

Advanced Hardware Technologies

NP-1 Operating Instructions



SYSTEM OVERVIEW

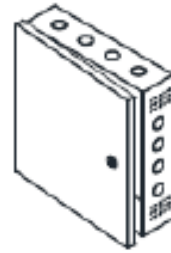
The NP-1 power supply has been designed to work specifically with the AHT MEL-1 motor retraction system. The NP-1 and the MEL-1 each contain a computer that is constantly monitoring the status of the system. This communication is done using the RED and BLACK power wire that runs in between the NP-1 power supply and the MEL-1 retraction mechanism

FEATURES & SPECIFICATIONS

- Input voltage – 120 VAC, 60Hz, 0.36 A
- Output rated 24-27.5 Vdc, 1.5 A
- (2) 12 Vdc sealed lead acid batteries
- (2) solid state input/output (input triggered by dry contact)
- (1) Fire loop connection
- (2) Motor travel adjustment pots
- (3) LEDS that monitor power and charging
- (2) LEDS that monitor input status
- (2) LEDS that monitor:
 - line voltage
 - fire loop status
 - RX status
 - Communication status
- Temperature range – 0 to 49 C
- Line voltage wiring shall be a minimum of 18 AWG in conduit
- All wiring that is not line voltage shall be a minimum of 22 AWG
- ¼ inch spacing must be maintained between power-limited and nonpower-limited wiring
- Enclosure – 10"W x 10"H x 4"D
- Wiring from the FACP to be in accordance with NFPA 101, section 7.6.1.6.2
- Fuse – AC=1.0 A 250V 5mm X 20mm

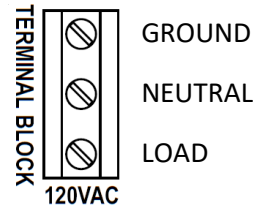
STEP 1

Mount the power supply using the pre-drilled holes.



STEP 2 120 VAC wire connection

1. Make sure 120 VAC service is off (NEVER CONNECT HOT).
2. Make sure 120 VAC wire is rated for 90 degree C or higher.
3. Connect 120 VAC wires to connection labeled AC IN.

