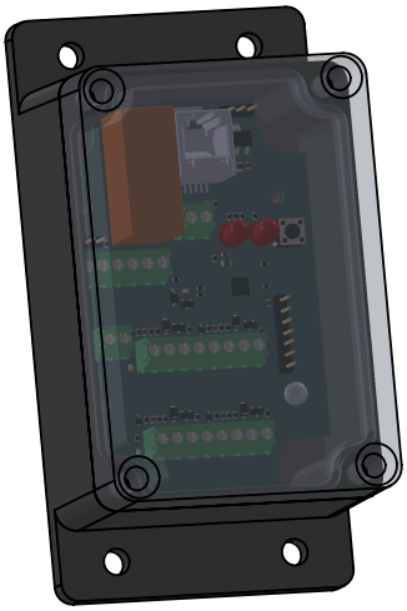
WAAY

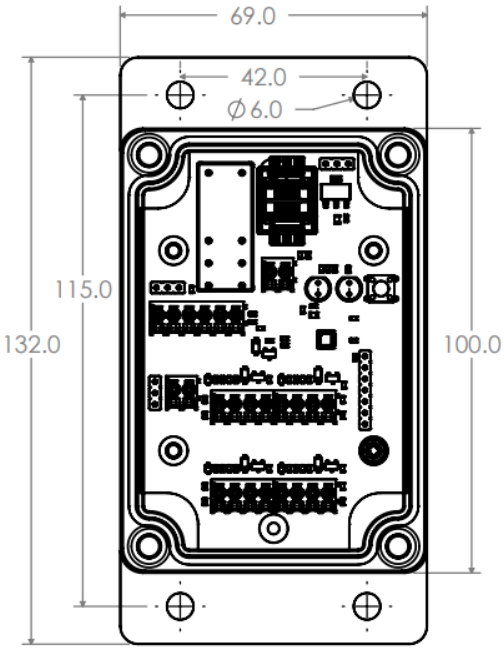
NCC-2394

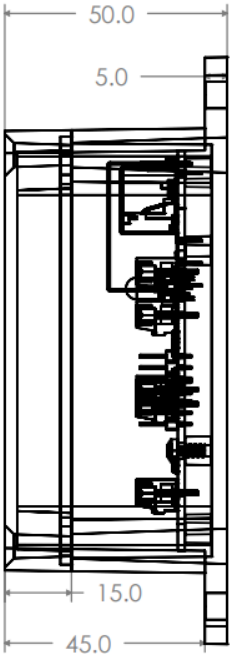
Revision: 2/4/2025

WAAY Interface Controller

User Guide







Introduction

The WAAY Interface Controller provides a simple way to interface the WAAY Automatic Sliding Door with other systems. It allows for control and monitoring of the door using simple digital inputs and outputs that can be configured to suit the application.

Intended applications include:

- Interfacing with custom sensors and detectors
- Controlling the door(s) with other systems, such as computers or building automation
- Interfacing with a variety of inputs for accessibility accommodations, including wired or wireless press plates
- Monitoring of the door with security systems
- Control of the door from longer distances with various remote options
- Interfacing RFID or keypad devices
- Control and interface of magnetic door locks

