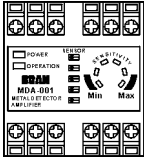





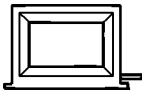
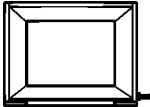
METAL PASSAGE CONFIRMATION SENSORS

● SELECTION CHART

Amplifier Unit

Shape	Power supply	Output	Model
	AC110/220V 50/60Hz	Relay Contact: SPDT AC250V 2A / DC30V 3A Solid State: Open-Collect or 100mA Max.	MDA - 001

Sensor head

	Shade	Minimum Detectable object	Model
ϕ 50	Non-isolate 	ϕ 2.0mm dia. steel ball	MSC-050
ϕ 75	Non-isolate 	ϕ 2.5mm dia. Steel ball	MSC-075
ϕ 100	Non-isolate 	ϕ 3.0mm dia. steel ball	MSC-100
150 X 100 (L X W)	Non-isolate 	ϕ 5.0mm dia. Steel ball	MSR-150
200 X 150 (L X W)	Non-isolate 	ϕ 7.0mm dia. steel ball	MSR-200

METAL PASSAGE CONFIRMATION SENSORS

● SPECIFICATIONS

Amplifier Unit

Power Supply		AC 110/220V $\pm 10\%$ 50/60Hz
Power Consumption		3VA Max.
Sensitivity adjustment		By sensitivity selector switch and fine-adjustment trimmer
Timers	Solid-State	Normal/OFF delay 40ms (by switch)
	Relay Contact	ONE-SHOT 40ms (fixed)
Time interval of detection (Note)	Solid-State	Normal 75ms Max. OFF delay 125ms Max.
	Relay Contact	75ms Max.
Control Output	Solid-State	Open-collector:100mA max. (DC40V)
	Relay Contact	SPDT 250VAC 2A (resistive) ; 30VDC 3A (resistive)
Sensor Adapt		All models of Metal Passage Confirmation Sensors
Correct Cable length		By switch
Output Status		NO/NC Changeable (By switch)
Indicator		Power Indicator & Operation Indicator
Operating Temperature		-10 °C ~ +55 °C
Operating Humidity		35~ 85%RH
Isolate Resistance		50M Ω Max. (500VDC MEGA) one time across power terminal & exposed Metal, two times at all terminal (non-contact output and sensor).
Voltage Resistance		AC 1,500V, 50/60Hz 1 min one time across power terminal & exposed metal, two times at all terminal (non-contact output & sensor; contact).
Vibration Resistance		directions,2 hours respectively 10 to 55Hz, 1.5mm double amplitude in X, Y, and Z
Shock Immunity		100m/s ² 10G in X, Y, and Z directions,3 times respectively
Protection Category		IP30
Weight		Approx.300g

Note: Time to detect minimum size Object, Longer detection time if object is larger.

METAL PASSAGE CONFIRMATION SENSORS

Sensor head

Item \ Type	MSC-050	MSC-075	MSC-100
Detection Area	50mm dia.	75mm dia.	100mm dia.
Detection Object	Moving ferrous metal (sensibility of non-ferrous metal is low)		
Min. Target	2.0mm dia. Steel ball	2.5mm dia. Steel ball	3.0mm dia. Steel ball
Operating Temperature	-25°C ~ +70°C (Without icing)		
Operating Humidity	35-90%RH		
Isolate Resistance	Except for expose head & isolate wire with connection		
Voltage Resistance	Except for expose head & isolate wire with connection		
Vibration Resistance	10 to 55Hz,1.5mm double amplitude in X, Y, and Z directions,2 hours respectively		
Shock Immunity	50G in X, Y, and Z directions,3 times respectively		
Cable	3m (Coaxial Cable)		
Weight	Approx.430g	Approx.800g	Approx.1200g
Protection Category	IP67		
Material	Housing	ALUMINIUM	
	Sensor Face	ABS	

