

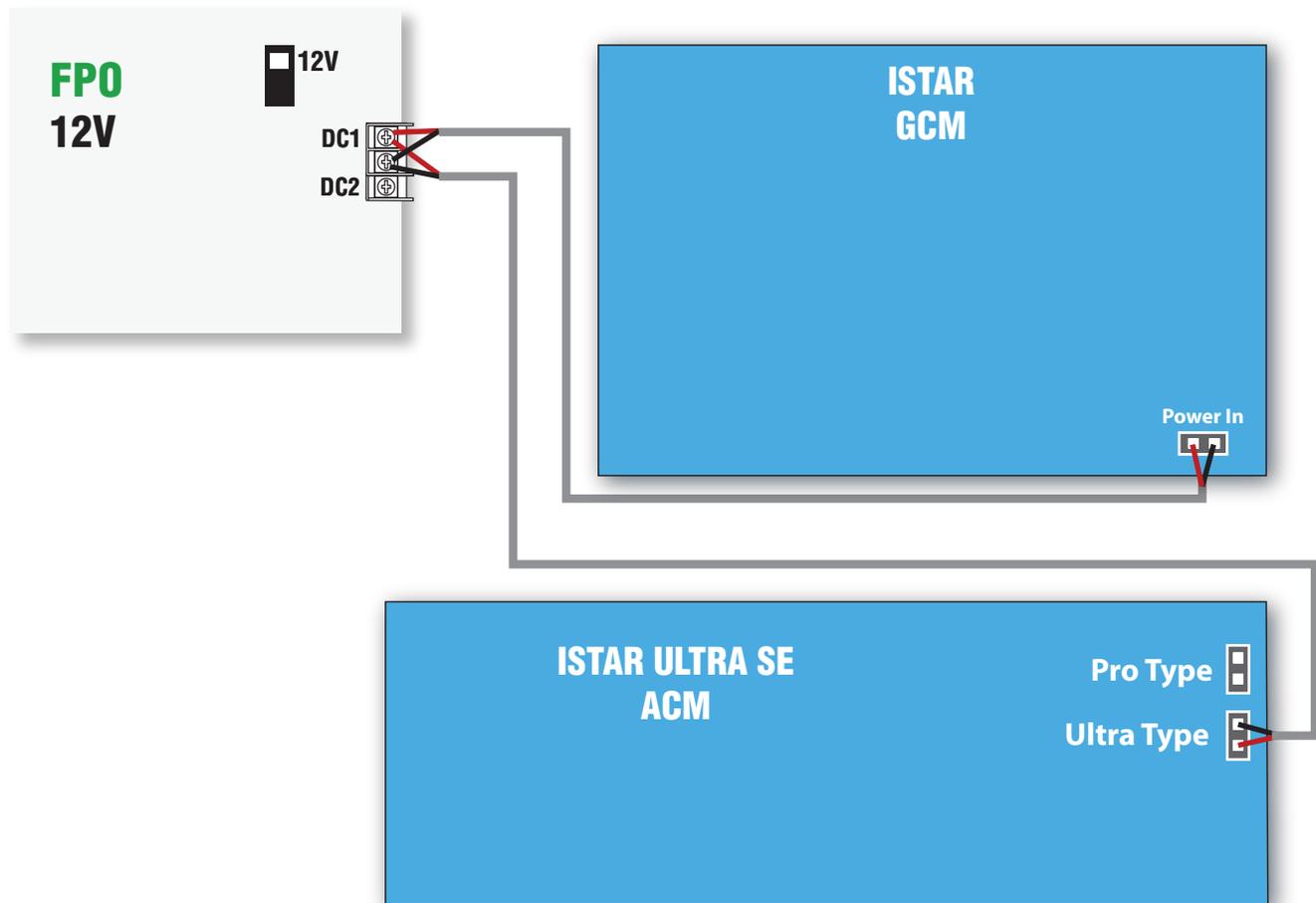
## OVERVIEW

The FlexPower line of power supplies is ideal for powering an access control system such as the Software House iStar ULTRA SE. Additionally, the SCLASS line of power systems allows the mounting of the iStar components within the power supply enclosure, simplifying and streamlining the installation. This application note will cover the basic wiring required between the power system and the iStar ULTRA SE and assumes a basic working knowledge of LifeSafety Power equipment and the iStar ULTRA SE panel.

