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Title				
HNF-I5102 Installation Guide				

HNF-I5102 Installation Guide

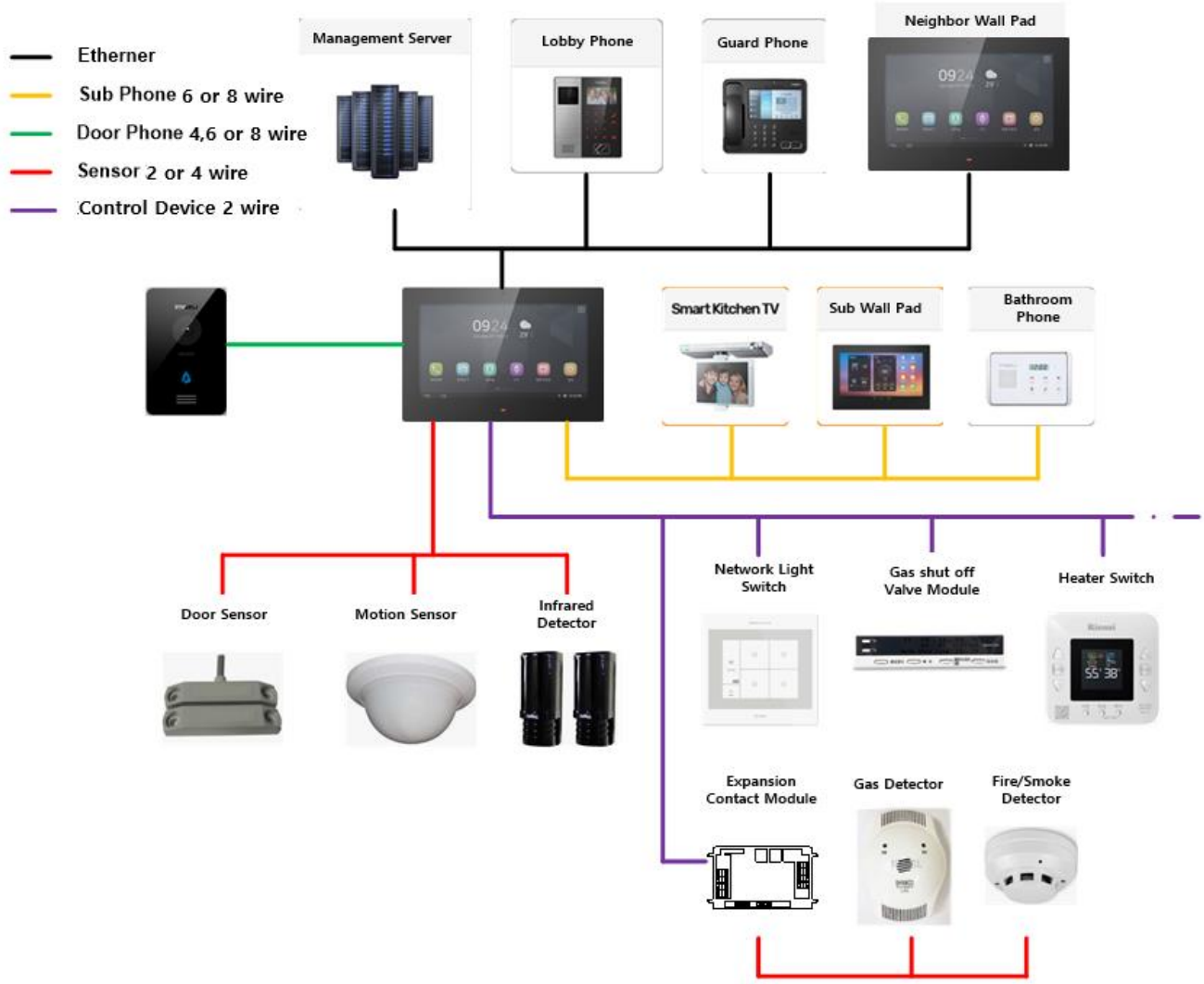
- Contents -

1. Product Overview

HNF-I5102 is Android OS based ALL LAN type Wall Pad featured with a 10.1 wide digital LCD screen and a capacitive full touch panel. It can be connected with lobby phones/guard phones and control other devices by a local management server.

The main functions of HNF-I5102 are calling to guard phone, lobby phone, door phone, sub phone, and triggering and notifying an alarm when an abnormal situation is detected. It also can control wired devices such as light switch and third party systems such as CCTV, parking control system on the screen.

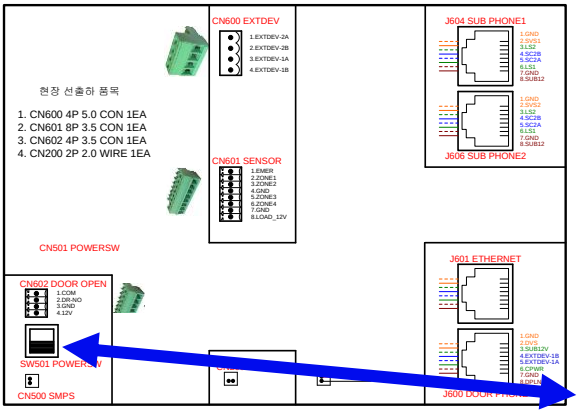
2. System Configuration



2.1 Terminal Unit Description

2.1.1 HNF-I5102 Unit

- HNF-I5102 Basic Model



DC Main Power On/Off Switch.

When DC is initially turned on and DC 12V is supplied to this, it turns on automatically.

(It turns on if the power failure returns.)

Pressing the tact switch for longer than 1 second will turn the device off with a message ‘Ending’.

If S/W is not shutting down due to malfunction, the device will turn off after 10 seconds.

The device will turn on by pressing the tact switch for longer than 1 second when it’s off.

