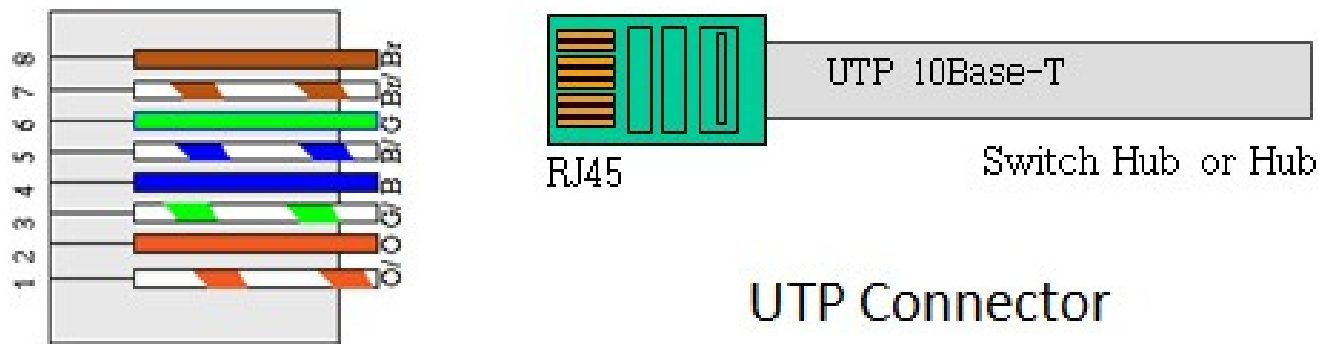# TIMEWATCH®
Presence perfect

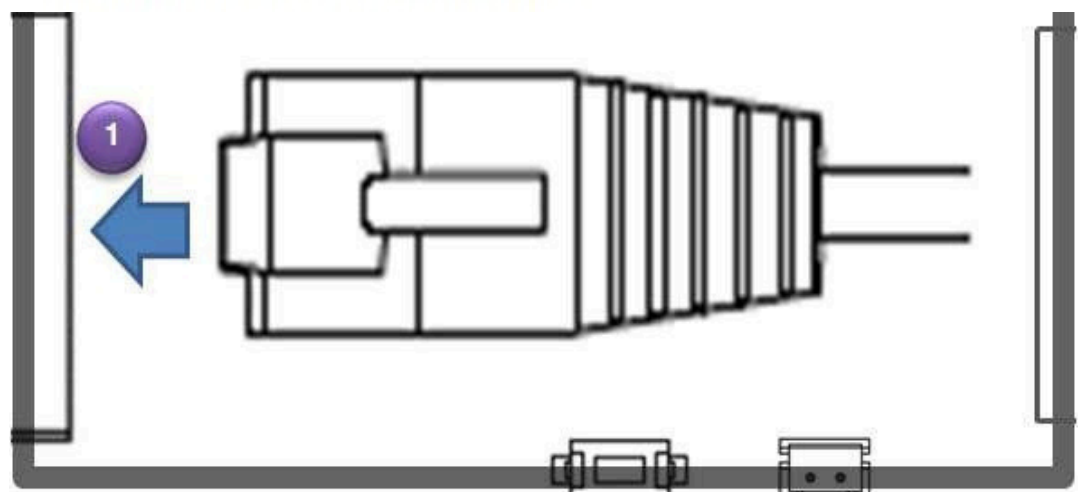
Connection Diagram

TW-IriGoPlus

Connector Information

LAN Connector

RJ-45 connector for 10/100Base-T Ethernet communication, minimum CAT5 cable.
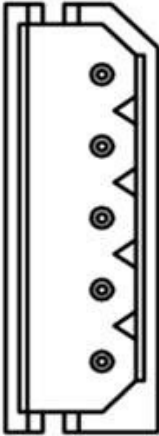

RS-485 Termination Resistor Switch

Switch for 100 Ohm termination resistor activation when EF-45 is connected to the end of RS-485 wire connection.
Default: Turned off

2	Switch	Function	Etc.
OFF (Default)	OFF	Disconnect RS-485 Termination Resistor	
ON	ON	Connect RS-485 Termination Resistor	

RS-485 Connector

This is used for communication with Access Control Unit or remote PC based system or controller.

