

OVERVIEW

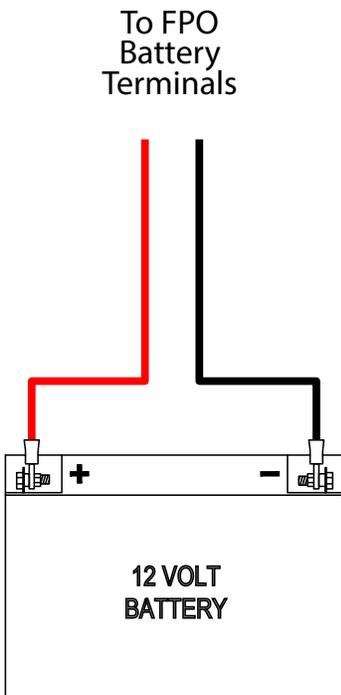
Battery backup is a critical part of most access control systems. This application note covers wiring details for the various battery wiring scenarios you may encounter with a LifeSafety Power system.

BASIC BATTERY WIRING

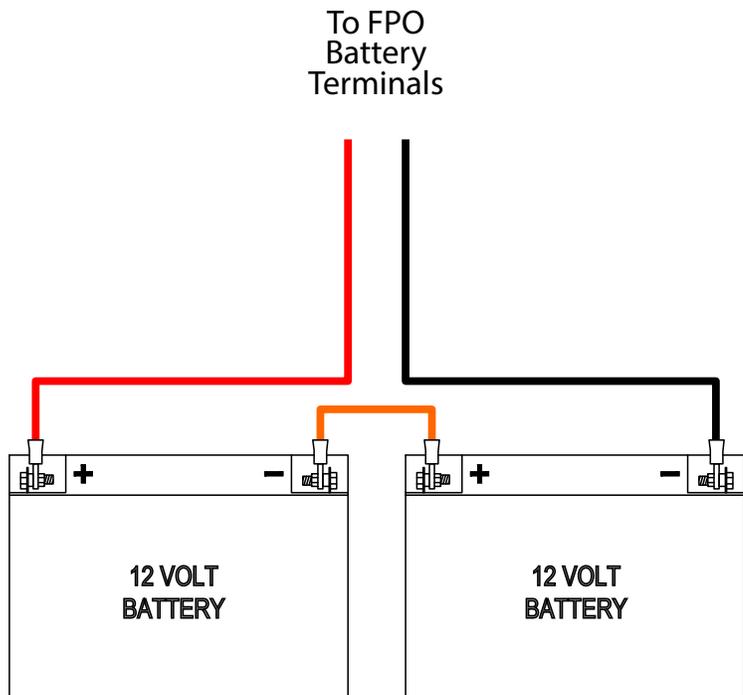
When connecting the battery set to each FPO power supply, the battery voltage MUST match the voltage setting of the power supply. An FPO set for 12V must use a 12V battery set and a 24V FPO must use a 24V battery set by series-connecting two 12V batteries as shown. A common misconception is that series-connecting two batteries increases the AH capacity - in reality, two 7AH batteries in series is still only 7AH. See Paralleling Batteries on page 2 for more information.

NOTE: When connecting batteries in series, the batteries used MUST be of the same AH capacity. Using differently sized batteries will result in dramatically shortened battery life, and could result in a damaged battery set. Similarly, when initially installed, the batteries used should be at a similar state of charge (i.e. do not connect a fully charged battery in series with a partially or fully discharged battery).

