

TK Series Inductive Proximity Sensor

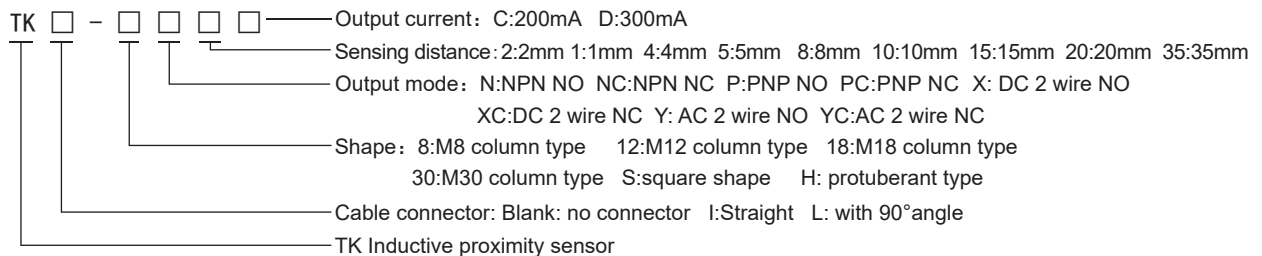
■ Photos and Features



Features:

- ★ Inductive non-contact detecting, long service life.
- ★ Accurated sensing distance, and strong anti-interference ability.
- ★ Optional model:3/2wires, DC/AC type,NC/NO type
- ★ Connection type and direct line type selectable.
- ★ Optional mounting,sensing distance and control mode.
- ★ Transistor driven design with abnormal protection circuit
- ★ Optimal designed sensing detection circuit for better performance.

■ Model Illustration



■ Ordering Information

1. TK Square Shape “S” Series Inductive Proximity Sensor

Model	Output mode	Sensing distance	Effective distance	Frequency	Protection level	Code
TK-SN(NC)5C/SP(PC)5C	NPN/PNP NO(NC)	5mm	4mm	500Hz	IP66(IEC)	B0043TK01
TK-SN(NC)10C/SP(PC)10C	NPN/PNP NO(NC)	10mm	8mm	200Hz	IP66(IEC)	B0070TK01
TK-SN(NC)20C/SP(PC)20C	NPN/PNP NO(NC)	20mm	16mm	100Hz	IP66(IEC)	B0085TK01
TK-SN(NC)35C/SP(PC)35C	NPN/PNP NO(NC)	35mm	28mm	50Hz	IP66(IEC)	B0118TK01
TK-SY(YC)10D	AC NO(NC)	10mm	8mm	20Hz	IP66(IEC)	B0085TK01
TK-SY(YC)20D	AC NO(NC)	20mm	16mm	10Hz	IP66(IEC)	B0093TK01
TK-SY(YC)35D	AC NO(NC)	35mm	28mm	5Hz	IP66(IEC)	B0135TK01

2. TK Normal Type Inductive Proximity Sensor

Model	Output mode	Sensing distance	Effective distance	Frequency	Protection level	Code
TK-HN(NC)10C/HP(PC)10C	NPN/PNP NO(NC)	10mm	8mm	200Hz	IP66(IEC)	B0070TK01
TK-HN(NC)20C/HP(PC)20C	NPN/PNP NO(NC)	20mm	16mm	100Hz	IP66(IEC)	B0085TK01
TK-HN(NC)35C/HP(PC)35C	NPN/PNP NO(NC)	35mm	28mm	50Hz	IP66(IEC)	B0118TK01

3. Protuberant Type “H”Series AC Inductive Proximity Sensor

Model	Output mode	Sensing distance	Effective distance	Frequency	Protection level	Code
TK-HY(YC)10D	AC NO(NC)	10mm	8mm	20Hz	IP66(IEC)	B0108TK01
TK-HY(YC)20D	AC NO(NC)	20mm	16mm	10Hz	IP66(IEC)	B0145TK01
TK-HY(YC)35D	AC NO(NC)	35mm	28mm	5Hz	IP66(IEC)	B0155TK01

