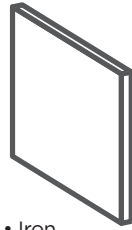
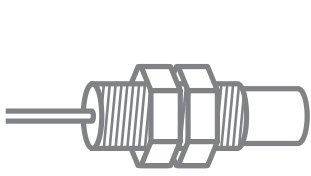


Inductive Proximity Sensor

Round-Standard Type

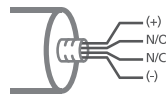
KPR Series



- Iron
- Aluminum
- Copper
- Stainless
- Brass



Never mind to install in flat and narrow space with M3, M5 size.



A body has two output for variety applications. (N/O+N/C)



Durable M8, M12 connector against vibration and shock.



Wide power supply and combination AC/DC power.



Enhanced waterproof design



High-speed Detection with a response frequency of 2.5kHz (M3 Size)

Part Number Description

SERIES



SERIES	KPR : Inductive proximity Round			
① Distance	A : 1mm G : 4mm P : 15mm	B : 1mm H : 5mm	E : 2mm K : 8mm	F : 3mm L : 10mm
② Size	1 : Ø3 4 : Ø12	2 : Ø5 5 : Ø18	3 : Ø8 6 : Ø30	
③ Output	1 : NPN N/O (3 wire) 5 : N/O (2 wire)	2 : NPN N/C (3 wire) 6 : N/C (2 wire)	3 : PNP N/O (3 wire) 7 : NPN N/O+N/C (4 wire)	4 : PNP N/C (3 wire) 8 : PNP N/O+N/C (4 wire)
④ Power	1 : 10 - 30VDC	2 : 7.7 - 9VDC*	5 : 20 - 240VAC	6 : 20 - 240VAC/DC
⑤ Cable Outlet	Standard** : 2m Cable	2 : M8 connector	3 : M12 connector	

* NUMAR(7.7 ~ 9VDC) model is under development.

** Standard specification is not appeared in part number description

Guide to Selection

Size	●3	●5	■7	●8	●12	●■18	■25	●■30	●32	■34	■40	■80
Available	○	○		○	○	○		○				
Sensing Distance	0.8mm	1mm	1.5mm	2mm	3mm	4mm	5mm	7mm	8mm	10mm	12mm	15mm
Available	○	○		○	○	○	○		○	○		○
Sensing Distance	20mm	22mm	25mm	30mm	40mm	50mm	70mm					
Available												
Output	NPN N/C	NPN N/O	PNP N/C	NPN N/O	N/C	N/O	NPN N/O+N/C	PNP N/O+N/C	PNP N/O+N/C	PNP N/O+N/C	PNP N/O+N/C	ANALOG
Available	○	○	○	○	○	○	○	○	○	○	○	○
Connector	2m Cable			M8 Connector			M12 Connector			Screw Terminal		
Available	○			○			○			○		
Power	7.7-9VDC		10-30VDC		15-30VDC		10-60VDC		20-240VAC		20-240VAC/DC	
Available			○						○		○	

General Specification

Detectable Object	Ferrous metal (The sensing distance decreases with non-ferrous metal.)
Differential Travel	Max. 15% of sensing distance
Indicators	LED
Cable Outlet	Standard : 2m Cable 2 : M8 connector 3 : M12 connector
Protection Circuits	Load short-circuit protection, Surge suppressor, Reverse polarity protection
Ambient Temperature	Operating/Storage : -25 to 70°C (with no icing)
Ambient Humidity	Operating/Storage : 35% to 95% (with no icing)
Temperature Influence	Max. ±10% of sensing distance at 23°C in the temperature range of -25 to 70°C
Voltage Influence	Max. ±1% of sensing distance at rated voltage in the rated voltage ±15% range
Insulation Resistance	Min. 50 MΩ (at 500 VDC) between current-carrying parts and case
Vibration Resistance	Destruction : 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions
Shock Resistance	Destruction : 1,000 m/s ² 10 times each in X, Y, and Z directions
Case Material	Stainless(M3, M5 type only) / Nickel copper plated
Degree of Protection	IP67