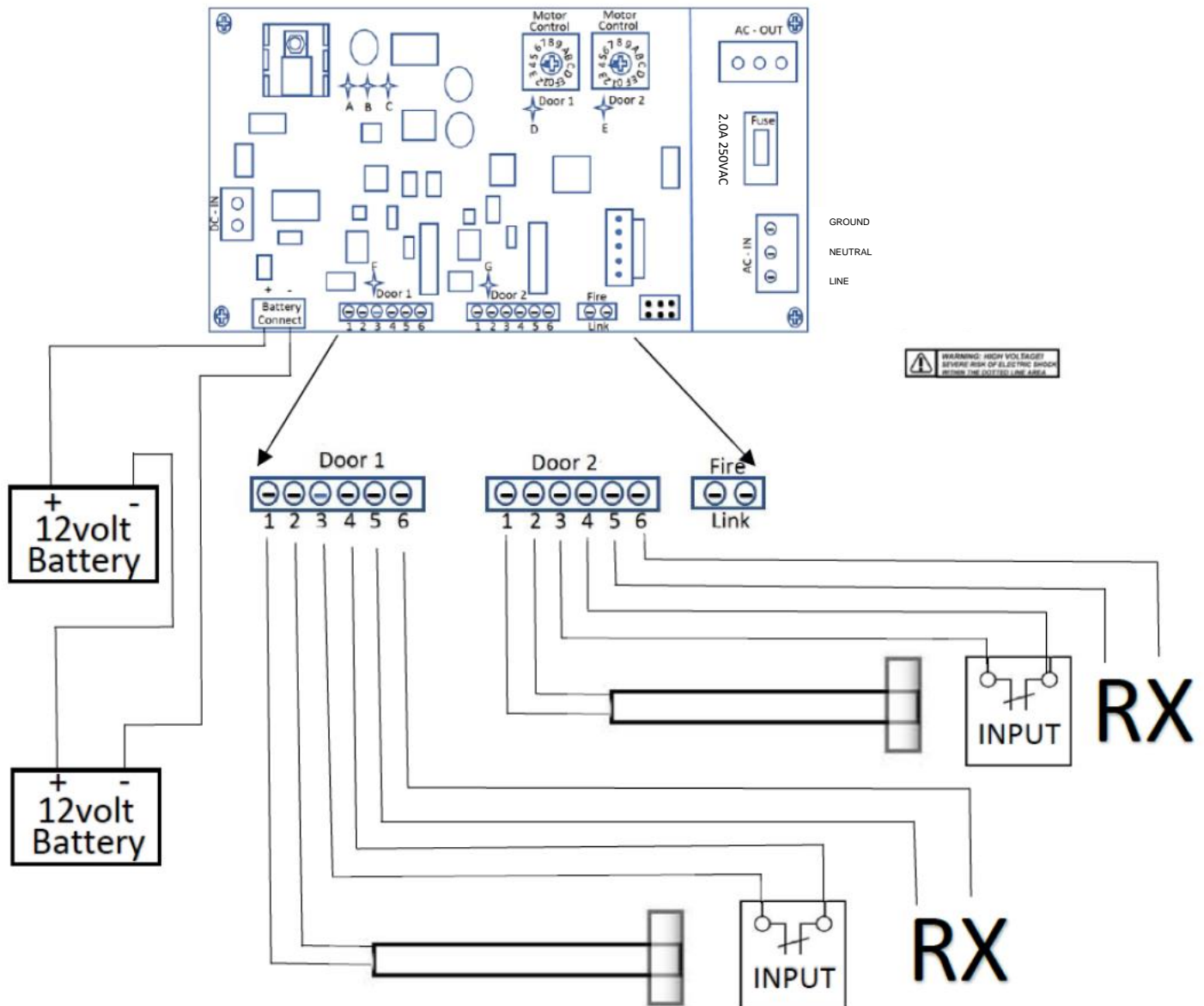


STEP 3 Wiring the device(s)

1. Wire your exit device(s) per the diagram (Connection 1 & 2).
 - a. Note the polarity when connecting wires to device. (Red to positive, Black to negative)
 - b. Note that the connection to the device will have 24vdc at all times, not only when device is activated.
 - c. The wires to the device must be a direct run and cannot be broken. There is a computer in the device and in the power supply that are always communicating status.
2. Wire your access control to the power supply (Connection 3 & 4).
 - a. Note that this is a dry contact.
 - b. Normal condition is open.
 - c. When contact is closed a signal is sent to the device to unlock.
 - d. Device will stay unlocked as long as contact is closed, which allows for scheduled unlocking and locking of the door.
3. Wire your RX switch (Connection 5 & 6).
 - a. The RX connection is a dry contact in the normally open state.
 - b. When the exit device bar is depressed, either manually or electronically the state of the RX will switch to closed for the duration of the bar depression.
