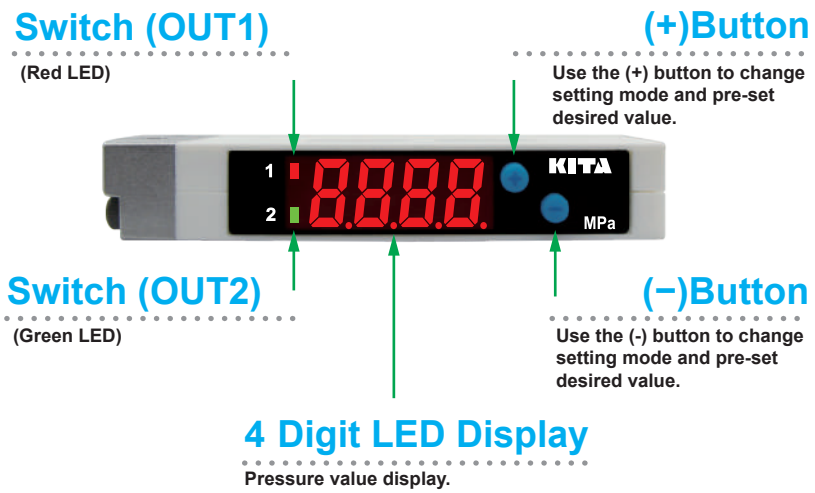
KP30

■ SPECIFICATIONS

MODEL		KP90C (Compound)	KP90V (Vacuum)	KP90P (Positive)
				
Rated pressure range		-100.0 ~ 100.0 kPa	0.0 ~ -101.3 kPa	0.000 ~ 1.000 MPa
Setting pressure range		-101.0 ~ 101.0 kPa	10.0 ~ -101.3 kPa	-0.100 ~ 1.000 MPa
Withstand pressure		500 kPa		1.5 MPa
Fluid		Filtered Air, Non-corrosive / Non-flammable gas		
Set pressure resolution	kPa	0.1		-
	MPa	-		0.001
	kgf/cm²	0.001		0.01
	bar	0.001		0.01
	psi	0.01		0.1
	inHg	0.1		-
	mmHg	1		-
Power supply voltage		12 to 24V DC ±10% , Ripple (P-P) 10% or less		
Current consumption		≤ 40mA(With no load)		
Switch output		NPN: open collector 2 outputs Max. load current: 125mA Max. supply voltage: 30V DC Residual voltage: ≤ 1.5V		PNP: open collector 2 outputs Max. load current: 125mA Max. supply voltage: 24V DC Residual voltage: ≤ 1.5V
Repeatability(Switch output)		±0.2% F.S. ±1 digit		
Response time		≤ 2.5ms (chattering proof function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selectable)		
Output short circuit protection		Yes		
7 segment LED display		4 digit LED 7display (RED)		
Indicator accuracy		±2% F.S. ±1 digit		
Switch ON Indicator		OUT1=RED , OUT2=GREEN		
Analog output (Voltage Output)		Output Voltage: 1 to 5V ±2.5% F.S. (within rated pressure range) Linearity: ±1% F.S. Output impedance: about 1kΩ		
Environment	Enclosure	IP40		
	Ambient temp. range	Operation: 0 ~ 50°C, Storage:-10 ~ 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-150Hz-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		±2% F.S. of detected pressure (25°C) at temp. range of 0~50°C		
Port size		M5		
Lead wire		Oil-resistance cable(0.14mm²)		
Weight		Approx. 53g (with 2 meter lead wire)		

KP90 SERIES

■ PANEL DESCRIPTION



■ ORDERING INFORMATION

K P 9 0 P - 0 1 0 - M 5

Pressure Range

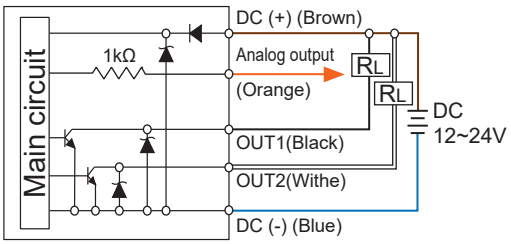
C : Compound (-101.0~101.0 kPa)
V : Vacuum (10.0~-101.3 kPa)
P : Positive (-0.100~1.000 MPa)

Output Specification

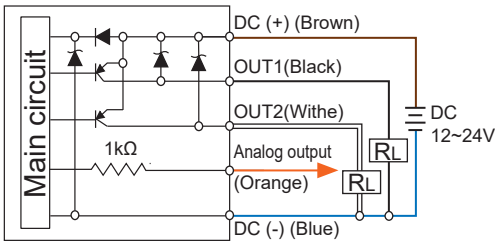
010 : 2 NPN output & Analog output(1~5V)
030 : 2 PNP output & Analog output(1~5V)

■ OUTPUT CIRCUIT WIRING DIAGRAMS

KP90 □- 010 - M5
2 NPN Output & Analog Output (1~5V)

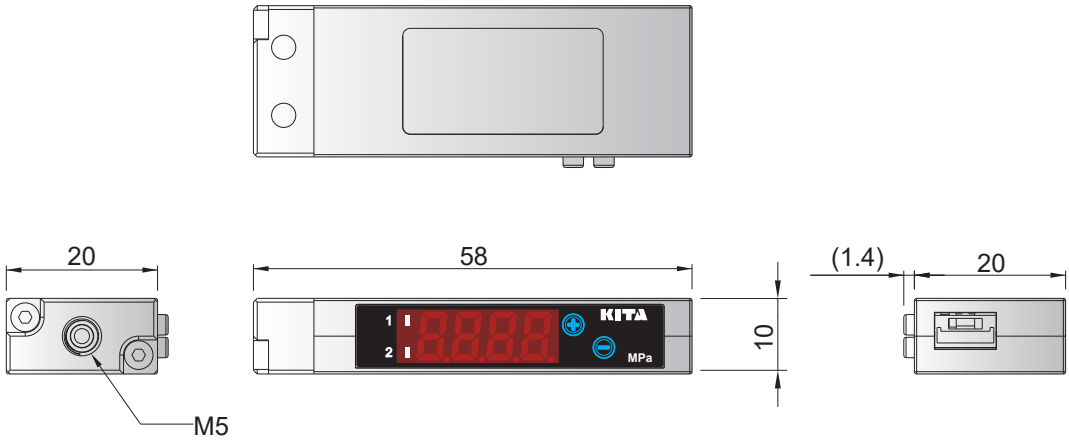


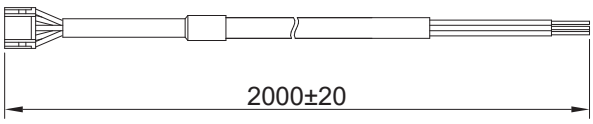
KP90 □- 030 - M5
2 PNP Output & Analog Output (1~5V)



■ DIMENSIONS

KP90□- □ - M5



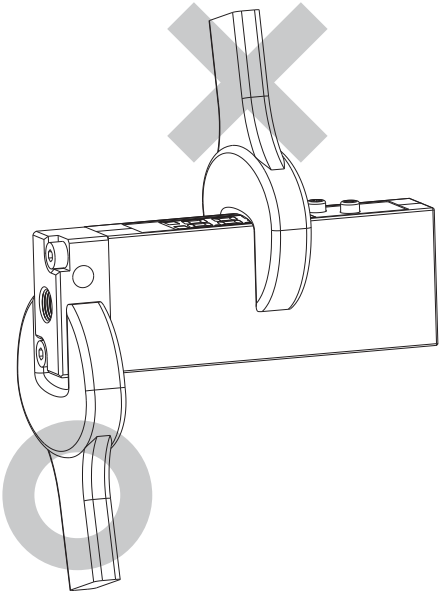


BROWN: +V (24V)
BLUE: 0V
BLACK: OUT1
WHITE: OUT2
ORANGE: Analog 1~5V

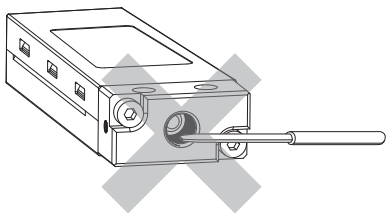
Unit:mm

■ INSTALLATION PRECAUTIONS

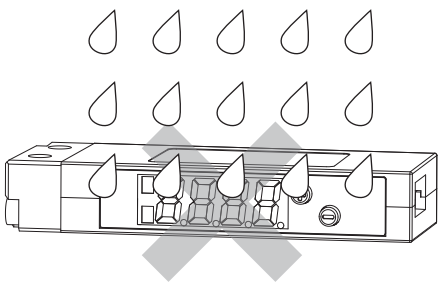
- When mounting, always use the wrench on the metallic area near the pressure port. Never apply a wrench to the plastic body, it will damage the sensor.



- Do not use a sharp tool to insert the pressure inlet to avoid damaging the sensor chip.



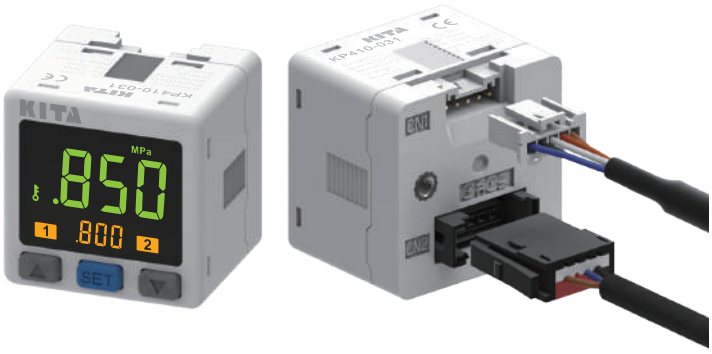
- Do not use the product in an environment that is exposed to the splash of water or dust. Otherwise failure or malfunction can result.



KP400 SERIES

Features

- 3-color digital LCD display
- Programmable pressure unit :
  kPa、MPa、kgf/cm²、bar、psi、inHg、mmHg
- Dual LCD display allows setting value to be displayed
- Key lock indicator
- Analog output : 1~5V or 4~20mA
- Sensor input : 1~5V or 4~20mA
- 12 pressure ranges for transducer



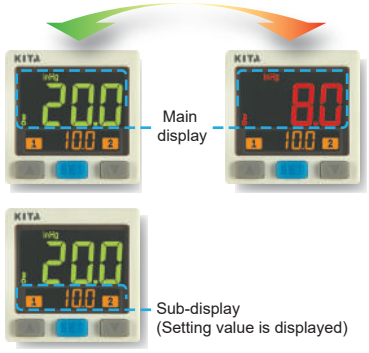
■ SPECIFICATIONS

MODEL	KP400											
SENSOR TYPE	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	S-10	S-11	S-12
40.0 MPa 1.0 MPa 100.0 kPa 0 -101.3 kPa												
Rated pressure range	0~-101.3 kPa	0~100 kPa	0~2 kPa	0~5 kPa	-100~100 kPa	-101~500 kPa	0~1 MPa	0~2 MPa	0~2.5 MPa	0~10 MPa	0~25 MPa	0~40 MPa
Setting pressure range	10~-101.3 kPa	-10~100 kPa	-0.2~2 kPa	-0.5~5 kPa	-100~100 kPa	-101~500 kPa	-0.100~1 MPa	-0.100~2 MPa	-0.100~2.5 MPa	0~10 MPa	0~25 MPa	0~40 MPa
Setting pressure range (Auto-shift input)	101.3~-101.3 kPa	-100~100 kPa	-2~2 kPa	-5~5 kPa	-100~100 kPa	-500~500 kPa	-1~1 MPa	-2~2 MPa	-2.5~2.5 MPa	-10~10 MPa	-25~25 MPa	-40~40 MPa

■ FEATURES HIGHLIGHT

1 3-color digital LCD display

Main display color change with output status
Green <-> Red
Red <-> Green

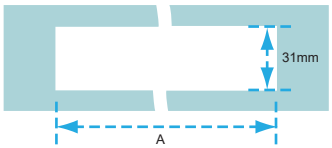


2 Programmable pressure unit

- User selectable pressure unit is indicated on the sub-display section, eliminate pressure unit label
- 7 user programmable pressure units available

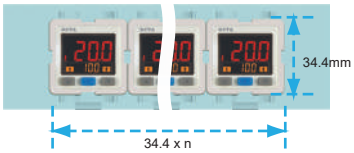
3 Save installation space

Panel opening for multiple pressure controller



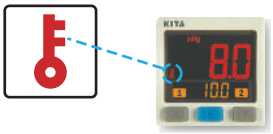
Calculation factor (A) = (34.4 x n) - 3.4
n = number of controller

Actual dimension after installation

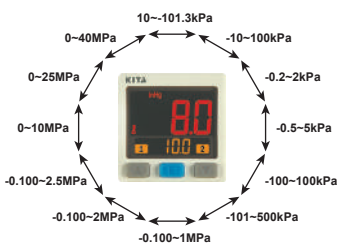


4 Key lock function

Key lock icon is shown on the display when the function is enabled.

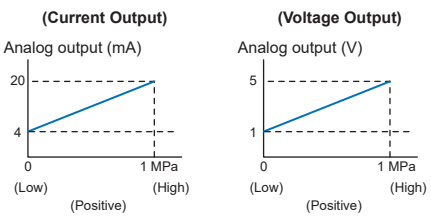


5 12 pressure ranges for transducer



6 Analog output / Sensor input

Current output or voltage output is available



■ SPECIFICATIONS

MODEL		KP400											
SENSOR TYPE		S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	S-10	S-11	S-12
		40.0 MPa 1.0 MPa 100.0 kPa 0 -101.3 kPa											
Rated pressure range		0~-101.3 kPa	0~100 kPa	0~2 kPa	0~5 kPa	-100~100 kPa	-101~500 kPa	0~1 MPa	0~2 MPa	0~2.5 MPa	0~10 MPa	0~25 MPa	0~40 MPa
Setting pressure range		10~-101.3 kPa	-10~100 kPa	-0.2~2 kPa	-0.5~5 kPa	-100~100 kPa	-101~500 kPa	-0.100~1 MPa	-0.100~2 MPa	-0.100~2.5 MPa	0~10 MPa	0~25 MPa	0~40 MPa
Setting pressure range (Auto-shift input)		101.3~-101.3 kPa	-100~100 kPa	-2~2 kPa	-5~5 kPa	-100~100 kPa	-500~500 kPa	-1~1 MPa	-2~2 MPa	-2.5~2.5 MPa	-10~10 MPa	-25~25 MPa	-40~40 MPa
Set pressure resolution	kPa	0.1	0.1	0.01	0.01	0.1	1	-	-	-	-	-	-
	MPa	-	-	-	-	-	-	0.001	0.01	0.01	0.01	0.1	0.1
	kgf/cm²	0.001	0.001	-	-	0.001	0.01	0.01	0.1	0.1	0.1	1	1
	bar	0.001	0.001	-	-	0.001	0.01	0.01	0.1	0.1	0.1	1	1
	psi	0.01	0.01	-	-	0.01	0.1	0.1	1	1	1	1 (*4)	1 (*4)
	inHg	0.1	-	-	-	0.1	-	-	-	-	-	-	-
	mmHg	1	-	0.1	0.1	1	-	-	-	-	-	-	-
Power supply voltage		12 to 24V DC ±10%, Ripple (P-P) 10% or less											
Current consumption		≤ 40mA (With no load)											
Sensor input		1~5V or 4~20mA											
Switch output		NPN : open collector 2 outputs Max. load current : 125mA Max. supply voltage : 30V DC Residual voltage : ≤ 1.5V					PNP : open collector 2 outputs Max. load current : 125mA Max. supply voltage : 24V DC Residual voltage : ≤ 1.5V						
Repeatability(Switch output)		±0.1% F.S. ±1 digit											
Hysteresis	One point set mode	Adjustable (*1)											
	Hysteresis mode												
	Window comparator mode												
Response time		≤ 2.5ms (chattering-proof function : 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selectable)											
Output short circuit protection		Yes											
7 segment LCD display		Two color (Red/Green) main & unit display, Orange sub-display (Sampling rate : 5 times/1sec.)											
Indicator accuracy		±1% F.S. ±1 digit (Ambient temperature: 25 ±3°C)											
Switch ON Indicator		Orange (1 & 2 Indicator) OUT1 OUT2											
Analog output (Voltage Output) (*2)		Output Voltage : 1 to 5V ±2% F.S. (within rated pressure range) Linearity : ±1% F.S. Output impedance : about 1kΩ											
Analog output (Current Output) (*3)		Output Current : 4 to 20mA ±2% F.S. (within rated pressure range) Linearity : ±1% F.S. Max.Load impedance : 300Ω at power supply of 12V, 600Ω at power supply of 24V Min.Load impedance : 50Ω											
Environment	Enclosure	IP 40											
	Ambient temp. range	Operation : 0 ~ 50°C, storage : -10 ~ 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	100m/s² (10G), 3 times each in direction of X, Y and Z											
Temperature characteristic		±0.5% F.S. of detected pressure (25°C) at temp. Range of 0~50°C											
Lead wire		Oil-resistance cable (0.15mm²)											
Weight		Approx. 67g (with 2-meter lead wire)											

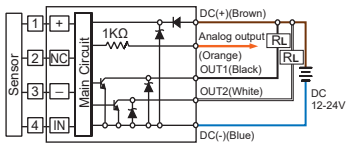
[NOTE] *1. Hysteresis value is adjustable within 1 ~ 8 digits for one point set mode and window comparator mode.
*2. If analog voltage output is selected, the analog current output cannot be selected at the same time.
*3. If analog current output is selected, the analog voltage output cannot be selected at the same time.
*4. If set pressure unit is psi, the value requires to ten multiply by display value.

KP400 SERIES

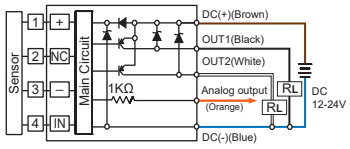
■ PANEL DESCRIPTION

■ OUTPUT CIRCUIT WIRING DIAGRAMS

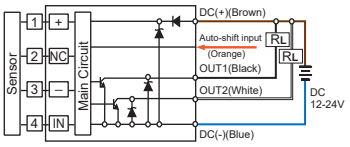
KP4□0 - 010
2 NPN + Analog Output (1~5V)



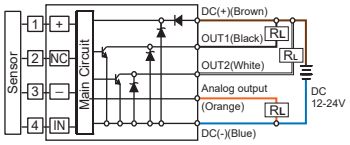
KP4□0 - 030
2 PNP + Analog Output (1~5V)



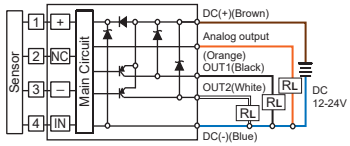
KP4□0 - 05
2 NPN output & Auto-shift input



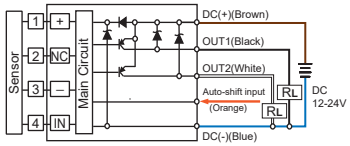
KP4□0 - 011
2 NPN + Analog Output (4~20mA)



KP4□0 - 031
2 PNP + Analog Output (4~20mA)



KP4□0 - 07
2 PNP output & Auto-shift input



■ ORDERING INFORMATION

K P 4 1 0 - 0 1 0

Input Specifications
1 : Voltage input
2 : Current input

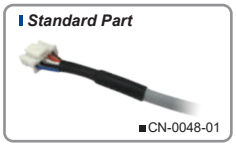
Output Channel
0 : 1 Channel

Input / Output Specifications
010 : 2 NPN outputs & Analog output (1~5V)
011 : 2 NPN outputs & Analog output (4~20mA)
030 : 2 PNP outputs & Analog output (1~5V)
031 : 2 PNP outputs & Analog output (4~20mA)
05 : 2 NPN outputs & Auto-shift input
07 : 2 PNP outputs & Auto-shift input

Standard Part
CN-0048-01 :
Power supply / Output connection cable

Optional Parts
BT-8 : Mounting bracket
BT-9 : Mounting bracket
PA-C : Panel adapter
PA-D : Panel adapter + Front protective lid
CN-0046A : Sensor connector Ø0.8 ~ Ø1.0 mm, 24~26AWG
CN-0046B : Sensor connector Ø1.0 ~ Ø1.2 mm, 24~26AWG
CN-0046C : Sensor connector Ø1.2 ~ Ø1.6 mm, 24~26AWG
KP10 □01 : Transducer

Standard Part



Optional Parts

Mounting bracket

■ BT-8 ■ BT-9

Sensor connector
■CN-0046□

Transducer

■KP10□-01

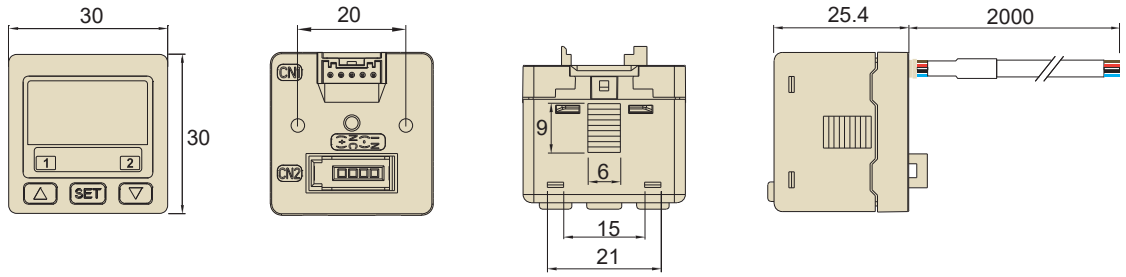
Panel adapter

■ PA-C

Panel adapter+Front protective lid

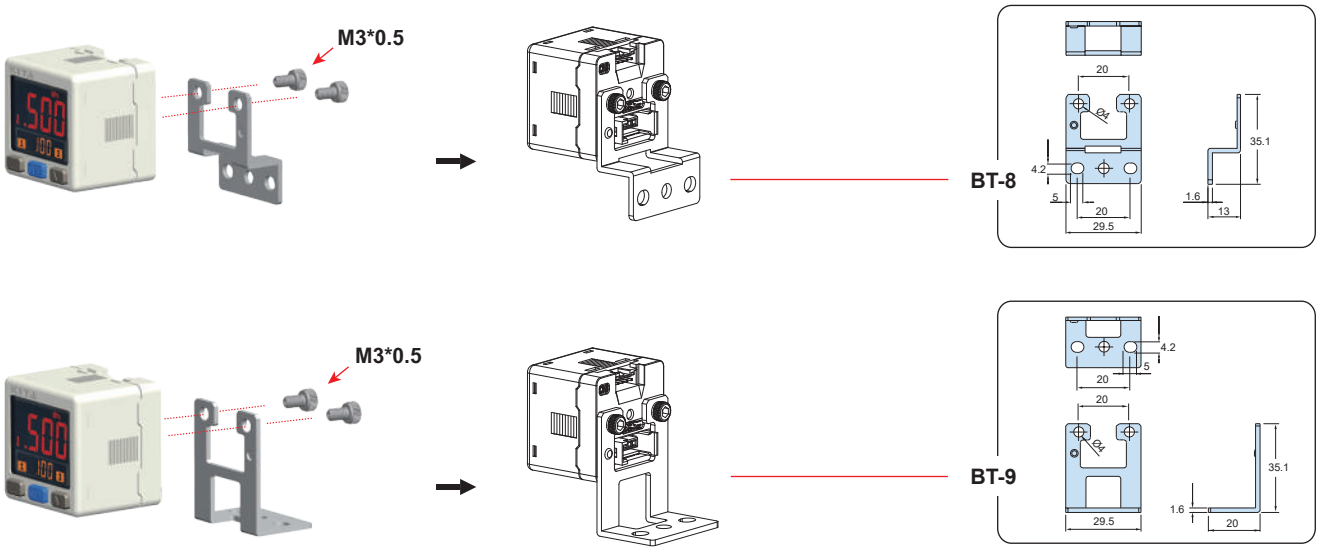
■ PA-D

■ DIMENSIONS

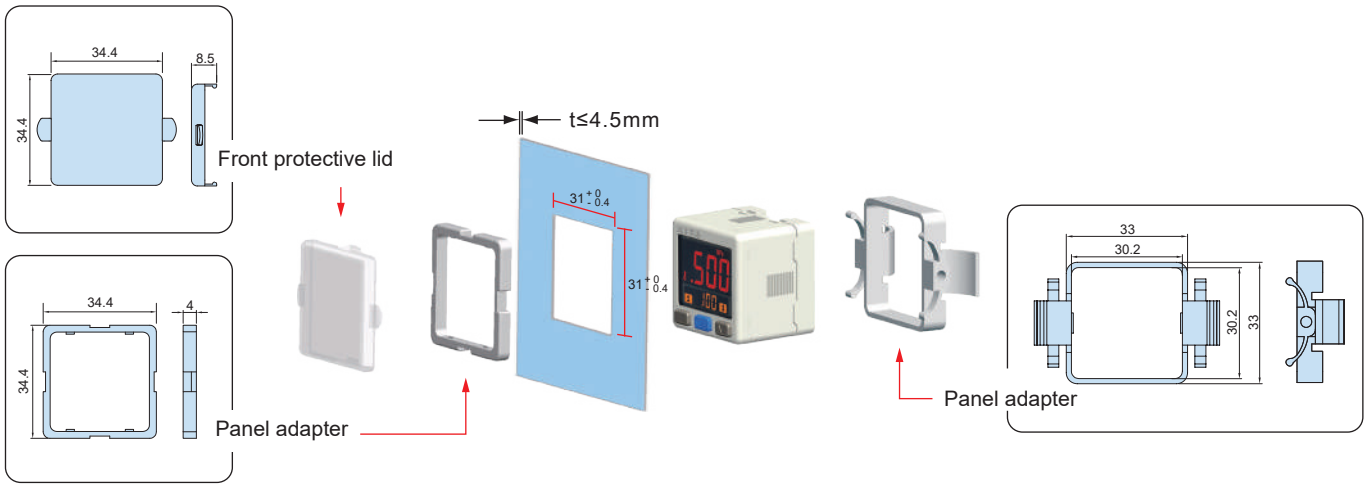


■ OPTIONAL PARTS DIMENSIONS

1 Mounting Bracket



2 Panel Mount Adapter + Front Protective Lid



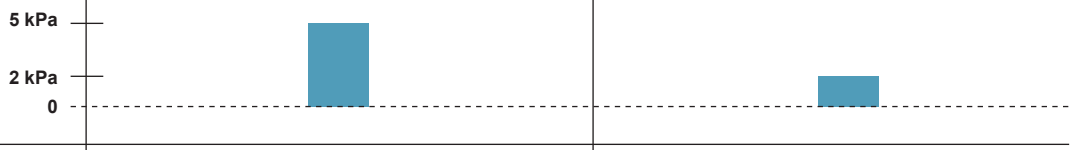
Unit:mm

KP610 SERIES

Features

- Differential pressure sensor
- Analog output : 1~5V or 4~20mA
- Pressure range : 0~2 kPa or 0~5 kPa
- Simple installation, applicable to Ø6 air tubing
- IP40 enclosure

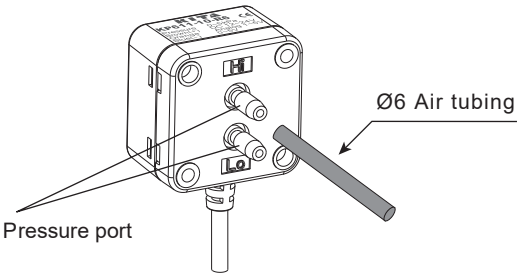
■ SPECIFICATIONS

MODEL	KP611	KP612
		
Rated differential pressure range	0 ~ 5 kPa	0 ~ 2 kPa

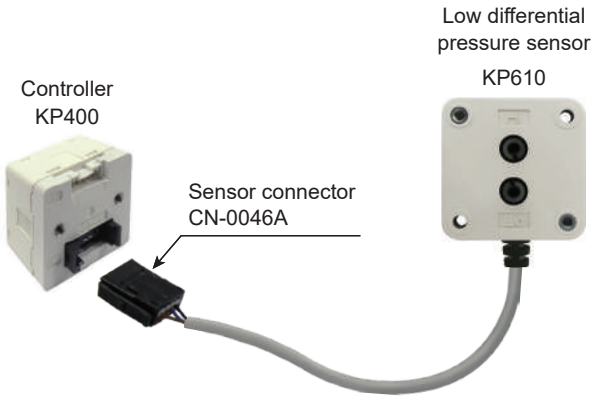
■ FEATURES HIGHLIGHT

1 Simple installation

Plug-in port for air tubing

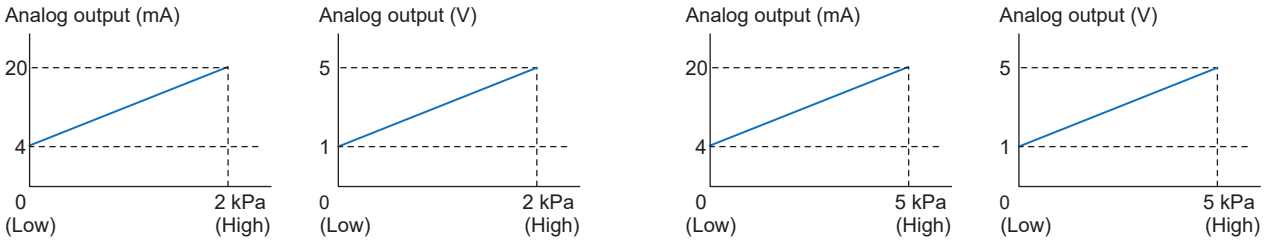


Plug connect with controller



2 Analog output

1 Analog output
Output range 1 to 5V or 4 to 20mA, proportional to the pressure range



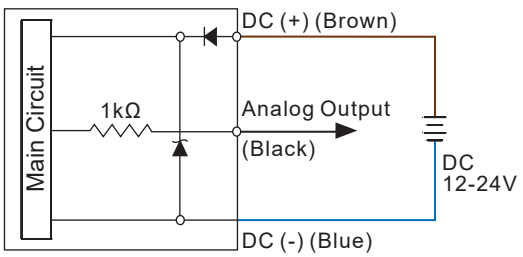
■ SPECIFICATIONS

MODEL		KP611	KP612
		5 kPa 2 kPa 0	
Rated differential pressure range		0 ~ 5 kPa	0 ~ 2 kPa
Operating pressure range		-50 ~ 50 kPa (*1)	
Withstand pressure		65 kPa	
Fluid		Filtered air, Non-corrosive / Non-flammable gas	
Power supply voltage		12 to 24V DC ±10%, Ripple (P-P) 10% or less	
Current consumption		≤ 15mA(With no load)	
Analog output (Voltage Output)		Output Voltage: 1 to 5V ±1% F.S. (within rated pressure range) Linearity: ±0.5% F.S. Output impedance: about 1kΩ	
Analog output (Current Output)		Output Current: 4 to 20mA ±1% F.S.(within rated pressure range) Linearity: ±0.5% F.S. Max.Load impedance: 250Ω at power supply of 12V 600Ω at power supply of 24V	
Environment	Enclosure	IP 40	
	Ambient temp. range	Operation: 0 ~ 50°C, Storage:-20 ~ 70°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-150Hz-10Hz scan for 1 minute, two hours each direction of X, Y and Z	
	Shock	300m/s² (30G), 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		Ø4.8 (Ø4.4 in the end) resin pipe (Applicable to Ø6 air tubing)	
Lead wire		Oil-resistance cable (0.15mm²)	
Weight		Approx. 75g (with 2-meter lead wire)	