Characteristics

	DC 3/4 wire	DC 2 wire	AC/DC 2 wire	AC 2 wire		
Supply Voltage	1 : 10 - 30VDC 3 : 15 - 30VDC		6 : 20 - 250VAC/DC	5 : 20 - 240VAC		
Current Consumption	Max. 10mA	Max. 0.8mA		-		
Leakage Current	-	-		Max. 1mA		
Voltage Drop	Residual voltage : Max. 2V Load current : Max. 200 mA	Residual voltage : Max. 4V Load current : 3 to 100 mA	Residual voltage : Max. 5V for DC power Load current : 3 to 100 mA	Load current : 5 to 300 mA		
Operation Mode	3wire	1 : NPN N/O, 2 : NPN N/C, 3 : PNP N/O, 4 : PNP N/C	5 : N/O, 6 : N/C			
	4wire	7 : NPN N/O+N/C, 8 : PNP N/O+N/C				
Dielectric Strength	1,000 VAC, 50/60 Hz for 1 minute between current carry parts and case		4,000 VAC, 50/60 Hz for 1 minute between current carry parts and case			
Maximum Switching Frequency	M3	Flush	2500Hz	-	-	
	M5	Flush	2500Hz	-	-	
	M8	Flush	2000Hz	-	-	
		Non flush	1500Hz	-	-	
	M12	Flush	1500Hz	800Hz	-	20Hz
		Non flush	1000Hz	500Hz	-	
	M18	Flush	1000Hz	500Hz	AC : 15Hz DC : 50Hz	20Hz
		Non flush	800Hz	300Hz		
	M30	Flush	500Hz	300Hz	AC : 15Hz DC : 50Hz	20Hz
		Non flush	300Hz	200Hz		

Inductive Proximity Sensor


Round-Standard Type

KPR Series

Product Selection

Model	Sensing Distance	Shape	Output	Power	Cable Outlet	Part Number	Response Frequency
M3 Round 3-Wire(DC) 	A : 1 mm	1 : M3 (Smooth Barrel) Flush	1 : NPN N/O	1 : 10-30VDC	Standard : 2m Cable	KPR A111	2,500Hz
			2 : NPN N/C			KPR A121	
			3 : PNP N/O			KPR A131	
			4 : PNP N/C			KPR A141	
M5 Round 3-Wire(DC) 	B : 1mm	2 : M5 Flush	1 : NPN N/O	1 : 10-30VDC	Standard : 2m Cable	KPR B211	2,500Hz
			2 : NPN N/C			KPR B221	
			3 : PNP N/O			KPR B231	
			4 : PNP N/C			KPR B241	
	B : 1mm	2 : M5 Flush	1 : NPN N/O	1 : 10-30VDC	2 : M8 connector	KPR B211 2	2,500Hz
			2 : NPN N/C			KPR B221 2	
			3 : PNP N/O			KPR B231 2	
			4 : PNP N/C			KPR B241 2	
M8 Round 3-Wire(DC) 	E : 2mm	3 : M8 Flush	1 : NPN N/O	1 : 10-30VDC	Standard : 2m Cable	KPR E311	2,000Hz
			2 : NPN N/C			KPR E321	
			3 : PNP N/O			KPR E331	
			4 : PNP N/C			KPR E341	
	F : 3mm	3 : M8 Non flush	1 : NPN N/O	1 : 10-30VDC	Standard : 2m Cable	KPR F311	1,500Hz
			2 : NPN N/C			KPR F321	
			3 : PNP N/O			KPR F331	
			4 : PNP N/C			KPR F341	
	E : 2mm	3 : M8 Flush	1 : NPN N/O	1 : 10-30VDC	2 : M8 connector	KPR E311 2	2,000Hz
			2 : NPN N/C			KPR E321 2	
			3 : PNP N/O			KPR E331 2	
			4 : PNP N/C			KPR E341 2	
F : 3mm	3 : M8 Non flush	1 : NPN N/O	1 : 10-30VDC	2 : M8 connector	KPR F311 2	1,500Hz	
		2 : NPN N/C			KPR F321 2		
		3 : PNP N/O			KPR F331 2		
		4 : PNP N/C			KPR F341 2		
E : 2mm	3 : M8 Flush	1 : NPN N/O	1 : 10-30VDC	3 : M12 connector	KPR E311 3	2,000Hz	
		2 : NPN N/C			KPR E321 3		
		3 : PNP N/O			KPR E331 3		
		4 : PNP N/C			KPR E341 3		
F : 3mm	3 : M8 Non flush	1 : NPN N/O	1 : 10-30VDC	3 : M12 connector	KPR F311 3	1,500Hz	
		2 : NPN N/C			KPR F321 3		
		3 : PNP N/O			KPR F331 3		
		4 : PNP N/C			KPR F341 3		