4. Column Type Series Inductive Proximity Sensor

Model	Output mode	Mounting type	Sensing distance	Effective distance	Frequency	Protection level	Code
TK-8N(NC)2B/8P(PC)2B	NPN/PNP NO(NC)	Non-flush	2mm	1.6mm	600Hz	IP66(IEC)	B0065TK01
TK-12N(NC)2C/12P(PC)2C	NPN/PNP NO(NC)	Flush	2mm	1.6mm	600Hz	IP66(IEC)	B0036TK01
TK-12N(NC)4C/12P(PC)4C	NPN/PNP NO(NC)	Non-flush	4mm	3.2mm	400Hz	IP66(IEC)	B0036TK01
TK-18N(NC)5C/18P(PC)5C	NPN/PNP NO(NC)	Flush	5mm	4mm	400Hz	IP66(IEC)	B0041TK01
TK-18N(NC)8C/18P(PC)8C	NPN/PNP NO(NC)	Non-flush	8mm	6.4mm	200Hz	IP66(IEC)	B0043TK01
TK-30N(NC)10C/30P(PC)10C	NPN/PNP NO(NC)	Flush	10mm	8mm	100Hz	IP66(IEC)	B0080TK01
TK-30N(NC)15C/30P(PC)15C	NPN/PNP NO(NC)	Non-flush	15mm	12mm	100Hz	IP66(IEC)	B0093TK01
TK-18Y(YC)5D	AC NO(NC)	Flush	5mm	4mm	20Hz	IP66(IEC)	B0085TK01
TK-18Y(YC)8D	AC NO(NC)	Non-flush	8mm	6.4mm	20Hz	IP66(IEC)	B0085TK01
TK-30Y(YC)15D	AC NO(NC)	Non-flush	15mm	12mm	20Hz	IP66(IEC)	B0103TK01
TK-18X5B	DC NO	Flush	5mm	4mm	80Hz	IP66(IEC)	B0085TK01

5. TKI (L) Column Type Inductive Proximity Sensor With Cable Connector

Model	Output mode	Mounting type	Sensing distance	Effective distance	Frequency	Protection level	Code
TKI(L)-12N(NC)2C/12P(PC)2C	NPN/PNP NO(NC)	Flush	2mm	1.6mm	600Hz	IP66 (IEC)	B0085TK01
TKI(L)-12N(NC)4C/12P(PC)4C	NPN/PNP NO(NC)	Non-flush	4mm	3.2mm	400Hz	IP66 (IEC)	B0085TK01
TKI(L)-18N(NC)5C/18P(PC)5C	NPN/PNP NO(NC)	Flush	5mm	4mm	400Hz	IP66 (IEC)	B0098TK01
TKI(L)-18N(NC)8C/18P(PC)8C	NPN/PNP NO(NC)	Non-flush	8mm	6.4mm	400Hz	IP66 (IEC)	B0098TK01
TKI(L)-30N(NC)10C/30P(PC)10C	NPN/PNP NO(NC)	Flush	10mm	8mm	100Hz	IP66 (IEC)	B0108TK01
TKI(L)-30N(NC)15C/30P(PC)15C	NPN/PNP NO(NC)	Non-flush	15mm	12mm	100Hz	IP66 (IEC)	B0118TK01
TKI(L)-18Y(YC)5D	AC NO(NC)	Flush	5mm	4mm	20Hz	IP66 (IEC)	B0108TK01
TKI(L)-18Y(YC)8D	AC NO(NC)	Non-flush	8mm	6.4mm	20Hz	IP66 (IEC)	B0118TK01
TKI(L)-30Y(YC)15D	AC NO(NC)	Non-flush	15mm	12mm	20Hz	IP66 (IEC)	B0130TK01
TKI(L)-18X5B	DC NO	Flush	5mm	4mm	80Hz	IP66 (IEC)	B0108TK01

■ Technical Specifications

1. Square Shape S Series Proximity Sensor

Type		DC 3-wire				AC 2-wire	DC 3-wire		AC 2-wire	DC 3-wire		AC 2-wire
Model	Output	DC		DC		AC	DC		AC	DC		AC
	Type	NPN	PNP	NPN	PNP		NPN	PNP		NPN	PNP	
	NO	TK-SN5	TK-SP5C	TK-SN10C	TK-SP10C	TK-SY10D	TK-SN20C	TK-SP20C	TK-SY20D	TK-SN35C	TK-SP35C	TK-SY35D
	NC	TK-SNC5C	TK-SPC5C	TK-SNC10C	TK-SPC10C	TK-SYC20D	TK-SNC20C	TK-SPC20C	TK-SYC20D	TK-SNC35C	TK-SPC35C	TK-SYC35D
Dimension		18W×18H×36Dmm		30W×30H×52Dmm		40W×40H×53Dmm			65W×65H×70Dmm			
Detected object		Magnetic metal (detection distance decreases when it's non-magnetic metal)										
Standard detected object		Iron 18×18×1mm		Iron 30×30×1mm			Iron 40×40×1mm			Iron 65×65×1mm		
Sensing distance		5.0mm		10.0mm			20.0mm			35.0mm		
Stipulate distance		0~4.0mm		0~8.0mm			0~16.0mm			0~28.0mm		
Frequency		≤400Hz		≤200Hz		≤20Hz	≤100Hz		≤10Hz	≤50Hz		≤5Hz
Power supply		DC 10~30V		DC 10~30V		AC 90~250V	DC 10~30V		AC 90~250V	DC 10~30V		AC 90~250V

2. Protuberant Type H Series Proximity Sensor

Type		DC 3-wire		AC 2-wire	DC 3-wire		AC 2-wire	DC 3-wire		AC 2-wire
Model	Output	DC		AC	DC		AC	DC		AC
	Type	NPN	NPN		NPN	PNP		NPN	PNP	
	NO	TK-HN10C	TK-HP10C	TK-HY10C	TK-HN20C	TK-HP20C	TK-HY20D	TK-HN35C	TK-HP35C	TK-HY35D
	NC	TK-HNC10C	TK-HPC10C	TK-HYC10C	TK-HNC20C	TK-HPC20C	TK-HYC20D	TK-HNC35C	TK-HPC35C	TK-HYC35C
Dimension		40W×40H×25Dmm			50W×50H×35Dmm			70W×70H×55Dmm		
Detected object		Magnetic metal (detection distance decreases when it's non-magnetic metal)								
Standard detected object		Iron 40×40×1mm			Iron 50×50×1mm			Iron 65×65×1mm		
Sensing distance		10.0mm			20.0mm			35.0mm		
Stipulate distance		0～8.0mm			0～16.0mm			0～28.0mm		
Frequency		≤200Hz		≤20Hz	≤100Hz		≤10Hz	≤50Hz		≤5Hz
Power supply		DC 10～30V		AC 90～250V	DC 10～30V		AC 90～250V	DC 10～30V		AC 90～250V

3. Colum Type Proximity Sensor

Type		DC 3-wire		DC 3-wire		AC 2-wire
Model	Output	DC		DC		AC
	Type	NPN	PNP	NPN	PNP	
	NO	TK-12N2(4)C	TK-12P2(4)C	TK-18N5(8)C	TK-18P5(8)C	TK-18Y5(8)D
	NC	TK-12NC2(4)C	TK-12PC2(4)C	TK-18NC5(8)C	TK-18PC5(8)C	TK-18YC5(8)D
Dimension		M12×53(L) mm		M18×53(L) mm		
Detected object		Magnetic metal (detection distance decreases when it's non-magnetic metal)				
Standard detected object		Iron 12×12×1mm		Iron 18×18×1mm		
Sensing distance		2.0mm	4.0mm	5.0mm	8.0mm	
Stipulate distance		2mm:0~1.6mm	4mm:0~3.2mm	5mm:0~4.0mm	8mm:0~6.4mm	
Frequency		2mm≤600Hz	4mm≤400Hz	5mm≤400Hz	8mm≤200Hz	≤20Hz
Power supply		DC 10~30V		DC 10~30V		AC 90~250V

4. W Positive Induction / DC 2-wire

Type	DC 3-wire		DC 2-wire NO
Model	Output	DC	
	Type	NPN	PNP
	NO	TK-WN5B	TL-WP5B
Dimension	18W×10H×30Dmm		M18×53(L)
Detected object	Magnetic metal (detection distance decreases when it's non-magnetic metal)		
Standard detected object	Iron 18×18×1mm		
Sensing distance	5mm		
Stipulate distance	0~4.0mm		
Frequency	≤500Hz		≤80Hz
Output current	≤100mA		
Power supply	DC 10~30V		

