Operators Manual

Doc #P10226 Rev 1.8

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Figure Reference Guide

Part Numbers

DS004-BRIDGE	Wiegand Bridge system: includes DS004-CONTROLLER and DS004-REMOTE
DS004-CONTROLLER	Controller Interface
DS004-REMOTE	Remote Interface

Overview

The Sure-Fi DS004 Wiegand Bridge System consists of two units: The Controller Interface, Model DS004-CONTROLLER, and the Remote Interface, Model DS004-REMOTE. The system provides a wireless connection (bridge) from a remote location, such as at a door or gate entry point, to the controller location, such as an Access Control Panel. The Controller Interface connects with the Access Control Panel and communicates wirelessly to the Remote Interface, which is placed near any peripheral Wiegand device (card reader / keypad / receiver) and/or any relay/switch activated device. Each DS004 Bridge System consists of one Wiegand input, two relay outputs and two relay inputs for functions such as door monitor sensors/request to exit inputs or any other relay-controlled function. Each unit has two relay outputs that correspond with the two relay inputs from the other unit. The relays can be used independently and exclusively; it is not necessary to use the Wiegand Input to use the relays. The Sure-Fi App provides for configuration and customization, diagnostics and troubleshooting information, and field firmware updates.

Features

- Includes complete wireless solution from Remote location (reader/door) to Controller location
- Range: up to 1 mile through obstructions and greater than 50 miles line-of-sight
- Chain multiple system pairs for extended range
- One Wiegand port (compatible with any Wiegand protocol up to 64 bit)
- Two relay outputs per side NO, NC, COM terminals (Wet contacts available on Remote only)
- Two relay control inputs per side, i.e. Request to Exit input (REX), Door monitor input (DPS), etc.
- One Auxiliary input/output (0 to 5V input/output)
- Backup Battery charger and UPS function
- DIN rail mount or direct wall mount
- Sure-Fi APP (iOS/Android) connects via Bluetooth for diagnostics and firmware updates

General Specifications

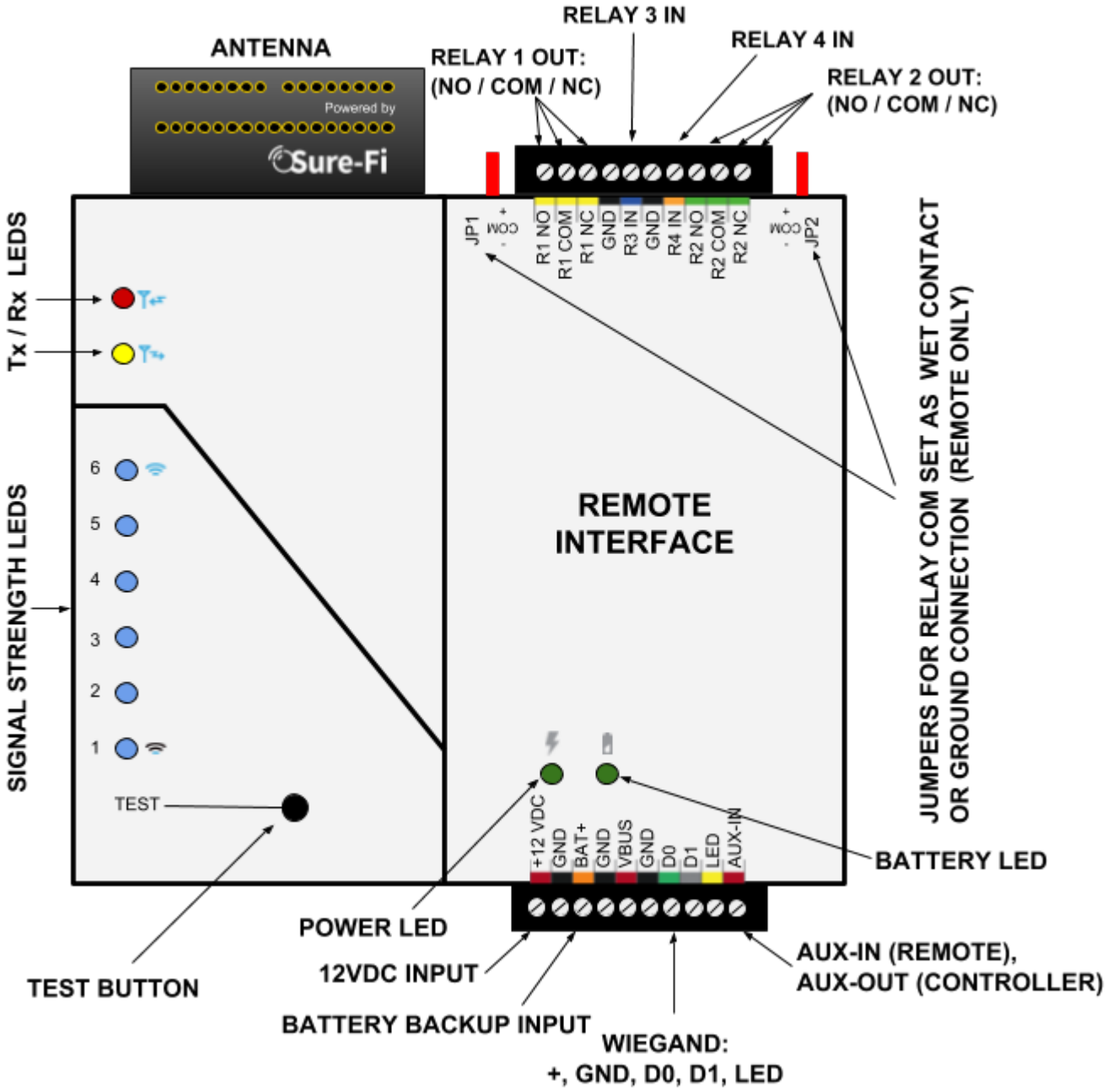
Operating Voltage:	12VDC (9VDC to 15VDC)
Operating Current:	@ 12VDC: 0.08A (idle), 0.3A (transmit)
Operating Power:	3.6 Watt (peak)
Battery backup:	12V sealed lead acid (SLA) type only (not included)
Battery Low Threshold:	< 11VDC
Battery Charge Voltage:	13.75V maximum at standby charge.
Battery Charge Current:	0.125A maximum at low battery voltage level.
Relay Inputs:	Four relay control inputs: Input control: 5V maximum at 5mA.
Relay Outputs:	Four relays: 2A 250VAC / 250VDC. NO, NC, COM, Wet / Dry
	Note: Maximum allowable combined current is 3 Amps.
Range:	Up to 1 mile through obstructions. Greater than 50 miles line-of-sight
	Can chain multiple system pairs for extended range.
Encryption:	AES128
Operating Temperature:	40°F to +185°F (-40°C to +85°C)
Storage Temperature:	-67°F to +257°F (-55°C to +125°C)
Humidity:	0 to 95% non-condensing
Dimensions (L x W x H):	90mm x 107mm x 32.5mm (3.54” x 4.23” x 1.28”)
DIN mount type:	35mm DIN rail (DIN46277-3) / (DIN35)
Degree of Protection:	IP20 to IEC/EN 60529

Radio Transceiver Specifications

Transmit Power:	1 Watt (30dBm)
Frequency Band:	902 – 928MHz
Channels:	72 (Frequency hopping)
Receiver Sensitivity:	-133dBm
Link Budget:	163dB

Device Overview and Description (Remote Interface shown)

Figure 1: Overview



Controller Interface - Top connector

Table 1:

Position	Description
1 (right)	R4 NC: Relay 4 Normally-Closed terminal
2	R4 COM: Relay 4 Common terminal
3	R4 NO: Relay 4 Normally-Open terminal
4	R2 IN: Relay 2 control: activates Relay 2 on Remote unit
5	GND: - DC Ground
6	R1 IN: Relay 1 control: activates Relay 1 on Remote unit
7	GND: - DC Ground
8	R3 NC: Relay 3 Normally-Closed terminal
9	R3 COM: Relay 3 Common terminal
10 (left)	R3 NO: Relay 3 Normally-Open terminal

Controller Interface - Bottom connector

Table 2:

Position	Description
1 (left)	+12VDC: + DC input
2	GND: - DC input
3	BAT+: Battery backup positive terminal '+' connection. 12V Sealed Lead Acid (SLA) type battery only.
4	GND: - DC input
5	NC: Not Connected
6	GND: - DC input (Wiegand Ground connection)
7	D0: Wiegand D0 connection
8	D1: Wiegand D1 connection
9	LED: Device LED connection
10 (right)	AUX-OUT: This is an output on the CONTROLLER INTERFACE. It corresponds with input AUX-IN on the REMOTE INTERFACE.

Remote Interface - Top connector

Table 3:

Position	Description
1 (right)	R2 NC: Relay 2 Normally-Closed terminal
2	R2 COM: Relay 2 Common terminal
3	R2 NO: Relay 2 Normally-Open terminal
4	R4 IN: Relay 4 control: activates Relay 4 on Controller unit
5	GND: - DC input
6	R3 IN: Relay 3 control: activates Relay 3 on Controller unit
7	GND: - DC input
8	R1 NC: Relay 1 Normally-Closed terminal
9	R1 COM: Relay 1 Common terminal
10 (left)	R1 NO: Relay 1 Normally-Open terminal

Remote Interface - Bottom connector

Table 4:

Position	Description
1 (left)	+12VDC: + DC input
2	GND: - DC input
3	BAT+: Battery backup positive terminal '+' connection. 12V Sealed Lead Acid (SLA) type battery only.
4	GND: - DC input
5	VBUS: + voltage output for Wiegand device
6	GND: - DC input (Wiegand Ground connection)
7	D0: Wiegand D0 connection
8	D1: Wiegand D1 connection
9	LED: Device LED connection
10 (right)	AUX-IN: This is an Input on the REMOTE INTERFACE and corresponds with the output AUX-OUT on the CONTROLLER INTERFACE.

Sure-Fi APP for iOS/Android:

The Sure-Fi APP allows for firmware updates, configuration and customization as well as for some diagnostics and troubleshooting information. The APP is continually being updated to provide for more information and features and to improve its ease of use. To download, search for 'Sure-Fi' and then download and install. The key features of the APP are:

- Field firmware updates
- Creating a custom / unique name for the unit location (default name is 'Wiegand Interface')
- Configuration of the Wiegand LED output (default to follow Relay 1, can be set to Relay 2 or LED input)
- Configure the six Signal Strength LED indicators for ON/OFF, persistence time (default is ON, 1 second)
- Setting default Relay output values upon a set timeout interval (in increments of the Heartbeat time).
- Setting the system Heartbeat time.
- Diagnostics and Troubleshooting information
- Access to documentation (Operators Manual, Application Notes, Reference documents, etc.)
- Unpair Bridge system and Pair with another unit (use only if either unit needs to be replaced)

Using the Sure-Fi APP (see Figures 19 – 32):

Connecting:

The Sure-Fi APP uses the Bluetooth on the user's phone to connect to the Bridge's onboard Bluetooth interface. To use the APP, be sure that the Controller or Remote Interface is powered ON, then open the APP, select 'Wiegand', then scan the QR code that is on the unit next the 'TEST' button. The Status will show 'Connecting', then after a pause it will say "Hold Test button on the Bridge for 5 seconds". If the connection is successful, the status will show 'Status: Connected' and all the features of the APP will be available for use.

Firmware Updating:

Firmware updates must be completed on both the Controller and Remote Interface when updating the firmware of either side. The Bridge pair may operate erratically or be non-functional until both sides have been updated to a new firmware version. If updating firmware on one side, plan to immediately go to the other side and perform the same firmware update.

