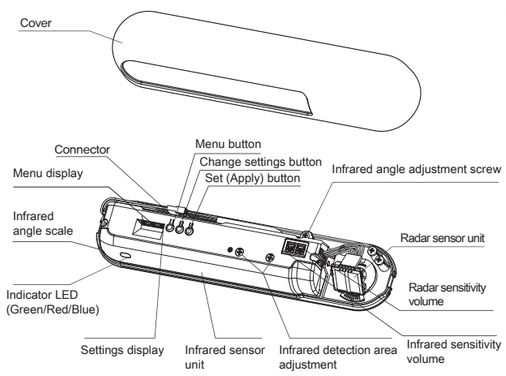
IRM203-UNI
User Manual

CE

1. Description



Accessories

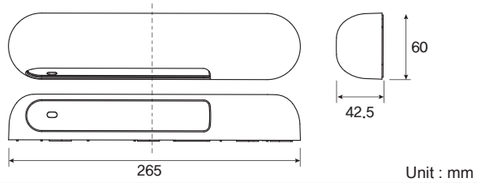

Mounting template


User Manual


Cable 2.5m


Mounting screws

2. Exterior Dimensions



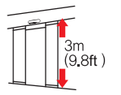
Unit : mm

3. LED Indicators

LED Indicators	Green	Standby
	Blue	Radar detection
	Red	Infrared or Infrared + Radar detection
	Green + Red	Infrared reflectivity is too low

4. Mounting Precautions

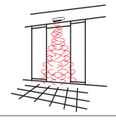
Mounting height of 3m (9.8 ft) or lower.



Mount within 50mm of the bottom of the door engine cover.

Ensure that there are no moving objects in the detection area.

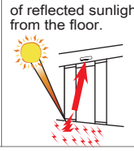
Ensure that no condensation gets onto the sensor.



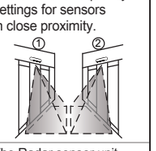
Make sure that the sensor is not directly exposed to heavy rainfall.

If possible, ensure there is no accumulation of snow or water on the floor.

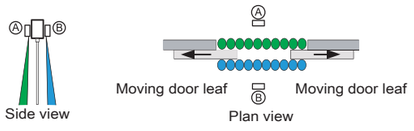
Ensure the minimum of reflected sunlight from the floor.



Use different frequency settings for sensors in close proximity.



Infrared detection area setting to maximise pedestrian safety.



The Radar sensor unit may be negatively affected by metal close to or in the detection area.

5. Technical Specifications

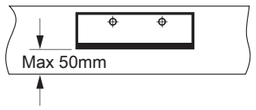
Model		IRM203-UNI
Detection method		Infrared & Radar sensor detection
Installed height		Maximum 3m
Supply voltage		AC(~), DC(⎓)12~24V±10 [%] @ 50/60[Hz]
Power consumption		AC12V: 300[mA] (Max) / AC24V: 200[mA] (Max)
		DC12V: 160[mA] (Max) / DC24V: 80[mA] (Max)
Output	Relay	1A / 24VDC
	Photo Mos	Maximum voltage: 400V, maximum current: 120mA Maximum output internal resistant: max. 35Ω
Test input		6[mA] @ 24[VDC]
Weight		250[g]
Color		Black
Accessories		Cable, mounting template, User Manual, mounting screws
Operating temperature		–20 ~ 50[°C]
Operating humidity		0 ~ 90%

Specifications of IR sensor	
Detection method	Active infrared reflective
Detection output time	0.5 seconds
Response time	Within 0.2 seconds
Retention time	2 seconds, 30 seconds, 60 seconds, Infinite

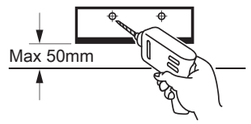
Specifications of Radar sensor	
Detection method	moving detection
Transmit frequency	24.125 GHz
Response time	Within 0.1 second
Retention time	

6. Mounting & Wiring Information

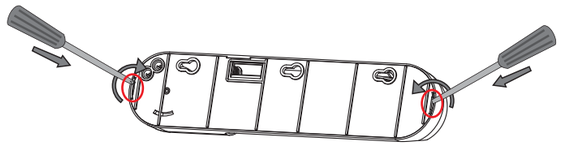
① Attach the mounting template so that it is placed within a 50mm distance from the bottom edge of the door engine cover.



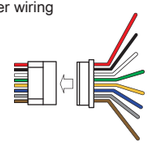
② Drill mounting (Ø3.5mm) and wiring (Ø10mm) holes.



③ Use a flathead screwdriver to remove the sensor cover.

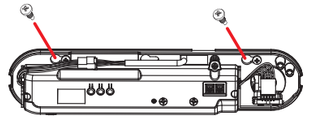


④ Controller wiring

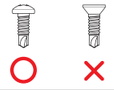


Red	Power (AC/DC 12V~24V)
Black	
White	Activation Output
Green	Safety output
Yellow	
Blue	Test Input + (DC 12~24V)
Gray	Test Input -
Brown	

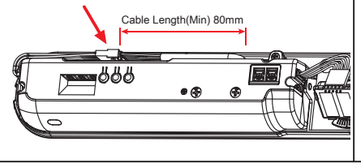
⑤ Attach the sensor to the door



⚠ WARNING
DO NOT use any flat head screws.



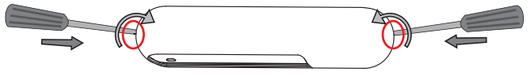
⑥ Connect the power connector.



⑦ Attach the cover.

⑧ How to remove the cover after installation

1. Insert a flathead screwdriver as shown
2. Turn the screwdriver counterclockwise gently to prise the cover from the sensor body

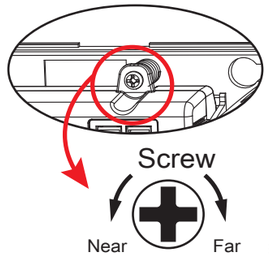


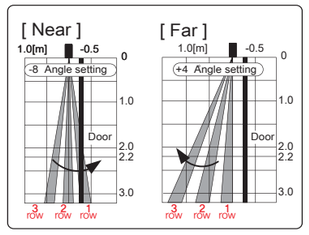
7. Settings

Function	Menu	Description	Default	Explanation
Infrared presence timer setting	011~014	The infrared portion of the sensor will detect a stationary object/person for the preset presence timer setting. To comply with EN16005 set to 30sec or more.	012	011 2 sec | 012 30 sec | 013 60 sec | 014 ∞
Setting the pattern of luminescent lines	021~023	If any of the three-line patterns for the IR sensor are unnecessary, they may be set at disabled status. (023: 3 lines are activated.)	023	021 | 022 | 023
Snow mode setting	030~031	Set to snow mode when false door activations can result from falling snow or snow accumulations.	030	030 | 031
Frequency Setting	041~044	If multiple sensors are installed in close proximity, set different frequency settings to minimize sensor crosstalk.	041	041 ⟷ 042
Safety Relay Output	071~072	Set to NO or NC	071	071 NO | 072 NC
Radar unit direction detection	081~082	The detection direction of the radar sensor may be set at either bidirectional or unidirectional detection.	081	081 Uni | 082 Bi
Activation Relay Output	091~092	Set to NO or NC	091	091 NO | 092 NC
Activation Relay Output Configuration	101~104	The status of relay output (Open Contact) when any object or human body is detected may be set.	102	101 Radar | 102 Radar + IR | 103 Radar + IR | 104 Radar + IR
Infrared / Radar setting	111~113	The Infrared and Radar sensor can be set to function independently or together.	111	111 Radar + IR | 112 IR | 113 Radar
TEST Input	130~131	Setting the sensor response to a test signal generated by the automatic door controller in compliance with European standard EN16005.	130	130 without TEST / With TEST / without TEST — No response to the test input | 131 without TEST / With TEST / without TEST — Responded to the test input
Low reflection setting	140~141	A low reflected infrared signal is indicated by a slow flashing Red/Green LED. To ignore this low reflection error state, set low reflection state to ON (141)	140	
Factory reset	151	Reset the sensor to default factory settings		

8. Detection

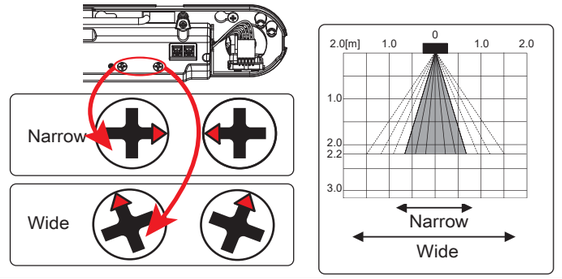
Infrared detection area depth adjustment





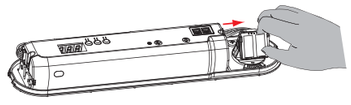
※Ensure that the infrared detection area is not set inside the door.

Infrared detection area width adjustment

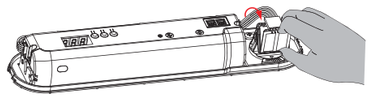


Removing/assembling the Radar Sensor Unit

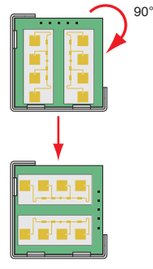
1. Twist with your index finger in the indicated direction.