	Pin Number	Pin Name	Etc.
3	1	DATA -	
	2	DATA +	
	3	GROUND	
	4	SHIELD GROUND	
	5	SHIELD GROUND	

RS-232 Connector

This allows for external communications with serial device similar to Smart Card Reader or Pin-PAD.

	Pin Number	Pin Name	Etc.
4	1	TX	
	2	RX	
	3	GROUND	
	4	SHIELD GROUND	

GPI Connector

GPI input is used for sensing the Exit button or Door Open Sensor.

It is TTL level based circuit and is pulled-up by an internal resistor.

5	Pin Number	Pin Name	Etc.
	1	GPI 1	
	2	GPI 2	
	3	GROUND	
	4	SHIELD GROUND	

Wiegand Input Connector

The Wiegand Input DATA0 and DATA1 are pulled-up by internal DC +5V supply.

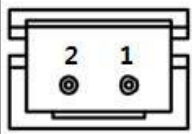| 6	Pin Number	Pin Name	Etc.
	1	DATA 0	
	2	DATA 1	
	3	GROUND	
	4	SHIELD GROUND	

Wiegand Output Connector

To make Wiegand Out work properly, the DATA0 and DATA1 should be pulled up by 1K Ohm resistor unless the EF-45 is connected to external device with its own pull-up for Wiegand.

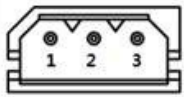| 7	Pin Number	Pin Name	Etc.
	1	DATA 0	
	2	DATA 1	
	3	GROUND	
	4	SHIELD GROUND	
	5	SHIELD GROUND	

DC Power Input Connector

Clean and sustainable DC +12V / 3.2 A power is needed for reliable EF-45 operations.

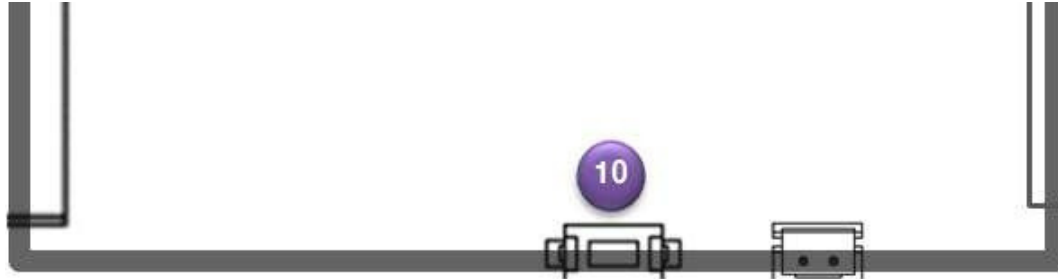| 8	Pin Number	Pin Name	Etc.
	1	DC+12V INPUT	
	2	GROUND	

Relay Connector

Internal relay interface with nominal switching capacity of 1A 30VDC or 0.3A 124VAC, resistive load.

9	Pin Number	Pin Name	Etc.
	1	Normal Close(NC)	
	2	COM	
	3	Normal Open(NO)	

Factory Reset Switch

If Factory Reset Switch is pushed for over 3 seconds, then system will re-initialize all the parameters to default and reboot the system.
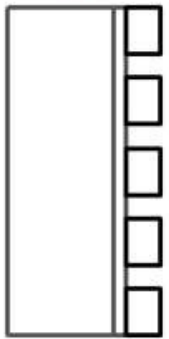

External Audio Output Connector

Connector for external audio output.

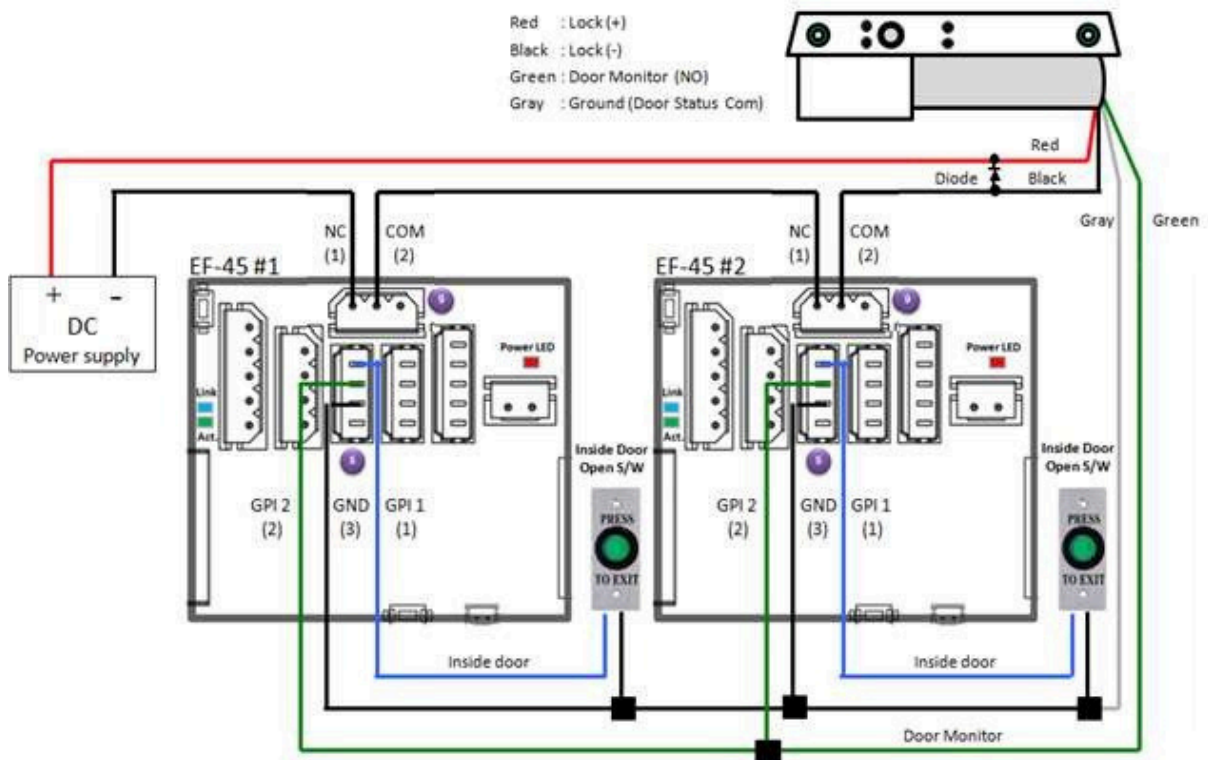| 11	Pin Number	Pin Name	Etc.
	1	EXT. AUDIO OUT +	
	2	EXT. AUDIO OUT -	

Serial Debug Port

This serial debug port is used for debugging the system by CMITech Service or Engineering. It is not available to user.