A data connection must be available on the device (phone) that the Sure-FI APP is running on. Be sure that the APP remains connected to the Bridge unit during the update process which usually takes a couple minutes to complete. After connecting to the Bridge unit with the APP, select 'Update Firmware' from the menu. The 'Update Firmware' screen will show the current firmware versions and show if a newer released version is available (see Figures 27 - 30). Select 'Start Firmware Update" to begin the updating process. A notification will be given when the update is complete.

Sure-Fi APP for iOS/Android (Cont.):

Change the name of the unit (see Figures 25 – 26):

On the main screen, tap the 'edit' icon (see red arrows in Figure 25), then enter the new name for the unit.

Configuration of the Wiegand LED (see Figure 24):

From the main screen, select 'Default Settings' to get to the 'LED SETTINGS' section (see Figure 24). The default setting for the Wiegand LED is for the LED output of the Remote unit to follow Relay 1. The LED can be set to follow either Relay 2 or to follow the LED input on the Controller Interface unit.

Setting the System Heartbeat time:

The system Heartbeat (defaulted at 1 hour) is the time interval when the system will automatically perform a system status check if there have not been radio communications between the units during that time. The Heartbeat timer is reset each time any successful transmission occurs between units during regular usage. The system status check verifies communication between units and that all input and output states are correct. If a unit does not receive the Heartbeat, it will continue to attempt communications and it will keep the relay outputs set at the current state. If the relay default setting was enabled, the unit will change the relay state to the pre-configured default state when the set time interval is reached.

Setting the Relay default state and time (see Figures 31 & 32):

This feature is defaulted as disabled. The relays can be set to default to NO or NC after a set time interval has passed. The time interval is based on multiples of the Heartbeat time. When the time interval is reached, the relay(s) will go to the default state as configured in the APP and will remain in that state until regular system activity returns, and a command is received to change the relay state and return to normal operation. This feature provides for a way to define the relay default state if communications between units is interrupted for some reason and for a period of one or more Heartbeat time intervals.

Relays:

Operating the relays:

The relay outputs are operated by the corresponding relay inputs that are on the opposite Bridge interface unit. For example, to activate Relay 1 on the Remote Interface, the Relay 1 input (R1 IN) on the Controller Interface must be shorted to GND (active low). This can be accomplished by connecting a push-button to the Controller Interface R1 IN and GND or connecting them to an access panel output relay NO and COM terminals. When the Push-button or the access panel output relay closes, the R1 IN will be put to GND (0V) and will cause the Relay 1 output on the Remote Interface to activate.

Relay In/out control:

Relay 1 & 2 Outputs located on the Remote Interface, Operated by R1 IN & R2 IN on the Controller Interface.
Relay 3 & 4 Outputs located on the Controller Interface, Operated by R3 IN & R4 IN on the Remote Interface.

Jumpers JP1 and JP2 (REMOTE INTERFACE ONLY)

Jumpers JP1 / JP2 are used to connect the relay COM terminal to either GND or +VBUS. JP1 is for Relay 1, JP2 is for Relay 2. Figure 2 shows the pinout of JP1/JP2. Use the supplied Jumper to connect the common terminal to either the – (GND) or the +(VBUS) pins if required for the desired application. The + VBUS is the same voltage that is present on the power input at the +12VDC input, or if the Backup battery is in use, on BAT+. The Remote Interface is delivered with the supplied Jumpers on JP1 and JP2 set for a dry relay (COM not connected to either GND or +VBUS), see figure 3.

Figure 2: JP1 / JP2 Pinout

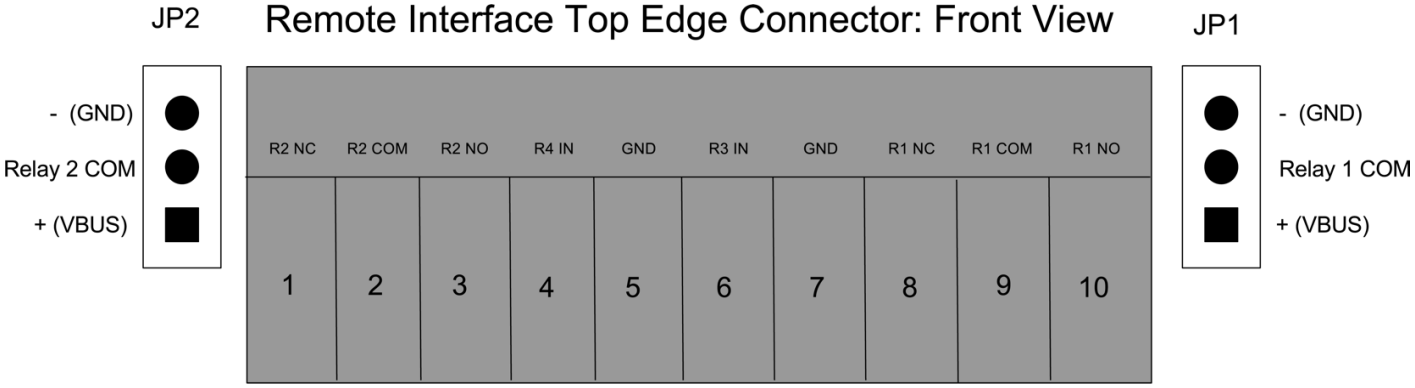
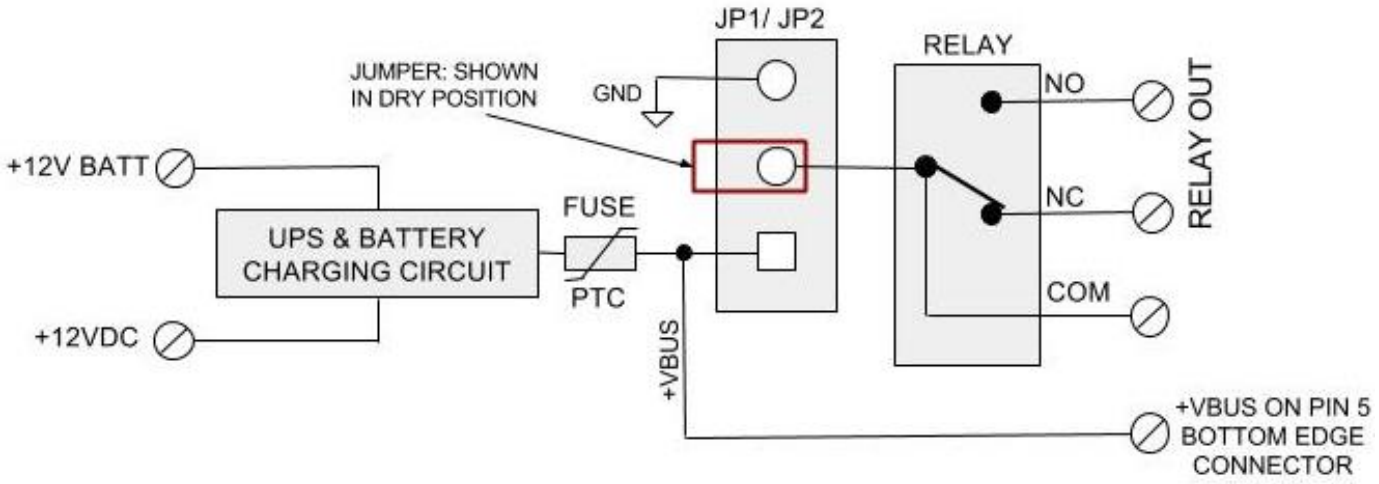


Figure 3: Diagram of Power Input, +VBUS, and JP1/JP2 functionality



Wiegand Port (D0, D1, LED):

Connecting Wiegand Port at the Remote Interface (see Figure 8):

Connect D0, D1, LED (if required) and GND from the Wiegand device to the Remote Interface. The power for the Wiegand device can be supplied from a separate supply or it can be supplied from the Remote Interface by connecting the 'VBUS' output to the power input of the Wiegand device. Before connecting power, ensure voltage compatibility and power requirements of the supply are adequate to power both the Remote Interface and the Wiegand device.

Connecting Wiegand Port at the Controller Interface (see Figure 9):

Connect D0, D1, and GND from the Controller Interface to the Wiegand input terminals of the control panel. The LED input does not need to be connected, see 'Wiegand LED' section below for more information.

Wiegand LED:

The control of the Wiegand LED output is configurable using the Sure-Fi APP. By default, the LED output at the Remote Interface follows Relay 1 which means that when Relay 1 is activated, the LED output will change states from an output-high (5V) to an output-low (0V) while Relay 1 is activated. Using the Sure-Fi APP, the LED can be configured to follow either Relay 1 (default), Relay 2, or the LED input on the Controller Interface. With the default set at Relay 1, it assumes that Relay 1 is being used for the access entry point (Door Strike/Maglock/Gate Operator). When a valid credential is presented at the Wiegand device, the Access Panel will grant access by activating an Output relay that must be connected to the Relay 1 'R1 IN' on the Controller Interface unit. When Relay 1 is activated at the Remote Interface the LED output changes to 0V which changes the LED color on the Wiegand device. With this default, the LED connection on the Controller Interface does not need to be connected to the access panel because the Wiegand LED follow's Relay 1.

Auxiliary Input/Output (AUX IN / AUX OUT):

The Auxiliary input AUX-IN on the Remote Interface corresponds with the Auxiliary output AUX OUT on the Controller Interface. The AUX IN is an active low input and is interfaced in the same way as a Relay input, by shorting it to GND. When AUX IN is shorted to GND, the AUX OUT on the Controller Interface will change states from a logic-high level (~5V) to a logic low level (0V).

"Test" Push Button

The push button is used for two functions:

1. Range Test: Pressing and releasing the button quickly initiates the Range Test. The Range Test feature is used to test the range of the radio transceiver and displays the results of a received transmission on the six blue LEDs, these are labeled 'Signal Strength LEDS (1 – 6)' in Figure 1.
2. Configuration: Pressing and holding the 'Test' button down for 5 seconds will put the unit into Configuration mode. Before pressing the button, see the Sure-Fi App for configuration processes and other information.

LEDS (Figure 1)

1. POWER and BATTERY LEDS: these two LEDs provide power and battery input status information. See the 'LED Diagnostics' section for more information.
2. Rx LED: The Rx LED will flash once briefly when a Sure-Fi radio transmission is received.
3. Tx LED: The Tx LED will flash once briefly upon a radio transmission.
4. Signal Strength LEDs: These six LEDs display the received signal strength. Maximum signal strength is indicated when LEDs 1 through 6 are all ON. Minimum signal strength is indicated when only LED 1 is ON.

Antenna

The radio antenna is created using copper traces on both sides of the PC Board. Use caution when handling and mounting the unit to ensure that no damage (scratches, etc) occurs to the PC Board/Antenna. Additionally, for best performance, keep cables and wiring away from the antenna and mount the unit oriented with the antenna upwards.

