

This product follows under the UL1481 Fire Alarm Systems, UL603 Burglary Alarm Systems and UL294 Access Control Systems. The HPACM4/8CB 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 Electric Code, NFPA70, as well as NFPA72 National Fire Alarm Code and all applicable local codes.

1 Overview

The HPACM4 and HPACM8 convert one 12VDC or 24 VAC/VDC input to four(4) or eight(8) independently controlled power-limited PTC Protected outputs. The modules accept inputs from open collector sink or Normally Open (NO) dry contacts from UL listed security devices such as keypads, card readers, access control systems, PIR's and Push Button Delays. Outputs from the HPACM4 and HPACM8 can switch power on or off at 12 or 24VAC/VDC. Each output can be configured to respond to FACP input. The outputs can also be individually selected as isolated dry contacts (Form "C" configuration). The HPACM4 and HPACM8 can be configured for common power, which means the same supply drives both output power and control board power or alternatively, dual power input, which separates control board and output power. These units have not been evaluated for elevator equipment and are not authorized for bell output in Mercantile applications

2 Specifications

- **Input**
 - Power supply input 12VDC or 24 VAC/VDC.
 - Common Power supply as shipped or dual power supply by cutting links JJ1 and JJ2.
 - Max. Controller power consumption;
 - HPACM4 200mA at 12VDC, 187mA at 24VDC.
 - HPACM8 379mA at 12VDC, 288mA at 24VDC
- **Outputs**
 - Four(4) or eight(8) independent Fail Safe or Fail Secure Normally Open (NO) or open collector sink.
 - Individually selected outputs for isolated dry contacts by removing J1 through J4,(J8)
 - Individually selected outputs programmable by dip switch to follow FACP input.
 - 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 individual indication for each energized relay output
- **Fire Alarm Control Panel Input**
 - Polarity reversing input (REV/POL).
 - 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 HPACM4 and HPACM8.

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- **Board dimensions**

- HPACM4: 5.9" L x 4.5" W x 1.25" H (15 cm L x 11.43 cm W x 3.175 cm H)
- HPACM8: 8" L x 4.5" W x 1.25" H (20.32 cm L x 11.43 cm W x 3.175 cm H)

3 Installation Instructions

1. Mounting

These units should be installed in accordance with all Governing Electrical National and Local Codes. Mount the unit securely in the desired location using the six (6) mounting holes.

2. Power input connection

This unit can be powered with one common supply which will enable it to drive the controller board and output devices, or with two (2) individual power supplies, one for the controller and one for the devices. See Fig. 1

a) Single Power Supply - Connect the power supply (+) positive to "CONTROL" terminal (+) and power supply (-) negative to the "CONTROL" terminal (-).

b) Dual Power Supply - For the controller board power supply, connect the power supply (+) positive to "CONTROL" terminal (+) and power supply (-) negative to the "CONTROL" terminal (-). For the second power supply, connect the power supply (+) to the "POWER" terminal (+) and the power supply (-) negative to the "POWER" terminal (-). Cut links JJ1 and JJ2.

3. Input Trigger Connections

a) For Open Collector activations connect the open collector to the "IN" terminal and negative to the "GND" terminal.

b) For dry contact activation connect NO to "IN" terminal and C to "GND" terminal.

4. Output Connections

There are (4 or 8) individually configurable outputs possible: Switched Normally Open (NO), Switched Normally Closed (NC), Switched Isolated ("Form C") dry contacts and Un-switched continuous power output:

a) Switched Normally Open (NO) / Switched Normally Closed (NC) - Connect the negative (-) lead of the device to the "COM" terminal. Connect the positive (+) lead of the device to the "NC" terminal for Fail Safe operation or to the "NO" terminal for Fail Secure operation.

b) Switched Isolated Form "C" dry contacts - Connect the negative (-) of the auxiliary power supply directly to the device, connect the (+) lead of the auxiliary power supply to the terminal (C). Connect the positive (+) lead of the device to terminal (NC) for Fail Safe operation. Connect the positive (+) lead of the device to the terminal (NO) for Fail Secure operation. To program this feature the relevant output jumper (J1 to J4/J8) must be removed.

c) Un-switched continuous power output - Connect the positive (+) of the device to the "C" terminal and the negative (-) to the "COM" terminal. In this configuration, fused power output is delivered to the devices not intended to be affected by the Controller Board.

d) FACP input programming - To have relay activation follow FACP input place the dip switch corresponding to the desired relay to the "OFF" position. In the "ON" position, the relay will not be affected by FACP input

5. Fire Alarm Interface

Normally Open (NO), Normally Closed (NC) input or polarity reversal (R/POL) input from the FACP are available to trigger the HPACM4/8 operation. Connect the positive (+) and negative (-) from the FACP to the "R/POL" 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.

6. Engineering Reset Input

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This option is available when the jumper **JL** is removed. This will cause the HPACM4 or HPACM8 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.

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 1.

7. Alarm/Trouble Output

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

b) **FACP**: When the FACP activates this will cause the dry contact “Form C” relay to de-energize.

8. Cascade Connection

Two (2) or more HPACM4 or HPACM8 units can be connected together as follows; Connect the FACP relay C and NC terminals from the 1st unit to the “FIRE INPUT” of the 2nd unit (not polarity sensitive) and remove jumper **JR** of the 1st unit. If a 3rd HPACM4 HPACM8 is used, **JR** must be removed from 2nd unit and so on for each new addition. See Fig. 1a.



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.

4 LED Indicators

LED Number	Distribution Board (staus when lit)
L1 - L4/8	Red LED - Relay energized
L10	Green LED - FACP alarm activated
L11 - L14/18	Yellow LED - PTC activated

5 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.

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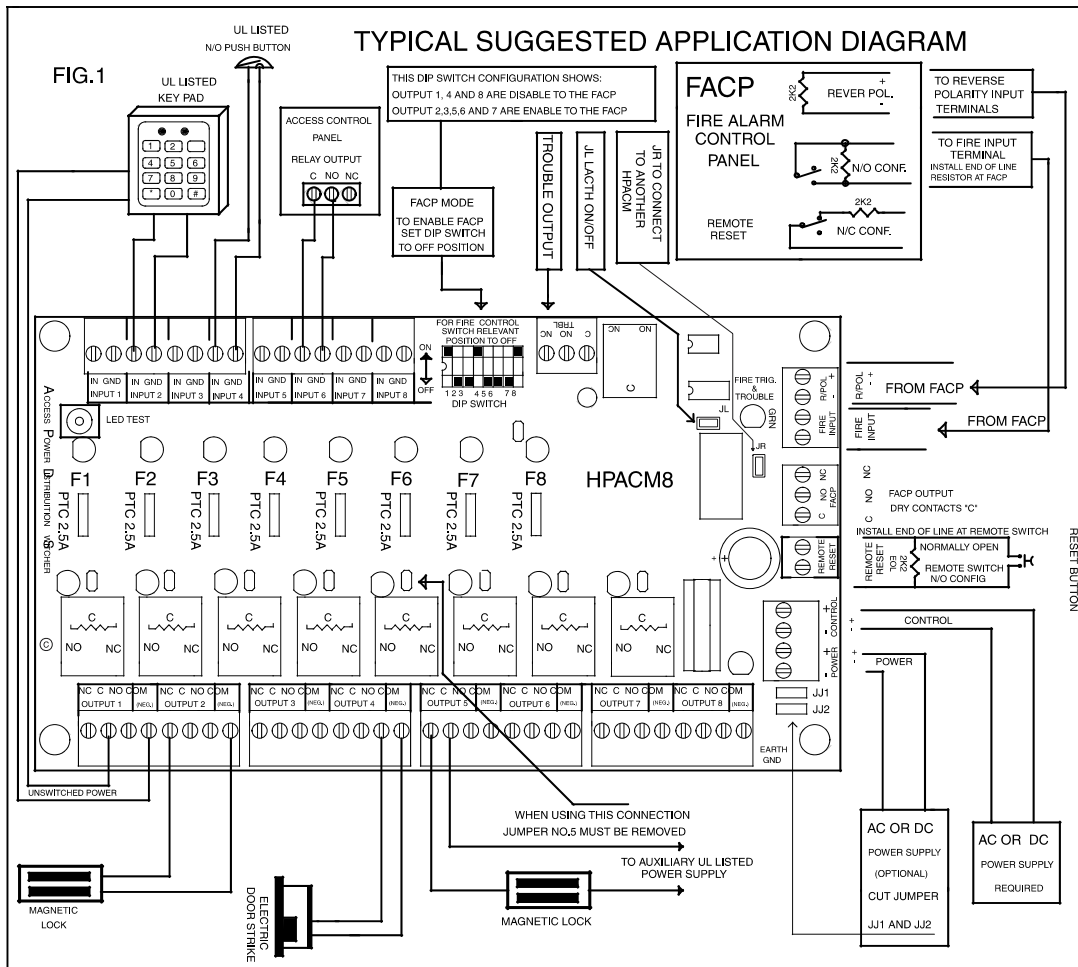
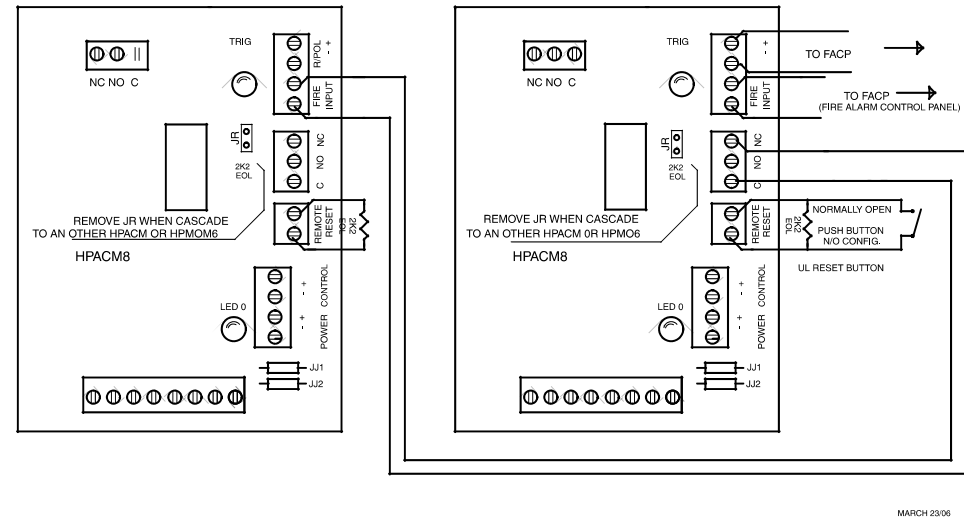


FIG.1a CONNECTION OF TWO (2) HPACM8



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- For additional information:
- Visit our website at <http://www.honeywellpower.com>
 - Contact Technical Support at 1(877) HPP-POWER
 - E-mail us at hpp.techserv@honeywell.com

Notes