

Magnetic Sensor

KT-05 series



KT-06 series



KT-07 series



KT-09 series



KT-11 series



KT-15 series



KT-16 series



KT-20 series



KT-21 series



KT-31 series



KT-32 series



KT-32-EX series



KT-33 series



KT-36 series



KT-37 series

KT-38 series **NEW**

KT-40 series



KT-47 series



KT-48 series



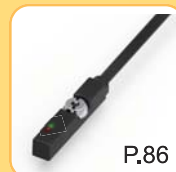
KT-50 series



KT-53 series



KT-58 series

KT-65 series **NEW**KT-75 series **NEW**KT-77 series **NEW**

Bracket



Clamp



Magnet


KT-22
 Gear Tooth Sensor
 P.69

KT-28
 Magnetic Proximity Sensor
 P.70

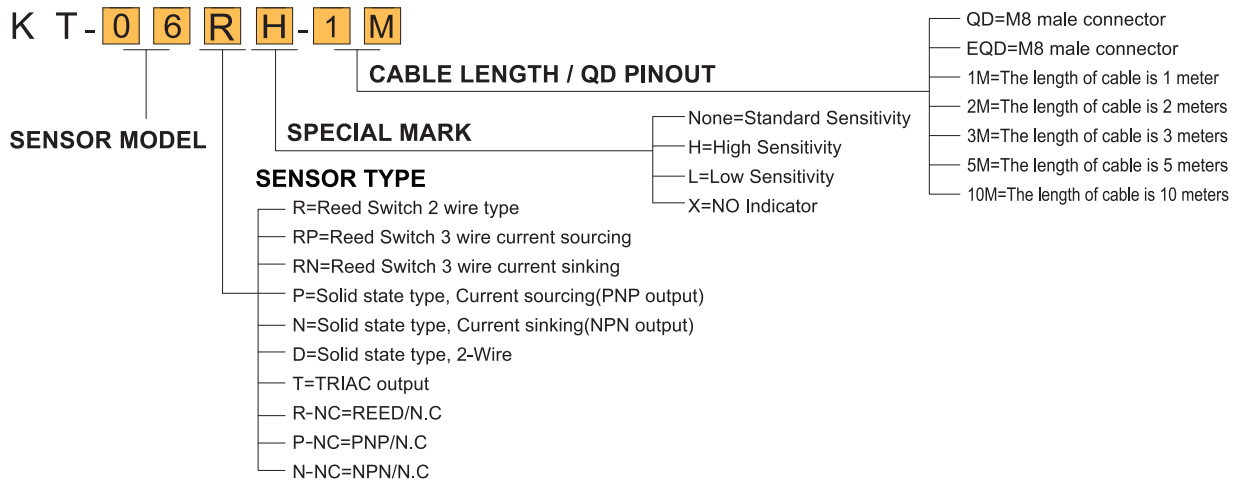
KT-1000D
 Weld-field Immune Sensor
 P.88

KT-1001D **NEW**
 Weld-field Immune Sensor
 P.90


ORDERING INFORMATION CONNECTION METHOD



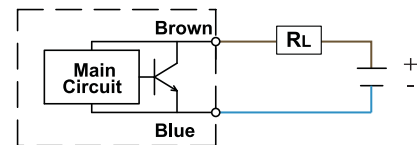
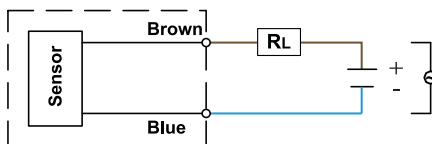
ORDERING INFORMATION



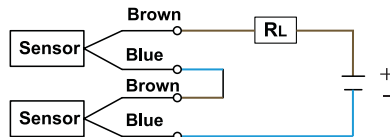
CONNECTION METHOD

2 wire sensor connection

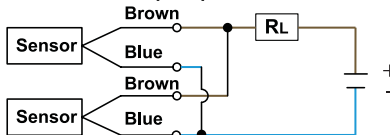
General connection



Series Connection (AND)



Parallel Connection (OR)

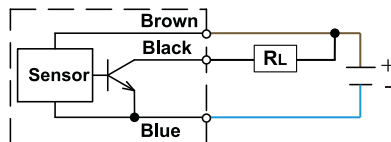


When connecting 2-wire sensors in series (AND), don't exceed more than two sensors due to the internal voltage drop (Typical V drop=2.5~4V per switch). Excessive Voltage drop will cause non-operation of the load.

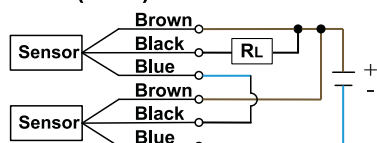
1. When connecting non-contact 2-wire sensors in parallel (OR), leakage current will increase and cause improper load operation.
2. When connecting 2-wire reed sensors in parallel(OR), possible concurrent operation will cause dim LED illumination due to lower current distribution.

3 wire NPN connection

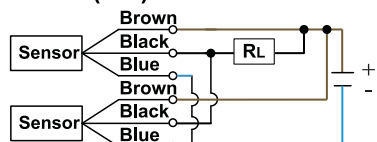
General connection



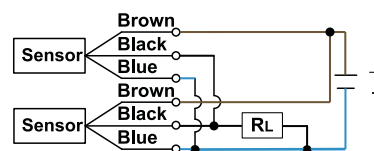
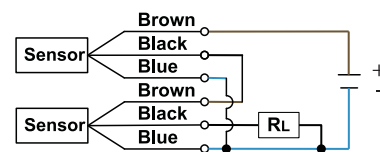
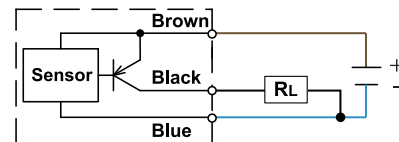
Series connection (AND)



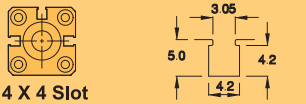
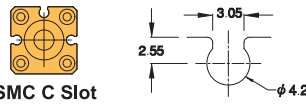
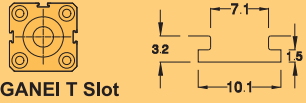
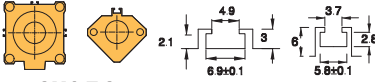
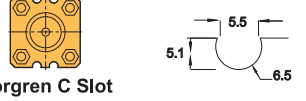
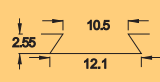
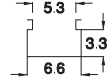
Parallel connection (OR)



3 wire PNP connection



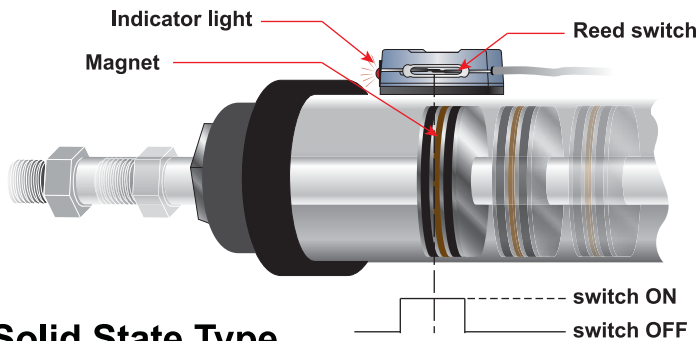
Cylinder / Magnetic SW. Cross Index

																											
Items	KT-05	KT-06	KT-07	KT-09	KT-11	KT-15	KT-16	KT-20	KT-21	KT-31	KT-32 KT-32-EX		KT-33	KT-36	KT-37	KT-38	KT-40	KT-47	KT-48	KT-50	KT-53	KT-58	KT-65	KT-75	KT-77	KT-1000D	KT-1001D
Round cylinder 	 BK Page 94					 BK Page 94		 PN PH Page 93	 PN PH Page 93								 BL-1 Page 95		 BS Page 94	 BL-1 Page 95					 BP Page 89		
ISO profile cylinder 								 PI Page 91	 PI Page 91	 PI Page 91	 PF Page 92									 PF Page 92			 PF Page 92	 PF Page 92			
Tie-rod cylinder 								 PM Page 91	 PM Page 91	 PM Page 91	 DT Page 92									 DT Page 92				 DT Page 92	 DT Page 92		
 4 X 4 Slot																											
 SMC C Slot																											
 KOGANEI T Slot																											
 SMC T Slot																											
 FESTO T Slot																											
 Norgren C Slot																											
 Dovetail Slot																											
 FESTO T Slot																											
 SMC T Slot																											
 FESTO C Slot																											

MAGNETIC SENSOR OPERATING & INSTALLING

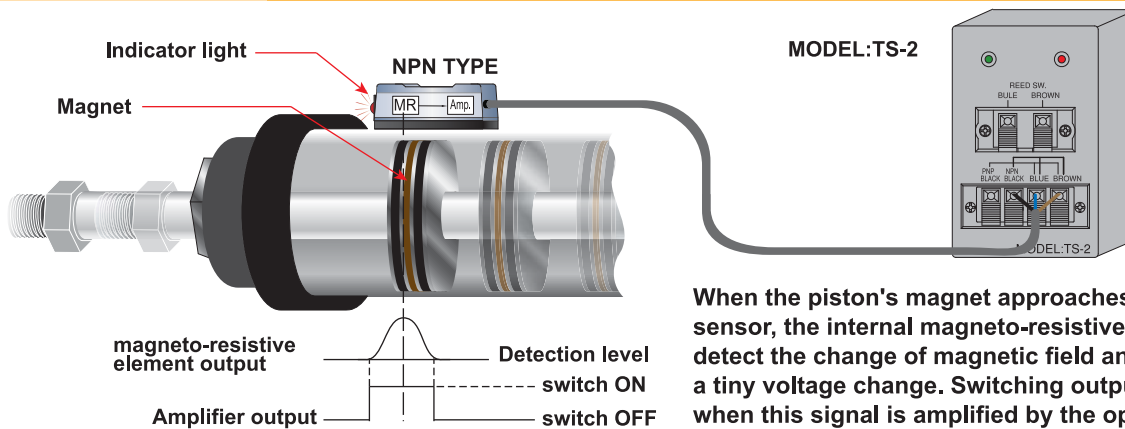


Reed SW. Type



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

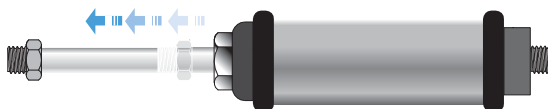


When the piston's magnet approaches the magnetic sensor, the internal magneto-resistive element can detect the change of magnetic field and cause a tiny voltage change. Switching output is achieved when this signal is amplified by the operation amplifier circuit in the magnetic sensor.

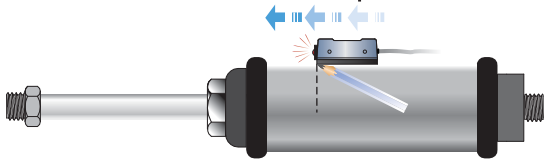
How to install the Magnetic sensor

► END OF STROKE DETECTION

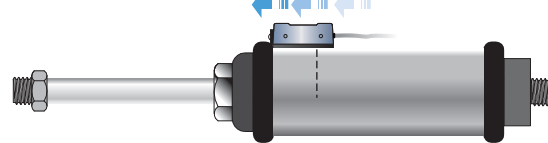
STEP 1 Set the piston to the end of stroke position.



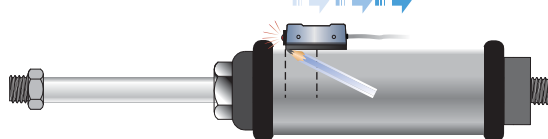
STEP 2 Slide the magnetic sensor forward and keep it close to the cylinder wall. Make a mark at the sensor turn-on point.



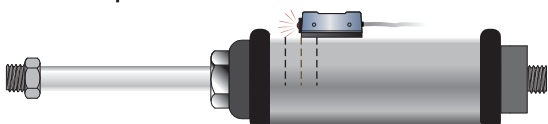
STEP 3 Slide the sensor forward continuously until the sensor turns off.



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.

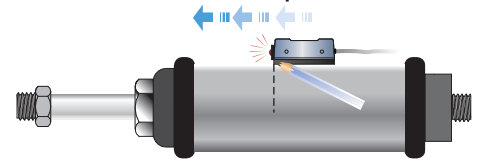


► INTERMEDIATE STROKE POSITION

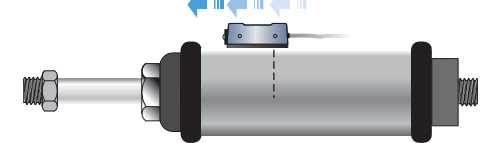
STEP 1 Set the piston to the required position.



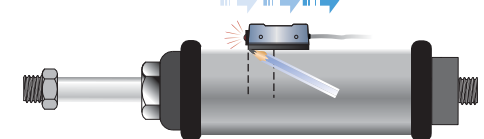
STEP 2 Slide the magnetic sensor forward and keep it close to the cylinder wall. Make a mark at the sensor turn-on point.



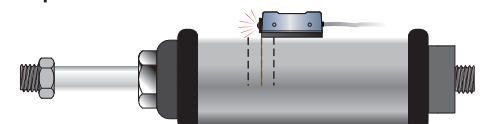
STEP 3 Slide the sensor forward continuously until the sensor turns off.



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

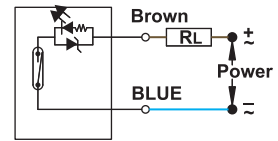


STEP 5 The intermediate position between the 2 marks will be the most ideal position.



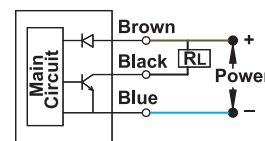
1. Do not exceed specification, permanent damage to the sensor may occur.

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 "OFF" state.

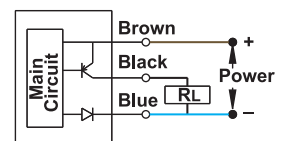


3. For solid-state type sensors, polarity must also be observed. Connect brown wire to the positive (+) and the blue to the negative (-) of DC power source. The black wire must connect to the load only. If the black wire is accidentally connected to the power source, permanent damage to the sensor may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

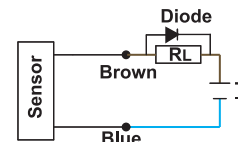
(NPN Output)



(PNP Output)



4. An external protection circuit may be required if the magnetic sensor is used with inductive load, such as relay 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.



$$C = I^2 / 10 \text{ } [\mu\text{F}]$$

$$R = E / 10 \text{ } I (1 + 50/E) \text{ } [\Omega]$$

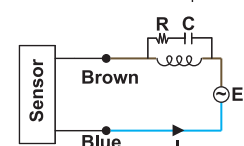
PS:

C: Capacitor

I: Load current

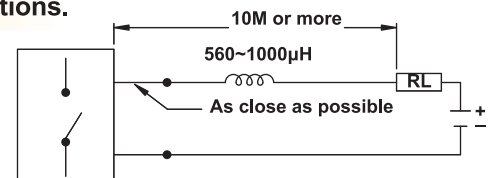
R: Resistance

E: AC power

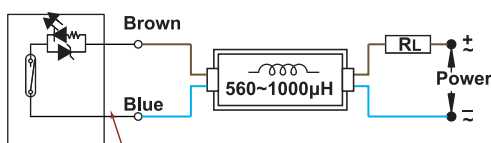


5. Keep sensors away from strong magnetic field to prevent malfunctions.

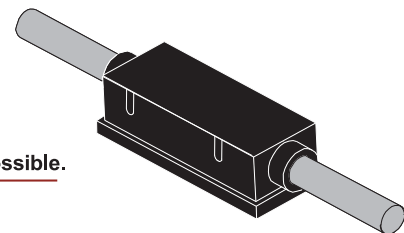
6. When using reed sensor with capacitive load or if the lead wire length exceed 10-meter, an inductor (560 ~ 1000 μH) or SR-1 (surge suppressor) must be installed in series with the sensor to prevent damage (Sticking effect).



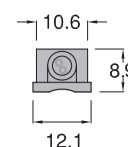
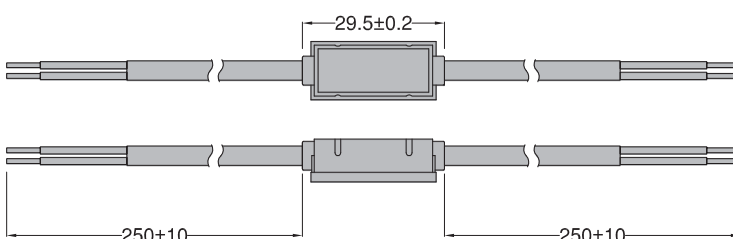
MODEL:SR-1 (Surge Suppressor)



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



DIMENSION



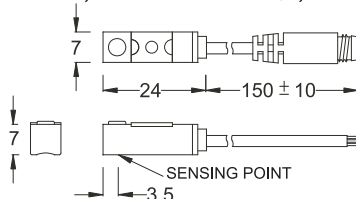
Unit:mm

KT-05 SERIES

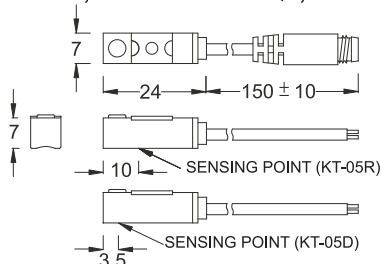


DIMENSIONS

KT-05N, KT-05P / KT-05N-QD, KT-05P-QD



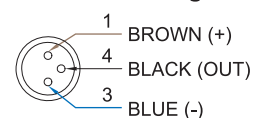
KT-05R, KT-05D / KT-05R-QD, KT-05D-QD



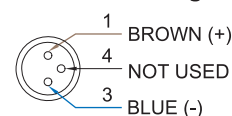
Unit:mm

QD PINOUT

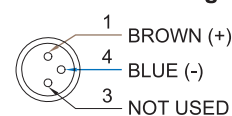
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



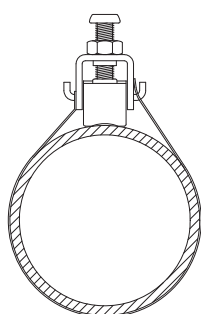
SPECIFICATIONS

TYPE	KT-05R	KT-05D	KT-05N	KT-05P
CONNECT DIAGRAM				
CHARACTERISTICS	2-Wire Type		3-Wire Type	
Wiring Method	SPST, Normally Open		Solid State Output, Normally Open	
Switching Logic	Reed Switch		NPN Current Sinking	
Sensor Type	-		PNP Current Sourcing	
Operating Voltage	5~240V DC/AC		10~28V DC	
Switching Current	100mA max.		5~30V DC	
Contact Rating (*1)	10W max.		200 mA. max.	
Current Consumption	-		6W max.	
Voltage Drop	3.0V max.		8mA @ 24V DC max.	
Leakage Current	-		1V @ 200mA max.	
Indicator	Red LED		0.01mA max.	
Cable	ø2.8, 2C, PVC		Green LED	
Operating Frequency	200Hz		ø2.8, 3C, PVC	
Magnet Requirement (*2)	50Gauss		1000Hz	
Temperature Range	-		80Gauss	
Shock (*3)	30G		-10~70°C	
Vibration (*4)	9G		50G	
Enclosure Classification	IEC 60529 IP67		9G	
Protection Circuit (*5)	1		2,3,4	

NOTE:

1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent damage 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



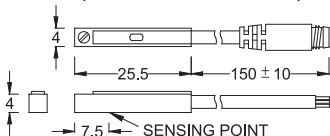
BK Series



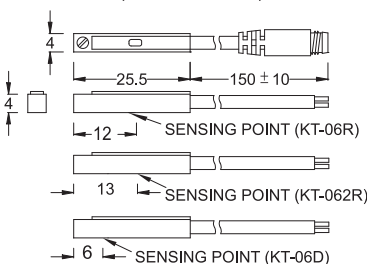


DIMENSIONS

KT-06N, KT-06P / KT-06N-QD, KT-06P-QD



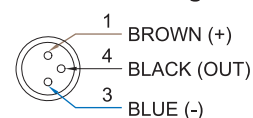
KT-06R, KT-062R, KT-06D /
KT-06R-QD, KT-062R-QD, KT-06D-QD



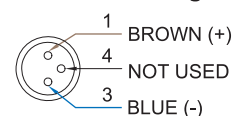
Unit:mm

QD PINOUT

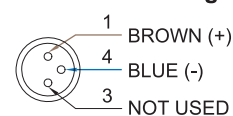
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



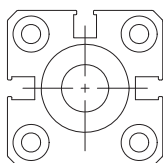
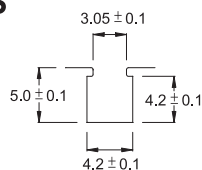
SPECIFICATIONS

TYPE	KT-06R	KT-062R	KT-06D	KT-06N	KT-06P
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.	200mA. max.	
Contact Rating (*1)	10W max.		1.5W max.	6W max.	
Current Consumption	-			8mA @ 24V DC max.	
Voltage Drop	3.0V max.	3.5V max.		1V @ 200mA max.	
Leakage Current	-		1mA 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		
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		4	2,3,4	

NOTE:

1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent damage 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

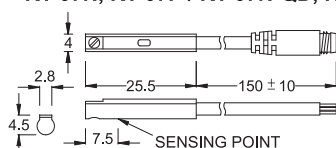
GROOVE DIMENSIONS



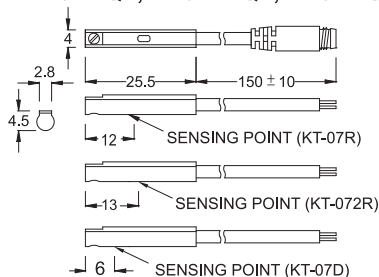
Unit:mm

DIMENSIONS

KT-07N, KT-07P / KT-07N-QD, KT-07P-QD



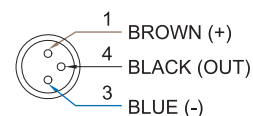
KT-07R, KT-072R, KT-07D /
KT-07R-QD, KT-072R-QD, KT-07D-QD



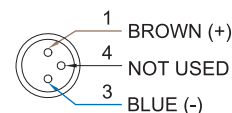
Unit:mm

QD PINOUT

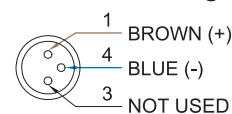
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



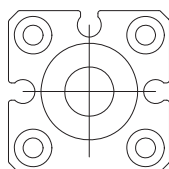
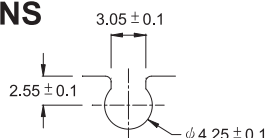
SPECIFICATIONS

TYPE	KT-07R	KT-072R	KT-07D	KT-07N	KT-07P
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.	200mA. max.
Contact Rating (*1)	10W max.			1.5W max.	6W max.
Current Consumption	-			8mA @ 24V DC max.	
Voltage Drop	3.0V max.	3.5V max.		1V @ 200mA max.	
Leakage Current	-			1 mAmax.	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	
Magnet Requirement (*2)	70Gauss			40Gauss	
Temperature Range	-10~70℃				
Shock (*3)	30G			50G	
Vibration (*4)	9G				
Enclosure Classification	IEC 60529 IP67				
Protection Circuit (*5)	1			4	2,3,4

NOTE:

1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent damage 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



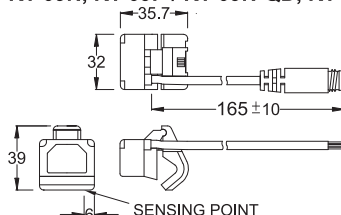
Unit:mm

KT-09 SERIES

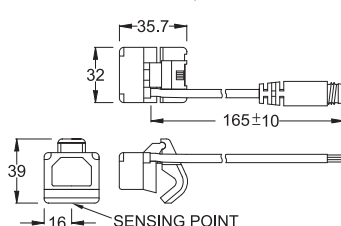


DIMENSIONS

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



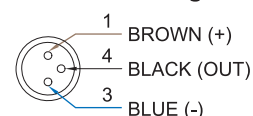
KT-09R / KT-09R-QD



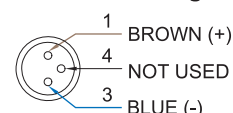
Unit:mm

QD PINOUT

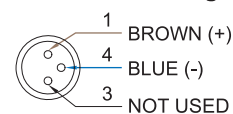
*3 wire QD wiring



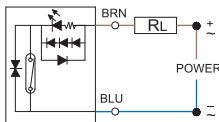
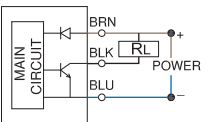
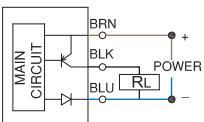
*2 wire QD wiring



*2 wire EQD wiring



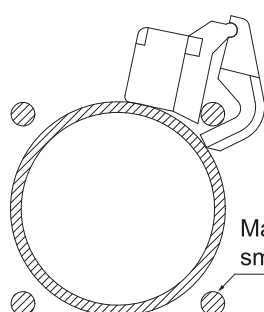
SPECIFICATIONS

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℃		
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 damage 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



Max. tie-rod diameter ø 17.5
small tie-rod diameter ø 6



Unit:mm

KT-11 SERIES

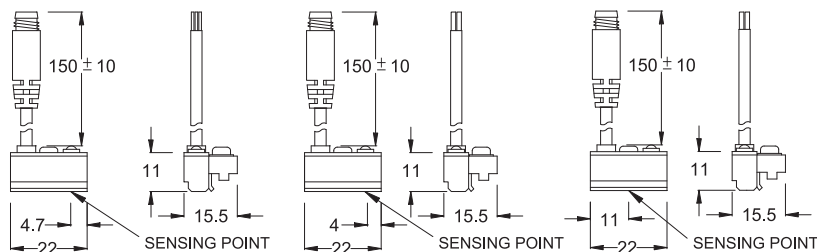


DIMENSIONS

KT-11N, KT-11P /
KT-11N-QD, KT-11P-QD

KT-11D / KT-11D-QD

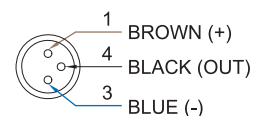
KT-11R / KT-11R-QD



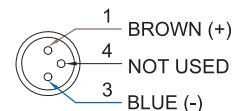
Unit:mm

QD PINOUT

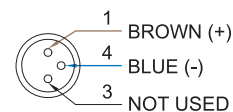
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



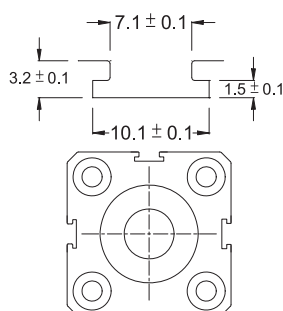
SPECIFICATIONS

TYPE	KT-11R	KT-11D	KT-11N	KT-11P
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	-		22 mA @ 24V DC max.	20 mA @ 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)	70Gauss		60Gauss	
Temperature Range	-10~70℃			
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 damage 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

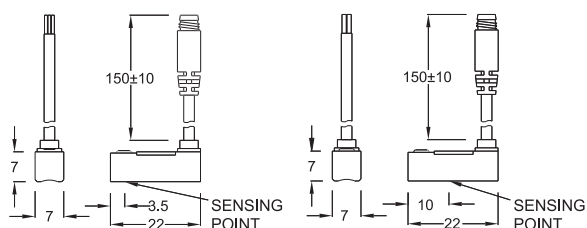
KT-15 SERIES



■ DIMENSIONS

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

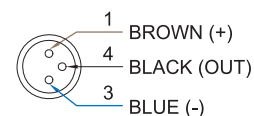
KT-15R / KT-15R-QD



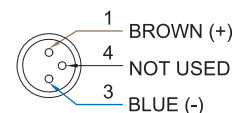
Unit:mm

■ QD PINOUT

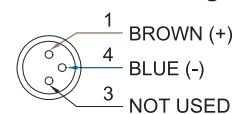
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



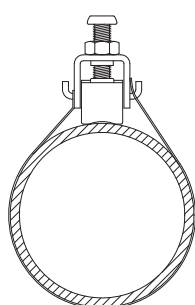
■ SPECIFICATIONS

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	3V 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 damage 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



BK Series

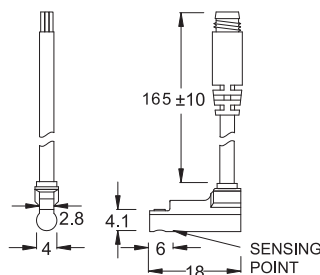


KT-16 SERIES

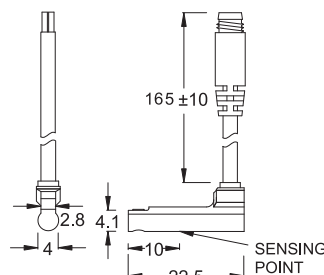


DIMENSIONS

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



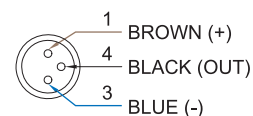
KT-16R / KT-16R-QD



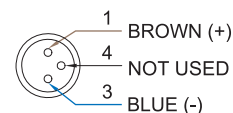
Unit:mm

QD PINOUT

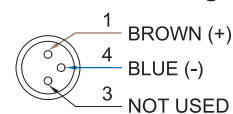
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



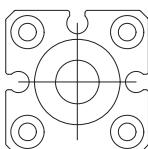
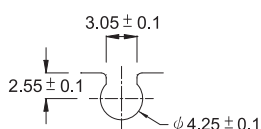
SPECIFICATIONS

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	3.0V 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℃		
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 damage 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



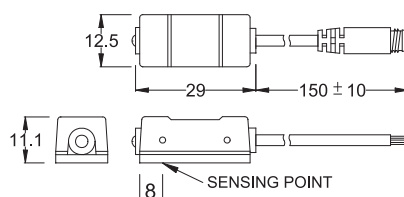
Unit:mm

KT-20 SERIES

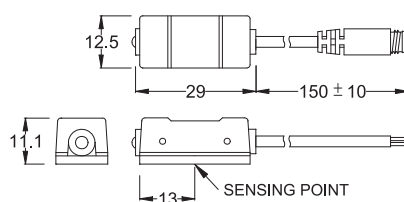


■ DIMENSIONS

KT-20N, KT-20P / KT-20N-QD, KT-20P-QD



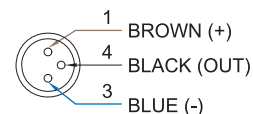
KT-20R, KT-20D / KT-20R-QD, KT-20D-QD



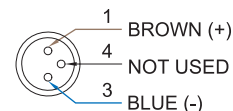
Unit:mm

■ QD PINOUT

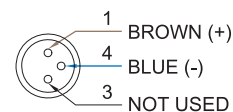
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



■ SPECIFICATIONS

TYPE	KT-20R	KT-20D	KT-20N	KT-20P
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/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	-		15mA @ 24V DC max.	
Voltage Drop	3.5V max.		1.5V max.	
Leakage Current	-	0.1 mA max.	0.01 mA max.	
Indicator	Green LED	Red LED	Green LED	
Cable	ø4, 2C, PVC		ø4, 3C, PVC	
Operating Frequency	200Hz	400Hz	1000 Hz	
Magnet Requirement (*2)	80Gauss	50Gauss	70Gauss	
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	

NOTE:

1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent damage 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-20 & KT-21 series can be applied to many kind of cylinders

PH Series



PI Series

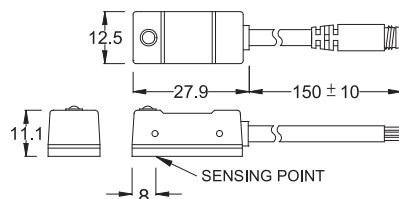


KT-21 SERIES

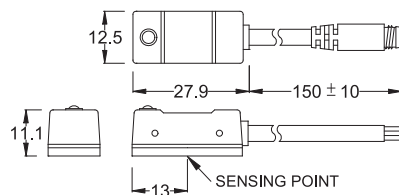


■ DIMENSIONS

KT-21N, KT-21P / KT-21N-QD, KT-21P-QD



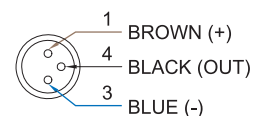
KT-21R, KT-21D / KT-21R-QD, KT-21D-QD



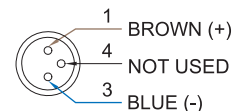
Unit:mm

■ QD PINOUT

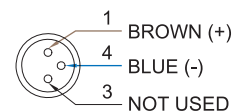
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



■ SPECIFICATIONS

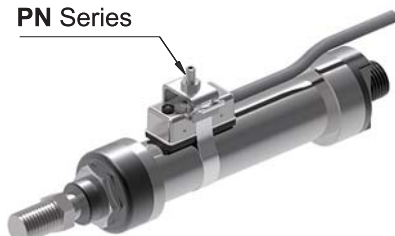
TYPE	KT-21R	KT-21D	KT-21N	KT-21P
CONNECT DIAGRAM				
CHARACTERISTICS				
Wiring Method	2-Wire Type		3-Wire Type	
Switching Logic	SPST, Normally Open		Solid State Output, Normally Open	
Sensor Type	Reed Switch	-	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	5~240V DC/AC	10~28V DC/AC	5~30V DC	
Switching Current	100mA max.	50mA max.	200 mA max.	
Contact Rating (*1)	10W max.	1.5W max.	6W max.	
Current Consumption	-		15mA @ 24V DC max.	
Voltage Drop	3.5V max.		1.5V max.	
Leakage Current	-	0.1 mA max.	0.01 mA max.	
Indicator	Green LED	Red LED		Green LED
Cable	ø4, 2C, PVC		ø4, 3C, PVC	
Operating Frequency	200Hz	400Hz	1000 Hz	
Magnet Requirement (*2)	80Gauss	50Gauss	70Gauss	
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	

NOTE:

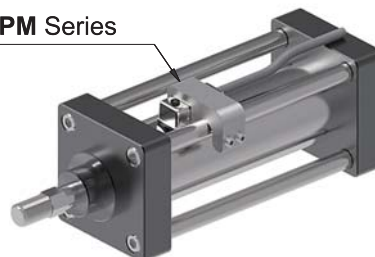
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent damage to sensor will occur.
2. Measuring standard target: ø15.5Xø8X5t (Anisotropy rubber magnet)
3. Sin wave / X, Y, Z 3 directions / 3 times each direction / 11 ms each time.
4. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min)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

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

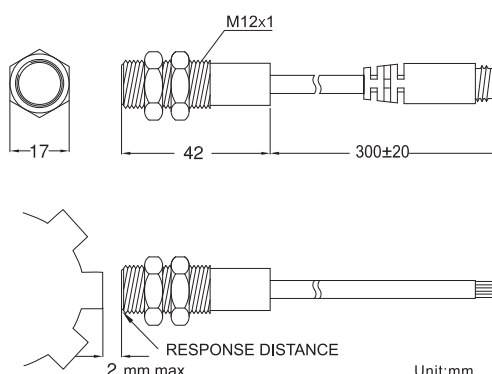
PN Series



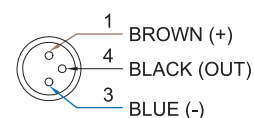
PM Series



■ DIMENSIONS



■ QD PINOUT



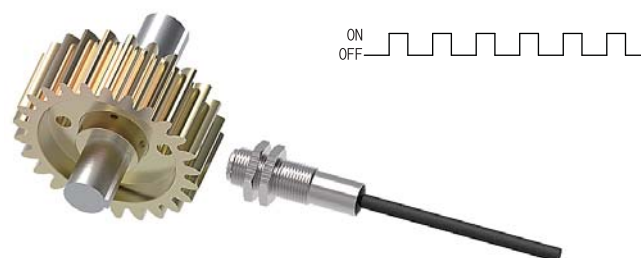
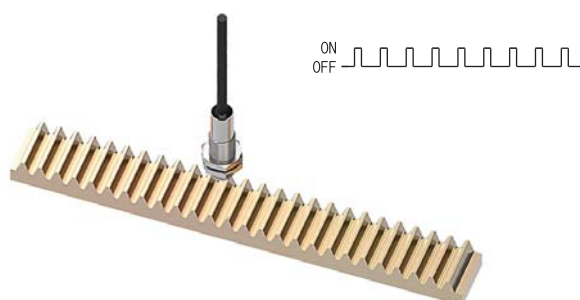
■ SPECIFICATIONS