2. Hold and pull forward the upper part of the module with your index finger.

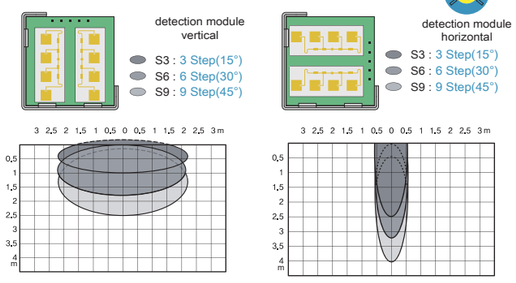


3. After removing the module, turn 90 degrees clockwise, and re-assemble.



Radar detection area adjustment

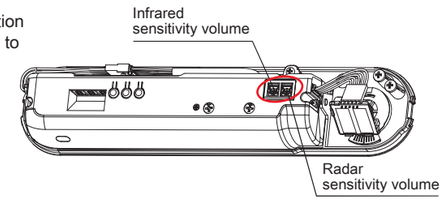
(Installed height: 2.2 m) (Default Sensitivity)



9. Operation check

After completing installation, walk into the detection area of the sensor. If you feel that the detection area is incorrect, then adjust it as per section 8. The infrared spot finder SF100 is recommended to accurately set the infrared detection area.The infrared sensitivity volume can also be increased/ decreased if detection problems persist.

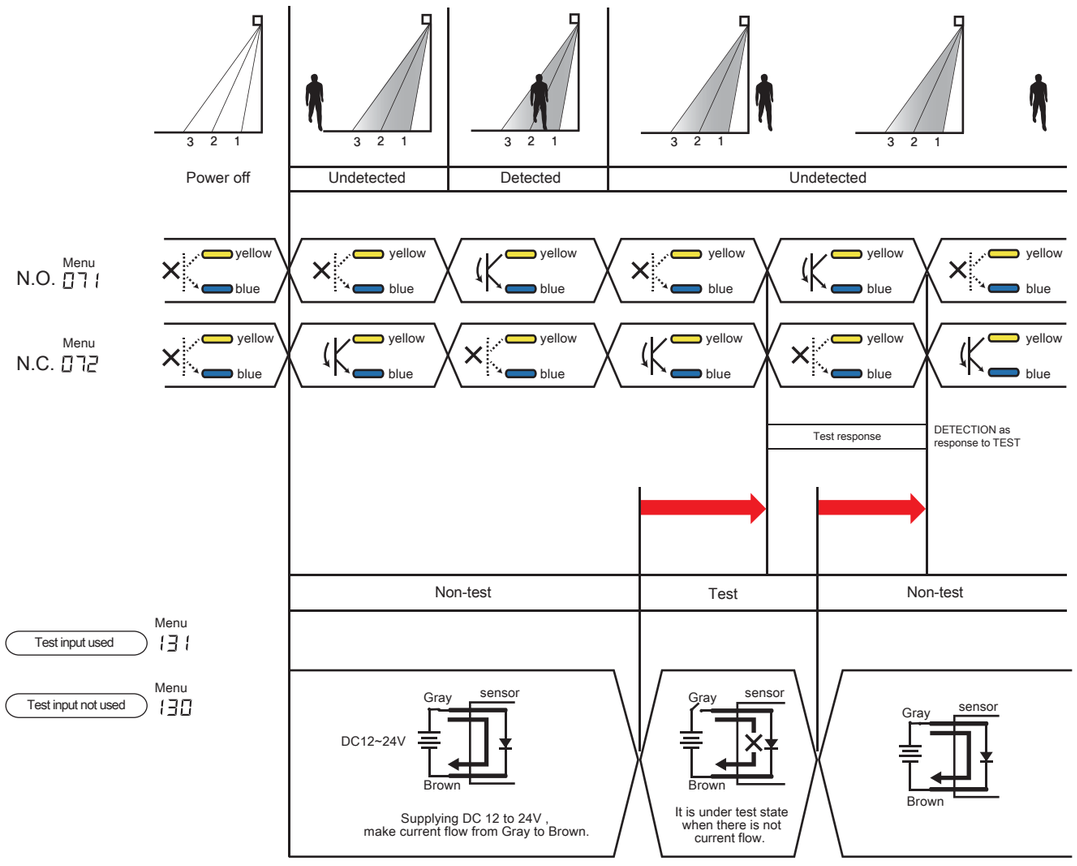
If the device detects when there is nothing in the infrared detection area, turn the sensitivity volume counter-clockwise.