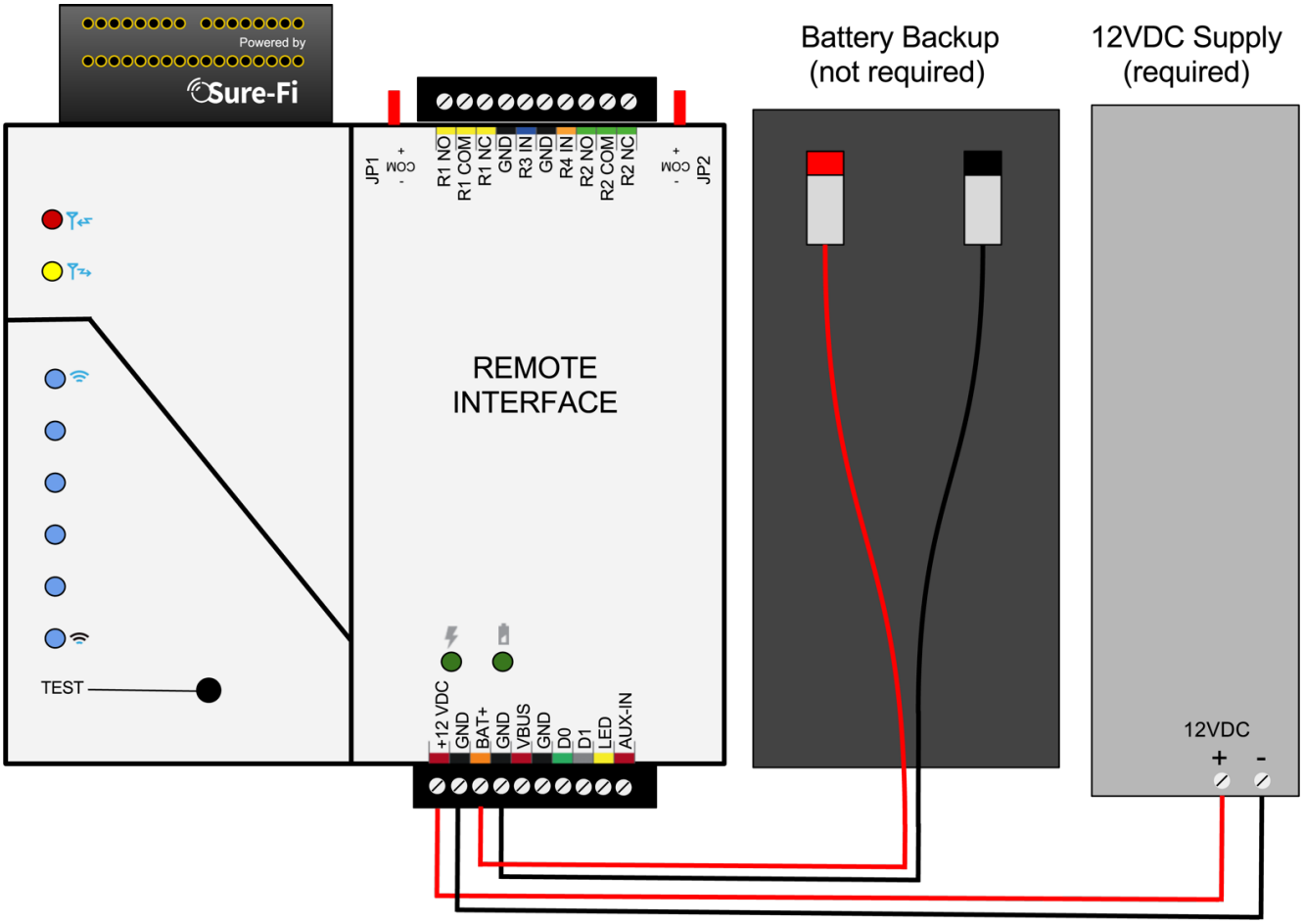
Connectors

The top and bottom connectors are 10-position, 3.5mm EURO type. The mating plug is Molex pn 39500-0010. Wire Range: 16 to 30AWG. Wire strip length 0.250". Recommended screwdriver: slotted blade 0.98" width. To install a wire, turn the screw counter-clockwise 3 or 4 turns, insert the wire and hold in place while tightening the screw. When complete, pull on the wire to ensure that it is tightened adequately.

Providing Power to the Controller & Remote Interfaces

The Controller and Remote interfaces each require a 12VDC supply that can source at least 0.5A. If a Maglock, Door Strike, or other device is to be powered through an on-board wet relay, then the additional power required for those devices will need to be considered when selecting a power supply. A Battery backup can be connected as shown if required for the application.

Figure 4: Backup Battery Connection



Battery Backup Charging and UPS Functionality

The Controller and Remote Interfaces both provide a charging voltage for a 12V sealed lead acid battery backup and they also have uninterruptable power supply (UPS) functionality. The UPS will automatically switch to the battery backup whenever the 12VIN wall power goes out and will then switch back to the 12VIN wall power when it returns.

Power and Battery Led Diagnostics

The two green LED's that are labeled 'POWER' and 'BATTERY' are used to provide the status of the 12VDC input ('POWER' LED) and Battery input voltage ('BATTERY' LED). The status information is described here:

Power Status: POWER LED

LED STATE	DESCRIPTION
ON	Normal input voltage
Slow Flash (1Hz)	Input voltage low. Check for proper input voltage (12VDC)
Fast Flash (2Hz)	Input voltage high. Check for proper input voltage (12VDC)
OFF	No input power or device not functioning properly

Battery Status: BATTERY LED

LED STATE	DESCRIPTION
ON	Battery voltage normal
Slow Flash (1Hz)	Low battery voltage. Battery voltage is < 11.0VDC
Fast Flash (2Hz)	Battery voltage high. Maximum Battery voltage is 13.8VDC
OFF	No battery: battery voltage is < 1.0VDC

Chain multiple system pairs for extended range:

If a single paired system is unable to communicate from the desired two endpoints, a second paired system can be used to create a 'chain' to extend the range. If required, many paired systems can be 'chained' together for extremely difficult installations. To accomplish this, each paired system in the chain is wired to another paired system to pass the signals between them (see Figure 33 for a wiring diagram).

Mounting

There are two methods for mounting:

DIN Rail mount:
DIN rail mounting is the preferred mounting method that allows the case to easily clip and unclip from the DIN rail. Attach a piece (minimum 4" length) of 35mm type DIN rail to the wall and then snap the unit to the DIN rail or slide it on from the end. The unit will snap in to place by putting the top retaining tabs on to the DIN rail first, then pressing the bottom on to the DIN rail until it snaps in to place. To remove the unit from the DIN rail, use a small screwdriver, insert in to the bottom DIN rail clip (the single black clip) and pull gently down and outward until the unit releases from the DIN rail.

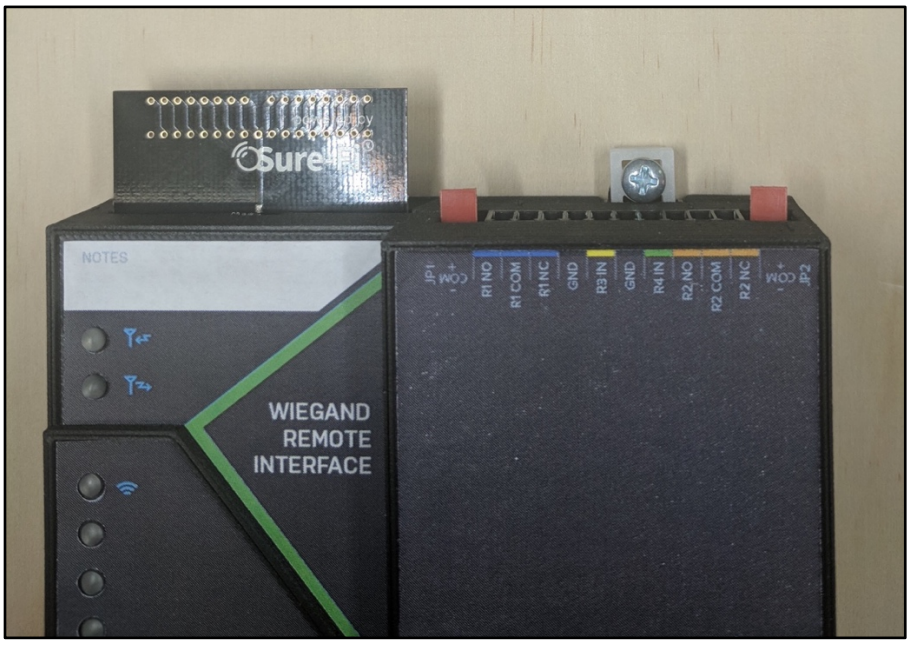
Screw mount:
The DIN rail clips on the base of the enclosure case can be snapped outward to allow for screw mounting of the case. Mount using only the single bottom black DIN clip and the top white DIN clip that is located on the side below connector P1. Do not use the DIN clip located behind the antenna.

The two DIN clips are shown pressed outward and ready for screw mounting:

Figure 5: DIN Rail Mounting Pins

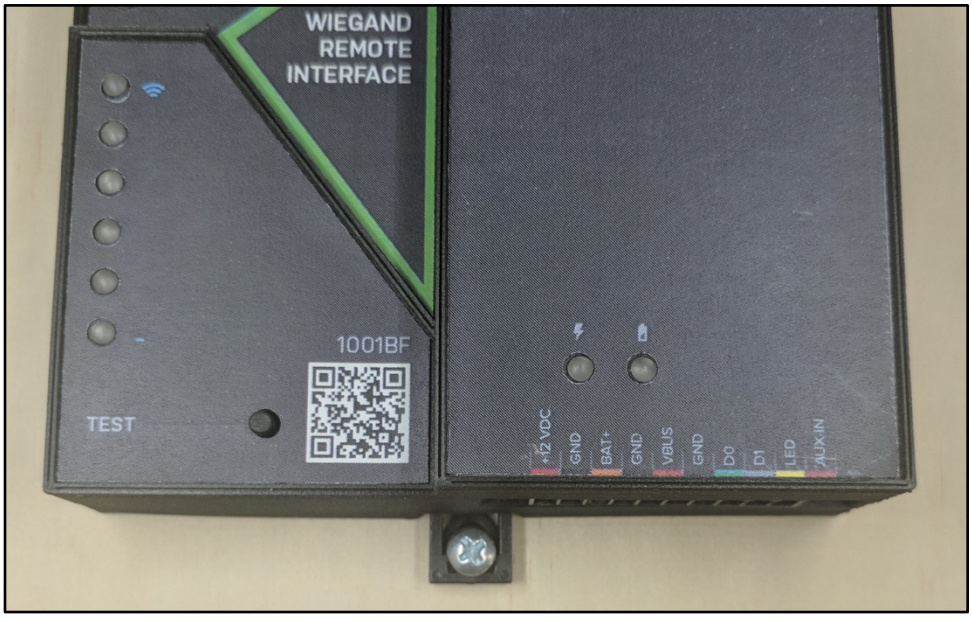
The top screw is shown mounted through the DIN clip to the wall:

Figure 6: Top DIN Rail Screw Mount



The bottom screw is shown mounted through the black DIN clip to the wall:

Figure 7: Bottom DIN Rail Screw Mount



Troubleshooting

Testing Range and RF communications:

Press and release the 'Test' button on one of the units and observe the six Signal Strength LEDs. If any of the blue LED 1 through LED 6 lights up momentarily then the transmission between the two units was successful. This establishes that the radio communications between the two units is operational and even with only LED 1, there is adequate signal strength for proper function.

Wiegand data issues:

If there is a problem with the Wiegand data getting through to the access panel, check the following:

1. Wire the Wiegand outputs (D0, D1, GND) from the **Wiegand Controller Interface** to the Access Panel.
2. Wire the Wiegand device to the **Wiegand Remote Interface** and ensure that the Wiegand device is powered.
3. Test that the Wiegand device and the Access Panel are configured and functioning properly by connecting the Wiegand device directly to the Access Panel and then present a valid credential to the Wiegand device. Verify that the credential is properly accepted by the Panel and that the output relay on the panel is activating.
4. At both Controller and Remote units, measure the voltage on D0 and D1 relative to GND. This voltage should be at least 3.5V up to 5.0V. If the voltage is too low, external pullup resistors may be required. See Sure-Fi Application Note AN0135 for details on wiring the pullup resistors.

Wiegand cable runs:

1. If the cable-run from the Wiegand Device to the Remote Interface is longer than 24 inches, it is recommended to use a shielded cable. The shield wire must be connected to the Remote Interface GND terminal. Avoid having a cable-run longer than 20 feet.
2. Do not route the Wiegand data cable next to high voltage (115/220VAC) lines.