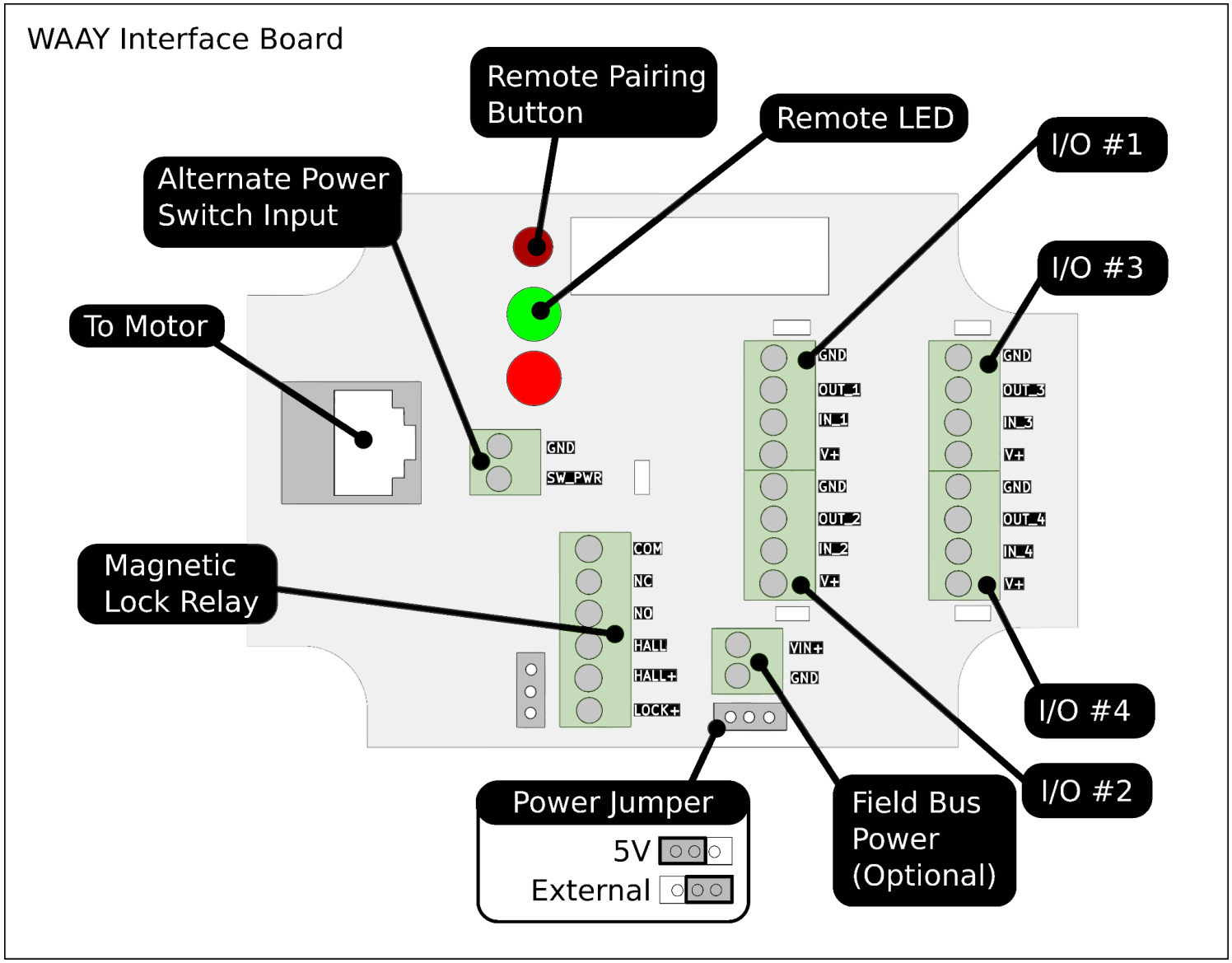
Basic Features

- 4 Digital Inputs
- 4 Digital Outputs
- Alternate power switch input for powering the door on/off with an external switch
- Relay for controlling a magnetic lock or other accessories
- Selectable bus voltage of 5V or up to 24V external power supply
- Simple interface using standard RJ-12 (Telephone style) cables connected to the motor
- Configured using the menu on the door
- Customer modifiable enclosure included

Package Contents

- WAAY Interface Controller mounted in a plastic enclosure
- 1 RJ-12 cable used to connect the box to the WAAY motor
- 12V Power Supply

System Overview



Power Supply

The Field Bus terminal allows using the included 12V supply or up to a maximum of 24v external input. If the external supply is used, be sure to move the power jumper to the correct position shown above.

Power Switch Input

The power switch input is designed to allow an external power switch to control the power state of the door. It should only be connected to a dry contact, and not grounded or powered externally. The power switch input may be connected to a relay output of other systems if needed.