Product Selection



Model	Sensing Distance	Shape	Output	Power	Cable Outlet	Part Number	Response Frequency
	E : 2mm	4 : M12 Flush	1 : NPN N/O	1 : 10-30VDC	Standard : 2m Cable	KPR E411	1,500Hz
			2 : NPN N/C			KPR E421	
			3 : PNP N/O			KPR E431	
			4 : PNP N/C			KPR E441	
	G : 4mm	4 : M12 Non flush	1 : NPN N/O	1 : 10-30VDC	Standard : 2m Cable	KPR G411	1,000Hz
			2 : NPN N/C			KPR G421	
			3 : PNP N/O			KPR G431	
			4 : PNP N/C			KPR G441	
	H : 5mm	4 : M12 Non flush	1 : NPN N/O	1 : 10-30VDC	Standard : 2m Cable	KPR H411	800Hz
			2 : NPN N/C			KPR H421	
			3 : PNP N/O			KPR H431	
			4 : PNP N/C			KPR H441	
E : 2mm	4 : M12 Flush	1 : NPN N/O	1 : 10-30VDC	3 : M12 connector	KPR E411 3	1,500Hz	
		2 : NPN N/C			KPR E421 3		
		3 : PNP N/O			KPR E431 3		
		4 : PNP N/C			KPR E441 3		
G : 4mm	4 : M12 Non flush	1 : NPN N/O	1 : 10-30VDC	3 : M12 connector	KPR G411 3	1,000Hz	
		2 : NPN N/C			KPR G421 3		
		3 : PNP N/O			KPR G431 3		
		4 : PNP N/C			KPR G441 3		
H : 5mm	4 : M12 Non flush	1 : NPN N/O	1 : 10-30VDC	3 : M12 connector	KPR H411 3	400Hz	
		2 : NPN N/C			KPR H421 3		
		3 : PNP N/O			KPR H431 3		
		4 : PNP N/C			KPR H441 3		

Inductive Proximity Sensor




Round-Standard Type

KPR Series

Product Selection

Model	Sensing Distance	Shape	Output	Power	Cable Outlet	Part Number	Response Frequency
	H : 5mm	5 : M18 Flush	1 : NPN N/O	1 : 10-30VDC	Standard : 2m Cable	KPR H511	1,000Hz
			2 : NPN N/C			KPR H521	
			3 : PNP N/O			KPR H531	
			4 : PNP N/C			KPR H541	
			7 : NPN N/O+N/C			KPR H571	
			8 : PNP N/O+N/C			KPR H581	
	K : 8mm	5 : M18 Non flush	1 : NPN N/O	1 : 10-30VDC	Standard : 2m Cable	KPR K511	800Hz
			2 : NPN N/C			KPR K521	
			3 : PNP N/O			KPR K531	
			4 : PNP N/C			KPR K541	
			7 : NPN N/O+N/C			KPR K571	
			8 : PNP N/O+N/C			KPR K581	
L : 10mm	5 : M18 Non flush	1 : NPN N/O	1 : 10-30VDC	Standard : 2m Cable	KPR L511	500Hz	
		2 : NPN N/C			KPR L521		
		3 : PNP N/O			KPR L531		
		4 : PNP N/C			KPR L541		
	H : 5mm	5 : M18 Flush	1 : NPN N/O	1 : 10-30VDC	3 : M12 connector	KPR H511 3	1,000Hz
			2 : NPN N/C			KPR H521 3	
			3 : PNP N/O			KPR H531 3	
			4 : PNP N/C			KPR H541 3	
			7 : NPN N/O+N/C			KPR H571 3	
			8 : PNP N/O+N/C			KPR H581 3	
	K : 8mm	5 : M18 Non flush	1 : NPN N/O	1 : 10-30VDC	3 : M12 connector	KPR K511 3	800Hz
			2 : NPN N/C			KPR K521 3	
			3 : PNP N/O			KPR K531 3	
			4 : PNP N/C			KPR K541 3	
			7 : NPN N/O+N/C			KPR K571 3	
			8 : PNP N/O+N/C			KPR K581 3	
L : 10mm	5 : M18 Non flush	1 : NPN N/O	1 : 10-30VDC	3 : M12 connector	KPR L511 3	500Hz	
		2 : NPN N/C			KPR L521 3		
		3 : PNP N/O			KPR L531 3		
		4 : PNP N/C			KPR L541 3		

Product Selection

Model	Sensing Distance	Shape	Output	Power	Cable Outlet	Part Number	Response Frequency						
M30 Round 3, 4-Wire(DC)	L : 10mm	6 : M30 Flush	1 : NPN N/O	1 : 10-30VDC	Standard : 2m Cable	KPR L611	500Hz						
			2 : NPN N/C			KPR L621							
			3 : PNP N/O			KPR L631							
			4 : PNP N/C			KPR L641							
			7 : NPN N/O+N/C			KPR L671							
			8 : PNP N/O+N/C			KPR L681							
	P : 15mm	6 : M30 Non flush	1 : NPN N/O	1 : 10-30VDC	Standard : 2m Cable	KPR P611	300Hz						
			2 : NPN N/C			KPR P621							
			3 : PNP N/O			KPR P631							
			4 : PNP N/C			KPR P641							
			7 : NPN N/O+N/C			KPR P671							
			8 : PNP N/O+N/C			KPR P681							
	L : 10mm	6 : M30 Flush	1 : NPN N/O	1 : 10-30VDC	3 : M12 connector	KPR L611 3	500Hz						
			2 : NPN N/C			KPR L621 3							
			3 : PNP N/O			KPR L631 3							
			4 : PNP N/C			KPR L641 3							
			7 : NPN N/O+N/C			KPR L671 3							
			8 : PNP N/O+N/C			KPR L681 3							
						P : 15mm		6 : M30 Non flush	1 : NPN N/O	1 : 10-30VDC	3 : M12 connector	KPR P611 3	300Hz
									2 : NPN N/C			KPR P621 3	
3 : PNP N/O	KPR P631 3												
4 : PNP N/C	KPR P641 3												
7 : NPN N/O+N/C	KPR P671 3												
8 : PNP N/O+N/C	KPR P681 3												

Inductive Proximity Sensor

Round-Standard Type

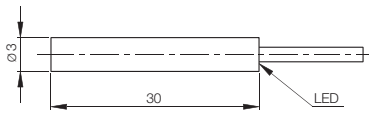
KPR Series

Dimension

(mm)