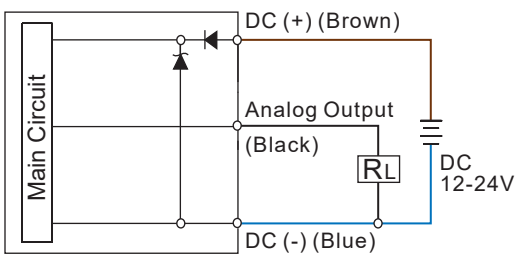
【 NOTE 】 *1 : To detect differential pressure from 0~2 kPa or 0~5 kPa within the range of -50~50 kPa

■ OUTPUT CIRCUIT WIRING DIAGRAMS

KP61□-10-R6
Analog Output(1~5V)



KP61□-11-R6
Analog Output(4~20mA)



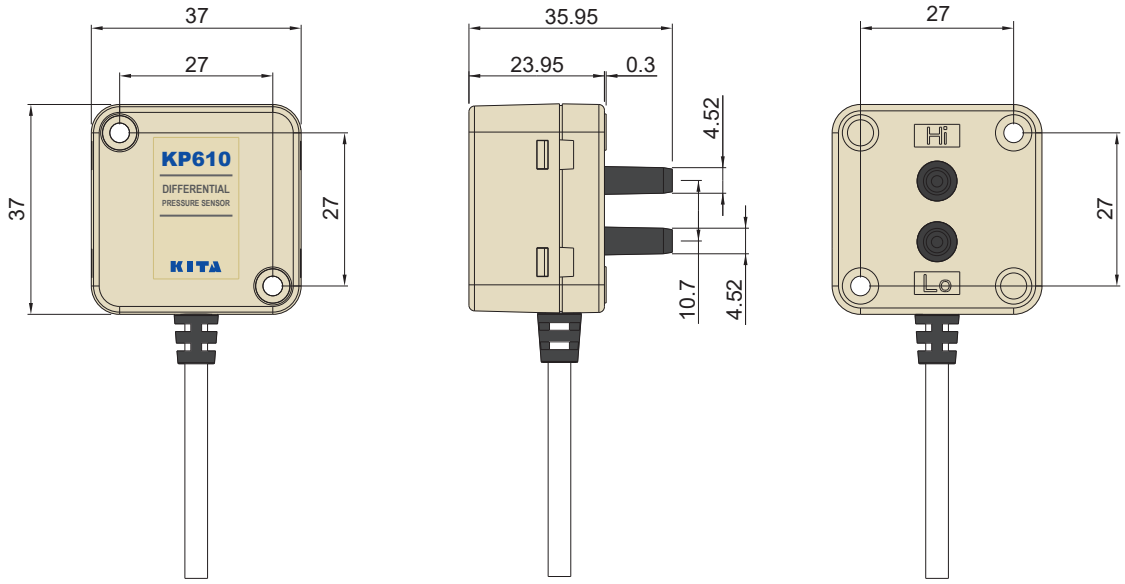
KP610 SERIES

■ ORDERING INFORMATION

K P 6 1 1 - 1 0 - R 6

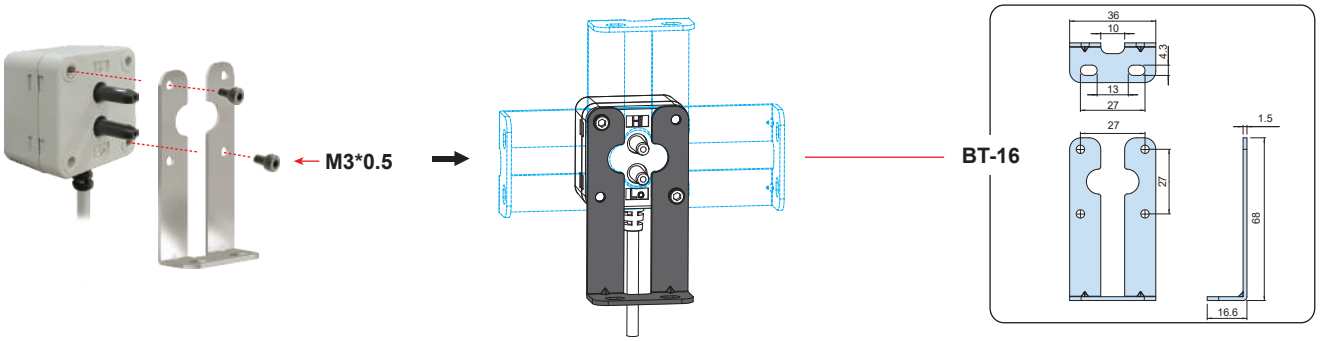
Pressure Range	*Output Specifications*	*Optional Parts*
1：0~5 kPa	10：Analog output (1~5V)	BT-16：Mounting bracket
2：0~2 kPa	11：Analog output (4~20mA)	

■ DIMENSIONS



■ OPTIONAL PARTS DIMENSIONS

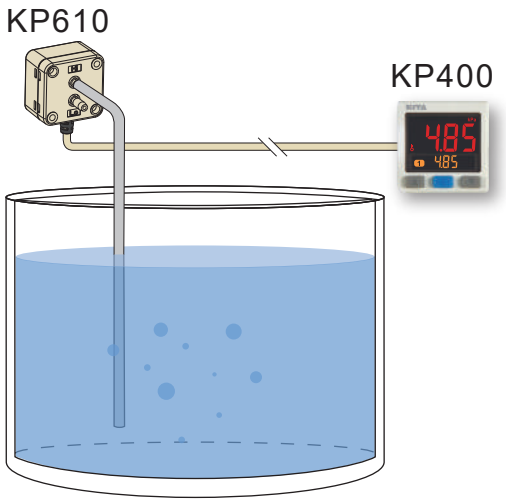
Mounting Bracket



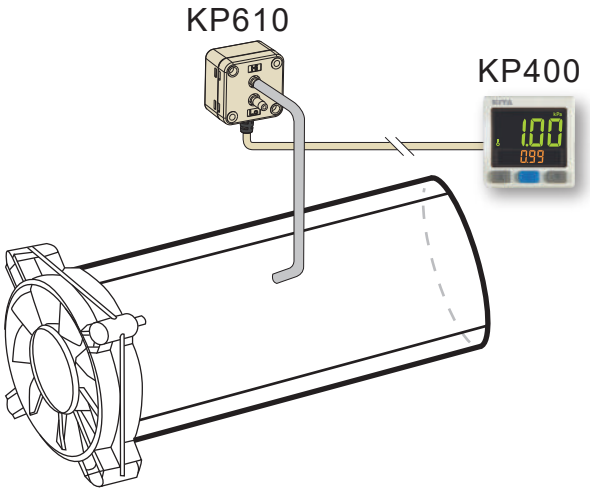
Unit:mm

■ APPLICATION

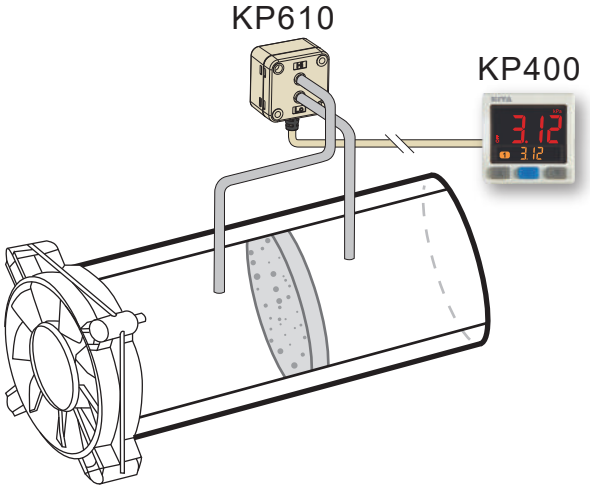
1. Liquid level detection
   To detect the liquid level by sensing the change of line pressure.



2. Air Flow detection



3. Filter air monitoring
   To monitor the clogging of filter by detecting the differential pressure.



Magnetic Sensor

KT-05 Series

P.72

KT-06 Series

P.73

KT-07 Series

P.74

KT-09 Series

P.75

KT-11 Series

P.76

KT-13 Series


P.77

KT-15 Series

P.78

KT-16 Series

P.79

KT-20 Series

P.80

KT-21 Series

P.81

KT-31 Series


P.82

KT-32 Series

P.83

KT-32-EX Series


P.84

KT-33 Series

P.85

KT-36 Series

P.86

KT-37 Series

P.87

KT-38 Series

P.88

KT-40 Series

P.89

KT-47 Series

P.90

KT-48 Series

P.91

KT-50 Series

P.92

KT-53 Series

P.93

KT-58 Series

P.94

KT-59 Series


P.95

KT-65 Series

P.96

KT-65-EX Series


P.98

KT-65-UL Series


P.99

KT-75 Series

P.100

KT-77 Series

P.101

KT-81 Series


P.102

KT-82 Series


P.103

KT-83 Series


P.104

KT-85 Series


P.105

KT-1000D Series


P.106

KT-1001D Series


P.108

Bracket

P.109

Clamp

P.112

Magnet

P.118

ORDERING INFORMATION
CONNECTION METHOD

RoHS

ORDERING INFORMATION

K T- 0 6 R H - 1 M

SENSOR MODEL

SENSOR TYPE
- R=Reed Switch 2-wire type
- RP=Reed Switch 3-wire current sourcing
- RN=Reed Switch 3-wire current sinking
- P=Solid state type, Current sourcing(PNP output)
- N=Solid state type, Current sinking(NPN output)
- D=Solid state type, 2-Wire
- T=TRIAC output
- R-NC=REED/N.C
- P-NC=PNP/N.C
- N-NC=NPN/N.C

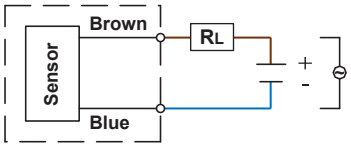
SPECIAL MARK
- None=Standard Sensitivity
- H=High Sensitivity
- L=Low Sensitivity
- X=NO Indicator

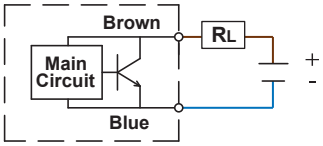
CABLE LENGTH / QD PINOUT
- QD=M8 male connector
- EQD=M8 male connector
- 1M=The length of cable is 1 meter
- 2M=The length of cable is 2 meters
- 3M=The length of cable is 3 meters
- 5M=The length of cable is 5 meters
- 10M=The length of cable is 10 meters

CONNECTION METHOD

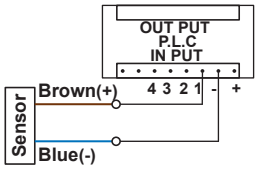
2 wire sensor connection

General connection (Reed Switch)

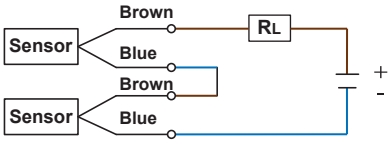




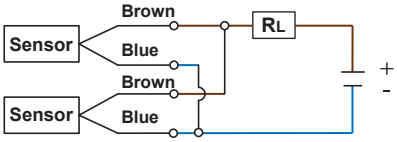
(PLC)



Series Connection (AND)



Parallel Connection (OR)

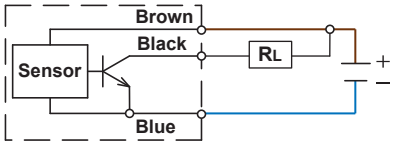


When connecting 2-wire sensors in series (AND), don't exceed more than two sensors due to the internal voltage drop (Typical V drop=2.5~4V per switch). Excessive Voltage drop will cause non-operation of the load.

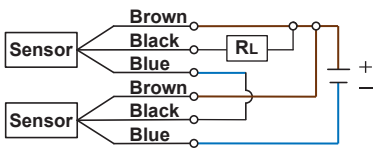
1. **When connecting solid state 2-wire sensors in parallel (OR), leakage current will increase and cause improper load operation.**
2. **When connecting 2-wire reed sensors in parallel(OR), possible concurrent operation will cause dim LED illumination due to lower current distribution.**

3 wire NPN connection

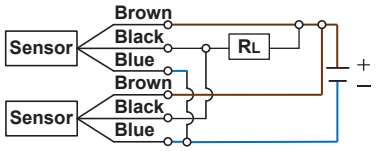
General connection



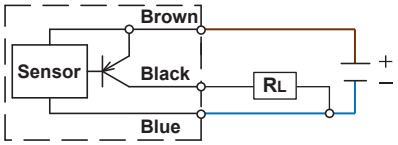
Series connection (AND)

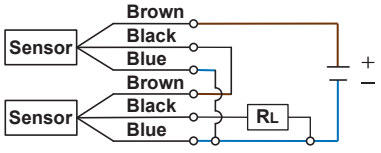


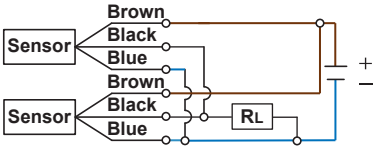
Parallel connection (OR)



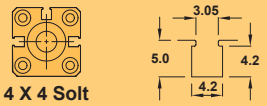
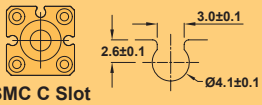
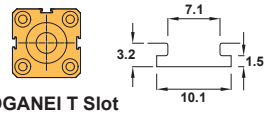
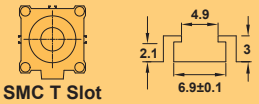
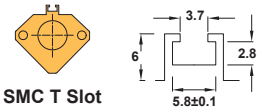
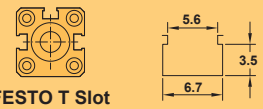
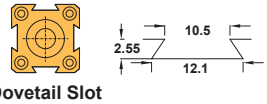
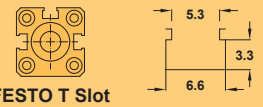
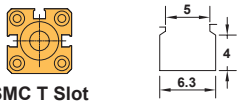
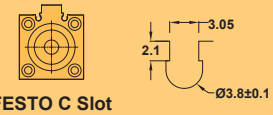
3 wire PNP connection







Cylinder / Magnetic SW. Cross Index

Items	KT-05	KT-06	KT-07	KT-09	KT-11	KT-13	KT-15	KT-16	KT-20	KT-21	KT-31	KT-32 KT-32-EX	KT-33	KT-36
Round cylinder 	BK Clamp P.113		BKC-1 Clamp P.115				BK Clamp P.113		PN / PH Clamp P.112	PN / PH Clamp P.112				BKC-1 Bracket P.115
ISO profile cylinder 			PF7 Bracket P.111					PF7 Bracket P.111	PI Bracket P.109	PI Bracket P.109	PI Bracket P.109	PF Bracket P.110		PF7 Bracket P.111
Tie-rod cylinder 			DT7 Bracket P.111					DT7 Bracket P.111	PM Bracket P.109	PM Bracket P.109	PM Bracket P.109	DT Bracket P.110 FST Clamp P.117		DT7 Bracket P.111
4 X 4 Solt 														
4 X 4 Slot 														
SMC C Slot 														
KOGANEI T Slot 														
SMC T Slot 														
SMC T Slot 														
FESTO T Slot 														
Dovetail Slot 														
FESTO T Slot 														
SMC T Slot 														
FESTO C Slot 														

	KT-37	KT-38	KT-40	KT-47	KT-48	KT-50	KT-53	KT-58	KT-59	KT-65 KT-65-EX KT-65-UL	KT-75	KT-77	KT-81	KT-82	KT-83	KT-85	KT-1000D	KT-1001D
			● BL-1 Clamp P.114		● BS Clamp P.113	● BL-1 Clamp P.114				● BKT-1 Clamp P.116	● BKT-1 Clamp P.116	● BKC-1 Clamp P.115				● BKC-1 Clamp P.115	● BP Clamp P.107 PMB Bracket P.107	
	● PF7 Bracket P.111	● PF7 Bracket P.111	● PF Bracket P.110			● PF Bracket P.110				● PF Bracket P.110	● PF Bracket P.110	● PF7 Bracket P.111	● PF7 Bracket P.111			● PF7 Bracket P.111		
	● DT7 Bracket P.111	● DT7 Bracket P.111	● DT Bracket P.110 FST Clampa P.117			● DT Bracket P.110 FST Clamp P.117				● DT Bracket P.110 FST Clamp P.117	● DT Bracket P.110 FST Clamp P.117	● DT7 Bracket P.111	● DT7 Bracket P.111			● DT7 Bracket P.111		
														●	●			
	●	●										●	●			●		●
			●			●				●	●							
				●														
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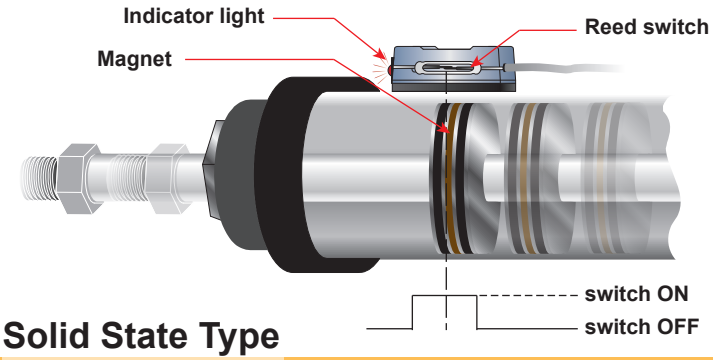
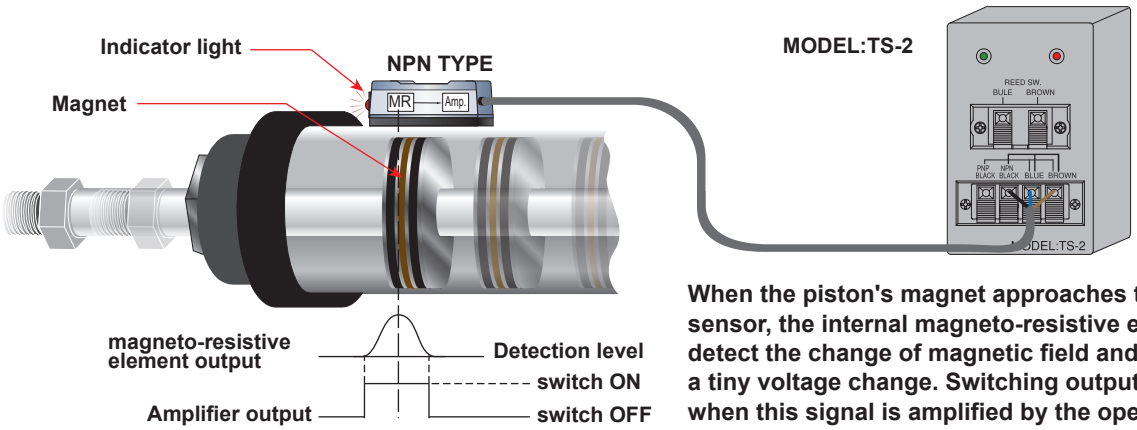
MAGNETIC SENSOR OPERATING & INSTALLING

Reed SW. Type



When the piston's magnet approaches the magnetic sensor, the internal reed switch will detect the change of magnetic field and close the contacts.

Solid State Type

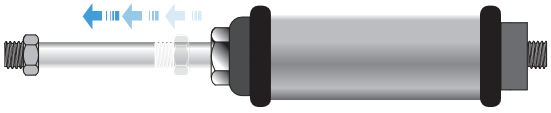


When the piston's magnet approaches the magnetic sensor, the internal magneto-resistive element can detect the change of magnetic field and cause a tiny voltage change. Switching output is achieved when this signal is amplified by the operation amplifier circuit in the magnetic sensor.

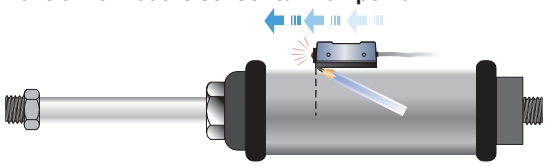
How to install the Magnetic sensor

END OF STROKE DETECTION

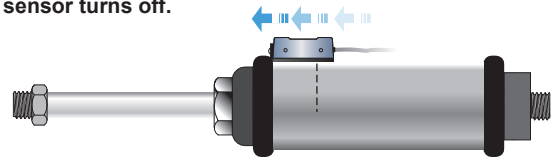
STEP 1 Set the piston to the end of stroke position.



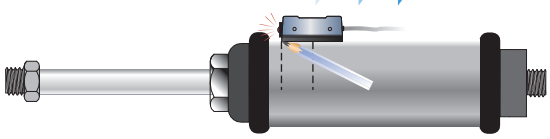
STEP 2 Slide the magnetic sensor forward and keep it close to the cylinder wall.
Make a mark at the sensor turn-on point.



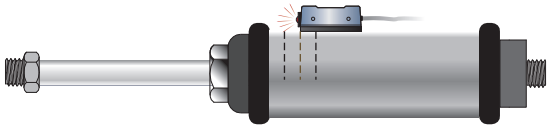
STEP 3 Slide the sensor forward continuously until the sensor turns off.



STEP 4 Slide the sensor backward until the sensor turns back on and make a mark.

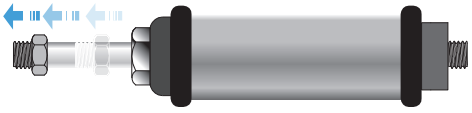


STEP 5 The intermediate position between the 2 marks will be the most ideal position.

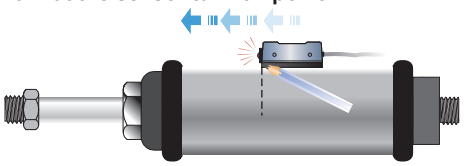


INTERMEDIATE STROKE POSITION

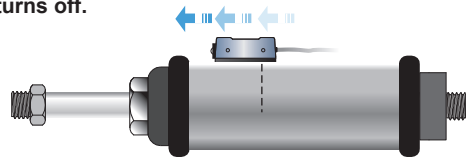
STEP 1 Set the piston to the required position.



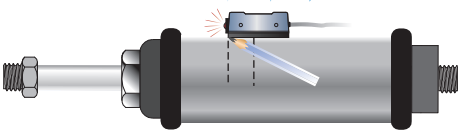
STEP 2 Slide the magnetic sensor forward and keep it close to the cylinder wall.
Make a mark at the sensor turn-on point.



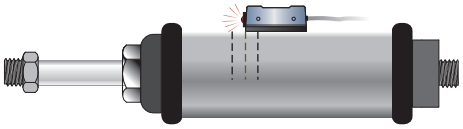
STEP 3 Slide the sensor forward continuously until the sensor turns off.



STEP 4 Slide the sensor backward until the sensor turns back on and make a mark.



STEP 5 The intermediate position between the 2 marks will be the most ideal position.

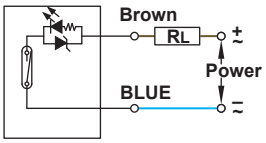


CAUTION ⚠

RoHS

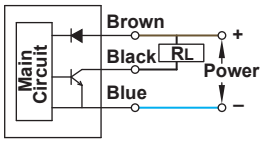
1.Do not exceed specification, permanent damage to the sensor may occur.

2.For reed sensor type sensors, polarity must also be observed for the proper function of LED. Connect the brown wire in series with load to positive (+) and the blue wire to negative (-) of power source. If the polarity is reversed, reed sensor remain functional but LED will remain in "OFF" state.

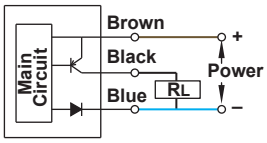


3.For solid-state type sensors, polarity must also be observed. Connect brown wire to the positive (+) and the blue to the negative (-) of DC power source. The black wire must connect to the load only. If the black wire is accidentally connected to the power source, permanent damage to the sensor may occur.

(NPN Output)



(PNP Output)



4.An external protection circuit may be required if the magnetic sensor is used with inductive load, such as relay or solenoid. For DC inductive load, attach an external diode parallel to the load and use R-C circuit parallel with AC inductive load as illustrated below.

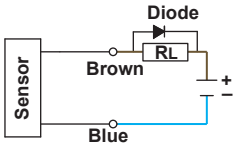
$C=I^2/10$ [μF]

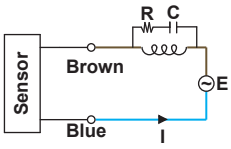
$R=E/10\ I(1+50/E)$ [Ω]

PS:

C:Capacitor I :Load current

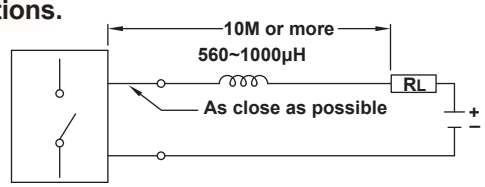
R:Resistance E:AC power



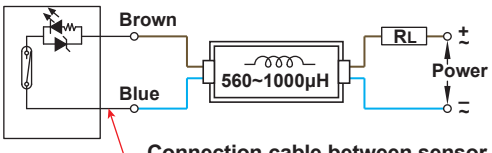


5.Keep sensors away from strong magnetic field to prevent malfunctions.

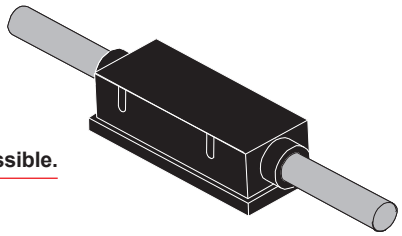
6.When using reed sensor with capacitive load or if the lead wire length exceed 10-meter, an inductor (560 ~ 1000 μH) or SR-1 (surge suppressor) must be installed in series with the sensor to prevent damage (Sticking effect).



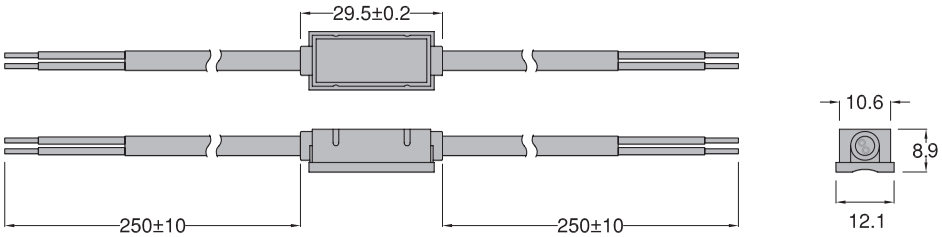
MODEL:SR-1 (Surge Suppressor)



Connection cable between sensor and SR-1 must be as close as possible.



DIMENSION

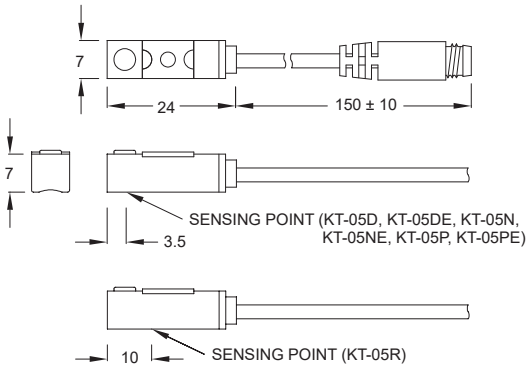


Unit:mm

KT-05 SERIES

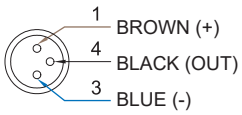
■ DIMENSIONS

KT-05R, KT-05D, KT-05DE, KT-05N, KT-05NE, KT-05P, KT-05PE /
KT-05R-QD, KT-05D-QD, KT-05DE-QD, KT-05N-QD, KT-05NE-QD, KT-05P-QD, KT-05PE-QD

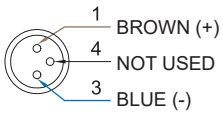


■ QD PINOUT

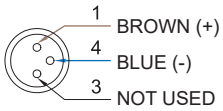
***3 wire QD wiring**



***2 wire QD wiring**

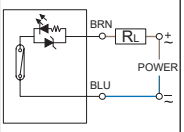
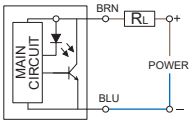
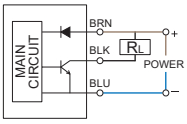
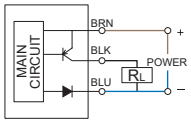


***2 wire EQD wiring**



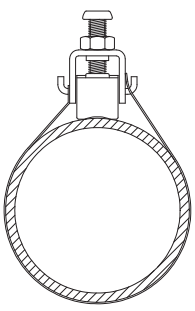
■ 規格表

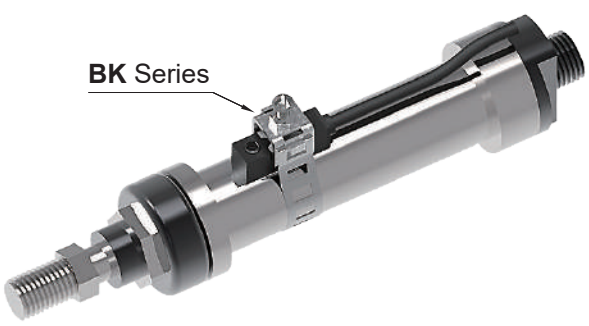
Unit:mm

TYPE	KT-05R	KT-05D	KT-05DE	KT-05N	KT-05NE	KT-05P	KT-05PE
CONNECT DIAGRAM / CHARACTERISTICS							
Wiring Method	2-Wire type			3-Wire type			
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open					
Sensor Type	Reed Switch	-		NPN Current Sinking		PNP Current Sourcing	
Operating Voltage	5~240V DC/AC	10~28V DC	5~30V DC				
Switching Current	100mA max.	50mA max.		200mA max.			
Contact Rating (*1)	10W max.	1.5W max.		6W max.			
Current Consumption	-			8mA @ 24V DC max.	6mA @ 24V DC max.	8mA @ 24V DC max.	6mA @ 24V DC max.
Voltage Drop	3.5V max.		3.7V max.	1V @ 200mA max.	0.5V @ 200mA max.	1V @ 200mA max.	0.5V @ 200mA max.
Leakage Current	-	0.8mA max.	0.1mA(40uA) max.	0.01mA max.			
Indicator	Red LED					Green LED	
Cable	ø2.8, 2C, PVC			ø2.8, 3C, PVC			
Operating Frequency	200Hz	1000Hz max.					
Magnet Requirement (*2)	55Gauss	80Gauss	40~1000Gauss	80Gauss	40~1000Gauss	80Gauss	40~1000Gauss
Temperature Range	-10~70˚C						
Shock (*3)	30G	50G					
Vibration (*4)	9G						
Enclosure Classification	IEC 60529 IP67						
Protection Circuit (*5)	1	2,4	3,4	2,3,4	3,4	2,3,4	3,4