Item \ Type	MSR-150	MDS-L200
Detection Area	100x150mm	200(L)x150(W)
Detection Object	Magnetic metal (The sensibility of non-magnetic metal is not well)	
Min. Target	5.0mm dia. Steel ball	7.0mm dia. Steel ball
Operating Temperature	-25°C ~ +70°C (Without icing)	
Operating Humidity	35-90%RH	
Isolate Resistance	50MΩ	
Voltage Resistance	AC1,000V/1min	
Vibration Resistance	10 to 55Hz,1.5mm double amplitude in X,Y,and Z directions,2 hours respectively	
Shock Immunity	50G in X,Y,and Z directions,3 times respectively	
Cable	3m (Coaxial Cable)	
Weight	Approx.1,300g	Approx.2,100g
Protection Category	IP67	
Material	Housing	ALUMINIUM
	Sensor Face	ABS

METAL PASSAGE CONFIRMATION SENSORS

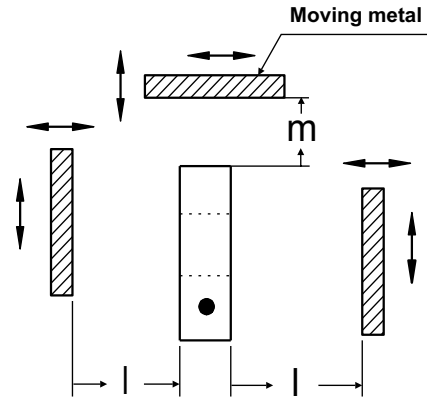
● PRECAUTIONS FOR PROPER USE

Disturb of the around metal

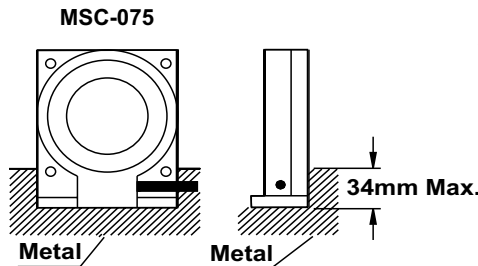
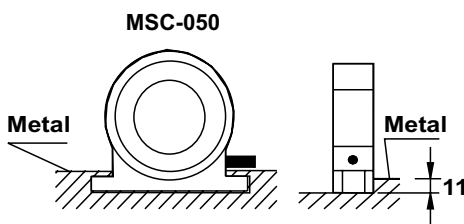
When mounting on a steel base, follow the guidelines below to prevent detection of the mounting material.

Model \ Dimension	l	m
MSC-050	150	30
MSC-075	200	40
MSC-100	300	50
MSR-150	Model	Model
MSR-200	Model	Model

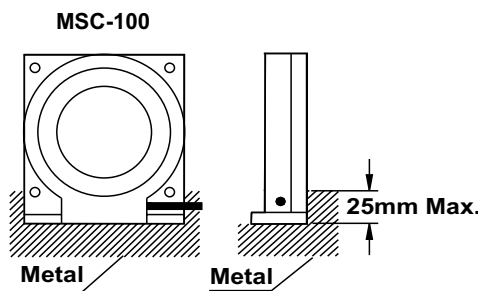
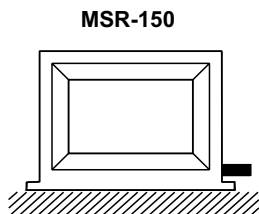
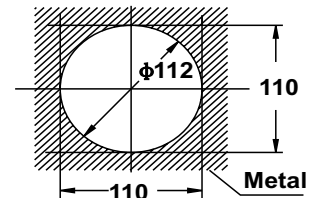
UNIT: mm



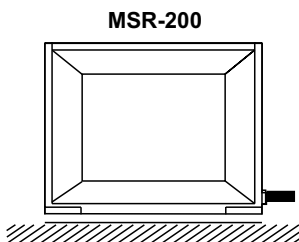
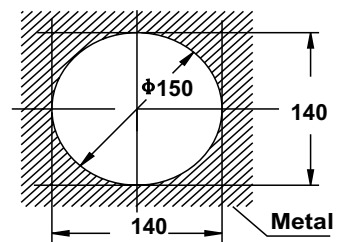
When mounting on an iron base is necessary, follow the guidelines given below must be satisfied. Otherwise, it may be resulted in a mistake operation.



