

Магнитные датчики цилиндров

Технические характеристики

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Уфа (347)229-48-12
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Appearance

Feature	Can execute detection in Fe, perfect for molds and fixtures	Smallest size in same type of products
Sensing distance*	MR-M10L: 4mm; MR-M9K: 8mm	MR-M10L: 8mm; MR-M9K: 10mm
Operating voltage	5~24V DC	
Detected magnetic poles	S-pole	N-pole, S-pole optional
Magnetic sensitivity	5~7mT	2.5~3.5mT
Response time	5 μs	
Active frequency	30Hz	
Output type	NPN (N.O) (When approaching, ON)	
Output current	≦15mA	
Current consumption	≦15mA	
Withstand voltage	AC1000V 1min	
Insulation resistance	250V DC≧20MΩ	
Ambient temperature	-20℃~+85℃, No freezing	
Ambient humidity	20%~95%RH, No condensation	
Material	SUS303	GF strengthened PBT: grey;MR-P13-S cable: grey;MR-P13-N cable: black
Mounting	M3 screws, tightening torque ≦0.2N・m	M7 nuts, tightening torque 0.3N・m
Degree of protection	IP65	IP65
Connection	3 core cable(Length:1m)	
Model NO.	Top surface detection: MR-P10-H Side surface detection: MR-P10-X	S-pole detection: MR-P13-S N-pole detection: MR-P13-N
Wiring diagram	See figure 1 and figure 2 on page G-07	



*: Different magnets have different sensing distances



Appearance

Feature	Built-in indicator (high sensitivity)
Sensing distance*	MR-M10L: 8mm; MR-M9K: 11mm
Operating voltage	5~24V DC
Detected magnetic poles	N-pole, S-pole optional
Magnetic sensitivity	MR-P24-S: 2.5~3.5mT, MR-P24-N: 0.9±0.2mT
Active frequency	30Hz
Response time	5 μs
Output type	NPN (N.O) (When approaching, ON)
Output current	≦12mA
Current consumption	≦12mA
Withstand voltage	AC1000V 1min
Insulation resistance	250V DC≧20MΩ
Ambient temperature	-20℃~+85℃, No freezing
Ambient humidity	20%~95%RH, No condensation
Material	GF strengthened PBT: black;MR-P24-S cable: grey;MR-P24-N cable: black
Mounting	M9 screws, tightening torque ≦0.5N・m (with screws)
Indicator	Red
Degree of protection	IP67
Connection	1M 3 core cable
Model NO.	S-pole detection: MR-P24-S N-pole detection: MR-P24-N
Wiring diagram	See figure 4 on page G-07

*: Different magnets have different sensing distances

Magnetic Sensors



Appearance

Feature	High sensitivity, detects N-pole and S-pole detection at the same time	IP67 protection degree, stainless steel threaded housing
Sensing distance*	MR-M10L: 13mm; MR-M9K: 20mm	MR-M10L: 6mm; MR-M9K: 8mm
Operating voltage	12~24V DC	5~24V DC
Detected magnetic poles	N-pole & S-pole detection	S-pole
Magnetic sensitivity	S-pole: $0.5 \pm 0.1 \text{ mT}$ N-pole: $0.45 \pm 0.1 \text{ mT}$	3~4mT
Response time	$< 16 \mu \text{s}$	5 μs
Active frequency	40Hz	
Output type	NPN (N.O) (When approaching, ON)	
Output current	$\leq 12 \text{ mA}$	
Current consumption	On: $\leq 30 \text{ mA}$ (off $\leq 10 \text{ mA}$)	$\leq 4 \text{ mA}$
Withstand voltage	AC1000V 1min	
Insulation resistance	250V DC $\geq 20 \text{ M}\Omega$	
Ambient temperature	$-20^\circ\text{C} \sim +85^\circ\text{C}$, No freezing	
Ambient humidity	20%~95% RH, No condensation	
Material	SUS303	
Degree of protection	IP65	IP67
Mounting	M9 screws, tightening torque 5N · m	M6 screws, tightening torque 2N · m
Indicator	S-pole: Red N-pole: Green	Red
Connection	1M 4core cable	1M 3core cable
Model NO.	MR-P25 HOT	MR-P26
Wiring diagram	See figure 5 on page G-07	See figure 6 on page G-07

*: Different magnets have different sensing distances



Appearance

Feature	Built-in indicator, 2-wires output
Sensing distance*	MR-M10L: 5mm; MR-M9K: 8mm
Operating voltage	12~24V DC
Detected magnetic poles	N-pole, S-pole optional
Magnetic sensitivity	2.5~3.5mT
Response time	50 μs
Active frequency	30Hz
Output current	$\leq 50 \text{ mA}$
Leakage current	OFF, $\leq 0.5 \text{ mA}$
Withstand voltage	AC1000V 1min
Insulation resistance	250V DC $\geq 20 \text{ M}\Omega$
Ambient temperature	$-20^\circ\text{C} \sim +85^\circ\text{C}$, No freezing
Ambient humidity	20%~95% RH, No condensation
Material	GF strengthened PBT
Indicator	Red
Degree of protection	IP67
Connection	1M 2core cable
Model NO.	S-pole detection: MR-P12-S N-pole detection: MR-P12-N
Wiring diagram	See figure 7 on page G-07

*: Different magnets have different sensing distances



Appearance

Feature	High sensitivity (can be used outdoors)
Sensing distance*	MR-M10L: 8mm; MR-M9K: 11mm
Operating voltage	5~24V DC
Detected magnetic poles	N-pole, S-pole optional
Magnetic sensitivity	$0.9 \pm 0.2 \text{ mT}$
Response time	$5 \mu \text{s}$
Active frequency	30Hz
Output type	NPN (N.O) (When approaching, ON)
Output current	$\leq 12 \text{ mA}$
Current consumption	$\leq 12 \text{ mA}$
Withstand voltage	AC1000V 1min
Insulation resistance	250V DC $\geq 20 \text{ M}\Omega$
Ambient temperature	$-20^{\circ}\text{C} \sim +85^{\circ}\text{C}$, No freezing
Ambient humidity	20%~95%RH, No condensation
Material	GF strengthened PBT: black
Mounting	M3 screws, tightening torque $0.3 \text{ N} \cdot \text{m}$
Indicator	Red
Degree of protection	IP67
Connection	1M 3core cable

Model NO.

S-pole detection: **MR-PH5-S**

N-pole detection: **MR-PH5-N**

Wiring diagram

See figure 8 on page G-07

*: Different magnets have different sensing distances

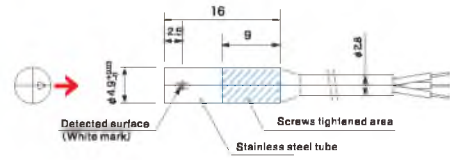
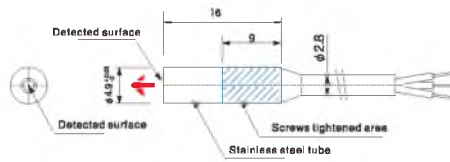


Appearance

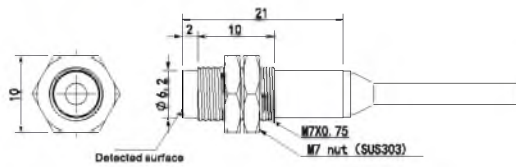
Feature	Small size, thickness 3.5mm only	Metal housing, water-proof and oil resistant
Sensing distance*	MR-M10L: 8mm; MR-M9K: 12mm	
Operating voltage	5~24V DC	12~24V DC
Detected magnetic poles	S-pole	N-pole, S-pole optional
Magnetic sensitivity		$2.5 \sim 3.5 \text{ mT}$
Response time		$5 \mu \text{s}$
Active frequency		30Hz
Output type		NPN (N.O) (When approaching, ON)
Output current	$\leq 15 \text{ mA}$	$\leq 80 \text{ mA}$
Current consumption	$\leq 15 \text{ mA}$	$\leq 12 \text{ mA}$
Withstand voltage		AC1000V 1min
Insulation resistance		250V DC $\geq 20 \text{ M}\Omega$
Ambient temperature		$-20^{\circ}\text{C} \sim +85^{\circ}\text{C}$, No freezing
Ambient humidity		20%~95%RH, No condensation
Material	GF strengthened PBT: Green	Die-casing Zinc alloy
Mounting	M2 screws, tightening torque $0.15 \text{ N} \cdot \text{m}$	M3 screws, tightening torque $1.5 \text{ N} \cdot \text{m}$
Degree of protection	IP65	IP67
Connection	3M 3core cable (Length: 0.3m)	1M 3core cable
Model NO.	Top surface detection: MR-P4-H Size surface detection: MR-P4-X	S-pole detection: MR-P9-S N-pole detection: MR-P9-N
Wiring diagram	See figure 9 on page G-07	See figure 10 on page G-07