2.1.2 Terminal Unit

- Terminal Unit is not applied / All in one type

2.1.3 ANY122A5C-NIH POWER

- The power supply receives AC220V (AC110-240V Free Voltage) power input and outputs a voltage of DC 12V/2.5A to supply a DC12V voltage to the wall pad.
- It has an efficiency of 70% or more using the SMPS, a FUSE is built in to protect the device when overvoltage is input, and an overcurrent protection circuit is configured in which the output voltage is lowered when overcurrent is used at the output terminal.
- (CAUTION) Use SMPS with a capacity that meets the site requirements.
- (CAUTION) When installing the power supply, the protective ground terminal must be

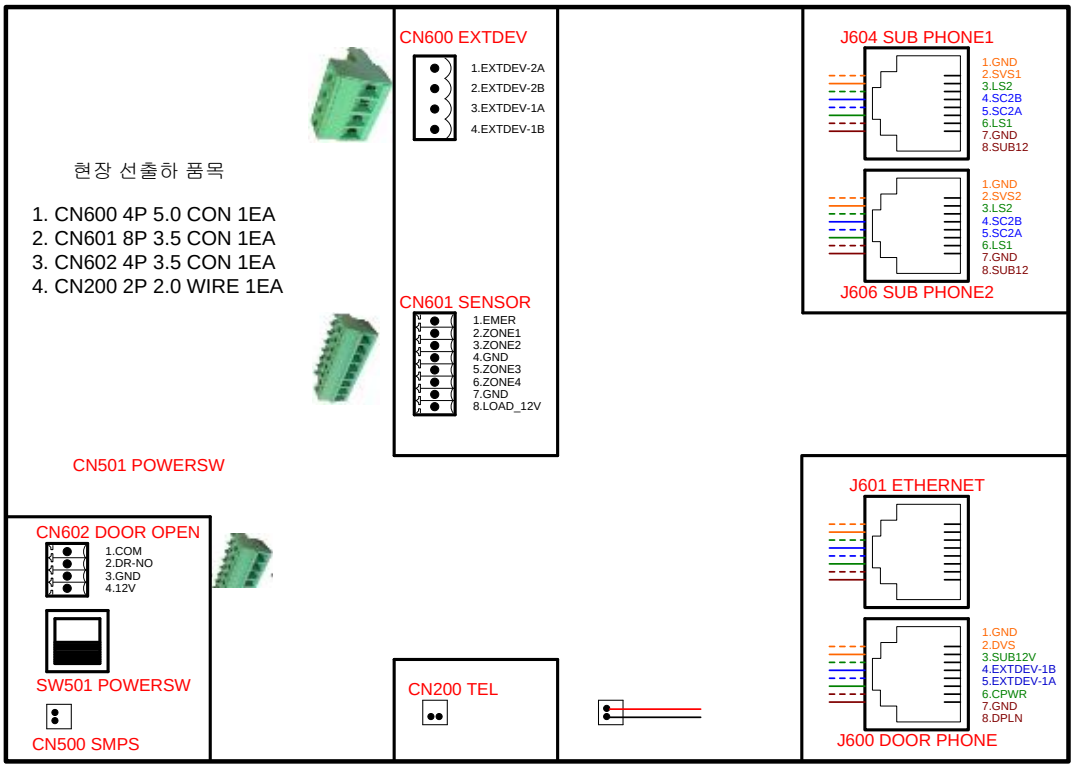
permanently connected to the ground.

2.2 The type of device unit

Unit	Model No.	QTY	Remark
MAIN UNIT	HNF-I5102	1SET	ALL LAN Type
TERMINAL UNIT	N/A	-	Included on the Main Unit
POWER UNIT	ANY122A5C-NIH	1SET	DC 12V/2.5A
DOOR-PHONE	DWC-100(S) HCC-1000E	1SET	6 Wires, Color Door Phone Camera
SENSOR UNIT	FIRE SENSOR	-	Contact Type is not available Device Control interlocking Type
	GAS SENSOR	-	Contact Type is not available Device Control interlocking Type
	SECURITY SENSOR	4 Lines	Contact : N.C Type Terminating Resistor : Less 2KΩ Power Consumption : Less 350mA
	EMERGENCY SWITCH	1 Line	Contact : N.O Type Terminating Resistor : 2KΩ
SUB-PHONE	Bathroom Phone (HBP-110 HBP-210)	1SET	HA-room BUS type
	Kitchen TV-Phone HKT-3000 HKT-2050 HKT-1050	1SET	HA-room BUS type

3. The description of the Main Unit Terminal Connection

3.1 HNF-I5102 rear terminal block diagram



3.2 Terminal Block Description (CN600 / CN601 / CN602)

Classification	Name	Use	Standard	Remark
Remote Device Control	DCTRL-2A	Device Control Communication Line	CPEV-Φ0.65	Use for RS485 type remote device control (Polarity)
	DCTRL-2B			
	DCTRL-1A	Device Control Communication Line	CPEV-Φ0.65	Use for RS485 type remote device control (Polarity)
	DCTRL-1B			
Emergency Switch	EMER	Emergency monitoring loop terminal	TIV 0.8Φ	Fixed as Contact N.O
Security Sensor	ZONE1	Security 1 loop terminal	TIV 0.8Φ	Fixed as Contact N.C
	ZONE1	Security 1 loop terminal		
	D-GND	Security Sensor GND		
	ZONE3	Security 3 loop terminal		
	ZONE4	Security 4 loop terminal		
	D-GND	Security Sensor GND		
Auxiliary Power	LOAD12V	Power for Security Sensor	TIV 0.8Φ	Max. 12V/150mA
Door Open	DR-COM	Common Contact	TIV 0.8Φ	Control N.O Type contact
	DR-NO	Contact N.O		
	D-GND	Power GND		

	12V	Power for Wireless Module		

3.3 The description of the terminal block (J604 / J606 / J601 / J600)

Classification	Name	Use	Standard	Remark
Bathroom Phone, Kitchen TV Phone Connection	GND	Common Video SHIELD	CAT.5e UTP-4Pair TIA/EIA-568B	HA Room BUS SVS1 is Video signal Each line needs terminating resister (75Ω).
	SVS1	Sub CH1 Video Line		
	LS1	Sub-Phone Call Line		
	SC2B	Sub-Phone Communication Line		
	SC2A			
	LS2	Sub-Phone Call Line		
	GND	Common Power GND		
	SUB12V	Power for Sub-Phone		Max. 12V/400mA
Bathroom Phone, Kitchen TV Phone Connection	GND	Common Video SHIELD	CAT.5e UTP-4Pair TIA/EIA-568B	HA Room BUS SVS1 is Video signal Each line needs terminating resister (75Ω).
	SVS2	Sub CH1 Video Line		
	LS1	Sub-Phone Call Line		
	SC2B	Sub-Phone Communication Line		
	SC2A			
	LS2	Sub-Phone Call Line		
	GND	Common Power GND		
	SUB12V	Power for Sub-Phone		Max. 12V/400mA
ETHERNET	Ethernet	Management Server Connection	CAT.5e UTP-4Pair TIA/EIA-568B	
Camera/ Door Phone Connection	V-GND	Power for Camera(GND)	CAT.5e UTP-4Pair TIA/EIA-568B	**Coil a line on FERRITE CORE once before connection.** Connect 1 on 1 when interlocking with DWC-1000. Use Max. 12V/400 mA for SUB12V. Divide Communication and SUB12V line to interlock with normal door phones such as HCC-1000E.
	DVS	Door Phone Video		
	SUB12V	Sub-Phone Power Terminal		
	DCTRL-1B	Communication Line for device control (For interlocking with DWC-100S)		
	DCTRL-1A			
	CPWR	Power for Camera (+12V)		
	GND	Common Power GND		
	DP-LN	Door Phone Call Line		

* CPEV-Φ0.65 can be replaced as CAT.5eor upper UTP line if necessary.

3.4 The description of the terminal block (CN500, CN200)

- CN500: SMPS connect / Supply the power to Main Unit
- CN200: PSTN (Phone Line) connect / Tip, Ring(Non-polarity) connection

3.5 The description of pre-supplied items

1) DPHNT-ACC-INT-001//EC201/WJ2EDGK-5.0-04P, 4pin Connector– CN600, Device Control

2) DPHNT-ACC-INT-002//EC201/WJ15EDGK-3.5-08P, 8pin Connector– CN601, Security Sensor
3) DPHNT-ACC-INT-003//EC201/WJ15EDGK-3.5-04P, 4pin Connector– CN602, Wireless Module for Door Lock
4) DPHNT-ACC-INT-004 // 2P 2.0mm pitch, 170mm – CN200, PSTN telephone (Tip, Ring) connection
5) 3540200048 // FERRITE CORE, 9-11-26, ZCAT2035-0930 – For Door Phone Cable

3.6 Wiring to sub devices

3.6.1 Wiring to a telephone circuit

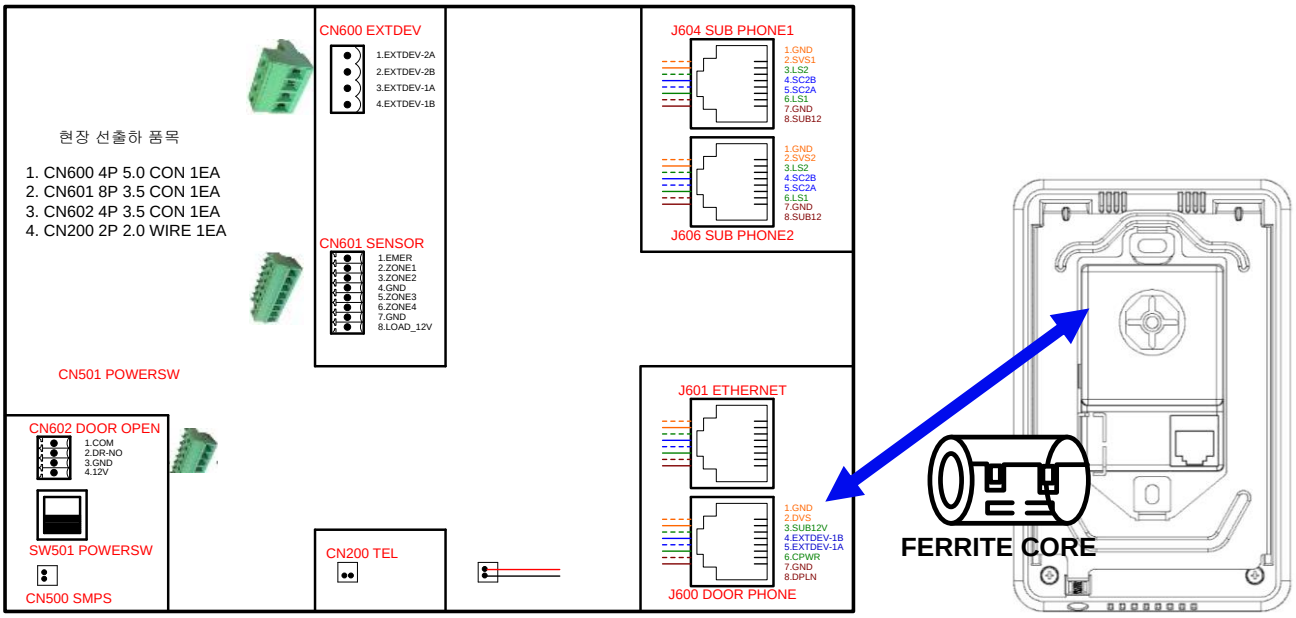
- Terminal: CN200 (Non-polarity)
- Connect a telephone circuit to TIP, RING with pre-supplied 2P Wire

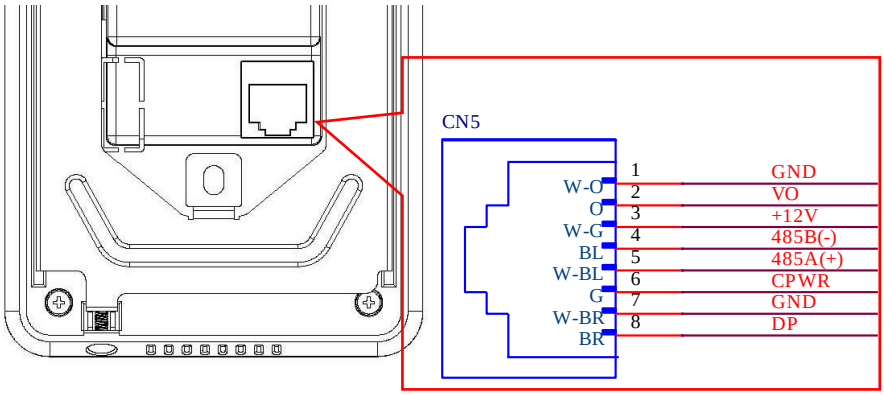
3.6.2 Wiring to Door Phone

- Door Phone UTP-4Pair, TIA/EIA-568B, Coil a line on FERRITE CORE once close to RJ-45 of Wall Pad before connection(Common)

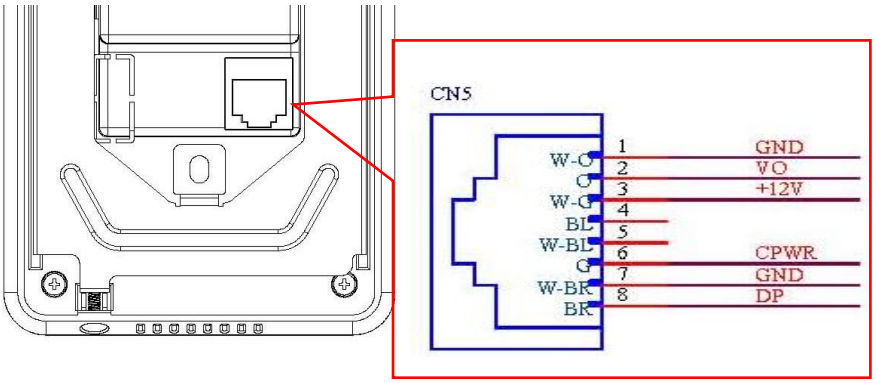
1) Interlocking for DWC-100S(HCC-2000S)

8 Wires (GND, DVS, SUB-12V, EXTDEV-1B, EXTDEV-1A, CPWR, GND, DPLN)



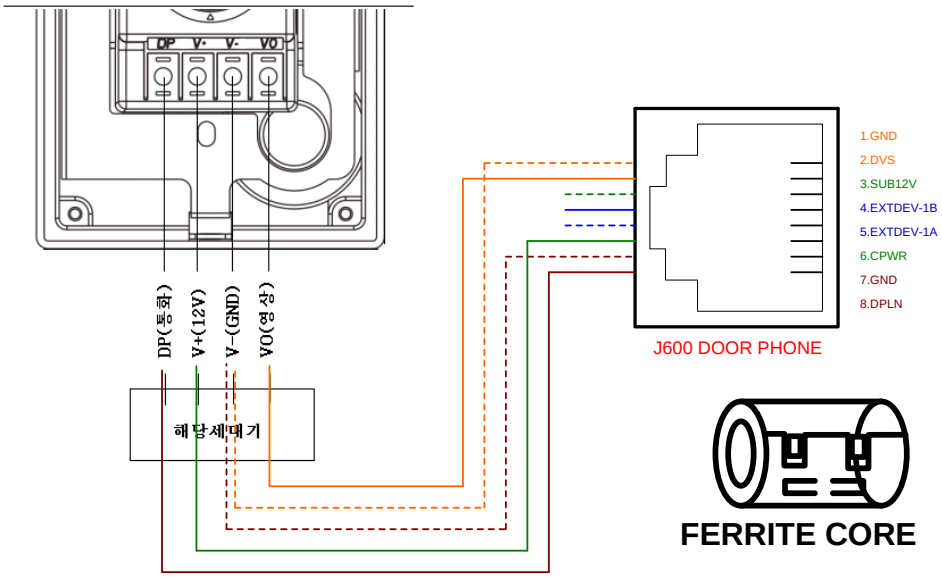


2) Wiring diagram of DWC-100S(HCC-2000S)



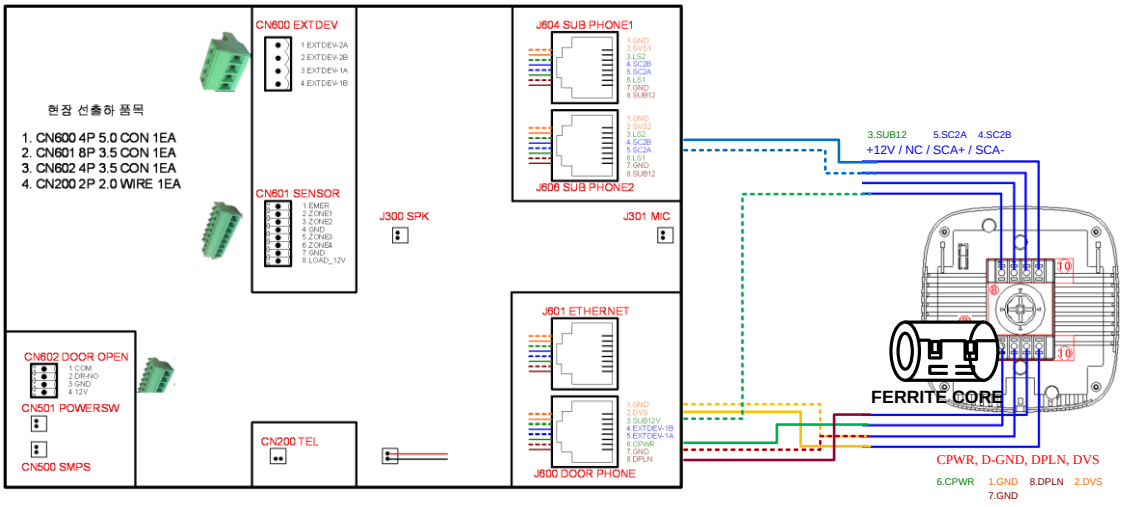
- RS-485 port of HCC-2000 is opened and it doesn't matter to connect Line No.4 and 5 to the door phone. However, be careful not to let RS-485 lines interfere each other or allow short-circuit.

3) Wiring Diagram for HCC-1000E Door Phone // Coil a line on FERRITE CORE once close to RJ-45 of Wall Pad before connection



- Be careful not to let unused wire allow short-circuit with other signals.

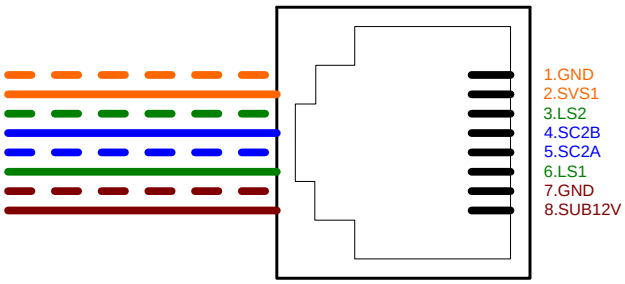
4) Wiring diagram of HCC-300D Door Phone // Coil a line on FERRITE CORE once close to RJ-45 of Wall Pad before connection



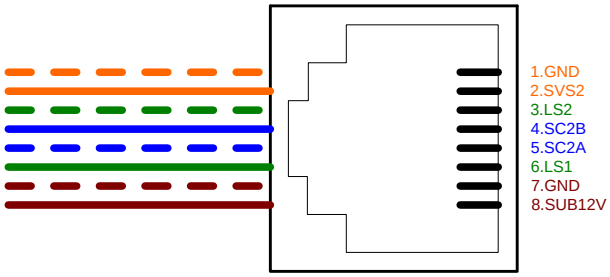
- Connect Line No. 1 and 7 of Wall Pad GND to Door Phone GND