ℹ The power switch input is a “normally on” configuration. Multiple power switches may be used in a single system, but if any are closed, the system will turn off.

Warning: The power switch input is NOT intended to be a mains cutoff. It does not disconnect the power supply from mains. Be sure to unplug the power supply before servicing the door.

Remotes - Long Range

The interface controller can handle 5+ different remotes being paired to it at any given time. The buttons on the remote can be configured independently in the menu on the inside panel. Each remote has a unique ID programmed into it. To pair a remote with a door, you must have access to press the red button on the interface board.

Pair Remote	Erase All Remotes
1. Press the pair button once 2. The green LED will stay lit 3. Press any button on the remote you would like to pair 4. The green LED will flash 3 times and turn off. 5. The remote is now paired with the system If you would like to pair more than one remote, repeat this procedure for each remote	1. Press the red button 8 times in a row 2. The green LED will flash 8 times 3. All remotes have been cleared ℹ This erases **ALL** paired remotes

Once the remote is paired to the system, you can use it to control many functions of the door. Each remote has four buttons, labeled “A” through “D”. The function of each button can be customized in the menu, but the default for each button is:

- A - Open
- B - Close
- C - Lock
- D - Unlock

ℹ A single door may have multiple different remotes paired with it, but the same button cannot be configured independently for each remote. For example button “A” will have the same function on all remotes.

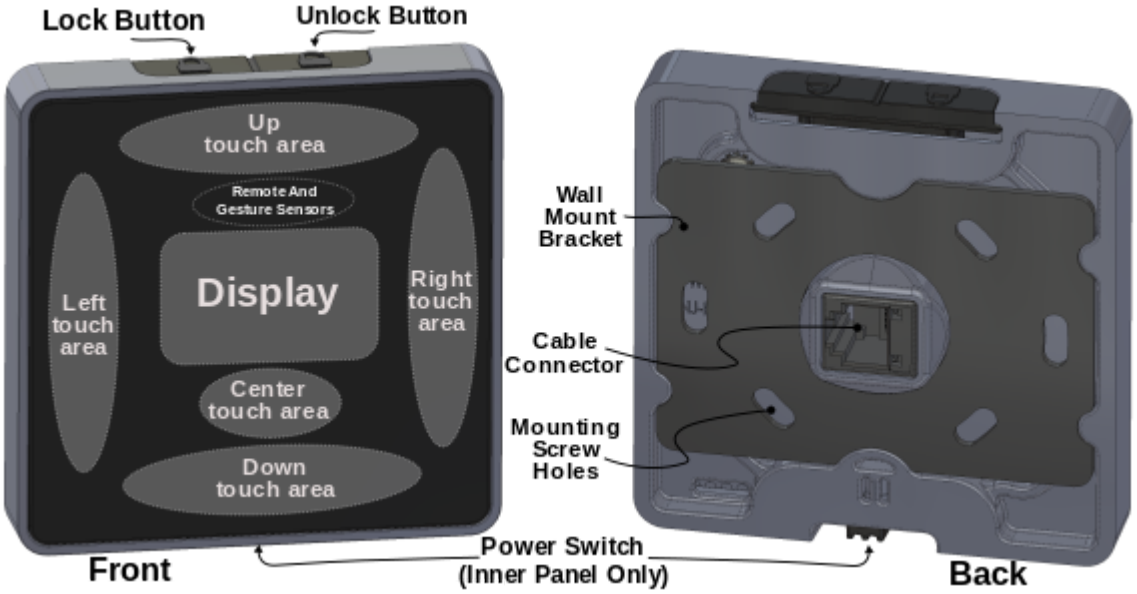
Configuration

ℹ Before configuring the interface controller, make sure you have the latest firmware updates for your system. The interface controller requires minimum firmware version 1.1.0

The Interface Controller can be configured using the menu on the inside panel shipped with the door. In the menu, each input and output can be assigned to the desired function, as well as signal polarity and duration. By default, all inputs and outputs are disabled.