*: Different magnets have different sensing distances

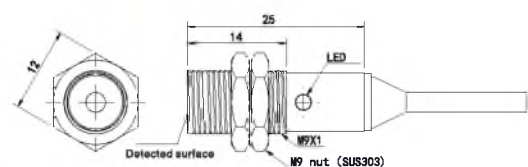
MR-P10-X



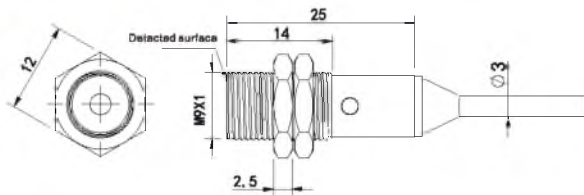
MR-P13-S(N)



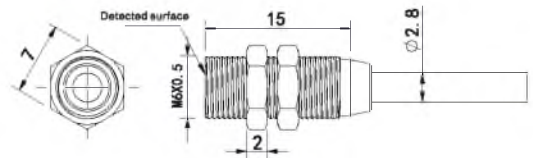
MR-P24-S(N)



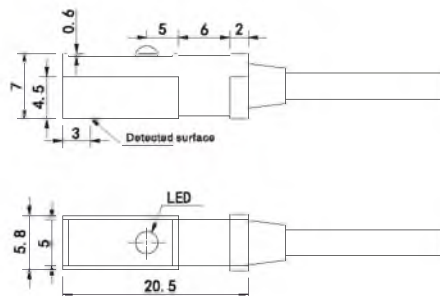
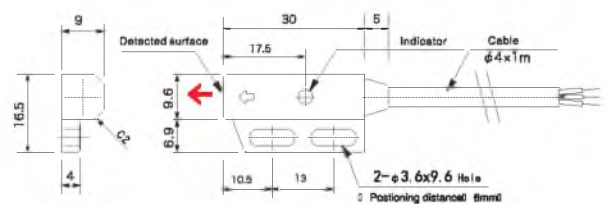
MR-P25



MR-P26

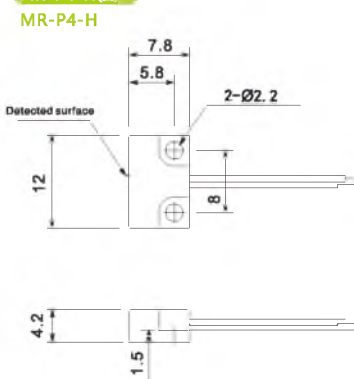


MR=PTZ-S(N)

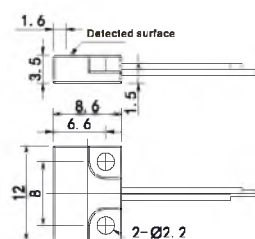
 $\text{PH} = \text{PHS} = S(N)$ 

Mounting accessories: HP12-0/HP12-3/HP12-6.2/HP12-t

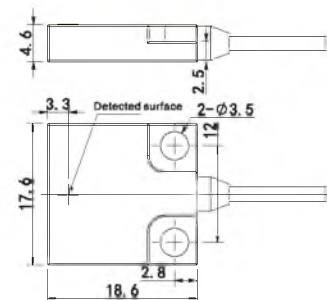
MR-P4-H(X)



MR-P4-X



MR-P9-S(N)



Mounting accessories: -BT: cable protective tube/
-BD: belt shaped mounting accessories

High Precision Cylinder Sensors

			
Appearance			
Suitable applications	T shaped slot		T shaped slot
Features	Built-in LED indicators		Can replace 2-wire feed switches for cylinders, and suits to use in cylinders with small range, such as pneumatic fingers.
Operating voltage	5~24V DC		12~24V DC
Detected magnetic poles	N-pole and S-pole, optional		
Magnetic sensitivity	2.5~3.5mT		
Response time	5 μs		50 μs
Output type	NPN (N.O) (When approaching, on)		...
Output current	≤12mA		≤50mA
Current consumption	≤12mA		...
Current leakage	...		OFF States, 0.5mA MAX
Withstand voltage	AC1000V 1min		
Insulation resistance	250V DC≥20MΩ		
Ambient temperature	-20℃~+85℃, No freezing		
Ambient humidity	20%~95% RH, No condensation		
Material	GF reinforced PBT, in black		GF reinforced PBT; in grey
LED Indicator			Red
Degree of protection	IP67		
Connection	1M 3core cable		1M 2core cable
Model NO.	Detected S-pole	MR-C6-S	MR-C12-S
	Detected N-pole	MR-C6-N	MR-C12-N

						
Appearance						
Suitable applications	C shaped slot		C+U shaped slot			
Features	Suitable for C-shaped slot (φ 4); detect both S-pole and N-pole		Can apply to C-shaped slot (φ 4), built-in LED indicators, suitable for U-shaped slots that manufactured by other factories			
Operating voltage	5~24V DC		12~24V DC			
Detected magnetic poles	N-pole and S-pole, optional					
Magnetic sensitivity	4.5~6mT		2.5~3.5mT			
Response time	5 μ s		50 μ s			
Output type	NPN (N.O) (When approaching, on)		...			
Output current	≤12mA		≤50mA			
Current consumption	≤12mA		...			
Current leakage	...		OFF States, 0.5mA MAX			
Withstand voltage	AC1000V 1min					
Insulation resistance	250V DC≥20MΩ					
Ambient temperature	-20℃~+85℃, No freezing					
Ambient humidity	20%~95%RH, No condensation					
Material	GF reinforced PBT, in black		GF reinforced PBT; in grey			
Mounting	With screws, tightening torque 0.06N・m					
LED Indicator	Approx. 100mm distance from main body		Red			
Degree of protection	IP67					
Connection	1M 3core cable		1M 2core cable			
Model NO.	Detected S-pole	MR-C7-S	C shaped slot	U shaped slot	C shaped slot	U shaped slot
	Detected N-pole	MR-C7-N	MR-C8-C-N	MR-C8-U-N	MR-C13-C-N	MR-C13-U-N

High Precision Cylinder Sensors



2-wire



3-wire



3-wire

Appearance

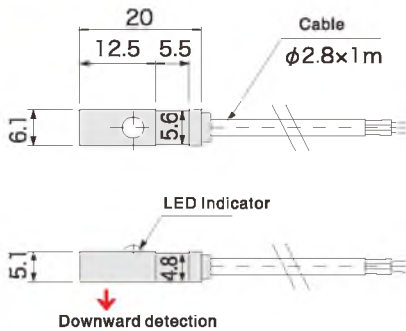
(High current output)

(Economical type without indicators)

Suitable applications	External usage	External usage	External usage
Features	With belt shaped mounting accessories, can install in $\phi 32 \sim \phi 10$ cylinders; metal housing, watertight, and oil-proof		
Operating voltage	12~24V DC		5~24V DC
Detected magnetic poles	N-pole and S-pole, optional		
Magnetic sensitivity	2.5~3.5mT		
Response time	50 μ s		5 μ s
Output type	***		NPN (N.O) (When approaching, on)
Output current	50mA MAX		≤ 12 mA
Current consumption	***		≤ 12 mA
Current leakage	OFF States, 0.5mA MAX		***
Withstand voltage	AC1000V 1min		
Insulation resistance	250V DC ≥ 20 M Ω		
Ambient temperature	-20 $^{\circ}$ C~+85 $^{\circ}$ C, No freezing		
Ambient humidity	20%~95%RH, No condensation		
Material	Cast zinc alloy		
Mounting	With screws, tightening torque 1.5N $\cdot$ m		M3(SUS), tightening torque 1.5N $\cdot$ m
LED Indicator	Red		None
Degree of protection	IP67		
Connection	1M 2core cable		1M 3core cable
Model NO	Detected S-pole	MR-C92-S	MR-C9-S
	Detected N-pole	MR-C92-N	MR-C9-E-S
		MR-C9-N	MR-C9-E-N

