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HP400ULM
Access Control Power Supply/Charger
with Power Distribution Controller
PN 52390:B 3/5/13 ECN 13-222

Product Installation Document

This product follows under the UL1481 Fire Alarm Systems, UL603 Burglary Alarm Systems and UL294 Access Control Systems. The HP400ULM unit is to be installed in a fail safe mode unless authorized by the local AHJ. This product must be installed in compliance with Article 760 of the National Electrical Code, NFPA70, as well as NFPA72 National Fire Alarm Code and all applicable local codes.

1 Description

The HP400ULM is a 12VDC or 24VDC power supply with an HPMOM6 distribution controller to be used with Card Access Systems. It provides 12/24VDC through 6 power-limited outputs. The 6 outputs will switch ON or OFF security devices such as Magnetic Locks, Door Strikes, Magnetic Fire Door Holders, etc. The HPMOM6 offers a choice of two (2) outputs, “Fail Safe or Fail Secure” and a choice of two (2) Fire inputs, N/O or N/C, and Reverse Polarity triggered by the FACP. The Controller also has 2 Trouble/ Alarm dry contact outputs type “Form C”; 1) Power Fail/ PTC Activated, and 2) FACP Triggered. The unit has not been evaluated as elevator equipment, and is not authorized for bell output in Mercantile applications.

2 Specifications

A) Power Supply Board

1. Input voltage: 120VAC 60Hz; Current: 2.50A max.
2. Output Voltage: 12VDC or 24VDC, jumper selectable; Current: 4.0A continuous output maximum, 3.5A plus battery charger (not supervised).
3. Fail safe dry contact output on AC Failure (within one minute).
4. Built-in charger for sealed lead acid or gel cell type batteries.
5. Instantaneous transfer to stand-by battery on AC failure.
6. Battery presence detection (within 1 minute)
7. Battery low disconnect at 9.90VDC or 19.90VDC.
8. High voltage disconnect at 15VDC or 30VDC.
9. Yellow LED (L3) indication for battery disconnected and battery low.
10. Fail safe dry contact output for Battery trouble (Fail Safe).
11. Battery polarity reversal protection.
12. Thermal overload and short circuit protection.
13. DC output PTC activated indication by Red LED (L2).
14. DC output failure indication by Red LED (L4).
15. AC presence indication by Green LED (L1).
16. DC output indication by Red LED (L5).
17. Battery Leads included.
18. Power Board Dimensions: 6.2”L x 4.7”W x 2.5”H.
19. Enclosure Dimension: 17.5”H x 13”W x 4.5”D. Accommodates two 12 Volt 12AH batteries. When using larger batteries, a UL approved enclosure must be used.

B) Distribution Controller Board

- *Outputs*
  - 6 Fail Safe or Fail Secure

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  - Each PTC protected output rated 2.5A @ 23C with a maximum of 2.0A @ 49C.
  - Automatic Yellow LED status indication of activated PTC.
  - Test push button lights Yellow LED's to verify their operation.
  - Red LED for power on indication.
- *Fire Alarm Control Panel Input*
  - Polarity reversing input.
  - Normally open (NO) or normally closed (NC) supervised input with 2.2K Ohm (EOL) resistor.
  - Engineering Reset (Optional) normally open (NO) or normally closed (NC) input with 2.2 K Ohm (EOL) resistor.
- *Alarm Outputs*
  - Alarm outputs are Fail Safe
  - When FACP activation occurs dry contacts activated.
  - Green LED indication when FACP is activated.
  - Dry contacts output for power failure to the HPMOM6.
- *Board Dimensions*: 5.3" L x 3.5" W x 1.0" H (13.46 cm L x 8.89 cm W x 2.54 cm H).

3 Installation Instructions

1. Mounting

The power supply should be installed in accordance with all Governing National Electrical and Local Codes. Mount the power supply securely in the desired location using the four (4) mounting holes.

2. Power Supply Input Connection

Before connecting power review the entire wiring diagram for correct installation (see Fig. 1). With the AC power disconnected, connect 120VAC to the Fuse Block as follows; L=Black (HOT), N=WHITE (Neutral), G=GREEN (Ground). Select the output voltage 12VDC or 24VDC using Jumper J1 of the Power Board J1 OFF=12VDC, J1 ON=24VDC. Voltage is Factory set and Re-Adjusting will void **Warranty**.

3. Output Connections

There are 6 outputs selectable together as Switched Normally Open (NO) or Switched Normally Closed (NC). There are 2 possible output type connections in either case connect device negative to Neg terminal on HPMOM6.

1.) For Fail Safe operation connect device positive to DC STANDBY OUTPUT **(+)** on HPMOM6. DC power is present in normal condition and will switch OFF when the FACP is triggered. Fail Safe operation devices such as Magnetic Locks should be connected to this output.

2.) For Fail Secure operation connect device positive to DC ALARM OUTPUT **(+)** on HPMOM6. DC power is not present in normal condition and will switch ON when the FACP is triggered. Fail Secure operation devices such as Door Strikes should be connected to this output.

4. Fire Alarm Interface

Normally Open (NO), Normally Closed (NC) input or polarity reversal (Rev. Volt) input from the FACP are available to trigger the HPMOM6 operation. Connect the positive (+) and negative (-) from the FACP to the "REV. VOLT" terminals observing polarity, (polarity is referenced in alarm condition) or connect the NO or NC from the FACP output to the "FIRE INTRFC" terminals. Install the 2.2K Ohm (EOL) resistor provided at the FACP as shown in Fig 1 to supervise this connection.

5. Engineering Reset Input

This option is available when the jumper **JL** is removed. This will cause the HPMOM6 to latch upon receiving an alarm condition from the FACP. With this option in place and when the **FACP** resets, the unit will only reset by activating the "RESET" circuit.

a) JL ON will cause the unit to follow the status of the **FACP.** Connect 2.2K Ohm resistor to the "RESET" terminals.

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b) ***JL OFF*** will cause the unit to latch **ON** until manually reset. Install the 2.2K Ohm (EOL) resistor provided at a Key Switch or Push Button to perform this manual reset operation and to supervise this connection as shown in Fig 1a.

6. Alarm/Trouble Output

a) Power Fail: When DC Power fails or PTC activates this will cause the dry contact "Form C" relay to de-energize.

b) Fire Alarm: When the FACP activates this will cause the dry contact "Form C" relay to de-energize.

7. Cascade Connection

Two (2) or more HPMOM6 units can be connected together as follows; Connect the Fire Alarm relay C and NC terminals from the 1st unit to the "FIRE INTRFC" of the 2nd unit (not polarity sensitive) and remove jumper **JR** of the 1st unit. If a 3rd HPMOM6 is used, **JR** must be removed from 2nd unit and so on for each new addition. See Fig. 1a.

8. Power Board Connections

Connect the "AC Fail" output "Form C" dry contacts to the monitoring device. In case of AC loss the relay, which is Fail Safe, will de-energize within one (1) minute. Connect the Battery Fail output "Form C" dry contacts to the monitoring device. If a Battery is not connected or improperly connected, the Yellow LED (L3) will turn ON within one (1) minute and the Battery Fault output relay, which is Fail Safe, will de-energize.

9. Power Up

When all wiring is complete and checked, switch ON the AC Power. The Green Led (L1) will come ON indicating AC presence and the AC relay will be energized. Connect Battery observing the correct polarity. For 24VDC use the battery link provided to connect the two (2) 12 Volt Batteries in series. Secure the enclosure with the 4 screws and with the Key Lock provided.

NOTE: For UL603 or UL294 applications use a Tamper Switch (Catalog number HPVM3 available separately), and included enclosure key lock. Connect the tamper switch NC outputs to monitoring device to notify of enclosure tampering.