For the best performance between the Controller and Remote units:

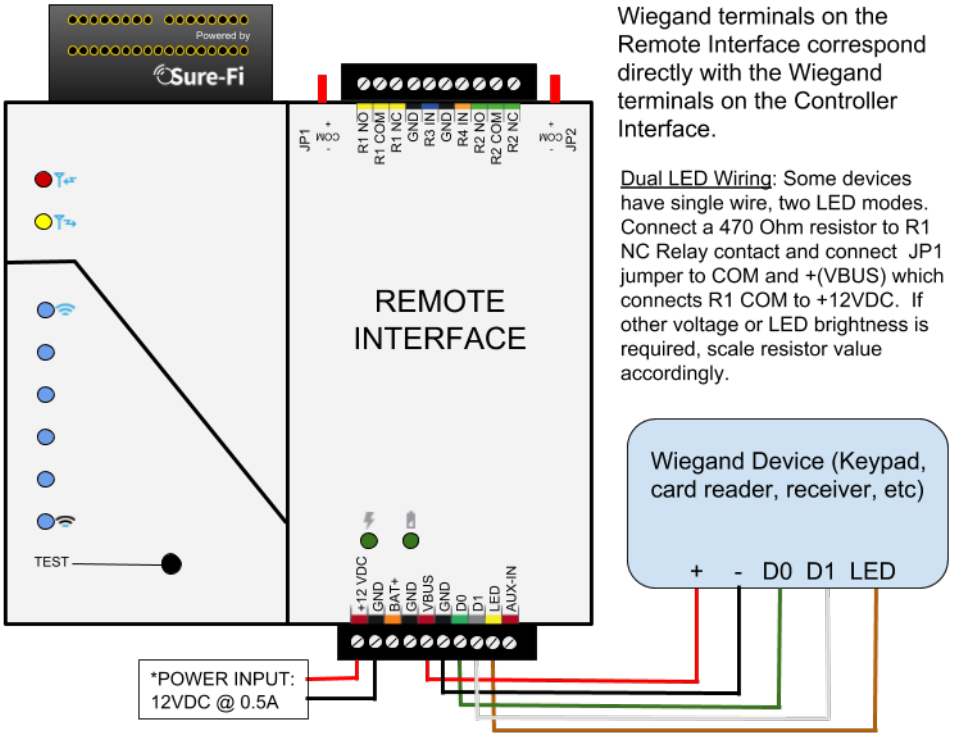
1. Power both units with their own dedicated power supply with a minimum of 0.5A @ 12VDC.
2. Route all cables and wiring away from the area near the Antenna.
3. Do not route cables and wiring over the top of the unit.
4. Mount both units oriented with the antenna at the top of the unit.
5. Although not typically required, if further range is required, avoid mounting either unit on metal surfaces or near metal objects, a clearance of at least 12 inches should be adequate. Additionally, placing the unit at a higher location on the wall or in the area may provide some increase in range.

Manually Testing Relays:

Each Relay pair can be manually tested to verify operation. Using a jumper wire, short the Relay input, such as R1 IN to GND, then monitor the Relay 1 OUTPUT on the bridge pair unit. This can be done on all four Relay inputs R1, R2, R3, and R4 IN.

Wiring Wiegand: Remote and Controller Interfaces

Figure 8: Wiegand Wiring: Remote Interface

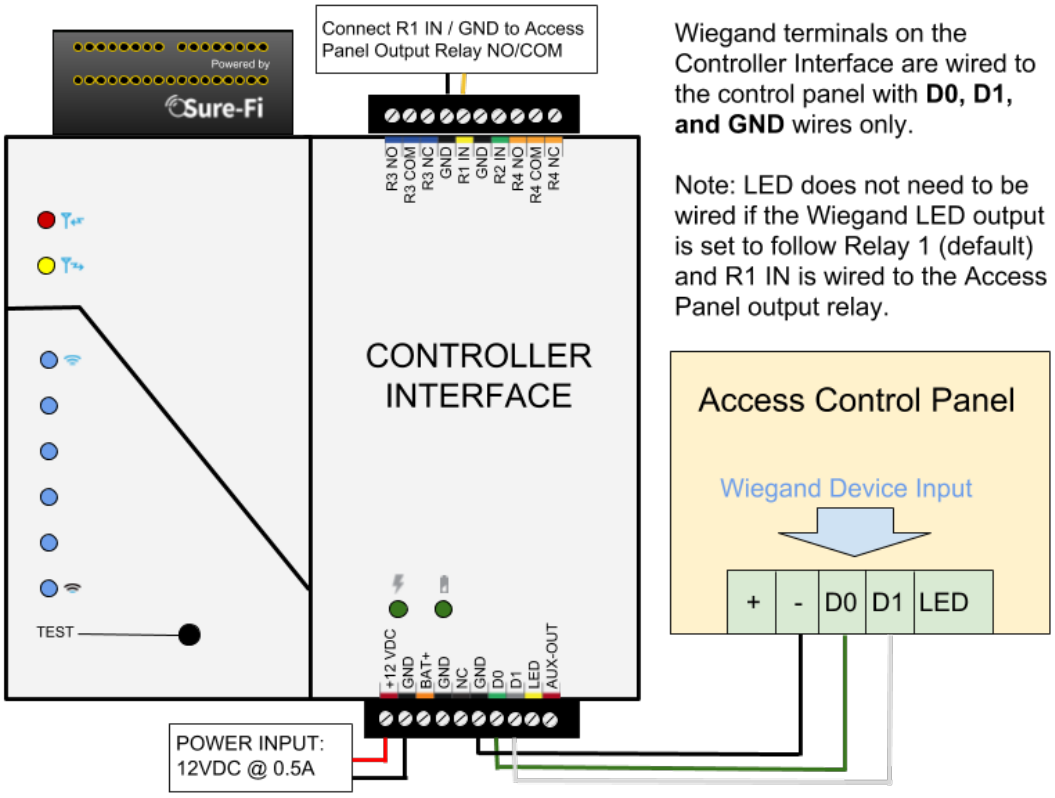


Wiegand terminals on the Remote Interface correspond directly with the Wiegand terminals on the Controller Interface.

Dual LED Wiring: Some devices have single wire, two LED modes. Connect a 470 Ohm resistor to R1 NC Relay contact and connect JP1 jumper to COM and +(VBUS) which connects R1 COM to +12VDC. If other voltage or LED brightness is required, scale resistor value accordingly.

*Note: When providing power to a wiegand device, ensure voltage compatibility and adjust power requirements. The input voltage is fed out to the 'VBUS' terminal.

Figure 9: Wiegand Wiring: Controller Interface

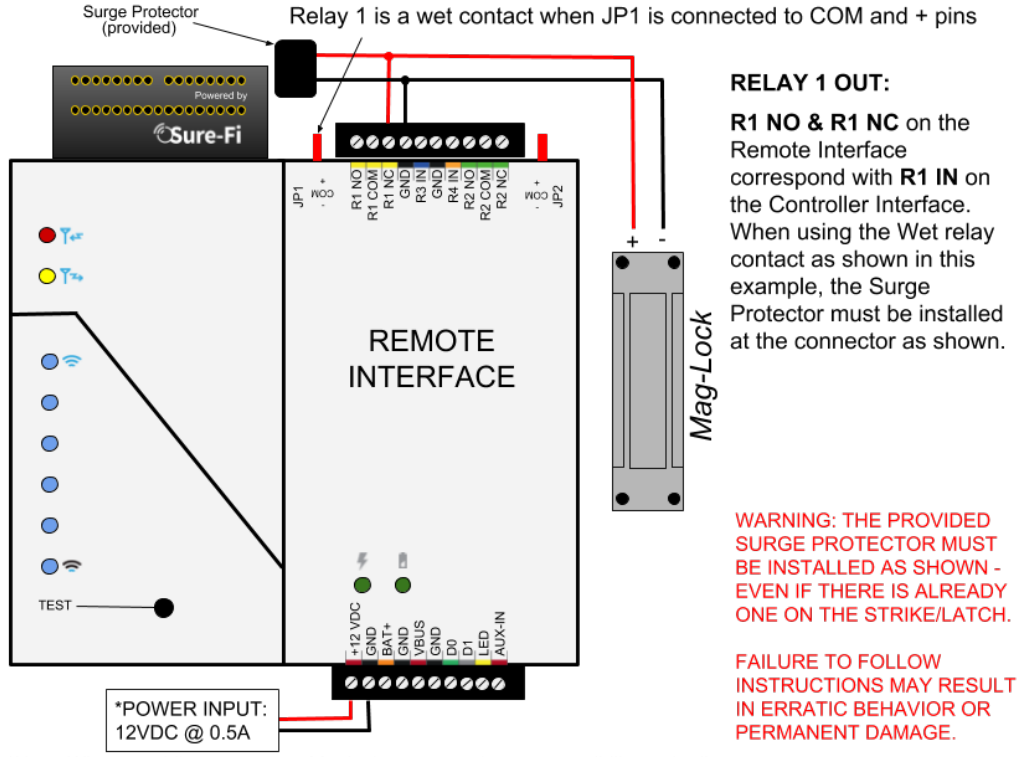


Wiegand terminals on the Controller Interface are wired to the control panel with **D0, D1, and GND** wires only.

Note: LED does not need to be wired if the Wiegand LED output is set to follow Relay 1 (default) and R1 IN is wired to the Access Panel output relay.

RELAY 1 OUT Remote Interface / RELAY 1 IN Controller Interface

Figure 10: Wiring a Maglock to Relay 1 NC as a Wet contact on the Remote Interface



RELAY 1 OUT:

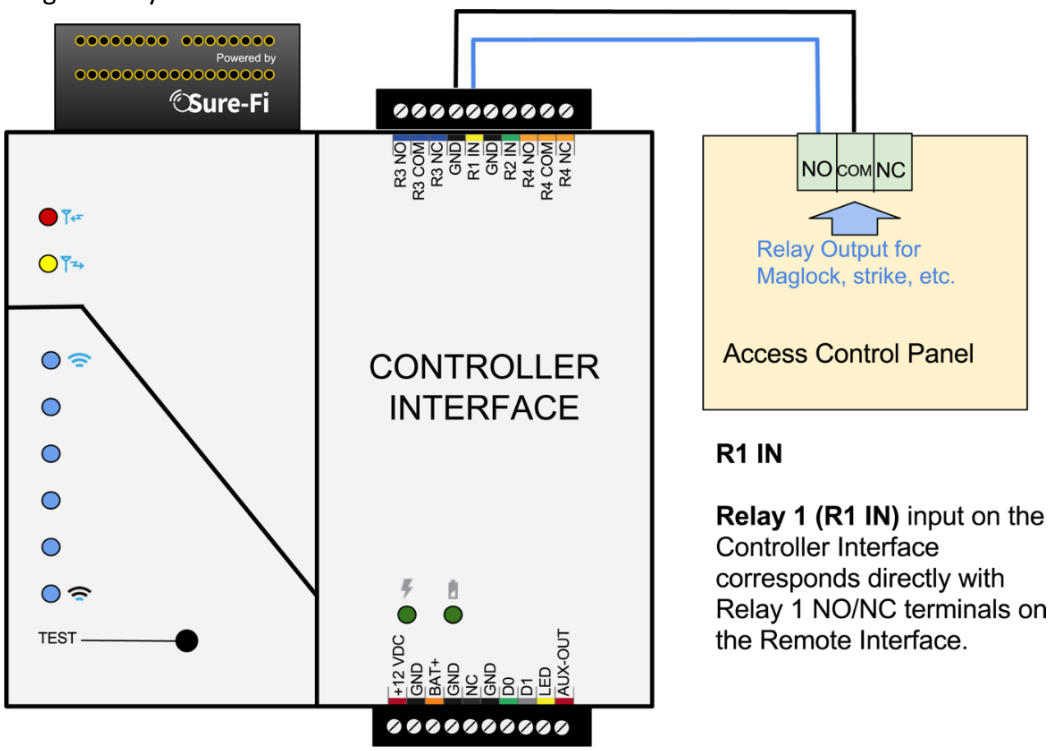
R1 NO & R1 NC on the Remote Interface correspond with **R1 IN** on the Controller Interface. When using the Wet relay contact as shown in this example, the Surge Protector must be installed at the connector as shown.