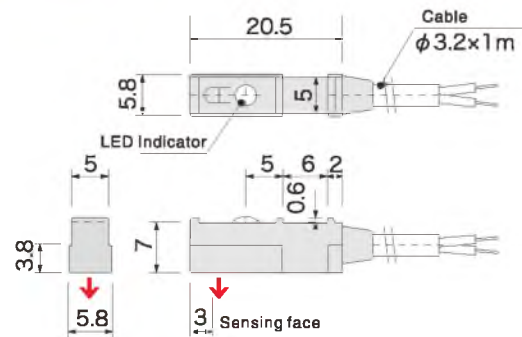
Dimensions(Unit:mm)

MR-C6



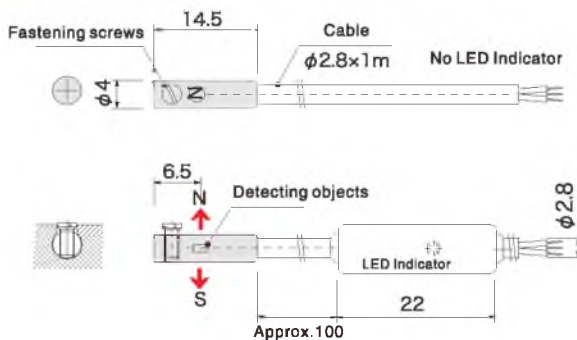
Mounting accessories: HP3-1/HP3-2/HP3-3/HP3-4

MR-C12



Mounting accessories: HP12-0/HP12-3/HP12-6.2/HP12-t

MR-C7

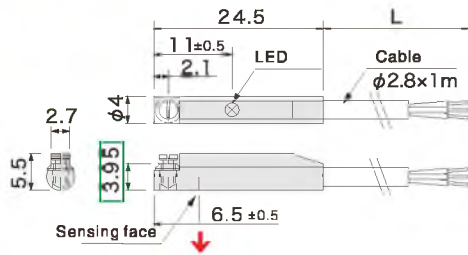


Approx. 100

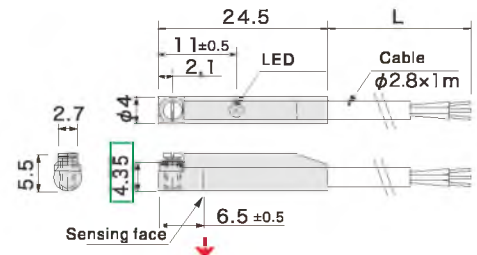
High Precision Cylinder Sensors

Dimensions(Unit:mm)

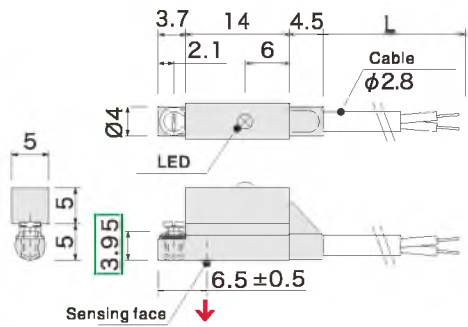
MR-C8(Belt shaped slot)



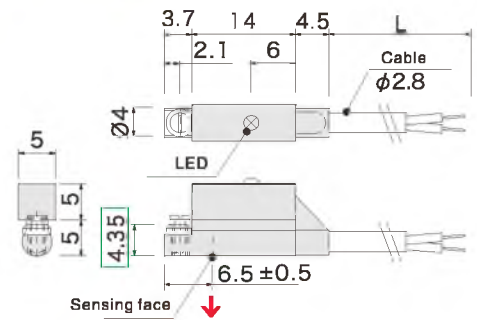
MR-C8(U shaped slot)



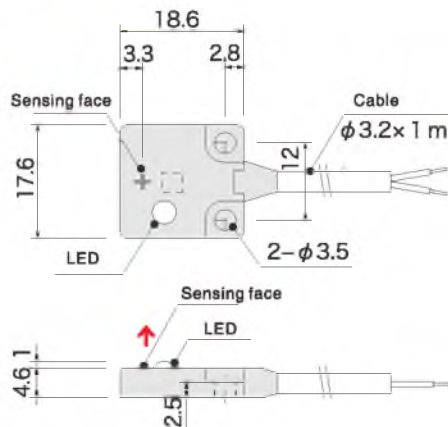
MR-C13(C shaped slot)



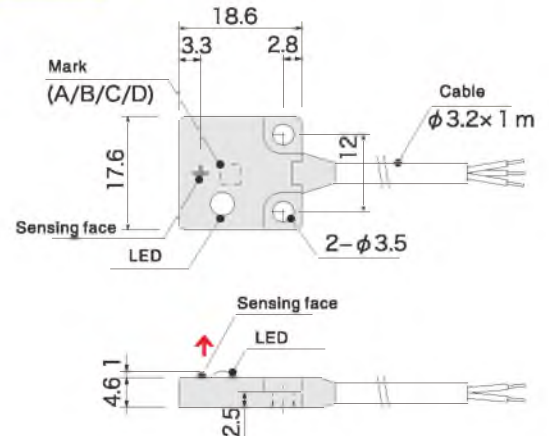
MR-C13(U shaped slot)



MR-C92



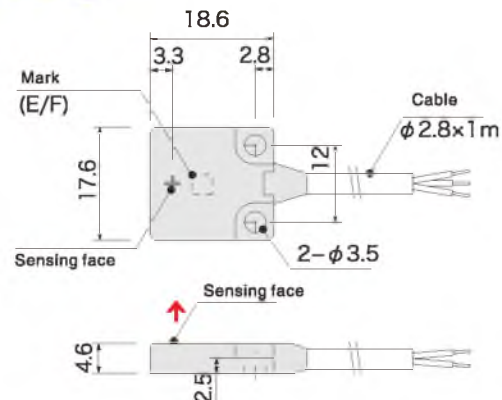
MR-C9



Mounting accessories: -BT: cable protective tube/
-BD: belt shaped mounting accessories

Mounting accessories: -BT: cable protective tube/
-BD: belt shaped mounting accessories

MR-C92(LED)



Mounting accessories: -BT: cable protective tube/
-BD: belt shaped mounting accessories

Economical Cylinder Sensor



Economical Type

Appearance

Switch logic	SPST open type	Electronic: regular	Electronic contactless; open type
Switch type	Contact type magnetic spring tube	Two-wire contactless crystal type	Contactless Electrocrystal NPN Type Contactless Electrocrystal PNP Type
Working voltage	5~24V DC	10~28V DC	5~30V DC
Maximum switching current	100mA Max	50mA Max	200mA Max
Maximum switching capacity	10W Max	1.4W Max	6W Max
Internal consumption current	-	40 μ A Max.@24V	14mA Max@24V(Switch Active)
Residual pressure	2.5V Max@100mA DC	2.65V Max@50mA DC	0.5V Max@200mA DC
Leakage current	-	90 μ A Max.@28v	0.01 mA Max
Indicator		Red LED	Green LED
Cable	2.9 ϕ ,2C,greyl-oil-resistant PVC	2.9 ϕ ,2C,greyl-oil-resistant TPU	2.9 ϕ ,3C,greyl-oil-resistant TPU
Sensitivity	40G		25~1000G
Maximum switching frequency	200Hz		1000Hz
Working temperature		-10~70° C	
Impact resistance	30G		50G
Vibration resistance		9G	
Degree of protection		IP67 (EN6052)	
Circuit protection	-	Protection of sudden wave absorption	Power polarity reverse protection; sudden wave absorption protection; short circuit protection
Model	MR-30	MR-30G	MR-30N MR-30P



Economical Type

Appearance

Switch logic	Electronic: regular
Switch type	Two-wire contactless crystal type
Suitable load	DC24V relay, PLC
Working voltage	10~30V DC
Maximum switching current	100mA Max
Maximum switching capacity	3W Max
Internal consumption current	6 μ A Max.@24V
Residual pressure	2.65V Max@50mA
Leakage current	40 μ A Max.@28v
Indicator	Red LED
Cable	2.8 ϕ ,2C,greyl-oil-resistant TPU
Sensitivity	25~1000G
Maximum switching frequency	1000Hz
Working temperature	-10~70° C
Impact resistance	50G
Vibration resistance	9G
Degree of protection	IP67 (EN6052)
Circuit protection	Protection of sudden wave absorption
Model	MR-C80