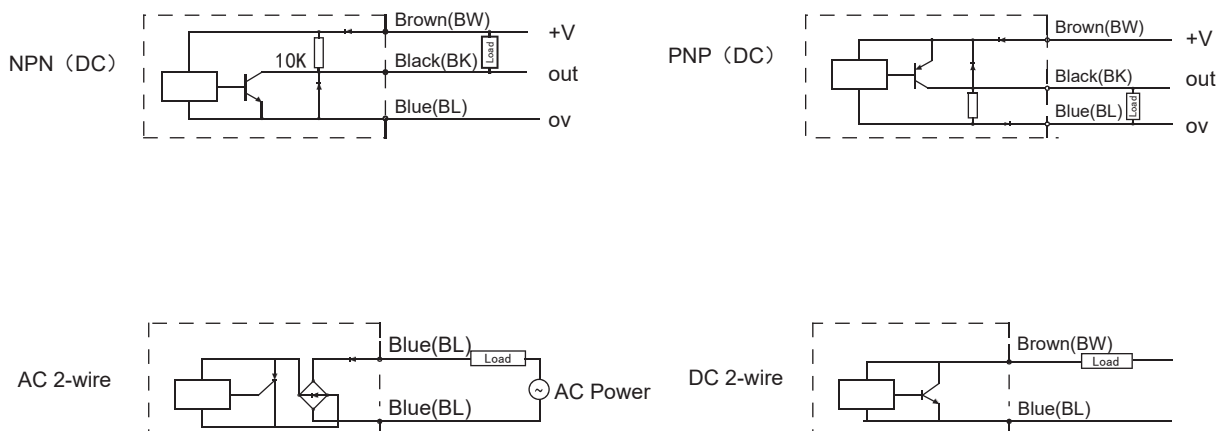
5. Column Shape With Connector

Type		DC 3-wire		DC 3-wire type with pins			
Model	Output	DC		DC		DC	
	Type	NPN	NPN	NPN	PNP	NPN	PNP
	NO	TK(I, L)-12N2(4)C	TK(I, L)-12P2(4)C	TK(I, L)-18N5(8)C	TK(I, L)-18P5(8)C	TK(I, L)-30N10(15)C	TK(I, L)-30P10(15)C
	NC	TK(I, L)-12NC2(4)C	TK(I, L)-12PC2(4)C	TK(I, L)-18NC5(8)C	TK(I, L)-18PC5(8)C	TK(I, L)-30NC10(15)C	TK(I, L)-30PC10(15)C
Dimension		M12×71 (L)		M18×71 (L)		M30×78 (L)	
Detected object		Magnetic metal (detection distance decreases when it's non-magnetic metal)					
Standard detected object		Iron 12×12×1mm		Iron 18×18×1mm		Iron 30×30×1mm	
Sensing distance		2.0mm	4.0mm	5.0mm	8.0mm	10.0mm	15.0mm
Stipulate distance		2mm:0~1.6mm	4mm:0~3.2mm	5mm:0~4.0mm	8mm:0~6.4mm	10mm:0~8.0mm	15mm:0~12mm
Frequency		2mm≤600Hz	4mm≤400Hz	5mm≤400Hz	8mm:≤200Hz	10mm:≤200Hz	15mm:≤200Hz
Power supply		DC 10-30V					

