MAC1000/MAC1000SR

STANDALONE
BIOMETRIC CONTROLLER

Table of contents

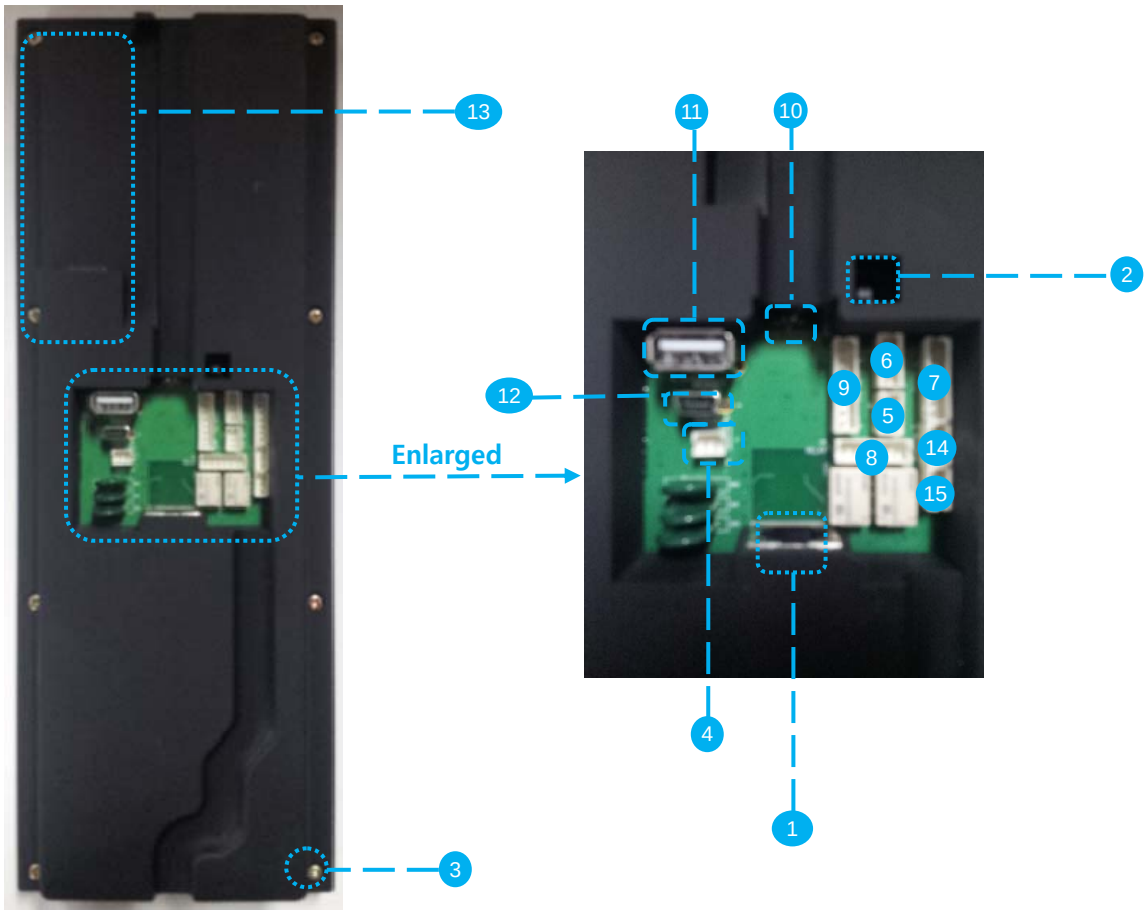
1 Product Introduction

1.1 Name and function of each part

Front

Number / Name	Description
① LCD	LCD module shows the status of the product.
② Fingerprint recognizer	Fingerprint recognition module.
③ Function key	There are 4 function keys (F1 ~ F4). Press a key and the correspondent menu appears.
④ Input key	Used to input numbers or as direction buttons. • 0 ~ 9 : Number button • ◀,▲,▼,▶ : Direction button • ENT : Selection button • ESC : Cancel button
⑤ Camera	Used to process image or for video door phone.
⑥ PIR Sensor	This is a person detection sensor and detects a person approaching the product.
⑦ Microphone	Used when the product is used with a video door phone.

Back



Number/ Name	Description
① RJ45 Connector	Used for TCP/IP communication.
② Tamper switch	Sounds alarm when the device is dissembled from the wall by force.
③ Fastening screw	A screw hole to fix the product.
④ 3PIN power connector	You can connect power cable here.
⑤ 3PIN connector	You can connect DVR (digital video recorder) here.
⑥ 4PIN connector	You can connect door phone here.
⑦ 7PIN connector	You can connect output and input cable here.
⑧ 6PIN connector	You can connect door and alarm relay output cable here.
⑨ 8PIN connector	You can connect TTL input, TTL output and external Wigand cable here.
⑩ Initialization switch	Used to initialize the product.
⑪ USB A TYPE	You can connect USB external memory here.
⑫ USB MINI B TYPE	You cannot use this.
⑬ USB A TYPE	You can connect USB Wi-Fi dongle here.
⑭ 3PIN connector	You cannot use this.
⑮ 3PIN connector	You cannot use this.

1.2 Cable color table

Input output pin name	Signal name	Cable color
3 PIN connector: power		
① Power (+12V)	DC +12V	Red
②		
③ Ground power	GND (-)	Black
3PIN connector BNC cable: DVR		
① DVR GND	DVR GND	Black shield
② DVR OUT	DVR OUT	Green
③ DVR GND	DVR GND	Black shield
4PIN connector: Door phone		
① DOOR PHONE VIDEO	DOOR PHONE VIDEO	White with black stripe
② DOOR PHONE POWER	DOOR PHONE POWER	Yellow with black stripe
③ DOOR PHONE GND	DOOR PHONE GND	Blue with black stripe
④ DOOR PHONE AUDIO	DOOR PHONE AUDIO	Red with black stripe
7PIN connector: WIEGAND TAMPER OUT		
①		
②		
③ TAMPER OUT	TAMPER OUT	Blue with red stripe
④ EXTRA Wiegand Data0	DATA 0 out	Green
⑤ EXTRA Wiegand Data1	DATA 1 out	White
⑥		
⑦		
6PIN connector: RELAY OUT		
① Door RELAY(NC)	NC (1)	Orange with white stripe
② Door RELAY(COM)	COM (1)	Brown with white stripe
③ Door RELAY(NO)	NO (1)	Green
④ Alarm RELAY(NC)	NC (2)	Green with white stripe
⑤ Alarm RELAY(COM)	COM (2)	Purple
⑥ Alarm RELAY(NO)	NO (2)	Cyan

8PIN Connector		
① EXIT BUTTON	EXIT BUTTON	Blue with white stripe
② DOOR SENSOR	CONTACT SENSOR	Gray with red stripe
③ AUX_INPUT1	TTL_INPUT1	White with red stripe
④ AUX_INPUT2	TTL_INPUT2	Purple with white stripe
⑤ EXT_TTL Output1	TTL #1	White
⑥ EXT_TTL Output2	TTL #2	Purple
⑦ Wiegand Data0	DATA 0 input	Orange
⑧ Wiegand Data1	DATA 1 input	Yellow with red stripe

USB Type A	You can use USB memory.
USB MINI B TYPE	You cannot use this.
USB Type A	You can use devices by connecting Wi-Fi USB Dongle.

1.3 Cable selection

Number	Description	Cable type	Maximum tolerable length
①	The product power (DC12V) DC power <--> the product	Belden #9409, 18 AWG 2 conductor, unshielded	30m
②	Reader (Power and data) External reader <--> the product	Belden #9512, 22 AWG 4 conductor, shielded	150m
		Belden #9514, 22 AWG 8 conductor, shielded	
③	Door Contact Exit Button Sensor Input Input<--> the product	Belden #9512, 22 AWG 4 conductor, shielded	300m
		Belden #9514, 22 AWG 8 conductor, shielded	
④	Door Lock Alarm Device Lock (Alarm) <--> the product	Belden #9409, 18AWG 2 conductor, unshielded	300m
⑤	DOOR PHONE Cable DOOR PHONE <--> the product	Belden #9512, 22 AWG 4 conductor, shielded	T.B.D
⑥	CAT.5e, CAT.6, CAT.7 cable Hub <--> the product	S-FTP, FTP	T.B.D

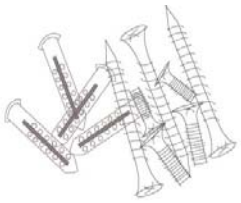
2 IDENTIFYING SUPPLIED PARTS

Unpack and check the contents.
If any of these parts are missing, contact your distributor.

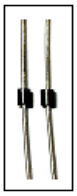
Main Unit(1ea)

Quick Guide(1copy)

3Pin(2Wire) Cable(1ea)
3Pin Cable(1ea)
4Pin Cable(1ea)
6Pin Cable(1ea)
7Pin Cable(1ea)
8Pin Cable(1ea)



3.5x12mm Screw (4ea)
3.5x40mm Screw (4ea)
3x10mm Plate Screw(1ea)
6.0*30 Anchor Bolt (4ea)



Diode(2ea)

Door Lock & ALARM Guide(1Sheet)

3 Installation and external device connection

3.1 Back anchor plate installation

Do not install on the metallic surface.

Avoid to install the product on the metallic surface. Metallic surface affects RF signal, reduce read range, and may reduce performance of the product.

Install the product following the steps below.

1. Put back anchor plate on the plate to install the product, mark 4 locations of holes in which put a drill, and drill Tap #6-32 hole.

2. Drill 1/2'' hole at the center of the back anchor plate.

3. Fix back anchor plate to 4 Tap #6-32 holes using screws.

4. Pull out cables through the center hole.

5. Connect cable and install the product on the back anchor plate by using a screw to a hole of bottom of the back anchor plate.

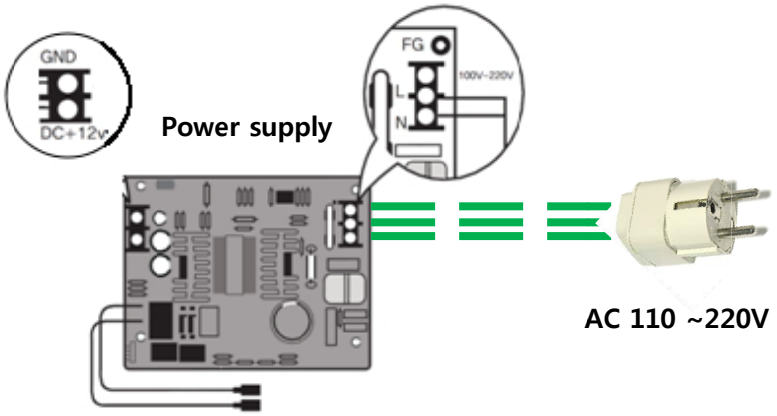
3.2 Power supply ground cable connection

Caution

Power supply must be grounded.

To protect system from thunder bolt, static electricity, momentary high voltage, noise from the power cable, etc., power supply must be grounded externally.

As the figure below, connect all 3 lines (Live, Neutral, FG (Frame Ground = Protective Earth)) of AC power cord to power supply and plug it to a power outlet which has ground.



※ SMPS Recommendations

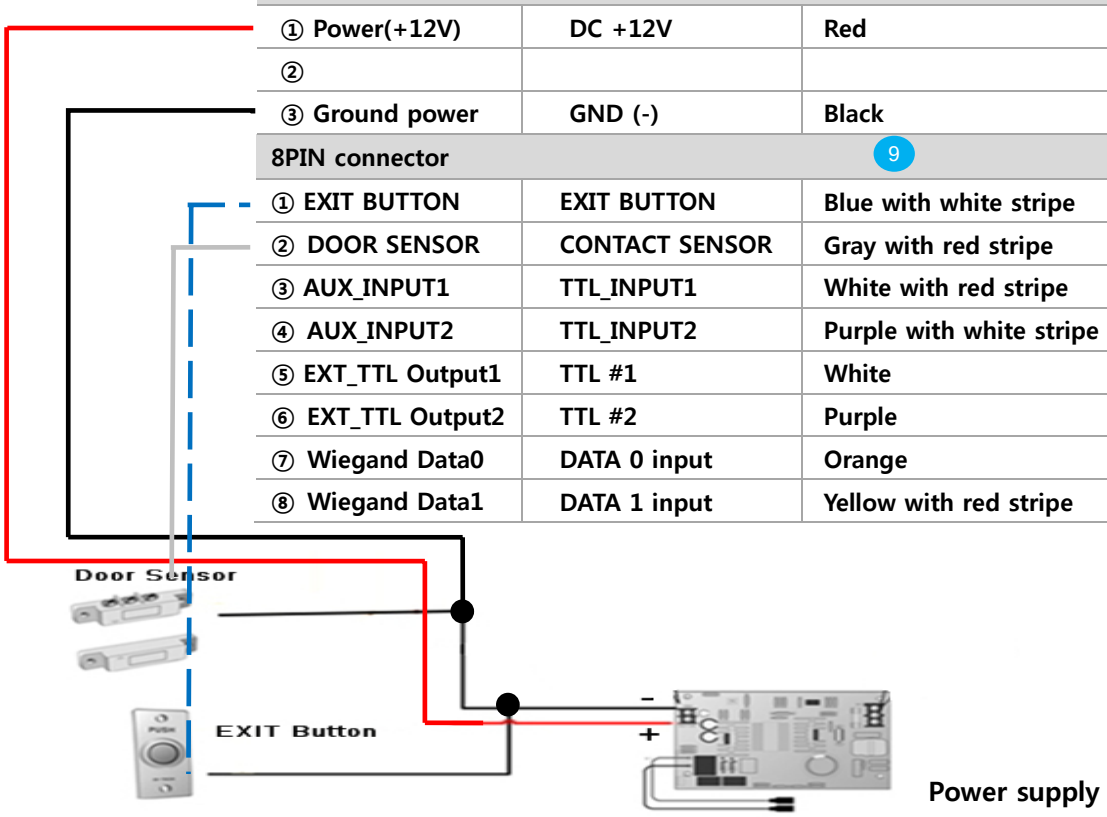
√ Do not use SMPS which use 2-hole AC power cord as the figure on the right.

√ If you do not use the SMPS that the manufacturer provides and use portable SMPS, you use use SMPS which has 3-hole AC power cord as the figure on the right.

3.3 Input / Output connection

Input wiring

3PIN connector: power		
① Power(+12V)	DC +12V	Red
②		
③ Ground power	GND (-)	Black
8PIN connector		
① EXIT BUTTON	EXIT BUTTON	Blue with white stripe
② DOOR SENSOR	CONTACT SENSOR	Gray with red stripe
③ AUX_INPUT1	TTL_INPUT1	White with red stripe
④ AUX_INPUT2	TTL_INPUT2	Purple with white stripe
⑤ EXT_TTL Output1	TTL #1	White
⑥ EXT_TTL Output2	TTL #2	Purple
⑦ Wiegand Data0	DATA 0 input	Orange
⑧ Wiegand Data1	DATA 1 input	Yellow with red stripe



Power connection

1. Connect DC12V (+) cable of power supply to red 3 PIN power cable.
2. Connect GND (-) cable of power supply to black power cable.

Exit Button connection

1. Connect a cable of an exit button to a blue with white stripe cable.
2. Connect another cable of the exit button to GND.

Door Contact Sensor connection

1. Connect a cable of a door contact sensor to a gray with red stripe cable.
2. Connect another cable of the door contact sensor to GND.