TYPE	KT-22
CONNECT DIAGRAM	
CHARACTERISTICS	
Wiring Method	3-Wire Type
Switching Logic	Solid State Output, Normally Open
Sensor Type	NPN Current Sinking
Operating Voltage	3.5~24V DC
Switching Current	25mA. max.
Contact Rating (*1)	0.6W max.
Current Consumption	7mA @ 24V DC max.
Voltage Drop	0.6V @ 25mA max.
Leakage Current	0.01mA max.
Indicator	-
Cable	ø4.5, 3C, PVC
Response Frequency	50K Hz
Response Distance	2mm max.
Temperature Range	-10~70°C
Shock (*2)	50G
Vibration (*3)	9G
Enclosure Classification	IEC 60529 IP67
Protection Circuit (*4)	2

NOTE:

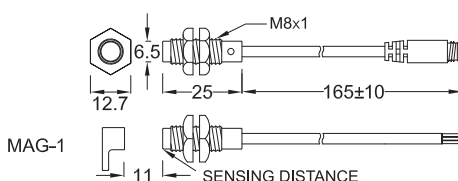
1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent damage to sensor will occur.
2. Sin wave / X, Y, Z 3 directions / 3 times each direction / 11 ms each time.
3. Double amplitude 1.5 mm / 10Hz~55Hz~10Hz (Sweep 1 min) / X, Y, Z 3 directions / 1 hour each time.
4. 1=None / 2=Short-circuit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

■ APPLICATION

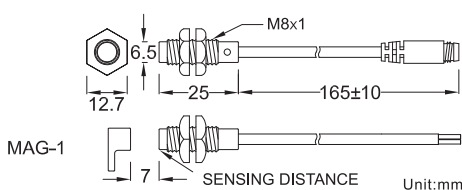


■ DIMENSIONS

KT-28N, KT-28P, KT-28N-NC /
KT-28N-QD, KT-28P-QD, KT-28N-NC-QD



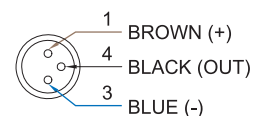
KT-28R / KT-28R-QD



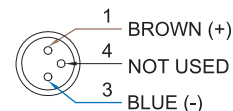
Unit:mm

■ QD PINOUT

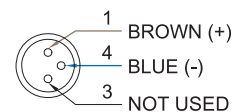
*3 wire QD wiring



*2 wire QD wiring



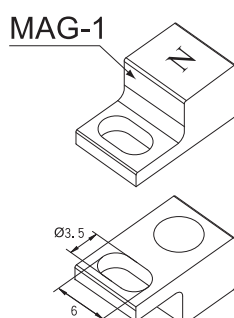
*2 wire EQD wiring

**■ SPECIFICATIONS**

TYPE	KT-28R	KT-28N	KT-28P	KT-28N-NC
CONNECT DIAGRAM				
CHARACTERISTICS				
Wiring Method	2-Wire Type	3-Wire Type		
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open		Normally Close
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing	NPN Current Sinking
Operating Voltage	5~120V DC/AC	5~30V DC		
Switching Current	40mA max.	100mA. max.		
Contact Rating (*1)	5W max.	6W max.		
Current Consumption	-	18mA @ 24V DC max.		
Voltage Drop	2.5V max.	0.5V max.		
Leakage Current	-	0.01mA max.		
Indicator	Red LED		Green LED	Red LED
Cable	ø3.3, 2C, PVC	ø3.3, 3C, PVC		
Operating Frequency	200Hz	1000Hz		
Sensing Distance (*2)	7mm max.	11mm max.		
Temperature Range	-10~70℃			
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 damage to sensor will occur.
2. Measuring standard target: MAG-1 (NdFeB 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

■ NdFeB MAGNET

Unit:mm

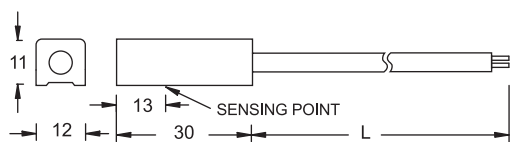
KT-31 SERIES



140°C HIGH TEMP

■ DIMENSIONS

■ M8 Connector option is not available



Unit:mm

■ SPECIFICATIONS

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	None
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 damage 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

PI Series

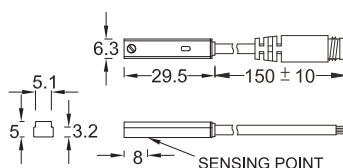


KT-32 SERIES

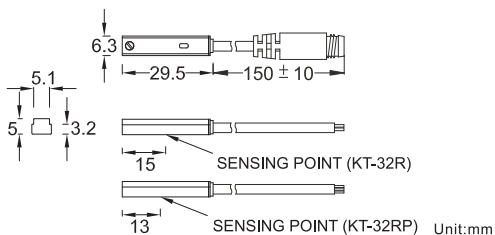


■ DIMENSIONS

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

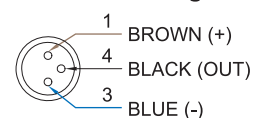


KT-32R, KT-32RP / KT-32R-QD, KT-32RP-QD

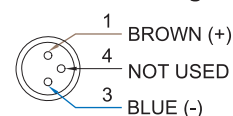


■ QD PINOUT

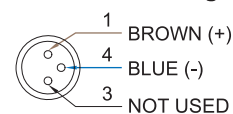
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



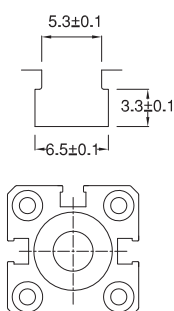
■ SPECIFICATIONS

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	100 mA 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	ø3.3, 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 damage 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



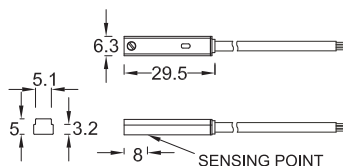
Unit:mm

KT-32-EX SERIES

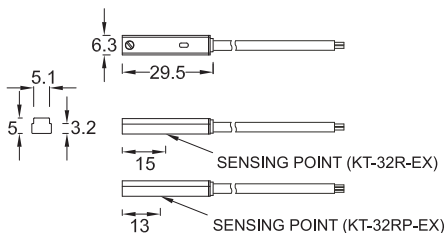


■ DIMENSIONS

KT-32N-EX, KT-32P-EX



KT-32R-EX, KT-32RP-EX



■ M8 Connector option is not available

■ SPECIFICATIONS

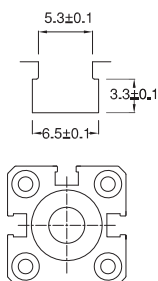
Unit:mm

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	-	17 mA @ 24V DC max.	8 mA @ 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	ø3.3, 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 damage 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-33 SERIES

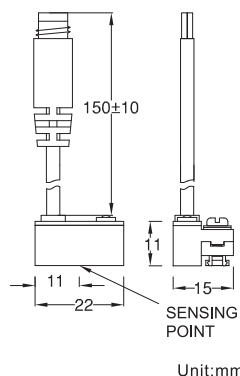
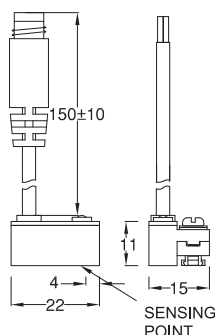
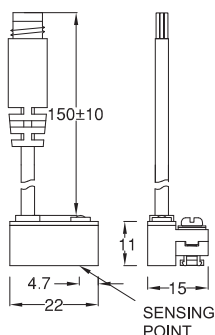


■ DIMENSIONS

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

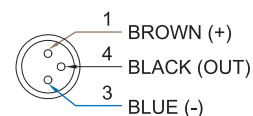
KT-33D / KT-33D-QD

KT-33R / KT-33R-QD

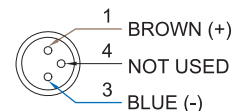


■ QD PINOUT

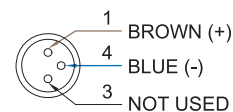
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



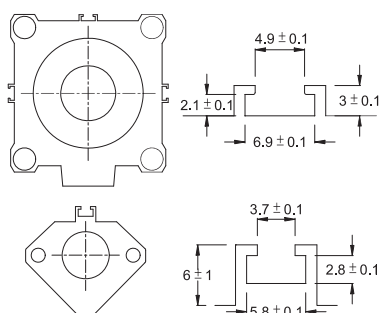
■ SPECIFICATIONS

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 damage 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



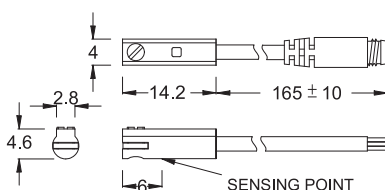
Unit:mm

KT-36 SERIES

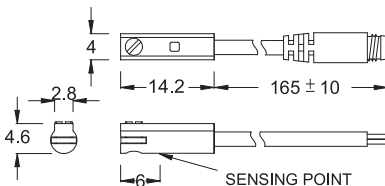


■ DIMENSIONS

KT-36N, KT-36P / KT-36N-QD, KT-36P-QD



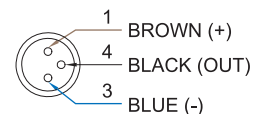
KT-36D / KT-36D-QD



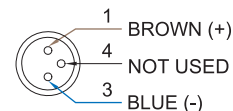
Unit:mm

■ QD PINOUT

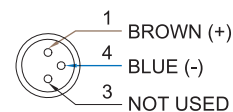
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



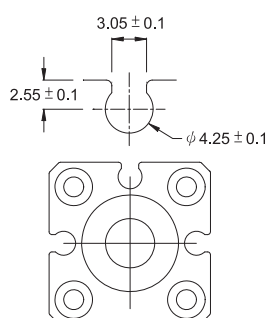
■ SPECIFICATIONS

TYPE	KT-36D	KT-36N	KT-36P
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	4.5~28V 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 damage 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

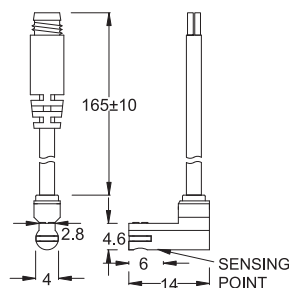
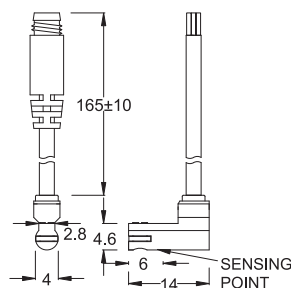
KT-37 SERIES



■ DIMENSIONS

KT-37N, KT-37P /
KT-37N-QD, KT-37P-QD

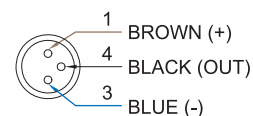
KT-37D / KT-37D-QD



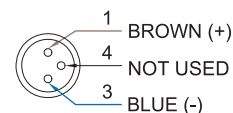
Unit:mm

■ QD PINOUT

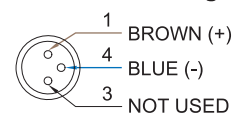
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



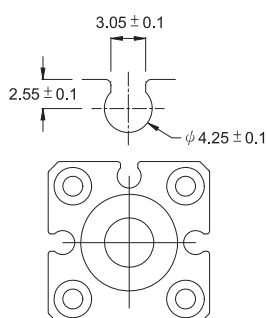
■ SPECIFICATIONS

TYPE	KT-37D	KT-37N	KT-37P
CONNECT DIAGRAM			

NOTE:

1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent damage 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