■ Technical Specifications

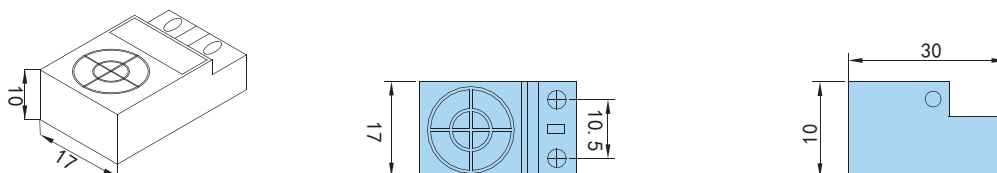
Hysteresis	Less than 10% of sensing distance
Control output	DC: pure resistance load≤200mA induction load≤100mA
Voltage drop	DC≤2V(At DC 24V 200mA)
Leakage	DC≤0.5mA(At DC 24V)
Insulation resistance	≥100MΩ (At DC 500V)
Insulation strength	DC: AC 1000V 1min (At 50/60HZ) AC: AC 2000V 1min (At 50/60HZ)
LED	Yellow
Protection level	IP66(IEC)
Work environment	-25℃-70℃
Output wire length	Standard 2m

■ Connection

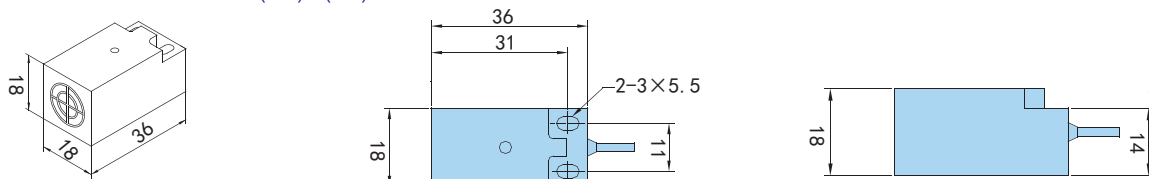


■ Dimension (Unit: mm)