Auxiliary input device connection

Auxiliary input #1 (White with red stripe cable), auxiliary input #2 (Purple with white stripe cable)

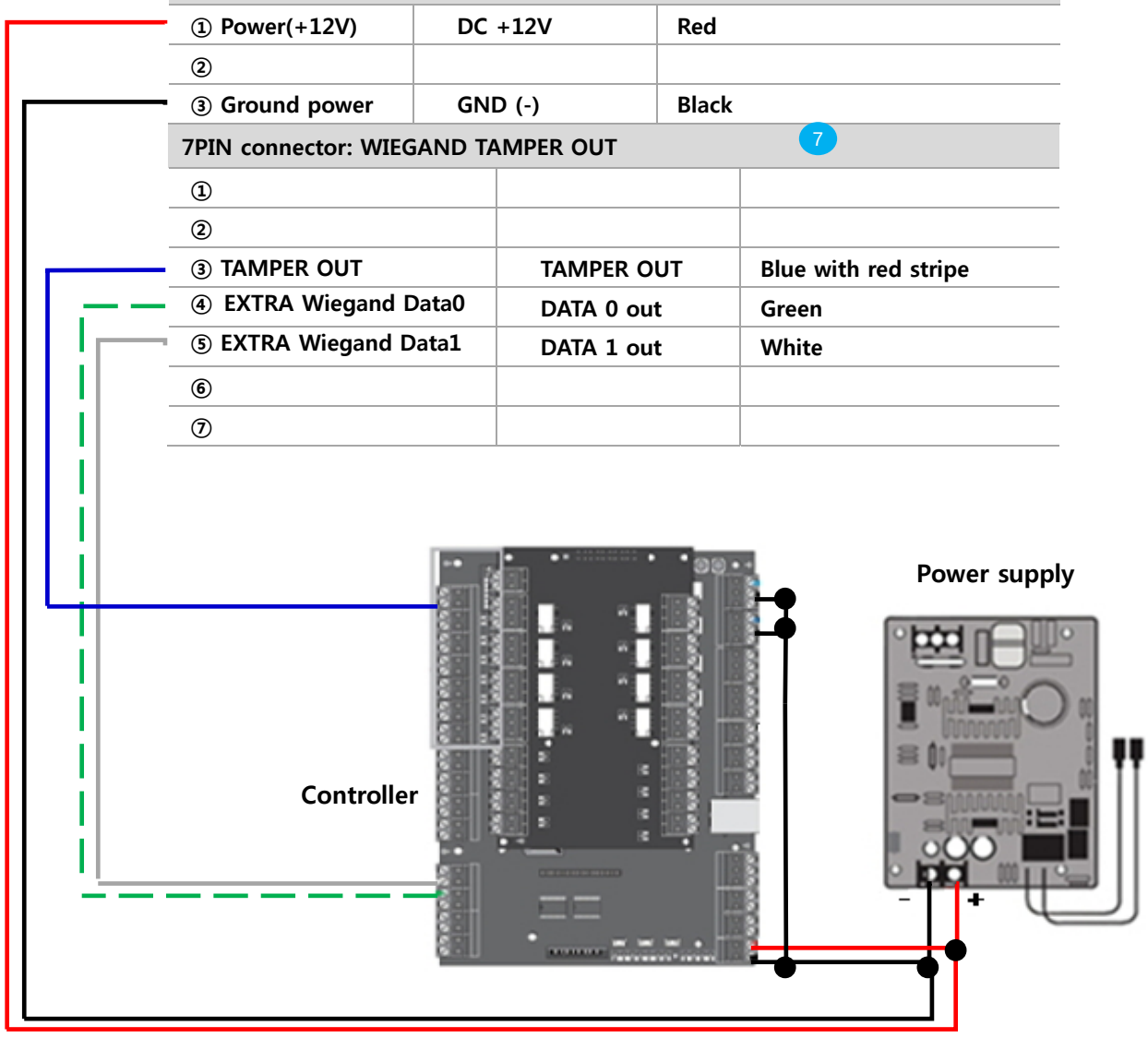
1. Connect 1 cable of an auxiliary input device to auxiliary input #1 or auxiliary input #2.Connect another cable of the auxiliary input to GND.

Wiegand output, tamper output connection

When using wiegand output feature, this feature is to check whether a card number which is transmitted through wiegand is registered to a connected controller.

3PIN connector: power		
① Power(+12V)	DC +12V	Red
②		
③ Ground power	GND (-)	Black

7PIN connector: WIEGAND TAMPER OUT		
①		
②		
③ TAMPER OUT	TAMPER OUT	Blue with red stripe
④ EXTRA Wiegand Data0	DATA 0 out	Green
⑤ EXTRA Wiegand Data1	DATA 1 out	White
⑥		
⑦		



Wiegand output connection

Connect green cable to D0 of a controller, and connect white cable to D1 of the controller. Must use the same GND.

Tamper connection

Connect blue with red stripe to an input of a controller.

Relay Output wiring

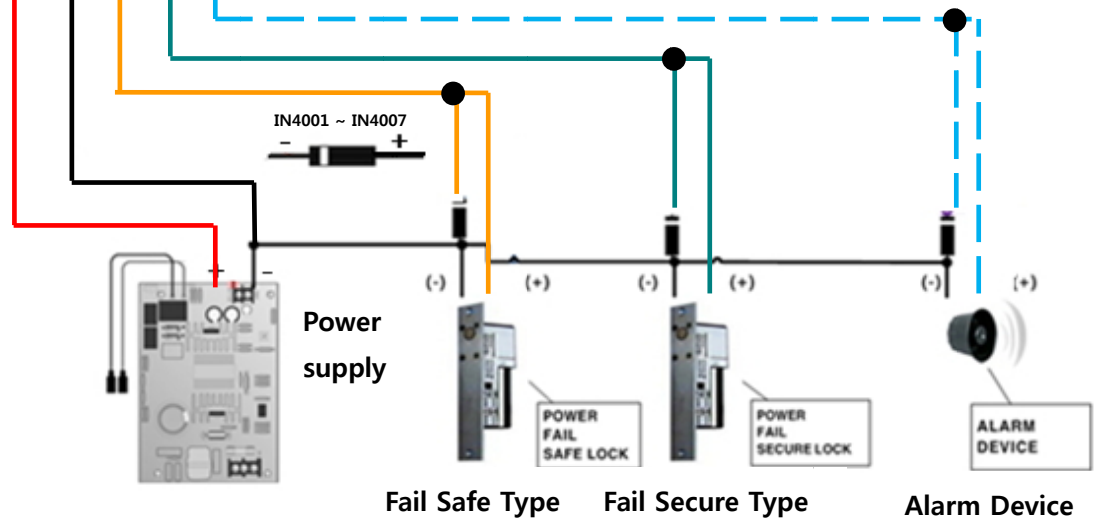
Caution

Must connect anti-reverse voltage diode.

Anti-reverse voltage diode must be connected to reduce surge voltage. If you do not connect the diode, surge voltage may damage a controller or cause an incorrect operation.

3PIN connector: power	4	
① Power(+12V)	DC +12V	Red
②		
③ Ground power	GND (-)	Black

6PIN connector: RELAY OUT	8	
① Door RELAY(NC)	NC (1)	Orange with white stripe
② Door RELAY(COM)	COM (1)	Brown with white stripe
③ Door RELAY(NO)	NO (1)	Green
④ Alarm RELAY(NC)	NC (2)	Green with white stripe
⑤ Alarm RELAY(COM)	COM (2)	Purple
⑥ Alarm RELAY(NO)	NO (2)	Cyan



In the case of power fail safe door lock

1 . Connect COM cable of door lock relay (Brown with white stripe) to DC +12 V.

2. Connect NC cable of door lock relay (Orange with white stripe) to (+) cable of the door lock.

3. Connect (-) of the door lock to GND (-) of a power.

In the case of power fail secure door lock

1. Connect COM cable of door lock relay (Brown with white stripe) to DC +12 V.
2. Connect NO cable of door lock relay (Green) to (+) cable of the door lock.
3. Connect (-) of the door lock to GND (-) of a power.

Alarm relay wiring

1. Connect COM cable of alarm relay (Purple) to DC +12 V.
2. Connect NO cable of alarm relay (Cyan) to (+) of alarm device.
3. Connect (-) of the alarm device to GND (-) of a power.

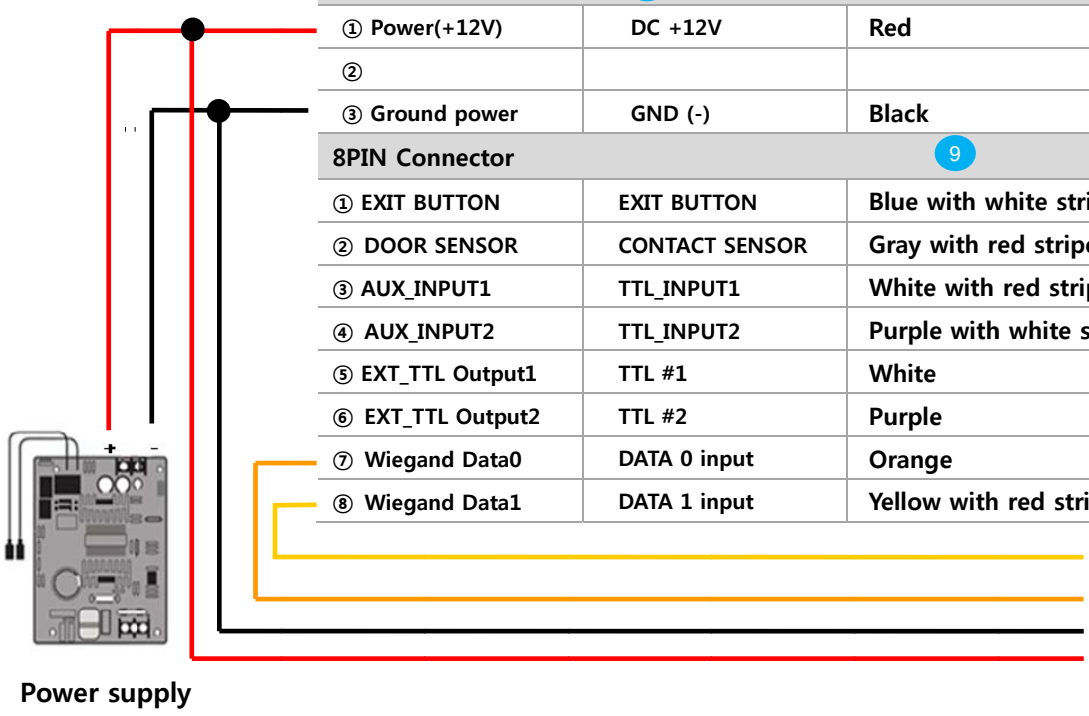
External reader connection.