Economical Cylinder Sensor

Economical Type



Appearance

Switch logic	Electronic: regular
Switch type	Two-wire contactless crystal type
Suitable load	DC24V relay, PLC
Working voltage	10~30V DC
Maximum switching current	100mA Max
Maximum switching capacity	3W Max
Internal consumption current	6 μ A Max. @24V
Residual pressure	2.65V Max@50mA
Leakage current	40 μ A Max. @28v
Indicator	Red LED
Cable	2.8 ϕ ,2C, grey oil-resistant TPU
Sensitivity	25~1000G
Maximum switching frequency	1000Hz
Working temperature	-10~70° C
Impact resistance	50G
Vibration resistance	9G
Degree of protection	IP67 (EN6052)
Circuit protection	Protection of sudden wave absorption
Model	MR-C81

Economical Type



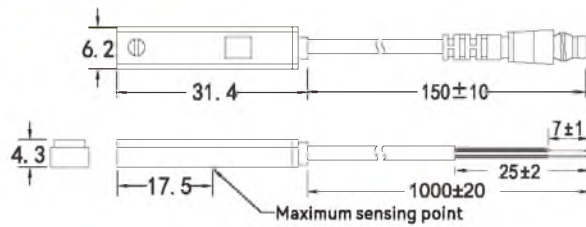
Appearance

Switch logic	Electronic: regular
Switch type	Two-wire contactless crystal type
Suitable load	DC24V relay, PLC
Working voltage	10~30V DC
Maximum switching current	100mA Max
Maximum switching capacity	3W Max
Internal consumption current	6 μ A Max. @24V
Residual pressure	2.65V Max@50mA
Leakage current	40 μ A Max. @28v
Indicator	Red LED
Cable	2.8 ϕ ,2C, grey oil-resistant TPU
Sensitivity	25~1000G
Maximum switching frequency	1000Hz
Working temperature	-10~70° C
Impact resistance	50G
Vibration resistance	9G
Degree of protection	IP67 (EN6052)
Circuit protection	Protection of sudden wave absorption
Model	MR-C86

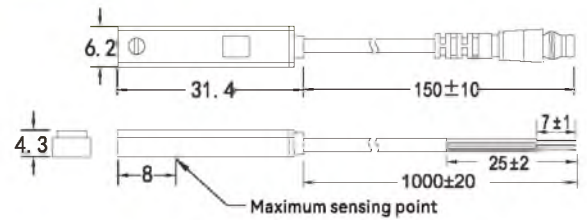
Economical Cylinder Sensor

Dimensions(Unit:mm)

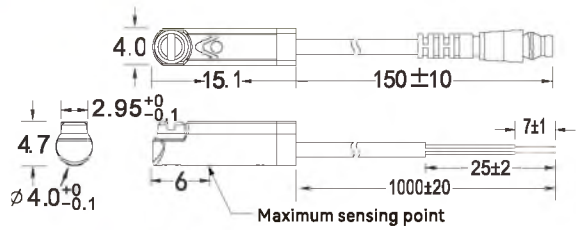
MR-30R/Q



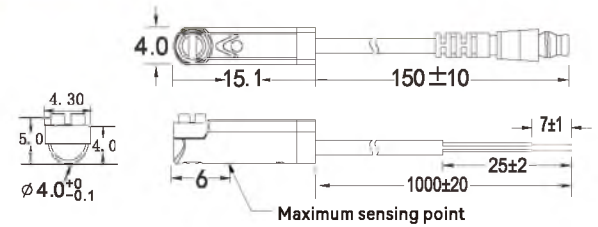
MR-30N/P



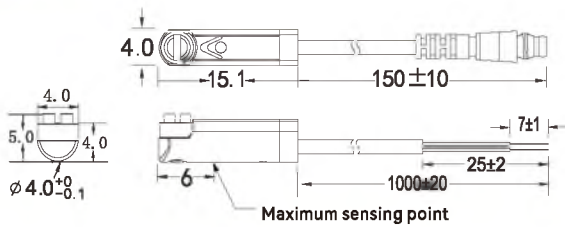
MR-C80



MR-C81

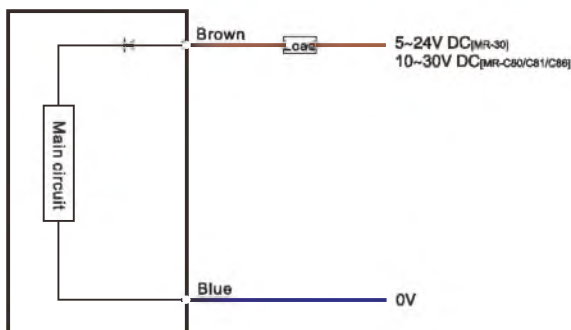


MR-C86

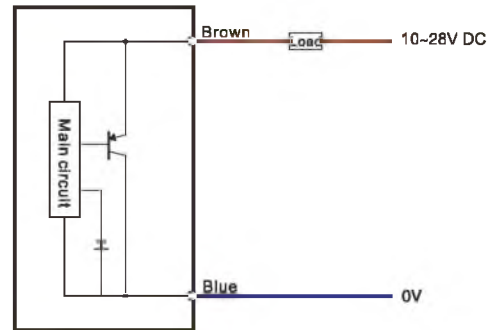


Circuit diagram

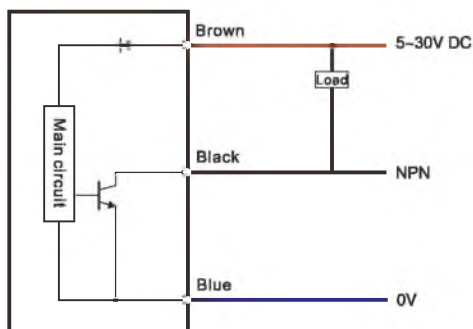
MR-30/C80/C81/C82



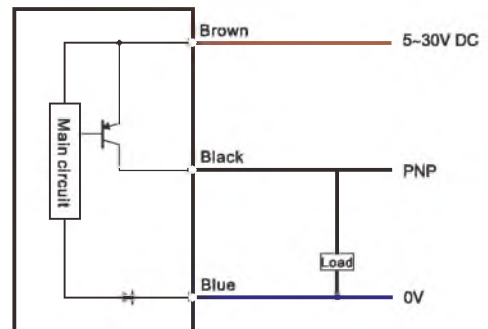
MR-30G



MR-30N



MR-30P



Environmental Cylinder Sensor

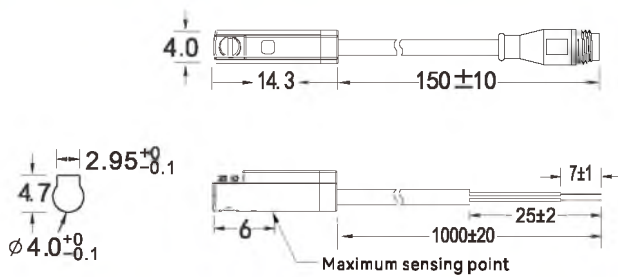
Environmentally Resistant Type



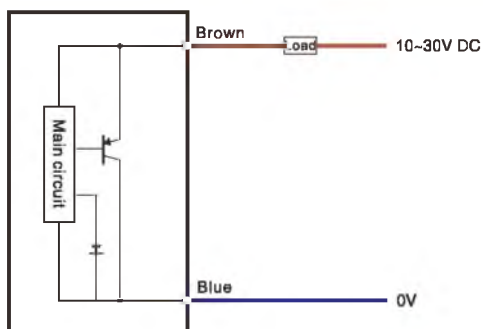
Appearance

Switch logic	Electronic: regular
Switch type	Two-wire contactless crystal type
Suitable load	DC24V relay, PLC
Working voltage	10~30V DC
Maximum switching current	100mA Max
Maximum switching capacity	3W Max
Internal consumption current	6 μ A Max. @24V
Residual pressure	2.65V Max@50mA
Leakage current	40 μ A Max. @28v
Indicator	Red LED
Cable	2.8 ϕ , 2C, grey oil-resistant TPU
Sensitivity	25~1000G
Maximum switching frequency	1000Hz
Working temperature	-10~70° C
Impact resistance	50G
Vibration resistance	9G
Degree of protection	IP67 (EN6052)
Circuit protection	Protection of sudden wave absorption
Model	MR-70

Dimensions(Unit:mm)