Settings Menu

Hold down the **Lock** and **Unlock** buttons simultaneously on top of the INSIDE panel until the menu becomes visible.



To navigate the menu, touch the area on the panel around the visible display. The top, bottom, left or right of the display operate as independent buttons to navigate the menu, as shown above.
Touching **left** will always go “back” in the menu and touching **right** will select an option.
Touching **Up** or **Down** (top/bottom) will toggle settings or scroll through lists. All settings are applied immediately.
To exit the menu, press LEFT until the menu disappears, or after a few seconds the menu will disappear on its own. Alternatively, the menu can be navigated using the remote that was included with the door.

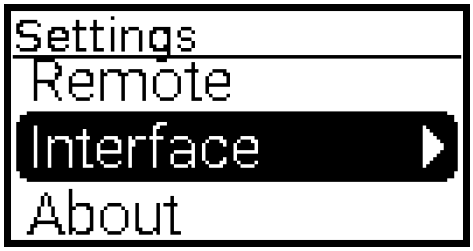
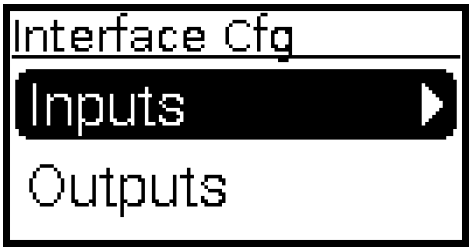
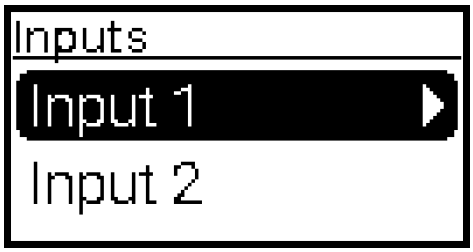
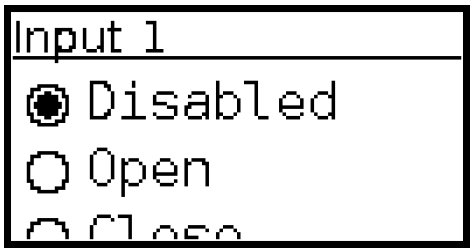
ℹ When using the remote to access the menu, be sure to stand at least a few feet away from the panel or the remote may not function properly.

ℹ If the display says “See Other Side”, the wrong panel has been used to access the menu, move to the other side and try again.

Input Configuration

Each of the four inputs on the interface controller can be independently configured to one of seven different actions using the settings menu. The possible configurations are shown below.

Input Action Options	
Option	Description
`Disabled`	Input disabled, do nothing when input changes.
`Open`	Open the door when input changes
`Close`	Close the door when input changes
`Move`	Move the door to the opposite position. If open, the door will close. If closed, the door will open.
`Lock`	Lock the door, does nothing if already locked
`Unlock`	Unlock the door, does nothing if already unlocked
`Toggle Lock`	If locked, unlock. If unlocked, lock.
`Sensor`	Input is used to detect people/objects in the doorway. See “laser sensor” below.

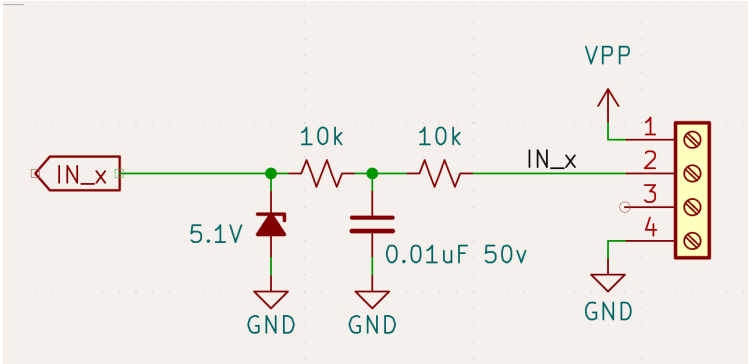
Input action configuration steps		
1. Open Settings menu by pressing and holding the LOCK and UNLOCK buttons on top of the INSIDE panel. Alternatively, the menu can be accessed using the bottom button on the remote supplied with the door.	**2.** Select **Interface** in the main menu 	**3.** Select inputs: 
4. Select the input to configure (1-4) 	**5.** By default, all inputs are disabled. Select the desired action. 	**6.** Press **LEFT** or wait for the menu to disappear. The input is now configured. ℹ After changing this setting, the door may need to be opened or closed before the setting takes effect.