12	Pin Number	Pin Name	Etc.
	1	GROUND	
	2	RX (TTL LEVEL)	
	3	TX (TTL LEVEL)	
	4	DC+3.3V OUTPUT	

Single EF-45 configuration

Red : Lock (+)
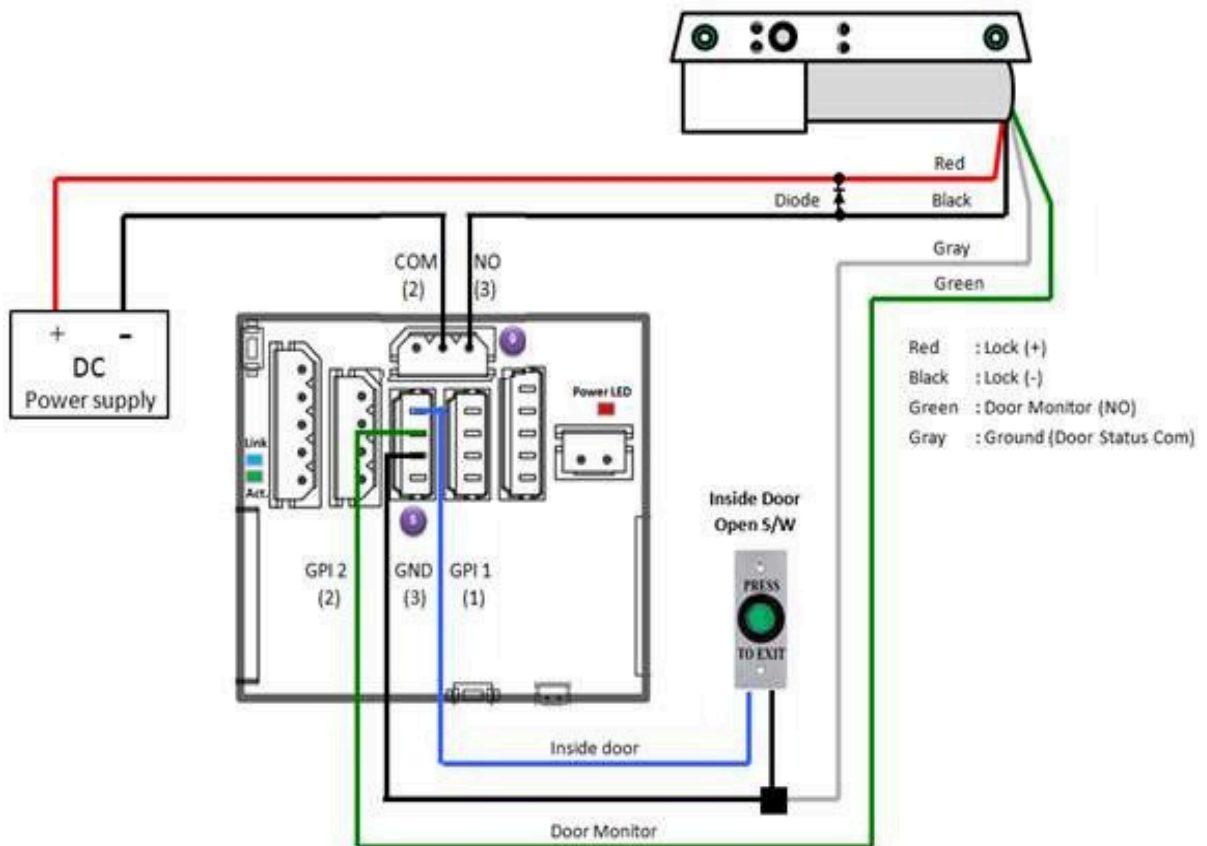Black : Lock (-)
Green : Door Monitor (NO)
Gray : Ground (Door Status Com)
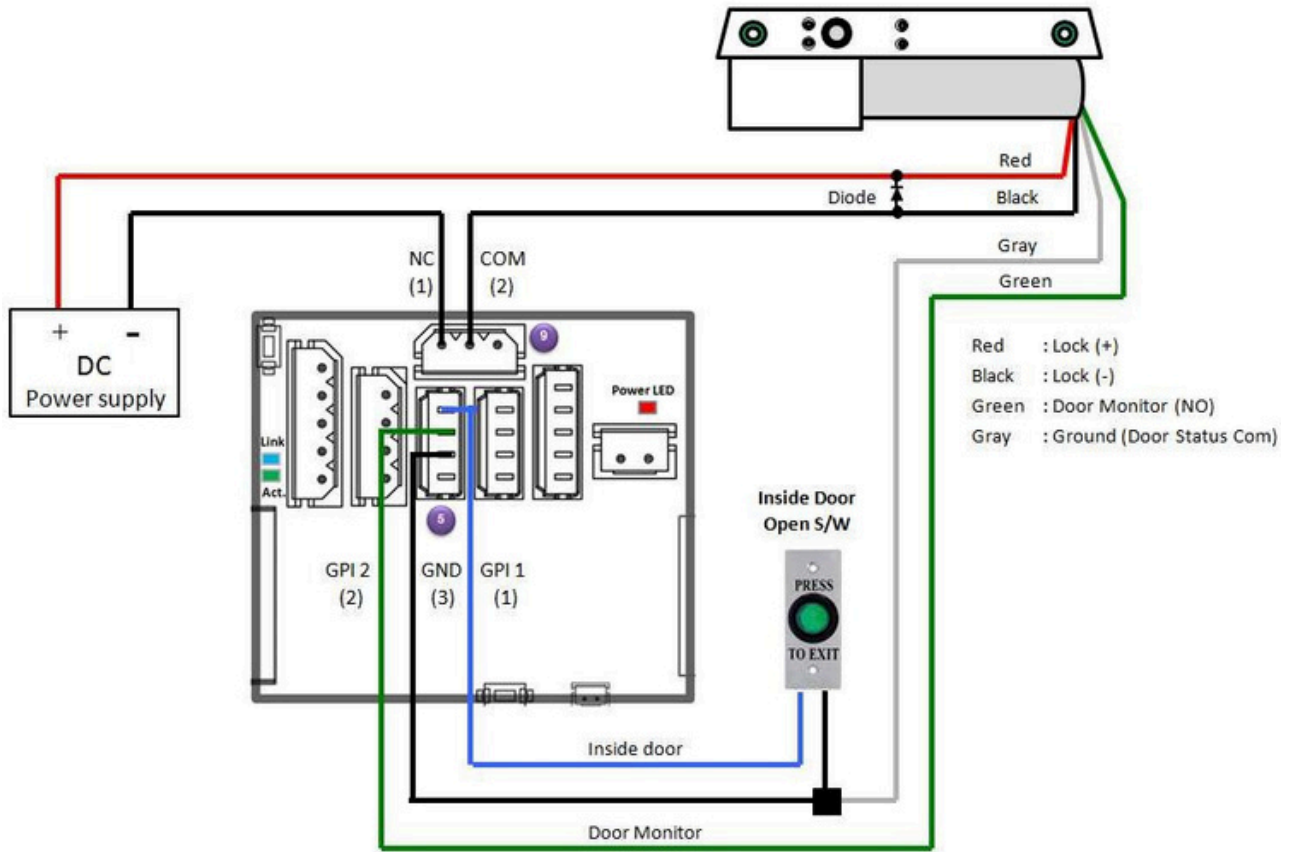
Dual EF-45 configuration

