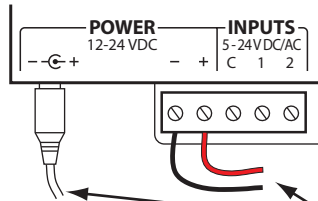## Quick-Start Guide
Flex 2
PN: 211

VIDEOS AND MORE AVAILABLE ONLINE
Scan the QR code here or on the controller's enclosure. Or visit: help.frightideas.com

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Power Supply

POWER CAN BE SUPPLIED USING THE BARREL CONNECTOR OR THE TERMINAL BLOCK.

Selecting your Power Supply
The Flex requires a 12 or 24 volt DC power supply. The power terminals on the terminal block are directly connected to the barrel connector, so you can also use it to supply or borrow power.

Sizing Your Power Supply
To size a supply you must calculate for the worst-case scenario. Add up the wattage for the most outputs that will be on at any one time, then add 2 watts for the Flex. Note that the Flex can't drive more than 5 amps of current total. That equates to 60 watts at 12 volts or 120 watts at 24 volts.

Example:
	2 watts	Flex
+	18 watts	3 x 6 watt solenoids
+	1 watt	LED Light
=	21 watts	Total - Need at least 21 watts

Solid-State Outputs

VOLTAGE IN

VOLTAGE OUT
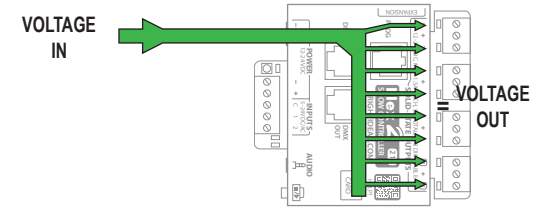
About Solid-State Outputs
Solid-state outputs are great for reliably controlling relays, solenoids, and LED lights. They cannot be used to directly control high-current, 110 volt, or contact-closure devices like a relay can. However, unlike relays, they have no moving parts that wear out over time. Use external mechanical or solid-state relays for high current or high voltage loads. This will result in a highly reliable and maintainable system.

Dimmable Outputs
Outputs 7 & 8 can be used to control the brightness of LEDs or small DC bulbs.

Solid-State Output Ratings
Each solid-state output can handle 1.5 amps of current steady, or 2.5 amps in short bursts. The total current on all outputs totalled together must not exceed 5 amps. Each output is protected from shorts and overloads.

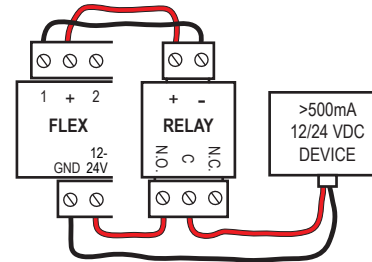## Solid-State Output Wiring Diagrams
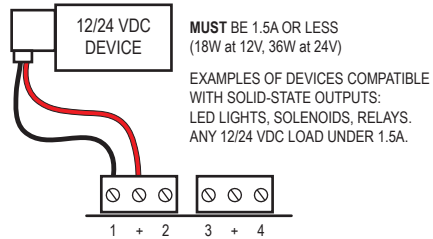
MUST BE 1.5A OR LESS (18W at 12V, 36W at 24V)