Drop through mount: Drill a hole With min. diameter of 112mm.



Drop through mount: Drill a hole With min. diameter of 150mm.

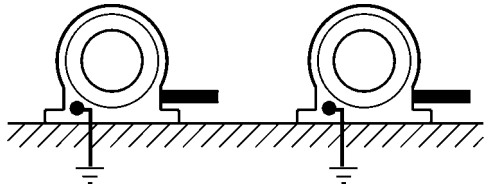


Note: The type of MSR-150 ϕ 5.0 & MSR-200 ϕ 7.0 should be mounted on the surface in order to minimize the interference of metal.

METAL PASSAGE CONFIRMATION SENSORS

Interference of sensor each other

When installing 2 or more sensors of the same model in close proximity, it is necessary to connect the grounding screw to the machine ground and to maintain spacing greater than the distance shown in the following table to prevent interference.

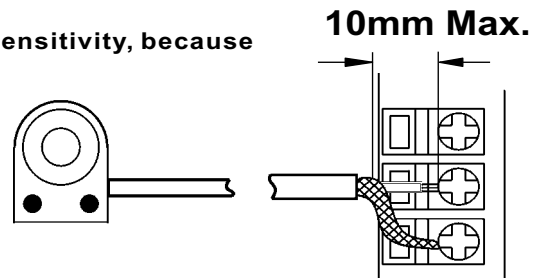


Model	Dimension	
	Series(d1)	parallel(d2)
MPC-050N32.0	150	30
MPC-075N32.5	200	40
MPC-100N33.0	300	50
MPR-150N35.0	Model	Model
MPR-200N37.0	Model	Model

UNIT: mm

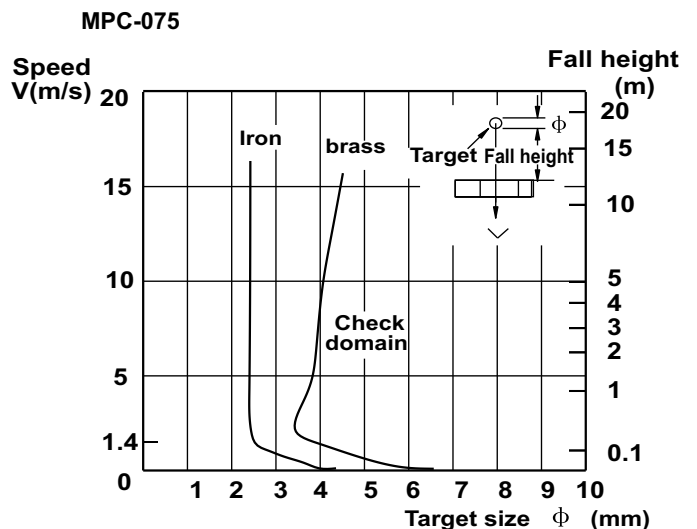
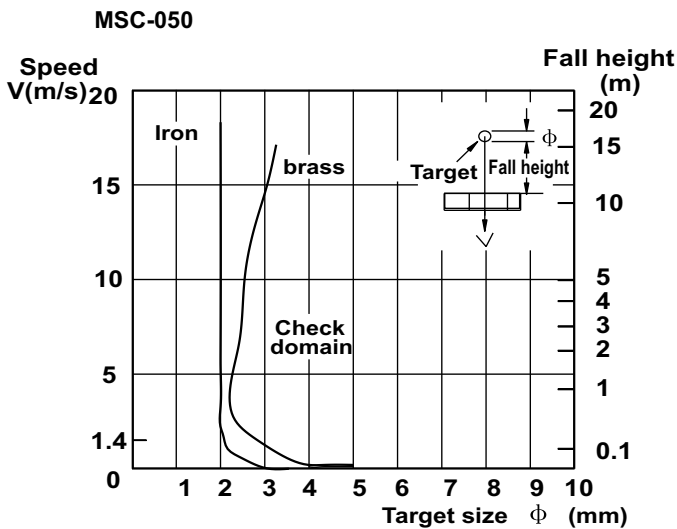
Other precautions:

- The operation of the sensor is stable 1 to 2 seconds after the power is applied. Do not use Sensor signal immediately on power-up.
- In order to prevent interference, keep exposed cable wire 10mm or less.(see diagram)
- When target has stopped or a wire break occurs, the output is ONE PULSE(40ms)
- Don't touch the sensor's active face at the status of high sensitivity, because a touch by hand will be detected.



CHARACTERISTICS

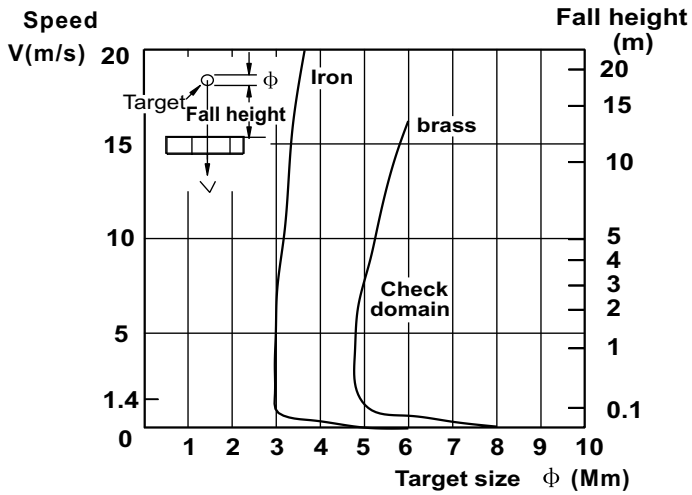
Target speed-size chart



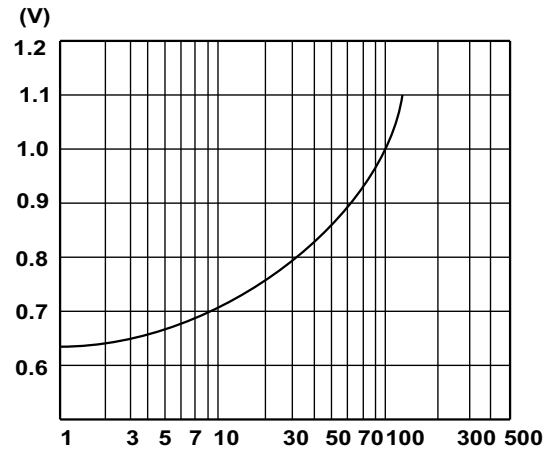
METAL PASSAGE CONFIRMATION SENSORS

MSC-100

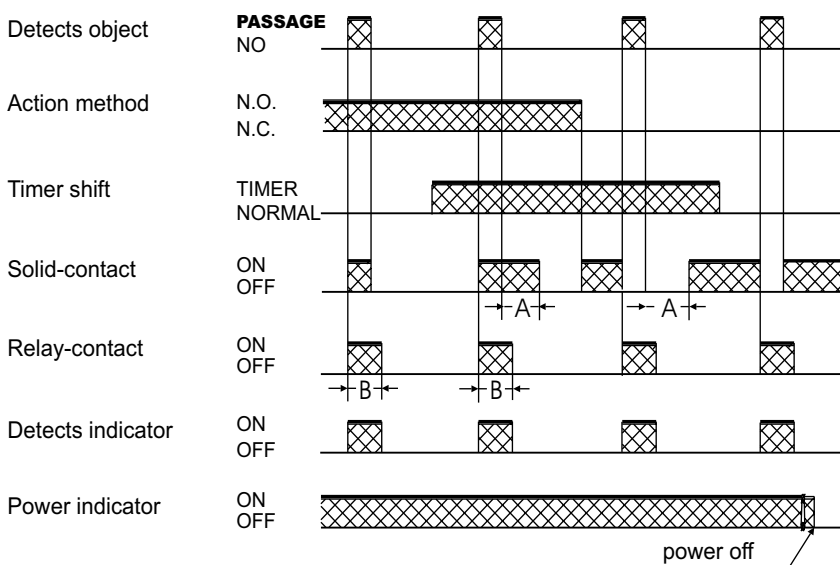
Output residuary voltage



Residuary voltage



ACTION CHART

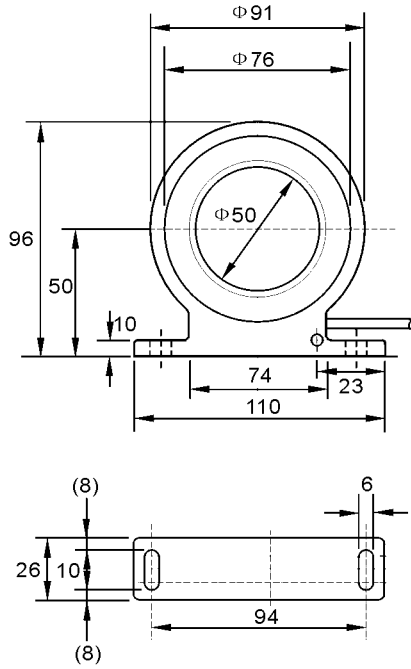