WARNING: THE PROVIDED SURGE PROTECTOR MUST BE INSTALLED AS SHOWN - EVEN IF THERE IS ALREADY ONE ON THE STRIKE/LATCH.

FAILURE TO FOLLOW INSTRUCTIONS MAY RESULT IN ERRATIC BEHAVIOR OR PERMANENT DAMAGE.

*Note: When providing power to a Maglock, ensure voltage compatibility and adjust power requirements. The input voltage is fed out to the JP1/JP2 '+' terminal.

Figure 11: Wiring to Relay 1 IN on the Controller Interface

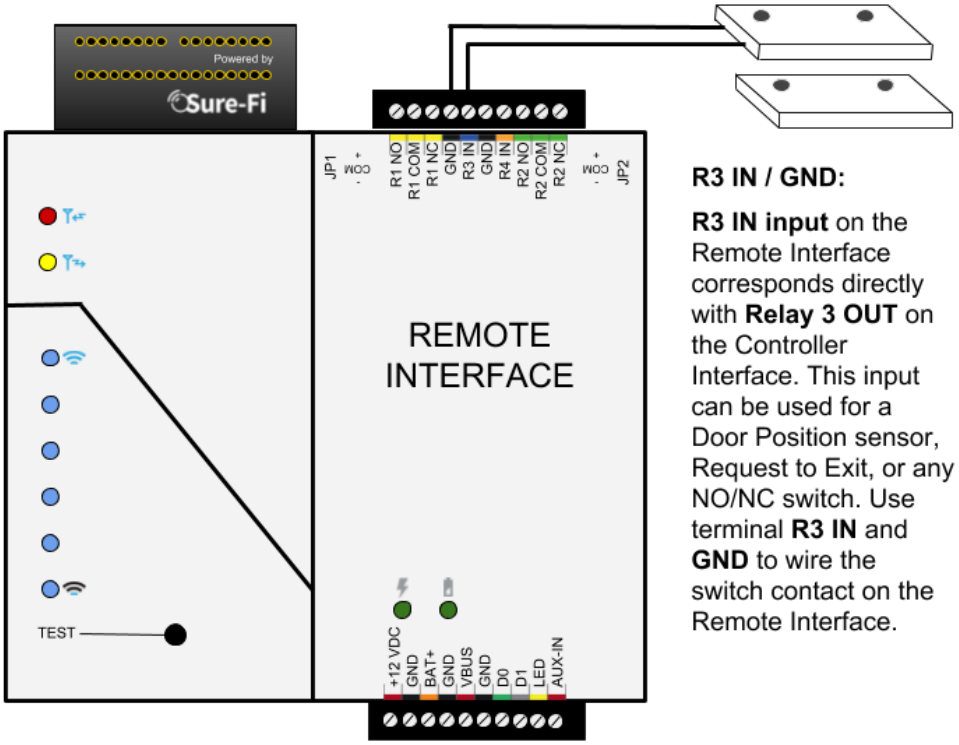


R1 IN

Relay 1 (R1 IN) input on the Controller Interface corresponds directly with Relay 1 NO/NC terminals on the Remote Interface.

RELAY 3 IN Remote Interface / RELAY 3 OUT Controller Interface

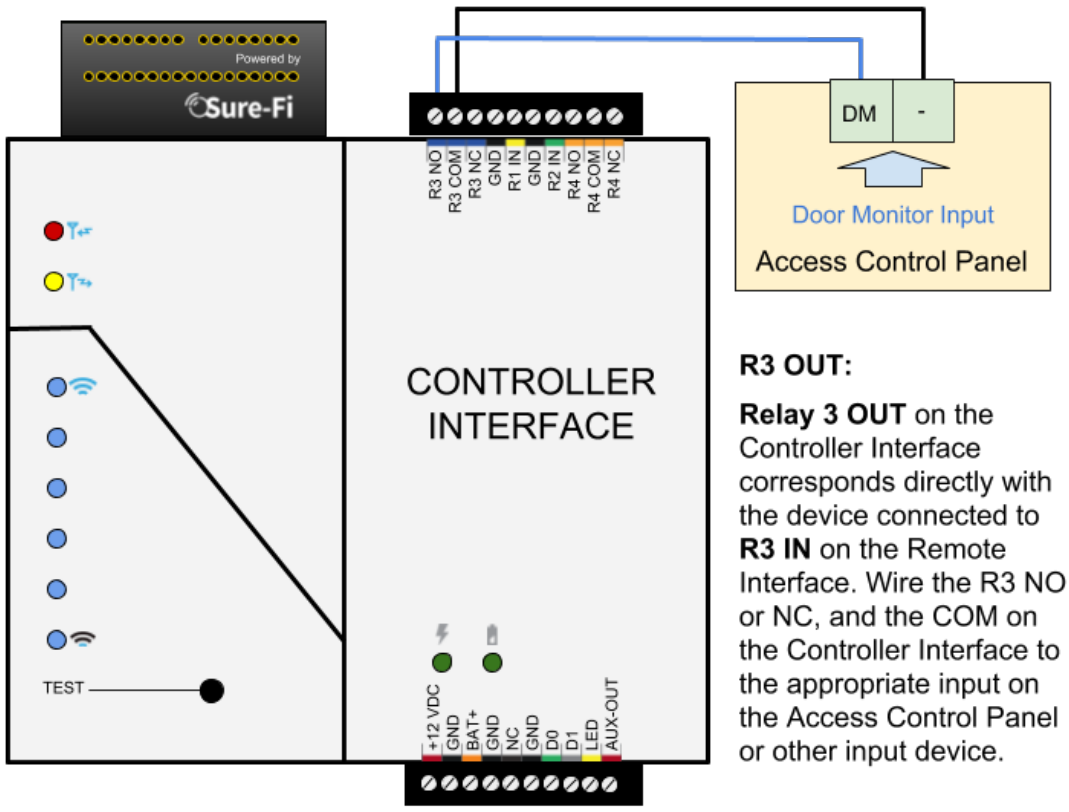
Figure 12: Relay 3 IN wiring of a Door Position sensor on the Remote Interface



R3 IN / GND:

R3 IN input on the Remote Interface corresponds directly with **Relay 3 OUT** on the Controller Interface. This input can be used for a Door Position sensor, Request to Exit, or any NO/NC switch. Use terminal **R3 IN** and **GND** to wire the switch contact on the Remote Interface.

Figure 13: Relay 3 OUT wiring the Door Position/Monitor at Controller Interface

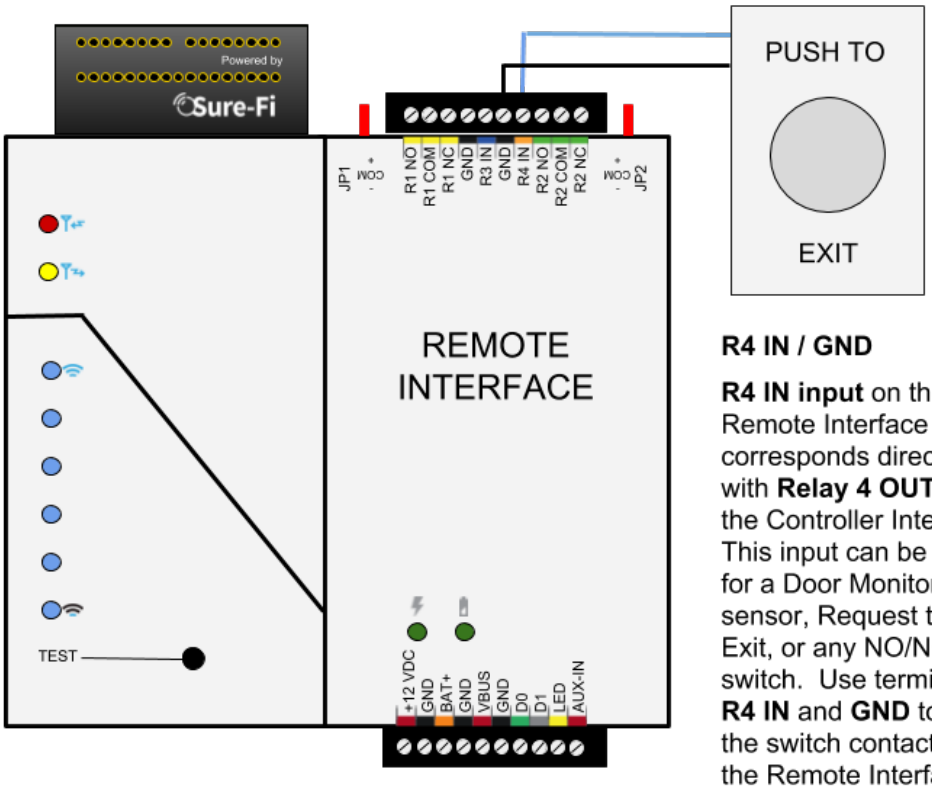


R3 OUT:

Relay 3 OUT on the Controller Interface corresponds directly with the device connected to **R3 IN** on the Remote Interface. Wire the R3 NO or NC, and the COM on the Controller Interface to the appropriate input on the Access Control Panel or other input device.

RELAY 4 IN Remote Interface / RELAY 4 OUT Controller Interface

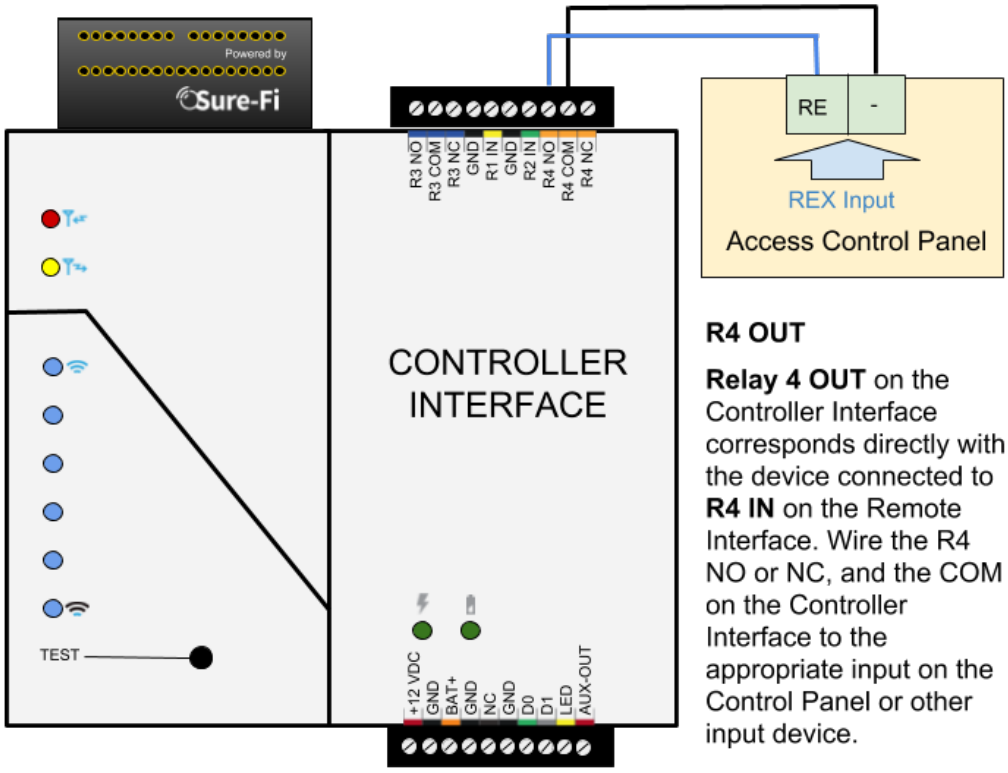
Figure 14: Relay 4 IN wiring a Request to Exit button on the Remote Interface



R4 IN / GND

R4 IN input on the Remote Interface corresponds directly with **Relay 4 OUT** on the Controller Interface. This input can be used for a Door Monitor sensor, Request to Exit, or any NO/NC switch. Use terminal **R4 IN** and **GND** to wire the switch contact on the Remote Interface.