 - c. This feature is normally used to monitor door status or can be used in conjunction with an automatic door opener.
4. Wire your fire link (Connection labeled fire link).
 - a. This comes standard with a wire loop installed.
 - b. This is a dry contact that is in the normally open position.
 - c. When connected to a fire system, the system must close the contact in order for the device to operate.

STEP 4 Connecting the battery back-up

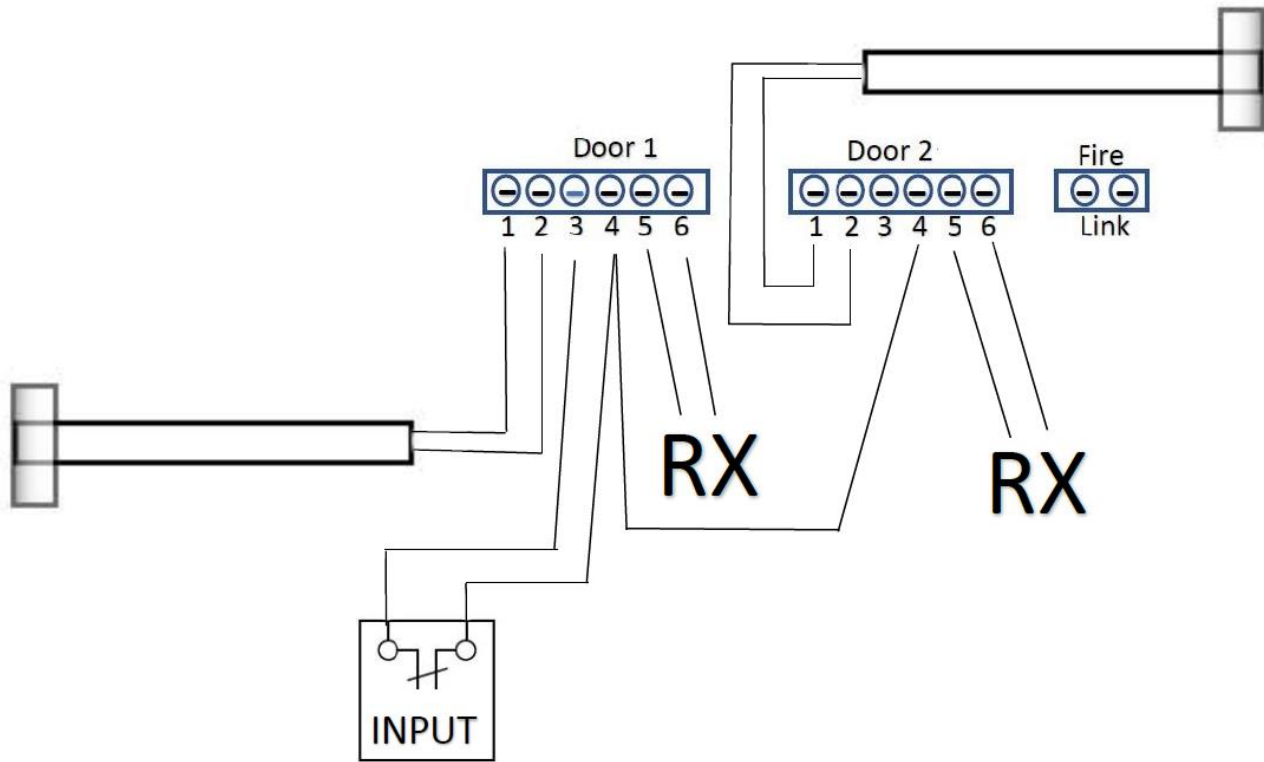
5. Wire your battery back-up (Connection labeled battery).
 - a. This comes standard with two 12 vdc batteries.
 - b. The batteries must be connected in order for the device to be fail secure.
 - c. The power supply comes with a wire with a green connector that matches the connector on the main power supply board. This connector has a red and black wire attached, which is used to connect to the battery.
 - i. Connect the red wire to the red terminal of the first battery.
 - ii. Connect the black wire to the black terminal of the second battery.
 - iii. Connect the red wire with the blue connectors provided to the black terminal of the first battery and the red terminal of the second battery.