Relay Connection – Fail Secure Lock (Dead-Bolt Type Door Lock)
Single EF-45 configuration

Red : Lock (+)
Black : Lock (-)
Green : Door Monitor (NO)
Gray : Ground (Door Status Com)

Dual EF-45 configuration

Red : Lock (+)
Black : Lock (-)
Green : Door Monitor (NO)
Gray : Ground (Door Status Com)
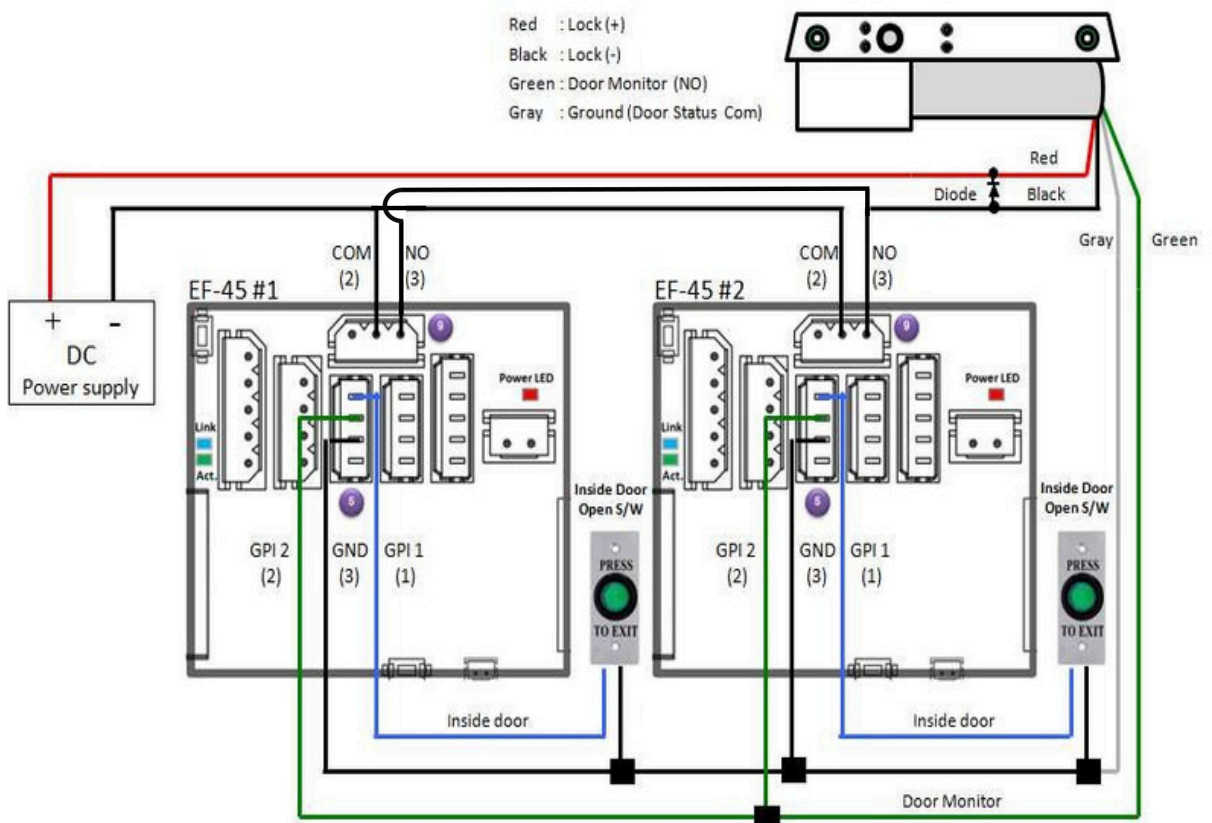
Relay Connection – Automatic Door

