

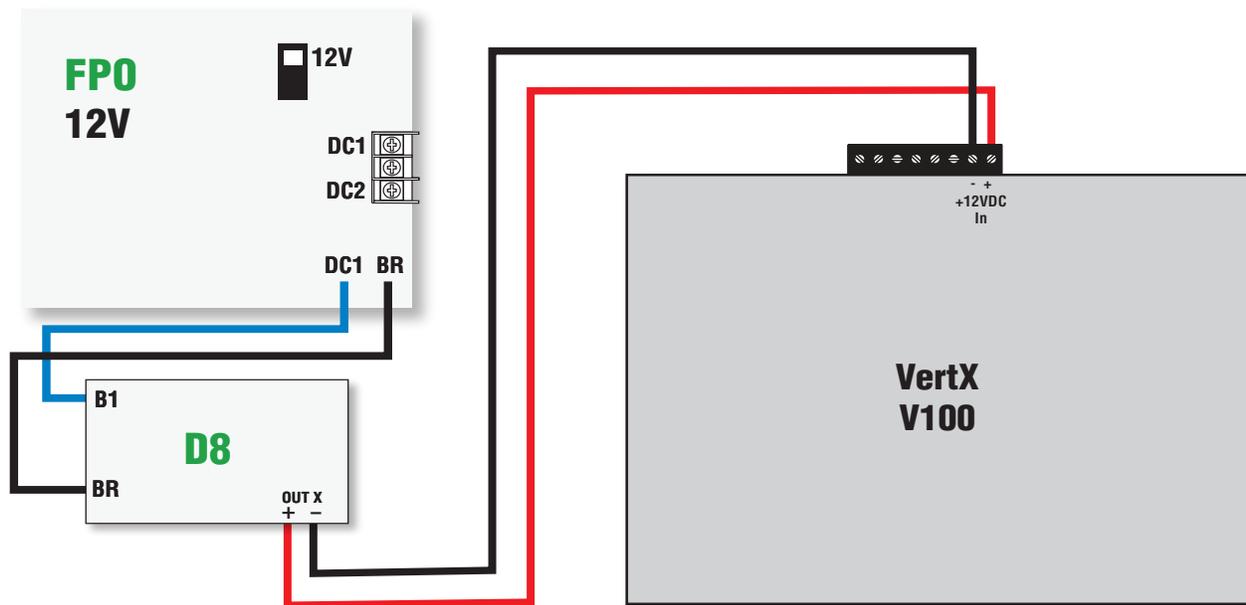
### OVERVIEW

The LifeSafety Power VCLASS line of Unified Power Systems was designed as an all in one solution, providing power to HID controllers, locks, and auxilliary devices while also providing predrilled mounting holes for mounting the controllers within the same enclosure, simplifying and streamlining the installation. This application note will cover the basic wiring required between the power system and the HID VertX Series of controllers and assumes a basic working knowledge of LifeSafety Power equipment and HID control panels. The included illustrations show a V100 board - consult the HID instruction manual for the VertX board being used for terminal locations.

### CONTROLLER POWER

The V100, V200, and V300 VertX boards require a 12VDC source for power - connection to 24VDC will cause immediate damage. Because of this, most HID power systems using these boards will need to be dual voltage (utilizing either two FPO power supplies or an FPO with a B100) to allow for 12V system power and 24V locking devices. V1000 and V2000 modules will accept 12 or 24VDC. Always consult the manual of the HID boards being used to verify the operating voltage range.

Power for the VertX controller boards should ideally be taken from an available D8 output, or if necessary directly off the FPO or B100 main output terminals.



