

by Honeywell

## Description

The Honeywell HPFF12 and HPFF12CM 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 connects to any 12 or 24V Fire Alarm Control Panel (FACP) or stand alone panel.

It is available in 12.0 amps and provides regulated and filtered 24VDC power to four NACs 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 provide independent output circuit supervision so that in the event of an 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 has two fully independent supervised initiating circuits that can be used for synchronized strobes and coded horns.

The NAC outputs may be configured as any of the following:

- Four Class B (Style Y)
- Two Class B and one Class A
- Two Class A (Style Z)
- Four Class A with the optional HPP31076 Class A adapter installed

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 a large lockable equipment enclosure (CAB-4; order separately). Up to three HPFF12CM power supplies can be mounted in an SBB-D4, in positions 2, 3, and 4. Each HPFF12CM accommodates two 12AH batteries.

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

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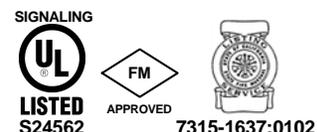
## Notification Appliance Circuit (NAC) Expander Power Supply



HPFF12

## Features

- Complies with UL® Standard 864 9th Edition.
- Four Class 2 power-limited, supervised notification application circuits (NACs) 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 and 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
  - Gentex
  - Amseco
  - Cooper-Wheelock
- 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.
- Offers 2.0 amp auxiliary continuously supplied output.
- Includes eight status LEDs.
- Supervised AC input, battery voltage, auxiliary output, charger, and earth ground faults.



## Specifications

<b>Primary Input Power:</b>	120VAC, 60Hz, 5.4A; 240VAC, 50Hz, 3.2A on units with E suffix
<b>Secondary Power:</b>	24 volt operation: two 7-24 AH batteries
<b>Battery Charging Capacity</b>	Up to 26 AH batteries
<b>HPFF12 Cabinet:</b>	Holds up to two 18AH batteries.
<b>HPFF12CM:</b>	Holds up to two 12AH batteries.
<b>Total Output Current:</b>	12.0A max.
<b>Standby Current:</b>	0.075 A
<b>Auxiliary Power Output:</b>	2.0A under all conditions
<b>NAC Output Ratings:</b>	24VDC fully regulated 3.0A max per circuit (12.0A total).
<b>End-of-Line Resistor Range:</b>	1.9K to 25k ohm, ½ watt. Product ships with 4 sepa- rate 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).
<b>Common Trouble:</b>	2.0A at 30VDC
<b>Relay Fail Relay:</b>	2.0A at 30VDC
<b>Input Control Circuits:</b>	Compatible with 12 and 24 VDC control panel NACs.
<b>Input Control Current (alarm):</b>	5.68 mA @ 12VDC, 12.28 mA @ 24 VDC
<b>Temperature Rating:</b>	32°F to 120°F (0°C to 49°C)
<b>Relative Humidity:</b>	10% to 93% non-condensing
<b>Cabinet Dimensions:</b>	
<b>HPFF12 Cabinet:</b>	16.65" W x 19.0" H x 5.2" D (42.29 W x 48.26 H x 13.23 D cm)
<b>CAB-4 Cabinet:</b>	24" W x 45.9" H x 5.15" D (60.96 W x 116.52 H x 13.1 D cm)

Figure 1 illustrates the HPFF12CM power supply.



Figure 1 HPFF12CM Enclosed in the SBB-D4 Cabinet

## Features (Continued)

- Trouble indication for supervision of the following:
  - NAC circuits
  - Battery charger voltage
  - Auxiliary output
  - Earth ground faults
  - AC input
- Optional two-hour delay for AC loss.
- Separate Trouble and AC Fail Form-C relay contacts.
- The Trouble Form-C relay contacts selectable for an immediate or a two hour delay with AC failure.
- 26 AH battery charger capability  
The wall cabinet supports two 12V 18AH batteries, while the multi-pack equipment cabinets support two 12V 12AH batteries.
- NAC Overload protection and indication.
- Provision for mounting a single (AOM-2SF) or six circuit addressable control modules (MMO-6SF) or relay modules (AOM-2RF) inside the enclosure.  
(Use the Mounting Kit P/N:90474).

## Ordering Information

Part Number	Description
<b>HPFF12</b>	12.0A fire rated power supply. Unit includes red enclosure, battery cable and installation instructions. 120VAC/60Hz
<b>HPFF12E</b>	240VAC/50Hz version of HPFF12.
<b>HPFF12CM</b>	12.0A fire rated power supply (chassis mounted). The unit includes the mounting hardware, battery cable and instructions for installation in a large equipment enclosure. 120VAC/60Hz.
<b>HPFF12CME</b>	240VAC/50Hz version of the HPFF12CM.
<b>HPP31076</b>	Class A (Style Z) NAC Adaptor. Increase Class A circuits from 2 to 4.
<b>FCI-VDR-D4B</b>	Louvered door with a PK-625 lock and a key for the SBB-D4 backbox.
<b>SBB-D4</b>	CAB-4 backbox enclosure for up to three HPFF12CM power supplies.
<b>MMO-6SF</b>	Six-circuit supervised addressable control module activated through FACP programming on a select basis to control the power supply activation or the output.
<b>AOM-2SF</b>	Supervised addressable control module activated through FACP programming to activate the power supply.
<b>90474</b>	Mounting kit; Required to attach an addressable module onto the control circuit board (included with the power supply).
<b>17070</b>	Replacement PK-625 lock for the HPFF12 cabinet.
<b>2400-0002</b>	Replacement key for the HPFF12 cabinet.

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