3.6.3 Wiring diagram of bathroom phone(HBP-200)

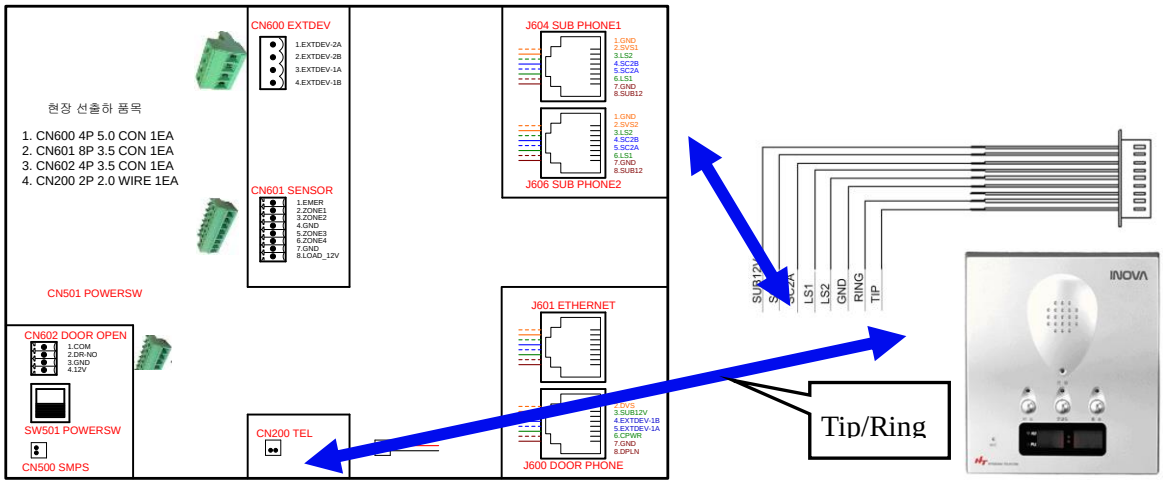
- Power(SUB12V), Data(SC2A/2B), Voice(LS1/2), Telephone(TIP/RING)
- Same for other bathroom phone model such as HBP-100/210
- Connect HBP-300 Model 1:1 using CAT.5 UTP-4Pair TIA/EIA-568B



J604

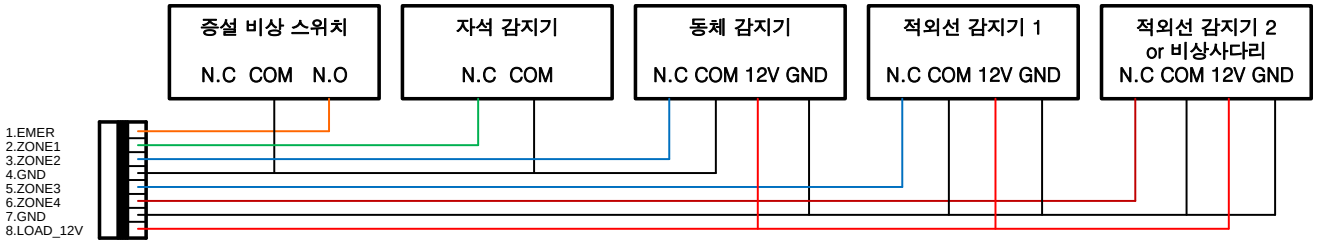


J606



3.6.4 Wiring diagram of Emergency Switch and Security Sensor

- EMER, ZONE1, ZONE2, GND, ZONE3, ZONE4, GND, LOAD 12V
- Use N.O Type Emergency Switch
- Use N.C Type Security Sensor
- EMER is fixed as N.O as default
- Zone1~4 is fixed as N.C as default
- In case of using many sensors, the power consumption should be considered and may need to use another SMPS