## GCM & ACM / READER POWER

The iStar ULTRA SE GCM & ACM require a 12VDC source for power - connection to 24VDC will cause immediate damage. Because of this, most iStar ULTRA SE power systems will need to be dual voltage (utilizing two FPO power supplies) to allow for 12V system power and 24V locking devices.

Power for the GCM and ACM boards should be taken directly from the DC1 output terminals of the 12V FPO power supply as shown below.



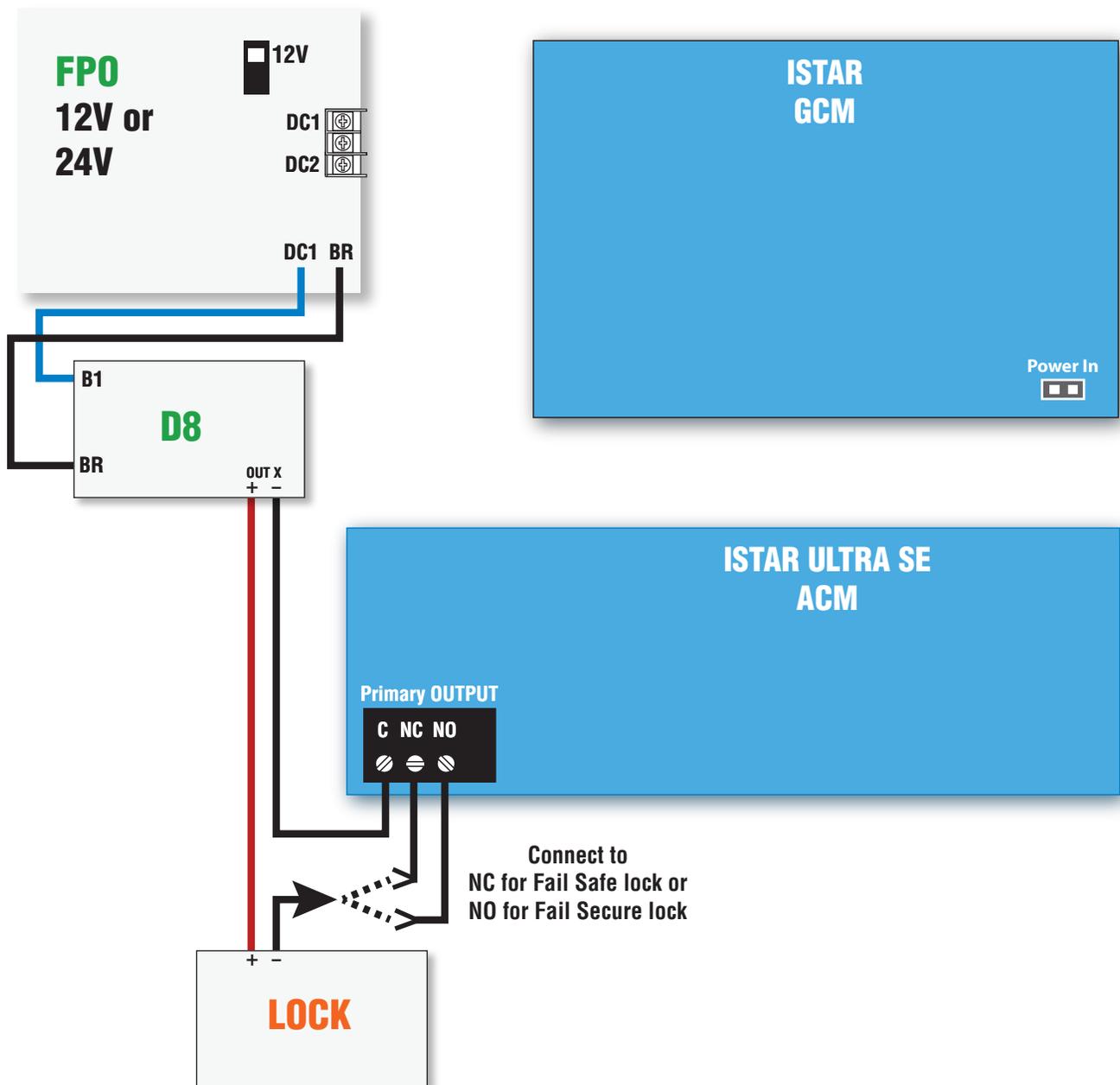
**LOCK POWER**

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

**Locks Powered by a D8 Module**

For the lowest-cost solution, the output relays of the ACM 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.

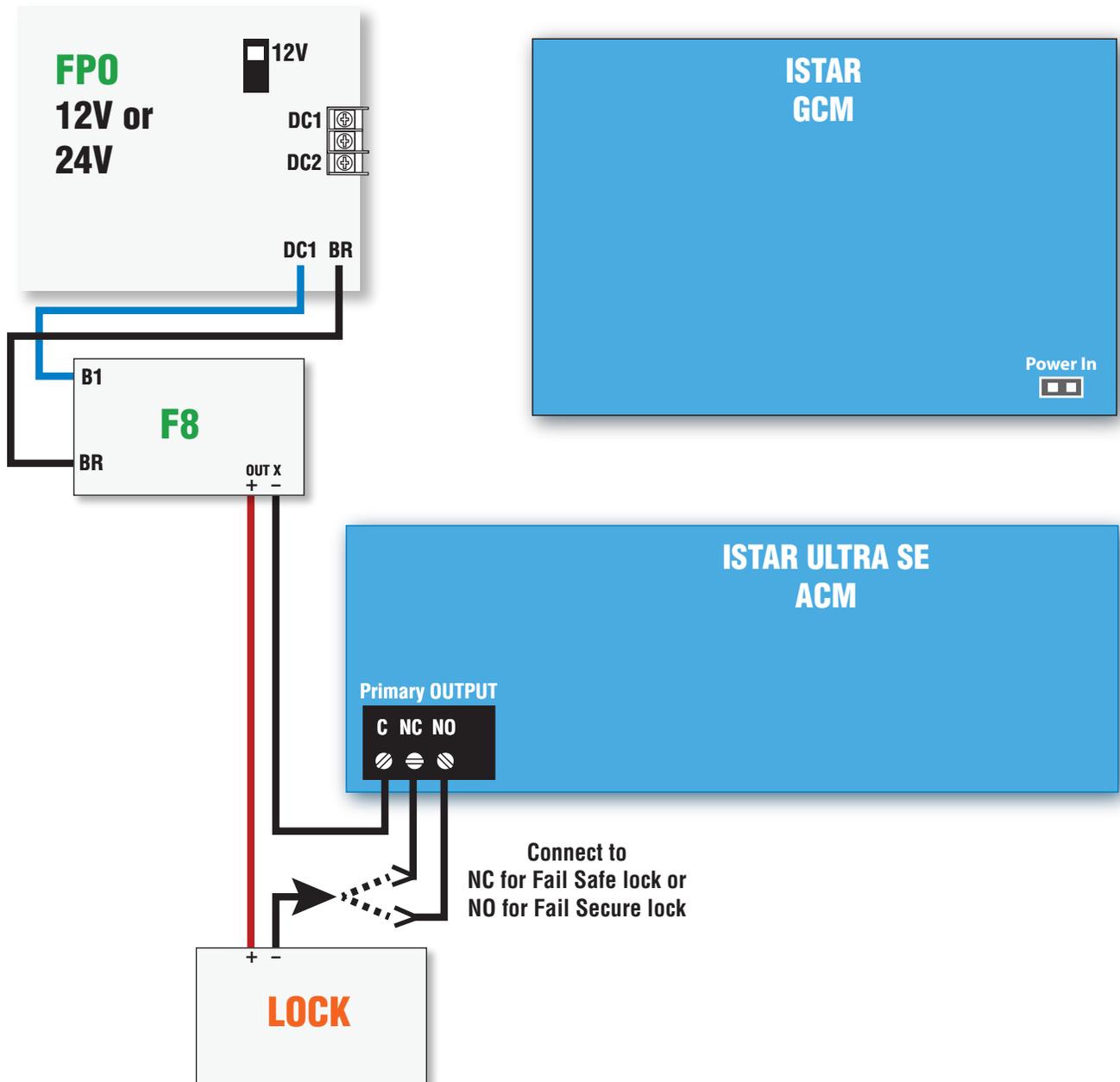
In single-voltage systems, each D8 output may be selected for constant, or FAI controlled voltage. In dual-voltage systems, each D8 output may be selected for 12V or 24V.