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ MOUNTING CLAMPS



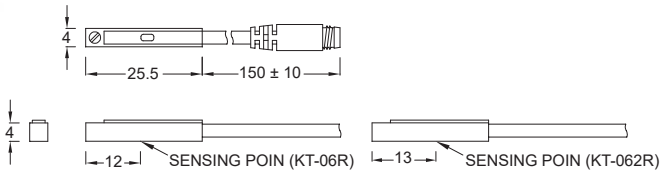


KT-06 SERIES

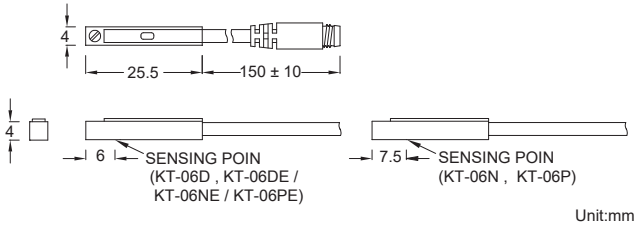
RoHS

DIMENSIONS

KT-06R, KT-062R / KT-06R-QD, KT-062R-QD



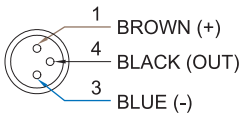
KT-06D, KT-06DE, KT-06N, KT-06NE, KT-06P, KT-06PE / KT-06D-QD, KT-06DE-QD, KT-06N-QD, KT-06NE-QD, KT-06P-QD, KT-06PE-QD



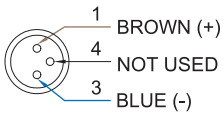
Unit:mm

QD PINOUT

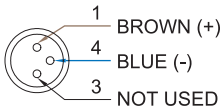
***3 wire QD wiring**



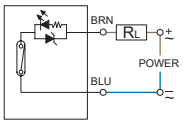
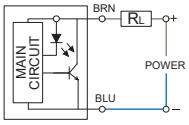
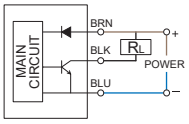
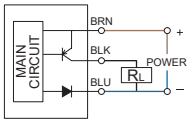
***2 wire QD wiring**



***2 wire EQD wiring**

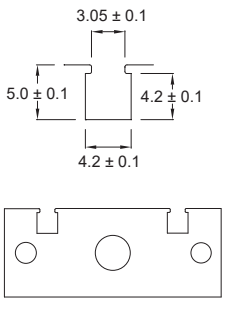


SPECIFICATIONS

TYPE	KT-06R	KT-062R	KT-06D	KT-06DE	KT-06N	KT-06NE	KT-06P	KT-06PE
CONNECT DIAGRAM / CHARACTERISTICS								
Wiring Method	2-Wire Type				3-Wire Type			
Switching Logic	SPST, Normally Open		Solid State Output, Normally Open					
Sensor Type	Reed Switch		-		NPN Current Sinking		PNP Current Sourcing	
Operating Voltage	5~120V DC/AC	5~240V DC/AC	10~28V DC	5~30V DC				
Switching Current	100mA max.		4~40mA max.	50mA max.	200mA max.			
Contact Rating (*1)	10W max.		1.1W max.	1.5W max.	6W max.			
Current Consumption	-				8mA @ 24V DC max.	6mA @ 24V DC max.	8mA @ 24V DC max.	6mA @ 24V DC max.
Voltage Drop	3.5V max.			3.7V max.	1V @ 200mA max.	0.5V@ 200mA max.	1V @ 200mA max.	0.5V@ 200mA max.
Leakage Current	-		1mA max.	0.1mA(40uA)max.	0.01mA max.			
Indicator	Red LED	Green LED	Red LED				Green LED	
Cable	ø2.8, 2C, PUR				ø2.8, 3C, PUR			
Operating Frequency	200Hz		1000Hz max.					
Magnet Requirement (*2)	70Gauss		40Gauss	40~1000Gauss	40Gauss	40~1000Gauss	40Gauss	40~1000Gauss
Temperature Range	-10~70˚C							
Shock (*3)	30G		50G					
Vibration (*4)	9G							
Enclosure Classification	IEC 60529 IP67							
Protection Circuit (*5)	1		4	3,4	2,3,4	3,4	2,3,4	3,4

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

GROOVE DIMENSIONS

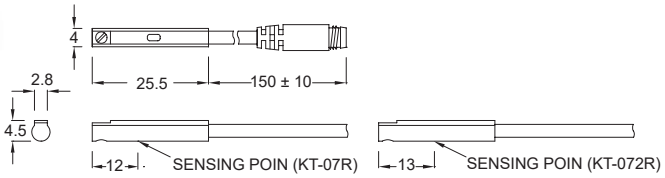


Unit:mm

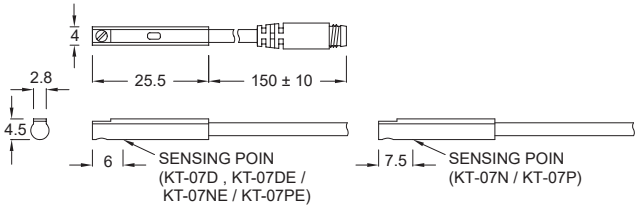
KT-07 SERIES

■ DIMENSIONS

KT-07R, KT-072R / KT-07R-QD, KT-072R-QD



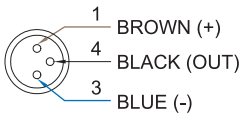
KT-07D, KT-07DE, KT-07N, KT-07NE, KT-07P, KT-07PE / KT-07D-QD, KT-07DE-QD, KT-07N-QD, KT-07NE-QD, KT-07P-QD, KT-07PE-QD



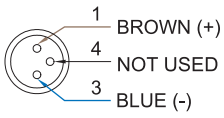
Unit:mm

■ QD PINOUT

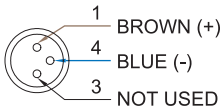
***3 wire QD wiring**



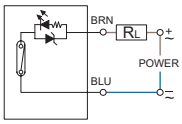
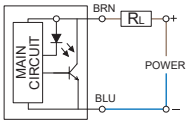
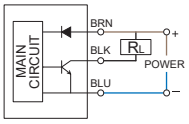
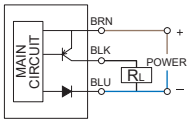
***2 wire QD wiring**



***2 wire EQD wiring**

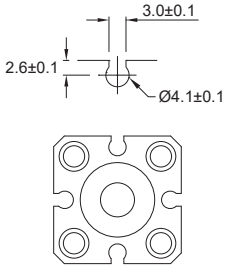


■ SPECIFICATIONS

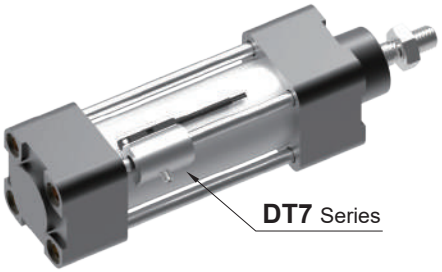
TYPE	KT-07R	KT-072R	KT-07D	KT-07DE	KT-07N	KT-07NE	KT-07P	KT-07PE
CONNECT DIAGRAM								
CHARACTERISTICS								
Wiring Method	2-Wire Type				3-Wire Type			
Switching Logic	SPST, Normally Open		Solid State Output, Normally Open					
Sensor Type	Reed Switch		-		NPN Current Sinking		PNP Current Sourcing	
Operating Voltage	5~120V DC/AC	5~240V DC/AC	10~28V DC	5~30V DC				
Switching Current	100mA max.		4~40mA max.	50mA max.	200mA max.			
Contact Rating (*1)	10W max.		1.1W max.	1.5W max.	6W max.			
Current Consumption	-				8mA @ 24V DC max.	6mA @ 24V DC max.	8mA @ 24V DC max.	6mA @ 24V DC max.
Voltage Drop	3.5V max.			3.7V max.	1V @ 200mA max.	0.5V @200mA max.	1V @200mA max.	0.5V @200mA max.
Leakage Current	-		1mA max.	0.1mA(40uA) max.	0.01mA max.			
Indicator	Red LED	Green LED	Red LED				Green LED	
Cable	ø2.8, 2C, PUR				ø2.8, 3C, PUR			
Operating Frequency	200Hz		1000Hz max.					
Magnet Requirement (*2)	70Gauss		40Gauss	40~1000Gauss	40Gauss	40~1000Gauss	40Gauss	40~1000Gauss
Temperature Range	-10~70°C							
Shock (*3)	30G		50G					
Vibration (*4)	9G							
Enclosure Classification	IEC 60529 IP67							
Protection Circuit (*5)	1		4	3,4	2,3,4	3,4	2,3,4	3,4

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ GROOVE DIMENSIONS



■ BRACKET

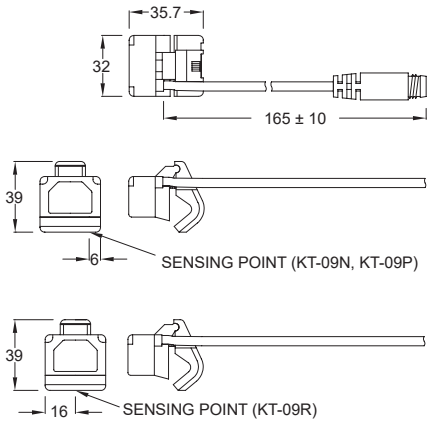


Unit:mm

KT-09 SERIES

■ DIMENSIONS

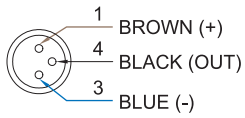
KT-09R, KT-09N, KT-09P /
KT-09R-QD, KT-09N-QD, KT-09P-QD



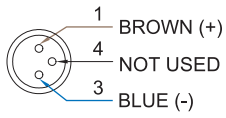
Unit:mm

■ QD PINOUT

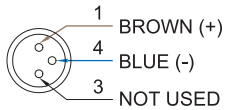
***3 wire QD wiring**



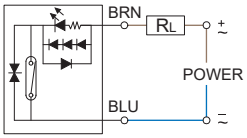
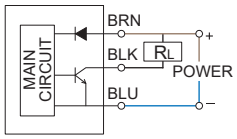
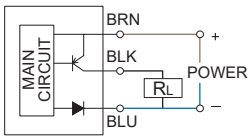
***2 wire QD wiring**



***2 wire EQD wiring**

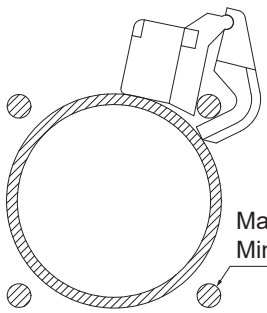


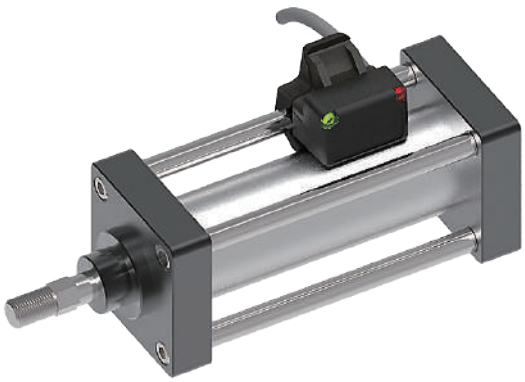
■ SPECIFICATIONS

TYPE	KT-09R	KT-09N	KT-09P
CONNECT DIAGRAM / CHARACTERISTICS			
Wiring Method	2-Wire Type	3-Wire Type	
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open	
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	5~240V DC/AC	5~30V DC	
Switching Current	1Amp. max.		
Contact Rating (*1)	30W max.		
Current Consumption	-	42mA @ 24V DC max.	30mA @ 24V DC max.
Voltage Drop	3.5V max.	1.5V @ 0.5A max.	
Leakage Current	-	0.01mA max.	
Indicator	Red LED	Power : Green LED , Output : Red LED	
Cable	ø4.5, 2C, PVC	ø4.5, 3C, PVC	
Operating Frequency	200Hz	1000Hz	
Magnet Requirement (*2)	80Gauss	40Gauss	
Temperature Range	-10~70˚C		
Shock (*3)	30G	50G	
Vibration (*4)	9G		
Enclosure Classification	IEC 60529 IP67		
Protection Circuit (*5)	4	3,4	

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ SELF MOUNTING CLAMPS





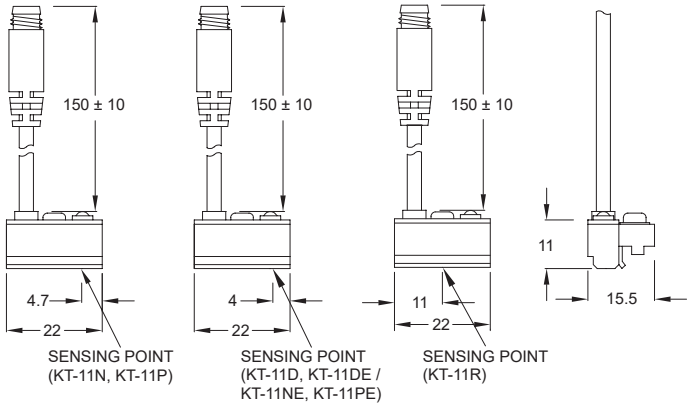
Unit:mm

KT-11 SERIES

RoHS

DIMENSIONS

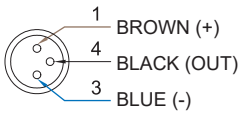
KT-11R, KT-11D, KT-11DE, KT-11N, KT-11NE, KT-11P, KT-11PE / KT-11R-QD, KT-11D-QD, KT-11DE-QD, KT-11N-QD, KT-11NE-QD, KT-11P-QD, KT-11PE-QD



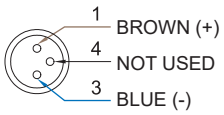
Unit:mm

QD PINOUT

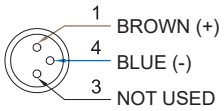
***3 wire QD wiring**



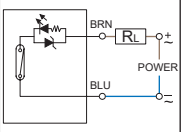
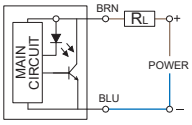
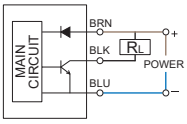
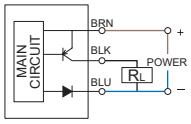
***2 wire QD wiring**



***2 wire EQD wiring**

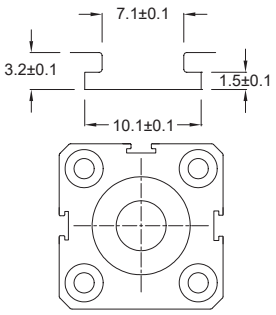


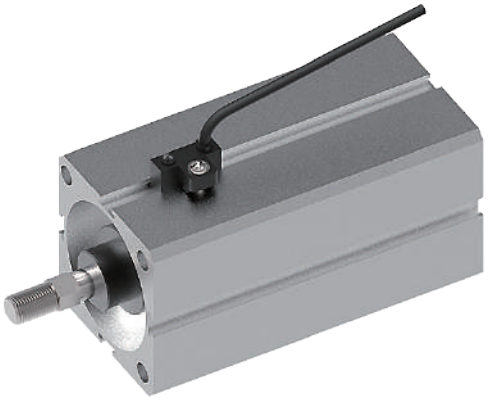
SPECIFICATIONS

TYPE	KT-11R	KT-11D	KT-11DE	KT-11N	KT-11NE	KT-11P	KT-11PE
CONNECT DIAGRAM / CHARACTERISTICS							
Wiring Method	2-Wire type			3-Wire type			
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open					
Sensor Type	Reed Switch	-		NPN Current Sinking		PNP Current Sourcing	
Operating Voltage	5~240V DC/AC	10~28V DC	5~30V DC				
Switching Current	100mA max.	4~40mA max.	50mA max.	200mA max.			
Contact Rating (*1)	10W max.	1.1W max.	1.5W max.	6W max.			
Current Consumption	-			22mA @ 24V DC max.	6mA @ 24V DC max.	20mA @ 24V DC max.	6mA @ 24V DC max.
Voltage Drop	3.5V max.		3.7V max.	0.5V @ 200mA max.			
Leakage Current	-	1mA max.	0.1mA(40uA) max.	0.01mA max.			
Indicator	Red LED	Green LED		Red LED		Green LED	
Cable	ø3.3, 2C, PVC			ø3.3, 3C, PVC			
Operating Frequency	200Hz	1000Hz max.					
Magnet Requirement (*2)	70Gauss	60Gauss	40~1000Gauss	60Gauss	40~1000Gauss	60Gauss	40~1000Gauss
Temperature Range	-10~70˚C						
Shock (*3)	30G	50G					
Vibration (*4)	9G						
Enclosure Classification	IEC 60529 IP67						
Protection Circuit (*5)	1	4	3,4				

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

GROOVE DIMENSIONS





Unit:mm

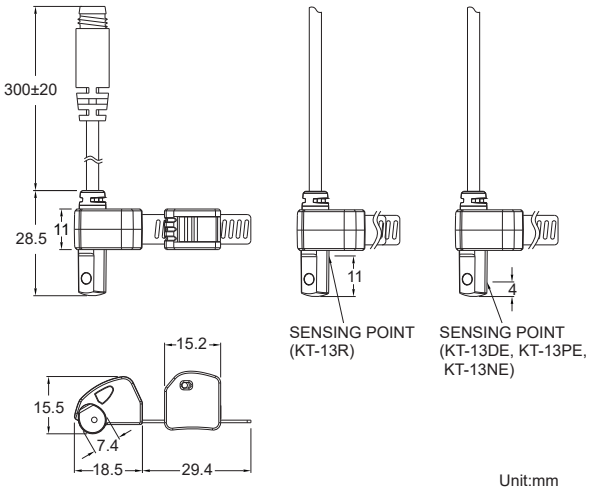
KT-13 SERIES

RoHS

NEW

■ DIMENSIONS

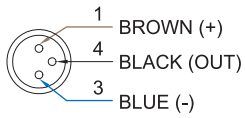
KT-13R, KT-13DE, KT-13NE, KT-13PE /
KT-13R-QD, KT-13DE-QD, KT-13NE-QD, KT-13PE-QD



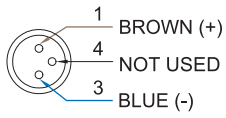
Unit:mm

■ QD PINOUT

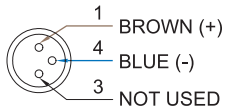
***3 wire QD wiring**



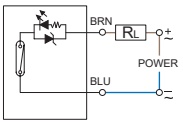
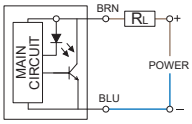
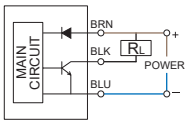
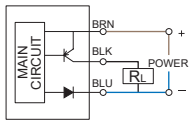
***2 wire QD wiring**



***2 wire EQD wiring**

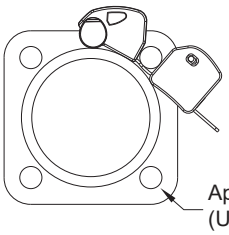


■ SPECIFICATIONS

TYPE	KT-13R	KT-13DE	KT-13NE	KT-13PE
CONNECT DIAGRAM / CHARACTERISTICS				
Wiring Method	2-Wire Type		3-Wire Type	
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open		
Sensor Type	Reed Switch	-	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	5~240V DC/AC	5~30V DC		
Switching Current	100mA max.	50mA max.	200 mA. max.	
Contact Rating (*1)	10W max.	1.5W max.	6W max.	
Current Consumption	-		6mA @ 24V DC max.	
Voltage Drop	3.5V max.	3.7V max.	0.5V @ 200mA max.	
Leakage Current	-	0.1mA(40uA) max.	0.01mA max.	
Indicator	Red LED			Green LED
Cable	ø3.3, 2C, PVC		ø3.3, 3C, PVC	
Operating Frequency	200Hz	1000Hz max.		
Magnet Requirement (*2)	55Gauss	40~1000 Gauss		
Temperature Range	-10~70˚C			
Shock (*3)	30G	50G		
Vibration (*4)	9G			
Enclosure Classification	IEC 60529 IP67			
Protection Circuit (*5)	1	3,4		

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ SELF MOUNTING CLAMPS



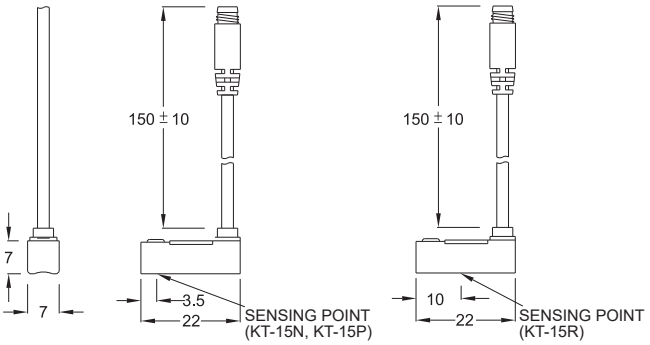
Applicable rod diameter M6 ~ M24
(Using tie-rod cylinder range Ø36 ~ Ø320)

Unit:mm

KT-15 SERIES

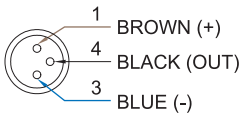
DIMENSIONS

KT-15R, KT-15N, KT-15P /
KT-15R-QD, KT-15N-QD, KT-15P-QD

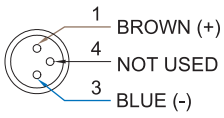


QD PINOUT

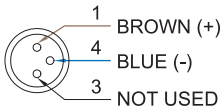
***3 wire QD wiring**



***2 wire QD wiring**

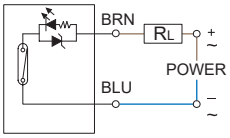
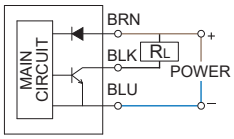
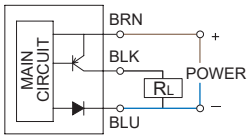


***2 wire EQD wiring**



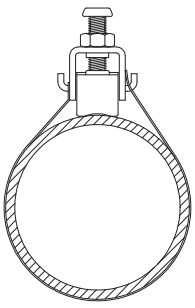
SPECIFICATIONS

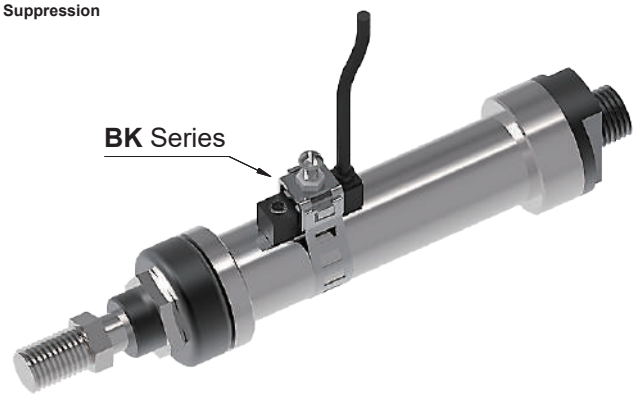
Unit:mm

TYPE	KT-15R	KT-15N	KT-15P
CONNECT DIAGRAM / CHARACTERISTICS			
Wiring Method	2-Wire Type	3-Wire Type	
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open	
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	5~240V DC/AC	5~30V DC	
Switching Current	100mA max.	200mA max.	
Contact Rating (*1)	10W max.	6W max.	
Current Consumption	-	20mA @ 24V DC max.	
Voltage Drop	3.5V max.	0.5V max.	
Leakage Current	-	0.01mA max.	
Indicator	Red LED		Green LED
Cable	ø2.8, 2C, PVC	ø2.8, 3C, PVC	
Operating Frequency	200Hz	1000Hz	
Magnet Requirement (*2)	50Gauss	40Gauss	
Temperature Range	-10~70˚C		
Shock (*3)	30G	50G	
Vibration (*4)	9G		
Enclosure Classification	IEC 60529 IP67		
Protection Circuit (*5)	1	3,4	

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

MOUNTING CLAMPS

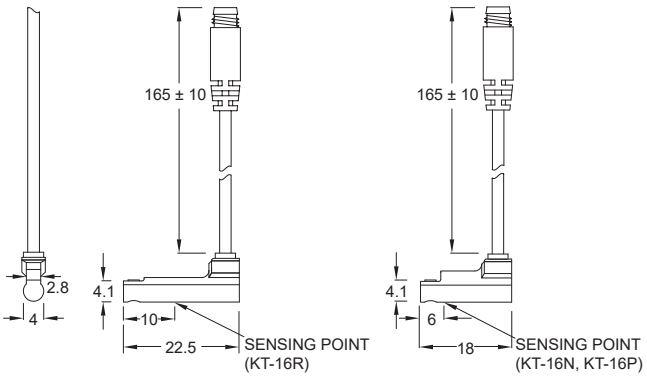




KT-16 SERIES

DIMENSIONS

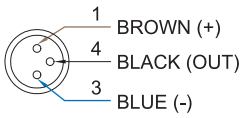
KT-16R, KT-16N, KT-16P /
KT-16R-QD, KT-16N-QD, KT-16P-QD



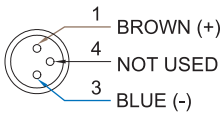
Unit:mm

QD PINOUT

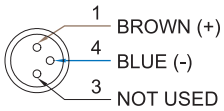
***3 wire QD wiring**



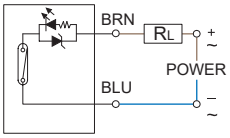
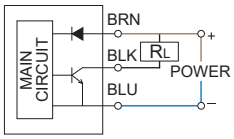
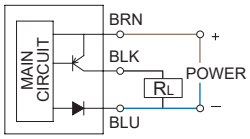
***2 wire QD wiring**



***2 wire EQD wiring**

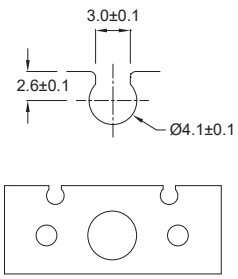


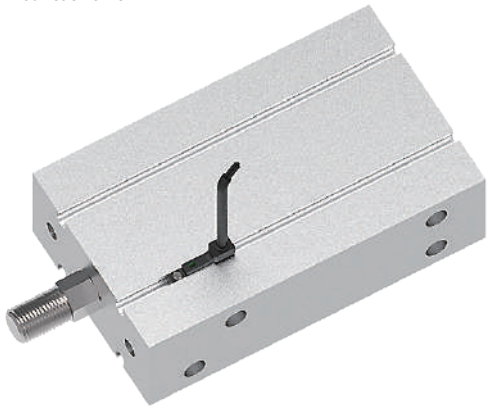
SPECIFICATIONS

TYPE	KT-16R	KT-16N	KT-16P
CONNECT DIAGRAM / CHARACTERISTICS			
Wiring Method	2-Wire Type	3-Wire Type	
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open	
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	5~120V DC/AC	5~30V DC	
Switching Current	100mA max.	50mA max.	
Contact Rating (*1)	6W max.	1.5W max.	
Current Consumption	-	7mA @ 24V DC max.	9mA @ 24V DC max.
Voltage Drop	3.5V max.	1.5V @ 50mA max.	
Leakage Current	-	0.01mA max.	
Indicator	Red LED		Green LED
Cable	ø2.8, 2C, PUR	ø2.8, 3C, PUR	
Operating Frequency	200Hz	1000Hz	
Magnet Requirement (*2)	70Gauss	40Gauss	
Temperature Range	-10~70˚C		
Shock (*3)	30G	50G	
Vibration (*4)	9G		
Enclosure Classification	IEC 60529 IP67		
Protection Circuit (*5)	1	3,4	

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

GROOVE DIMENSIONS



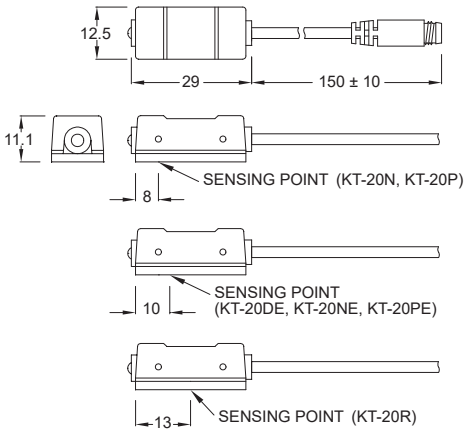


Unit:mm

KT-20 SERIES

■ DIMENSIONS

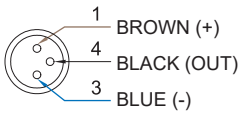
KT-20R, KT-20DE, KT-20N, KT-20NE, KT-20P, KT-20PE / KT-20R-QD, KT-20DE-QD, KT-20N-QD, KT-20NE-QD, KT-20P-QD, KT-20PE-QD



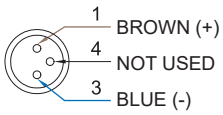
Unit:mm

■ QD PINOUT

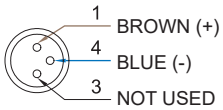
***3 wire QD wiring**



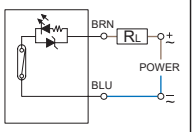
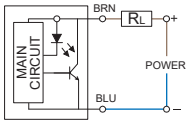
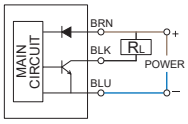
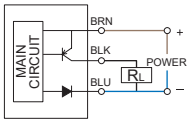
***2 wire QD wiring**



***2 wire EQD wiring**



■ SPECIFICATIONS

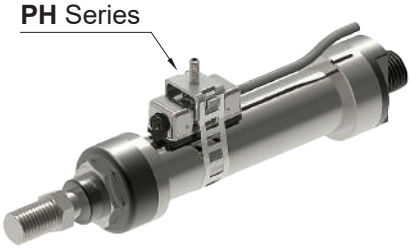
TYPE	KT-20R	KT-20DE	KT-20N	KT-20NE	KT-20P	KT-20PE
CONNECT DIAGRAM						
CHARACTERISTICS						
Wiring Method	2-Wire type		3-Wire type			
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open				
Sensor Type	Reed Switch	-	NPN Current Sinking		PNP Current Sourcing	
Operating Voltage	5~240V DC/AC	5~30V DC				
Switching Current	100mA max.	50mA max.	200mA max.			
Contact Rating (*1)	10W max.	1.5W max.	6W max.			
Current Consumption	-		15mA @ 24V DC max.	6mA @ 24V DC max.	15mA @ 24V DC max.	6mA @ 24V DC max.
Voltage Drop	3.5V max.	3.7V max.	1.5V max.	0.5V max.	1.5V max.	0.5V max.
Leakage Current	-	0.1mA(40uA) max.	0.01mA max.			
Indicator	Green LED	Red LED			Green LED	
Cable	ø4, 2C, PVC		ø4, 3C, PVC			
Operating Frequency	200Hz	1000Hz max.				
Magnet Requirement (*2)	80Gauss	50~1000Gauss	70Gauss	50~1000Gauss	70Gauss	50~1000Gauss
Temperature Range	-10~70˚C					
Shock (*3)	30G	50G				
Vibration (*4)	9G					
Enclosure Classification	IEC 60529 IP67					
Protection Circuit (*5)	1	3,4	2,3,4	3,4	2,3,4	3,4