Circuit diagram



Combined Cylinder Sensor



2-wire



2-wire

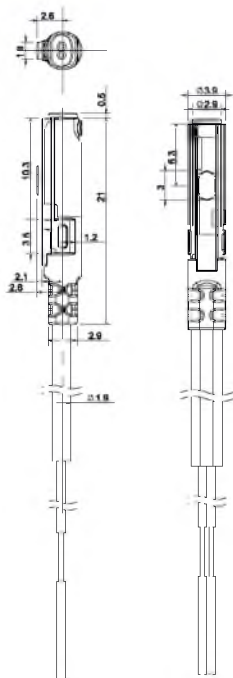
Appearance

Type	Straight	Bend
Suitable applications	C type/ T type/ External	
Connection	2 wire	
Lead removal method	Horizontal, vertical, retaining ring	
Applicable load	24V DC Relay PLC	
Supply voltage	24V DC (10~28V DC)	
Current consumption	<40mA	
Internal pressure drop	<4V	
Leakage current	<10mA	
Responding speed	< 1ms	
Indicator	Red Light Emitting Diode	
Leading line	Oil-resistant insulating rubber	
Shock resistance	1000m/s ²	
Insulation resistance	500V DC ≥ 50M Ω	
Withstand voltage	AC 1000V 1min	
Ambient temperature	-10℃~+60℃	
Degree of protection	IEC60529 IP65 JISC0920 anti-condensation structure	
Best sensing position	3.5mm	
C type slot	MR-C1-H-C	MR-C1-V-C
T type slot	MR-C1-H-T	MR-C1-V-T
External	MR-C1-H-L	MR-C1-V-L

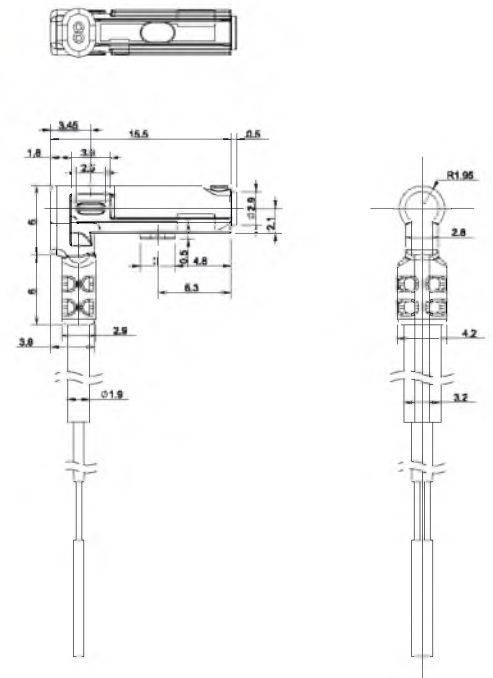
Dimensions(Unit:mm)

Noumenon:

MR-C1-H



MR-C1-V

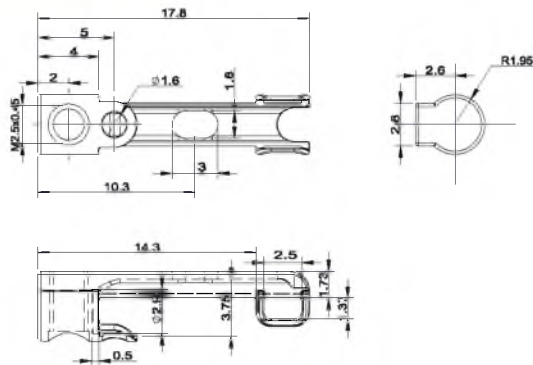


Combined Cylinder Sensor

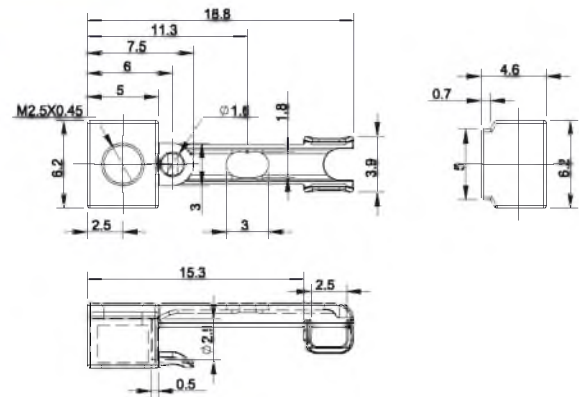
Dimensions(Unit:mm)

Accessories:

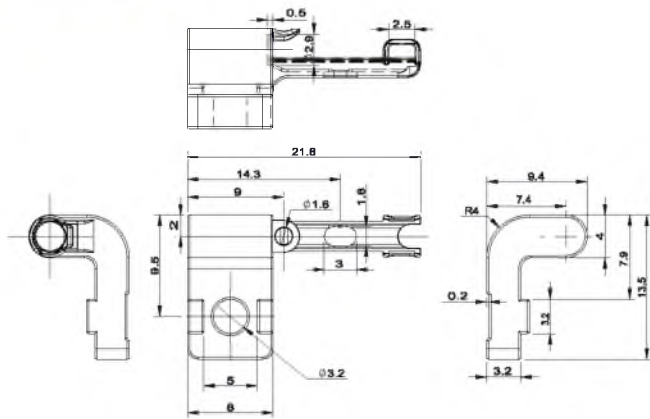
C shaped slot



T shaped slot

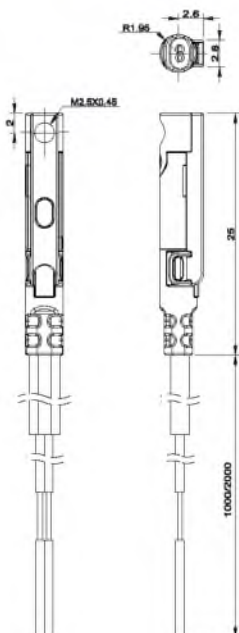


External usage

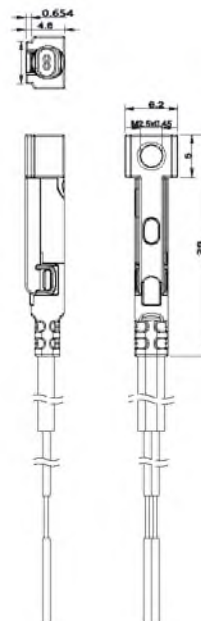


Straight combination:

MR-C1-H-C



MR-C1-H-T



Magnetic Proximity Sensors



Appearance

Features	Threaded metal case, water-tolerant	
Operating voltage	5~24V DC	
Max. Sensing distance	Iron wire ϕ 1	1.0
	High-speed steel drill ϕ 2	2.0
	Square iron 20X11	2.4
Output type	NPN (N.O.) (when approaching On) model number that ends with a 'B' (when approaching OFF)	
Output current	$\leq 15\text{mA}$	
Current consumption	$\leq 15\text{mA}$	
Voltage resistance	AC 1000V 1min	
Insulation resistance	250V DC $\geq 20\text{M}\Omega$	
Ambient temperature	$-20\sim+85^{\circ}\text{C}$, No freezing	
Ambient humidity	20~95% RH, No condensation	
Motion indicator	Approx 100mm away from the main body	
Material	SUS303	
Connection	M10 screw, tightening torque 12N · m	
Degree of protection	IP67	
Model NO.	Normally open, no LED indicator	MR-F11
	Normally open, with LED indicator	MR-F11-LED
	Normally closed, no LED indicator	MR-F11-B
	Normally closed, with LED indicator	MR-F11-B-LED



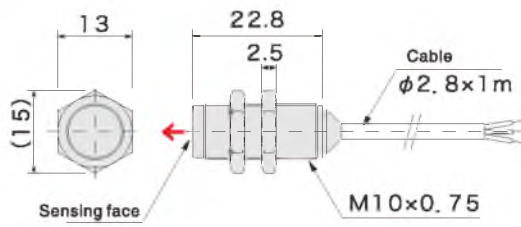
Appearance

Features	Both sensing faces on the top and bottom is useful	
Operating voltage	5~24V DC	
Max. Sensing distance	Square iron 30X110	6.0
	Square iron 30X12	4.0
Output type	NPN (N.O.) (when approaching ON), model number that ends with a 'B'	
Output current	$\leq 15\text{mA}$	
Current consumption	$\leq 15\text{mA}$	
Withstand voltage	AC 1000V 1min	
Insulation resistance	250V DC $\geq 20\text{M}\Omega$	
Ambient temperature	$-20\sim+85^{\circ}\text{C}$, No freezing	
Ambient humidity	20~80% RH, No condensation	
Motion indicator	Approx. 100mm distance from main body	
Material	GF reinforced PBT	
Connection	M3 screw, tightening torque 0.3N · m	
Degree of protection	IP65	
Model NO.	Normally open	MR-F2
	Normally closed	MR-F2-B