### Locks Powered by a F8 Module

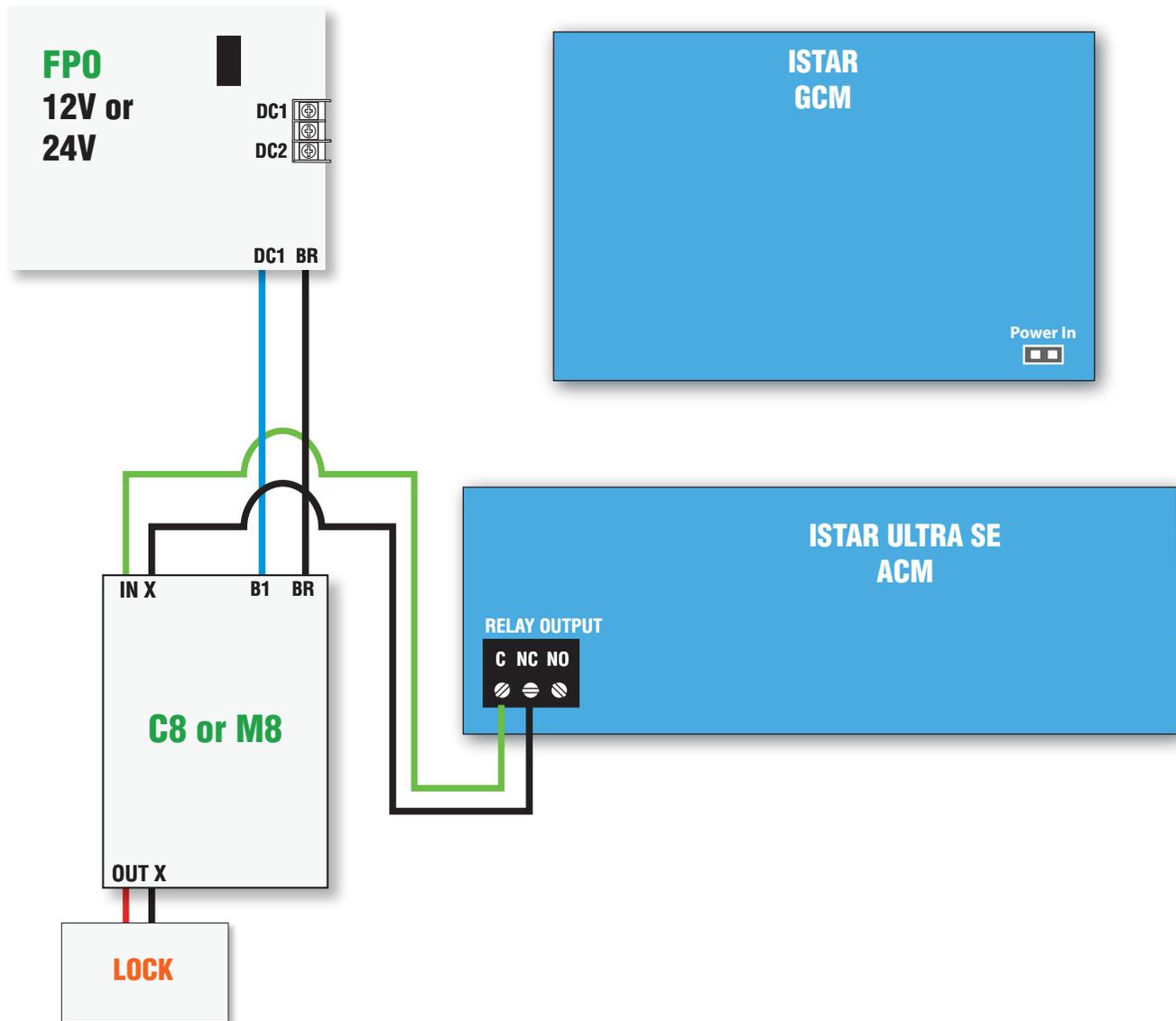
If FAI control of the locks is desired in a dual voltage system, an F8 module may be used.