Figure 15: Relay 4 OUT Wiring at the Controller Interface

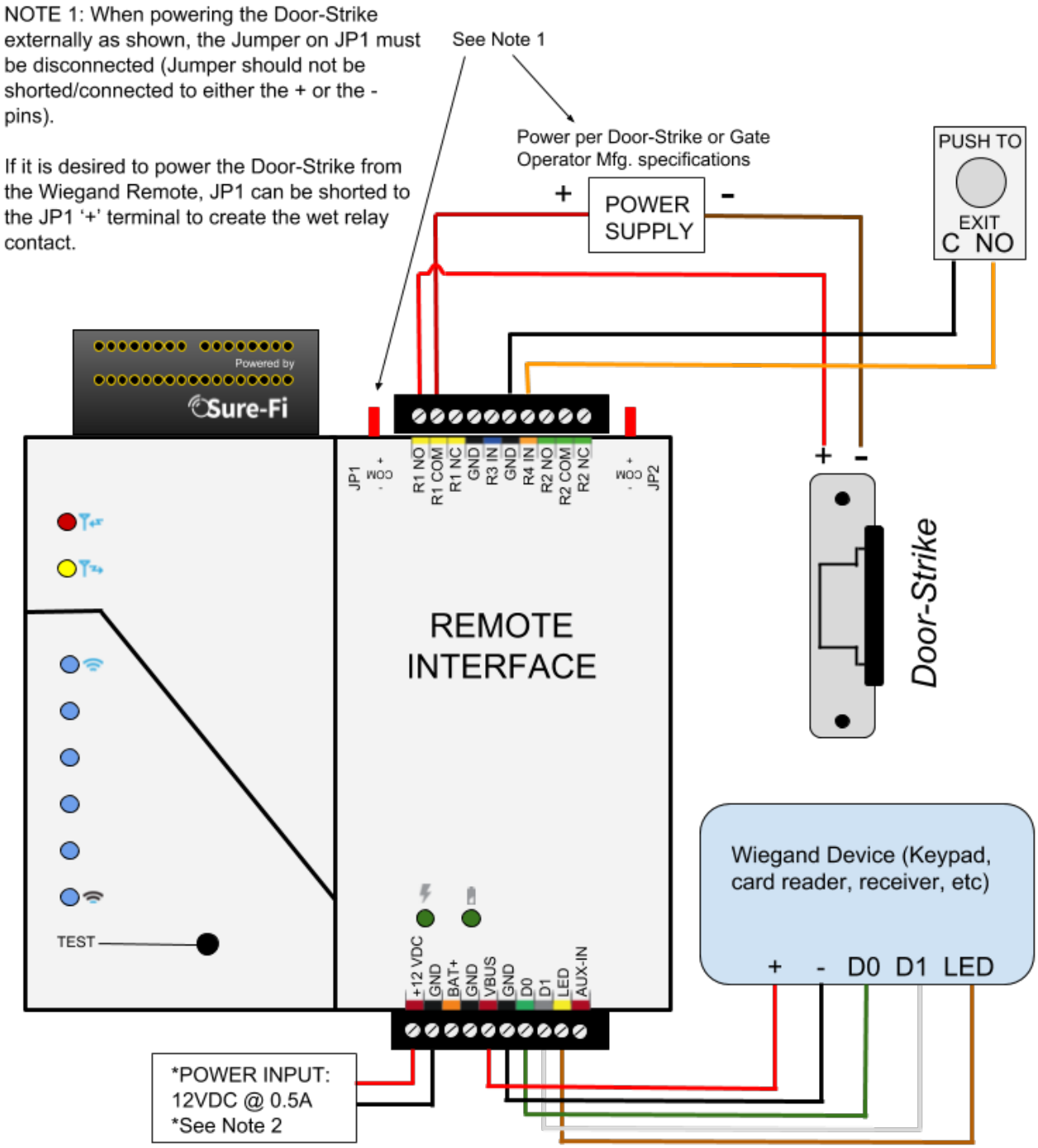


R4 OUT

Relay 4 OUT on the Controller Interface corresponds directly with the device connected to **R4 IN** on the Remote Interface. Wire the R4 NO or NC, and the COM on the Controller Interface to the appropriate input on the Control Panel or other input device.

Remote Interface wired to Door-Strike, REX, and Wiegand

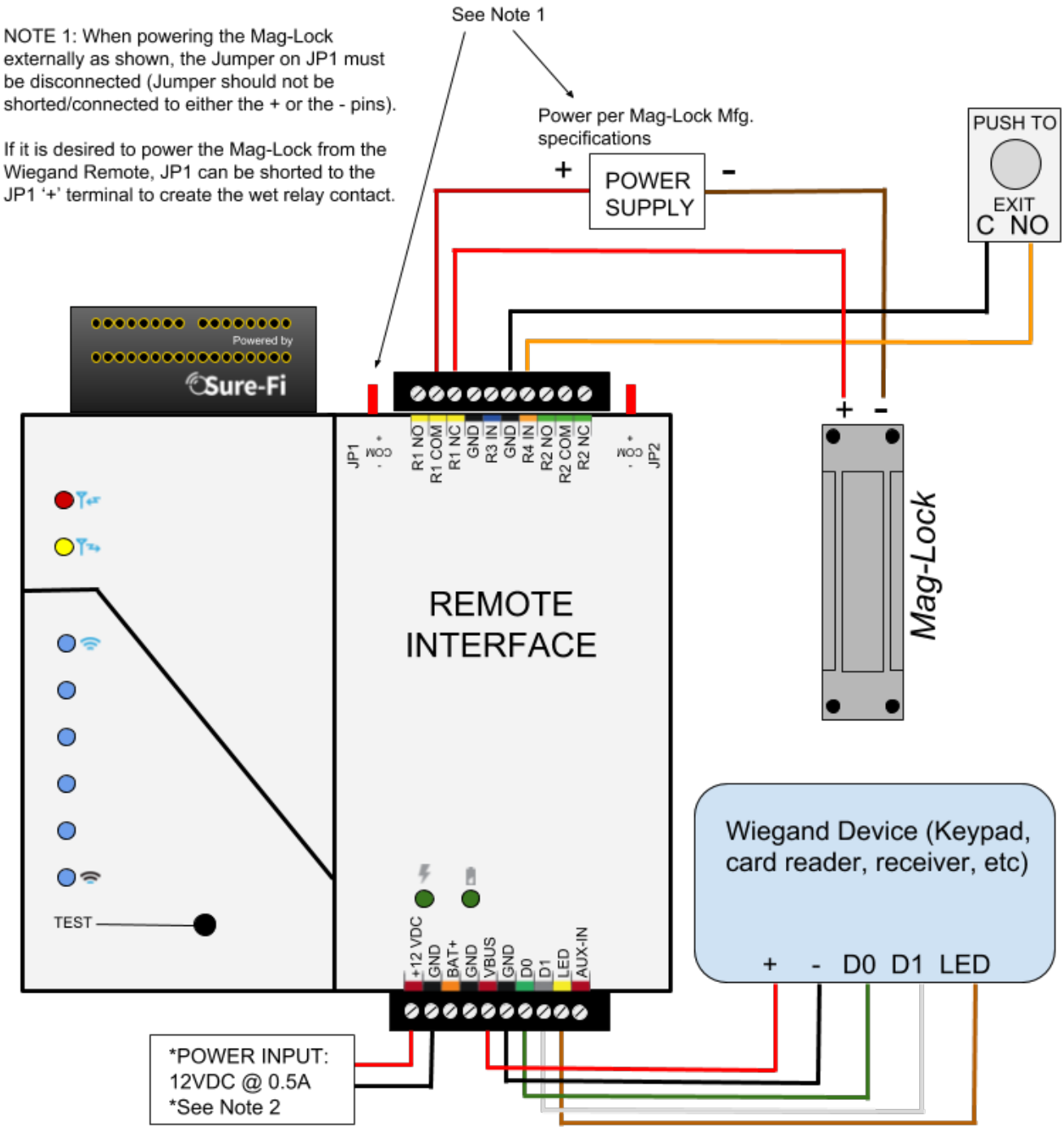
Figure 16: Wiring example for Door-Strike, REX button, and Wiegand on the Remote Interface



NOTE 2: If providing power to external devices (Door-Strike, wiegand device, etc), ensure voltage compatibility and adjust power requirements. The input voltage is fed out to the 'VBUS' for wiegand and also on the JP1 and JP2 '+' terminal pin.

Remote Interface wired to Maglock, REX, and Wiegand

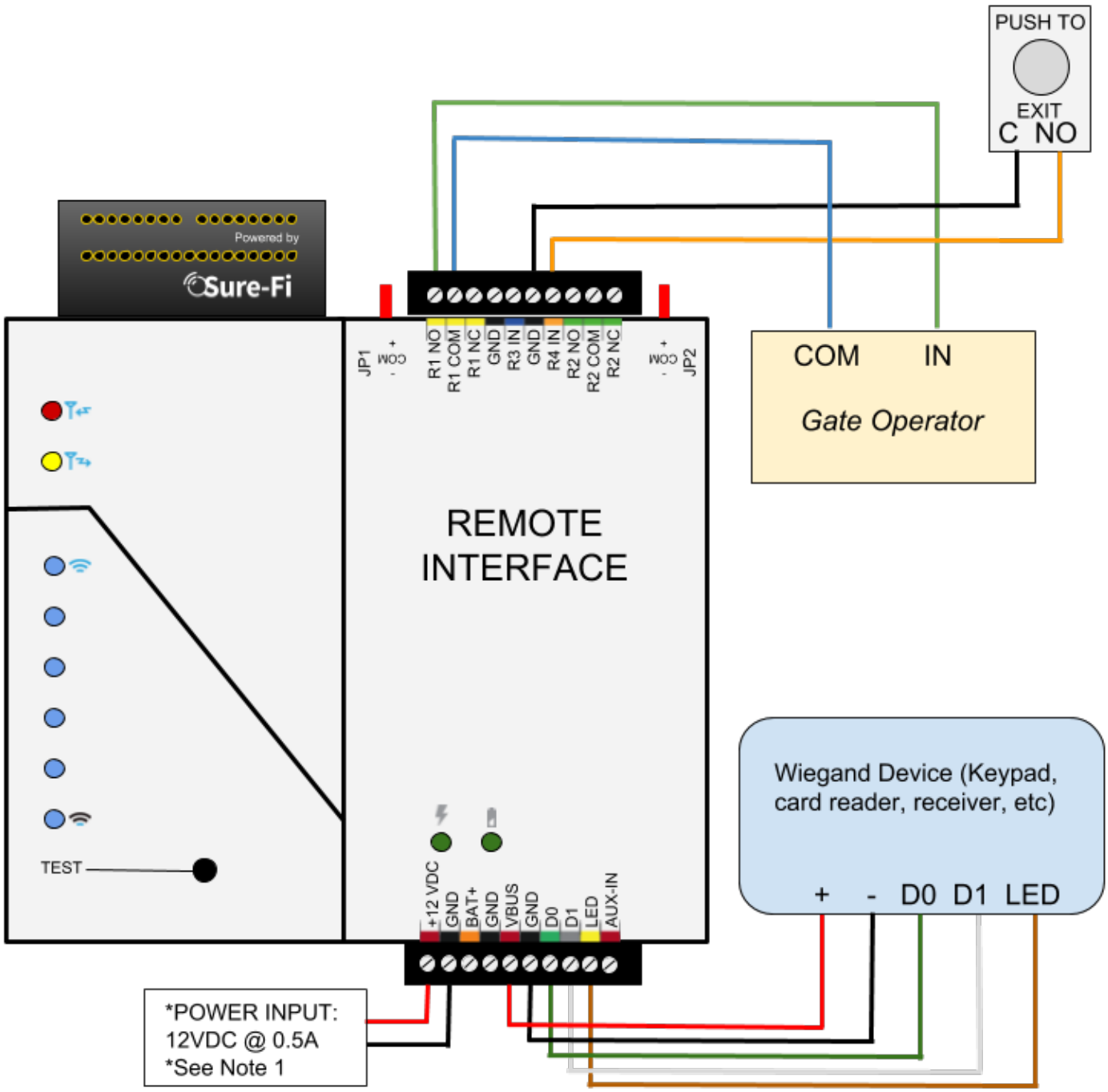
Figure 17: Wiring example for a Maglock, REX button, and Wiegand on the Remote Interface



NOTE 2: If providing power to external devices (Mag-Lock, wiegand device, etc), ensure voltage compatibility and adjust power requirements. The input voltage is fed out to the 'VBUS' for wiegand and also on the JP1 and JP2 '+' terminal pin.