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

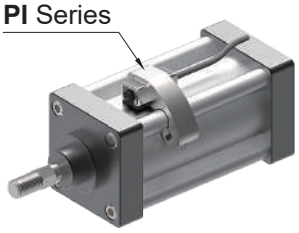
■ CLAMPS / BRACKET

KT-20 & KT-21 series can be applied to many kind of cylinders

PH Series



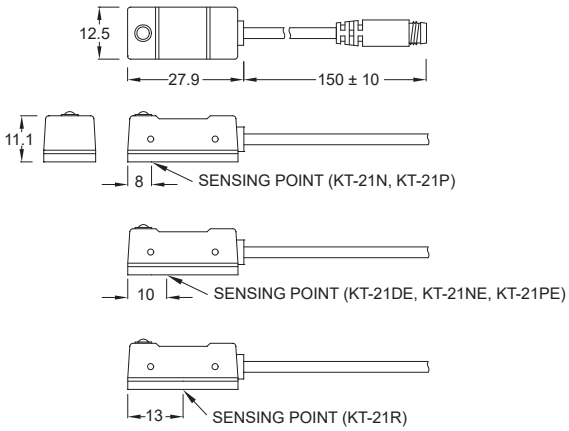
PI Series



KT-21 SERIES

DIMENSIONS

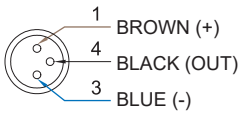
KT-21R, KT-21DE, KT-21N, KT-21NE, KT-21P, KT-21PE / KT-21R-QD, KT-21DE-QD, KT-21N-QD, KT-21NE-QD, KT-21P-QD, KT-21PE-QD



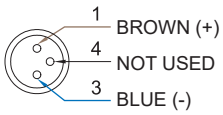
Unit:mm

QD PINOUT

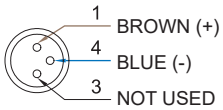
***3 wire QD wiring**



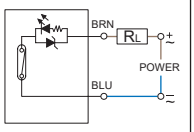
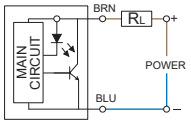
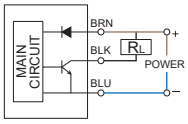
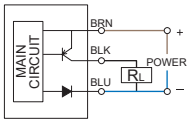
***2 wire QD wiring**



***2 wire EQD wiring**



SPECIFICATIONS

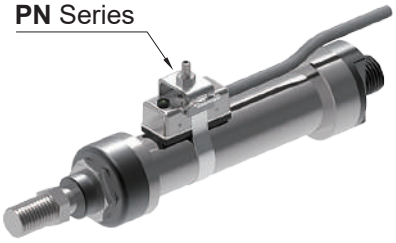
TYPE	KT-21R	KT-21DE	KT-21N	KT-21NE	KT-21P	KT-21PE
CONNECT DIAGRAM / CHARACTERISTICS						
Wiring Method	2-Wire type		3-Wire type			
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open				
Sensor Type	Reed Switch	-	NPN Current Sinking		PNP Current Sourcing	
Operating Voltage	5~240V DC/AC	5~30V DC				
Switching Current	100mA max.	50mA max.	200mA max.			
Contact Rating (*1)	10W max.	1.5W max.	6W max.			
Current Consumption	-		15mA @ 24V DC max.	6mA @ 24V DC max.	15mA @ 24V DC max.	6mA @ 24V DC max.
Voltage Drop	3.5V max.	3.7V max.	1.5V max.	0.5V max.	1.5V max.	0.5V max.
Leakage Current	-	0.1mA(40uA) max.	0.01mA max.			
Indicator	Green LED	Red LED			Green LED	
Cable	ø4, 2C, PVC		ø4, 3C, PVC			
Operating Frequency	200Hz	1000Hz max.				
Magnet Requirement (*2)	80Gauss	40~1000Gauss	70Gauss	40~1000Gauss	70Gauss	40~1000Gauss
Temperature Range	-10~70˚C					
Shock (*3)	30G	50G				
Vibration (*4)	9G					
Enclosure Classification	IEC 60529 IP67					
Protection Circuit (*5)	1	3,4	2,3,4	3,4	2,3,4	3,4

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

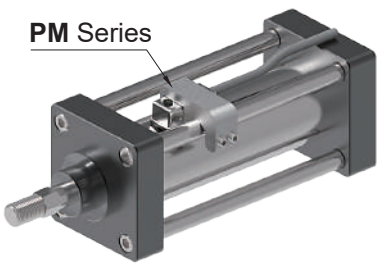
CLAMPS / BRACKET

KT-20 & KT-21 series can be applied to many kind of cylinders

PN Series



PM Series



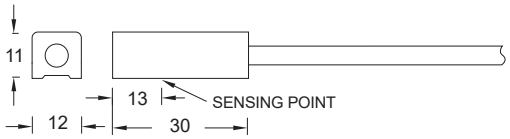
KT-31 SERIES

RoHS

HIGH TEMP. RESISTANT
MAX 140˚C

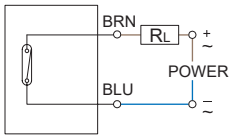
■ DIMENSIONS

■ M8 Connector option is not available



■ SPECIFICATIONS

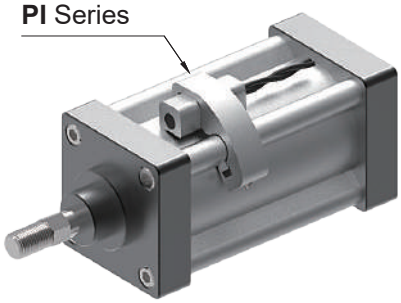
Unit:mm

TYPE	KT-31R
CONNECT DIAGRAM	
CHARACTERISTICS	
Wiring Method	2-Wire Type
Switching Logic	SPST, Normally Open
Sensor Type	Reed Switch
Operating Voltage	5~240V DC/AC
Switching Current	500mA max.
Contact Rating	10W max.
Current Consumption	-
Voltage Drop	0.5V max.
Leakage Current	-
Indicator	-
Cable	ø3, 2C, Teflon
Operating Frequency	200Hz
Magnet Requirement (*2)	40Gauss
Temperature Range	-10~140˚C
Shock (*3)	30G
Vibration (*4)	9G
Enclosure Classification	IEC 60529 IP67
Protection Circuit (*5)	1

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ BRACKET

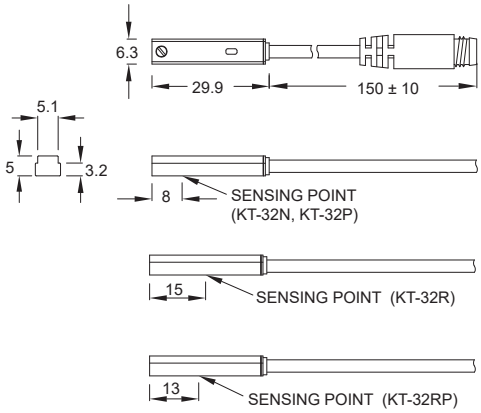
PI Series



KT-32 SERIES

■ DIMENSIONS

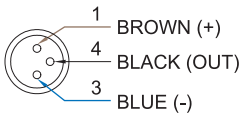
KT-32R, KT-32N, KT-32P, KT-32RP / KT-32R-QD, KT-32N-QD, KT-32P-QD, KT-32RP-QD



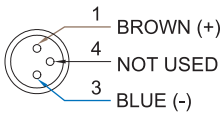
Unit:mm

■ QD PINOUT

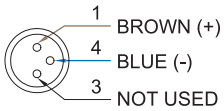
***3 wire QD wiring**



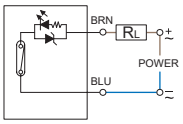
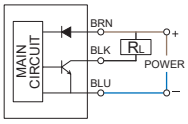
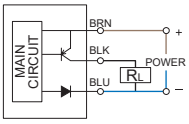
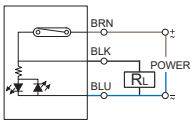
***2 wire QD wiring**



***2 wire EQD wiring**

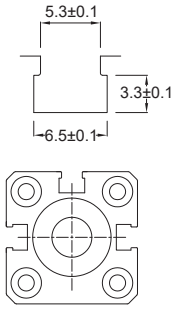


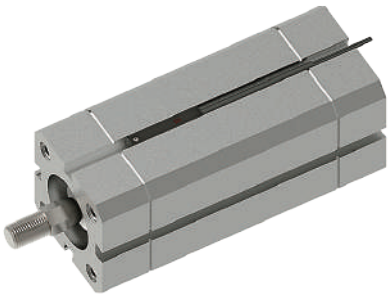
■ SPECIFICATIONS

TYPE	KT-32R	KT-32N	KT-32P	KT-32RP
CONNECT DIAGRAM / CHARACTERISTICS				
Wiring Method	2-Wire Type	3-Wire Type		
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open		SPST, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing	Reed Switch
Operating Voltage	5~240V DC/AC	10~30V DC		10~30V DC/AC
Switching Current	100mA max.			500mA max.
Contact Rating (*1)	10W max.	3W max.		10W max.
Current Consumption	-	17mA @ 24V DC max.	8mA @ 24V DC max.	10mA @ 24V DC max.
Voltage Drop	3.5V max.	1.5V max.		0.1V @ 100mA max.
Leakage Current	-	0.01mA max.		-
Indicator	Red LED		Yellow LED	
Cable	ø3.3, 2C, PVC	ø3.2, 3C, PVC		
Operating Frequency	200Hz	1000Hz		200Hz
Magnet Requirement (*2)	70Gauss	60Gauss		
Temperature Range	-10~70˚C			
Shock (*3)	30G	50G		30G
Vibration (*4)	9G			
Enclosure Classification	IEC 60529 IP67			
Protection Circuit (*5)	1	2,3,4		1

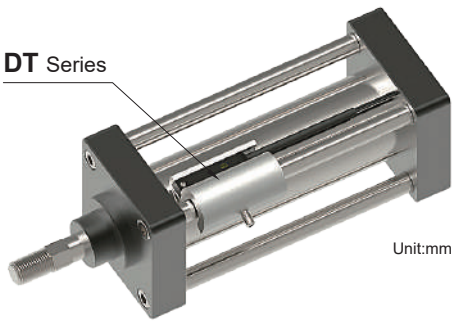
NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ GROOVE DIMENSIONS





■ BRACKET



Unit:mm

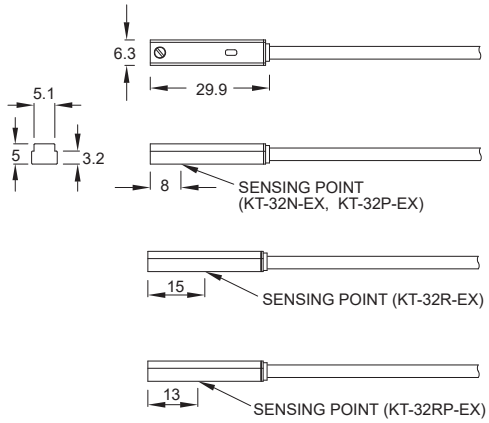
KT-32-EX SERIES

RoHS ATEX

EXPLOSION PROOF

DIMENSIONS

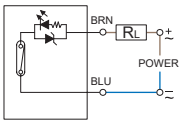
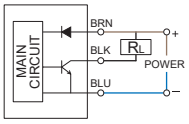
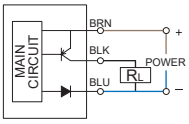
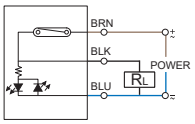
KT-32R-EX, KT-32N-EX, KT-32P-EX, KT-32RP-EX



M8 Connector option is not available

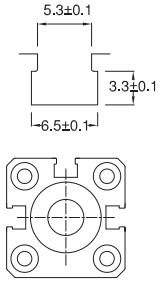
SPECIFICATIONS

Unit:mm

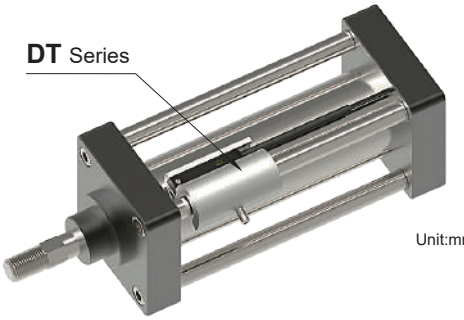
TYPE	KT-32R-EX	KT-32N-EX	KT-32P-EX	KT-32RP-EX
CONNECT DIAGRAM / CHARACTERISTICS				
Wiring Method	2-Wire Type	3-Wire Type		
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open		SPST, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing	Reed Switch
Operating Voltage	5~30V DC/AC	10~30V DC		10~30V DC/AC
Switching Current	100mA max.			500mA max.
Contact Rating (*1)	10W max.	3W max.		10W max.
Current Consumption	-	17mA @ 24V DC max.	8mA @ 24V DC max.	10mA @ 24V DC max.
Voltage Drop	3.5V max.	1.5V max.		0.1V @ 100mA max.
Leakage Current	-	0.01mA max.		-
Indicator	Red LED		Yellow LED	
Cable	ø3.3, 2C, PVC	ø3.2, 3C, PVC		
Operating Frequency	200Hz	1000Hz		200Hz
Magnet Requirement (*2)	70Gauss	60Gauss		
Temperature Range	-10~70˚C			
Shock (*3)	30G	50G		30G
Vibration (*4)	9G			
Enclosure Classification	IEC 60529 IP67			
Protection Circuit (*5)	1	2,3,4		1
CE ATEX APPROVAL Baseefa14ATEX0118	Ex II 3GD Ex ic IIB T4 Gc (-10˚C ≤ Ta ≤ +70˚C) Ex ic IIIC T135˚C Dc (-10˚C ≤ Ta ≤ +70˚C)			

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

GROOVE DIMENSIONS



BRACKET

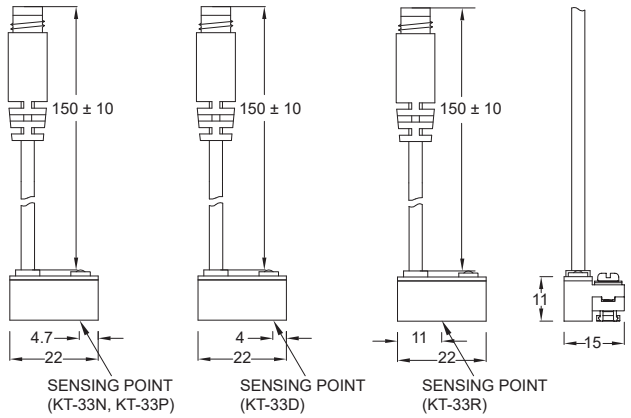


Unit:mm

KT-33 SERIES

■ DIMENSIONS

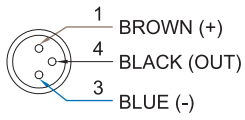
KT-33R, KT-33D, KT-33N, KT-33P /
KT-33R-QD, KT-33D-QD, KT-33N-QD, KT-33P-QD



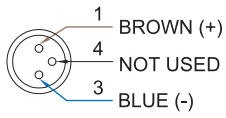
Unit:mm

■ QD PINOUT

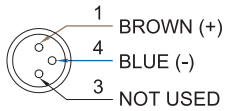
***3 wire QD wiring**



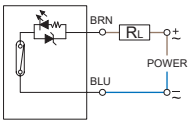
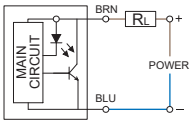
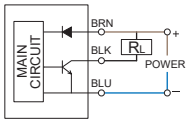
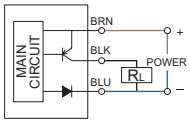
***2 wire QD wiring**



***2 wire EQD wiring**

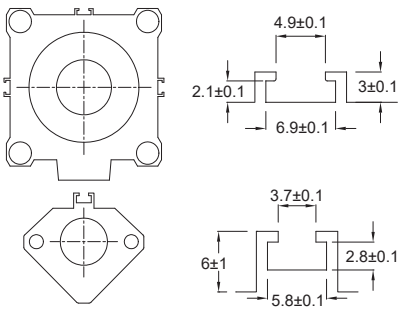


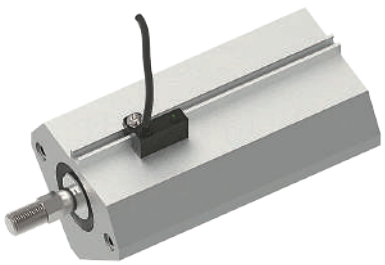
■ SPECIFICATIONS

TYPE	KT-33R	KT-33D	KT-33N	KT-33P
CONNECT DIAGRAM / CHARACTERISTICS				
Wiring Method	2-Wire Type		3-Wire Type	
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open		
Sensor Type	Reed Switch	-	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	5~240V DC/AC	10~28V DC	5~30V DC	
Switching Current	100mA max.	4~40mA max.	200mA max.	
Contact Rating (*1)	10W max.	1.5W max.	6W max.	
Current Consumption	-		22mA @ 24V DC max.	20mA @ 24V DC max.
Voltage Drop	3.5V max.		0.5V max.	
Leakage Current	-	1mA max.	0.01mA max.	
Indicator	Red LED	Green LED	Red LED	Green LED
Cable	ø3.3, 2C, PVC		ø3.3, 3C, PVC	
Operating Frequency	200Hz	1000Hz		
Magnet Requirement (*2)	80Gauss	70Gauss		
Temperature Range	-10~70˚C			
Shock (*3)	30G	50G		
Vibration (*4)	9G			
Enclosure Classification	IEC 60529 IP67			
Protection Circuit (*5)	1	4	3,4	

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ GROOVE DIMENSIONS



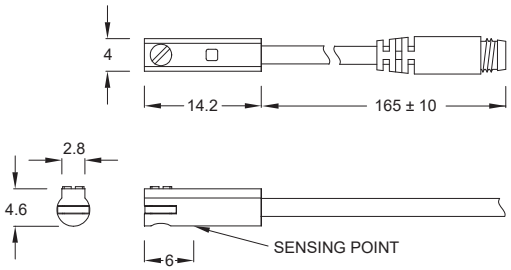


Unit:mm

KT-36 SERIES

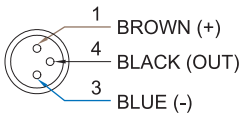
■ DIMENSIONS

KT-36D, KT-36DE, KT-36N, KT-36NE, KT-36P, KT-36PE, / KT-36D-QD, KT-36DE-QD, KT-36N-QD, KT-36NE-QD, KT-36P-QD, KT-36PE-QD

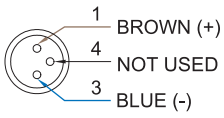


■ QD PINOUT

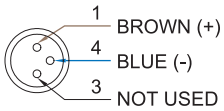
***3 wire QD wiring**



***2 wire QD wiring**

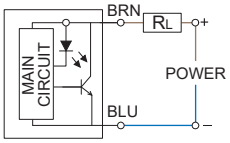
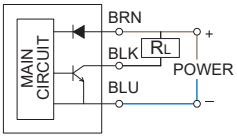
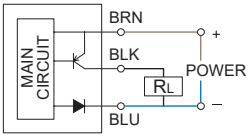


***2 wire EQD wiring**



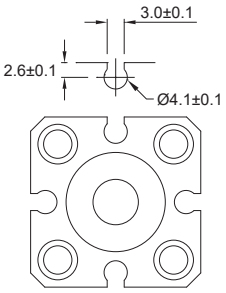
■ SPECIFICATIONS

Unit:mm

TYPE	KT-36D	KT-36DE	KT-36N	KT-36NE	KT-36P	KT-36PE
CONNECT DIAGRAM / CHARACTERISTICS						
Wiring Method	2-Wire type		3-Wire type			
Switching Logic	Solid State Output, Normally Open					
Sensor Type	-		NPN Current Sinking		PNP Current Sourcing	
Operating Voltage	10~28V DC	5~30V DC	4.5~28V DC	5~30V DC	4.5~28V DC	5~30V DC
Switching Current	4~20mA max.	50mA max.				
Contact Rating (*1)	0.6W max.	1.5W max.				
Current Consumption	-	10mA @ 24V DC max.				
Voltage Drop	3.5V max.	0.5V @ 50mA max.				
Leakage Current	0.8mA max.	0.1mA(40uA) max.	0.01mA max.			
Indicator	Red LED					
Cable	ø2.6, 2C, PVC		ø2.6, 3C, PVC			
Operating Frequency	1000Hz max.					
Magnet Requirement (*2)	40Gauss	40~1000Gauss	40Gauss	40~1000Gauss	40Gauss	40~1000Gauss
Temperature Range	-10~70˚C					
Shock (*3)	50G					
Vibration (*4)	9G					
Enclosure Classification	IEC 60529 IP67					
Protection Circuit (*5)	4	3,4				

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ GROOVE DIMENSIONS

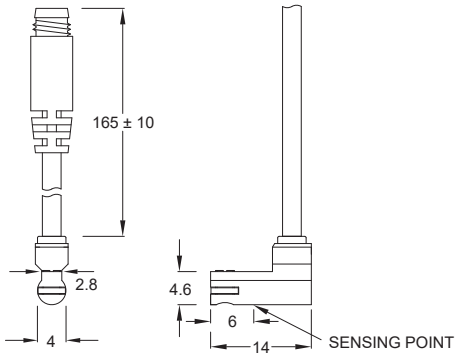


Unit:mm

KT-37 SERIES

DIMENSIONS

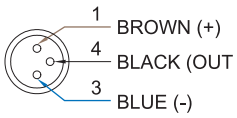
KT-37D, KT-37DE, KT-37N, KT-37NE, KT-37P, KT-37PE, / KT-37D-QD, KT-37DE-QD, KT-37N-QD, KT-37NE-QD, KT-37P-QD, KT-37PE-QD



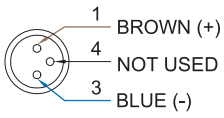
Unit:mm

QD PINOUT

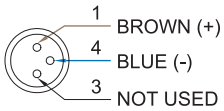
***3 wire QD wiring**



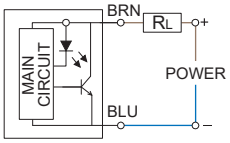
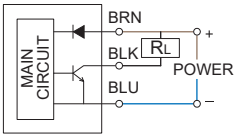
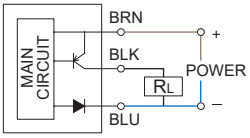
***2 wire QD wiring**



***2 wire EQD wiring**

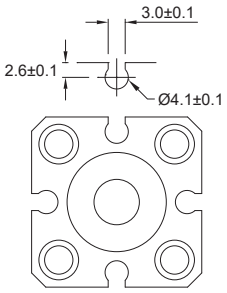


SPECIFICATIONS

TYPE	KT-37D	KT-37DE	KT-37N	KT-37NE	KT-37P	KT-37PE
CONNECT DIAGRAM / CHARACTERISTICS						
Wiring Method	2-Wire type		3-Wire type			
Switching Logic	Solid State Output, Normally Open					
Sensor Type	-		NPN Current Sinking		PNP Current Sourcing	
Operating Voltage	10~28V DC	5~30V DC	4.5~28V DC	5~30V DC	4.5~28V DC	5~30V DC
Switching Current	4~20mA max.	50mA max.				
Contact Rating (*1)	0.6W max.	1.5W max.				
Current Consumption	-	10mA @ 24V DC max.				
Voltage Drop	3.5V max.	0.5V @ 50mA max.				
Leakage Current	0.8mA max.	0.1mA(40uA) max.	0.01mA max.			
Indicator	Red LED					
Cable	ø2.6, 2C, PVC	ø2.6, 3C, PVC				
Operating Frequency	1000Hz max.					
Magnet Requirement (*2)	40Gauss	40~1000Gauss	40Gauss	40~1000Gauss	40Gauss	40~1000Gauss
Temperature Range	-10~70˚C					
Shock (*3)	50G					
Vibration (*4)	9G					
Enclosure Classification	IEC 60529 IP67					
Protection Circuit (*5)	4	3,4				

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

GROOVE DIMENSIONS



Unit:mm

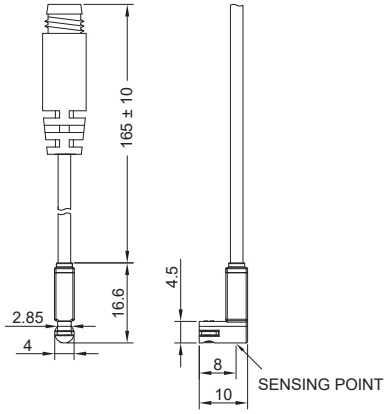
KT-38 SERIES

RoHS

COMPACT SIZE

DIMENSIONS

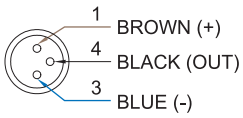
KT-38D, KT-38N, KT-38P /
KT-38D-QD, KT-38N-QD, KT-38P-QD



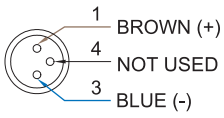
Unit:mm

QD PINOUT

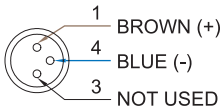
***3 wire QD wiring**



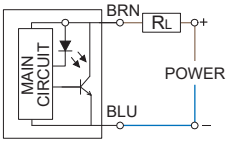
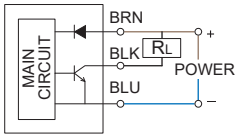
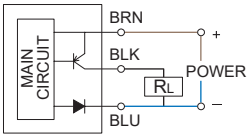
***2 wire QD wiring**



***2 wire EQD wiring**

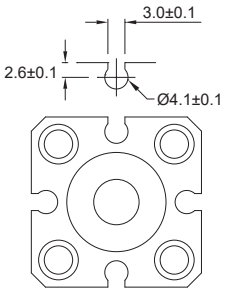


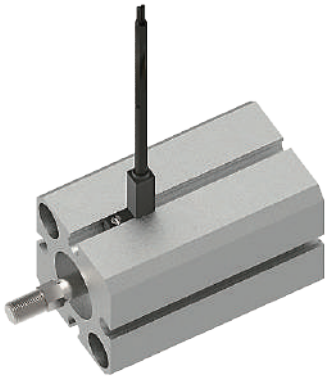
SPECIFICATIONS

TYPE	KT-38D	KT-38N	KT-38P
CONNECT DIAGRAM / CHARACTERISTICS			
Wiring Method	2-Wire Type	3-Wire Type	
Switching Logic	Solid State Output, Normally Open		
Sensor Type	-	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	10~28V DC	5~28V DC	
Switching Current	4~20mA max.	50mA max.	
Contact Rating (*1)	0.6W max.	1.5W max.	
Current Consumption	-	10mA @ 24V DC max.	
Voltage Drop	3.5V max.	0.5V @ 50mA max.	
Leakage Current	0.8mA max.	0.01mA max.	
Indicator	Red LED		
Cable	ø2.6, 2C, PVC	ø2.6, 3C, PVC	
Operating Frequency	1000Hz		
Magnet Requirement (*2)	40Gauss		
Temperature Range	-10~70°C		
Shock (*3)	50G		
Vibration (*4)	9G		
Enclosure Classification	IEC 60529 IP67		
Protection Circuit (*5)	4	3,4	

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

GROOVE DIMENSIONS





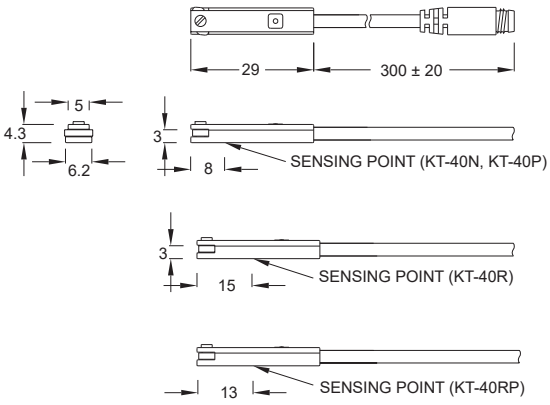
Unit:mm

KT-40 SERIES

RoHS

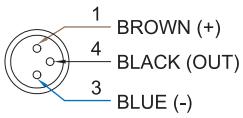
DIMENSIONS

KT-40R, KT-40N, KT-40P, KT-40RP /
KT-40R-QD, KT-40N-QD, KT-40P-QD,KT-40RP-QD

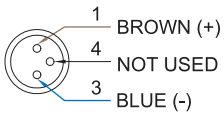


QD PINOUT

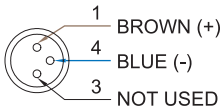
***3 wire QD wiring**



***2 wire QD wiring**

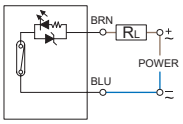
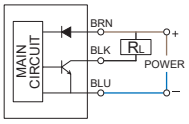
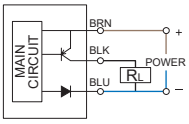
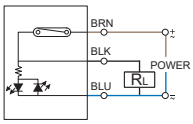


***2 wire EQD wiring**



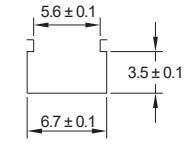
SPECIFICATIONS

Unit:mm

TYPE	KT-40R	KT-40N	KT-40P	KT-40RP
CONNECT DIAGRAM / CHARACTERISTICS				
Wiring Method	2-Wire Type	3-Wire Type		
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open		SPST, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing	Reed Switch
Operating Voltage	5~120V DC/AC	10~30V DC		10~30V DC/AC
Switching Current	100mA max.			500mA max.
Contact Rating (*1)	10W max.	3W max.		10W max.
Current Consumption	-	8mA @ 24V DC max.		10mA @ 24V DC max.
Voltage Drop	3.5V max.	1.5V max.		0.1V @ 100mA max.
Leakage Current	-	0.01mA max.		-
Indicator	Red LED		Yellow LED	
Cable	ø3.2, 2C, PUR	ø3.3, 3C, PUR		
Operating Frequency	200Hz	1000Hz		200Hz
Magnet Requirement (*2)	50Gauss	45Gauss		
Temperature Range	-10~70˚C			
Shock (*3)	30G	50G		30G
Vibration (*4)	9G			
Enclosure Classification	IEC 60529 IP67			
Protection Circuit (*5)	1	2,3,4		1

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

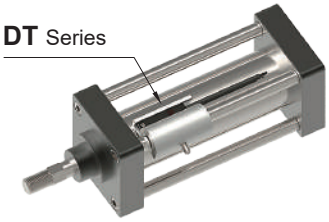
GROOVE DIMENSIONS



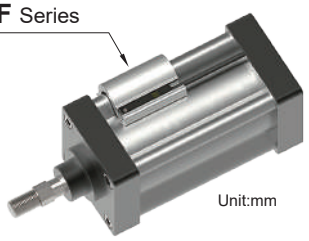
CLAMP / BRACKET

BL-1 Series

DT Series



PF Series

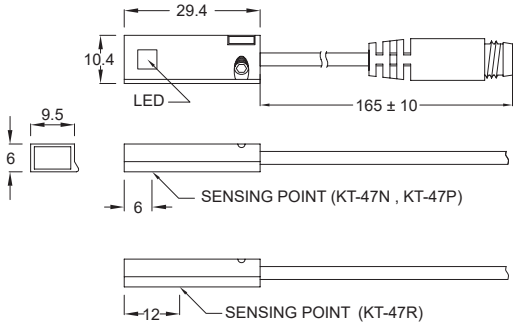


Unit:mm

KT-47 SERIES

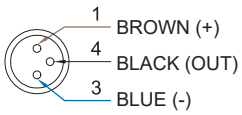
■ DIMENSIONS

KT-47R, KT-47N, KT-47P / KT-47R-QD, KT-47N-QD, KT-47P-QD

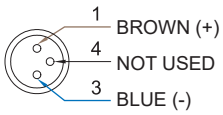


■ QD PINOUT

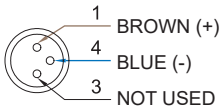
***3 wire QD wiring**



***2 wire QD wiring**

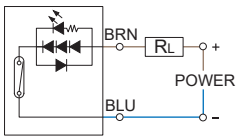
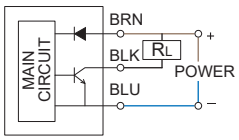
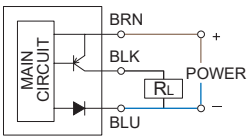