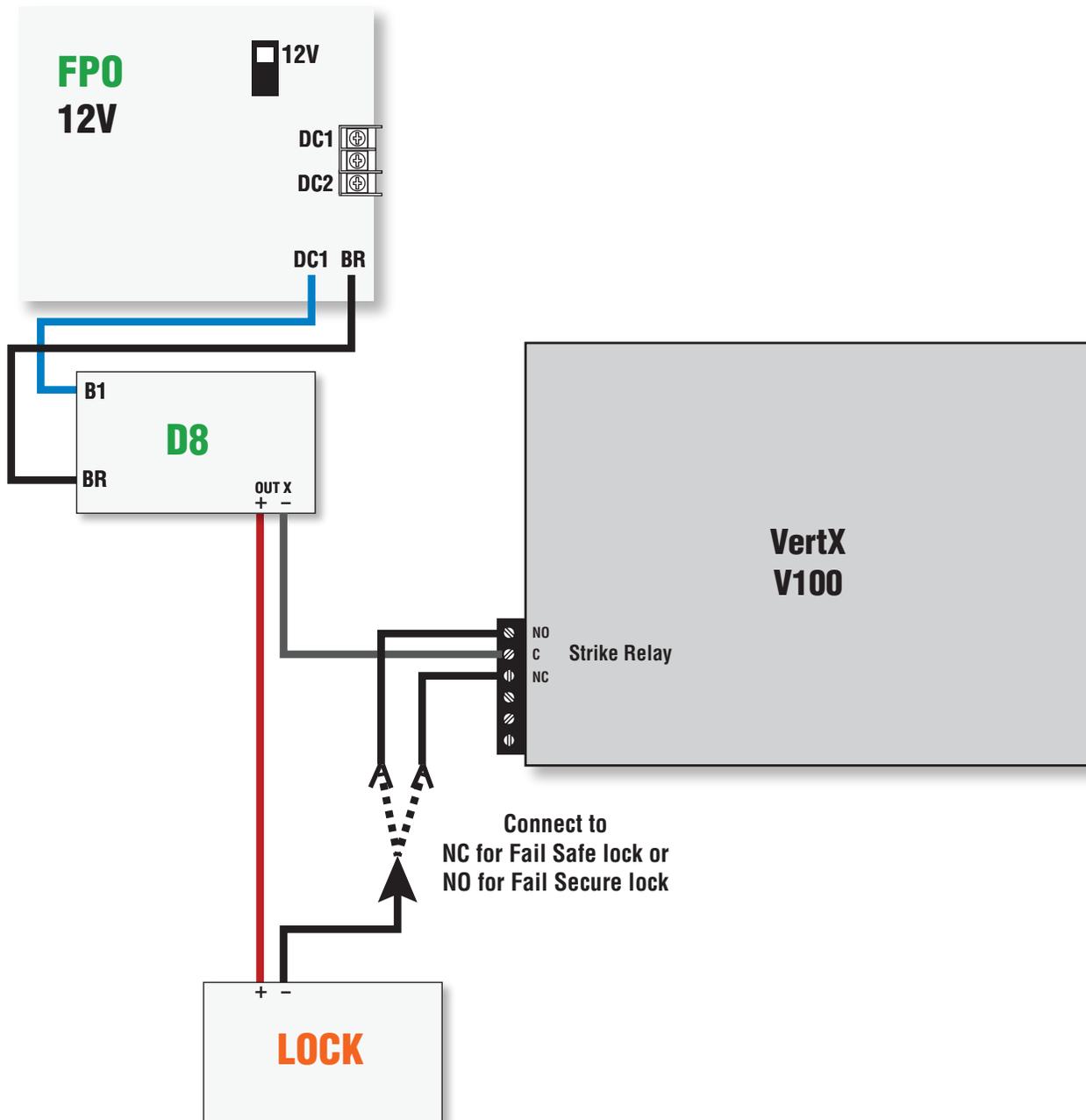
**LOCK POWER**

The VertX controllers provide dry relay outputs for controlling locks. To provide power to the locks a D8, F8, C8, or M8 may be used as shown below.

**Locks Powered by a D8 Module**

For the lowest-cost solution, the output relays of the VertX modules may be used to directly control the locks, using a D8 for power. If 24V locks are being used, a separate 24V FPO power supply is required.