ALTERNATE WIRING CONFIGURATIONS

Two doors operate from a single input.

Each RX switch operate independently

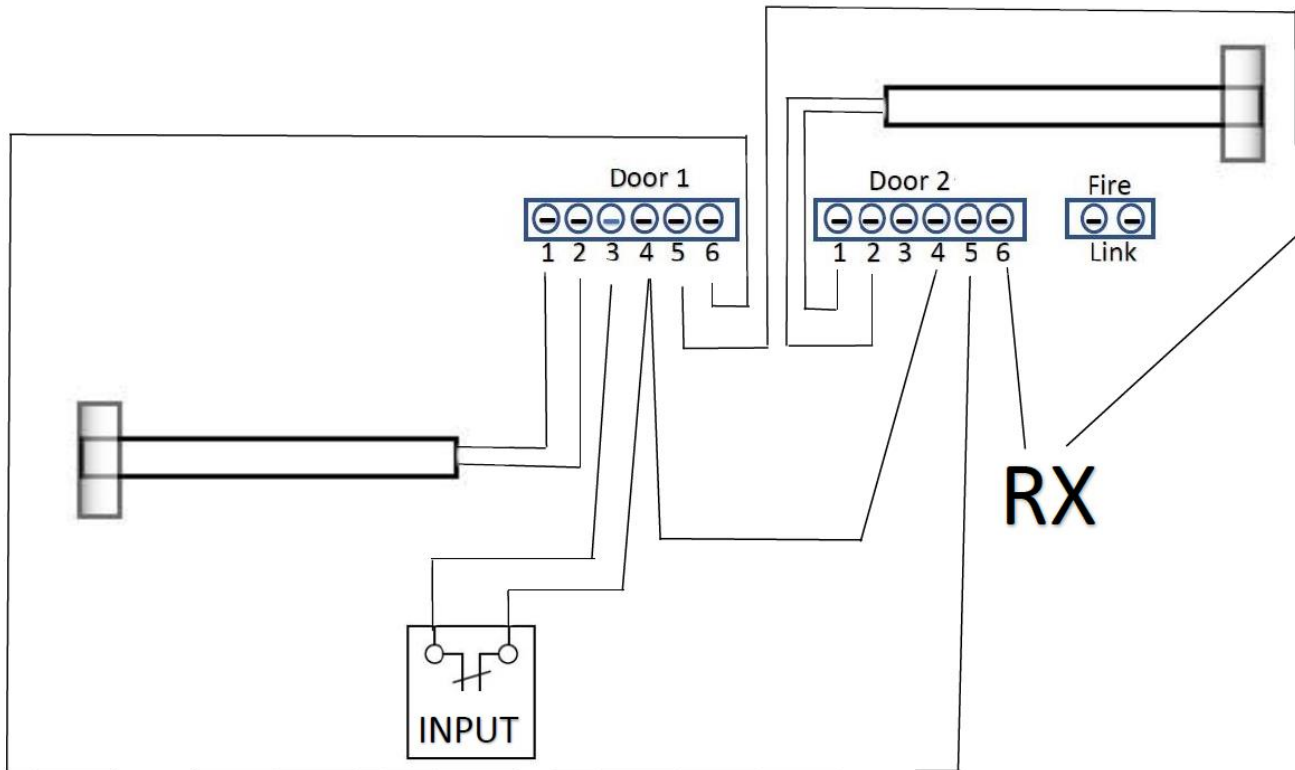


ALTERNATE WIRING CONFIGURATIONS

Two doors operate from a single input.

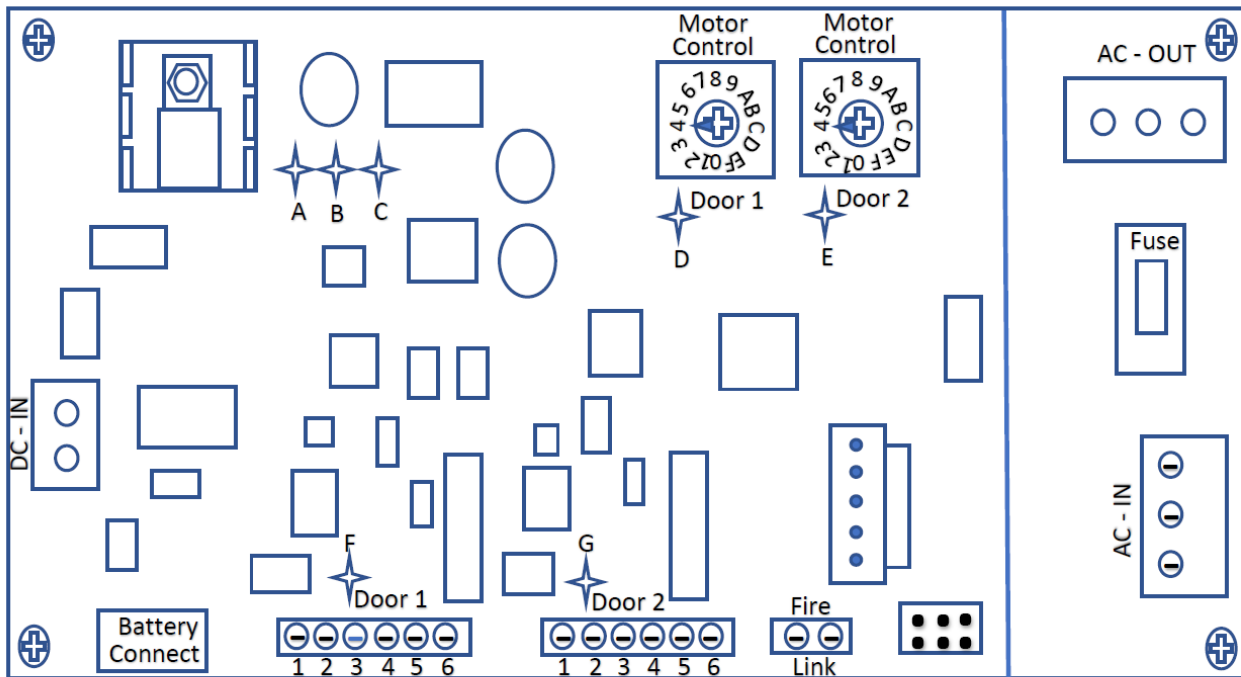
Each RX switch operates dependent on the other.

(Best when using automatic operator)



TROUBLE SHOOTING

- If LED “B” is not lite
 - Check fuse
 - Check “AC IN” and make sure there is voltage
- If LED “D” and “E” are flashing concurrent, this is due to voltage below 21vdc.
- If LED “D” and “E” are flashing back and forth, this is due to a break in the fire loop
- LED “F” should come on solid when the 3 & 4 contact is closed
- LED “D” will flash fast when it is communicating with the exit device connected to door-1
- LED “E” will flash fast when it is communicating with the exit device connected to door-2
- LED “D” will come on solid when the exit device connected to door-1 push bar is depressed
- LED “E” will come on solid when the exit device connected to door-2 push bar is depressed



✦ A – Charging LED

✦ B – Power LED

✦ C – Battery float LED

✦ D – Door 1 RX LED

✦ E – Door 2 RX LED

✦ F – Door 1 activation LED

✦ G – Door 2 activation LED