***2 wire EQD wiring**



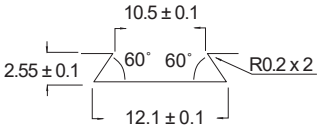
■ SPECIFICATIONS

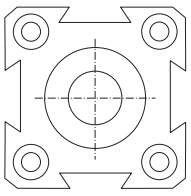
Unit:mm

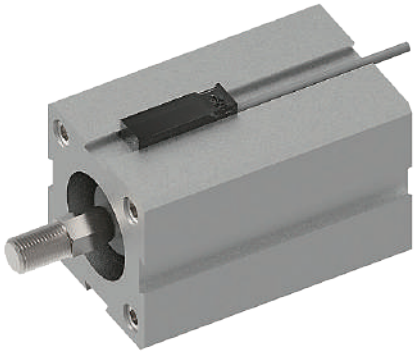
TYPE	KT-47R	KT-47N	KT-47P
CONNECT DIAGRAM / CHARACTERISTICS			
Wiring Method	2-Wire Type	3-Wire Type	
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open	
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	5~240V DC/AC	5~30V DC	
Switching Current	500mA max.	200mA max.	
Contact Rating (*1)	10W max.	6W max.	
Current Consumption	-	22mA @ 24V DC max.	20mA @ 24V DC max.
Voltage Drop	3.0V max.	2.0V max.	2.5V max.
Leakage Current	-	0.01 mA max.	
Indicator	Yellow LED		
Cable	ø2.8, 2C, PVC	ø2.8, 3C, PUR	
Operating Frequency	200Hz	1000Hz	
Magnet Requirement (*2)	50Gauss		
Temperature Range	-10~70˚C		
Shock (*3)	30G	50G	
Vibration (*4)	9G		
Enclosure Classification	IEC 60529 IP67		
Protection Circuit (*5)	1	2,3,4	

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ GROOVE DIMENSIONS





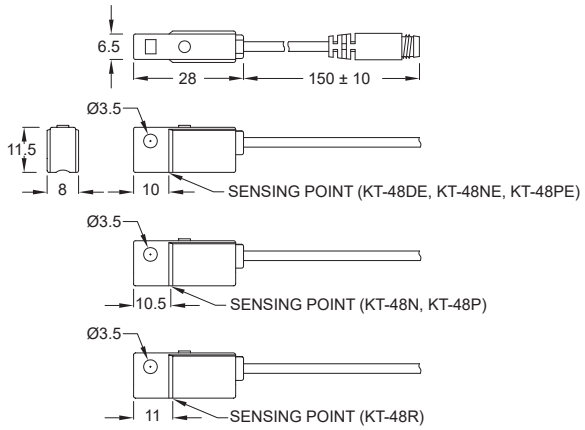


Unit:mm

KT-48 SERIES

■ DIMENSIONS

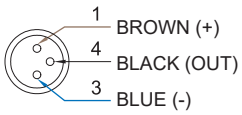
KT-48R, KT-48DE, KT-48N, KT-48NE, KT-48P, KT-48PE / KT-48R-QD, KT-48DE-QD, KT-48N-QD, KT-48NE-QD, KT-48P-QD, KT-48PE-QD



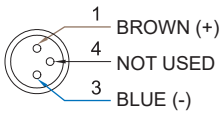
Unit:mm

■ QD PINOUT

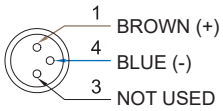
***3 wire QD wiring**



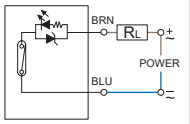
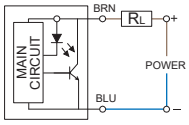
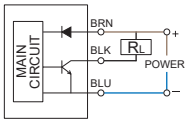
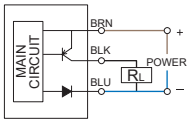
***2 wire QD wiring**



***2 wire EQD wiring**

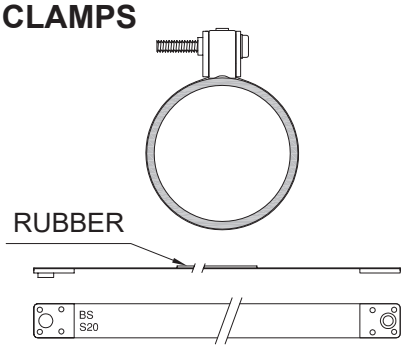


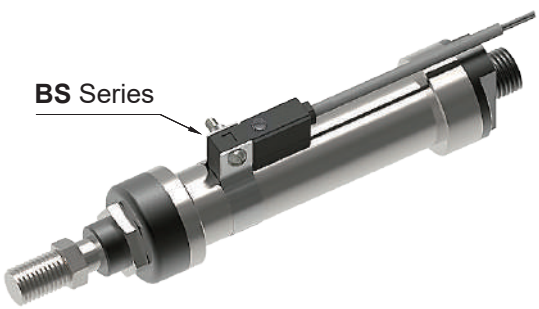
■ SPECIFICATIONS

TYPE	KT-48R	KT-48DE	KT-48N	KT-48NE	KT-48P	KT-48PE
CONNECT DIAGRAM / CHARACTERISTICS						
Wiring Method	2-Wire type		3-Wire type			
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open				
Sensor Type	Reed Switch	-	NPN Current Sinking		PNP Current Sourcing	
Operating Voltage	5~240V DC/AC	5~30V DC	5~28V DC	5~30V DC	5~28V DC	5~30V DC
Switching Current	100mA max.	50mA max.		200mA max.	50mA max.	200mA max.
Contact Rating (*1)	10W max.	1.5W max.		6W max.	1.5W max.	6W max.
Current Consumption	-		10mA @ 24V DC max.	6mA @ 24V DC max.	10mA @ 24V DC max.	6mA @ 24V DC max.
Voltage Drop	3.5V max.	3.7V max.	1.5V @ 50mA max.	0.5V @ 200mA max.	1.5V @ 50mA max.	0.5V @ 200mA max.
Leakage Current	-	0.1mA(40uA) max.	0.01mA max.			
Indicator	Red LED				Green LED	
Cable	ø3.3, 2C, PVC		ø3.3, 3C, PVC			
Operating Frequency	200Hz	1000Hz max.				
Magnet Requirement (*2)	110Gauss	40~1000Gauss	75Gauss	40~1000Gauss	75Gauss	40~1000Gauss
Temperature Range	-10~70˚C					
Shock (*3)	30G	50G				
Vibration (*4)	9G					
Enclosure Classification	IEC 60529 IP67					
Protection Circuit (*5)	1	3,4				

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ MOUNTING CLAMPS

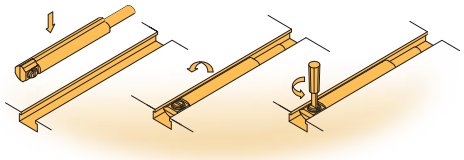




KT-50 SERIES

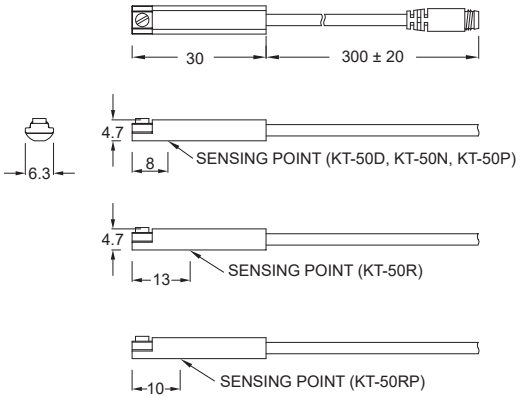
RoHS

PATENTED



■ DIMENSIONS

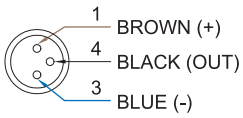
KT-50R, KT-50D, KT-50N, KT-50P, KT-50RP, / KT-50R-QD, KT-50D-QD, KT-50N-QD, KT-50P-QD, KT-50RP-QD



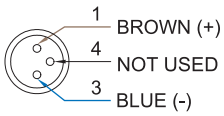
Unit:mm

■ QD PINOUT

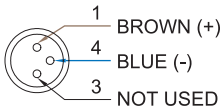
***3 wire QD wiring**



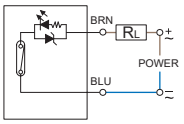
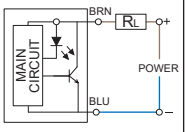
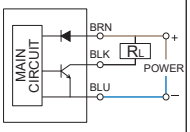
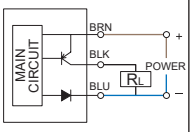
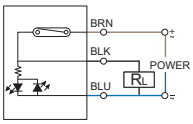
***2 wire QD wiring**



***2 wire EQD wiring**

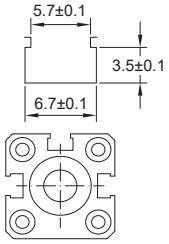


■ SPECIFICATIONS

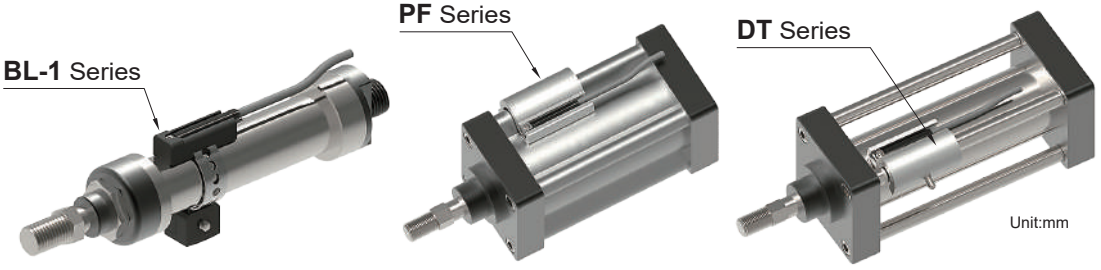
TYPE	KT-50R	KT-50D	KT-50N	KT-50P	KT-50RP
CONNECT DIAGRAM / CHARACTERISTICS					
Wiring Method	2-Wire Type		3-Wire Type		
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open			SPST, Normally Open
Sensor Type	Reed Switch	-	NPN Current Sinking	PNP Current Sourcing	Reed Switch
Operating Voltage	5~240V DC/AC	10~28V DC	10~30V DC		10~30V DC/AC
Switching Current	100mA max.	50mA max.	200mA. max		500mA. max
Contact Rating (*1)	10W max.	1.5W max.	6W max.		10W max.
Current Consumption	-		20mA @ 24V DC max.		5mA @ 24V DC max.
Voltage Drop	3.5V max.		1.5V max.		0.1V @ 100mA max.
Leakage Current	-	0.8mA max.	0.05mA max.		-
Indicator	Red LED			Yellow LED	
Cable	ø3, 2C, PUR		ø3, 3C, PUR		
Operating Frequency	200Hz	1000Hz			200Hz
Magnet Requirement (*2)	70Gauss				
Temperature Range	-10~70˚C				
Shock (*3)	30G	50G			30G
Vibration (*4)	9G				
Enclosure Classification	IEC 60529 IP67				
Protection Circuit (*5)	1	2,4	2,3,4		1

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ GROOVE DIMENSIONS



■ CLAMP / BRACKET



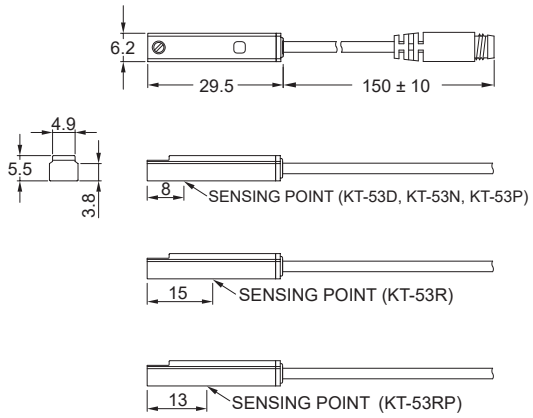
Unit:mm

KT-53 SERIES

RoHS

■ DIMENSIONS

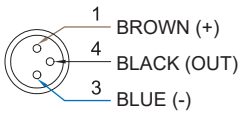
KT-53R, KT-53D, KT-53N, KT-53P, KT-53RP / KT-53R-QD, KT-53D-QD, KT-53N-QD, KT-53P-QD, KT-53RP-QD



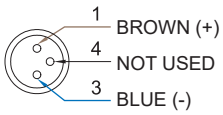
Unit:mm

■ QD PINOUT

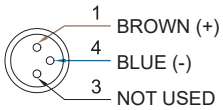
***3 wire QD wiring**



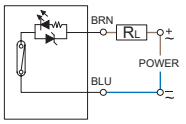
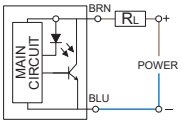
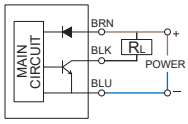
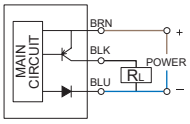
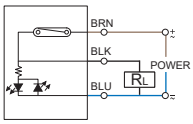
***2 wire QD wiring**



***2 wire EQD wiring**

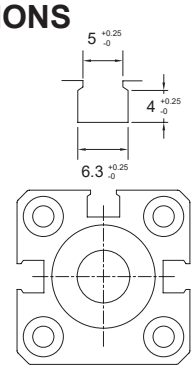


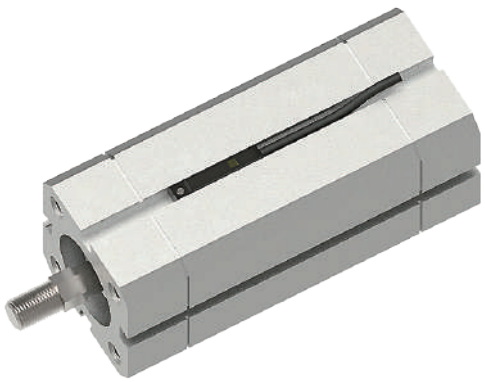
■ SPECIFICATIONS

TYPE	KT-53R	KT-53D	KT-53N	KT-53P	KT-53RP
CONNECT DIAGRAM / CHARACTERISTICS					
Wiring Method	2-Wire Type		3-Wire Type		
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open			SPST, Normally Open
Sensor Type	Reed Switch	-	NPN Current Sinking	PNP Current Sourcing	Reed Switch
Operating Voltage	5~240V DC/AC	10~28V DC	10~30V DC		10~30V DC/AC
Switching Current	100mA max.	50mA max.	100mA max.		500mA. max.
Contact Rating (*1)	10W max.	1.5W max.	3W max.		10W max.
Current Consumption	-		8mA @ 24V DC max.		10mA @ 24V DC max.
Voltage Drop	3.5V max.		1.5V max.		0.1V @ 100mA max.
Leakage Current	-	0.8mA max.	0.01mA max.		-
Indicator	Red LED			Yellow LED	
Cable	ø3, 2C, PUR		ø3, 3C, PUR		
Operating Frequency	200Hz	1000Hz			200Hz
Magnet Requirement (*2)	70Gauss	50Gauss			70Gauss
Temperature Range	-10~70˚C				
Shock (*3)	30G	50G			30G
Vibration (*4)	9G				
Enclosure Classification	IEC 60529 IP67				
Protection Circuit (*5)	1	2,4	2,3,4		1

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ GROOVE DIMENSIONS



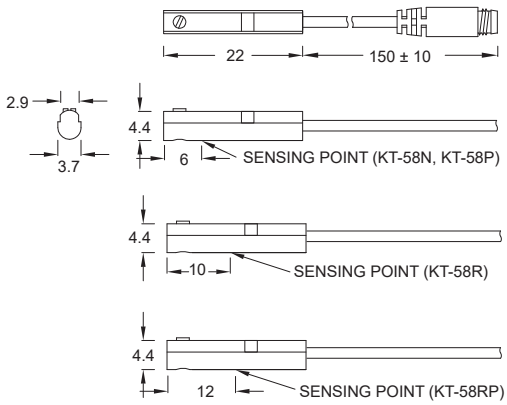


Unit:mm

KT-58 SERIES

DIMENSIONS

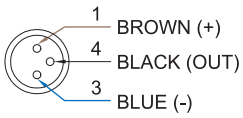
KT-58R, KT-58N, KT-58P, KT-58RP /
KT-58R-QD, KT-58N-QD, KT-58P-QD, KT-58RP-QD



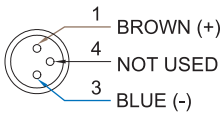
Unit:mm

QD PINOUT

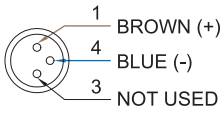
***3 wire QD wiring**



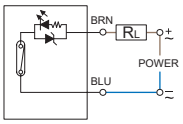
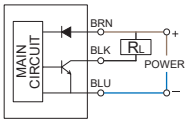
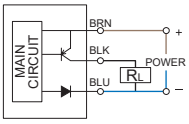
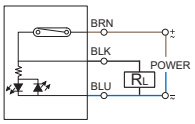
***2 wire QD wiring**



***2 wire EQD wiring**

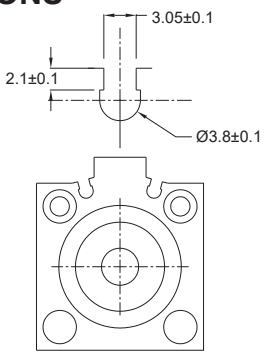


SPECIFICATIONS

TYPE	KT-58R	KT-58N	KT-58P	KT-58RP
CONNECT DIAGRAM / CHARACTERISTICS				
Wiring Method	2-Wire Type	3-Wire Type		
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open		SPST, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing	Reed Switch
Operating Voltage	5~120V DC/AC	10~30V DC		10~30V DC/AC
Switching Current	100mA max.	200mA max.		500mA max.
Contact Rating (*1)	10W max.	6W max.		10W max.
Current Consumption	-	10mA @ 24V DC max.		5mA @ 24V DC max.
Voltage Drop	3.5V max.	0.5V @ 50mA max.		0.1V @ 100mA max.
Leakage Current	-	0.01mA max.		-
Indicator	Red LED		Yellow LED	
Cable	ø2.5, 2C, PUR	ø2.5, 3C, PUR		
Operating Frequency	200Hz	1000Hz		200Hz
Magnet Requirement (*2)	70Gauss	40Gauss		50Gauss
Temperature Range	-10~70˚C			
Shock (*3)	30G	50G		30G
Vibration (*4)	9G			
Enclosure Classification	IEC 60529 IP67			
Protection Circuit (*5)	1	3,4		1

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

GROOVE DIMENSIONS



Unit:mm

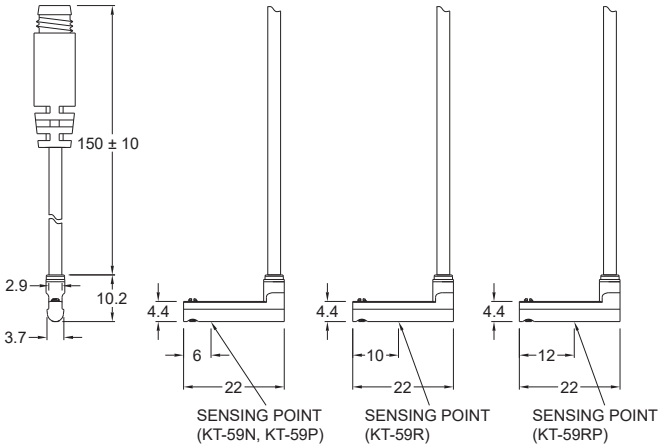
KT-59 SERIES

RoHS

NEW

DIMENSIONS

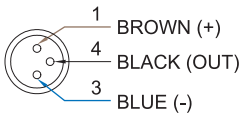
KT-59R, KT-59N, KT-59P, KT-59RP /
KT-59R-QD, KT-59N-QD, KT-59P-QD, KT-59RP-QD



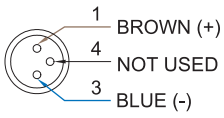
Unit:mm

QD PINOUT

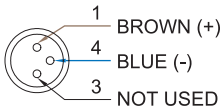
***3 wire QD wiring**



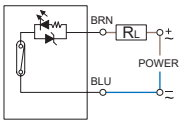
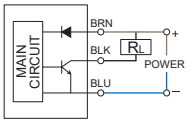
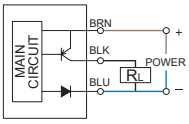
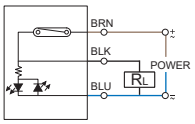
***2 wire QD wiring**



***2 wire EQD wiring**

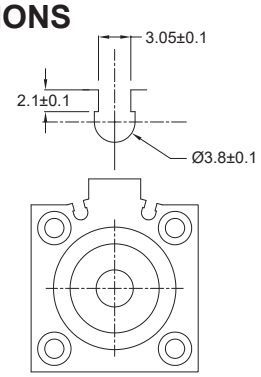


SPECIFICATIONS

TYPE	KT-59R	KT-59N	KT-59P	KT-59RP
CONNECT DIAGRAM / CHARACTERISTICS				
Wiring Method	2-Wire Type	3-Wire Type		
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open		SPST, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing	Reed Switch
Operating Voltage	5~120V DC/AC	10~30V DC		10~30V DC/AC
Switching Current	100mA max.	200mA max.		500mA max.
Contact Rating (*1)	10W max.	6W max.		10W max.
Current Consumption	-	10mA @ 24V DC max.		5mA @ 24V DC max.
Voltage Drop	3.5V max.	0.5V @ 50mA max.		0.1V @ 100mA max.
Leakage Current	-	0.01mA max.		-
Indicator	Red LED		Yellow LED	
Cable	ø2.5, 2C, PUR	ø2.5, 3C, PUR		
Operating Frequency	200Hz	1000Hz		200Hz
Magnet Requirement (*2)	70Gauss	40Gauss		50Gauss
Temperature Range	-10~70˚C			
Shock (*3)	30G	50G		30G
Vibration (*4)	9G			
Enclosure Classification	IEC 60529 IP67			
Protection Circuit (*5)	1	3,4		1

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

GROOVE DIMENSIONS



Unit:mm

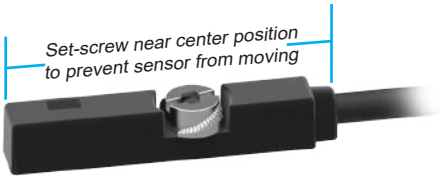
KT-65/KT-75 SERIES

RoHS

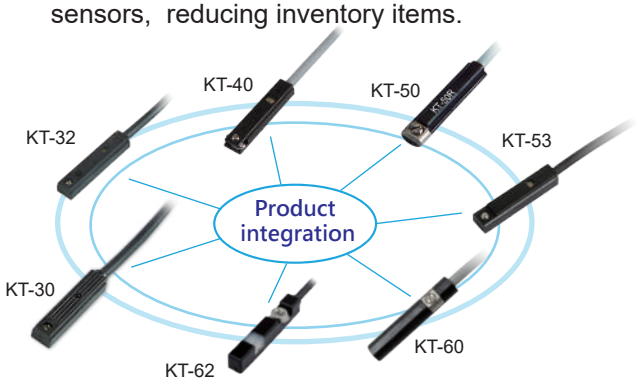
KT-65 & 75 series can be applied to many kind of cylinders

New Structure

- Set-screw near center position to prevent sensor from moving, combined with new set-screw design to provide solid stance when attached to the cylinder.

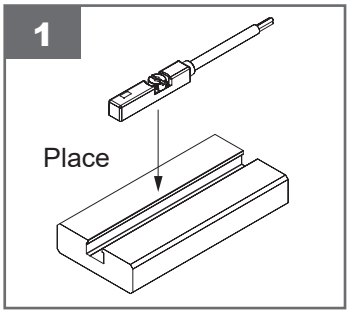


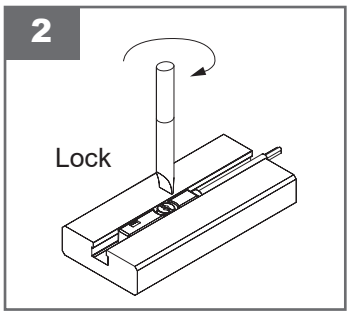
- Fits in most T-slot, replace all other T-slot sensors, reducing inventory items.



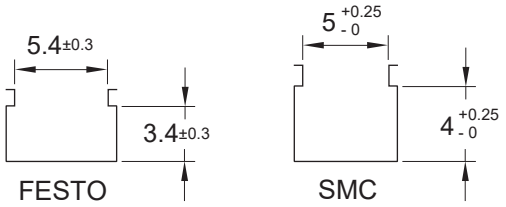
Quick Installation

- Install sensor from top of cylinder, directly placed into T-slot to achieve quick installation.





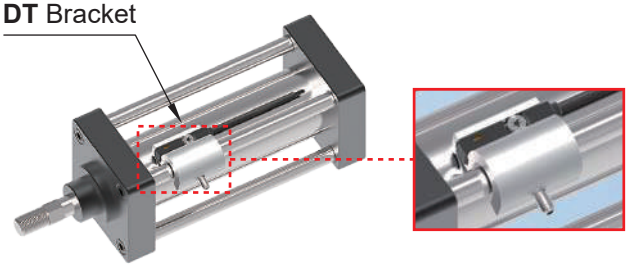
Common cylinder slot dimensions



Mounting Adapter for other cylinder types

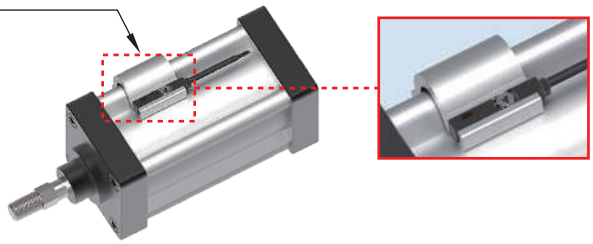
- DT bracket can be applied to Tie-rod cylinder.

DT Bracket



- PF bracket can be applied to ISO profile cylinder.

PF Bracket

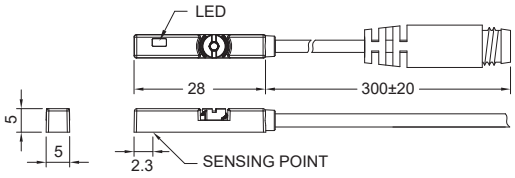


KT-65 SERIES

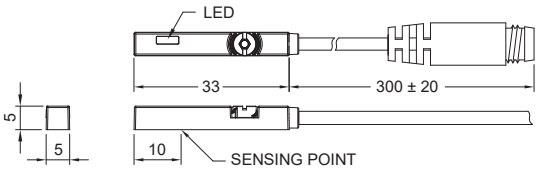
PATENTED

DIMENSIONS

KT-65D, KT-65DE, KT-65N, KT-65NE, KT-65P, KT-65PE / KT-65D-QD, KT-65DE-QD, KT-65N-QD, KT-65NE-QD, KT-65P-QD, KT-65PE-QD



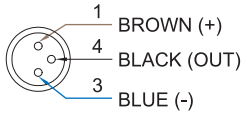
KT-65R, KT-65RP / KT-65R-QD, KT-65RP-QD



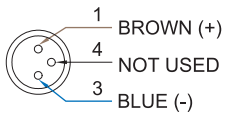
Unit:mm

QD PINOUT

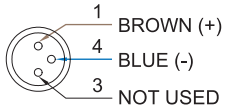
***3 wire QD wiring**



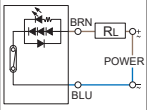
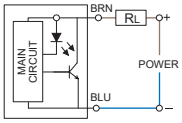
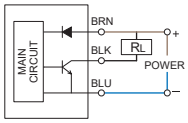
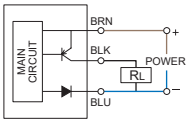
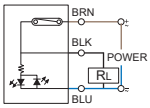
***2 wire QD wiring**



***2 wire EQD wiring**

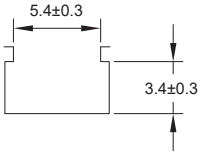


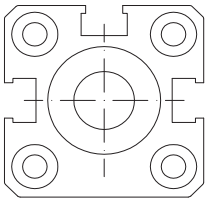
SPECIFICATIONS

TYPE	KT-65R	KT-65D	KT-65DE	KT-65N	KT-65NE	KT-65P	KT-65PE	KT-65RP
CONNECT DIAGRAM / CHARACTERISTICS								
Wiring Method	2-Wire Type			3-Wire Type				
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open						SPST, Normally Open
Sensor Type	Reed Switch	-		NPN Current Sinking		PNP Current Sourcing		Reed Switch
Operating Voltage	5~240V DC/AC	10~28V DC	5~30V DC	10~28V DC	5~30V DC	10~28V DC	5~30V DC	10~30V DC/AC
Switching Current	100mA max.	50mA max.		200mA max.				500mA max.
Contact Rating (*1)	10W max.	1.5W max.		5.5W max.	6W max.	5.5W max.	6W max.	10W max.
Current Consumption	-			10mA @ 24V DC max.	6mA@ 24V DC max.	10mA @ 24V DC max.	6mA@ 24V DC max.	10mA @ 24V DC max.
Voltage Drop	3.0V max.	3.5V max.	3.7V max.	1.5V max.	0.5V @ 200mA max.	1.5V max.	0.5V @ 200mA max.	0.1V @ 100mA max.
Leakage Current	-	0.8mA max.	0.1mA(40uA) max.	0.05mA max.	0.01mA max.	0.05mA max.	0.01mA max.	-
Indicator	Red LED					Yellow LED		
Cable	ø2.8, 2C, PUR			ø2.8, 3C, PUR				
Operating Frequency	200Hz	1000Hz max.						200Hz
Magnet Requirement (*2)	75Gauss	50Gauss	40~1000Gauss	50Gauss	40~1000Gauss	50Gauss	40~1000Gauss	65Gauss
Temperature Range	-10~70˚C							
Shock (*3)	30G	50G						30G
Vibration (*4)	9G							
Enclosure Classification	IEC 60529 IP67							
Protection Circuit (*5)	1	2	3,4	2,3,4	3,4	2,3,4	3,4	1

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

GROOVE DIMENSIONS





Unit:mm

KT-65-EX SERIES

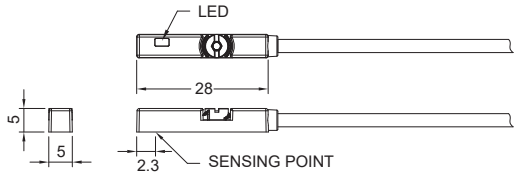
RoHS ATEX

PATENTED

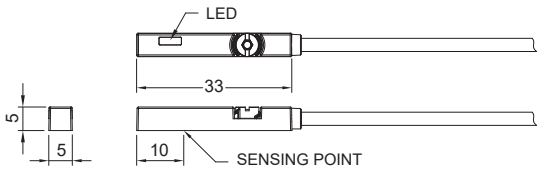
EXPLOSION PROOF

■ DIMENSIONS

KT-65N-EX,KT-65N-NC-EX, KT-65P-EX, KT-65P-NC-EX, KT-65D-EX



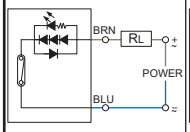
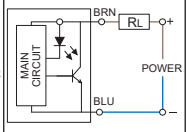
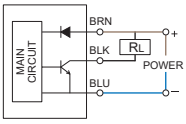
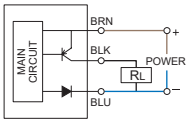
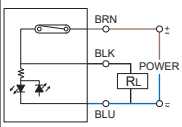
KT-65R-EX, KT-65RP-EX