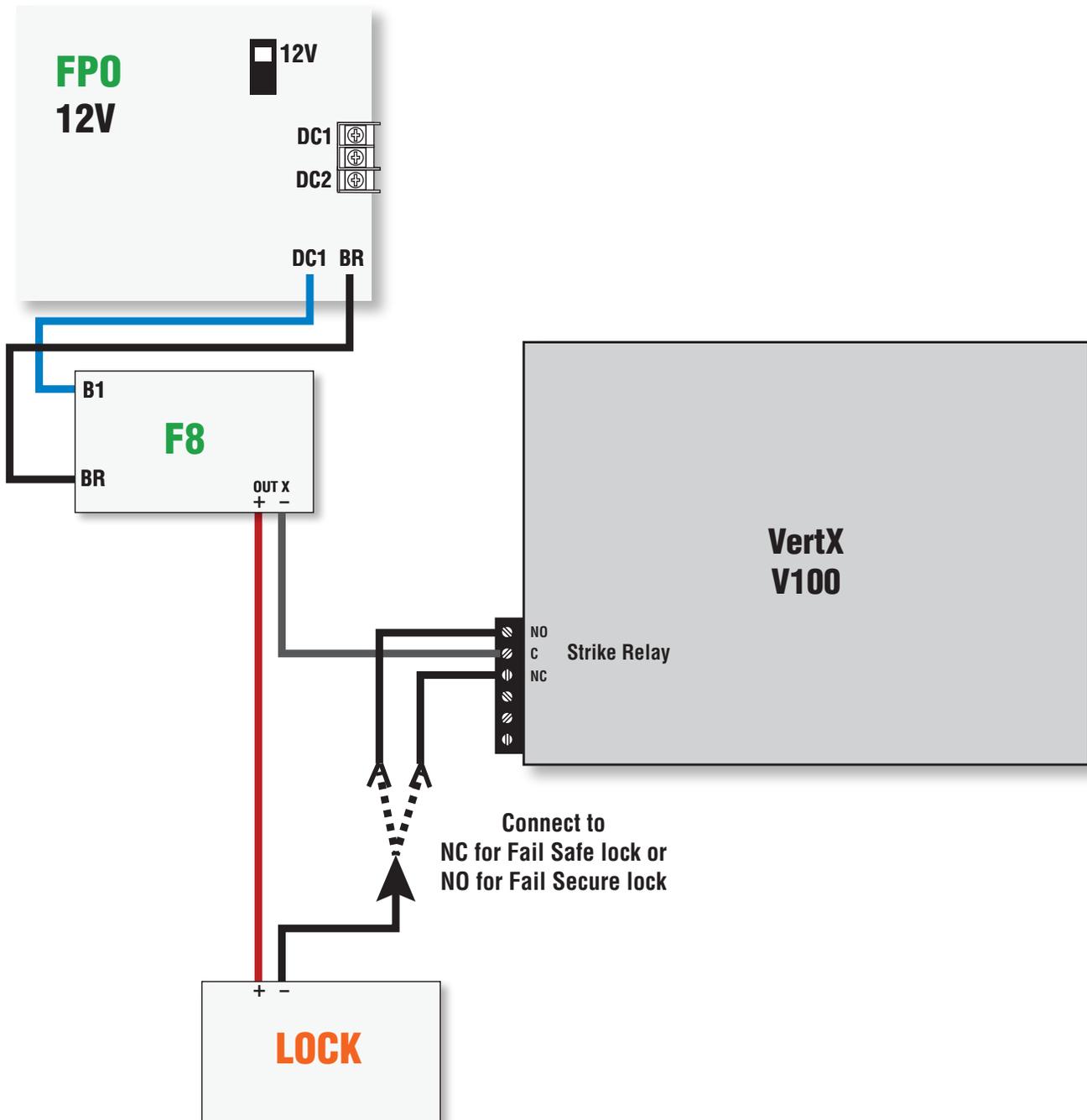
In single-voltage systems, each D8 output may be selected for constant, or FAI controlled voltage. In dual-voltage systems, each D8 output may be selected for 12V or 24V.