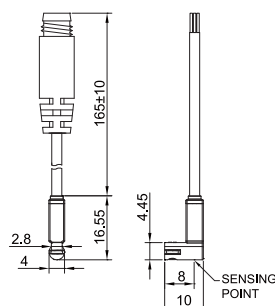
NEW

COMPACT SIZE

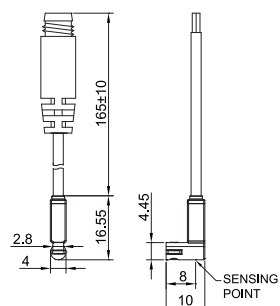


DIMENSIONS

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



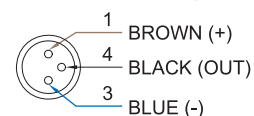
KT-38D / KT-38D-QD



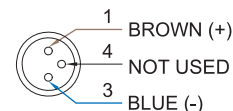
Unit:mm

QD PINOUT

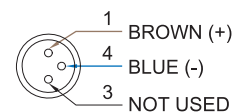
***3 wire QD wiring**



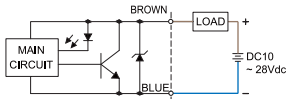
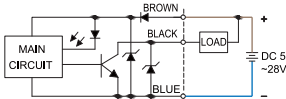
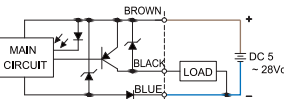
***2 wire QD wiring**



***2 wire EQD wiring**



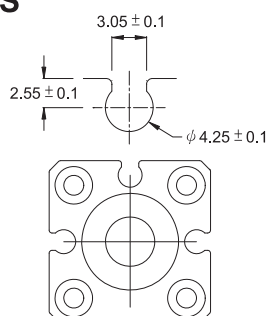
SPECIFICATIONS

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 damage 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



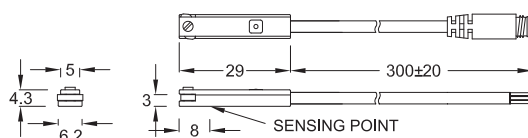
Unit:mm

KT-40 SERIES

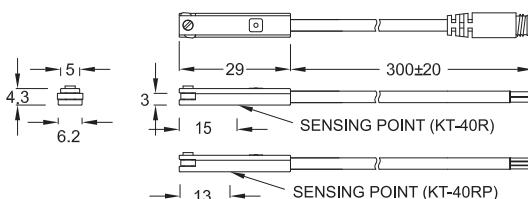


■ DIMENSIONS

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



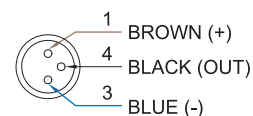
KT-40R, KT-40RP / KT-40R-QD, KT-40RP-QD



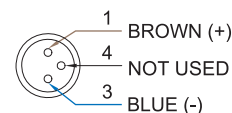
Unit:mm

■ QD PINOUT

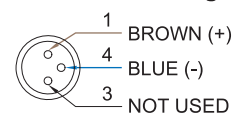
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



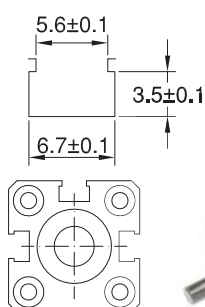
■ SPECIFICATIONS

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	100 mA max.			500 mA. 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, 2C, PUR	ø3, 3C, PUR		
Operating Frequency	200Hz	1000Hz		200Hz
Magnet Requirement (*2)	50Gauss	45Gauss		
Temperature Range	-10~70℃			
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 damage 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



BL-1 Series



PF Series



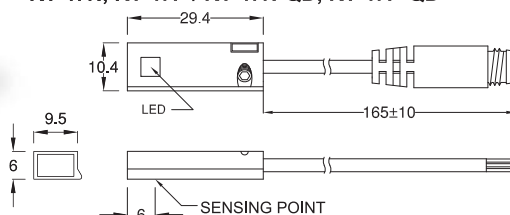
Unit:mm

KT-47 SERIES

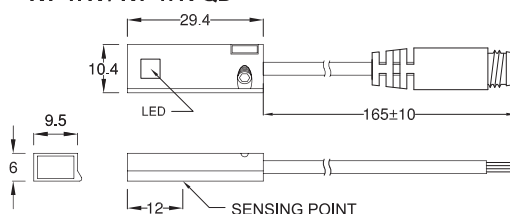


DIMENSIONS

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



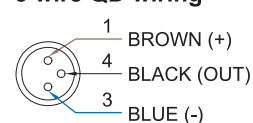
KT-47R / KT-47R-QD



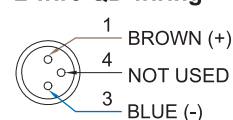
Unit:mm

QD PINOUT

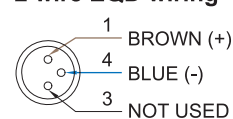
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



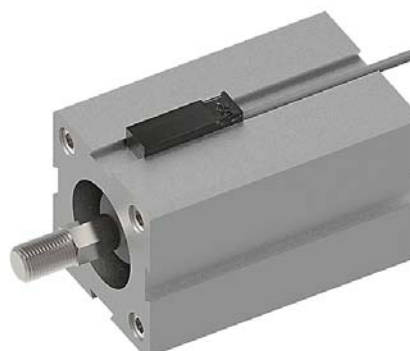
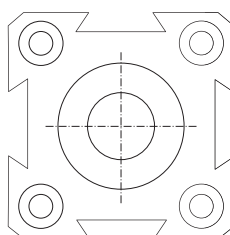
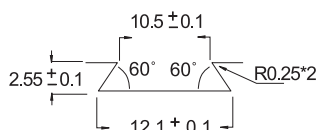
SPECIFICATIONS

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 damage 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



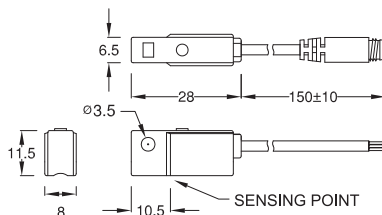
Unit:mm

KT-48 SERIES

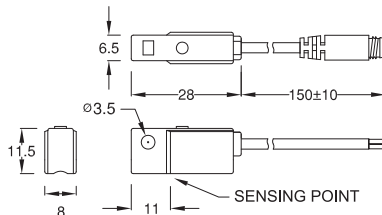


DIMENSIONS

KT-48N, KT-48P / KT-48N-QD, KT-48P-QD



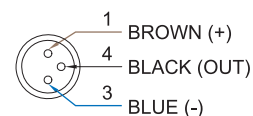
KT-48R / KT-48R-QD



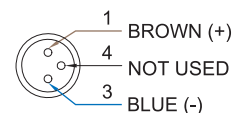
Unit:mm

QD PINOUT

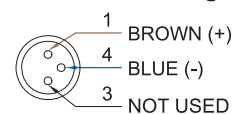
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



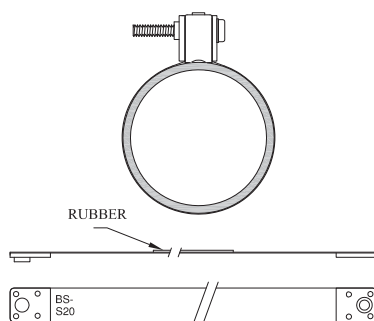
SPECIFICATIONS

TYPE	KT-48R	KT-48D	KT-48N	KT-48P
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/AC	5~30V DC	
Switching Current	100mA max.	50mA max.	200 mA max.	
Contact Rating (*1)	10W max.	1.5W max.		
Current Consumption	-		10mA @ 24V DC max.	
Voltage Drop	2.5V max.	3.5V max.	1.5V max.	
Leakage Current	-	0.1 mA max.	0.01 mA max.	
Indicator	Red LED		Green LED	
Cable	ø3.3, 2C, PVC	ø4, 2C, PVC	ø3.3, 3C, PVC	
Operating Frequency	200Hz	400Hz	1000 Hz	
Magnet Requirement (*2)	110Gauss	40Gauss	75Gauss	
Temperature Range	-10~70℃			
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 damage 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



BS Series



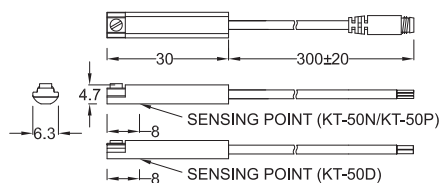
KT-50 SERIES



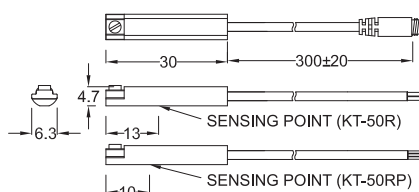
PATENTED

■ DIMENSIONS

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



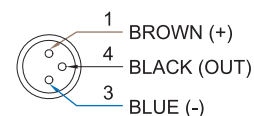
KT-50R, KT-50RP / KT-50R-QD, KT-50RP-QD



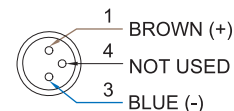
Unit:mm

■ QD PINOUT

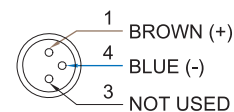
***3 wire QD wiring**



***2 wire QD wiring**



***2 wire EQD wiring**



■ SPECIFICATIONS

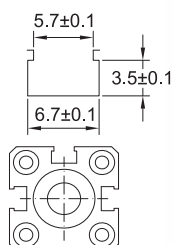
TYPE	KT-50R	KT-50D	KT-50N	KT-50P	KT-50RP
CONNECT DIAGRAM					
	CHARACTERISTICS				
Wiring Method	2-Wire Type		3-Wire Type		
Switching Logic	SPST, Normally Open	Solid State Output, Normally Open			SPST, Normally Open
Sensor Type	Reed Switch	-	NPN Current Sinking	PNP Current Sourcing	Reed Switch
Operating 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	3.0V 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	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 damage 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



PF Series



DT Series



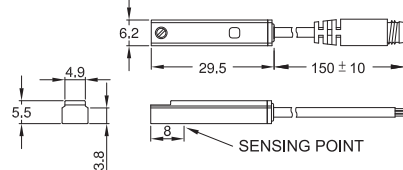
Unit:mm

KT-53 SERIES

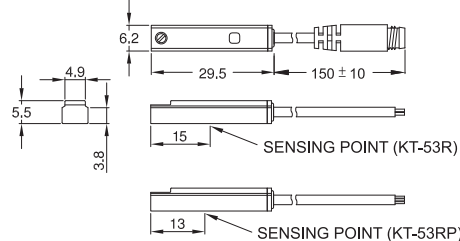


■ DIMENSIONS

KT-53N, KT-53P / KT-53N-QD, KT-53P-QD

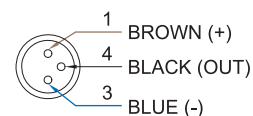


KT-53R, KT-53RP / KT-53R-QD, KT-53RP-QD

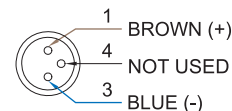


■ QD PINOUT

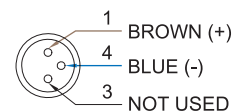
*3 wire QD wiring



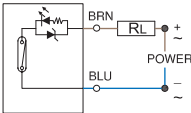
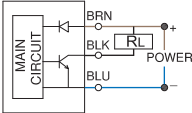
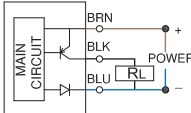
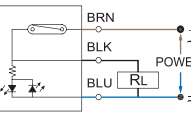
*2 wire QD wiring



*2 wire EQD wiring



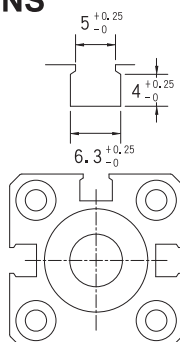
■ SPECIFICATIONS

TYPE	KT-53R	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	10~30V 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, 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	2,3,4		1

NOTE:

1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent damage 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



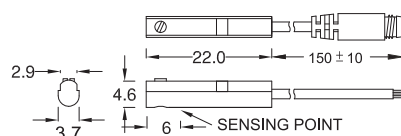
Unit:mm

KT-58 SERIES

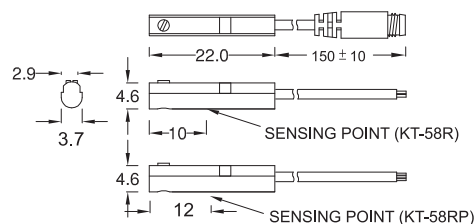


■ DIMENSIONS

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

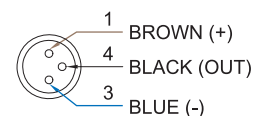


KT-58R, KT-58RP / KT-58R-QD, KT-58RP-QD

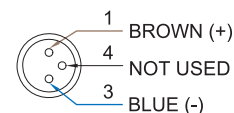


■ QD PINOUT

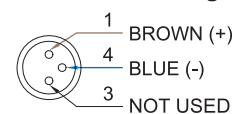
*3 wire QD wiring



*2 wire QD wiring

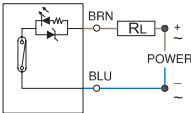
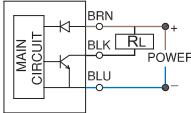
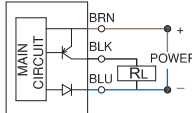
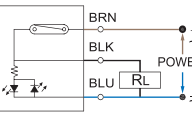