When using an external reader, you must use a common GND

Caution

When wiring an external and receiving card data through WIEGAND, because normal W IEGAND data can be received only when standard voltages of a reader which transmits card data and a controller which receives the card data are same, you must use a common GND and make the voltages same.

3PIN connector: power	4	
① Power(+12V)	DC +12V	Red
②		
③ Ground power	GND (-)	Black
8PIN Connector	9	
① EXIT BUTTON	EXIT BUTTON	Blue with white stripe
② DOOR SENSOR	CONTACT SENSOR	Gray with red stripe
③ AUX_INPUT1	TTL_INPUT1	White with red stripe
④ AUX_INPUT2	TTL_INPUT2	Purple with white stripe
⑤ EXT_TTL Output1	TTL #1	White
⑥ EXT_TTL Output2	TTL #2	Purple
⑦ Wiegand Data0	DATA 0 input	Orange
⑧ Wiegand Data1	DATA 1 input	Yellow with red stripe



Power supply

Proximity Reader

Proximity reader connection

1. Connect DC12V (+) cable of power supply to (+) cable of a reader.
2. Connect GND (-) cable of power supply to (-) cable of a reader.
3. Connect Wiegand data output 0 cable of the proximity reader to orange cable.
4. Connect Wiegand data output 1 cable of the proximity reader to yellow with red stripe cable.

Compatible reader (External reader):

√ MAC1000

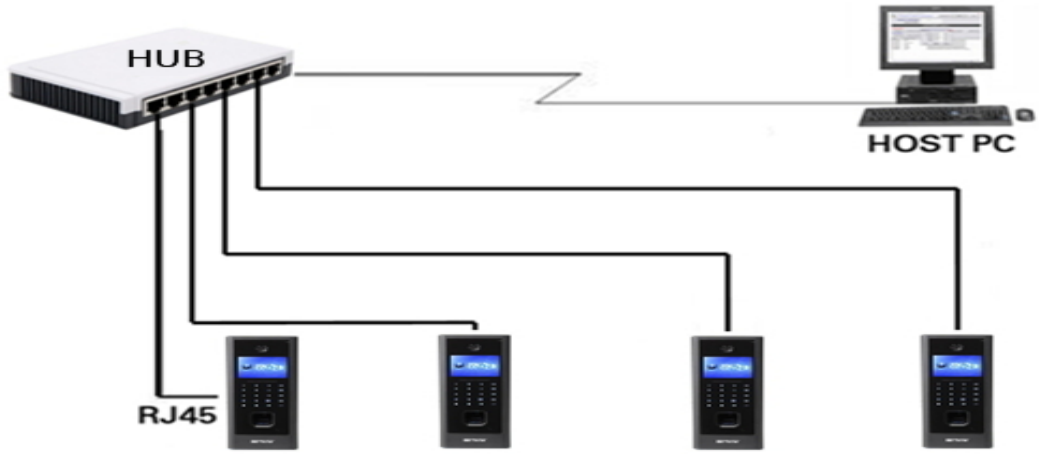
- Standard 26 bit Wiegand format proximity reader and 8bit burst keypad reader.

√ MAC1000SR

- Standard 34 bit Wiegand format proximity reader and 8bit burst keypad reader.

3.4 Communication wiring

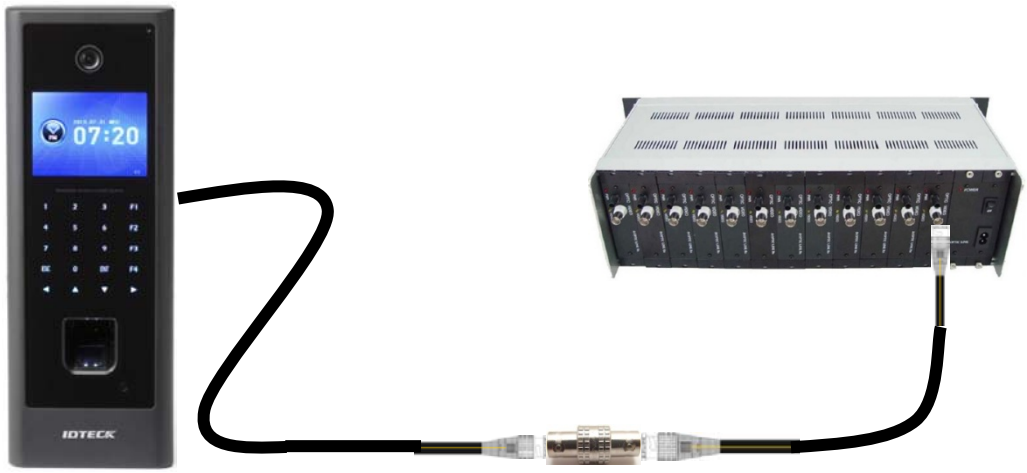
TCP/IP communication port connection



Follow the instructions below for TCP/IP communication of Host PC.