4 LED Indications

Power Board

LED Number	Power Board Status When Lit
L1	Green LED - AC present
L2	Red LED - PTC activated
L3	Yellow LED - battery low or disconnected
L4	Red LED - DC power failure
L5	Red LED - DC output present

Distribution Board

LED Number	Distribution Board Status When Lit
L0	Red LED - Power ON
L1 - L6	Green LED - PTC activated
L7	Yellow LED - FACP alarm activated

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5 Battery Stand-By Mode Specification Chart

Output Battery Capacity	STBY/ALRM	4Hr Stand-By 15Mins/ALRM	24Hr Stand-By 15Mins/ALRM	60Hr Stand-By 5Mins/ALRM
12Ah-12V	STBY	2.00A	N/A	N/A
	ALRM	3.50A	N/A	N/A
17Ah-12V	STBY	2.00A	200mA	N/A
	ALRM	3.50A	2.00A	N/A
55Ah-12V	STBY	3.50A	1.50A	300mA
	ALRM	3.50A	3.50A	3.50A
12Ah-24V	STBY	2.00A	N/A	N/A
	ALRM	3.50A	N/A	N/A
17Ah-24V	STBY	2.00A	200mA	N/A
	ALRM	3.50A	3.50A	N/A
55Ah-24V	STBY	3.50A	1.50A	300mA
	ALRM	3.50A	3.50A	3.50A
UL Listing		UL294 UL603	UL294 UL603 UL1481	UL1481

6 Maintenance

This unit should be tested at least once a year to verify correct operation in accordance with the following recommendations;

Output Voltage Test - Voltage output should be tested under normal load conditions to verify correct levels.

Battery Test - Battery should be checked for full charge under normal load conditions. This check should verify correct voltage at both battery terminals and also at the Battery output point on the board to ensure the integrity of all connecting wiring. It is recommended to replace the battery at least every 4 years.

LED Test (distribution board only) **-** Verify yellow LED operation by pushing LED test button. All yellow LED's should illuminate.

WARNING: To reduce risk of electric shock, do not expose unit to rain or excess moisture, and disconnect power before servicing unit.
For continuous protection against hazard, replace fuses only with exact type and rating. A readily accessible switched circuit breaker must be available to disconnect main power as required. All power limited wiring should be routed so that it cannot touch non-power limited wiring; minimum spacing 1/4". Installation and servicing should only be made by qualified personnel; contains no user-serviceable parts. Install in accordance with all local regulations and the National Electrical Code.

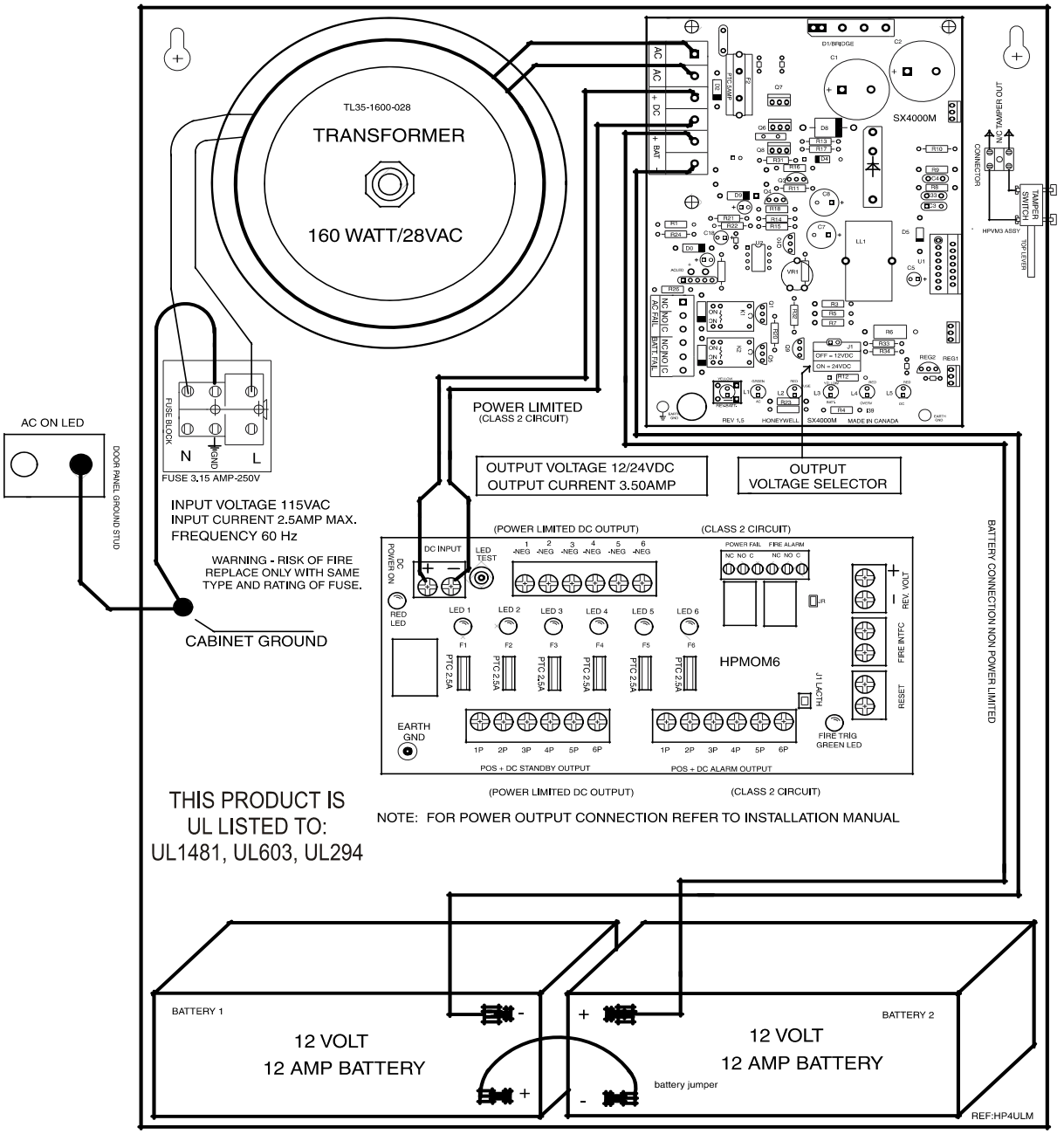
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HONEYWELL HP400ULM