EXAMPLES OF DEVICES COMPATIBLE WITH SOLID-STATE OUTPUTS: LED LIGHTS, SOLENOIDS, RELAYS. ANY 12/24 VDC LOAD UNDER 1.5A.
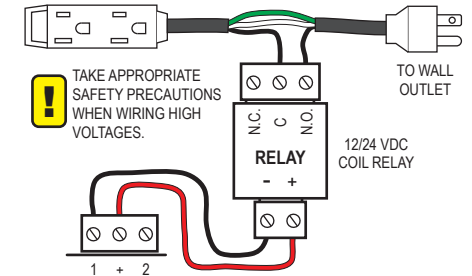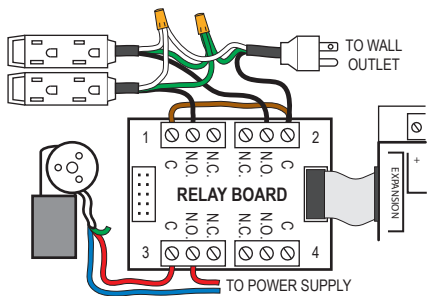
ANY 12 OR 24 VDC DEVICE
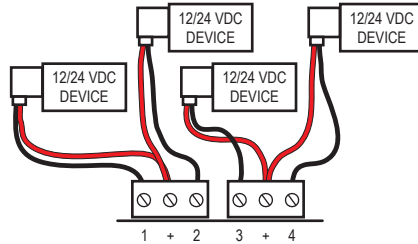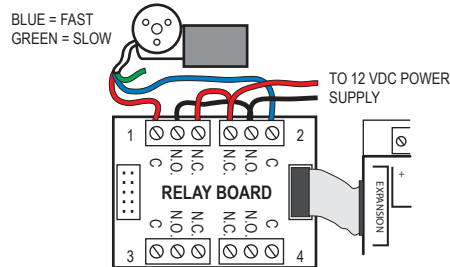
FOUR 12 OR 24 VDC DEVICES

12 OR 24 VDC DEVICE > 1.5 AMPS

TAKE APPROPRIATE SAFETY PRECAUTIONS WHEN WIRING HIGH VOLTAGES.

ANY 110 VOLT LOAD
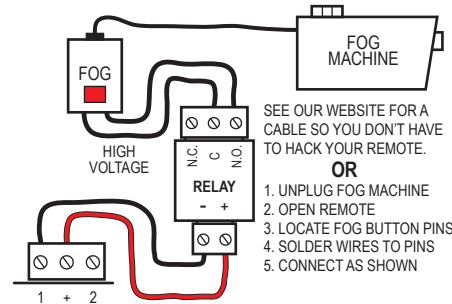
USING A QUAD RELAY BOARD

BLUE = FAST
GREEN = SLOW

USE OUR RELAY BOARD IF YOU NEED A FEW RELAYS. TWO CAN BE LINKED TO GET 8 RELAYS

12 VDC MOTOR IN FORWARD AND REVERSE

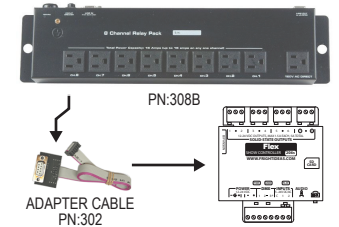SEE OUR WEBSITE FOR A CABLE SO YOU DON'T HAVE TO HACK YOUR REMOTE.
OR
1. UNPLUG FOG MACHINE
2. OPEN REMOTE
3. LOCATE FOG BUTTON PINS
4. SOLDER WIRES TO PINS
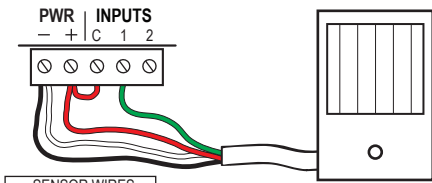5. CONNECT AS SHOWN

FOG MACHINE

PN:308B

ADAPTER CABLE PN:302

USE ONE OF OUR AC RELAY PACKS WHEN YOU HAVE A LOT OF 110 VOLT DEVICES TO CONTROL. THE OUTPUTS ON THE RELAY PACK WILL MIRROR THE OUTPUTS ON THE FLEX.
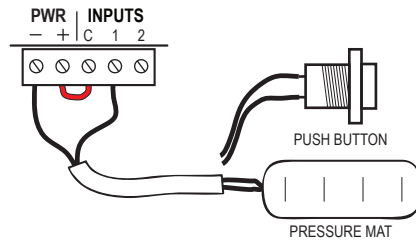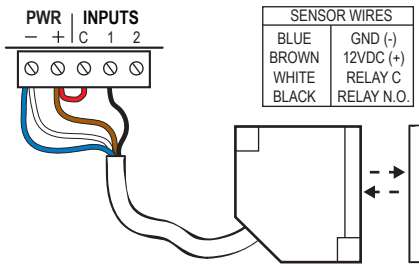
AC RELAY PACK

Trigger Input Wiring

PIR MOTION SENSOR

```
PWR | INPUTS
 −  + | C  1  2
```

SENSOR WIRES	
BLACK	GND (−)
RED	12VDC (+)
WHITE	RELAY C
GREEN	RELAY N.O.