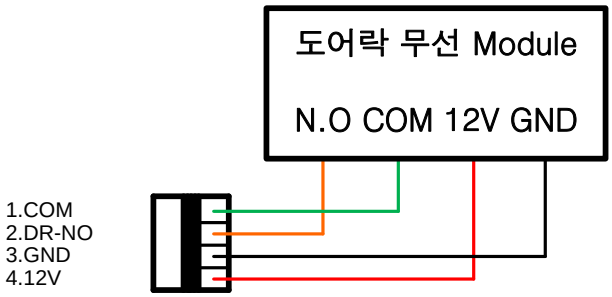
CN601 SENSOR

3.6.5 Wiring diagram of Fire and Gas Sensor

- Not applicable for contact type
- Substitute as RS-485 type device connection

3.6.6 Wiring diagram of Wireless Module of Door Lock

- Connect to DR-COM, DR-NC



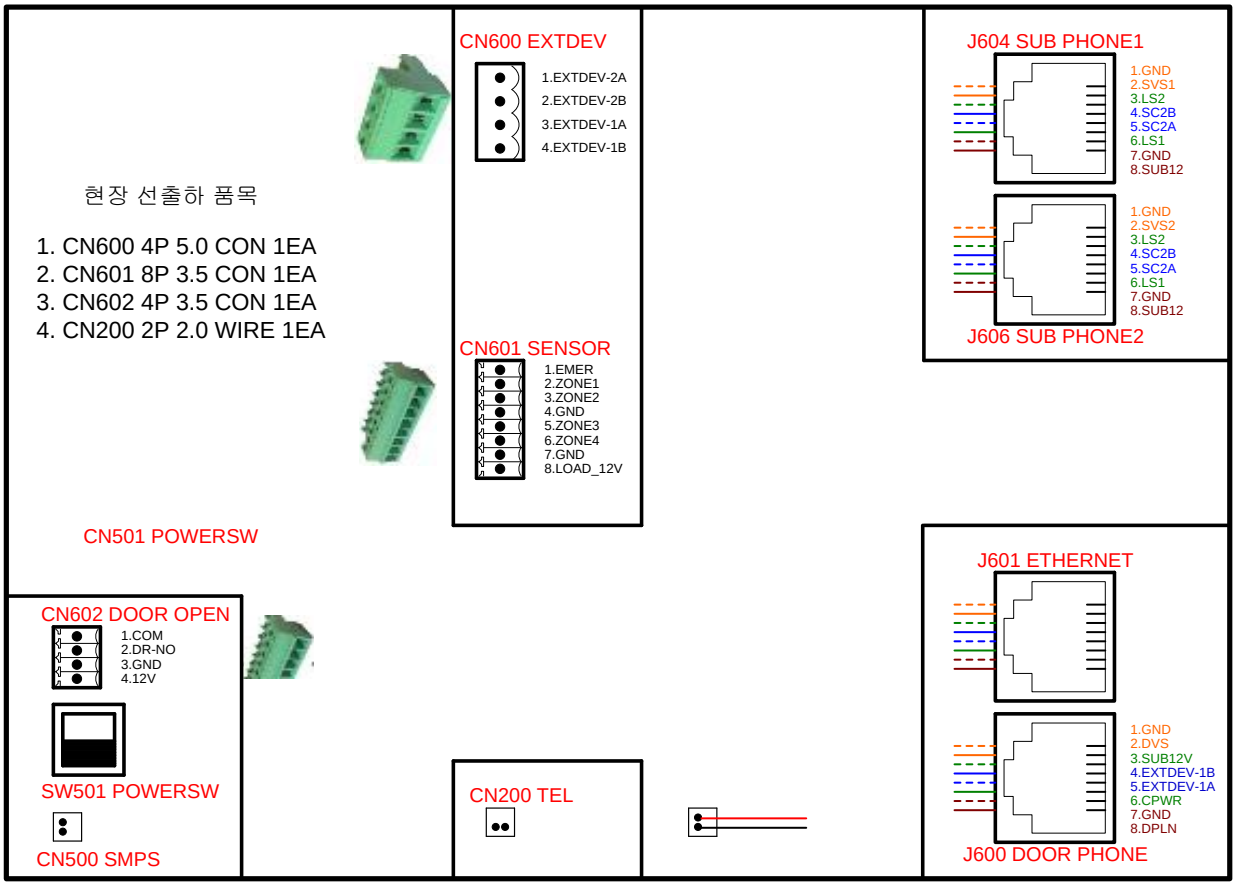
CN602 DOOR OPEN

3.6.7 Wiring of ANY122A5C-NIH Power Unit

- Use terminal to connect AC 220Vto WIRE ASS'Y
- Connect WIRE ASS'Y(2P) of Power Unit to 2P CON(CN500) on the rear side of HNF-I5102

4. Wiring diagram of Wall Pad

4.1 The interface of HNF-I5102 and connection to the server



5. Installation of other devices

5.1 Installation Order

1) Select proper position for installing the device.

2) Install the back box for the device if necessary.

3) Do piping work for wiring between the back box and the device.

4) Complete to mold at wall.

5) Do wiring work according to the wire diagram.
(Wiring / Installing of every device. Must coil LAN Cable on Ferrite Core once.)

6) Test and demonstrate the system.

5.2 Installation Condition

1) Operating temperature of the system is 0℃~40℃. Recommended operating temperature / humidity is 18℃~26℃ / 20% ~ 70%.

2) Avoid to be exposed to direct sunlight and keep clean the circumstance.

3) Be care not to get damp.

4) No magnetic materials and no devices affect to temperature / humidity are allowed near the system.

5) Choose the place where the distance between device is minimum considering the wiring.

6) The color of LCD screen can be displayed differently according to viewing angle. (Up 40˚, Down 65˚, Left 65˚, Right 65˚)

7) Check every wire condition before operating the device and connect AC110~240V power.
(Must connect power frame GND.)

5.3 The type of the back box

1) The back box of HNF-I5102
2) The back box of DWC-100(S) door phone (flush mount type)

5.4 The position of the back box

1) The position of the back box for HNF-I5102
Choose proper position for MAIN UNIT on the wall of a living room or mater bed room.
(Recommended installation height: 1,300mm ~ 1,400mm)

2) Precaution
Ensure to exact balance of right and left to be parallel. Keep the front of the back box parallel to the surface.

3) The position of the back box of door phone
Avoid to be exposed to direct sunlight or reflected rays. Otherwise it will be hard to recognize an object due to backlight.

5.5 The standard of Wiring

Purpose	Standard	Line	Remark
AC Power (System Operation)	KSC3302 Vinyl insulated wire IV Φ1.6 ~Φ2.0	3	
Call Line	TIV 0.8Φ	2	
Connection to Emergency Switch	TIV 0.8Φ	2	
Connection to Security Sensor	TIV 0.8Φ	2	

Connection to Motion Sensor		TIV 0.8Φ	4	
Connection to Door Phone	Call	TIV 0.8Φ	1	
	Video	EXC-3C/2V	1	
	Power	TIV 0.8Φ	2	
Connection to Server		CAT.5 UTP	4 Pair	ETHERNET
Bathroom Phone Kitchen TV Phone	Call	TIV 0.8Φ	2	
	Data	TIV 0.8Φ	2	
	Video	EXC-3C/2V	1	
	Power	TIV 0.8Φ	2	Power for Bathroom Phone