1. Connect RJ45 jack of the product and RJ45 plug, LAN cable of network system.
2. Set different communication IDs (COMM ID) to each product.
3. Install application software of the product and launch the software.

3.5 Digital Video Recorder wiring



To use video signal of the product with a DVR device, connect a 3 PIN cable provided (BNC cable) to the device and connect to DVR device using BNC gender and BNC extension cable considering the location of the DVR device.

√ BNC extension cable image

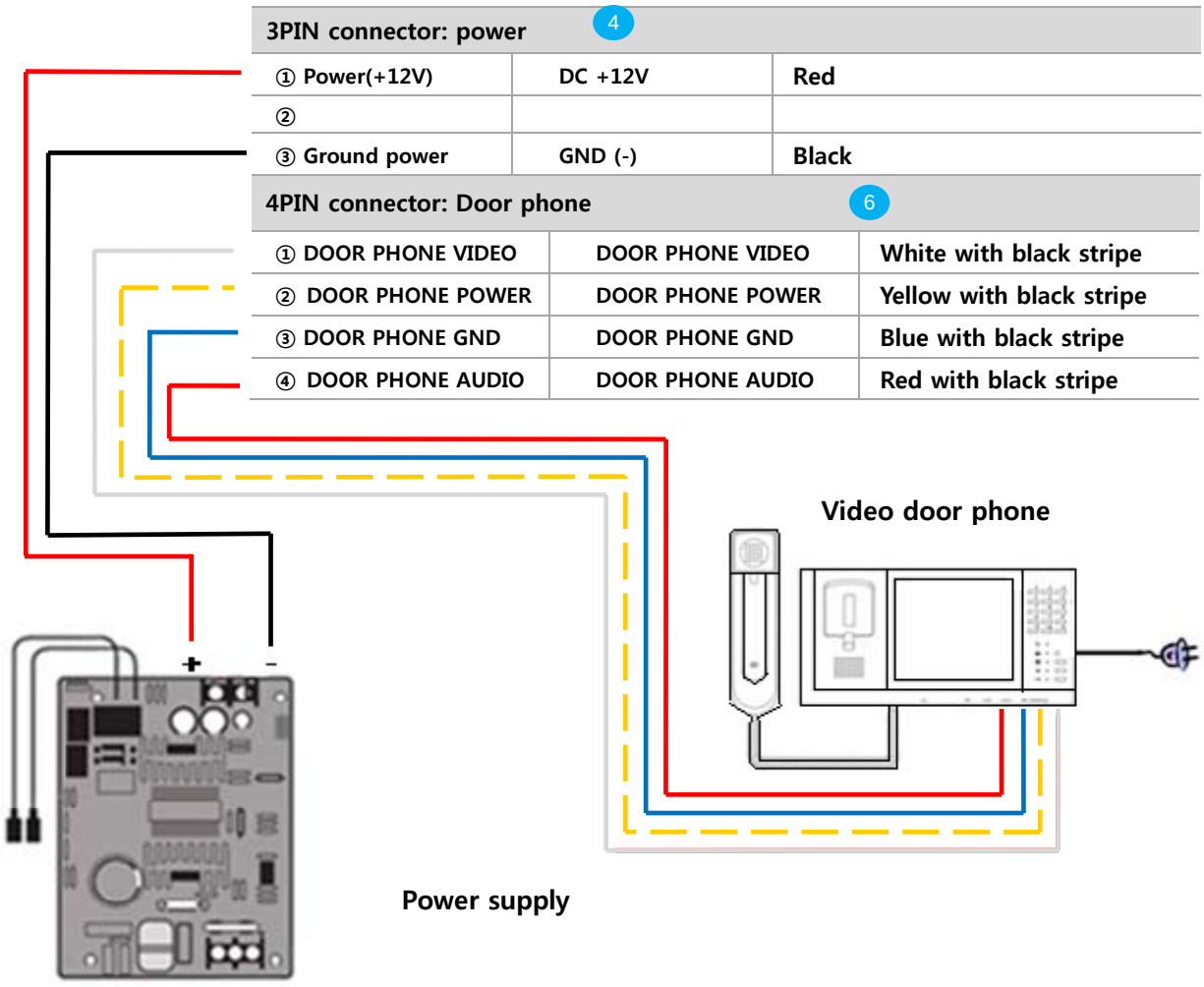
√ BNC connection gender image

3.6 Door phone wiring

The product supports 4-cable type (Power, GND, Voice, Video) polar video door phone only.

3PIN connector: power		
① Power(+12V)	DC +12V	Red
②		
③ Ground power	GND (-)	Black

4PIN connector: Door phone		
① DOOR PHONE VIDEO	DOOR PHONE VIDEO	White with black stripe
② DOOR PHONE POWER	DOOR PHONE POWER	Yellow with black stripe
③ DOOR PHONE GND	DOOR PHONE GND	Blue with black stripe
④ DOOR PHONE AUDIO	DOOR PHONE AUDIO	Red with black stripe



1. Connect white with black stripe cable to video of a door phone.
2. Connect red with black stripe cable to voice of a door phone.
3. Connect blue with black stripe cable to GND of a door phone.
4. Connect yellow with black stripe cable to +DC12V of a door phone.

4 Product Manual Download Information

This Quick Installation Guide is a manual to provide product's basic installation information only. If you need all the information of the product, please download detailed manual following the steps specified below.