Remote Interface wired to Gate Operator, REX, and Wiegand

Figure 18: Wiring example for a Gate Operator, REX button, and Wiegand device



NOTE 1: If providing power to external devices (wiegand device, etc), ensure voltage compatibility and adjust power requirements. The input voltage is fed out to the 'VBUS' for wiegand and also on the JP1 and JP2 '+' terminal pin.

Sure-Fi APP

Figure 19: APP Start-screen

Figure 20: APP 'Scan QR Code' screen

Figure 21: APP 'Status Connecting'

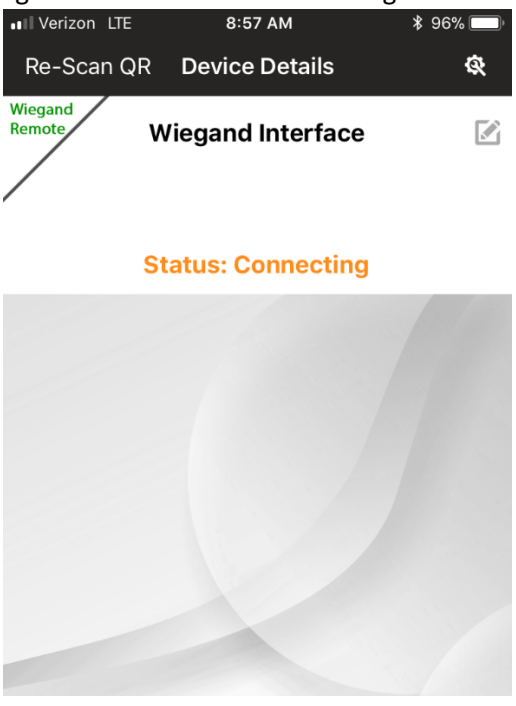
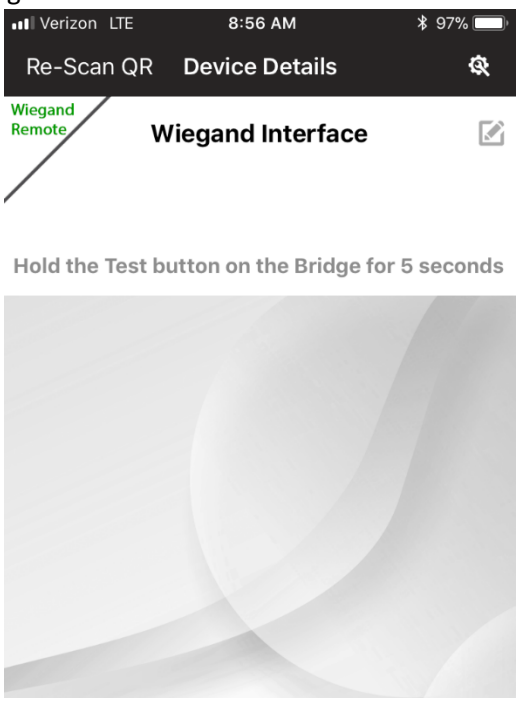


Figure 22: APP 'Hold the Test button…'



Sure-Fi APP (Cont.)

Figure 23: APP 'Status Connected'

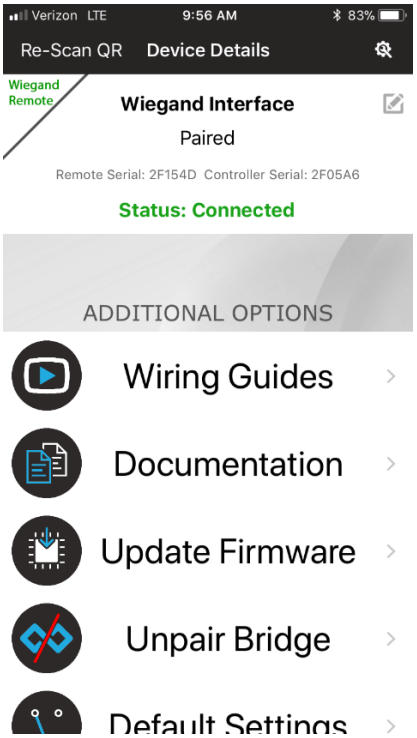


Figure 24: APP 'Default Settings' screen

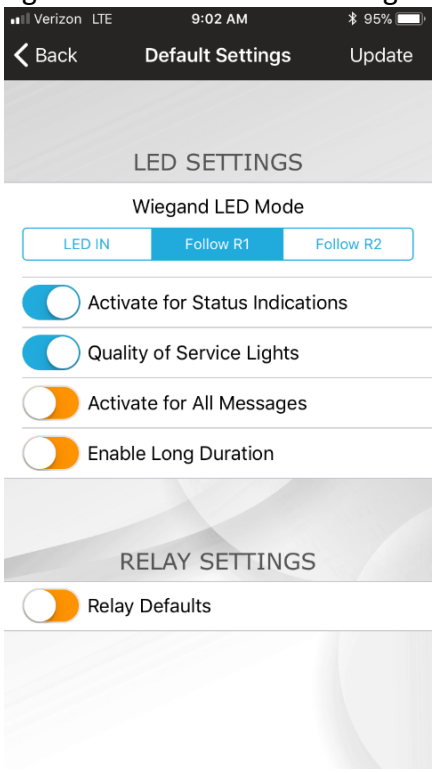


Figure 25: APP, name 'edit' button shown

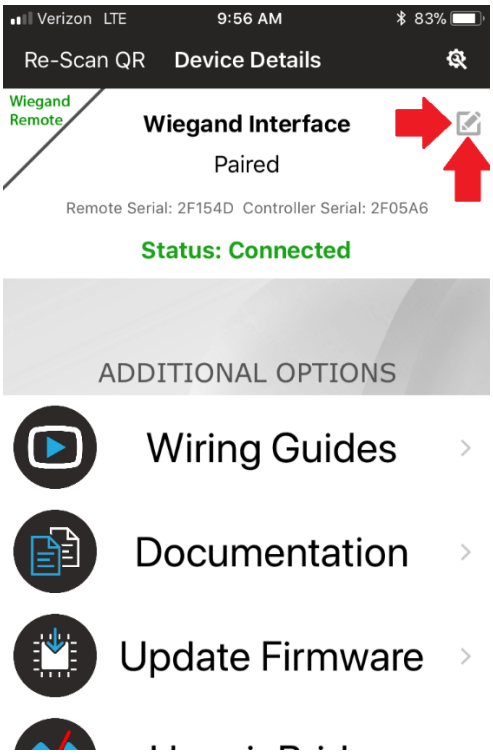
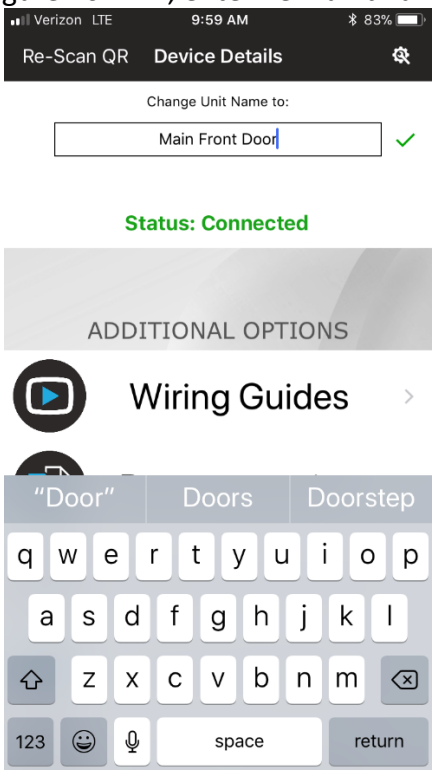


Figure 26: APP, enter new unit name



Sure-Fi APP (Cont.)

Figure 27: APP Update Firmware screen

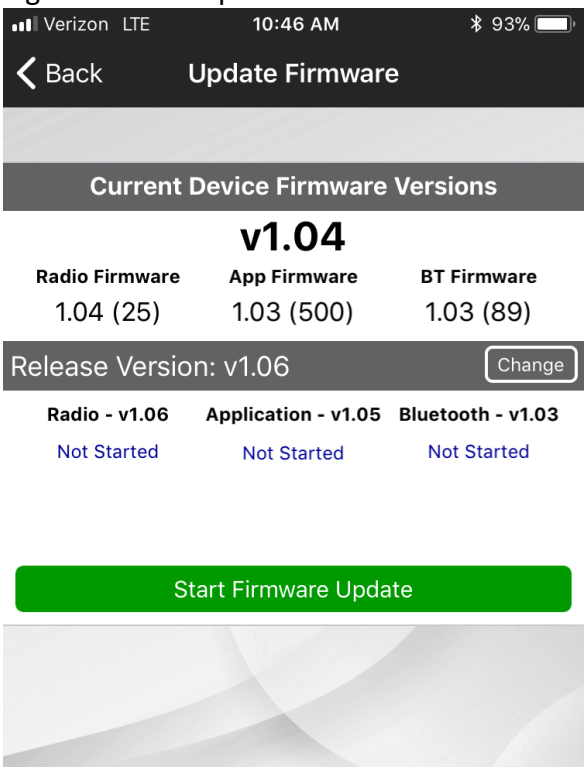


Figure 28: APP confirm Firmware update

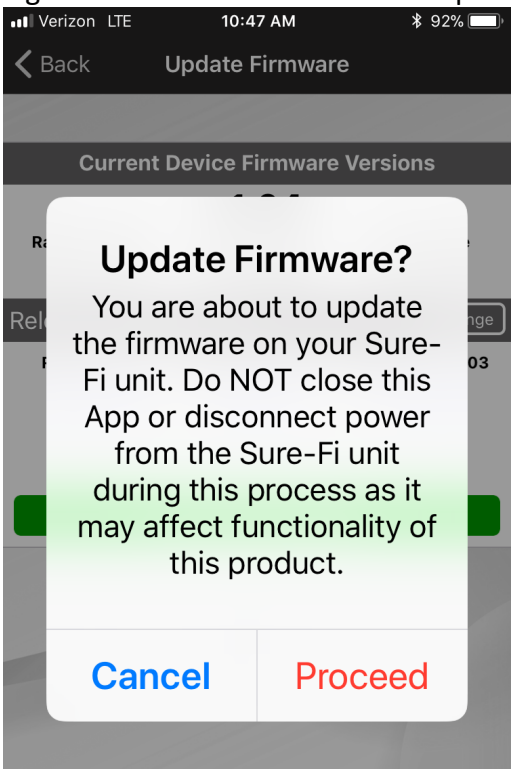


Figure 29: APP 'Update Complete'