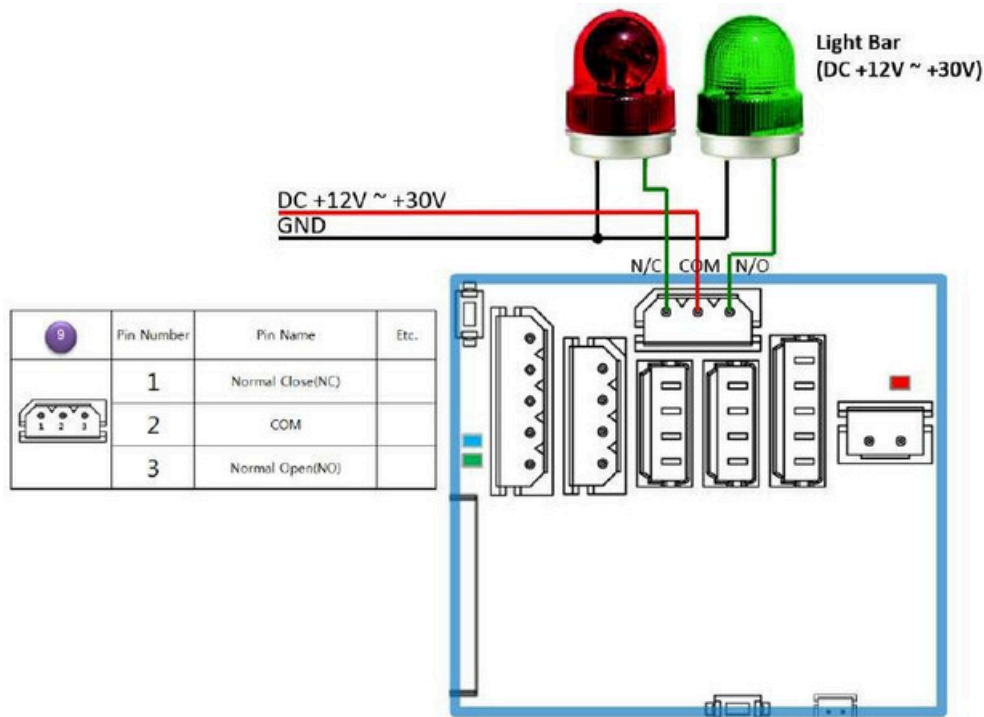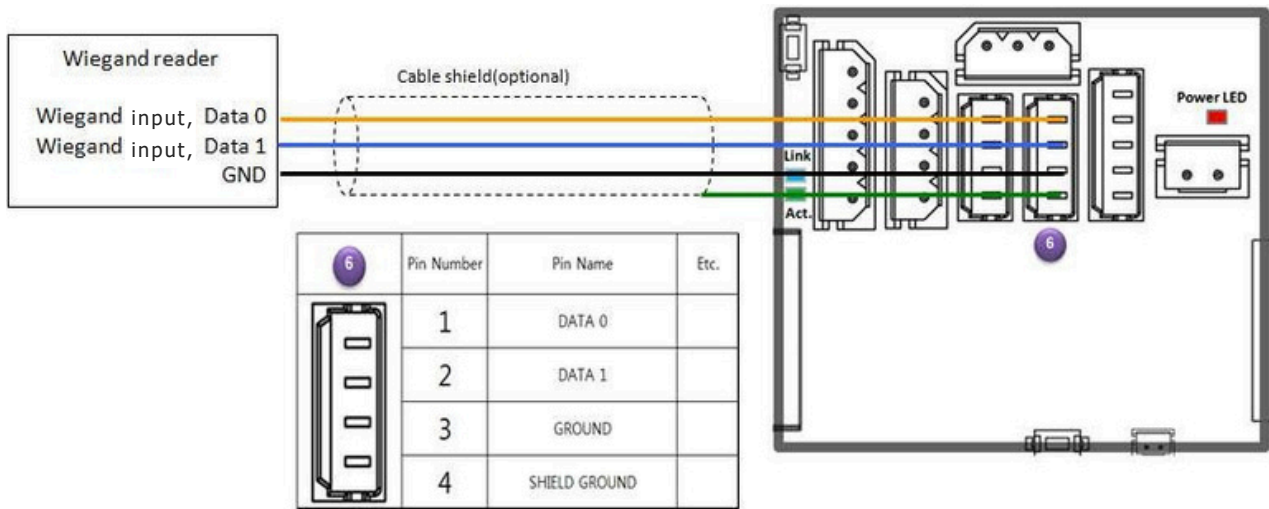| 9	Pin Number	Pin Name	Etc.
	1	Normal Close(NC)	
	2	COM	
	3	Normal Open(NO)	
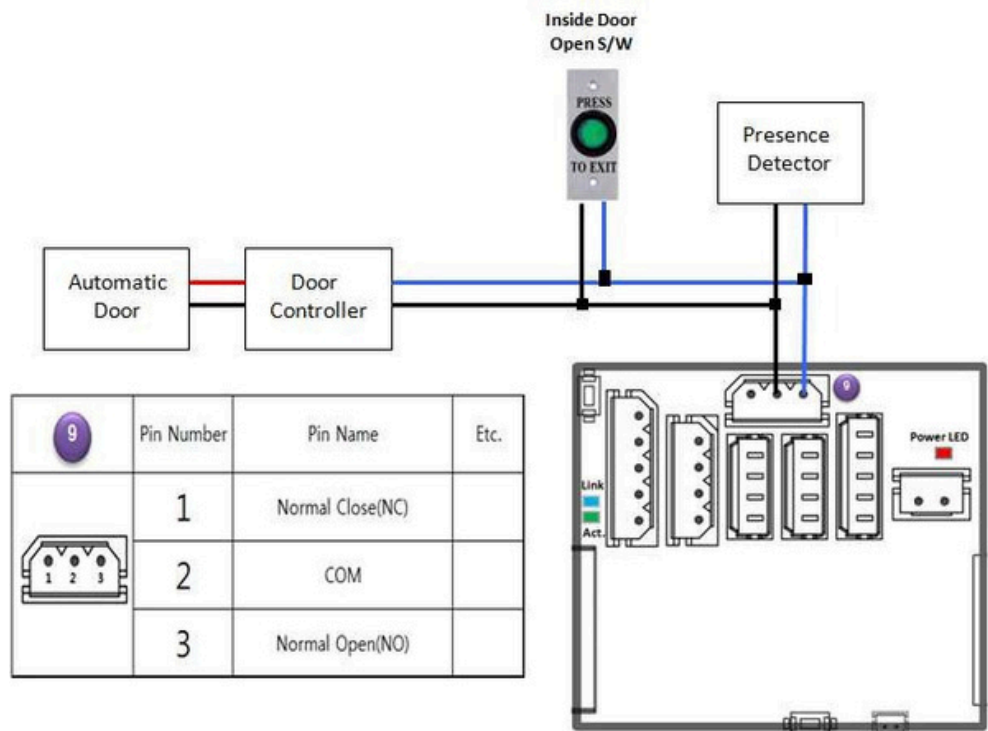
Relay Connection – Light Bar

Internal relay interface with nominal switching capacity of 1 A, 30 VDC or 0.3 A, 120 VAC, resistive load.

9	Pin Number	Pin Name	Etc.
	1	Normal Close(NC)	
	2	COM	
	3	Normal Open(NO)	

Wiegand Input Connection – External Reader

6	Pin Number	Pin Name	Etc.
	1	DATA 0	
	2	DATA 1	
	3	GROUND	
	4	SHIELD GROUND	

Wiegand Output Connection – External ACU / Controller

7	Pin Number	Pin Name	Etc.
	1	DATA 0	
	2	DATA 1	
	3	GROUND	
	4	SHIELD GROUND	
	5	SHIELD GROUND	