5.6 The installation of the UNIT

5.6.1 Installation of ANY122A5C-NIH power UNIT.

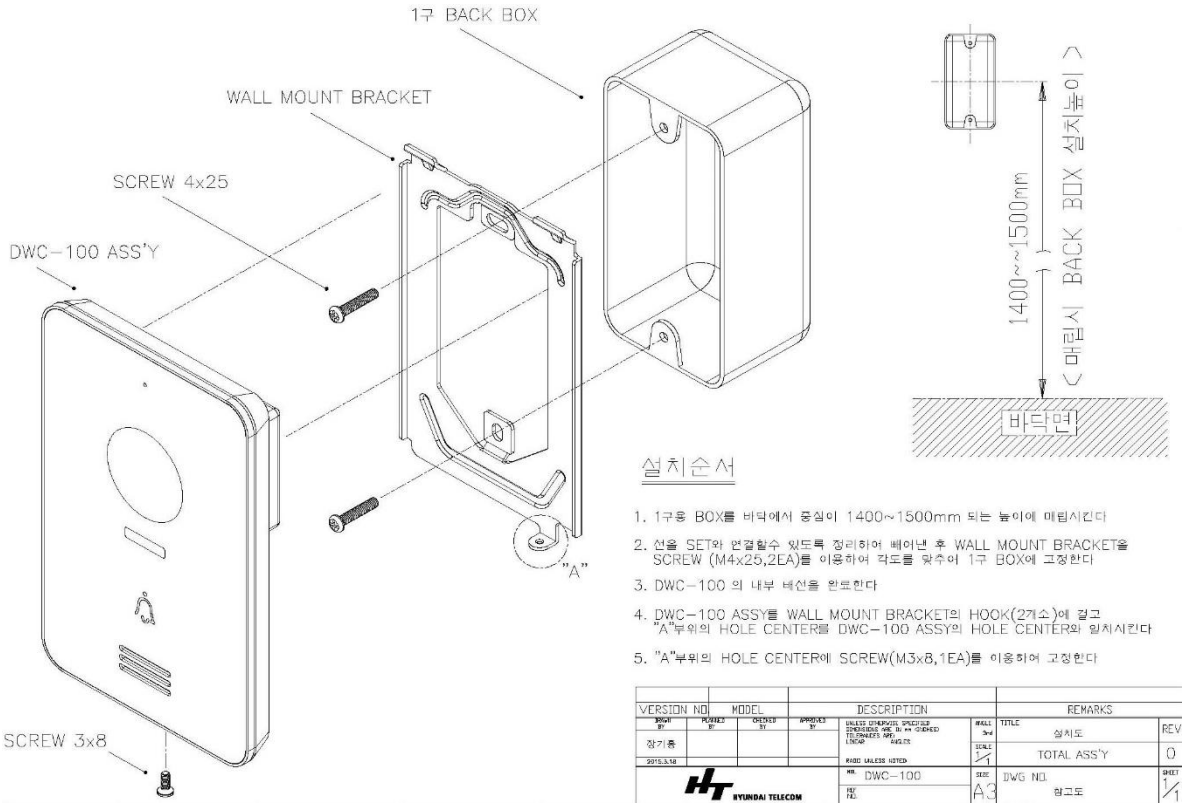
Install it inside the back box by using Velcro Tape which is at the bottom of power UNIT.

5.6.2 Installation of HNF-I5102 main UNIT

1) Disconnect AC power in home before installation.
2) Connect other devices to MAIN UNIT with Pluggable Type Terminal and Wire Ass'y.
3) Put on MAIN UNIT on the back box and fix it with fixing screws.
4) After the installation of the system is complete, operate and demonstrate the system.

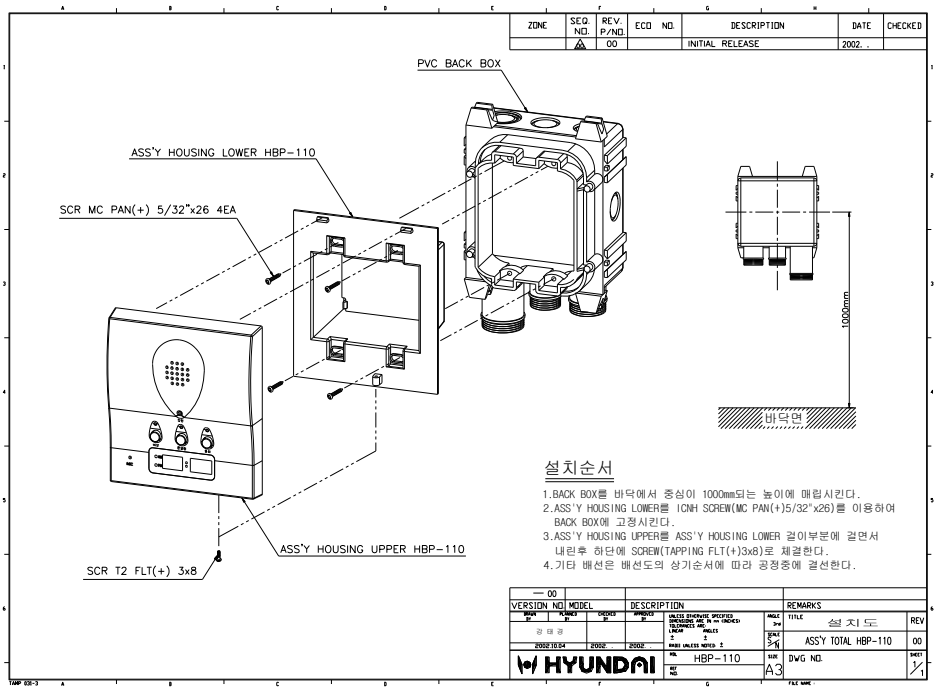
5.7 Installation of HCC-2000 Door Phone UNIT

(Refer to a following installation drawing for installation.)



5.8 Installation of HBP-300

(Refer to a following installation drawing for installation.)



5.8 How to install sensors

5.9.1 In order to maintain the security system well, appropriate location and perfect security planning should be established to maximize the detector performance and function.

5.9.2 Sensors are selected at the time of initial contract and cannot be changed arbitrarily during use.

5.9.3 Considerations

1) Choose a proper place to install any sensor for stability.

2) The reliability of the sensor is improved by minimizing device malfunction caused by the environment.

3) Avoid the redundant installations for sensors and it should be used for single purpose.

5.9.4 The type of sensor and its symbol

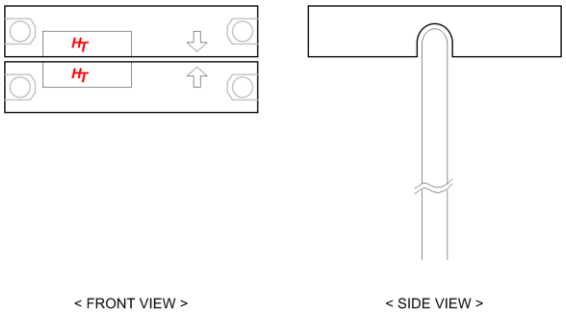
Type	Symbol
Magnetic Sensor	
Heat Ray Sensor	
Fire Sensor	F
Gas Sensor	G
Vent Switch	V

5.9.5 The standard for wiring

1) Use VFF 0.75mm for sensor wire line.
2) Wiring should be done inside the back box.
3) Use S/W box for the back box.