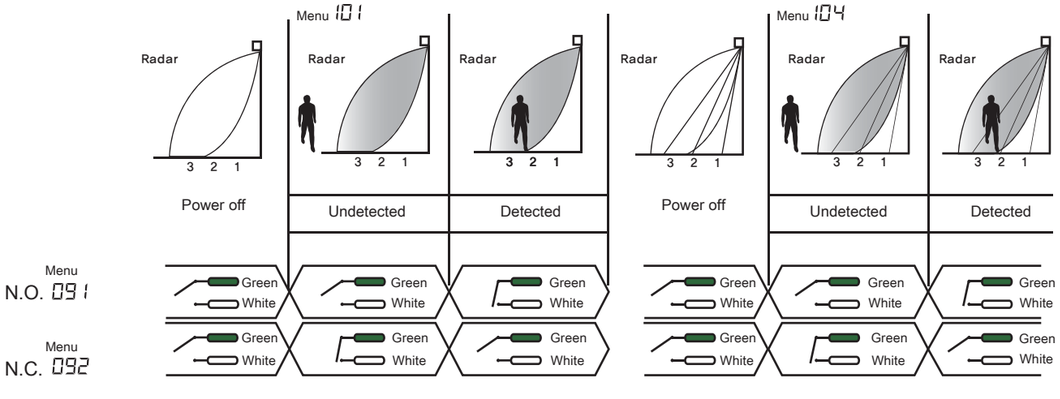
10. Timing of safety output signal

Safety Relay Output / Test Input Setting

When it is used in automatic door controller in compatible with European standard EN16005, the safety output signal timing can be checked based on the timing diagram below.



Activation Relay Output



11. Troubleshooting

Problem	LED Status	Possible Causes	Troubleshooting Measures
Door will not open even when a person approaches it.	Off	Loose connector	Insert the connector correctly until you hear it click into place
		Voltage failure	Supply the correct voltage to the sensor. (12~24V AC/DC)
		Defective wiring	Recheck wiring
	Green	Sensitivity value is too low	Increase the radar sensitivity volume to an appropriate value.
For no reason, the door opens and closes (ghosting)	Green color after the red or blue	There is a moving object in the detection area	Remove the moving object from the detection area.
		The radar sensitivity volume has been set too high relative to the installation environment.	Reduce the radar sensitivity volume to an appropriate value according to the manual.
		Dust, frost or water droplets are on the lens	Clean the sensor lens
		The detection area overlaps with that of another sensor	Set the frequency setting of both sensors to be different values (Menu:041)
		Fallen leaves or Snowfall	Activate the snow mode setting
The automatic door stays in the open position	Red	Infinity presence timer setting used	Set the presence timer setting to 30 or 60 seconds.
		Defective wiring	Recheck wiring
		Excessive reflections in the infrared detection area	Remove the highly reflective object from the detection area or lower the Infrared sensitivity volume.
	Blue	There is a moving object in the radar detection area.	Remove the moving object from the detection area
	Green + Red	Infrared reflections levels are too low	Adjust the mounting height or Infrared sensitivity. If necessary, deactivate low reflection setting(Menu:141)

12. Rain Cover (sold separately)

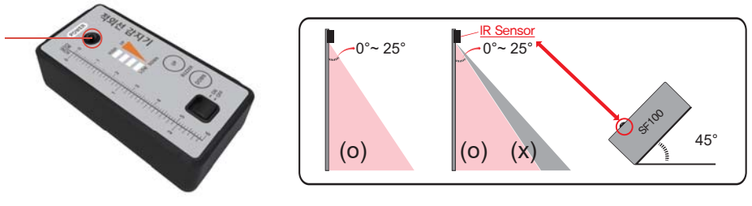
A rain cover (sold separately) protects the sensor from snow and rain when installed outside.

MODEL : WC-IR/BL

13. Spot Finder (sold separately)

A spot finder can be used to accurately locate the position of the infrared detection area and is a useful tool during the commissioning of this sensor.

Infrared Detection Point



<Disclaimer> The manufacturer shall not be held responsible for below

1. Misinterpretation of the installation instructions, poor connection, random disassembly and inappropriate installation.
2. Damage caused by inappropriate transportation.
3. Accidents or damages caused by fire, pollution, abnormal voltage, and natural disasters (Earthquake, lightning, wind, floods etc.)
4. Loss of business profits, business interruptions, business information losses and other financial losses caused by malfunction or use of the sensor.
5. Total compensation beyond the selling price in all cases.