TK-WN(NC)/P(PC)5C

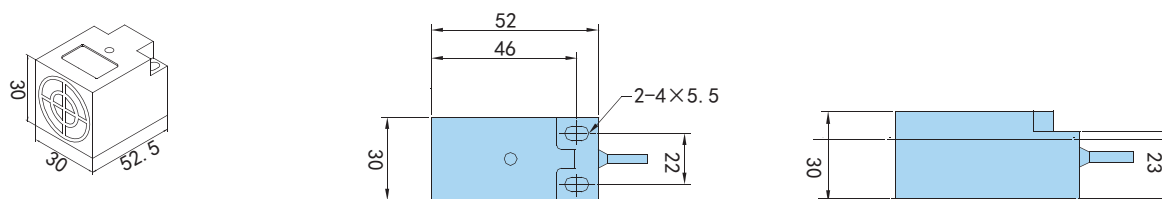


TK-SN(NC)/P(PC)5C



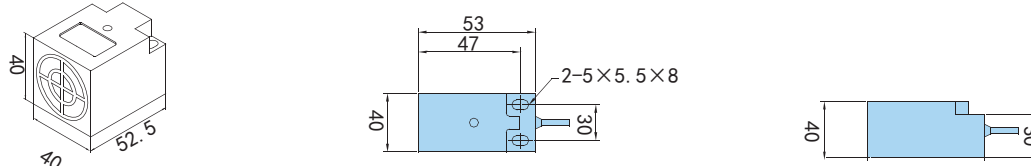
TK-SN(NC)/P(PC)10C

TK-SY(YC)10D



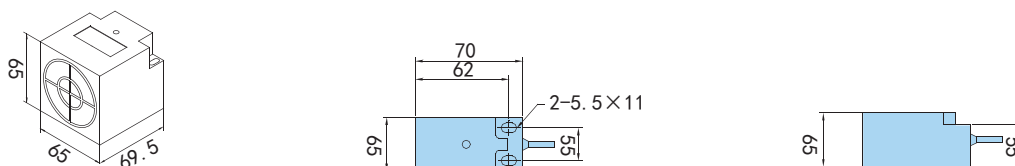
TK-SN(NC)/P(PC)20C

TK-SY(YC)20D



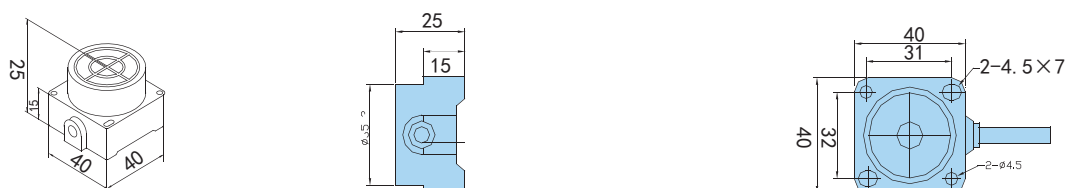
TK-SN(NC)/P(PC)35C

TK-SY(YC)35D

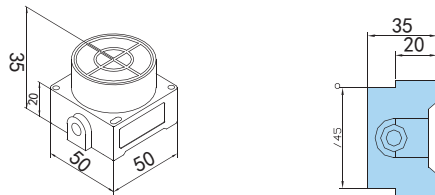


TK-HN(NC)/P(PC)10C

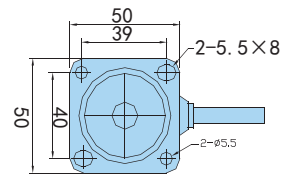
TK-HY(YC)10D



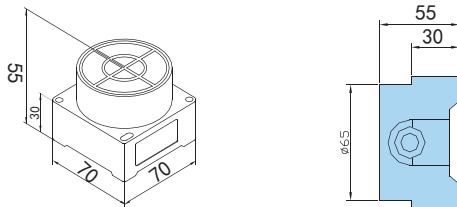
TK-HN(NC)/P(PC)20C



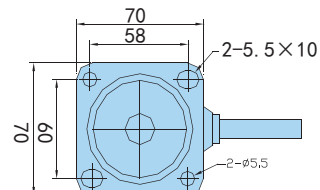
TK-HY(YC)20D



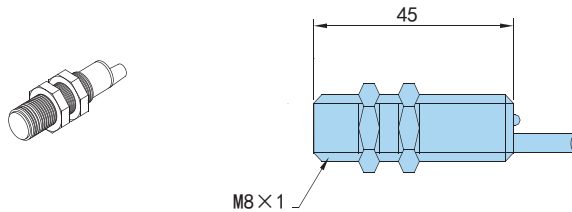
TK-HN(NC)/P(PC)35C



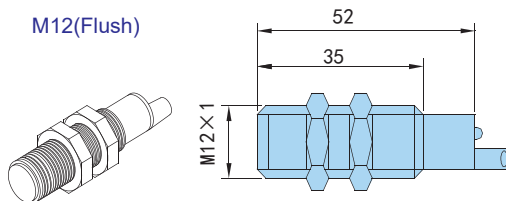
TK-HY(YC)35D



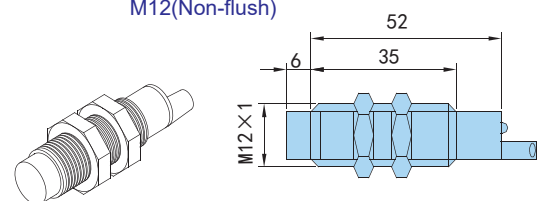
M8(Flush)



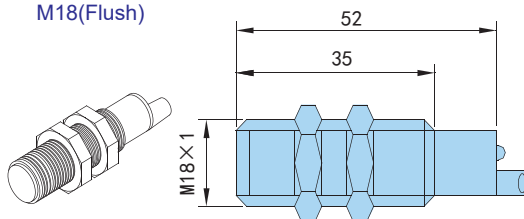
M12(Flush)



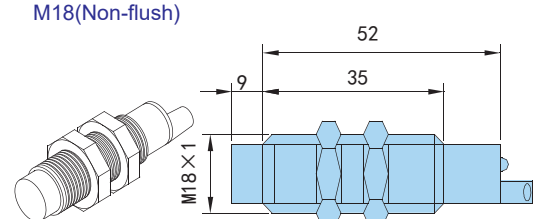
M12(Non-flush)



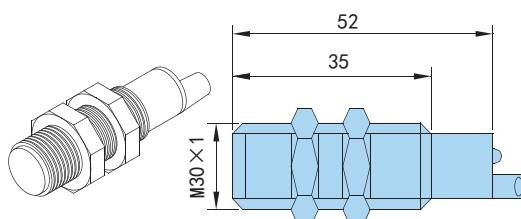
M18(Flush)



M18(Non-flush)



M30(Flush)



M30(Non-flush)