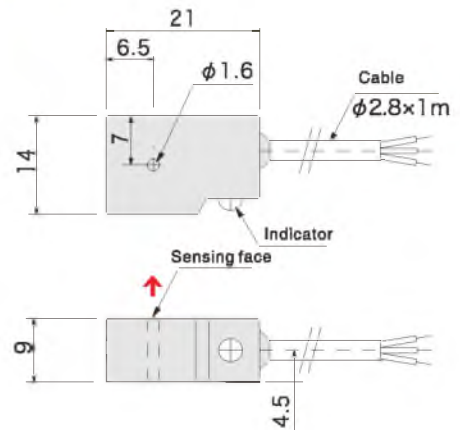
Magnetic Proximity Sensors

Dimensions(Unit:mm)

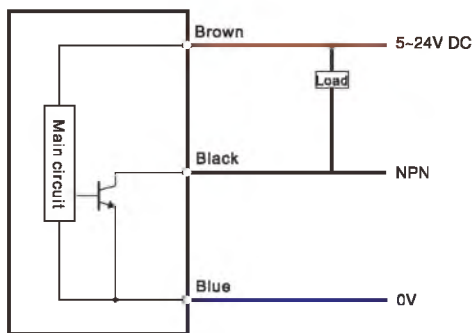
MR-F11



MR-F2



Circuit diagram



Door Sensors

Upward Detection



Appearance

Sensing distance	15mm	
Operating voltage	5~24V DC	
Output type	NPN (N.O.) (when approaching ON) model number that ends with a "B" (when approaching OFF)	
Output current	≤15mA	≤80mA
Current consumption	≤15mA	
Response time	5 μs	
Withstand voltage	AC 1000V 1min	
Insulation resistance	250V DC ≥ 20M Ω	
Ambient temperature	-20~+85℃, No freezing	
Ambient humidity	20~95%RH, No condensation	
Material	GF reinforced PBT(black)	
Connection	M3 screw tightening torque 0.8N · m	
Degree of protection	IP67	
Model NO.	Normally open	MR-D2 MR-D2P
	Normally closed	MR-D2PB

(Matching magnet)

MR-DM2

Sideway Detection



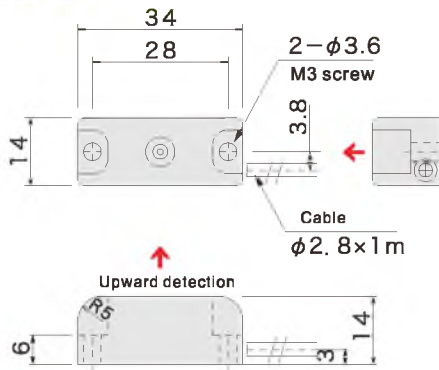
Appearance

Sensing distance	12mm	
Operating voltage	12~24V DC	
Output type	NPN (N.O.) (when approaching ON) model number that ends with a "B" (when approaching OFF)	
Output current	≤80mA	≤80mA
Current consumption	≤15mA	≤80mA
Response time	5 μs	
Withstand voltage	AC 1000V 1min	
Insulation resistance	250V DC ≥ 20M Ω	
Ambient temperature	-20~+85℃, No freezing	
Ambient humidity	20~95%RH, No condensation	
Material	GF reinforced PBT	
Cable specification	N.O.: Grey N.C.: Black	
Connection	M3 screw tightening torque 0.8N · m	
Degree of protection	IP67	
Model NO.	Normally open	MR-D2X MR-D2XP
	Normally closed	MR-D2XPB

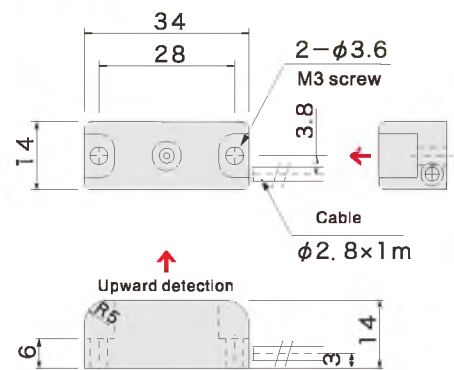
(Matching magnet)

MR-DM2X

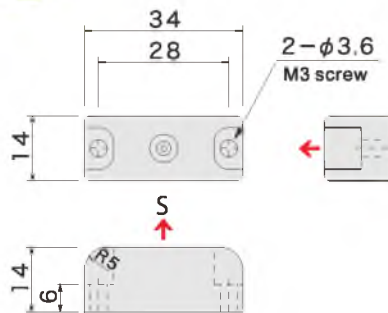
MR-D2



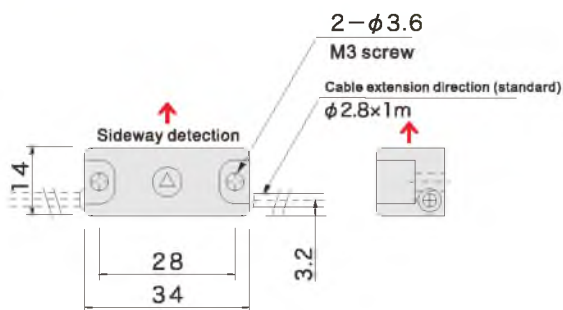
MR-D2P/D2PB



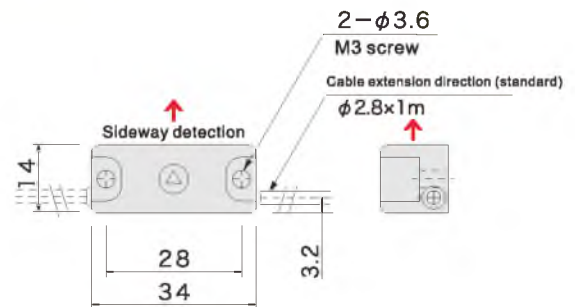
MR-DM2



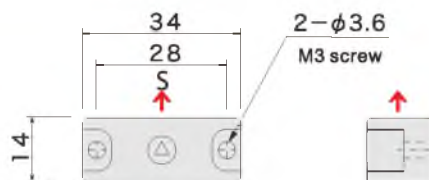
MR-D2X



MR-D2XP/D2XPB



MR-DM2X





Appearance

Operating voltage	5V DC
Magnetic sensitivity	65mV/mT (Center value)
Output voltage	0.3→4.7V (−40→+40mT): (Center value)
Center voltage	2.5V ± 0.15V
Output current	≤ ± 12mA
Current consumption	12mA
Response time	5 μs (100kHz)
Magnetic sensitivity temperature coefficient	0 ± 0.04 %/°C
Center voltage temperature coefficient	0 ± 0.5mV/°C
Ambient temperature	−20°C ~ +85°C
Ambient humidity	20~95% RH
Cable length	0.3m
Material	GF reinforced PBT (Orange)
Connection	M2 screw, tightening torque 0.15N · m
Cable specification	3pcs φ 0.9 core cable, 0.3m
Degree of protection	IP 65
Model NO.	Upward detection MR-L4
	Sideway detection MR-L4-H



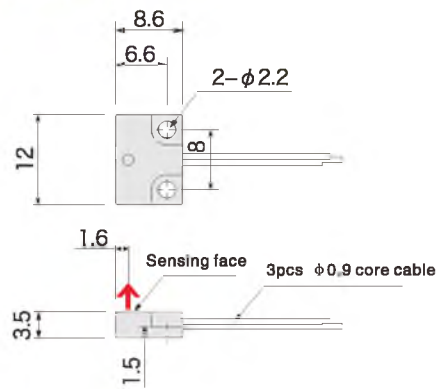
Appearance

Operating voltage	5V DC
Magnetic sensitivity	65mV/mT (Center value)
Output voltage	0.3→4.7V (−40→+40mT): (Center value)
Center voltage	2.5V ± 0.15V
Output current	≤ ± 12mA
Current consumption	12mA
Response time	5 μs (100kHz)
Magnetic sensitivity temperature coefficient	0 ± 0.04 %/°C
Center voltage temperature coefficient	0 ± 0.5mV/°C
Ambient temperature	−20°C ~ +85°C
Ambient humidity	20~95% RH
Cable length	1m
Material	SUS303
Connection	M3 screw, tightening torque 0.15N · m
Degree of protection	IP 65
Model NO.	MR-L10X