■ M8 Connector option is not available

■ SPECIFICATIONS

Unit:mm

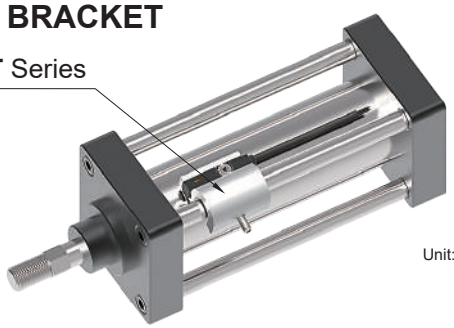
TYPE	KT-65R-EX	KT-65D-EX	KT-65N-EX	KT-65N-NC-EX	KT-65P-EX	KT-65P-NC-EX	KT-65RP-EX
CONNECT DIAGRAM							
Wiring Method	2-Wire Type		3-Wire Type				
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open		Solid State Output, Normally Close	Solid State Output, Normally Open	Solid State Output, Normally Close	SPST, Normally Open
Sensor Type	Reed Switch	-	NPN Current Sinking		PNP Current Sourcing		Reed Switch
Operating Voltage	5~30V DC/AC	10~28V DC					10~30V DC/AC
Switching Current	100mA max.	50mA max.	200mA max.				500mA max.
Contact Rating (*1)	10W max.	1.5W max.	5.5W max.				10W max.
Current Consumption	-	10mA @ 24V DC max.					
Voltage Drop	3.0V max.	3.5V max.	1.5V max.				0.1V @ 100mA max.
Leakage Current	-	0.8mA max.	0.05mA max.				-
Indicator	Red LED				Yellow LED		
Cable	ø2.8, 2C, PUR		ø2.8, 3C, PUR				
Operating Frequency	200Hz	1000Hz					200Hz
Magnet Requirement (*2)	65Gauss	50Gauss					65Gauss
Temperature Range	-10~70˚C						
Shock (*3)	30G	50G					30G
Vibration (*4)	9G						
Enclosure Classification	IEC 60529 IP67						
Protection Circuit (*5)	1	2	2,3,4				1
CE ATEX APPROVAL Baseefa14ATEX0118	Ex II 3GD Ex ic IIB T4 Gc (-10˚C ≤ Ta ≤ +70˚C) Ex ic IIIC T135˚C Dc (-10˚C ≤ Ta ≤ +70˚C)						

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ GROOVE DIMENSIONS

■ BRACKET

DT Series



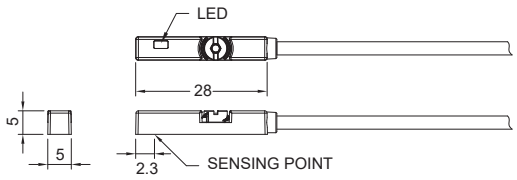
Unit:mm

KT-65-UL SERIES

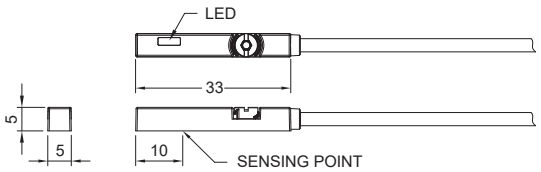
PATENTED

DIMENSIONS

KT-65N-UL, KT-65P-UL, KT-65D-UL



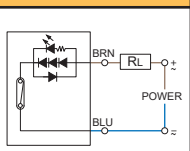
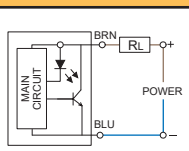
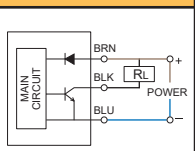
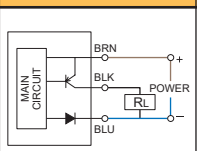
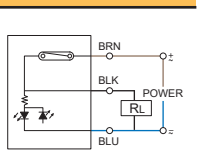
KT-65R-UL, KT-65RP-UL



■ **M8 Connector option is not available**

SPECIFICATIONS

Unit:mm

TYPE	KT-65R-UL	KT-65D-UL	KT-65N-UL	KT-65P-UL	KT-65RP-UL
CONNECT DIAGRAM / CHARACTERISTICS					
Wiring Method	2-Wire Type		3-Wire Type		
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open			SPST, Normally Open
Sensor Type	Reed Switch	-	NPN Current Sinking	PNP Current Sourcing	Reed Switch
Operating Voltage	5~30V DC/AC	10~28V DC			10~30V DC/AC
Switching Current	60mA max.	40mA max.	100mA max.		
Contact Rating (*1)	1.8W max.	1.2W max.	3W max.		
Current Consumption	-		10mA @ 24V DC max.		
Voltage Drop	3.0V max.	3.5V max.	1.5V max.		0.1V @ 100mA max.
Leakage Current	-	0.8mA max.	0.05mA max.		-
Indicator	Red LED			Yellow LED	
Cable	ø2.8, 2C, PUR		ø2.8, 3C, PUR		
Operating Frequency	200Hz	1000Hz			200Hz
Magnet Requirement (*2)	75Gauss	50Gauss			65Gauss
Temperature Range	-10~60˚C	-10~70˚C			
Shock (*3)	30G	50G			30G
Vibration (*4)	9G				
Enclosure Classification	IEC 60529 IP67				
Protection Circuit (*5)	1	2	2,3,4		1

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

GROOVE DIMENSIONS

BRACKET

Unit:mm

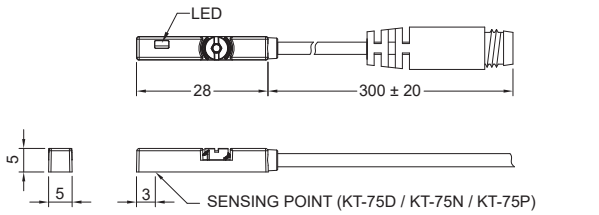
KT-75 SERIES

PATENTED

Dual Color LED allow more precise positioning

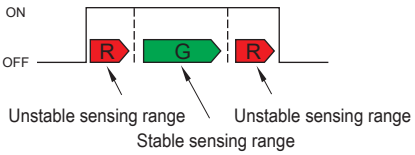
DIMENSIONS

KT-75D, KT-75N, KT-75P / KT-75D-QD, KT-75N-QD, KT-75P-QD



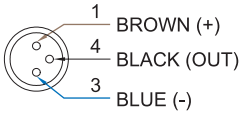
Unit:mm

SW OUT

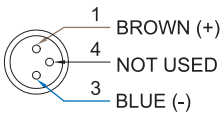


QD PINOUT

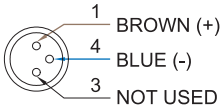
***3 wire QD wiring**



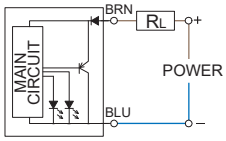
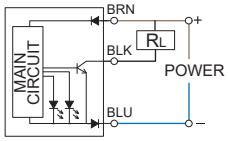
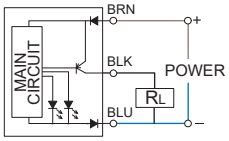
***2 wire QD wiring**



***2 wire EQD wiring**

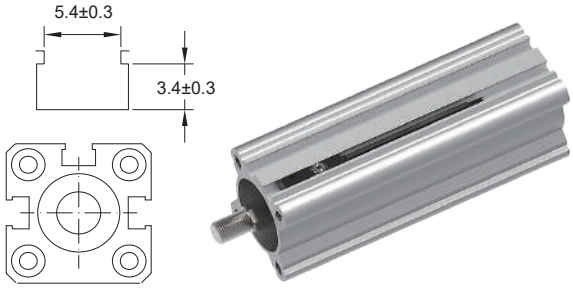


SPECIFICATIONS

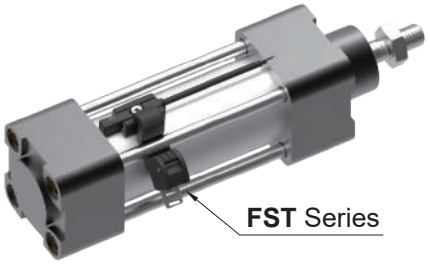
TYPE	KT-75D	KT-75N	KT-75P
CONNECT DIAGRAM			
CHARACTERISTICS			
Wiring Method	2-Wire Type	3-Wire Type	
Switching Logic	Solid State Output, Normally Open		
Sensor Type	-	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	10~28V DC		
Switching Current	80mA max.		
Contact Rating (*1)	2W max.		
Current Consumption	-	10mA @ 24V DC max.	
Voltage Drop	4V max.	1.5V max.	
Leakage Current	1mA max.	0.05mA max.	
Indicator	Red / Green LED		
Cable	ø2.8, 2C, PUR	ø2.8, 3C, PUR	
Operating Frequency	1000Hz		
Magnet Requirement (*2)	85Gauss		
Temperature Range	-10~60˚C		
Shock (*3)	50G		
Vibration (*4)	9G		
Enclosure Classification	IEC 60529 IP67		
Protection Circuit (*5)	2,3,4		

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

GROOVE DIMENSIONS

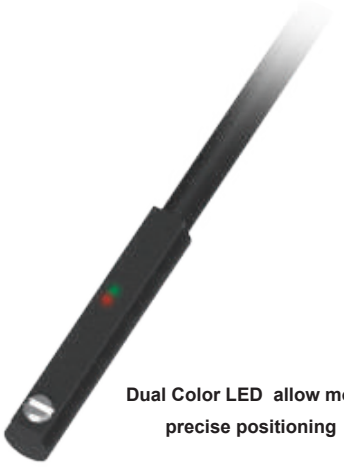


MOUNTING CLAMPS



Unit:mm

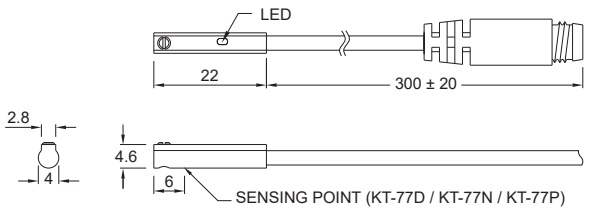
KT-77 SERIES



Dual Color LED allow more precise positioning

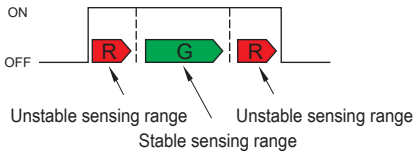
DIMENSIONS

KT-77D, KT-77N, KT-77P / KT-77D-QD, KT-77N-QD, KT-77P-QD



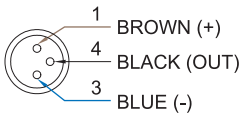
Unit:mm

SW OUT

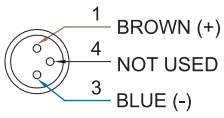


QD PINOUT

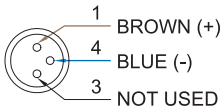
***3 wire QD wiring**



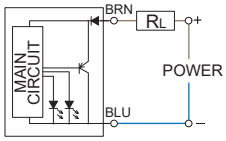
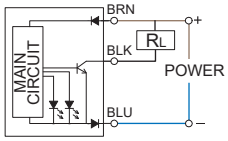
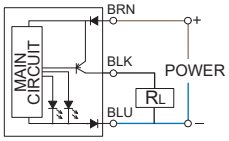
***2 wire QD wiring**



***2 wire EQD wiring**

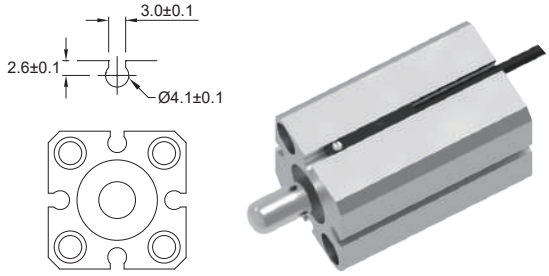


SPECIFICATIONS

TYPE	KT-77D	KT-77N	KT-77P
CONNECT DIAGRAM			
Wiring Method	2-Wire Type	3-Wire Type	
Switching Logic	Solid State Output, Normally Open		
Sensor Type	-	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	10~28V DC		
Switching Current	80mA max.		
Contact Rating (*1)	2W max.		
Current Consumption	-	10mA @ 24V DC max.	
Voltage Drop	4V max.	1.5V max.	
Leakage Current	1mA max.	0.05mA max.	
Indicator	Red / Green LED		
Cable	ø2.8, 2C, PUR	ø2.8, 3C, PUR	
Operating Frequency	1000Hz		
Magnet Requirement (*2)	85Gauss		
Temperature Range	-10~60˚C		
Shock (*3)	50G		
Vibration (*4)	9G		
Enclosure Classification	IEC 60529 IP67		
Protection Circuit (*5)	2,3,4		

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

GROOVE DIMENSIONS



MOUNTING CLAMPS

Unit:mm

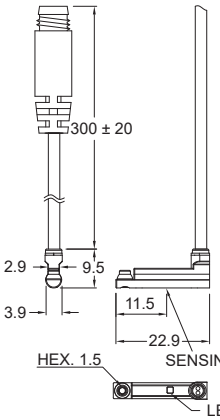
KT-81 SERIES

RoHS

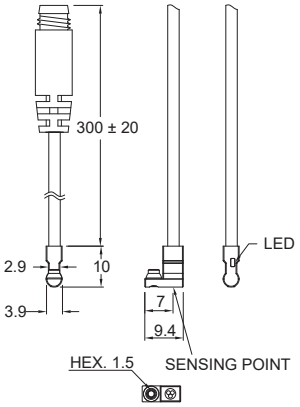
NEW

■ DIMENSIONS

KT-81R / KT-81R-QD



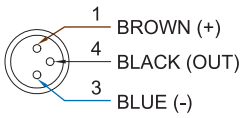
KT-81DE, KT-81NE, KT-81PE / KT-81DE-QD, KT-81NE-QD, KT-81PE-QD



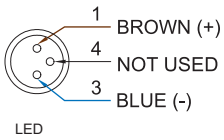
Unit:mm

■ QD PINOUT

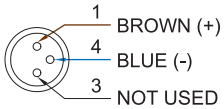
***3 wire QD wiring**



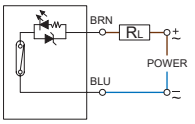
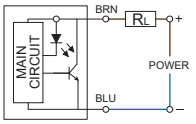
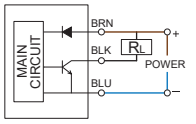
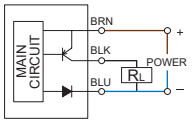
***2 wire QD wiring**



***2 wire EQD wiring**

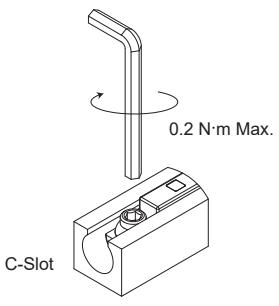


■ SPECIFICATIONS

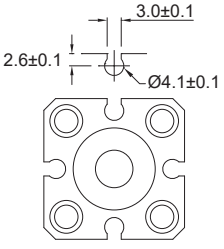
TYPE	KT-81R	KT-81DE	KT-81NE	KT-81PE
CONNECT DIAGRAM				
Wiring Method	2-Wire Type		3-Wire Type	
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open		
Sensor Type	Reed Switch	-	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	5~110V DC/AC	5~30V DC		
Switching Current	100mA max.	50mA max.	80mA max.	
Contact Rating (*1)	10W max.	1.5W max.	2.2W max.	
Current Consumption	-		6mA @ 24V DC max.	
Voltage Drop	3.5V max.		0.5V @ 50mA max.	
Leakage Current	-	0.1mA (40uA) max.	0.01mA max.	
Indicator	Red LED			
Cable	ø2.6, 2C, PVC		ø2.6, 3C, PVC	
Operating Frequency	200Hz	1000Hz max.		
Magnet Requirement (*2)	70Gauss	40~1000Gauss		
Temperature Range	-10~70°C			
Shock (*3)	30G	50G		
Vibration (*4)	9G			
Enclosure Classification	IEC 60529 IP67			
Protection Circuit (*5)	1	3,4		

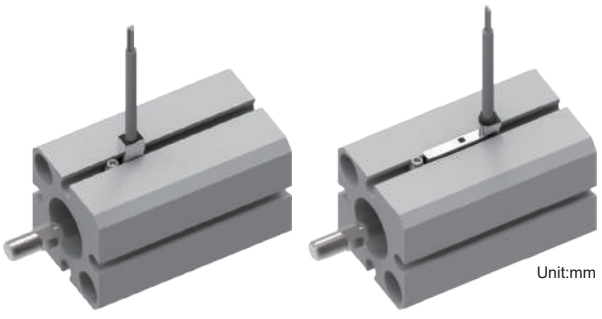
NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ OPERATION METHOD



■ GROOVE DIMENSIONS





Unit:mm

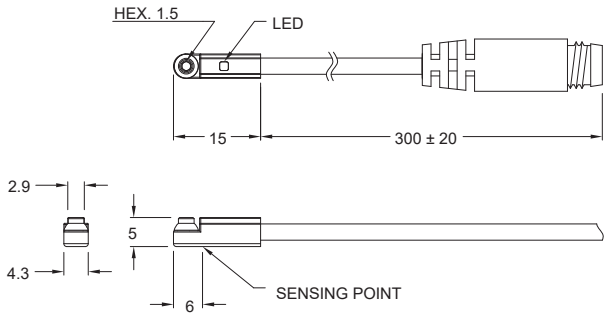
KT-82 SERIES

RoHS

NEW

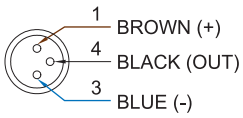
■ DIMENSIONS

KT-82DE, KT-82NE, KT-82PE /
KT-82DE-QD, KT-82NE-QD, KT-82PE-QD

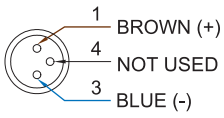


■ QD PINOUT

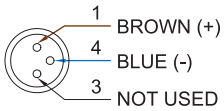
***3 wire QD wiring**



***2 wire QD wiring**

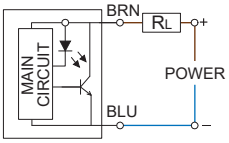
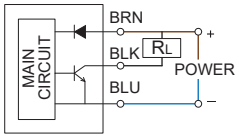
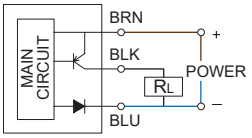


***2 wire EQD wiring**



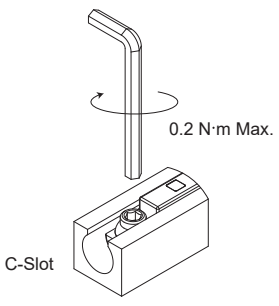
■ SPECIFICATIONS

Unit:mm

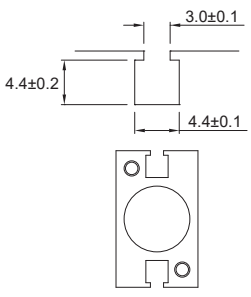
TYPE	KT-82DE	KT-82NE	KT-82PE
CONNECT DIAGRAM			
CHARACTERISTICS			
Wiring Method	2-Wire Type	3-Wire Type	
Switching Logic	Solid State Output, Normally Open		
Sensor Type	-	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	5~30V DC		
Switching Current	50mA max.	80mA max.	
Contact Rating (*1)	1.5W max.	2.2W max.	
Current Consumption	-	10mA @ 24V DC max.	
Voltage Drop	3.5V max.	0.5V @ 50mA max.	
Leakage Current	0.1mA (40uA) max.	0.01mA max.	
Indicator	Red LED		
Cable	ø2.6, 2C, PVC	ø2.6, 3C, PVC	
Operating Frequency	1000Hz max.		
Magnet Requirement (*2)	40~1000Gauss		
Temperature Range	-10~70°C		
Shock (*3)	50G		
Vibration (*4)	9G		
Enclosure Classification	IEC 60529 IP 67		
Protection Circuit (*5)	3,4		

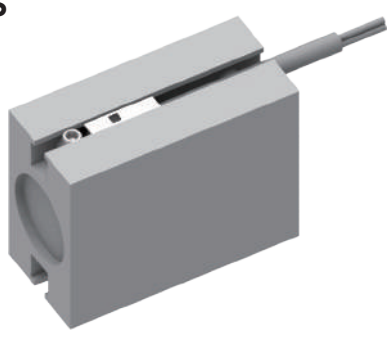
NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ OPERATION METHOD



■ GROOVE DIMENSIONS





Unit:mm

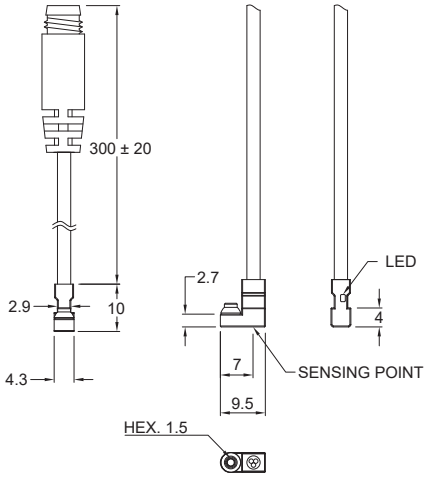
KT-83 SERIES

RoHS

NEW

■ DIMENSIONS

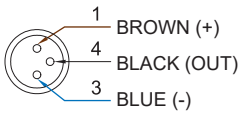
KT-83DE, KT-83NE, KT-83PE /
KT-83DE-QD, KT-83NE-QD, KT-83PE-QD



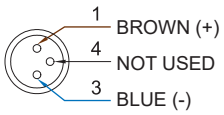
Unit:mm

■ QD PINOUT

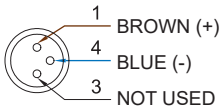
***3 wire QD wiring**



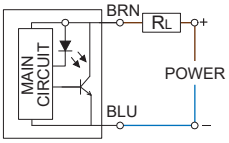
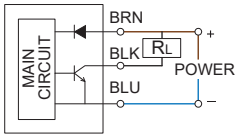
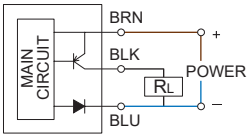
***2 wire QD wiring**



***2 wire EQD wiring**

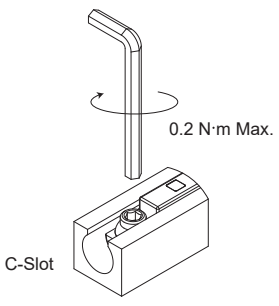


■ SPECIFICATIONS

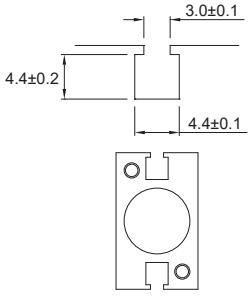
TYPE	KT-83DE	KT-83NE	KT-83PE
CONNECT DIAGRAM			
CHARACTERISTICS			
Wiring Method	2-Wire Type	3-Wire Type	
Switching Logic	Solid State Output, Normally Open		
Sensor Type	-	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	5~30V DC		
Switching Current	50mA max.	80mA max.	
Contact Rating (*1)	1.5W max.	2.2W max.	
Current Consumption	-	6mA @ 24V DC max.	
Voltage Drop	3.5V max.	0.5V @ 50mA max.	
Leakage Current	0.1mA (40uA) max.	0.01mA max.	
Indicator	Red LED		
Cable	ø2.6, 2C, PVC	ø2.6, 3C, PVC	
Operating Frequency	1000Hz max.		
Magnet Requirement (*2)	40~1000Gauss		
Temperature Range	-10~70°C		
Shock (*3)	50G		
Vibration (*4)	9G		
Enclosure Classification	IEC 60529 IP 67		
Protection Circuit (*5)	3,4		

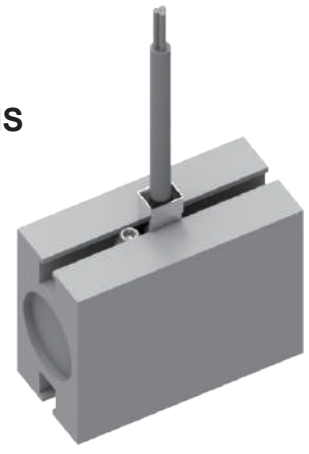
NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

■ OPERATION METHOD



■ GROOVE DIMENSIONS





Unit:mm

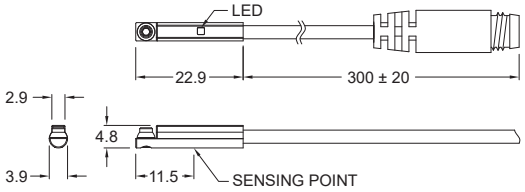
KT-85 SERIES

RoHS

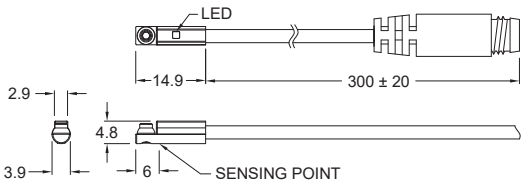
NEW

■ DIMENSIONS

KT-85R / KT-85R-QD

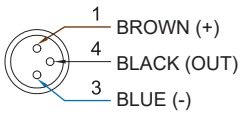


KT-85DE, KT-85NE, KT-85PE /
KT-85DE-QD, KT-85NE-QD, KT-85PE-QD

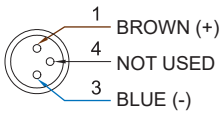


■ QD PINOUT

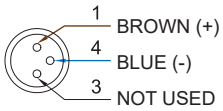
***3 wire QD wiring**



***2 wire QD wiring**

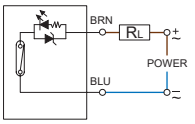
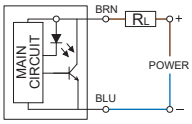
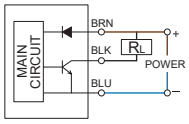
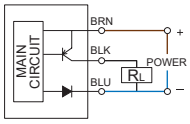


***2 wire EQD wiring**



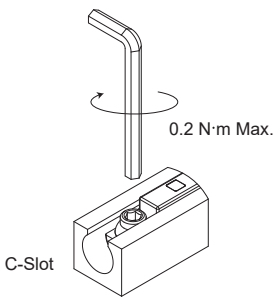
■ SPECIFICATIONS

Unit:mm

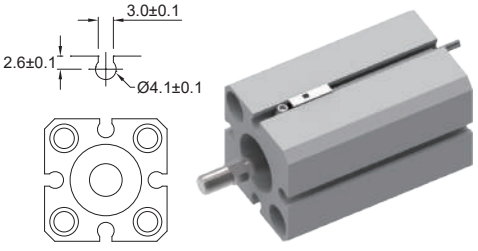
TYPE	KT-85R	KT-85DE	KT-85NE	KT-85PE
CONNECT DIAGRAM / CHARACTERISTICS				
Wiring Method	2-Wire Type		3-Wire Type	
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open		
Sensor Type	Reed Switch	-	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	5~110V DC/AC	5~30V DC		
Switching Current	100mA max.	50mA max.	80mA max.	
Contact Rating (*1)	10W max.	1.5W max.	2.2W max.	
Current Consumption	-		10mA @ 24V DC max.	
Voltage Drop	3.5V max.		0.5V @ 50mA max.	
Leakage Current	-	0.1mA (40uA) max.	0.01mA max.	
Indicator	Red LED			
Cable	ø2.6, 2C, PVC		ø2.6, 3C, PVC	
Operating Frequency	200Hz	1000Hz max.		
Magnet Requirement (*2)	70Gauss	40~1000Gauss		
Temperature Range	-10~70°C			
Shock (*3)	30G	50G		
Vibration (*4)	9G			
Enclosure Classification	IEC 60529 IP 67			
Protection Circuit (*5)	1	3,4		

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
5. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

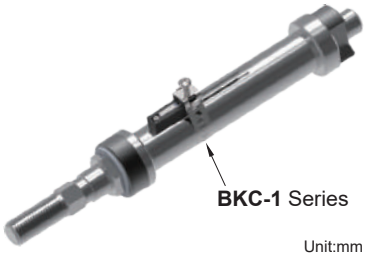
■ OPERATION METHOD



■ GROOVE DIMENSIONS



■ MOUNTING CLAMPS



Unit:mm

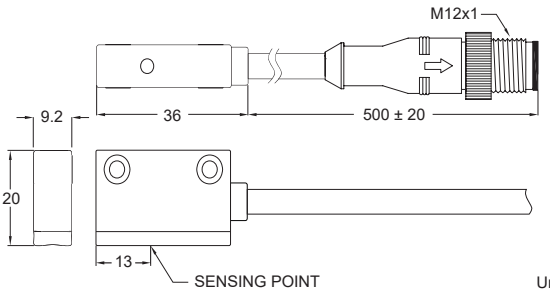
Weld-field Immune Sensor

KT-1000D SERIES

RoHS

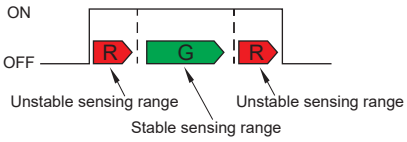
Dual Color LED allow more precise positioning

DIMENSIONS



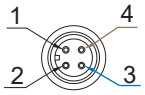
Unit:mm

SW OUT



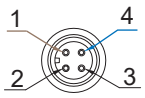
QD PINOUT

QD



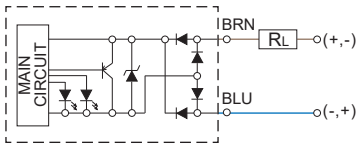
1:N/C (No connect)
2:N/C (No connect)
3:BLUE
4:BROWN

EQD



1:BROWN
2:N/C (No connect)
3:N/C (No connect)
4:BLUE

SPECIFICATIONS

TYPE	KT-1000D
CONNECT DIAGRAM	
Wiring Method	2-Wire Type
Switching Logic	Solid State Output, Normally Open
Sensor Type	-
Operating Voltage	10~28V DC
Switching Current	5-50mA max.
Contact Rating (*1)	1.5W max.
Current Consumption	-
Voltage Drop	5V max.
Leakage Current	1mA max.
Indicator	Red LED : unstable sensing range Green LED : stable sensing range
Cable	ø5.4, 2C, PVC
Operating Time	50ms max.
Magnetic Feild Resistance (*2)	16000A
Magnet Requirement (*3)	85Gauss
Temperature Range	-10~60˚C
Shock (*4)	30G
Vibration (*5)	9G
Enclosure Classification	IEC 60529 IP67
Protection Circuit (*6)	3,4

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. The operational distance can be 0 mm between KT-1000D and welding gun (welding conductor or cable) when the welding current less than 16000 A.
3. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
4. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
5. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
6. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

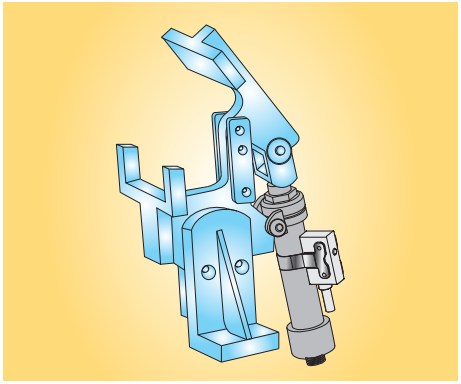
ORDERING INFORMATION

K T - 1 0 0 0 D - [ ]

Cable Length / Connector

Blank: With 3 meter cable
QD: With M12 4Pin male connector

APPLICATION MOUNTING



KT-1000D detects the position of the cylinder piston and it is especially suitable for clamp cylinder.