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 ACM's output relays and the high current locks. In this scenario, the ACM only switches the low-current input of the C4/C8/M8, while the high current switching is handled by the C4/C8/M8. 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.



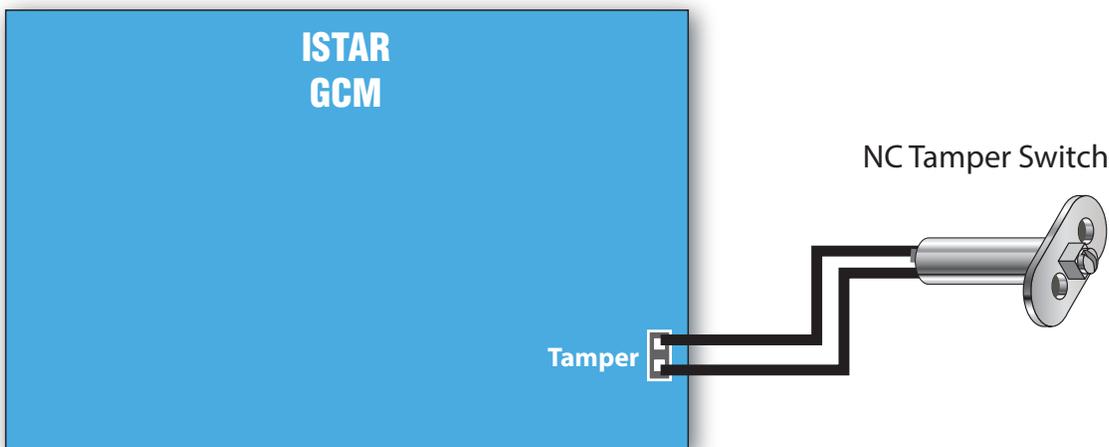
**MISCELLANEOUS**

There are some miscellaneous items which may be wired between the FPO power system and the iStar ULTRA SE.