NOTE: PIR SENSORS CAN TAKE UP TO A MINUTE TO "WARM UP". DURING THIS TIME THEY WILL TRIGGER THE FLEX. USE THE *STARTUP DELAY* FEATURE TO PREVENT FALSE TRIGGERS AT STARTUP.

PRESSURE MAT OR PUSH BUTTON

```
PWR | INPUTS
 −  + | C  1  2
```

PUSH BUTTON

PRESSURE MAT

BEAM SENSOR

```
PWR | INPUTS
 −  + | C  1  2
```

SENSOR WIRES	
BLUE	GND (−)
BROWN	12VDC (+)
WHITE	RELAY C
BLACK	RELAY N.O.

WIRELESS TRIGGER

```
PWR | INPUTS
 −  + | C  1  2
```

BASE STATION
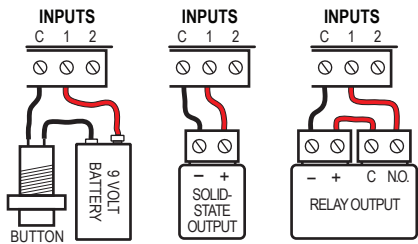
C
N.O.   **RELAY OUTPUT**

−
+   **POWER**
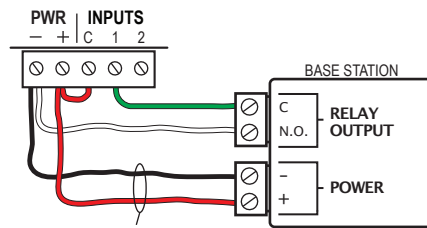
CONNECT THESE ONLY IF THE FLEX AND BASE STATION USE THE SAME VOLTAGE AND THE BASE STATION'S POWER SUPPLY IS NOT CONNECTED.

OPTICALLY-ISOLATED INPUT

```
INPUTS        INPUTS        INPUTS
C  1  2       C  1  2       C  1  2
```

9 VOLT BATTERY
BUTTON

− +
SOLID-STATE OUTPUT

− +   C N.O.
RELAY OUTPUT

OPTICALLY-ISOLATE CIRCUITS FROM DIFFERENT POWER SUPPLIES, OR WHEN WIRE LENGTHS ARE EXCESSIVE.

TWO TRIGGERS

```
PWR | INPUTS
 −  + | C  1  2
```

PUSH BUTTONS
1
2
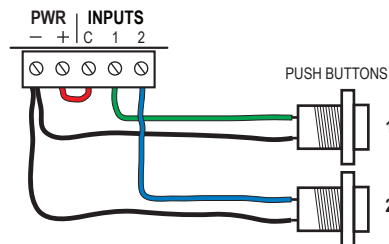
DMX

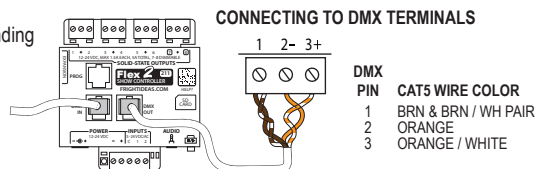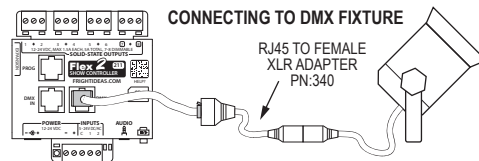### Master Mode (Default)
The Flex can be purchased with DMX Output enabled if you would like to control DMX devices. This option can also be enabled after purchase.

Slave Mode
The Flex can be setup as a DMX slave to a FlexMax or any DMX master. The master can control the Flex's outputs and audio, or trigger scenes depending on the DMX mode.