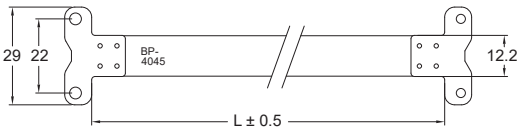
Weld-field Immune Sensor

KT-1000D SERIES

■ CLAMPS

BP

Clamp is designed for mounting KT-1000D on round cylinder.



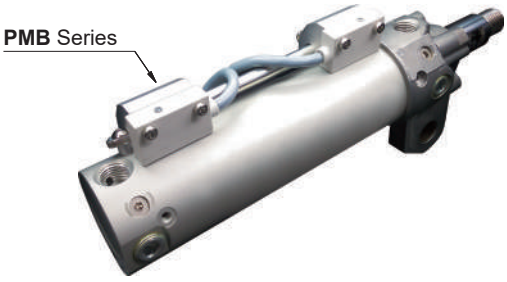
NO.	Model	" L "	I.D.	O.D.
1	BP-4045	154	ø40	ø45
2	BP-4047	161	ø40	ø47
3	BP-5055	188	ø50	ø55
4	BP-5058	197	ø50	ø58
5	BP-6368	228	ø63	ø68
6	BP-6372	240	ø63	ø72

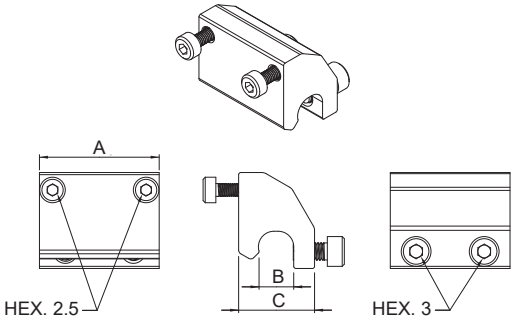
Unit:mm

■ BRACKET

PMB

Clamp is designed for mounting KT-1000D on round cylinder.

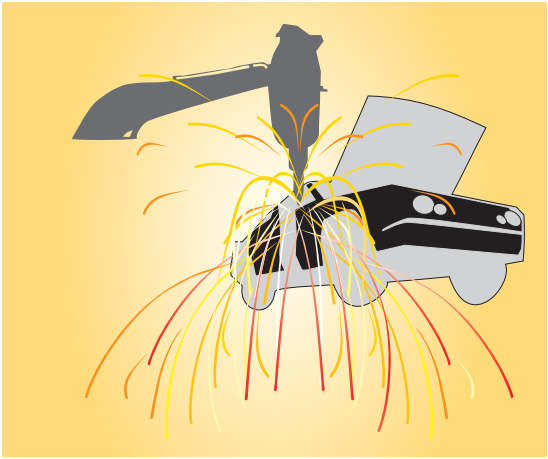




Model \ DIM.	A	B	C
PMB-040	28.15	8.15	17.85

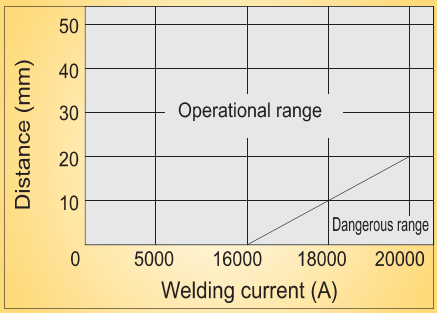
Unit:mm

■ APPLICATION ENVIRONMENT



KT-1000D can be applied in the strong magnetic field environment such as automotive manufacturing or areas near welding machine.When **KT-1000D** detects the magnetic AC field (50 or 60 Hz) it will keep the status of output and will not be effected.

■ WELD-FIELD IMMUNE



The operational distance can be 0 mm between **KT-1000D** and welding gun (welding conductor or cable) when the welding current less than 16000 A.

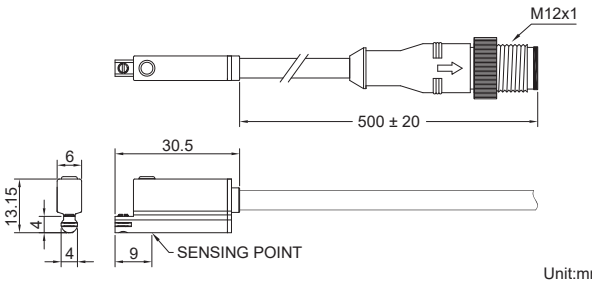
Weld-field Immune Sensor

KT-1001D SERIES

RoHS

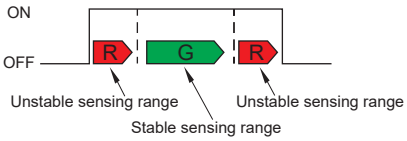
Dual Color LED allow more precise positioning

DIMENSIONS



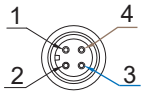
Unit:mm

SW OUT



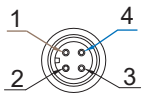
QD PINOUT

QD



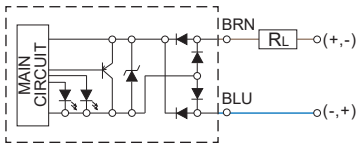
1:N/C (No connect)
2:N/C (No connect)
3:BLUE
4:BROWN

EQD



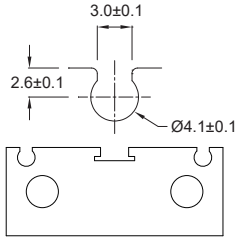
1:BROWN
2:N/C (No connect)
3:N/C (No connect)
4:BLUE

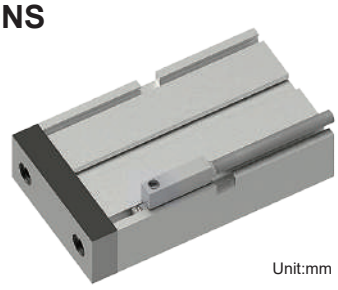
SPECIFICATIONS

TYPE	KT-1001D
CONNECT DIAGRAM	
Wiring Method	2-Wire Type
Switching Logic	Solid State Output, Normally Open
Sensor Type	-
Operating Voltage	10~28V DC
Switching Current	5-50mA max.
Contact Rating (*1)	1.5W max.
Current Consumption	-
Voltage Drop	5V max.
Leakage Current	1mA max.
Indicator	Red LED : unstable sensing range Green LED : stable sensing range
Cable	ø4.8, 2C, PVC
Operating Time	50ms max.
Magnetic Feild Resistance (*2)	16000A
Magnet Requirement (*3)	85Gauss
Temperature Range	-10~60˚C
Shock (*4)	50G
Vibration (*5)	9G
Enclosure Classification	IEC 60529 IP67
Protection Circuit (*6)	3,4

NOTE:
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent demage to sensor will occur.
2. The operational distance can be 0 mm between KT-1000D and welding gun (welding conductor or cable) when the welding current less than 16000 A.
3. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
4. Sin wave / X , Y , Z 3 directions / 3 times each direction / 11 ms each time.
5. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X , Y , Z 3 directions / 1 hour each time.
6. 1=None / 2=Short-circuit / 3=Power Source Reverse polarity / 4=Surge Suppression

GROOVE DIMENSIONS





Unit:mm

ORDERING INFORMATION

K T - 1 0 0 1 D - ☐

Cable Length / Connector

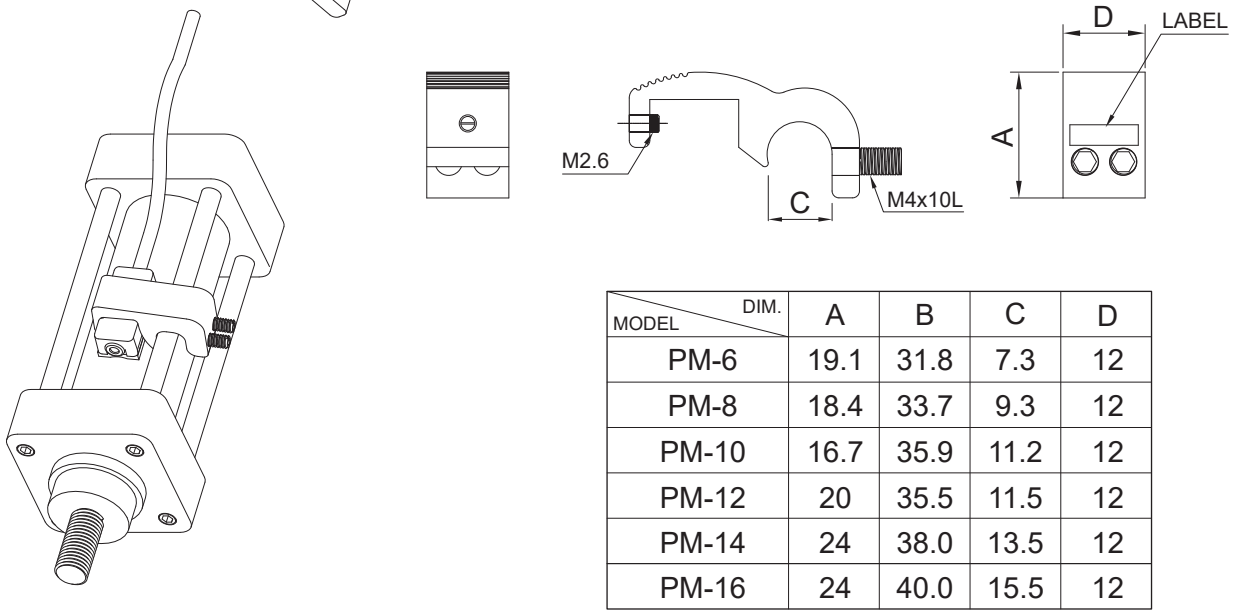
Blank: With 3 meter cable
QD: With M12 4Pin male connector

BRACKET SERIES

RoHS

PM

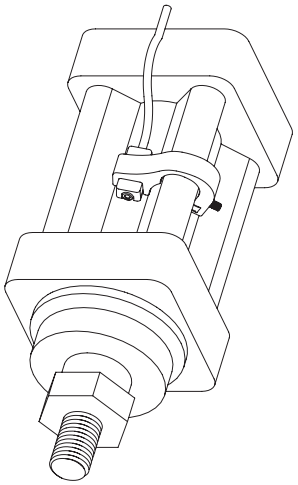
Bracket is designed for mounting KT-20 & KT-21 & KT-31 series sensor on tie-rod cylinder.

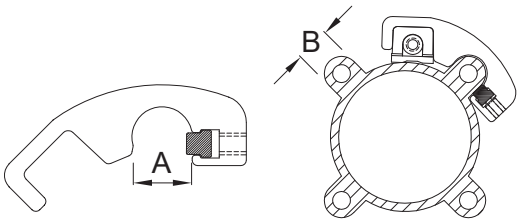


MODEL \ DIM.	A	B	C	D
PM-6	19.1	31.8	7.3	12
PM-8	18.4	33.7	9.3	12
PM-10	16.7	35.9	11.2	12
PM-12	20	35.5	11.5	12
PM-14	24	38.0	13.5	12
PM-16	24	40.0	15.5	12

PI

Bracket is designed for mounting KT-20 & KT-21 & KT-31 series sensor on ISO profile cylinder.





MODEL \ DIM.	A	B	Remark
PI-1	10.9	10.4	ø 32 ~ ø 40
PI-2	14.10	13.5	ø 50 ~ ø 63
PI-3	15.45	15	ø 80
PI-4	16.3	16	ø 100
PI-5	19.8	18.7	ø 125
PI-6	26.5	25.7	ø 150

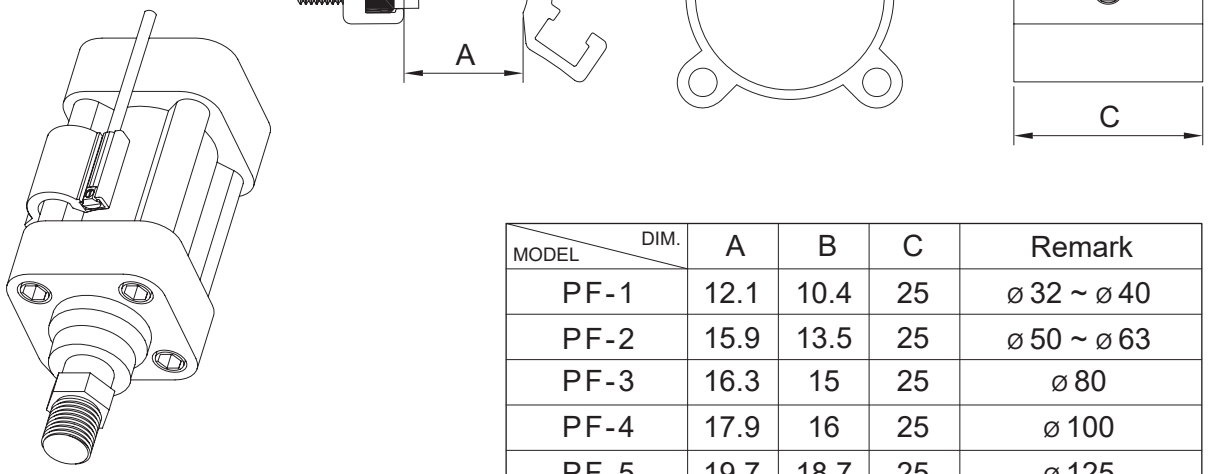
Unit:mm

BRACKET SERIES

RoHS

PF

Bracket is designed for mounting KT-32 & KT-40 & KT-50 & KT-65 & KT-75 series sensor on ISO profile cylinder.

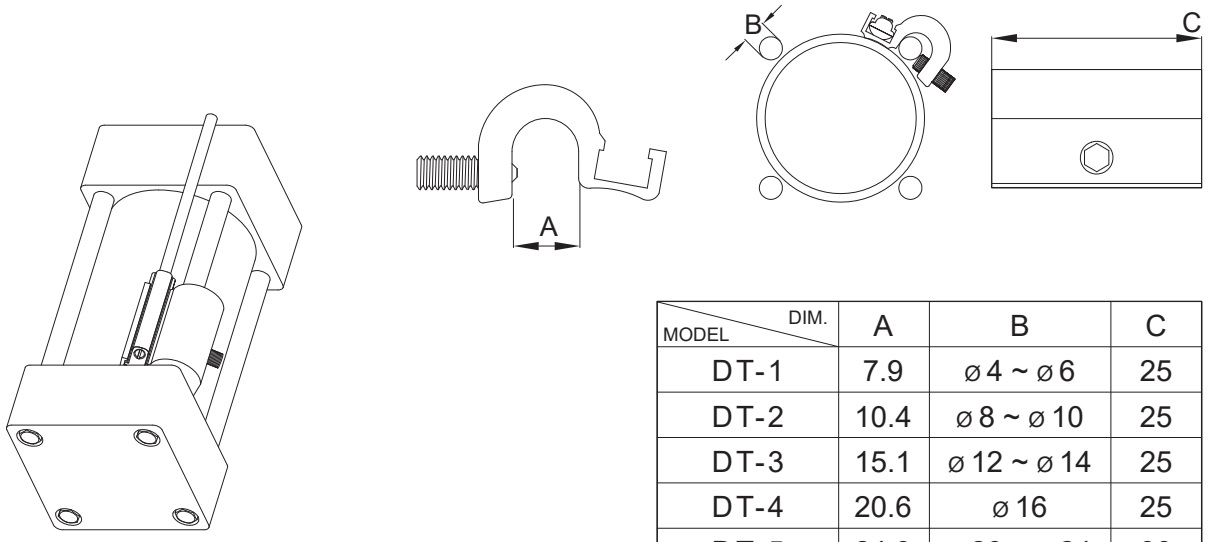


MODEL / DIM.	A	B	C	Remark
PF-1	12.1	10.4	25	ø 32 ~ ø 40
PF-2	15.9	13.5	25	ø 50 ~ ø 63
PF-3	16.3	15	25	ø 80
PF-4	17.9	16	25	ø 100
PF-5	19.7	18.7	25	ø 125

Unit:mm

DT

Bracket is designed for mounting KT-32 & KT-40 & KT-50 & KT-65 & KT-75 series sensor on tie-rod cylinder.



MODEL / DIM.	A	B	C
DT-1	7.9	ø 4 ~ ø 6	25
DT-2	10.4	ø 8 ~ ø 10	25
DT-3	15.1	ø 12 ~ ø 14	25
DT-4	20.6	ø 16	25
DT-5	24.9	ø 20 ~ ø 24	30

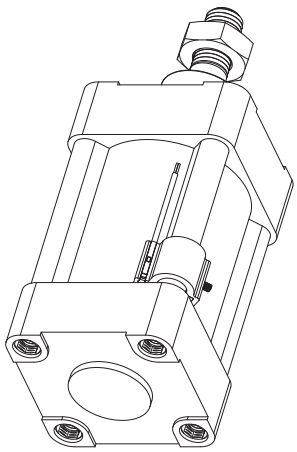
Unit:mm

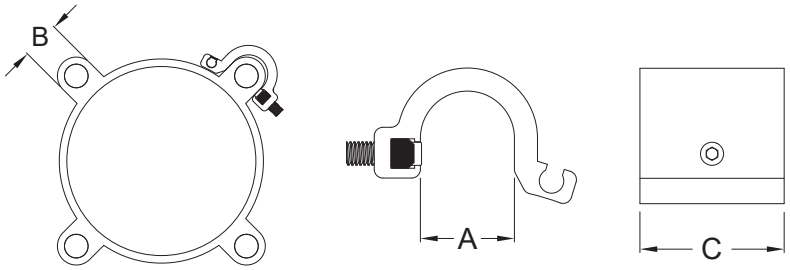
BRACKET SERIES

RoHS

PF7

Bracket is designed for mounting KT-07 & KT-16 & KT-36 & KT-37 & KT-38 & KT-77 & KT-81 & KT-85 series sensor on ISO profile cylinder.

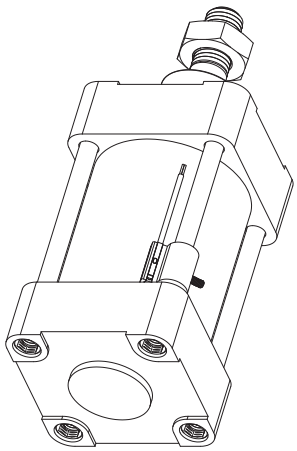


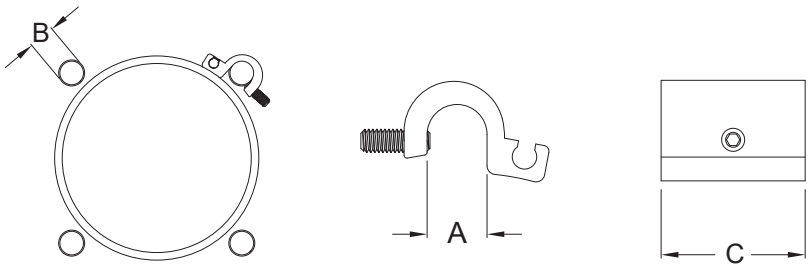


MODEL \ DIM.	A	B	C	Remark
PF7-1	12.1	10.4	25	ø 32 ~ ø 40
PF7-2	15.9	13.5	25	ø 50 ~ ø 63
PF7-3	16.3	15	25	ø 80
PF7-4	17.9	16	25	ø 100
PF7-5	19.7	18.7	25	ø 125
PF7-6	27.6	25.7	25	ø 160

DT7

Bracket is designed for mounting KT-07 & KT-16 & KT-36 & KT-37 & KT-38 & KT-77 & KT-81 & KT-85 series sensor on tie-rod cylinder.





MODEL \ DIM.	A	B	C
DT7-1	7.9	ø 4 ~ ø 6	25
DT7-2	10.4	ø 8 ~ ø 10	25
DT7-3	15.1	ø 12 ~ ø 14	25
DT7-4	20.6	ø 16	25

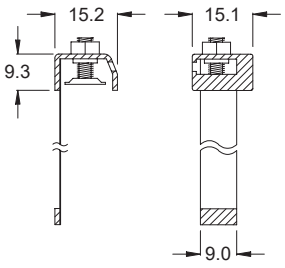
Unit:mm

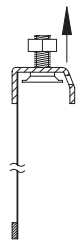
CLAMP SERIES

RoHS

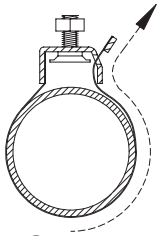
PN

Clamp is designed for mounting KT-20 & KT-21 series sensor on round cylinder.

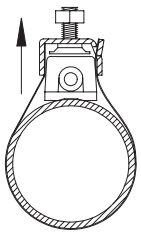




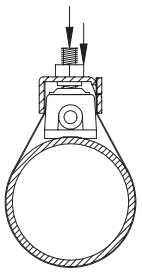
Step 1
Loosen screw & nut.



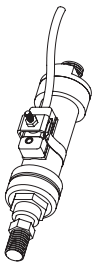
Step 2
Wrap the band around the cylinder & put the apex through the fastening hole.



Step 3
Pull up mounting head & place sensor under the mounting head.



Step 4
Swivel set screw to tighten band and fixing sensor. Finally swivel nut for steadying.



PN - S 2 0

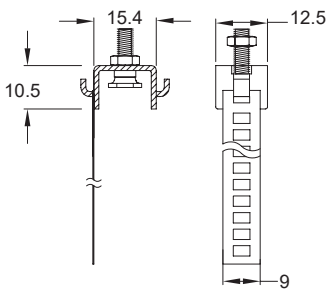
- Cylinder bore size.
- **S** : For cylinder body is stainless steel.
- **A** : For cylinder body is aluminium steel.

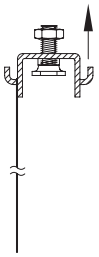
Cylinder Chart

Model	Bore Size	Barrel Material	Model	Bore Size	Barrel Material
PN-A16	Ø16	Aluminum	PN-S10	Ø10	Stainless
PN-A20	Ø20	Aluminum	PN-S12	Ø12	Stainless
PN-A25	Ø25	Aluminum	PN-S16	Ø16	Stainless
PN-A30	Ø30	Aluminum	PN-S20	Ø20	Stainless
PN-A32	Ø32	Aluminum	PN-S25	Ø25	Stainless
PN-A40	Ø40	Aluminum	PN-S32	Ø32	Stainless
PN-A50	Ø50	Aluminum	PN-S40	Ø40	Stainless
PN-A63	Ø63	Aluminum			

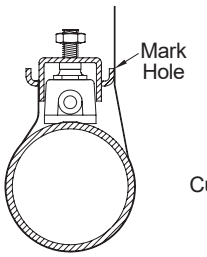
PH

Clamp is designed for mounting KT-20 & KT-21 series sensor on round cylinder.

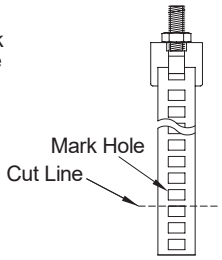




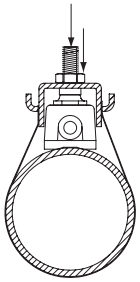
Step 1
Loosen screw & nut.



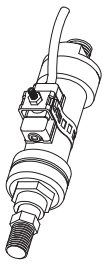
Step 2
Place sensor & wrap the band around the cylinder. Position the hook with the nearest hole on the band and mark the hole with a permanent marker.



Step 3
Remove mounting assembly. Cut the band at the nearest edge of next hole. (the one that's further away from the mounting head).



Step 4
Re-place the sensor & mounting assembly. Wrap the band & put the chosen hole on hook. Position the switch and tighten. Finally swivel nut for steadying.



PH-1 : For **Ø6 ~ Ø63** round cylinder use.
PH-2 : For **Ø6 ~ Ø125** round cylinder use.

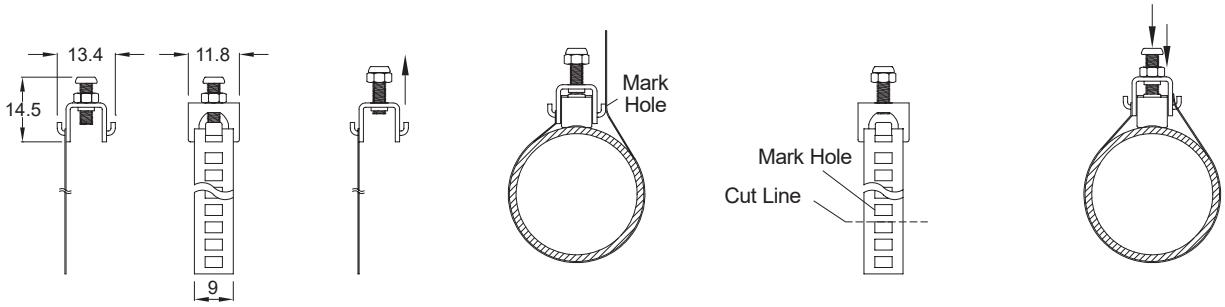
Unit:mm

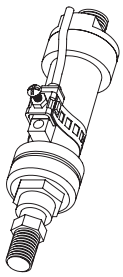
CLAMP SERIES

RoHS

BK

Clamp is designed for mounting KT-05 & KT-15 series sensor on round cylinder.





Step 1
Loosen screw & nut.

Step 2
Place sensor & wrap the band around the cylinder. Position the hook with the nearest hole on the band and mark the hole with a permanent marker.

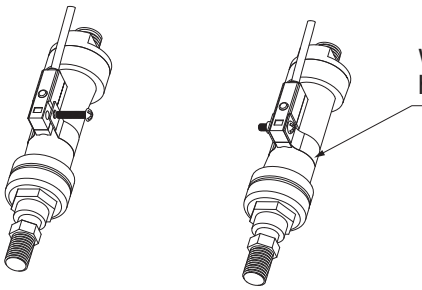
Step 3
Remove mounting assembly Cut the band at the nearest edge of next hole. (the one that's further away from the mounting head).

Step 4
Re-place the sensor & mounting assembly. Wrap the band & put the chosen hole on hook. Position the switch and tighten. Finally swivel nut for steadying.

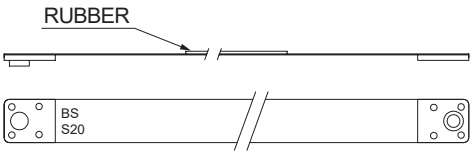
BK-81 : For **Ø6 ~ Ø32** round cylinder use.
BK-82 : For **Ø6 ~ Ø63** round cylinder use.

BS

Clamp is designed for mounting KT-48 series sensor on round cylinder.



Wrap the band around cylinder barrel and re-insert screw head into clamp. Position the switch and tighten.



BS - S 2 5

- **12** : **ø12** cylinder
- **16** : **ø16** cylinder
- ⋮
- **40** : **ø40** cylinder

- **S** : For cylinder body is stainless steel.
- **A** : For cylinder body is aluminum alloy.

EX : **BS-S25** : It is used on **ø25** cylinder and material of cylinder tube is stainless.

Cylinder Chart

Model	Bore Size	Barrel Material	O.D. (mm)	Model	Bore Size	Barrel Material	O.D. (mm)
BS-A20	Ø20	Aluminum	25	BS-S6	Ø6	Stainless	8.5
BS-A25	Ø25	Aluminum	30	BS-S8	Ø8	Stainless	10
BS-A30	Ø30	Aluminum	35	BS-S10	Ø10	Stainless	11
BS-A32	Ø32	Aluminum	37	BS-S12	Ø12	Stainless	13.2
BS-A40	Ø40	Aluminum	45	BS-S16	Ø16	Stainless	17
BS-A50	Ø50	Aluminum	55	BS-S20	Ø20	Stainless	21.6
BS-A63	Ø63	Aluminum	70	BS-S25	Ø25	Stainless	26.5
BS-A80	Ø80	Aluminum	87.7	BS-S32	Ø32	Stainless	33.6
				BS-S40	Ø40	Stainless	42

Unit:mm

CLAMP SERIES

RoHS

BL-1

Clamp is designed for mounting KT-40 & KT-50 series sensor on round cylinder.

Cylinder Chart

Bore Size	Barrel Material	O.D. (mm)	Recommended mounting hole	Bore Size	Barrel Material	O.D. (mm)	Recommended mounting hole
Ø10	Stainless	11	10	Ø30	Aluminum	35	26
Ø12	Stainless	13.2	11	Ø32	Stainless	33.6	24
Ø16	Stainless	17	14	Ø32	Aluminum	37	27
Ø20	Stainless	21.6	16	Ø40	Stainless	42	30
Ø20	Aluminum	25	19	Ø40	Aluminum	45	32
Ø25	Stainless	26.5	20	Ø50	Aluminum	55	40
Ø25	Aluminum	30	22	Ø63	Aluminum	70	50

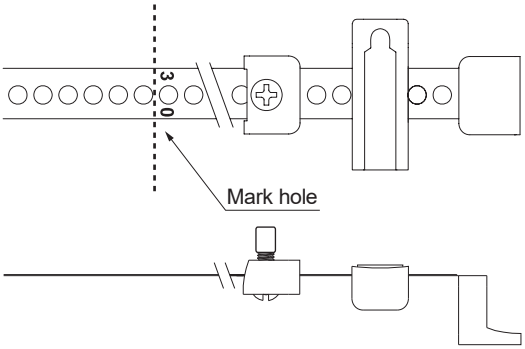
BL-1

How to use:

Example: Use with ø40 stainless body cylinder

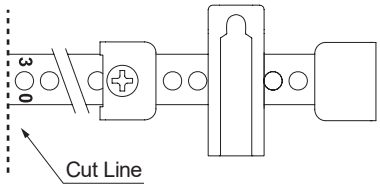
Step 1

Refer to the cylinder chart, make marking next to the 30th hole. (On the 31st hole, see below)



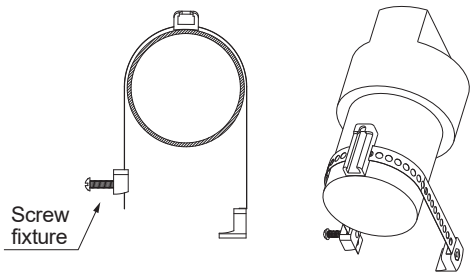
Step 2

Cut off excessive mounting band.



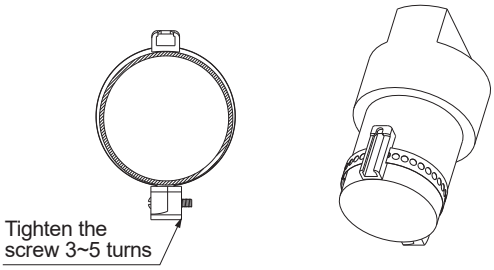
Step 3

Insert screw through screw fixture and the apropriate hole.



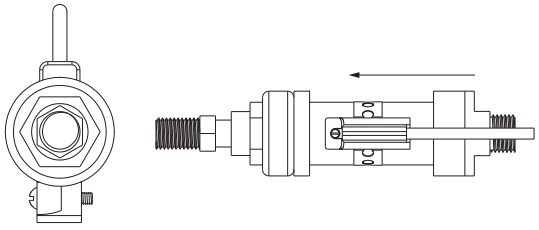
Step 4

Wrap the mounting band around the cylinder barrel and tighten the screw 3~5 turns.