### Locks Powered by a F8 Module

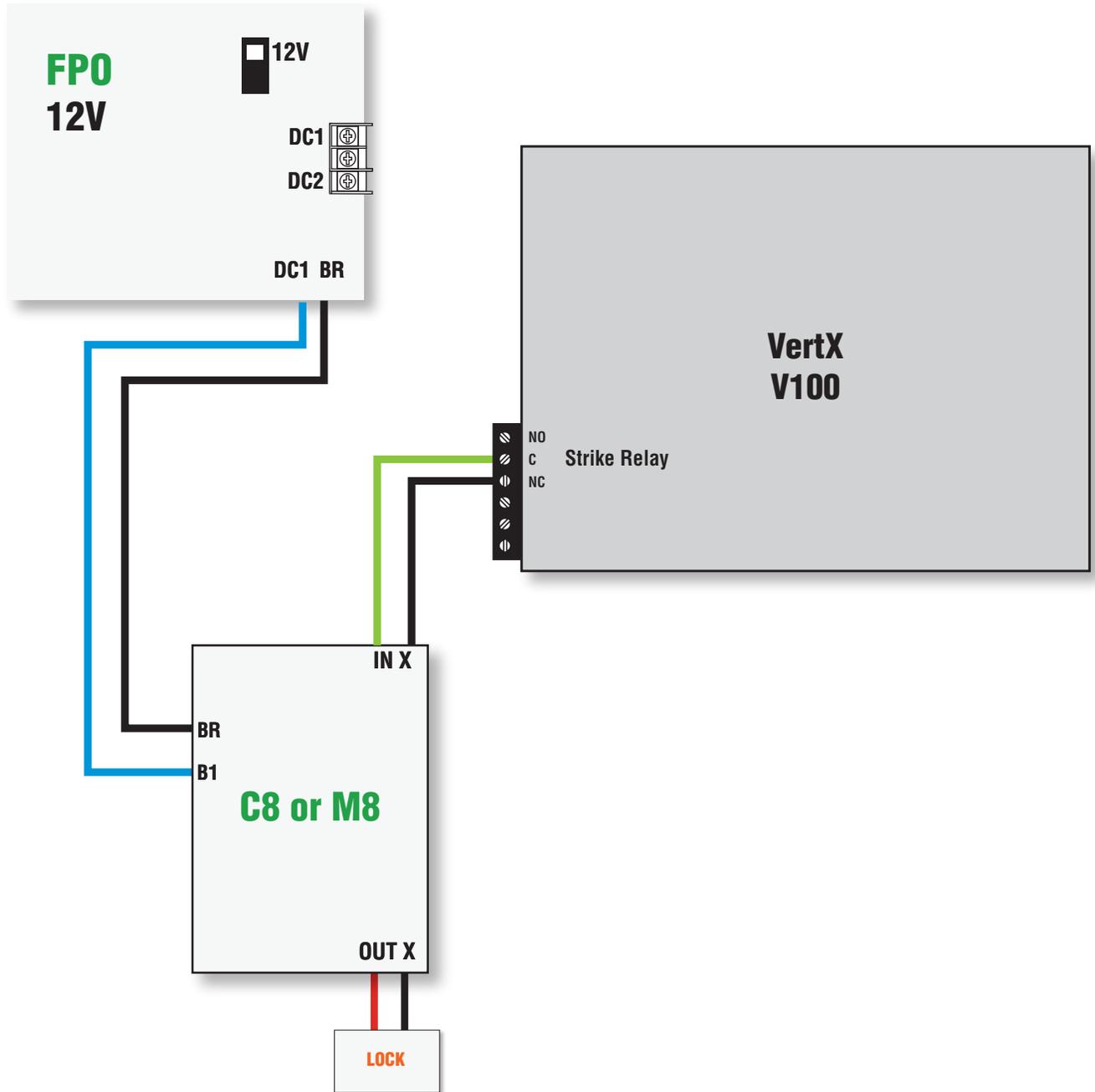
If FAI control of the locks is desired in a dual voltage system, an F8 module may be used.