*2 wire EQD wiring



Unit:mm

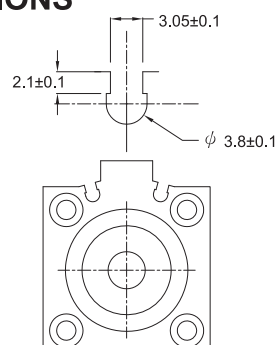
■ SPECIFICATIONS

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	Yellow LED	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 damage 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

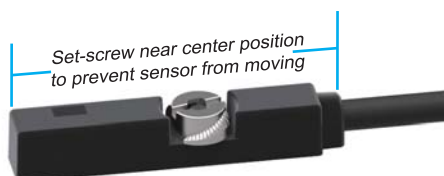
KT-65/KT-75 SERIES



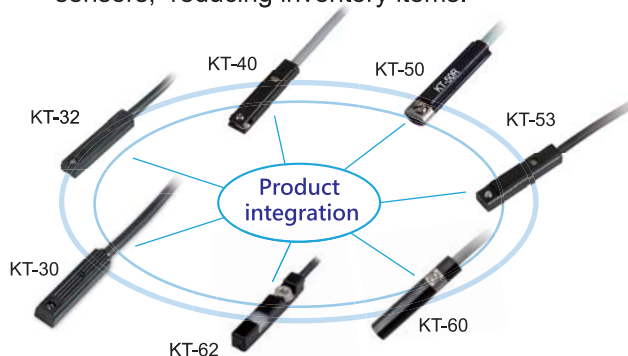
KT-65 & 75 series can be applied to many kind of cylinders

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.

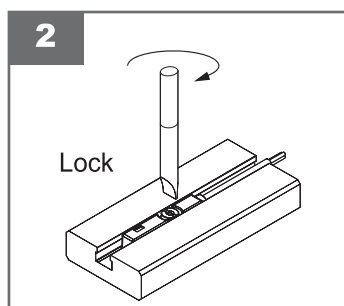
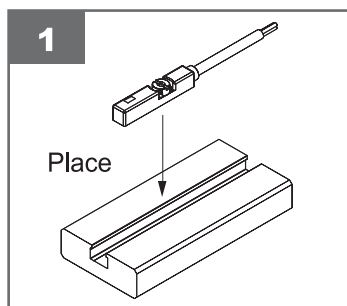


- Fits in most T-slot, replace all other T-slot sensors, reducing inventory items.

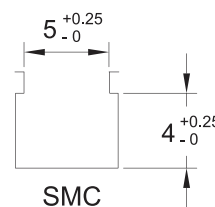
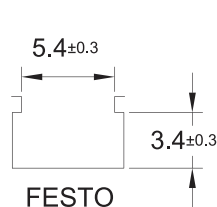


Quick Installation

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



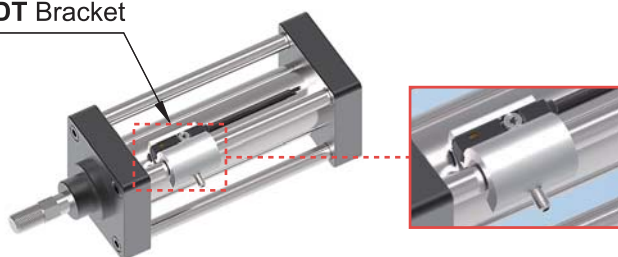
Common cylinder slot dimensions



Mounting Adapter for other cylinder types

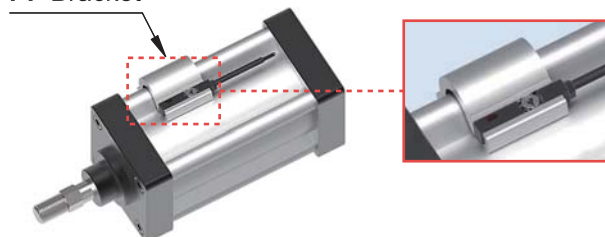
- DT bracket can be applied to Tie-rod cylinder.

DT Bracket



- PF bracket can be applied to ISO profile cylinder.

PF Bracket



P.S.: Bracket for round cylinder is under development.

KT-65 SERIES

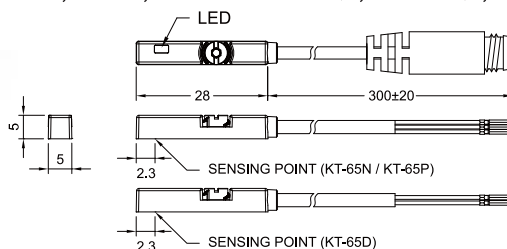


NEW

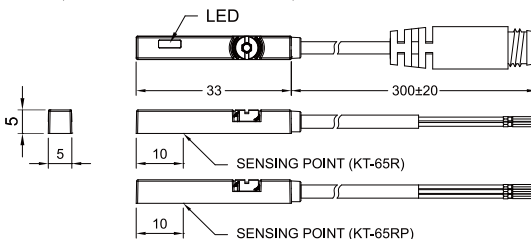
PATENTED

■ DIMENSIONS

KT-65N, KT-65P, KT-65D / KT-65N-QD, KT-65P-QD, KT-65D-QD



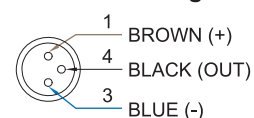
KT-65R, KT-65RP / KT-65R-QD, KT-65RP-QD



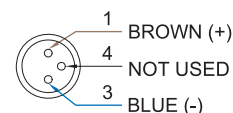
Unit:mm

■ QD PINOUT

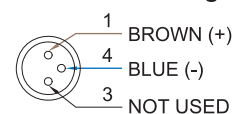
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



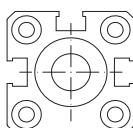
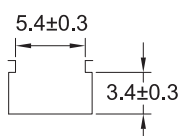
■ SPECIFICATIONS

TYPE	KT-65R	KT-65D	KT-65N	KT-65P	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			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.		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, PU			ø2.8, 3C, PU	
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

NOTE:

1. WARNING: Never exceed rating (Watt=Voltage x Amperage). Permanent damage 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-75 SERIES



NEW

PATENTED

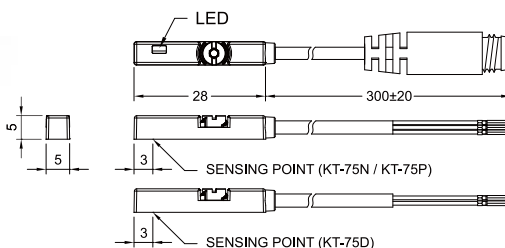
DUAL COLOR LED



Dual Color LED allow more precise positioning

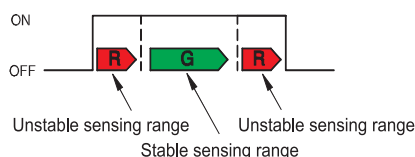
■ DIMENSIONS

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



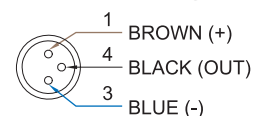
Unit:mm

■ SW OUT

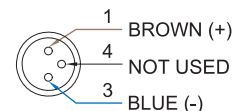


■ QD PINOUT

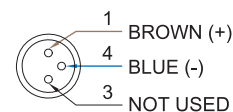
*3 wire QD wiring



*2 wire QD wiring



*2 wire EQD wiring



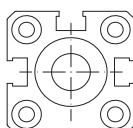
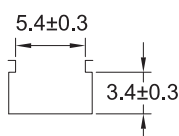
■ SPECIFICATIONS

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, PU	ø2.8, 3C, PU	
Operating Frequency	1000Hz		
Magnet Requirement (*2)	50Gauss		
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 damage 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-77 SERIES



NEW

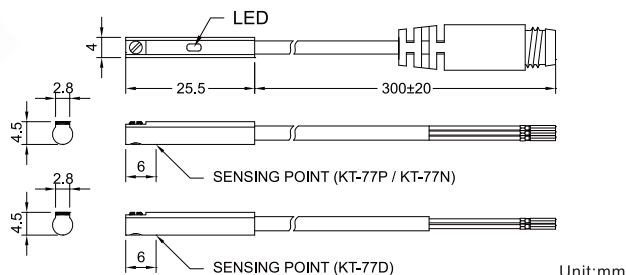
DUAL COLOR LED



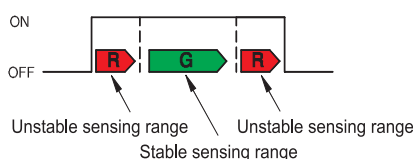
Dual Color LED allow more precise positioning

DIMENSIONS

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

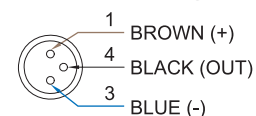


SW OUT

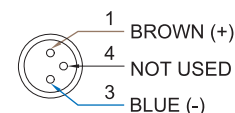


QD PINOUT

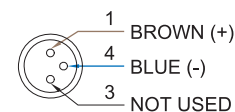
***3 wire QD wiring**



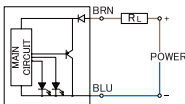
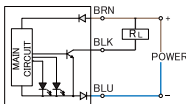
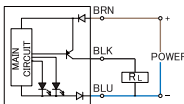
***2 wire QD wiring**



***2 wire EQD wiring**



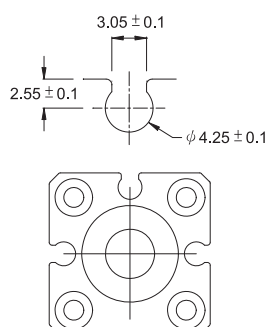
SPECIFICATIONS

TYPE	KT-77D	KT-77N	KT-77P
CONNECT DIAGRAM			
	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, PU	ø2.8, 3C, PU	
Operating Frequency	1000Hz		
Magnet Requirement (*2)	40Gauss		
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 damage 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



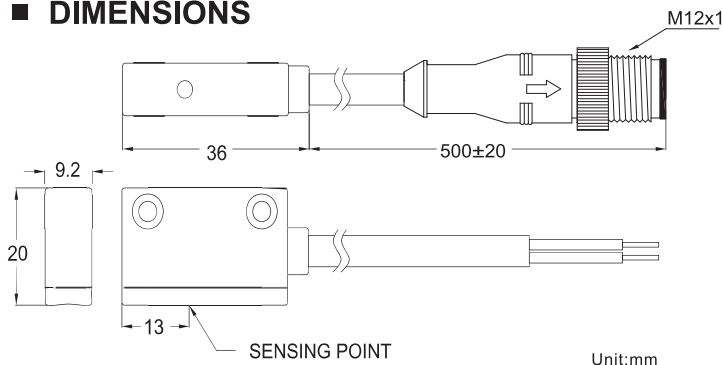
Unit:mm

DUAL COLOR LED



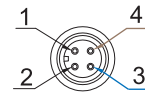
Dual Color LED allow more
precise positioning

■ DIMENSIONS



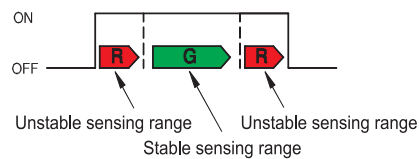
Unit:mm

■ QD PINOUT



1:N/C (NO connect)
2:N/C (NO connect)
3:Blue
4:Brown

■ SW OUT



■ SPECIFICATIONS

TYPE	KT-1000D
CONNECT DIAGRAM	
CHARACTERISTICS	
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 Field 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 damage 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

KT - 1000D -

Cable Length / Connector

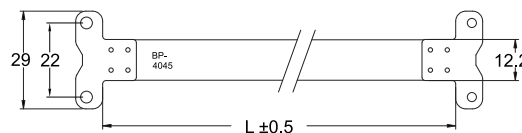
Blank: With 3 meter cable

QD: With M12 4Pin male connector

■ MOUNTING CLAMPS

BP

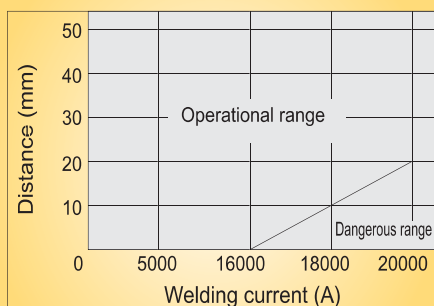
Clamp is designed for mounting KT-1000D on round cylinder.