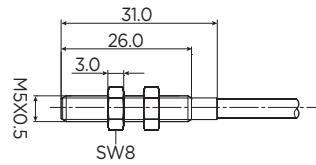
KPR Ø3

Flush

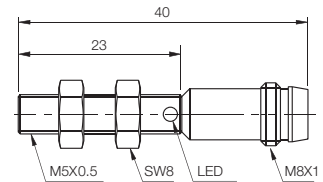


KPR Ø5

Flush

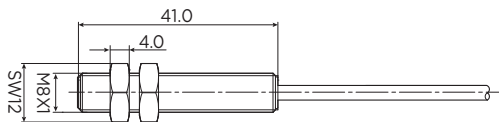


M8 connector Flush

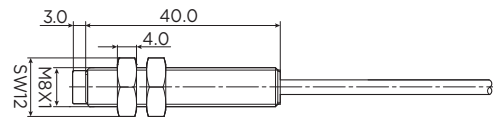


KPR Ø8

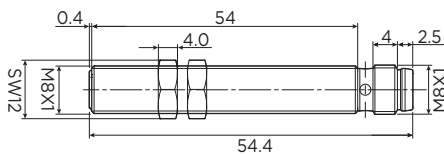
Flush



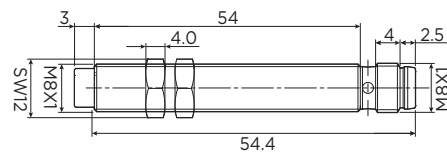
Non flush



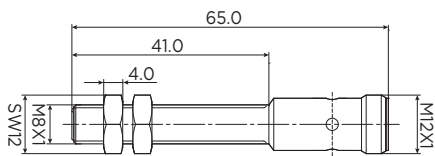
M8 connector Flush



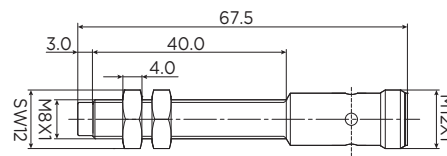
M8 connector Non flush



M12 connector Flush



M12 connector Non flush

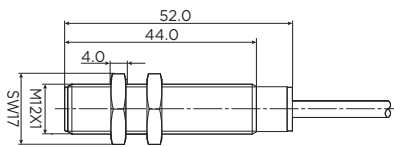


Dimension

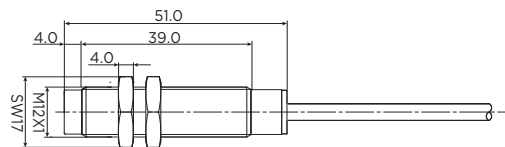
(mm)

KPR Ø12

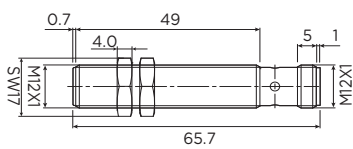
Flush



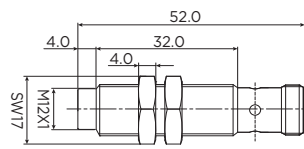
Non flush



M12 connector Flush

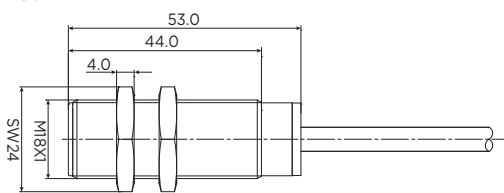


M12 connector Non flush

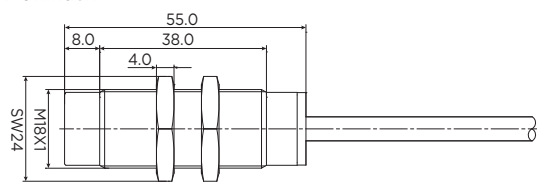


KPR Ø18

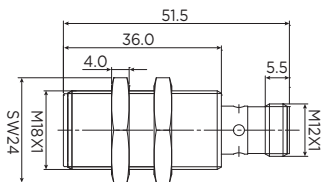
Flush



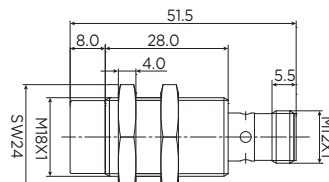
Non flush



M12 connector Flush

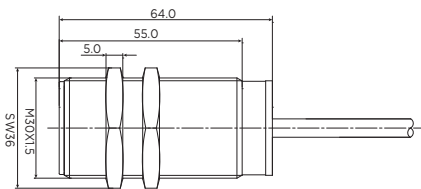


M12 connector Non flush

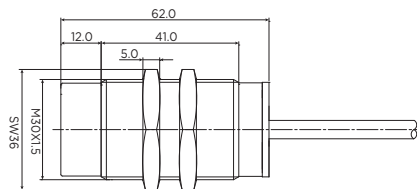


KPR Ø30

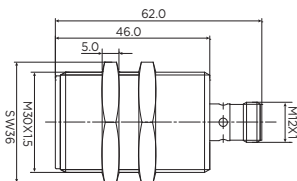
Flush



Non flush



M12 connector Flush



M12 connector Non flush