Note 1: When a target is passing, the Output of the contact is on, while the non-contact is Changeable (N.O.or N.C.).

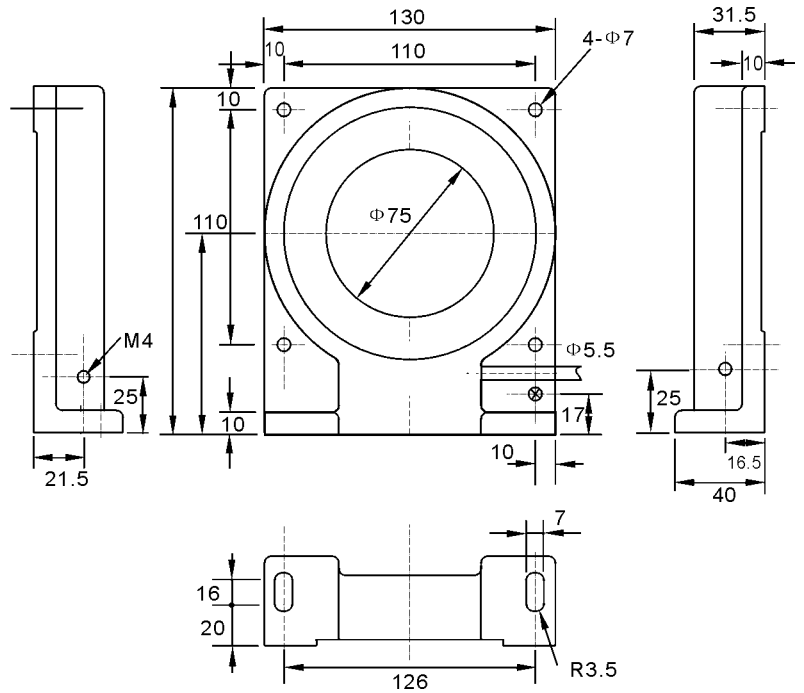
Note 2: Output of the contact is one-shot type. It can output a 40ms fixed pluse-width Independent of the time the target present.
 A: 40ms(OFF DELAY)
 B: 40ms(ONE SHOT)