12V Battery



24V Battery Set

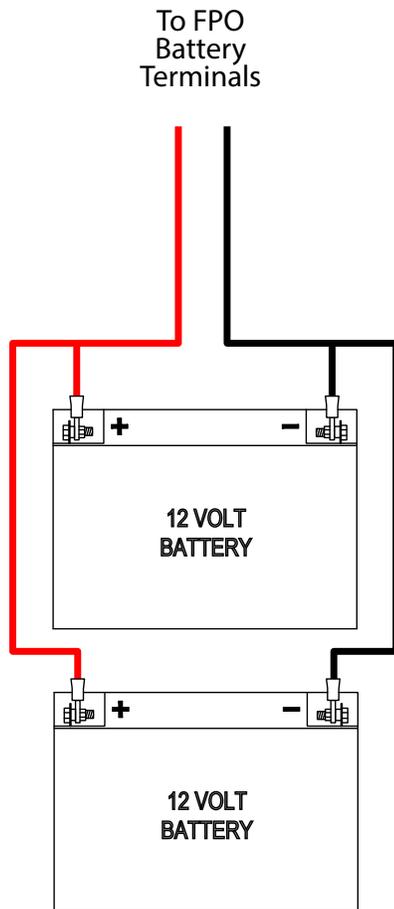


PARALLELING BATTERIES

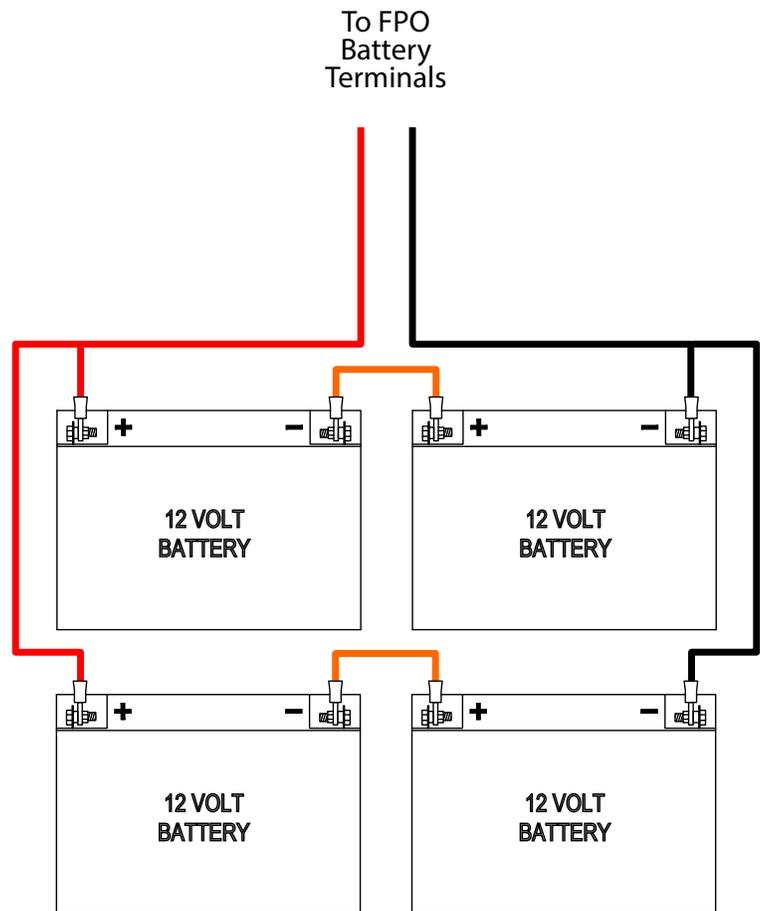
If increased battery capacity is needed, battery sets can be parallel-connected as shown below. When batteries are parallel-connected, the AH capacities add together. In the diagram below, if all batteries shown are assumed to be 7AH, then both the 12V and 24V configurations shown would give 14AH total capacity. Note that serial-connected batteries do not add their AH capacities. When paralleling batteries, it is not necessary for the paralleled battery sets to be of equal capacity, but in 24V applications, the pairs of serial-connected batteries must be of equal AH rating.

NOTE: When connecting batteries in parallel, if one battery set comes disconnected it will not be detected by the power supply's Battery Presence Detection, as it will still see a battery set connected and will not know the capacity is reduced. Because of this, it is typically safer to use a single, larger, battery set rather than two or more in parallel.

12V Battery



24V Battery Set



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