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

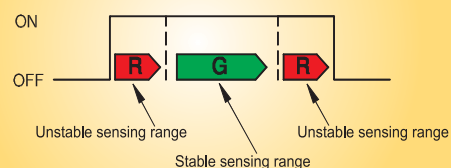
■ WELD-FIELD IMMUNE



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.

■ SENSOR OUTPUT / INDICATOR

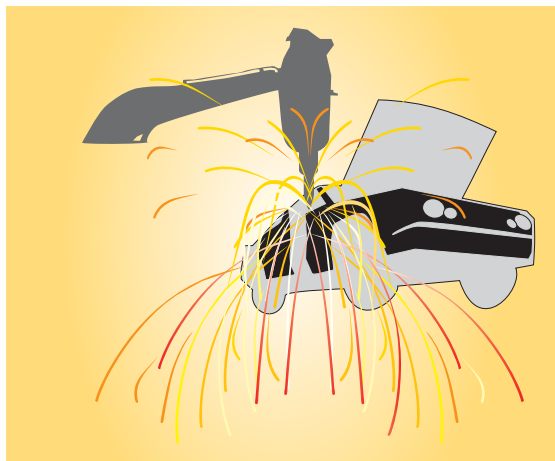
SW OUT



The function of three sensing range indicators ensures the preciseness of setting position.

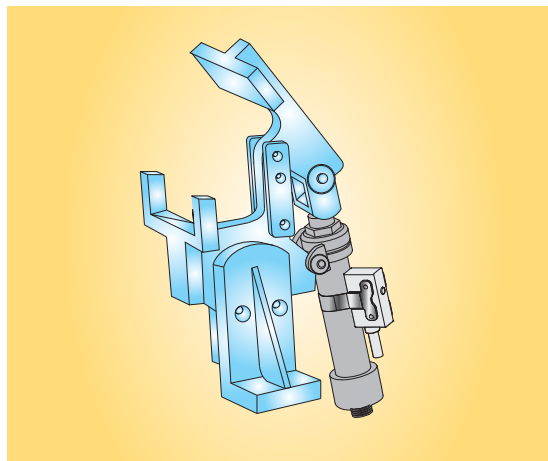
Unstable sensing range : Red LED lights up
Stable sensing range : Green LED lights up

■ APPLICATION ENVIRONMENT



The 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.

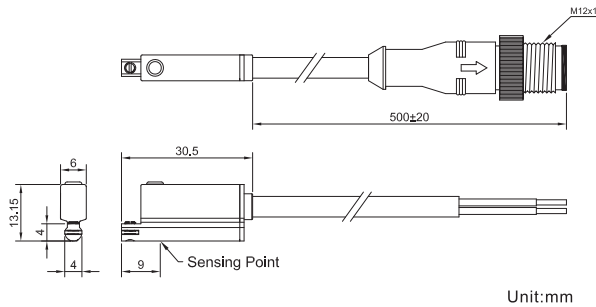
■ APPLICATION MOUNTING



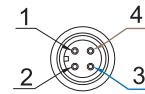
The KT-1000D detects the position of the cylinder piston and it is especially suitable for clamp cylinder.

NEW**DUAL COLOR LED**

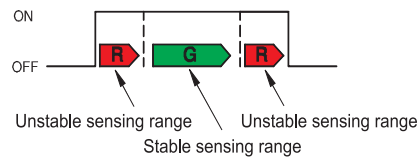
Dual Color LED allow more
precise positioning

■ DIMENSIONS

Unit:mm

■ QD PINOUT

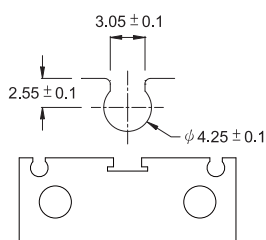
1:N/C (No connect)
2:N/C (No connect)
3:Blue
4:Brown

■ SW OUT**■ SPECIFICATIONS**

TYPE	KT-1001D
CONNECT DIAGRAM	
CHARACTERISTICS	
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 damage 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

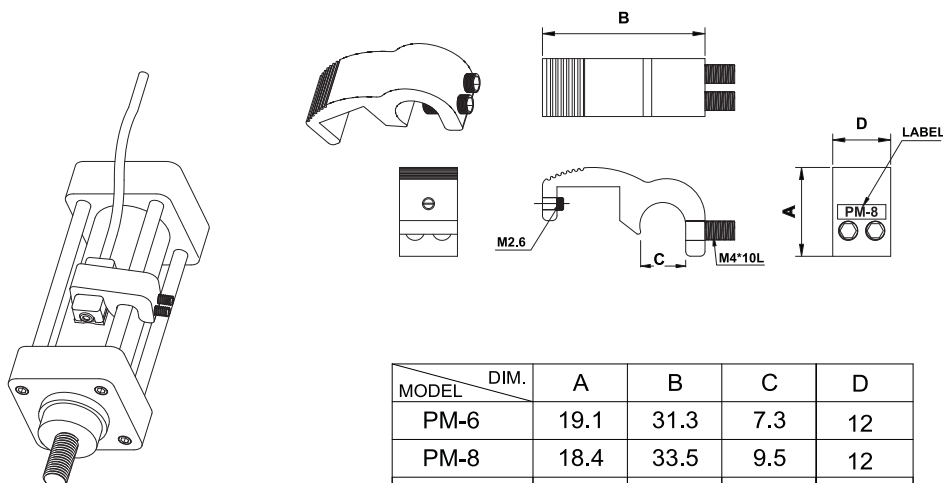
■ ORDERING INFORMATION**KT-1001D -**Cable Length / Connector

Blank: With 3 meter cable

QD: With M12 4Pin male connector

PM

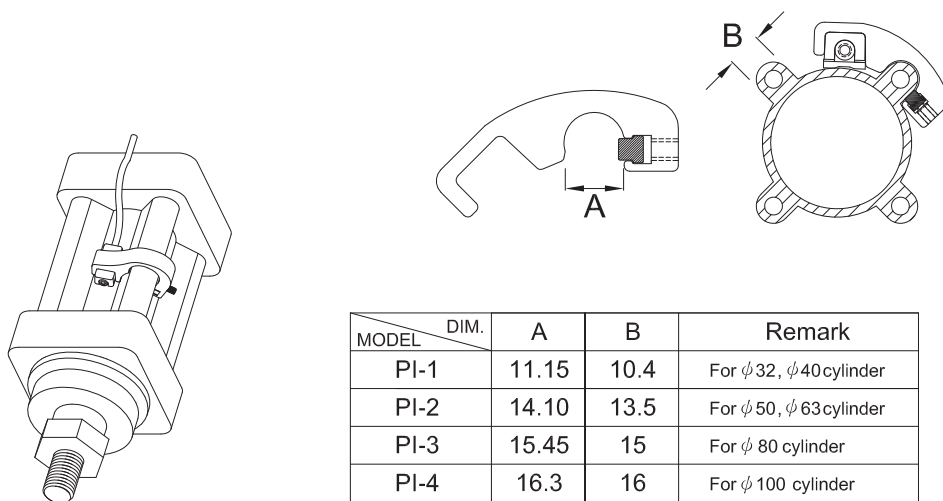
Bracket is designed for mounting KT-20 & KT-21 series sensor on tie-rod cylinder.



MODEL	DIM.	A	B	C	D
PM-6		19.1	31.3	7.3	12
PM-8		18.4	33.5	9.5	12
PM-10		16.7	35.7	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		11.15	10.4	For $\phi 32$, $\phi 40$ cylinder
PI-2		14.10	13.5	For $\phi 50$, $\phi 63$ cylinder
PI-3		15.45	15	For $\phi 80$ cylinder
PI-4		16.3	16	For $\phi 100$ cylinder
PI-5		19.8	18.7	For $\phi 125$ cylinder
PI-6		26.5	25.7	For $\phi 150$ cylinder