REGULATED POWER SUPPLY CHARGER
UL LISTED AS FOLLOWS:
UL294 ACCESS CONTROL SYSTEMS
UL603 POWER SUPPLIES FOR BURGLAR ALARM SYSTEMS
UL1481 POWER SUPPLIES FOR FIRE PROTECTIVE SIGNALING SYSTEMS
NOTE: PLEASE REFER TO HP400ULM INSTALLATION MANUAL
FOR WIRING DIAGRAM, OPERATING INSTRUCTIONS, ETC. (PART NO: 003002 REV.02 2006/23/01)

HONEYWELL POWER PRODUCTS
NORTHFORD, CT
WWW.HONEYWELLPOWER.COM

DATE OF MFG:



THIS PRODUCT IS
UL LISTED TO:
UL1481, UL603, UL294

NOTE: FOR POWER OUTPUT CONNECTION REFER TO INSTALLATION MANUAL

KEEP POWER LIMITED WIRING AT .25" MINIMUM SPACING FROM NON-POWER LIMITED

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TYPICAL APPLICATION WIRING DIAGRAM

FIG. 1

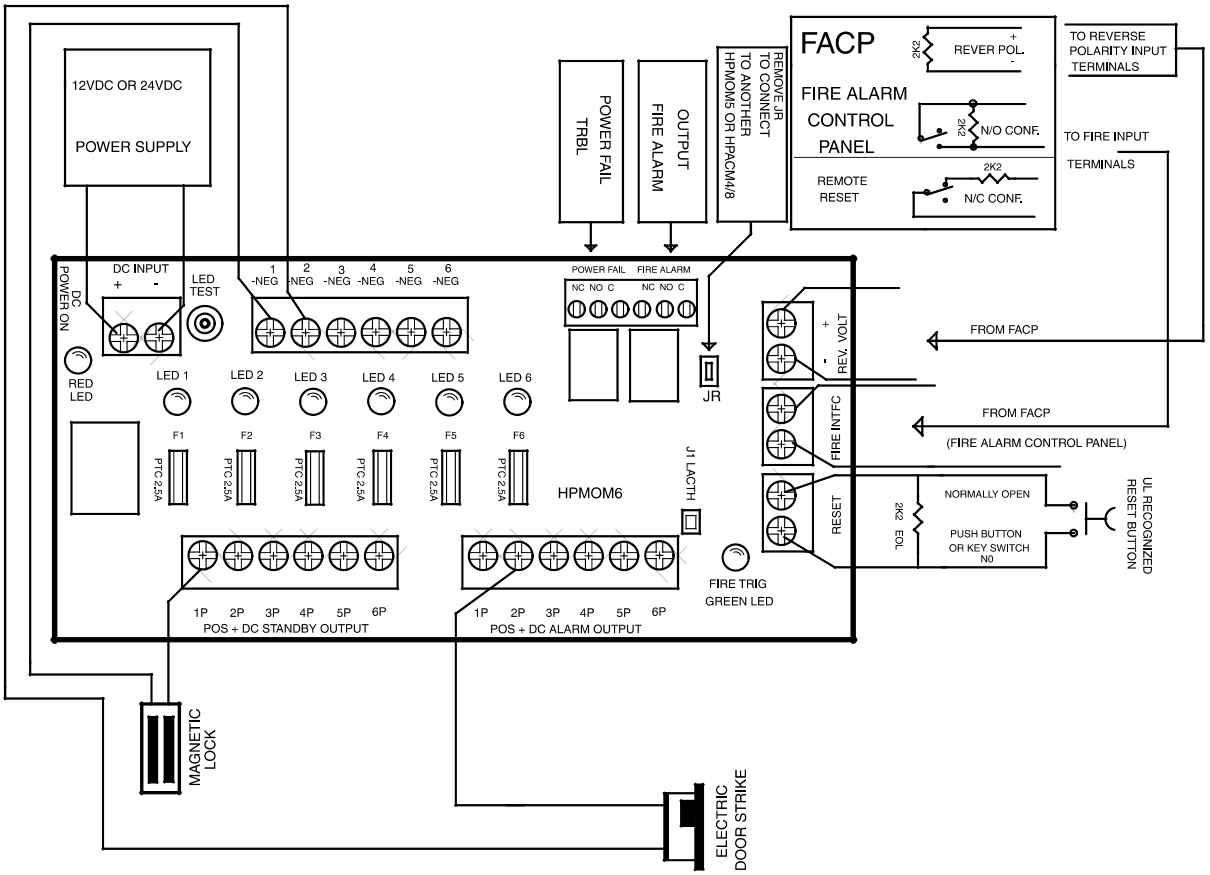
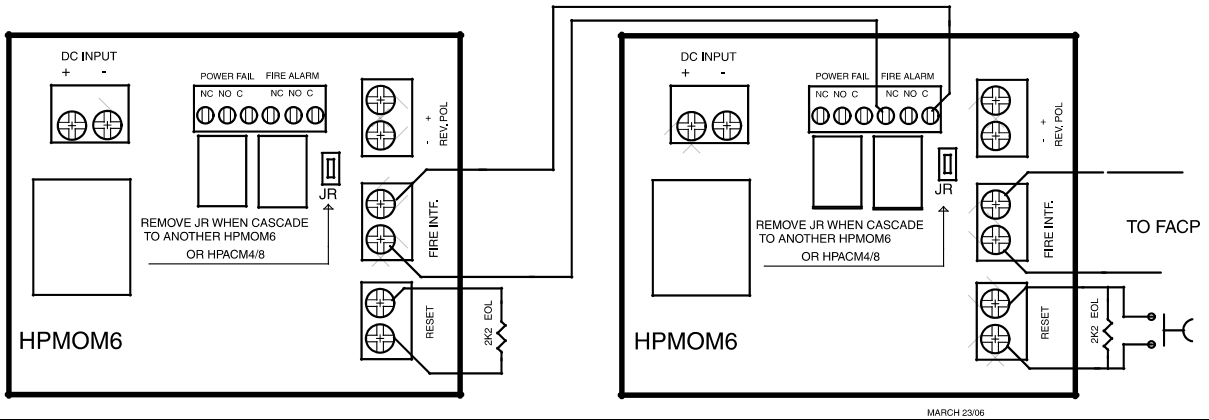


FIG.1a CONNECTION OF TWO (2) OR MORE HPMOM6 OR HPACM4/8



For additional information:

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- Contact Technical Support at 1(877) HPP-POWR
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