Each output of the F8 may be selected for constant output, or FAI controlled output at either 12V or 24V (when used with a dual voltage system).



**Locks Powered By An M8 or C8**

The C4, C8, or M8 board acts as a "buffer" between the HID output relays and the high current locks. In this scenario, the HID controller only switches the low-current input of the C4/C8/M8, while the high current switching is handled by the C4/C8/M8, prolonging the life of the relays in the HID controller. The M8 provides network monitoring and control of each individual output, while the C4 and C8 are lower cost without the monitoring. Wiring of each of these boards is the same.

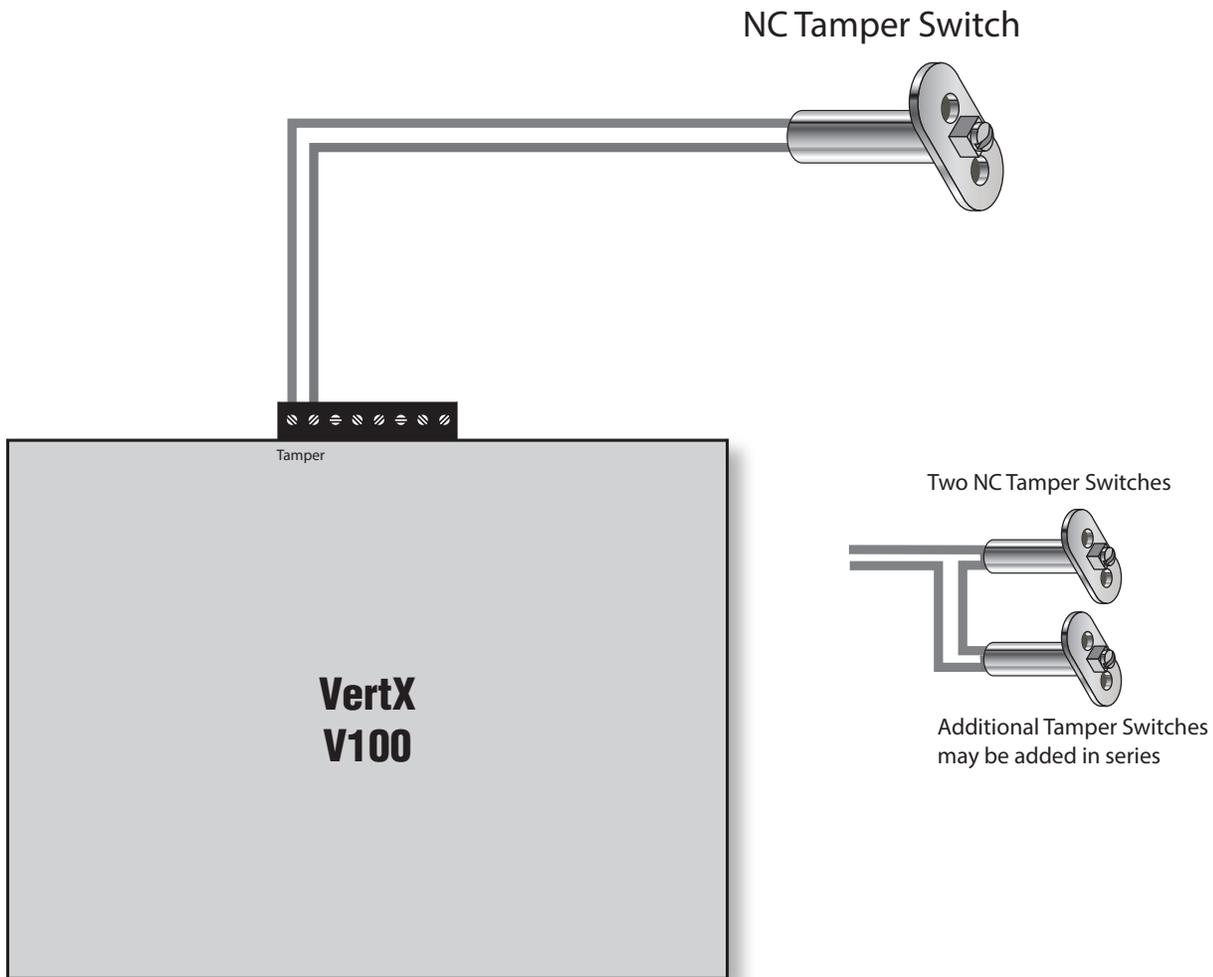


**MISCELLANEOUS**

There are some miscellaneous items which may be wired between the FPO power system and the VertX modules.