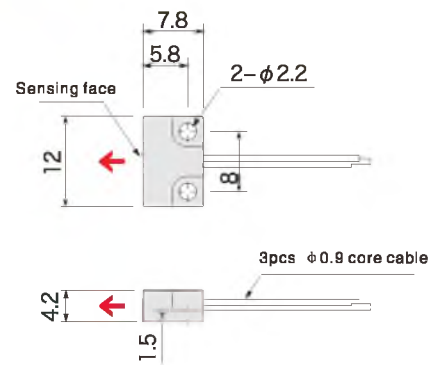
Linear Sensors

Dimensions(Unit:mm)

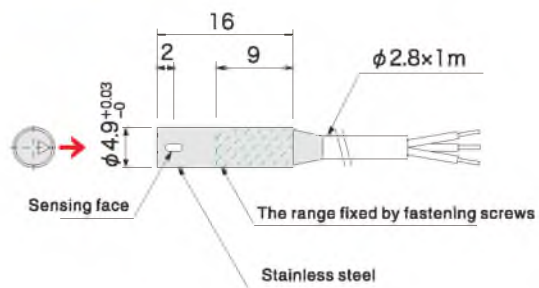
MR-L4



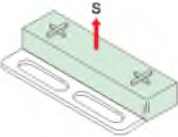
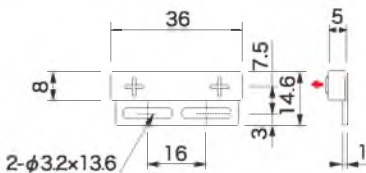
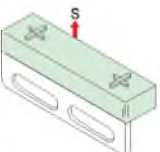
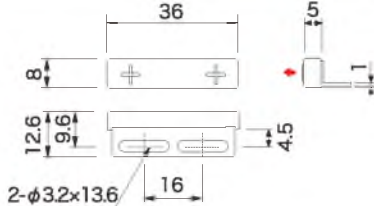
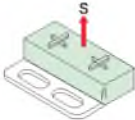
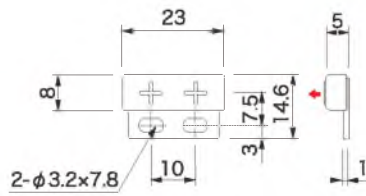
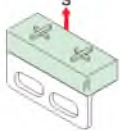
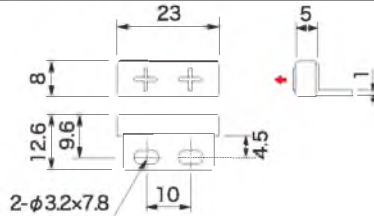
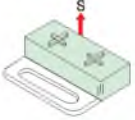
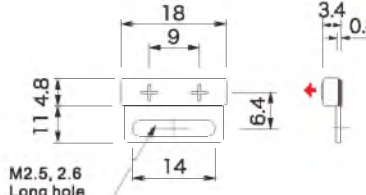
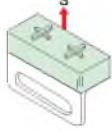
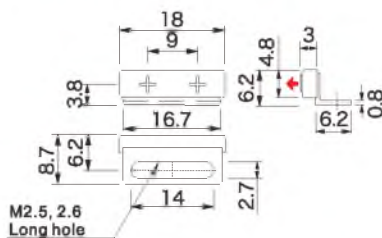
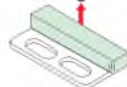
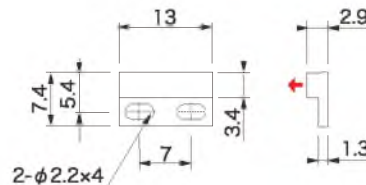
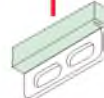
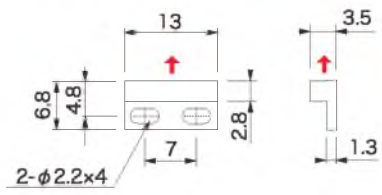
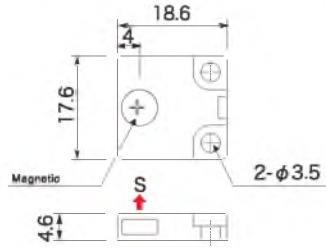
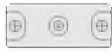
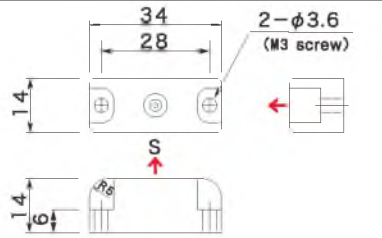
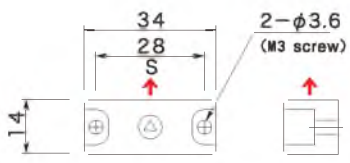
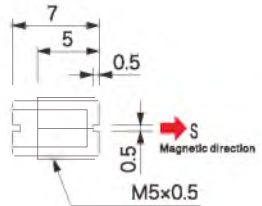
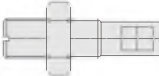
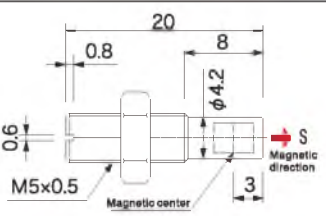
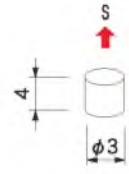
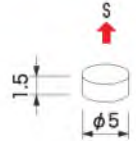
MR-L4-H



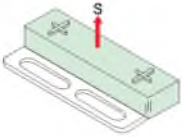
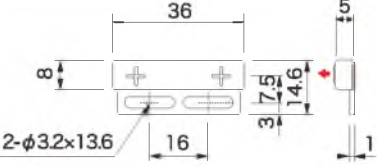
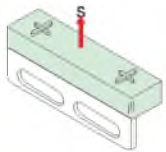
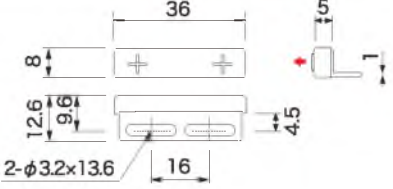
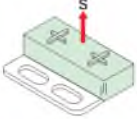
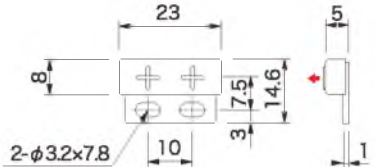
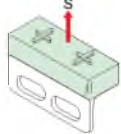
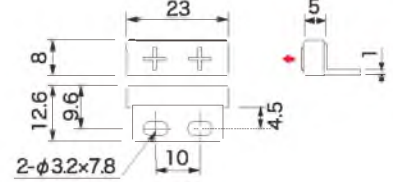
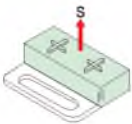
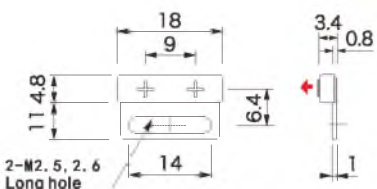
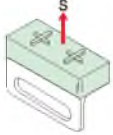
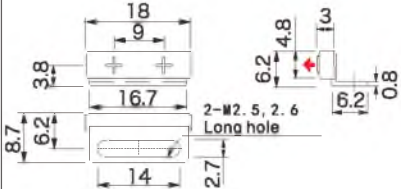
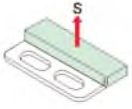
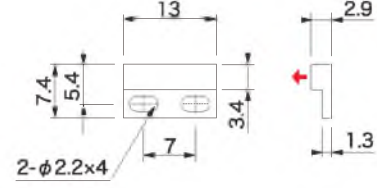
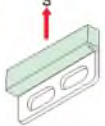
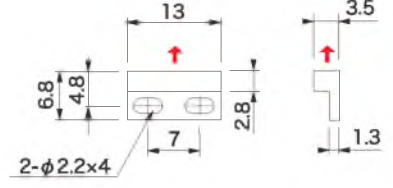
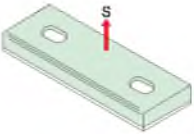
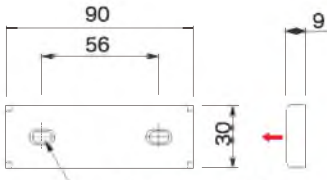
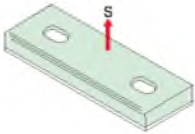
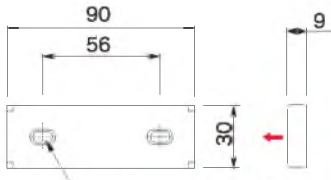
MR-L10X