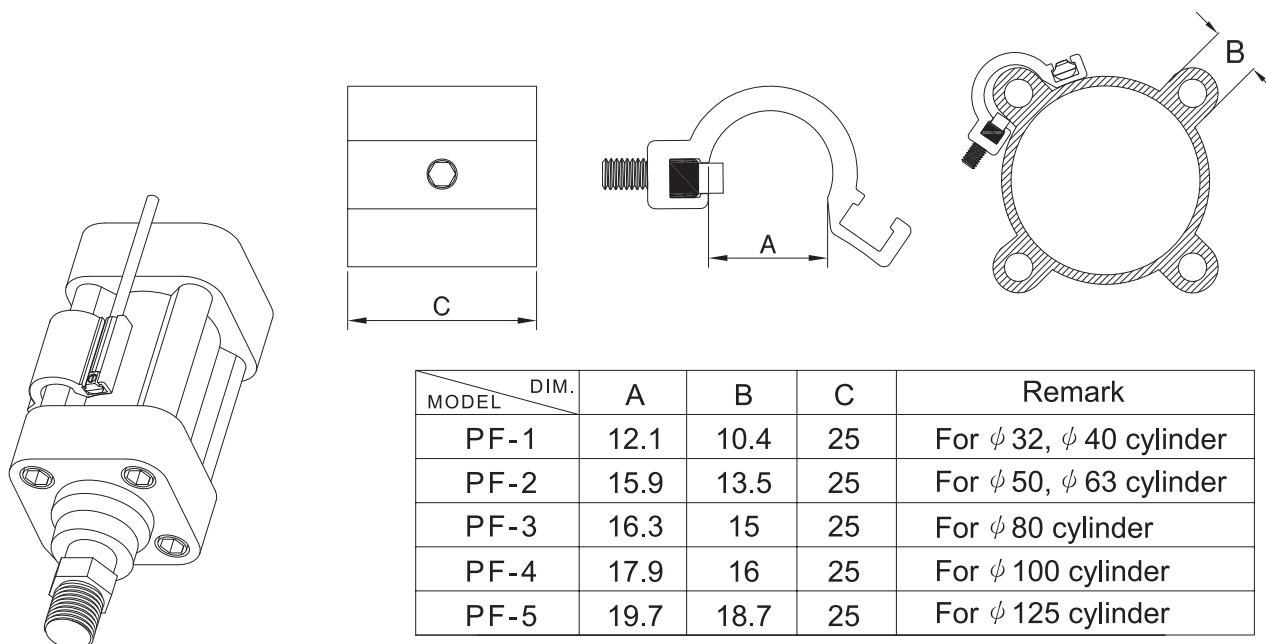
Unit:mm

BRACKET SERIES



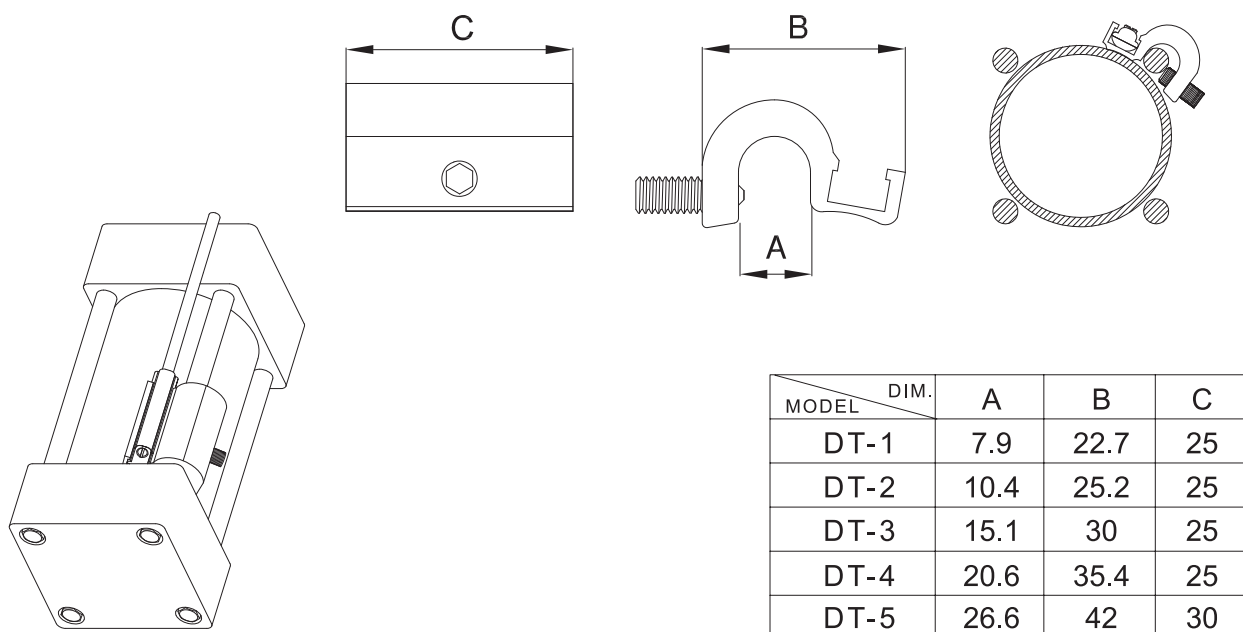
PF

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



DT

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



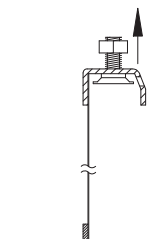
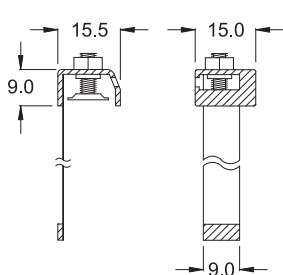
Unit:mm

CLAMP SERIES

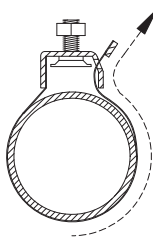


PN

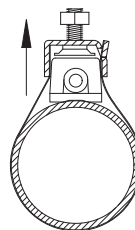
Clamp is designed for mounting KT-20 & KT-21 series sensor on round cylinder.



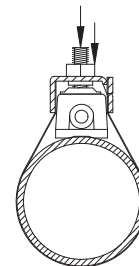
Step 1
Loosen screw & nut.



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 fix sensor. Finally swivel nut for steadying.



PN - S 2 0

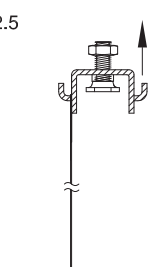
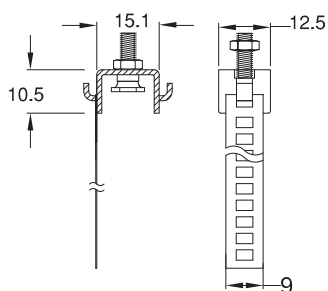
S: For cylinder body is stainless steel.
A: For cylinder body is aluminium alloy.

12: ϕ 12 cylinder
16: ϕ 16 cylinder
:
150: ϕ 150 cylinder

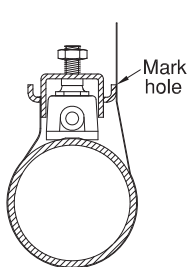
EX : PN-S25: It is used on ϕ 25 cylinder and material of cylinder tube is stainless.

PH

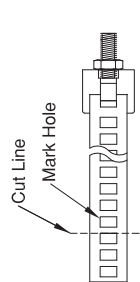
Clamp is designed for mounting KT-20 & KT-21 series sensor on round cylinder.



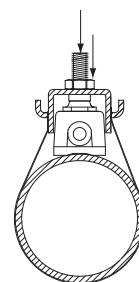
Step 1
Loosen screw & nut.



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 ϕ 6 ~ ϕ 63 round cylinder use.

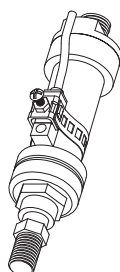
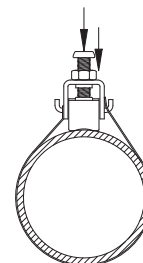
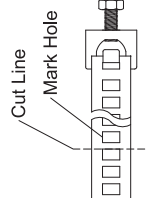
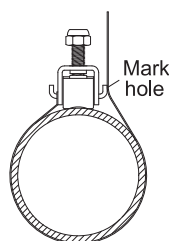
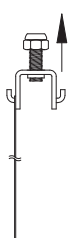
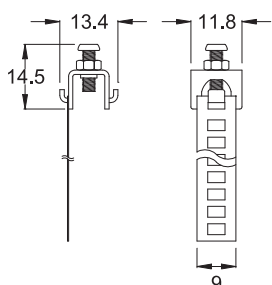
PH - 2 : For ϕ 6 ~ ϕ 125 round cylinder use.

CLAMP SERIES



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

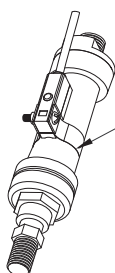
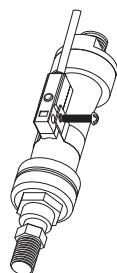
Re-place the sensor & mounting assembly. Wrap the band & put the chosen hole on hook. Position the switch and tighten. Finally swivel nut for steadying.

BK - 81: For $\phi 6 \sim \phi 32$ round cylinder use .

BK - 82: For $\phi 6 \sim \phi 63$ 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.

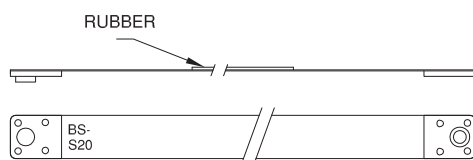
BS - S 2 0

12: $\phi 12$ cylinder
16: $\phi 16$ cylinder
:
40: $\phi 40$ cylinder

S: For cylinder body is stainless steel.

A: For cylinder body is aluminum alloy.

EX:BS-S25:It is used on $\phi 25$ 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	$\phi 20$	Aluminum	25	BS-S6	$\phi 6$	Stainless	8.5
BS-A25	$\phi 25$	Aluminum	30	BS-S8	$\phi 8$	Stainless	10
BS-A30	$\phi 30$	Aluminum	35	BS-S10	$\phi 10$	Stainless	11
BS-A32	$\phi 32$	Aluminum	37	BS-S12	$\phi 12$	Stainless	13.2
BS-A40	$\phi 40$	Aluminum	45	BS-S16	$\phi 16$	Stainless	17
BS-A50	$\phi 50$	Aluminum	55	BS-S20	$\phi 20$	Stainless	21.6
BS-A63	$\phi 63$	Aluminum	70	BS-S25	$\phi 25$	Stainless	26.5
BS-A80	$\phi 80$	Aluminum	87.7	BS-S32	$\phi 32$	Stainless	33.6
				BS-S40	$\phi 40$	Stainless	42

Unit:mm

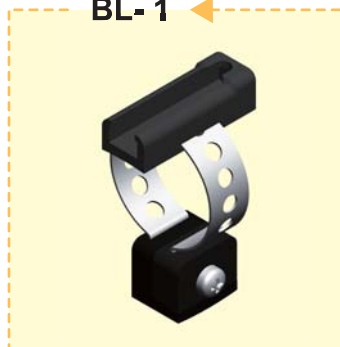
BL-1

BL-1 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
φ10	Stainless	11	10	φ30	Aluminum	35	26
φ12	Stainless	13.2	11	φ32	Stainless	33.6	24
φ16	Stainless	17	14	φ32	Aluminum	37	27
φ20	Stainless	21.6	16	φ40	Stainless	42	30
φ20	Aluminum	25	19	φ40	Aluminum	45	32
φ25	Stainless	26.5	20	φ50	Aluminum	55	40
φ25	Aluminum	30	22	φ63	Aluminum	70	50

BL-1

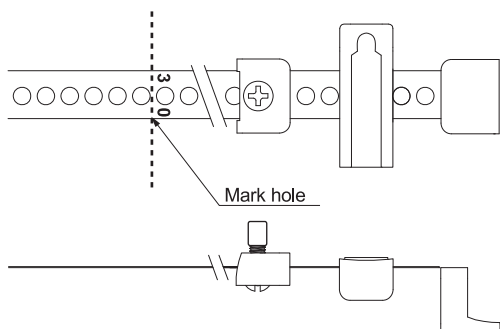


How to use:

Example: Use with φ 40 stainless body cylinder

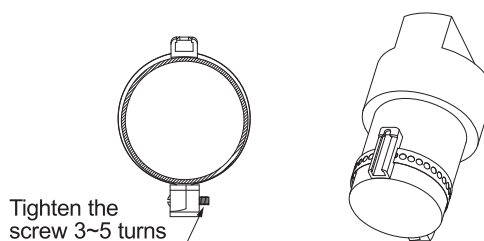
Step 1

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



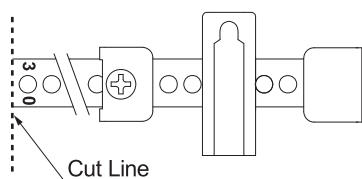
Step 4

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



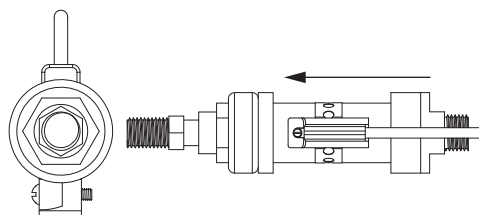
Step 2

Use cutter to cut off excessive mounting band.



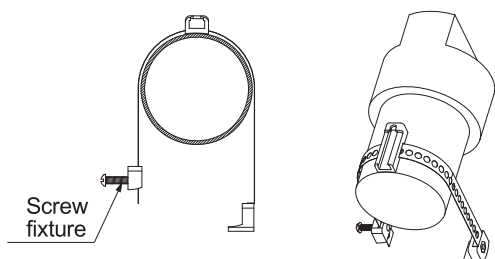
Step 5

Mount the sensor switch in the BL-1 series bracket and screw.



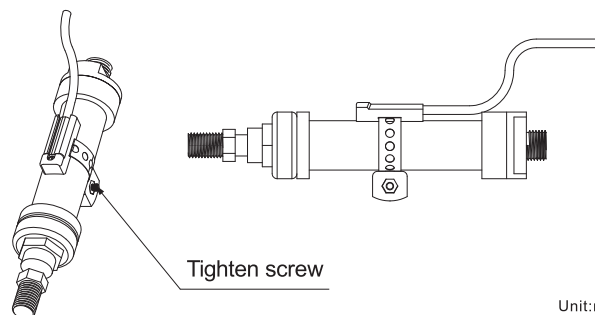
Step 3

Insert screw through screw fixture and the appropriate hole.



Step 6

Position the sensor switch on cylinder and tighten screw.

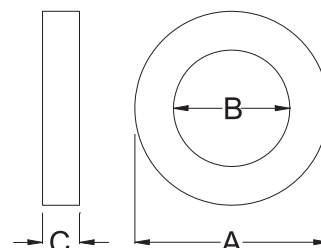


Unit:mm

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

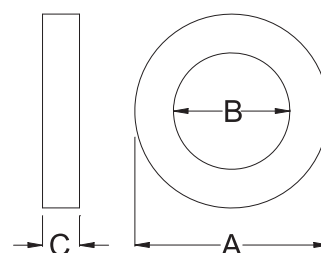
B. Physical property:

Resistant power: 20 - 50 kgf/cm²
 Lengthen: 5 - 20 %
 Hardness (Shore D): 30 - 50
 Specific gravity: 3.5 - 3.7 g/cm³
 Temperature range: -20°C ~ +70°C

ANISOTROPIC PLASTIC MAGNET

MODEL	DIM.	A / ± 0.00 -0.30	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/cm²
 Lengthen: 6.7 %
 Hardness (Shore D): 120
 Specific gravity: 3.2 g/cm³
 Temperature range: -20°C ~ +100°C

Unit:mm