ℹ The inputs are digital only, and therefore cannot be configured to trigger at a specific voltage level. If this is required, please consider using a resistor divider at the input.

ℹ It is strongly recommended to use active-low devices, sometimes called “normally closed”, “NC” or “NPN” for any sensor used to detect obstructions in the doorway. Active-low sensors will trigger if disconnected, and therefore will register as “obstructed” if they are damaged.

ℹ When using the Interface Controller as a sensor input, it is the customer’s responsibility to verify that the sensor is safe and operates correctly. Sensor operation must be tested and verified by the customer before use. WAAY is not liable for any injury or damages incurred using this option.

Each input includes a noise filter and zener diode to clamp higher voltages. The following schematic shows the circuit used for each input in the system:



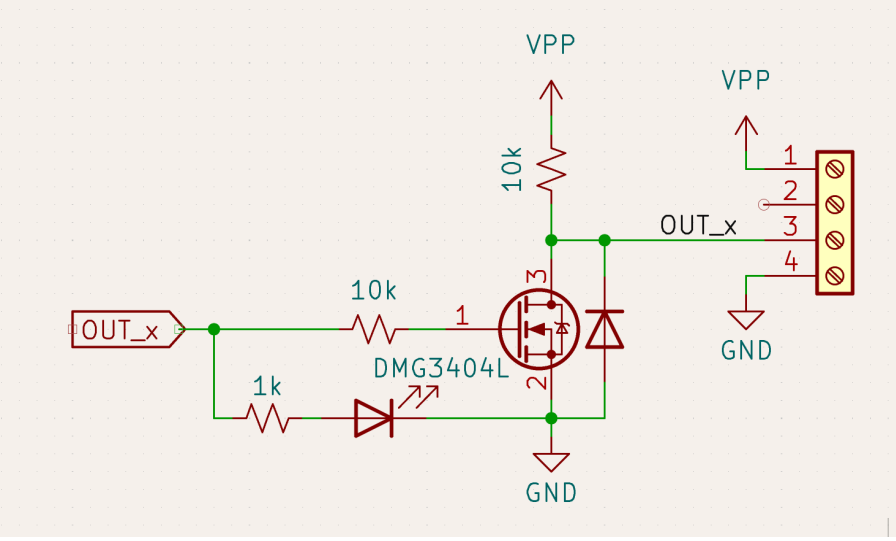
Output Configuration

The four outputs on the interface are used to indicate the status of the door or control external devices. They can be configured to to output:

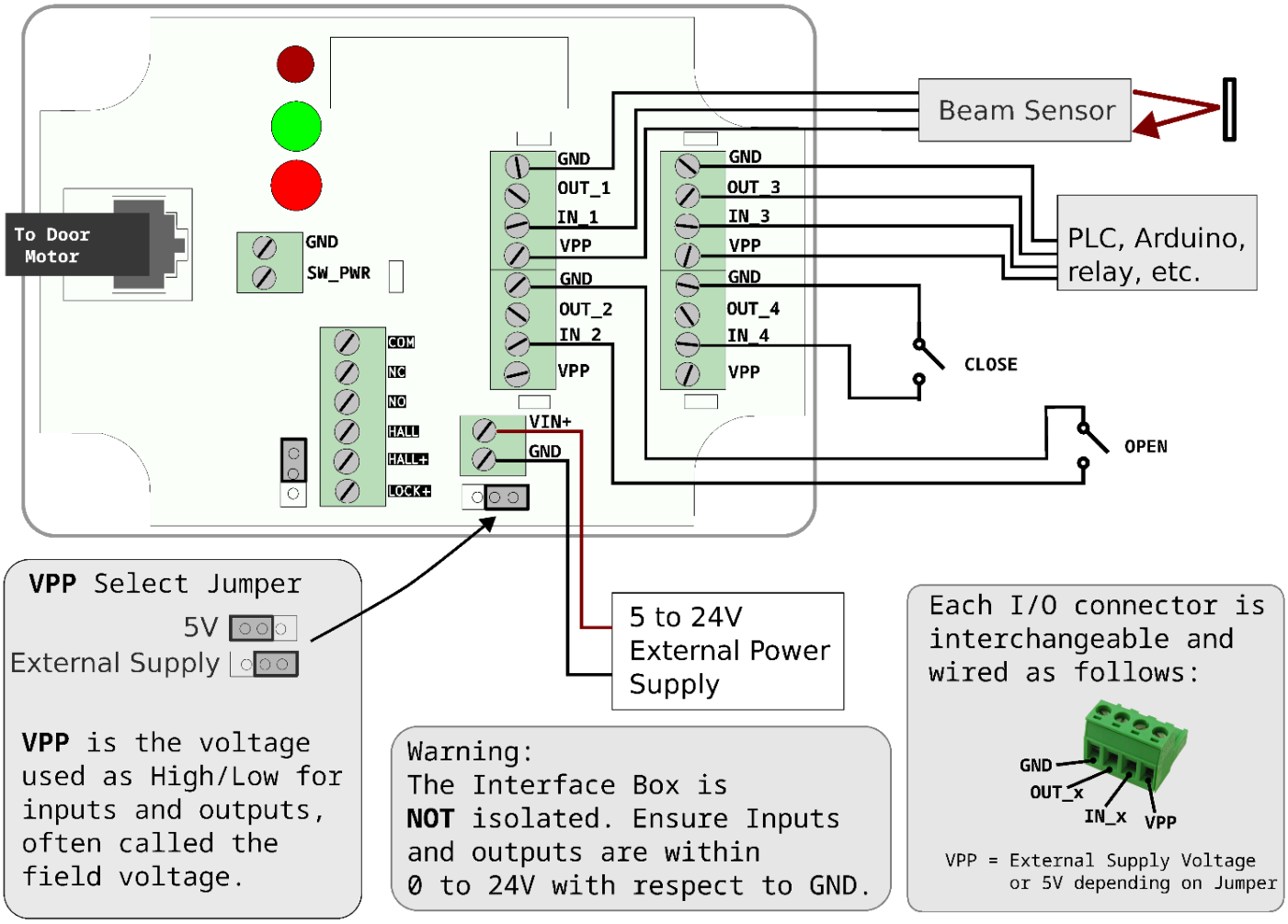
- Door state (Open/Closed)
- Door in motion
- Door lock state
- Door obstruction and faults

All four outputs are NPN type with built in 10k pull-up resistors to the bus voltage. They include diode flyback protection for running inductive loads such as relays and solenoids. Each output is rated for a maximum of 1 Amp.

Each of the four outputs are identical, and may be configured independently. The following schematic shows the circuit implemented for each output:



WAAY Interface Box Wiring Diagram



Notes

- Input and output functions are configured using the menu on the inside panel.
- When not using external power supply, make sure total current draw is limited to 100mA or less
- The SW_PWR connection is designed for dry-contact switch only. Do not apply voltage to SW_PWR.
- All Inputs have internal 10k pull-up resistors
- Input Voltage Range: 5-24v Output Current Max: 100mA
- The SW_PWR connection is designed for dry-contact switch only. Do not apply voltage to SW_PWR.
- External power supply GND should be isolated from mains

Laser Sensor Example

A “beam interrupt” sensor can be used to detect people or objects in the door. It can be wired to any of the inputs in the interface controller and configured in the menu as a sensor.