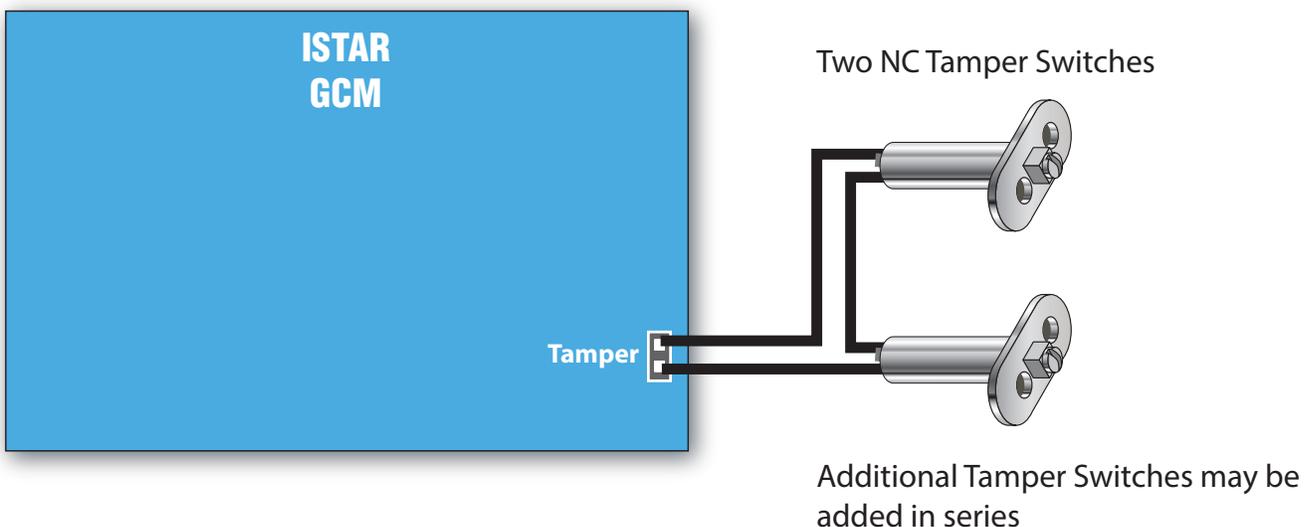
**Tamper Switch Wiring**

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

**Single Tamper Switch**

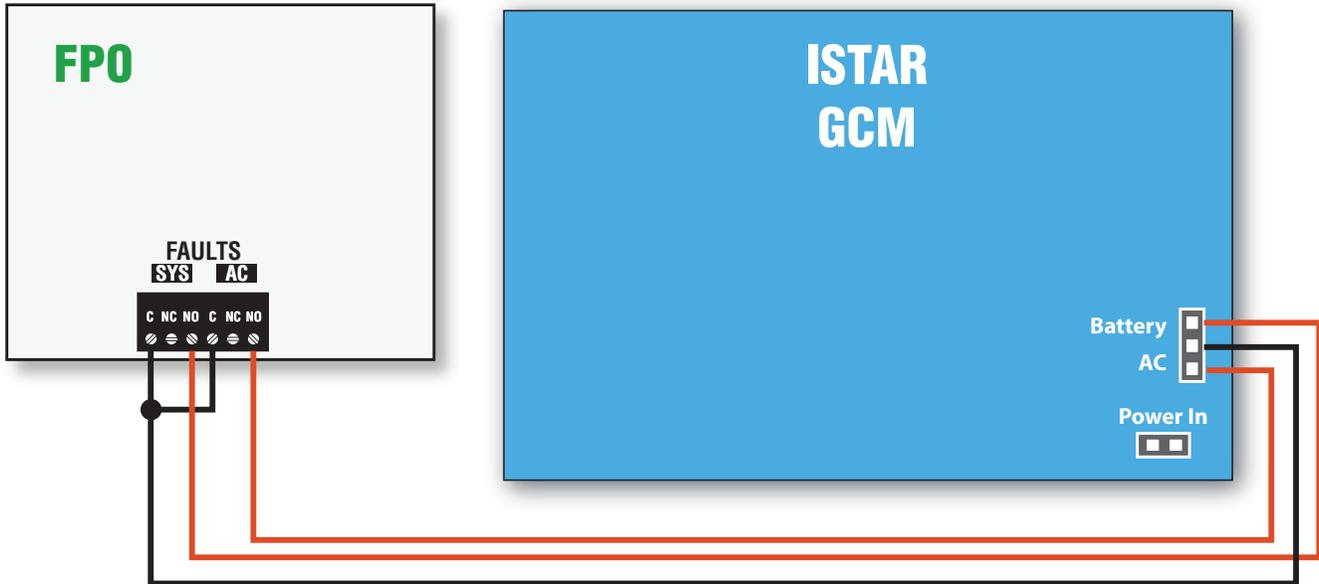


**Multiple Tamper Switches**



### FPO Fault Relay Wiring

The AC and System Fault relays on the FPO power supplies may be monitored by the iStar ULTRA SE's GCM board. 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.



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

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