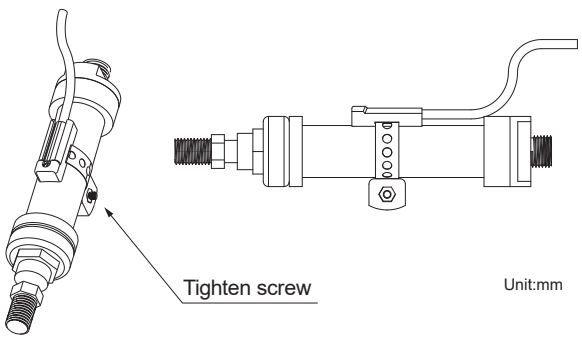
Step 5

Mount the sensor in the BL-1 series bracket and tighten.



Step 6

Adjust sensor to the sensing postion and tighten.



RoHS

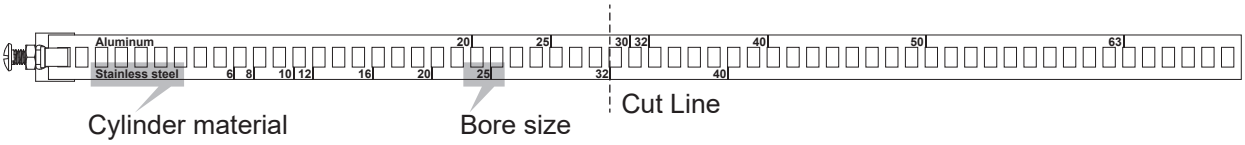
BKC-1

BKC-1 is designed for mounting KT-07 & KT-77 series sensor on round cylinder.

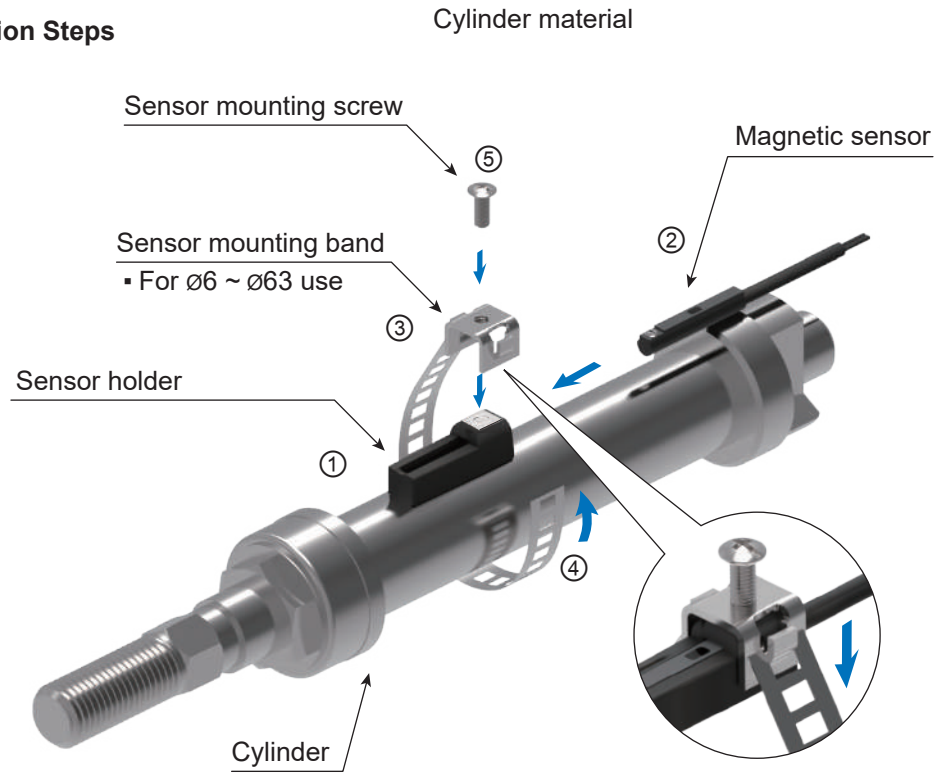
BKC-1

How to use :

1. Example: Use with ø32 stainless body cylinder.
Refer to the clamp marking "Stainless steel 32", and cut off the excessive portion.



2. Installation Steps



Unit:mm

RoHS

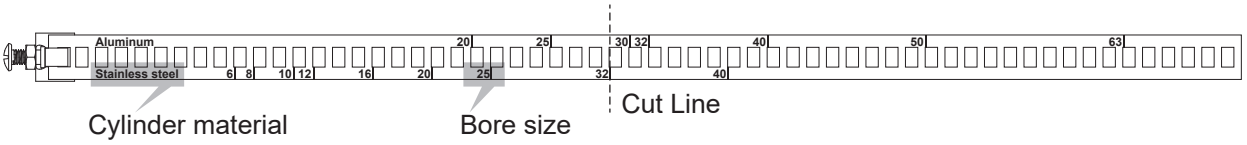
BKT-1

BKT-1 is designed for mounting KT-65 & KT-75 series sensor on round cylinder.

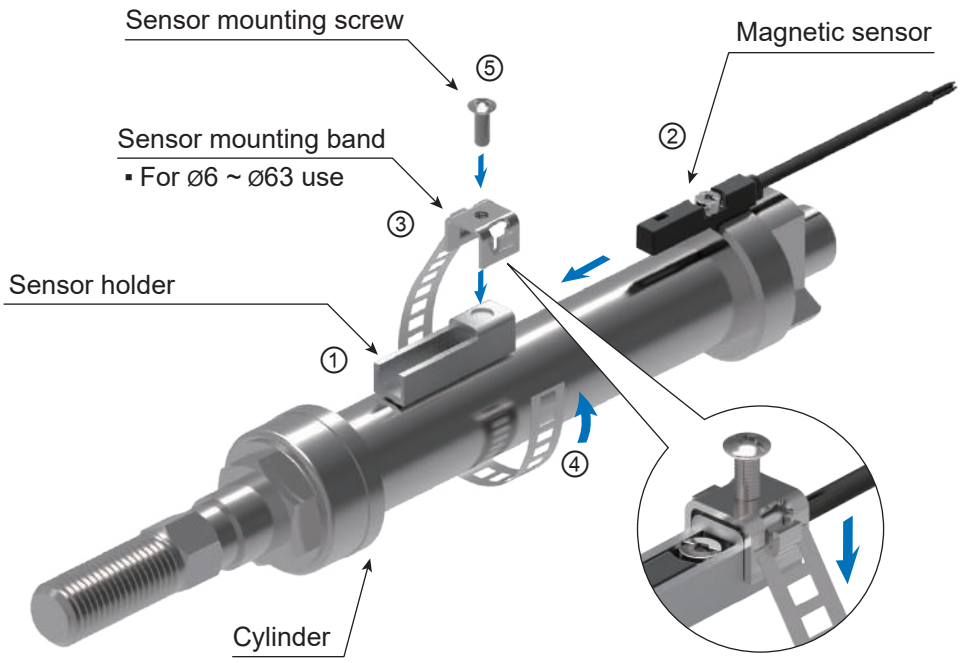
BKT-1

How to use :

1. Example: Use with ø32 stainless body cylinder.
Refer to the clamp marking "Stainless steel 32", and cut off the excessive portion.



2. Installation Steps



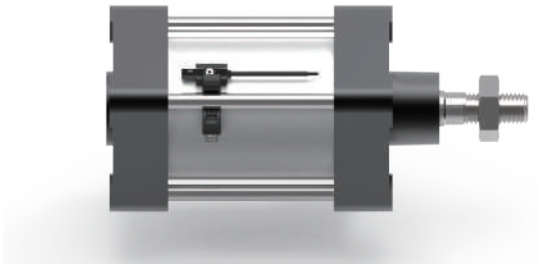
Unit:mm

RoHS

FST

FST is designed for KT-32 & KT-40 & KT-50 & KT-65 & KT-75 series sensor on tie-rod cylinder.

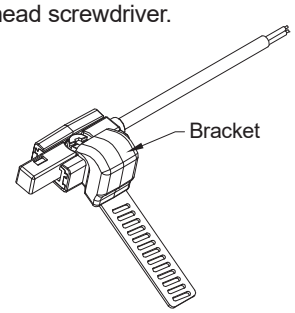
FST



How to mount:

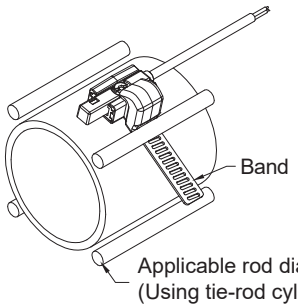
Step 1

Fix sensor on bracket with 2mm hexagon wrench or flathead screwdriver.



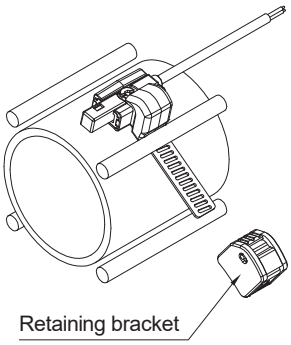
Step 2

Insert the band between cylinder tube and tie-rod.



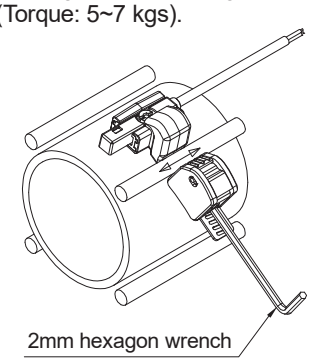
Step 3

Slide the retaining bracket onto the band.



Step 4

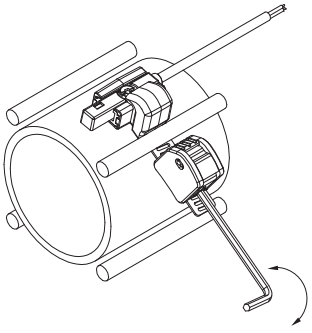
Adjust by moving bracket to most ideal sensing position and tighten screw. (Torque: 5~7 kgs).



How to dismount:

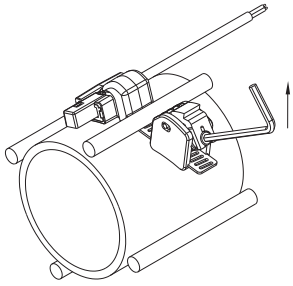
Step 1

Use 2mm hexagon wrench to release the screw for 2~3 turns.



Step 2

Use 2mm hexagon wrench to lift up the screw cap to remove the retaining bracket.



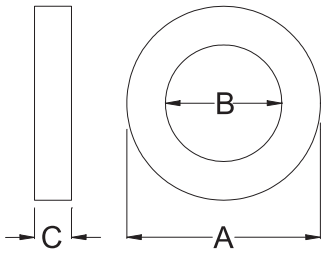
MAGNET SERIES

RoHS

ANISOTROPIC RUBBER MAGNET

MODEL \ DIM.	A / $^{+0.00}_{-0.80}$	B / $^{+0.80}_{-0.00}$	C / ±0.2
ME - 16 - 8 × 4	15.50	8.00	4.00
ME - 20 - 9 × 4	19.50	9.00	4.00
ME - 25 - 13 × 4	24.50	13.00	4.00
ME - 30 - 21 × 4	29.50	21.00	4.00
ME - 32 - 21 × 4	31.50	21.00	4.00
ME - 40 - 22 × 4	39.50	22.00	4.00
ME - 50 - 32 × 4	49.50	32.00	4.00
ME - 63 - 42 × 4	62.50	42.00	4.00
ME - 80 - 58 × 4	79.50	58.00	4.00
ME - 100 - 78 × 4	99.50	78.00	4.00
ME - 125 - 79 × 4	124.50	79.00	4.00
ME - 125 -108× 4	124.50	108.00	4.00
ME - 150 -125× 4	149.50	125.00	4.00
ME - 200 -176× 4	195.50	176.00	4.00

MODEL \ DIM.	A / $^{+0.00}_{-0.80}$	B / $^{+0.80}_{-0.00}$	C / ±0.2
ME - 16 - 8 × 5	15.50	8.00	5.00
ME - 20 - 9 × 5	19.50	9.00	5.00
ME - 25 - 13 × 5	24.50	13.00	5.00
ME - 30 - 21 × 5	29.50	21.00	5.00
ME - 32 - 21 × 5	31.50	21.00	5.00
ME - 40 - 22 × 5	39.50	22.00	5.00
ME - 50 - 32 × 5	49.50	32.00	5.00
ME - 63 - 42 × 5	62.50	42.00	5.00
ME - 80 - 58 × 5	79.50	58.00	5.00
ME - 100 - 78 × 5	99.50	78.00	5.00



CHARACTERISTIC

A. Magnetic property:

Residual flux density (Br): 2300 - 2500 gauss
Coercive force (iHC): 3000 - 3800 Oe
(bHC): 2000 - 2300 Oe
Maximum energy product: 1.3 - 1.5 Mg.Oe

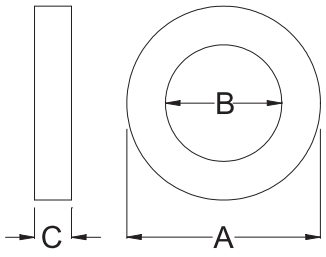
B. Physical property:

Resistant power: 20 - 50 kgf/cm^2
Lengthen: 5 -20 %
Hardness (Shore D): 30 - 50
Specific gravity: 3.5 - 3.7 g/cm^3
Temperature range: -20ºC ~ +70ºC

ANISOTROPIC PLASTIC MAGNET

MODEL \ DIM.	A / ±	B / $^{+0.30}_{-0.00}$	C / ±0.2
PME - 20 - 9 × 4	19.50	9.00	4.00
PME - 25 - 13 × 4	24.50	13.00	4.00
PME - 30 - 21 × 4	29.50	21.00	4.00
PME - 32 - 21 × 4	31.50	21.00	4.00
PME - 40 - 22 × 4	39.50	22.00	4.00
PME - 50 - 32 × 4	49.50	32.00	4.00
PME - 63 - 42 × 4	62.50	42.00	4.00
PME - 80 - 58 × 4	79.50	58.00	4.00
PME - 100 - 78 × 4	99.50	78.00	4.00

MODEL \ DIM.	A / $^{+0.00}_{-0.30}$	B / $^{+0.30}_{-0.00}$	C / ±0.2
PME - 12 - 6 × 5	11.50	6.00	5.00
PME - 16 - 8 × 5	15.50	8.00	5.00
PME - 20 - 9 × 5	19.50	9.00	5.00
PME - 25 - 13 × 5	24.50	13.00	5.00
PME - 30 - 21 × 5	29.50	21.00	5.00
PME - 32 - 21 × 5	31.50	21.00	5.00
PME - 40 - 22 × 5	39.50	22.00	5.00
PME - 50 - 32 × 5	49.50	32.00	5.00
PME - 63 - 42 × 5	62.50	42.00	5.00
PME - 80 - 58 × 5	79.50	58.00	5.00
PME - 100 - 78 × 5	99.50	78.00	5.00



CHARACTERISTIC

A. Magnetic property:

Residual flux density (Br): 2500 - 3000 gauss
Coercive force (iHC): 2700 - 3100 Oe
(bHC): 2400 - 2500 Oe
Maximum energy product: 1.8 Mg.Oe

B. Physical property:

Resistant power: 80 kgf/cm^2
Lengthen: 6.7 %
Hardness (Shore D): 120
Specific gravity: 3.2 g/cm^3
Temperature range: -20ºC ~ +100ºC

Unit:mm

Circular Connector

M8□R series

P.120

KM8□R series

P.121

M8□QD series

P.122

M8□SW series

P.123

M12□R series

P.124

M12□QD series

P.125

M8□R SERIES

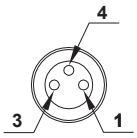
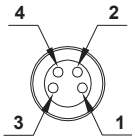
RoHS

■ ORDERING INFORMATION

M 8 3 R - P U R - 2 M

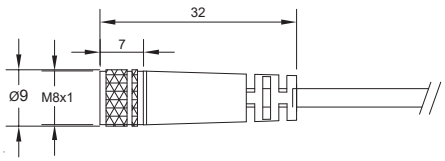
- CABLE LENGTH: 2M: 2 Meters; 5M: 5 Meters
- CABLE MATERIAL: PVC: ø 4.5 PVC cable; PUR: ø 4.5 PUR cable
- TYPE OF CONNECTOR: R:Female,Straight cable socket; RL:Female,Angle cable socket
- CONNECTOR SERIES: M83: M8 3Pin connector; M84: M8 4Pin connector

■ SPECIFICATIONS

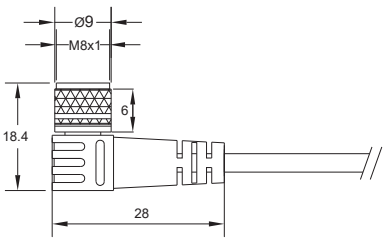
TYPE	M83R-□ M83RL-□		M84R-□ M84RL-□	
FEMALE PINOUT / CHARACTERISTICS				
Conductor Colors	1:Brown 3:Blue 4:Black		1:Brown 2:White 3:Blue 4:Black	
Number Of Contacts	3		4	
Rated Voltage	60V AC/DC			
Rated Current	3A			
Contact Material	Gold plated brass			
Contact Bearer Material	PA			
Housing Material	PP			
Housing Color	Black			
Cable Material	PVC	PUR	PVC	PUR
Cable Color	Gray	Black	Gray	Black
Cable Conductor	24AWG			
Circuit	-			
Led Color	-			
Protection Class(IEC60529)	IP67			
Temperature Range	-20~80°C			

■ DIMENSIONS

M83R/M84R



M83RL/M84RL



Unit:mm

KM8□R SERIES

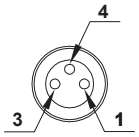
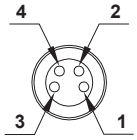
RoHS

■ ORDERING INFORMATION

K M 8 3 R - P U R - 2 M

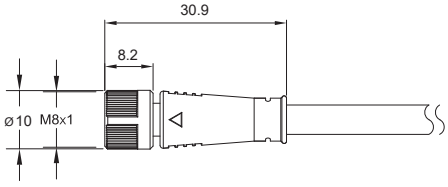
- CABLE LENGTH: 2M: 2 Meters; 5M: 5 Meters
- CABLE MATERIAL: PVC: ø 4.5 PVC cable; PUR: ø 4.5 PUR cable
- TYPE OF CONNECTOR: R:Female,Straight cable socket; RL:Female,Angle cable socket
- CONNECTOR SERIES: KM83: M8 3Pin connector; KM84: M8 4Pin connector

■ SPECIFICATIONS

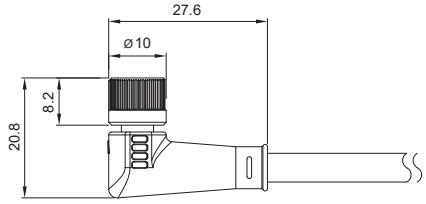
TYPE	KM83R-□ KM83RL-□		KM84R-□ KM84RL-□	
FEMALE PINOUT / CHARACTERISTICS				
Conductor colors	1:Brown 3:Blue 4:Black		1:Brown 2:White 3:Blue 4:Black	
Number of contacts	3		4	
Rated voltage	60V AC/DC			
Rated current	3A			
Contact material	Gold plated brass			
Contact bearer material	PC+ABS			
Housing material	TPV			
Housing color	Black			
Cable material	PVC	PUR	PVC	PUR
Cable color	Gray	Black	Gray	Black
Cable conductor	24AWG			
Circuit	-			
Led color	-			
Protection class(IEC60529)	IP67			
Temperature range	-20~80°C			

■ DIMENSIONS

KM83R/KM84R



KM83RL/KM84RL



Unit:mm

M8□QD SERIES

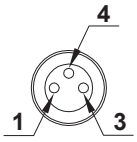
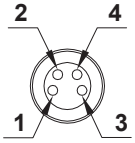
RoHS

■ ORDERING INFORMATION

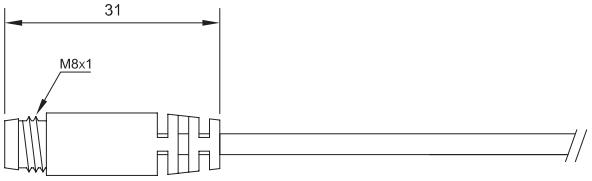
M 8 3 Q D - P U R - 2 M

- **CABLE LENGTH** — 2M: 2 Meters; 5M: 5 Meters
- **CABLE MATERIAL** — PVC: ø 4.5 PVC cable; PUR: ø 4.5 PUR cable
- **TYPE OF CONNECTOR** — QD:Male,Straight cable plug
- **CONNECTOR SERIES** — M83: M8 3Pin connector; M84: M8 4Pin connector

■ SPECIFICATIONS

TYPE	M83QD-□		M84QD-□	
MALE PINOUT / CHARACTERISTICS				
Conductor Colors	1:Brown 3:Blue 4:Black		1:Brown 2:White 3:Blue 4:Black	
Number Of Contacts	3		4	
Rated Voltage	60V AC/DC			
Rated Current	3A			
Contact Material	Gold plated brass			
Contact Bearer Material	PA			
Housing Material	PP			
Housing Color	Black			
Cable Material	PVC	PUR	PVC	PUR
Cable Color	Gray	Black	Gray	Black
Cable Conductor	24AWG			
Circuit	-			
Led Color	-			
Protection Class(IEC60529)	IP67			
Temperature Range	-20~80°C			

■ DIMENSIONS



Unit:mm

M8□SW SERIES

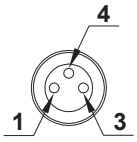
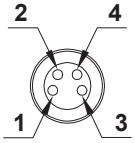
RoHS

■ ORDERING INFORMATION

M 8 3 S W - P U R - 2 M

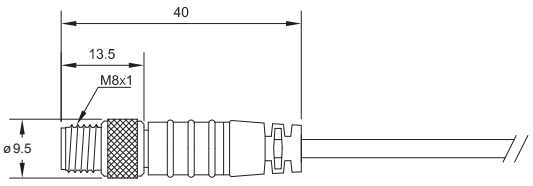
- CABLE LENGTH: 2M: 2 Meters; 5M: 5 Meters
- CABLE MATERIAL: PVC: ø 4.5 PVC cable; PUR: ø 4.5 PUR cable
- TYPE OF CONNECTOR: SW:Male,swivel lock nut, Straight cable plug; SWL:Male,swivel lock nut, Angle cable plug
- CONNECTOR SERIES: M83: M8 3Pin connector; M84: M8 4Pin connector

■ SPECIFICATIONS

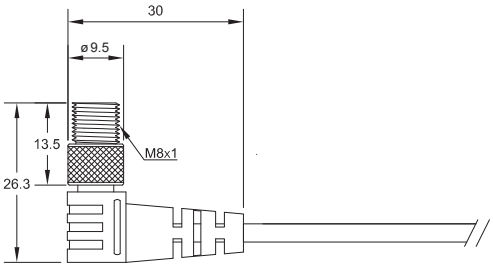
TYPE	M83SW-□ M83SWL-□		M84SW-□ M84SWL-□	
MALE PINOUT / CHARACTERISTICS				
Conductor Colors	1:Brown 3:Blue 4:Black		1:Brown 2:White 3:Blue 4:Black	
Number Of Contacts	3		4	
Rated Voltage	60V AC/DC			
Rated Current	3A			
Contact Material	Gold plated brass			
Contact Bearer Material	PU			
Housing Material	PU			
Housing Color	Black			
Cable Material	PVC	PUR	PVC	PUR
Cable Color	Gray	Black	Gray	Black
Cable Conductor	24AWG			
Circuit	-			
Led Color	-			
Protection Class(IEC60529)	IP67			
Temperature Range	-20~80°C			

■ DIMENSIONS

M83SW/M84SW



M83SWL/M84SWL



Unit:mm

M12□R SERIES

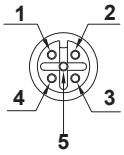
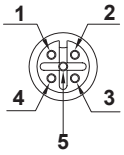
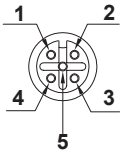
RoHS

■ ORDERING INFORMATION

M 1 2 3 R - P U R - 2 M

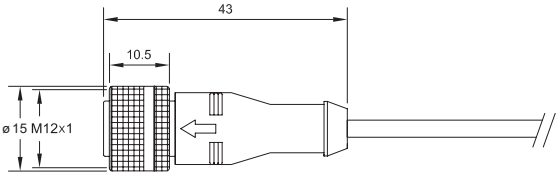
- CABLE LENGTH: 2M: 2 Meters; 5M: 5 Meters
- CABLE MATERIAL: PVC: ø 5 PVC cable; PUR: ø 5 PUR cable
- TYPE OF CONNECTOR: R:Female,Straight cable socket; RL:Female,Angle cable socket
- CONNECTOR SERIES: M123: M12 3Pin connector; M124: M12 4Pin connector; M125: M12 5Pin connector

■ SPECIFICATIONS

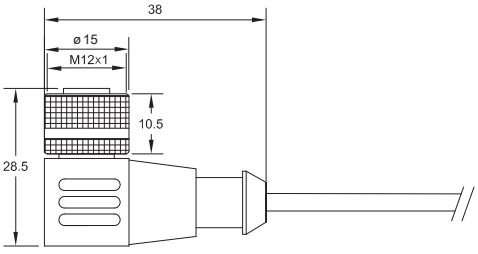
TYPE	M123R-□ M123RL-□		M124R-□ M124RL-□		M125R-□ M125RL-□	
FEMALE PINOUT / CHARACTERISTICS						
Conductor Colors	1:Brown 2:N/C(NO connect) 3:Blue 4:Black 5:N/C(NO connect)		1:Brown 2:White 3:Blue 4:Black 5:N/C(NO connect)		1:Brown 2:White 3:Blue 4:Black 5:Grey	
Number Of Contacts	3		4		5	
Rated Voltage	250V AC/DC				60V AC/DC	
Rated Current	4A					
Contact Material	Gold plated brass					
Contact Bearer Material	PU					
Housing Material	PU					
Housing Color	Black					
Cable Material	PVC	PUR	PVC	PUR	PVC	PUR
Cable Color	Black					
Cable Conductor	22AWG					
Circuit	-					
Led Color	-					
Protection Class(IEC60529)	IP67					
Temperature Range	-20~80°C					

■ DIMENSIONS

M123R/M124R/M125R



M123RL/M124RL/M125RL



Unit:mm

M12□QD SERIES

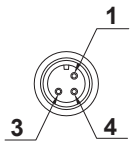
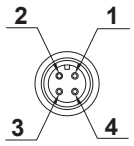
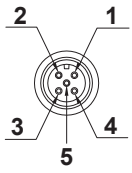
RoHS

■ ORDERING INFORMATION

M 1 2 3 Q D - P U R - 2 M

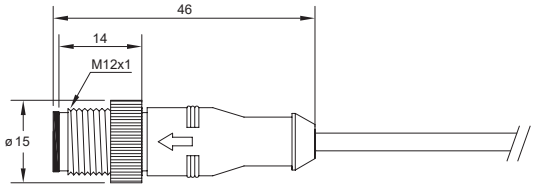
- **CABLE LENGTH** — 2M: 2 Meters; 5M: 5 Meters
- **CABLE MATERIAL** — PVC: ø 5 PVC cable; PUR: ø 5 PUR cable
- **TYPE OF CONNECTOR** — QD:Male,Straight cable plug; QDL:Male,Angle cable plug
- **CONNECTOR SERIES** — M123: M12 3Pin connector; M124: M12 4Pin connector; M125: M12 5Pin connector

■ SPECIFICATIONS

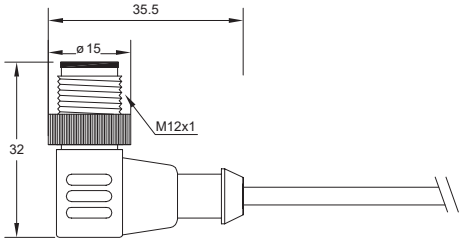
TYPE	M123QD-□ M123QDL-□		M124QD-□ M124QDL-□		M125QD-□ M125QDL-□	
MALE PINOUT / CHARACTERISTICS						
Conductor Colors	1:Brown 3:Blue 4:Black		1:Brown 2:White 3:Blue 4:Black		1:Brown 2:White 3:Blue 4:Black 5:Grey	
Number Of Contacts	3		4		5	
Rated Voltage	250V AC/DC				60V AC/DC	
Rated Current	4A					
Contact Material	Gold plated brass					
Contact Bearer Material	PU					
Housing Material	PU					
Housing Color	Black					
Cable Material	PVC	PUR	PVC	PUR	PVC	PUR
Cable Color	Black					
Cable Conductor	22AWG					
Circuit	-					
Led Color	-					
Protection Class(IEC60529)	IP67					
Temperature Range	-20~80°C					

■ DIMENSIONS

M123QD/M124QD/M125QD



M123QDL/M124QDL/M125QDL



Unit:mm

CONVERSION FACTORS

LENGTH

inch - mm	inch X 25.4=mm	mm X 0.03937=inch
inch - cm	inch X 2.54=cm	cm X 0.3937=inch
feet - m	feet X 0.3048=m	m X 3.2808=feet
yard - m	yard X 0.9144=m	m X 1.0936=yard

WEIGHT

g - ounce	g X 0.0352=oz	ounce X 28.349=g
kg - pound	kg X 2.2046=lb.	lb. X 0.4535=kg

PRESSURE (Vacuum)

Pa - kgf/cm^2	Pa X 0.00001=kgf/cm^2	kgf/cm^2 X 98070=Pa
kPa - kfg/cm^2	kPa X 0.0102=kgf/cm^2	kgf/cm^2 X 980.71=kPa
MPa - kgf/cm^2	MPa X 1.02=kgf/cm^2	kgf/cm^2 X 0.098=MPa
Pa - psi	Pa X 0.000145=psi	psi X 6895=Pa
kPa - psi	kPa X 0.145=psi	psi X 6.895=kPa
MPa - psi	MPa X 145=psi	psi X 0.006895-MPa
kPa - in.Hg	kPa X 0.2953=in.Hg	in.Hg X 3.3864=kPa
mmHg - in. Hg	mmHg X 0.03937=in. Hg	in.Hg X 25.4=mmHg
mmHg - Torr	mmHg + 760=Torr	Torr - 760=mmHg

AIR FLOW

SCFM - Nl/min	SCFM X 28.57 =Nl/min	Nl/min X 0.035=SCFM

EFFECTIVE CROSS-SECTIONAL AREA - Cv FACTOR

mm^2 - CV	mm^2 X 0.0542=Cv	Cv X 18.45=mm^2

TEMPERATURE

˚C - ˚F	˚C X 9/5+32=˚F	(˚F -32) 5/9=˚C

FORCE

N- kgf	N X 0.10197=kgf	kgf X 9.8067=N
N- lbf	N X 0.22481=lbf	lbf X 4.4482=N
kgf - lbf	kgf X 2.20462=lbf	lbf X 0.45359=kgf

TORQUE

N.m - kgf.m	N.m X 0.10197=kgf.m	kgf.m X 9.8067=N.m
N.m - lbf.ft	N.m X 0.73756=lbf.ft	lbf.ft X 1.3558=N.m
kgf.m - lbf.ft	kgf.m X 7.233=lbf.ft	lbf.ft X 0.13826=kgf.m

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