CONNECTING TO DMX FIXTURE

RJ45 TO FEMALE XLR ADAPTER PN:340

CONNECTING TO DMX TERMINALS

```
1  2−  3+
```

DMX PIN	CAT5 WIRE COLOR
1	BRN & BRN / WH PAIR
2	ORANGE
3	ORANGE / WHITE

Audio

Connecting Speakers
The Flex audio output is designed to connect to powered speakers or external amplifiers.

STEREO ✓
MONO ✗

AMPLIFIER

POWERED SPEAKERS
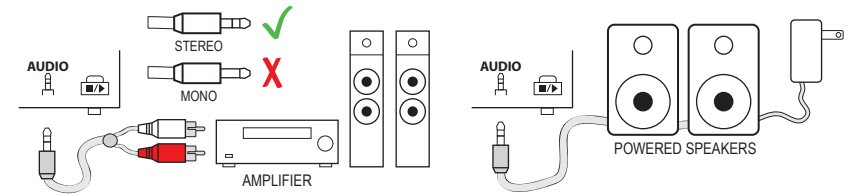
Programming

Flexes can be easily programmed with our free Director software and an SD card. The Director Connect allows you to see your work in real-time, rather than having to save the program to an SD card first. The ScareMaster is a great real-time programming option for those who don't want to be tethered to a computer.

DIRECTOR SOFTWARE → SD CARD (⚠ 32GB OR LESS!) → Flex

DIRECTOR SOFTWARE

DIRECTOR IN REAL-TIME WITH DIRECTOR CONNECT

SCAREMASTER IN REAL-TIME
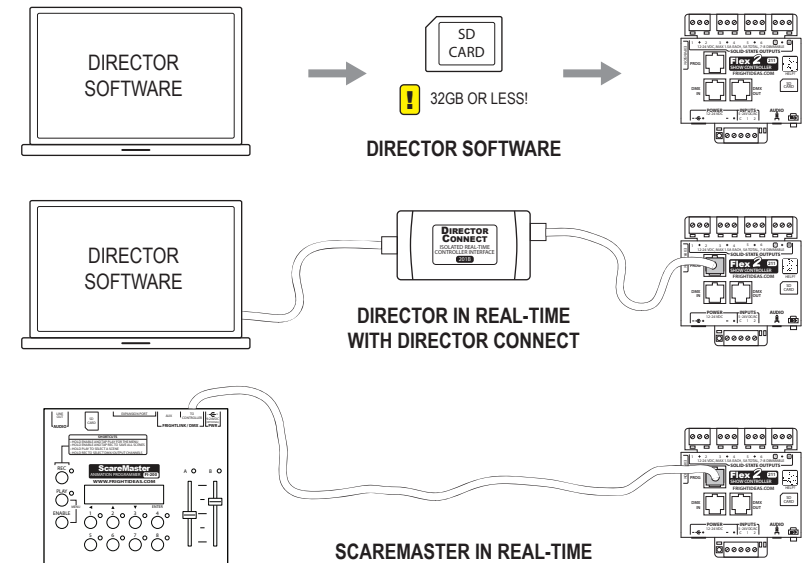
Troubleshooting

The status LED indicates the current state at startup, during operation, and when an error occurs. See the Help menu in Director for the full list of LED states and error codes.

STARTUP
- 🟢 Firmware Check
- 🌼 Firmware Updating
- 🟡 Importing Show

AS A DMX SLAVE
- 🟢 Good DMX Signal
- 🔴 No DMX Signal

OPERATION
- ⚪ Idle
- 🟢 Playing Scene
- 🔵 Connected to Director Connect or ScareMaster.

ERROR CODES
- 1 & ☀ x5 or 6 - Firmware on chip corrupt. Update firmware.
- 1 & ☀ x7 - Firmware file on card corrupt. Re-export to card.
- 2 & ☀ x13 or 14 - Invalid SD card. Must be 32GB or less.
- 2 & ☀ x5 - Out of Memory for Behaviors.
- 2 & ☀ x6 - Behavior Exception. Try updating firmware.

For other errors please try to update firmware. If that doesn't resolve it, reach out to us at support@frightideas.com.