METAL PASSAGE CONFIRMATION SENSORS

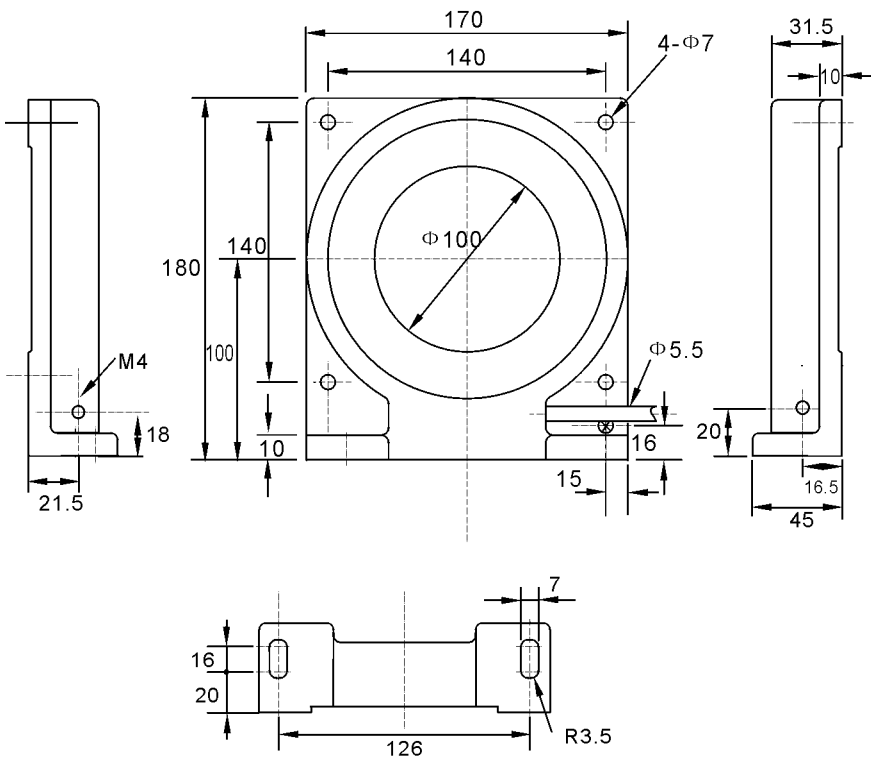
F2LP-W50M



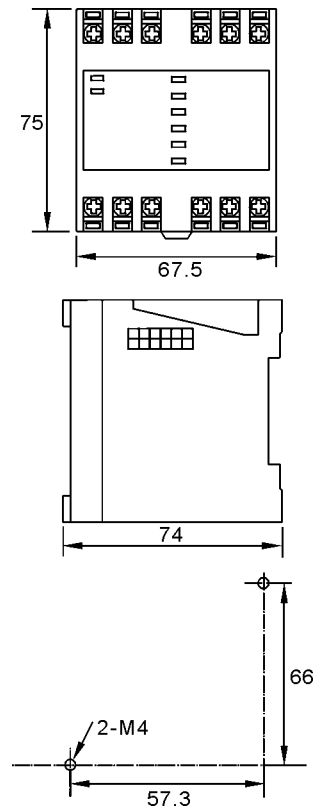
F2LP-W75M



F2LP-W50M

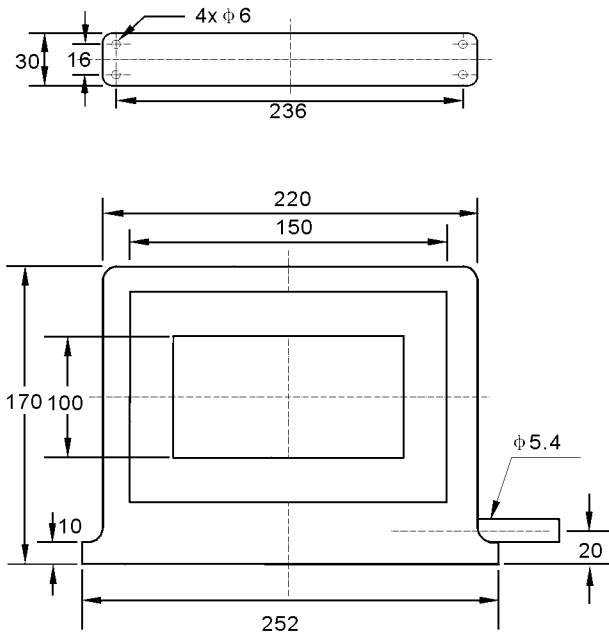


F2LP-W75M



METAL PASSAGE CONFIRMATION SENSORS

TH-515



TH-520