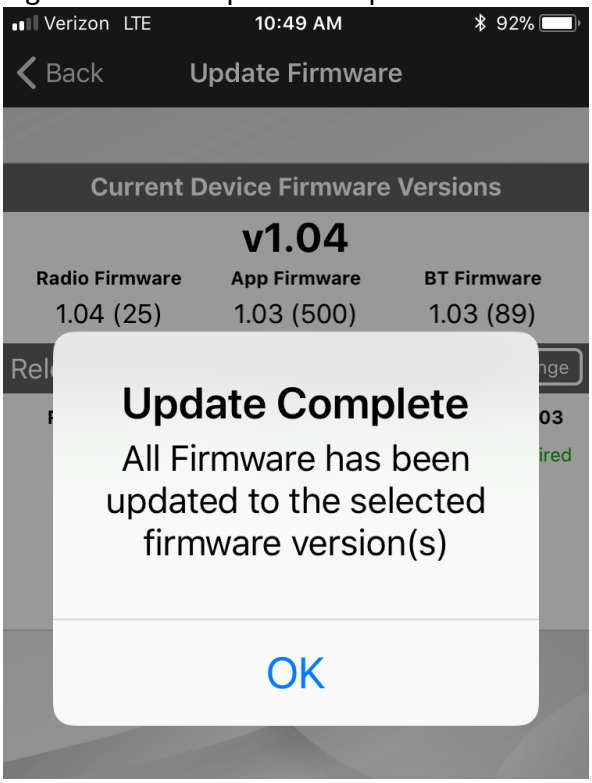
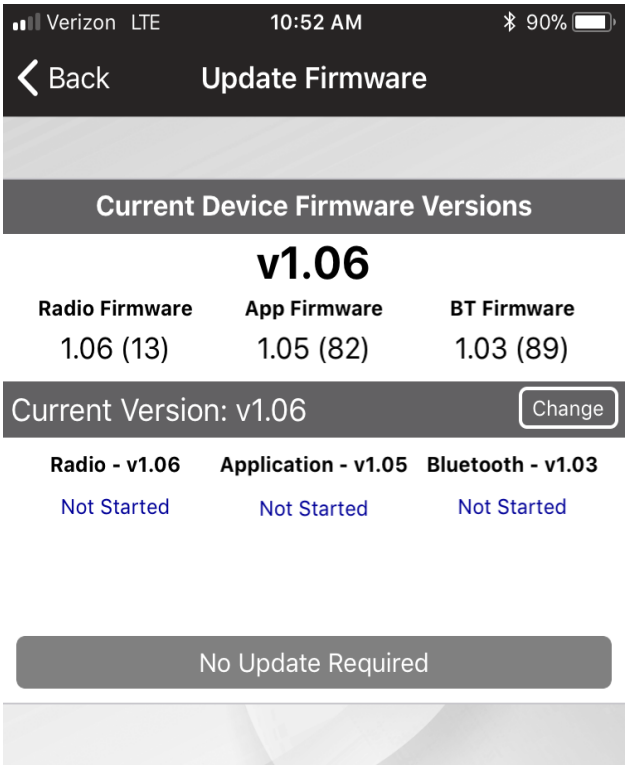


Figure 30: APP 'No Update Required'



Sure-Fi APP (Cont.)

Figure 31: APP 'SETTINGS' screen

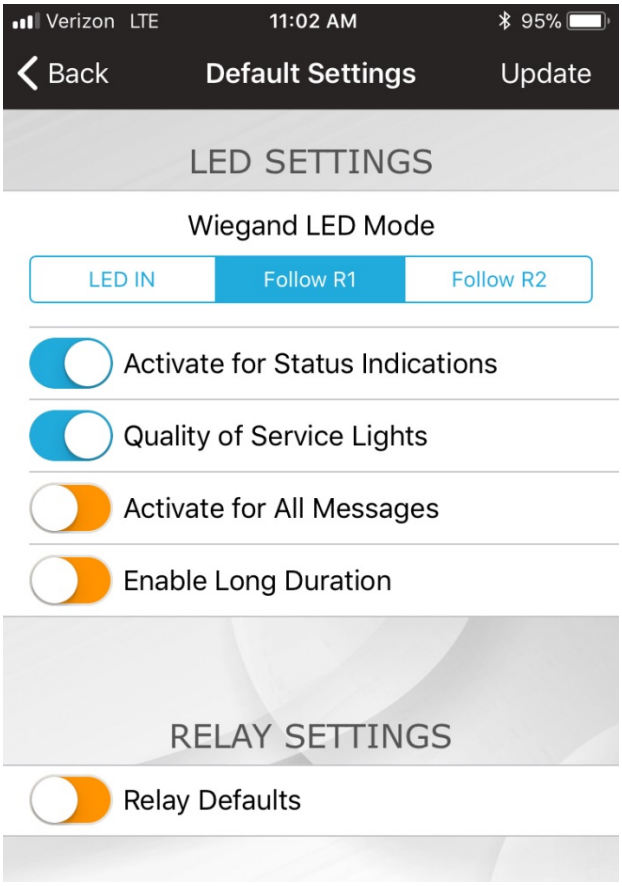
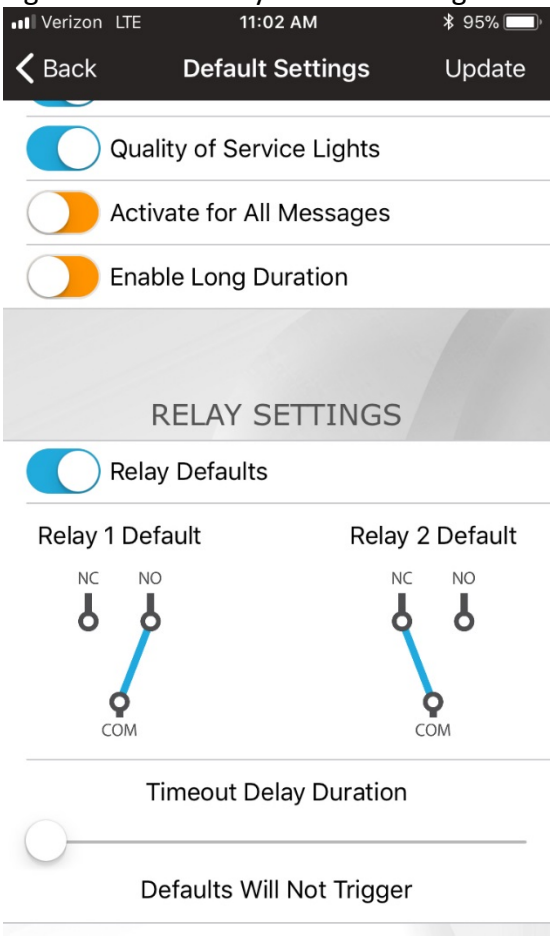
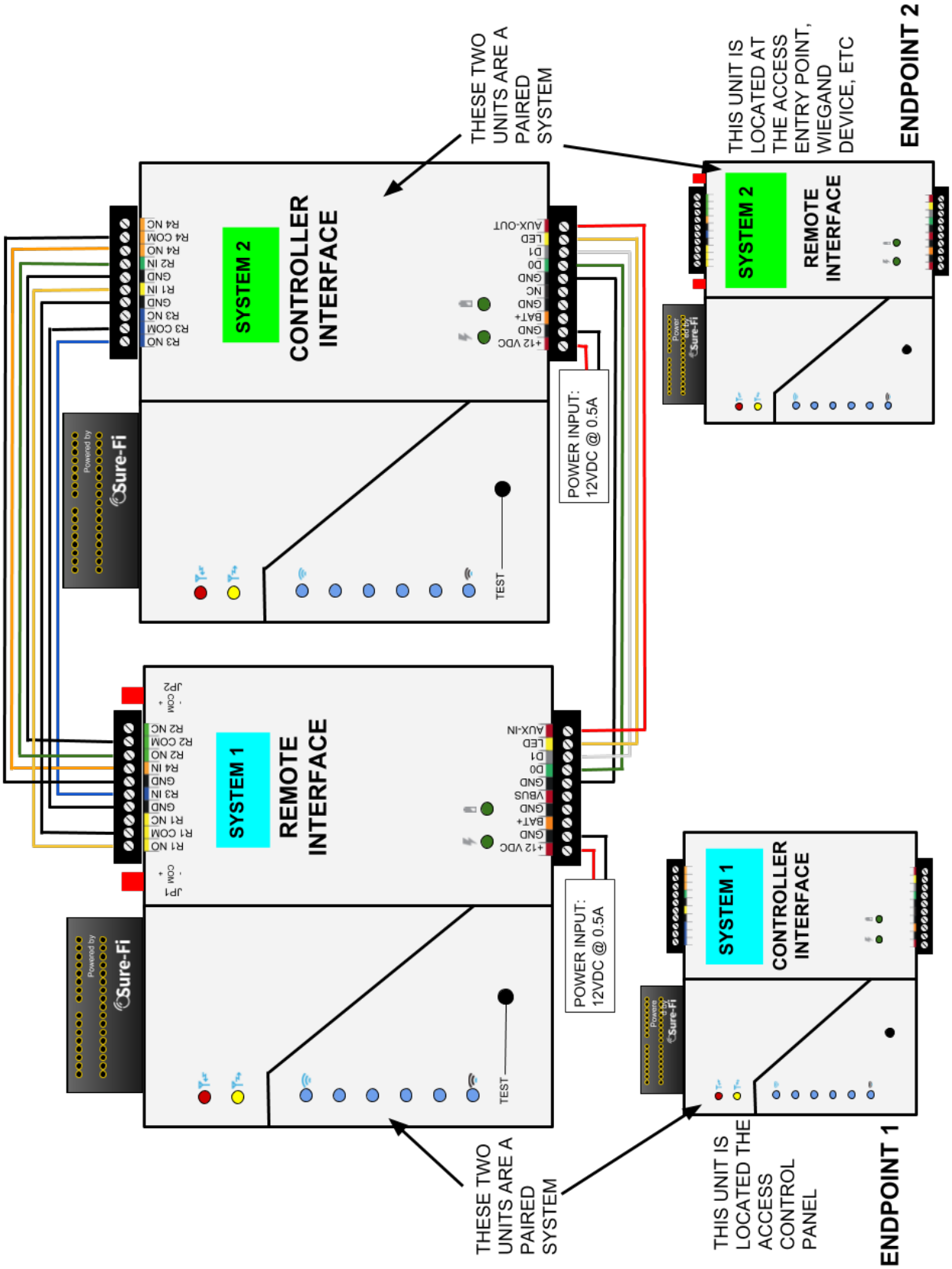


Figure 32: APP Relay Default setting screen



Chained systems

Figure 33: Chained systems wiring diagram



FCC and Industry Canada Regulatory Statements

FCC

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by manufacturer could void the user's authority to operate the equipment.

IMPORTANT! Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Industry Canada

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, meme si le brouillage est susceptible d'en compromettre le fonctionnement.

IMPORTANT! Tous les changements ou modifications pas expressément approuvés par la partie responsable de la conformité ont pu vider l'autorité de l'utilisateur pour actioner cet équipment.

47 CFR 15.105- FCC

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/ TV technician for help.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada

FCC Radiation Exposure Statement
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Important Note:
Radiation Exposure Statement:
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Note Importante: (Pour l'utilisation de dispositifs mobiles)
Declaration d'exposition aus radiations:
Cet équipement est conforme aux limites d´exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipment doit être installé et utilisé avec un mimimum de 20 cm de distance entre la source de rayonnement et votre corps.

Warranty

The warranty period of this product is 12 months run-time, beginning from first power up of the device after purchase. During this period, if the product does not operate correctly, due to a defective component, the product will be repaired or replaced at the sole discretion of Sure-Fi, Inc. This warranty does not extend to the product casing which can be damaged by conditions outside of the control of Sure-Fi, Inc.

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