For registered users of our homepage

1. Visit IDTECK's homepage (www.idteck.com).
2. Click the Sign in button at the top of the homepage and log in using your registered ID and P/W.
3. Click the 'PRODUCT' menu at the main page of our website and select the product that you wish to download a manual for.
4. At the bottom part of the product's page you selected, click "DOWNLOAD" button and download the manual.

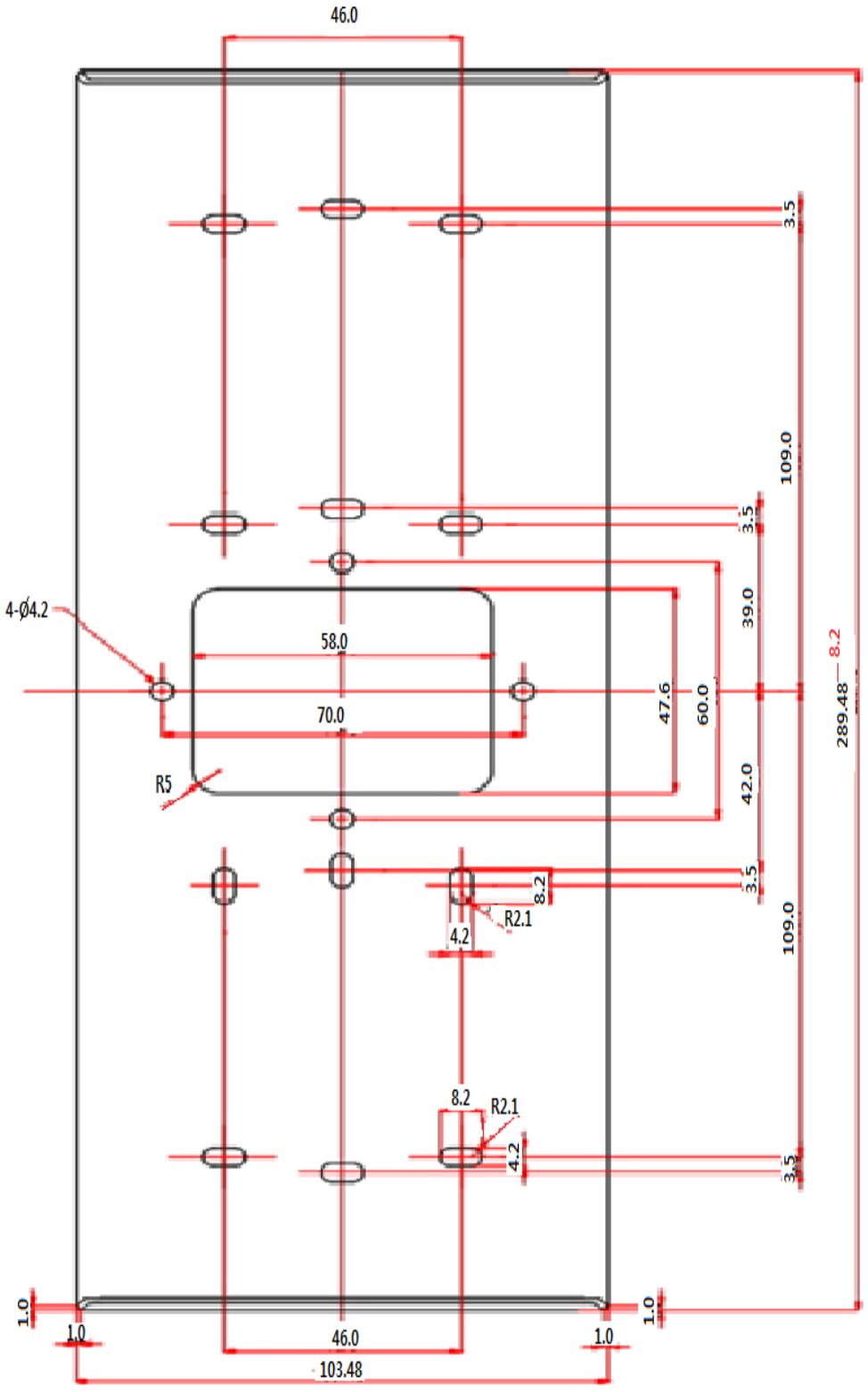
For un-registered users of our homepage

1. Visit IDTECK's homepage (www.idteck.com).
2. Please click "Member Join" menu at the top of our homepage and register your details following the registration process.
3. You can use your ID and P/W after web administrator approves it. Once it's approved, then please refer to "For registered users of our homepage" above.

Please contact us as below if you have any enquiries or issues arise.

IDTECK Headquarter
5F, Ace Techno Tower B/D, 684-1, Deungchon-Dong,
Gangseo-Gu, Seoul, 157-030, Korea
Tel: +82-2-2659-0055
Fax: +82-2-2659-0086
E-mail: webmaster@idteck.com
Website: www.idteck.com

5 Back Anchor Plate Figure



(Figure: back anchor plate)

MEMO

The specifications contained in this manual are subject to change without notice at any time.

5F, Ace Techno Tower B/D, 684-1, Deungchon-Dong,
Gangseo-Gu, Seoul, 157-030, Korea
Tel : +82-2-2659-0055
Fax : +82-2-2659-0086
E-mail : webmaster@idteck.com