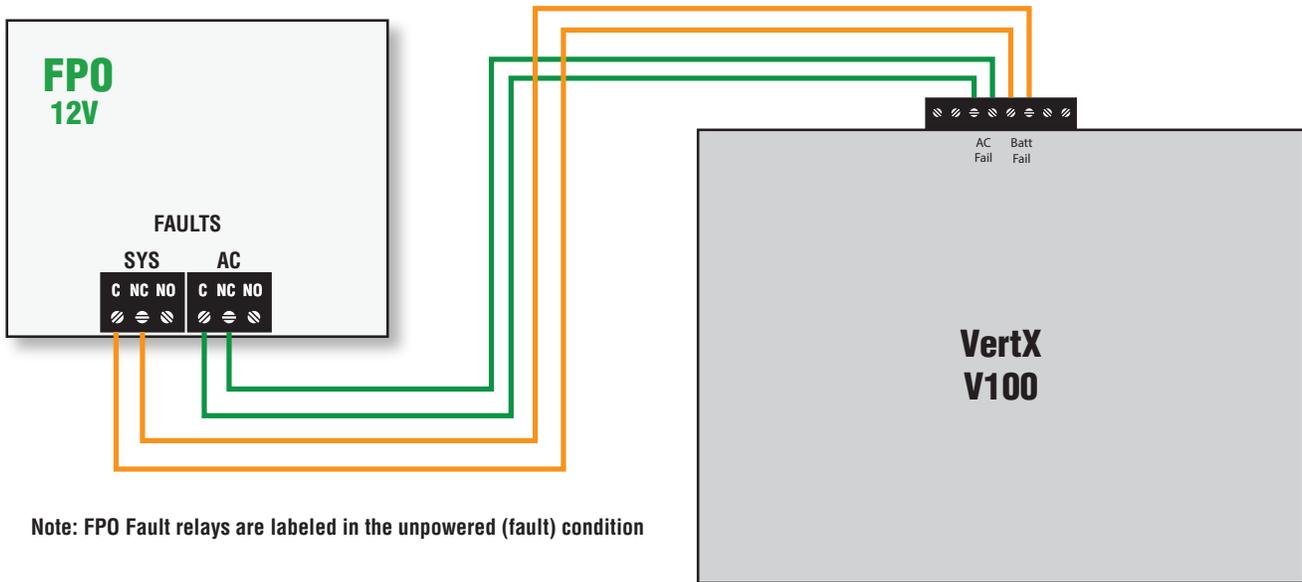
**Tamper Switch Wiring**

The normally closed (NC) tamper switch on the FPO power supply's enclosure may be monitored by the HID system as shown below. If there are multiple NC tamper switches to be monitored, they should be wired in series as shown.



### FPO Fault Relay Wiring

The AC and System Fault relays on the FPO power supplies may be monitored by the HID system. In a system with two FPO power supplies, only one set of relays needs to be monitored, since the FlexIO cable ties the system faults between the two FPO power supplies together. The VertX controller will report all system faults (battery faults, blown fuse, low output voltage, etc) on the FPO system as a Battery Fail.



Note: FPO Fault relays are labeled in the unpowered (fault) condition

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