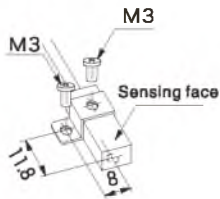
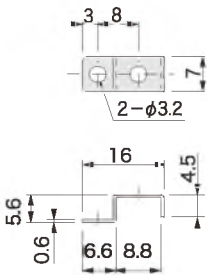
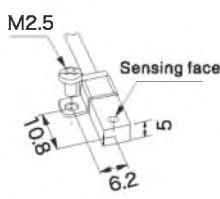
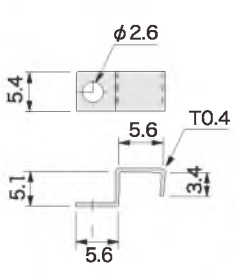
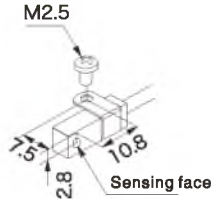
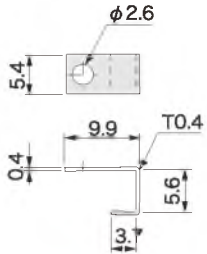
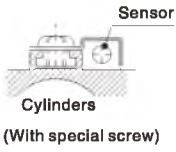
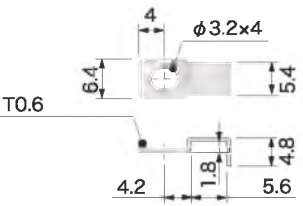
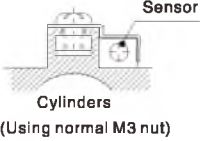
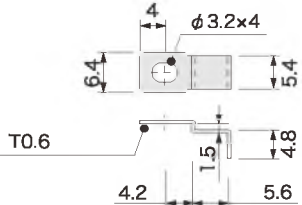
Ordinary Magnets

Model No.	Dimensions (Unit:mm)	Model No.	Dimensions (Unit:mm)
MR-M1K 	 36, 8, 7.5, 14.6, 5, 1, 3, 16, 2-ϕ3.2x13.6	MR-M1KH 	 36, 8, 7.5, 14.6, 5, 1, 3, 16, 2-ϕ3.2x13.6
MR-M2K 	 23, 8, 7.5, 14.6, 5, 1, 3, 10, 2-ϕ3.2x7.8	MR-M2KH 	 23, 8, 7.5, 14.6, 5, 1, 3, 10, 2-ϕ3.2x7.8
MR-M3K 	 18, 9, 11, 4.8, 3.4, 0.8, 6.4, 14, M2.5, 2.6 Long hole	MR-M3KH 	 18, 9, 11, 4.8, 3.4, 0.8, 6.4, 14, M2.5, 2.6 Long hole
MR-M4K 	 13, 7.4, 5.4, 3.4, 2.9, 1.3, 7, 2-ϕ2.2x4	MR-M4KH 	 13, 6.8, 4.8, 2.8, 3.5, 1.3, 7, 2-ϕ2.2x4
MR-M9K 	 18.6, 17.6, 4, 2-ϕ3.5, 4.6, Magneto	MR-M2 	 34, 28, 14, 2-ϕ3.6 (M3 screw), 14, 6, S
MR-M2X 	 34, 28, 14, 2-ϕ3.6 (M3 screw), S	MR-M10S 	 7, 5, 0.5, 0.5, S, Magnetic direction, M5x0.5
MR-M10L 	 20, 0.8, 8, 0.6, ϕ4.2, 3, S, Magnetic direction, M5x0.5, Magnetic center	MR-M304 	 4, S, ϕ3
MR-M5015 	 1.5, S, ϕ5		

High Precision Composite Magnets

Model No.	Dimensions (Unit:mm)	Model No.	Dimensions (Unit:mm)
MR-M1	  36, 8, 16, 2-ϕ32$\times$13.6, 3, 7.5, 14.6, 5, 1	MR-M1H	  36, 8, 16, 2-ϕ32$\times$13.6, 12.6, 9.6, 4.5, 5, 1
MR-M2	  23, 8, 10, 2-ϕ32$\times$7.8, 3, 7.5, 14.6, 5, 1	MR-M2H	  23, 8, 10, 2-ϕ32$\times$7.8, 12.6, 9.6, 4.5, 5, 1
MR-M3	  18, 9, 14.8, 11, 6.4, 2-M2.5, 2.6 Long hole, 3.4, 0.8, 1	MR-M3H	  18, 9, 16.7, 3.8, 6.2, 8.7, 2-M2.5, 2.6 Long hole, 6.2, 4.8, 1.3, 0.8, 2.7, 1.3
MR-M4	  13, 7.4, 5.4, 7, 3.4, 2-ϕ2.2$\times$4, 2.9, 1.3	MR-M4H	  13, 6.8, 4.8, 7, 2.8, 2-ϕ2.2$\times$4, 3.5, 1.3
MR-M11	  90, 56, 30, 9, Mounting hole for M4, 3mm adjustment on the left and right	MR-M11-K	  90, 56, 30, 9, Mounting hole for M4, 3mm adjustment on the left and right

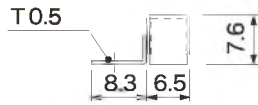
Mounting Accessories

Model No.	Dimensions (Unit:mm)	Model No.	Dimensions (Unit:mm)
HP2-1 		HP3-1 	
HP3-2 		HP3-3 	
HP3-4 			

Appearance and mounting

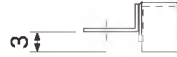
Dimensions(Unit:mm)

HP12-0



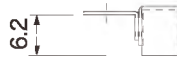
*Mounting deviation: None

HP12-3



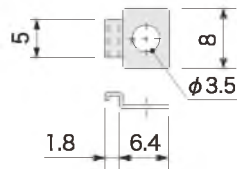
*Mounting deviation: 3mm

HP12-6.2

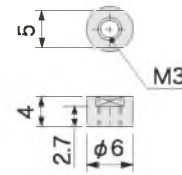


*Mounting deviation: 6.2mm

HP12-t



[Accessory]



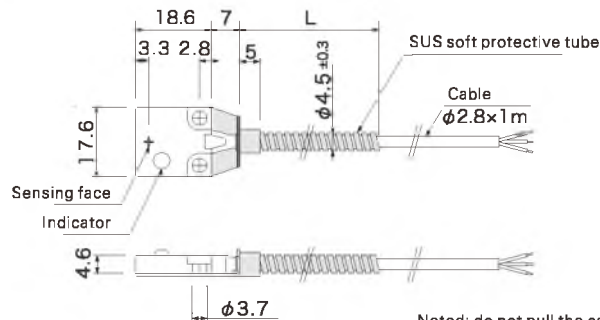
[Nut]

With special screw
*Used for Pneumatic fingers

Mounting accessories:
-BT: cable protective tube



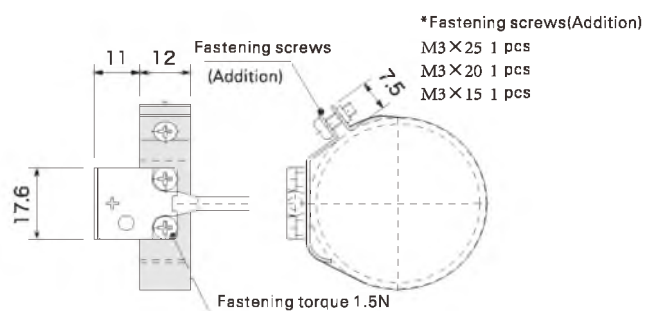
- Extremely strong, even being stomped on the ground, SUS304 soft protective tube
- Can be used in rough environments, such as dust, oil, water, and light, very robust



Noted: do not pull the cable with force more than 10N.

Mounting accessories:
-BD: belt shaped mounting accessories

- Fastening with stainless steel belt shaped accessories.
- Even with huge vibration or shock, it will stay fixed.
- Suitable for normal tube shaped cylinders with inner diameter $\phi 32 \sim 100$.



*Fastening screws(Addition)
M3 $\times$ 25 1 pcs
M3 $\times$ 20 1 pcs
M3 $\times$ 15 1 pcs

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