5.10 Magnetic Sensor

- Size (WxHxD): 14mm x 55.2mm x 15mm
- Operating range: PULL IN 17mm, DROP OUT 45mm
- Max voltage of contact: Max 10W
- Max open voltage: Max 175VDC
- Max open current: Max 0.25A
- Max open resister: 300mΩ
- Operating temperature: -20℃ ~ +80℃



5.10.2 The sensor using magnetic detection

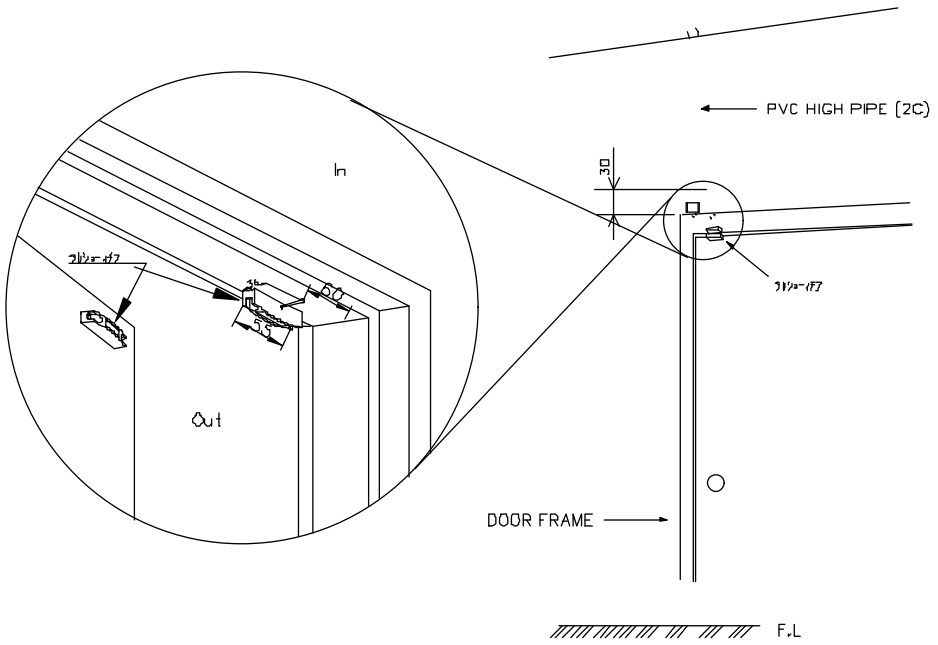
COM(Green). NC(Blue). NO(Brown, White) type magnetic sensor

5.10.3 Installation place

- Install on a door or window.
- Install as having a gap of 5mm between a sensor and magnetic.
- Use a spacer for adjusting the gap.
- Install straight / align the sensor and magnetic.

5.10.4 How to install

- Design and mark a hole on the wall where you want to install.
- Drill a hole for mounting.
- Mount the sensor firmly.



5.10.5 Caution

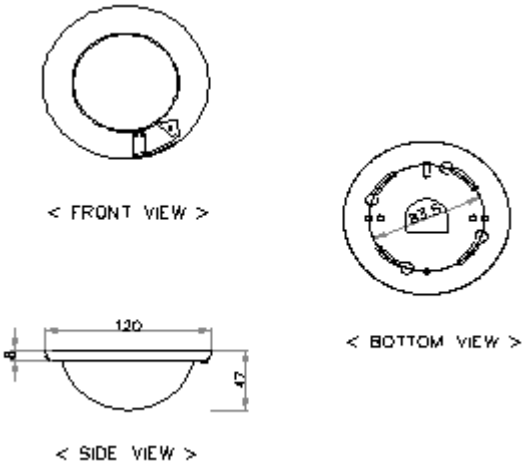
1) Do not give an impact on a sensor.
2) Use a spacer at the magnetic part when install on a steel structure.
3) Do tape wire to take it out later for A/S purpose.
4) Do not bend the lead wire badly.
5) Make sure whether it works properly or not after installation.
6) Make the lead wire longer on wiring.

5.11 Heat ray sensor

5.11.1 The information of heat ray sensor

1) It is a passive detector that detects the difference due to the amount of change in infrared energy [5.6 μm to 100 μm] emitted from an object and the temperature change of the object.

2) The target sensing area should be set sensors Seamlessly.



5.11.2 The specification of heat ray sensor

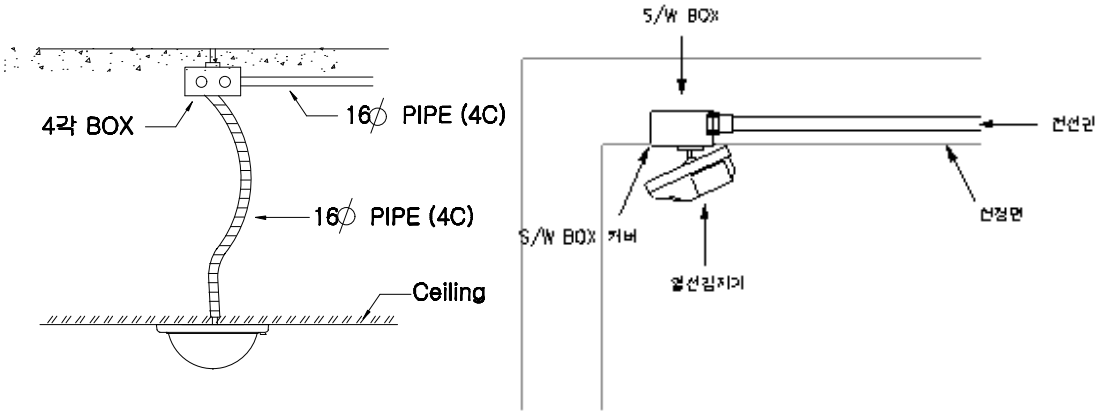
- Size: Diagonal 125φ, Height 60.5mm.
- Voltage: DC 9V ~ 18V
- Operating temperature: -15℃ ~ +55℃
- Max power consumption: 25mA
- Mas detection range and distance: 84°, 12m

5.11.3 The place of installation

- Install at indoor space with few spontaneous temperature changes / the height of the installation shall be 2 meters from the ground, but the height may be adjusted according to circumstances.

5.11.4 How to install

1) Disassemble the cover from the SENSOR unit.
2) Install the SENSOR after checking sensing direction.
3) Assemble the cover.



(Ceiling type) (Wall type)

5.11.5 Cautions

1) Installation shall be avoided where the sensor may malfunction due to external influences.

2) Since it is a sensor that detects the amount of change in infrared rays, try to install it away at a considerable distance from the objects such as air conditioners, ventilators, heaters, etc. that can cause temperature changes.

3) It may be affected by sunlight or headlights of automobiles, so it is installed in a position where external light does not directly contact the sensor and cannot be installed toward the window.

4) Install indoor only.

5) Make sure whether it works properly or not after installation.

6) Make sure to seal the hole for wiring by using sponge or silicon so that any insects or air doesn't go into the sensor.

8) Do not defile or touch on the sensor inside.