Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 07/29/13

HPFF12, HPFF12CM, HPFF12E, HPFF12CME

NAC Expander/Power Supply

HPFF12

Description

The Honeywell HPFF12(E) and HPFF12CM(E) are Notification Appliance Circuit (NAC) Expander Power Supplies designed to extend the power capabilities of existing NACs and provide power for auxiliary devices. The HPFF12 and HPFF12CM connects to any 12 or 24V Fire Alarm Control Panel (FACP) or operates stand-alone.

They provide regulated and filtered 24VDC power to four NAC's and an auxiliary output. The NAC outputs are rated at 3.0 amps each and the auxiliary output is rated at 2.0 amps (this output is continuously supplied, even in alarm, and therefore must be taken into account for power supply loading and battery size calculations). The combined output cannot exceed 12.0 amps.

The HPFF12 and HPFF12CM provide independent output circuit supervision so in the event of a NAC fault they can notify the attached FACP. In addition they have a trouble memory feature that displays past troubles (by NAC) for rapid diagnostics. Synchronization is built in for five appliance brands.

The HPFF12 and HPFF12CM have two fully independent supervised initiating circuits that can be used for synchronized strobes and coded horns. Their NAC outputs may be configured as any of the following:

- four Class B (Style Y)
- two Class A (Style Z)
- two Class B and one Class A
- four Class A with the optional HPP31076 Class A adapter

These power supplies contain an internal Battery charger capable of charging up to 26.0 amp-hour (AH) batteries.

The HPFF12 is mounted in a lockable wall cabinet that can accommodate up to two 18AH batteries. The HPFF12CM is designed to mount in Honeywell's large equipment enclosure (EQBB-D4; order separately). Up to three HPFF12CM supplies can be mounted in a D-sized EQ cabinet in positions 2, 3, and 4. Each HPFF12CM can accommodate two 12AH batteries.

One of the most challenging aspects of a retrofit application is locating the existing End-of-Line (EOL) resistor. In these applications that have EOL values other than the 3.9k normally used with the HPFF12, a single resistor matching the existing EOL can be used as a reference for all the outputs. This feature speeds installation and system checkout because the actual EOL does not need to be located and changed in the circuit. The reference resistor must be within the range of 1.9k to 25k.

NOTE: *4 separate programming resistors for the HPFF12 are provided in the hardware kit shipped with each HPFF12(E) and HPFF12CM(E). They are 3.9K (5 of these are provided, need only 1 for programming), 2.2K (1 each), 4.7K (1 each) and 10K (1 each)*

HPFF12CM:
Three modules in EQBB-D4

Features

- **Listed to UL Standard 864, 9th edition.**
- Four (4) power limited supervised notification application circuits (NAC's) capable of supplying +24VDC at 3.0 amp maximum each.
- NAC output circuits may be configured as any of the following:
  - Four Class B (Style Y).
  - Two Class B & one Class A.
  - Two Class A (Style Z).
  - Four Class A (requires the HPP31076 Class A adapter).
- Four field-programmable operational modes:
  - Pass-through.
  - Temporal generator.
  - Sync generator.
  - Pass-through Filtered.
- Temporal coding and sync protocols compatible with the following notification appliance brands:
  - System Sensor.
  - Faraday.
  - Amseco.
  - Cooper-Wheelock.
  - Gentex.
- Protocol pass-through for synchronizing large systems.
- Two fully independent supervised input/output control circuits.
- Redundant activation operation for survivability.
- Supports FACP's Selectable Silence ability.
- 2.0 amp auxiliary continuously supplied output.
- Eight status LEDs.

- Supervised AC input, battery voltage, auxiliary output, charger, and earth ground faults.
- Trouble indication for supervision of the following:
  - NAC circuits.
  - Auxiliary output.
  - AC input.
  - Battery charger voltage.
  - Earth ground faults.
- Optional two-hour delay for AC loss.
- Separate Trouble and AC Fail Form-C relay contacts.
- The Trouble Form-C relay contacts selectable for immediate or a 2 hour delay with AC failure.
- 26 AH battery charger capability:
  - HPFF12(E) supports two 12V 18AH batteries
  - HPFF12CM(E) supports two 12V 12AH batteries per unit.
- NAC Overload protection and indication.
- Provision for mounting single or 6 circuit addressable control or relay modules inside the enclosure. (Use mounting kit PN 90475.)

Specifications

Primary Input Power: 120VAC, 60Hz, 5.4A standard; 240VAC, 50Hz, 3.2A on units with E suffix.

Secondary Power: 24 volt operation: two 7-26 AH batteries.

Battery Charging Capacity: Up to 26 AH batteries.

HPFF12 Cabinet: Holds up to two 18AH batteries.

HPFF12CM: Holds up to two 12AH batteries.

Total Output Current: 12.0A max.

Standby Current: 0.075 A.

Auxiliary Power Output: 2.0A under all conditions.

NAC Output Ratings: 24VDC fully regulated, 3.0A max per circuit (12.0A total).

End-of-Line Resistor Range: 1.9K to 25k ohm, ½ watt. Product ships with 4 separate programming resistors. They are 3.9K (5 each - only need one for programming), 2.2K (1 each), 4.7K (1 each) and 10K (1 each)

Common Trouble: 2.0A at 30VDC.

Relay Fail Relay: 2.0A at 30VDC.

Input Control Circuits: compatible with 12 and 24 VDC control panel NACs.

Input Control Current (alarm): 5.68 mA @ 12 VDC, 12.28 mA @ 24 VDC.

Temperature Rating: 32°F to 120°F (0°C to 49°C).

Relative Humidity: 10% to 93% non-condensing.

Cabinet Dimensions:

- **HPFF12 Cabinet:** 16.65" W x 19.0'
  48.26 H 13.23 D cm)
- **Large equipment enclosure (EQB**
  x 5.15" D (60.96 W x 116.52 H x 13

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Product Line Informatio

HPFF12: 12.0A fire rated power su
enclosure, battery cable and installatic
60Hz.

HPFF12E: 240VAC/50Hz version of HPFF12.

HPFF12CM: 12.0A fire rated power supply (chassis mounted). Unit includes mounting hardware, battery cable and instructions for installation in large equipment enclosure. 120VAC/60Hz.

HPFF12CME: 240VAC/50Hz version of HPFF12CM.

HPP31076: Class A (Style Z) NAC Adaptor. Increase Class A circuits from 2 to 4.

Large Equipment Enclosure: EQ series cabinet for mounting HPFF12CM power supplies consists of a backbox (EQBB-D4) and a locking door (EQDR-D4 or FCI-VDR-D4B). Order separately.

CMF-300-6: Six-circuit supervised addressable control module activated through FACP programming on a select basis to control power supply activation or output.

CMF-300: Supervised addressable control module activated through FACP programming to activate power supply.

BAT-12120: Battery, 12 volt, 12.0 AH (two required).

BAT-1270: Battery, 12 volt, 7.0 AH (two required).

90474: Mounting kit; required to attach an addressable module onto the control circuit board (included with supply).

Listings and Approvals

Listings and approvals below apply to all. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Listed under UL 864 9th Edition.

- **UL Listed:** S24562
- **FM Approved**

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.
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ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS