

## POWERPATH™ NAC POWER SUPPLIES



PS-24-8MC

### Description

**POWERPATH™** Series PS-24-8MC is an 8 Amp, 24VDC, filtered and regulated, supervised remote power supply/charger used for supervision and expanded power driving capability for Fire Alarm Notification Appliance Circuits. The PS-24-8MC may be connected to any 12V or 24V (FWR or DC) Fire Alarm Control Panel (FACP) by using a Notification Appliance Circuit (NAC) or a "Dry Contact". Primary applications include NAC expansion (supports ADA requirements) and auxiliary power to support system accessories. This unit provides filtered and regulated 24VDC, 8 Amp up to four (4) Class "B", two (2) Class "A", or two (2) Class "B" and one (1) Class "A" Notification Appliance Circuits. With the optional plug-in PS-4CA module the unit supports (4) Class "A" Notification Appliance Circuits. Additionally, an auxiliary power output of 3.5 Amps (disconnected upon AC power loss or an alarm condition) or 200 mAmps (constant) is provided, which can be manually reset. The PS-24-8MC also contains a battery charger capable of charging either 7 or 12 Amp/Hour (AH) of battery backup.

Two FACP NAC circuits or two "Dry" contact initiating circuits can be connected to the POWERPATH inputs. These inputs can then be directed to control supervision and power delivery to any combination of the four (4) outputs.

Each output is rated at 3.0 Amps (Class "B") or (Class "A") and can be programmed to generate a steady or Code 3 Temporal Horn sound and a strobe output under alarm condition. Total load for the PS-24-8MC NAC circuits must not exceed 8.0 Amps.

The PS-24-8MC under non-alarm condition provides independent supervision for Class "A" and Class "B" FACP NAC circuits. In the event of circuit trouble, the FACP will be notified via the POWERPATH steered input (IN1 or IN2). In addition there are two sets of trouble reporting terminals, one used for AC power loss reporting and the other for all troubles. The AC power loss reporting, on the common trouble terminals and on IN1 or IN2, can be delayed for either 30 seconds or 170 minutes. The AC power loss terminals will always report the trouble 30 seconds after loss of AC power.

The PS-24-8MC POWERPATH is UL Listed under UL Standard 864, 9th Edition to be used with any 24 volt Listed Regulated notification appliances. It includes the capability to synchronize Wheelock strobes and horns and to silence the horn signal when horn/strobes are operating on two wires.

### Features

#### Approvals

- Approvals Include: UL Standard 864 California State Fire Marshal (CSFM), New York City (MEA), Factory Mutual (FM), Chicago (BFP) See Approvals by model in Specification and Ordering Information
- Compliant with NFPA 72

#### Inputs

- 120VAC, 50/60Hz, 5.0 Amps Operating Power in Alarm
- 24VDC Battery Backup Connection
- Two (2), 12V or 24V NAC Initiating Circuits (8-33V at 5mA) FWR or DC
- Two (2) "Dry" Contact initiating Circuits
- Accepts two (2) Class "A" or two (2) Class "B" circuit inputs
- Built in battery charger for sealed lead acid or gel type batteries



## Outputs

- NAC outputs are 24VDC, 3.0 Amps each, power limited
- 8 Amps total alarm current
- Capable of four (4), Class “B” circuits
- Capable of two (2) Class “A” circuits
- Capable of four (4) Class “A” circuits with optional PS-4CA module
- Capable of one (1) Class “A” circuit and two (2) Class “B” circuits
- Temporal (Code 3) or constant voltage output
- Built-in Wheelock synchronization mode that can be fed to any or all of the output circuits
- Input and output can be synchronized with “IN>OUT SYNC” mode (SM, DSM or 2nd PS-24-8MC is required)
- Audible silence capability
- Filtered and electronically regulated output
- 3.5 Amp auxiliary power limited output with reset capability. (Removed upon AC loss or alarm. Automatic reset 30 seconds after AC power returns or the alarm condition is over) or 200 mAmps auxiliary power limited output which remains on during AC loss or an alarm condition

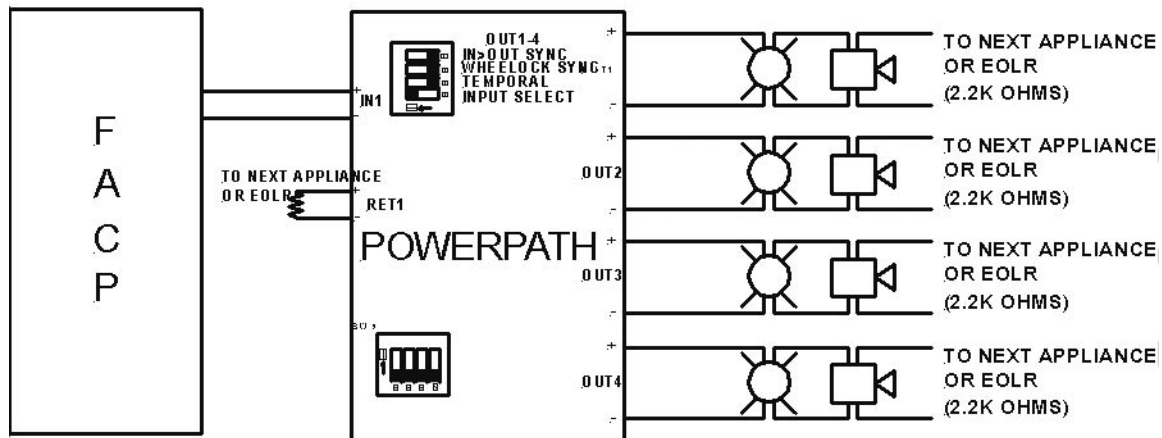
## Supervision

- Compatible with 12V or 24V (FWR or DC) FACP
- Signaling appliance circuits are supervised and steered to either IN1 or IN2
- 2.2K Ohm, 1 Watt (Wheelock Model #MPEOL) End of Line Resistor (EOLR) for supervision of all outputs
- AC loss trouble reported over a separate set of contacts (delay of 30 seconds)
- All troubles are reported over the common trouble contacts (AC loss can have a delay of 30 seconds or 170 minutes)
- Automatic switchover to standby battery when AC fails
- Thermal and short circuit protection with auto reset
- Input and output status LED indicators
- AC fail supervision
- Battery presence and low battery supervision
- Ground Fault Detection (60K ohms)
- 4 latching LED’s for NAC trouble annunciation

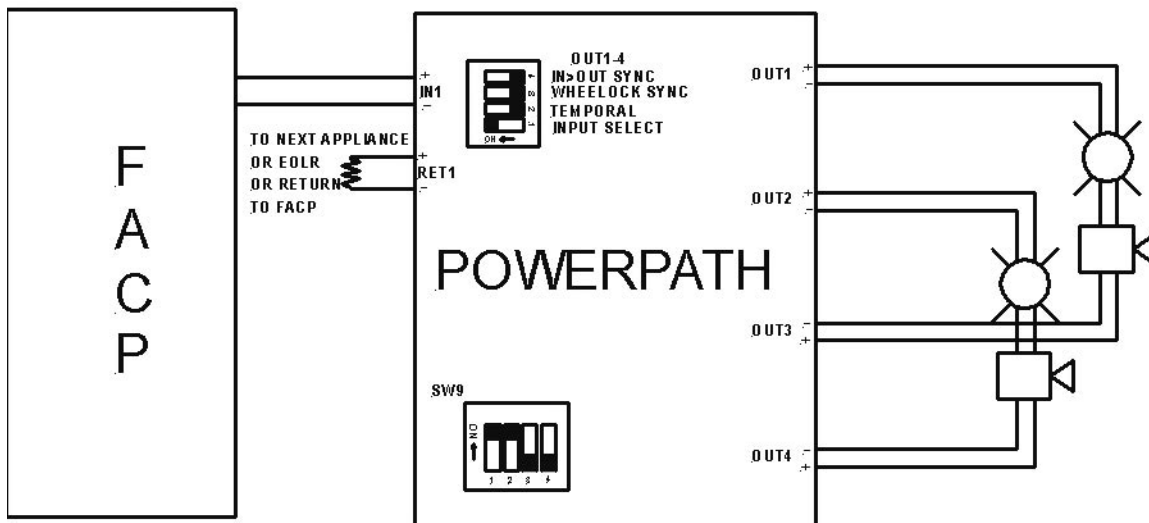
## Power

- **Not Battery Dependent - Full 8A even if battery is degraded**
- Automatic switch over to standby batteries when AC fails
- **Supports sealed lead acid or gel type batteries**
- Fused battery protection
- Thermal and short circuit protection with auto reset
- **Supports both 7AH or 12AH batteries in the same cabinet (Cabinet Size: 16.70” H x 12.83” W x 5” D)**

## Normal Mode (Class B)



## Normal Mode (Class A)



### POWERPATH™ Operating Modes (refer to Installation Manual):

**Normal Mode:** Provides constant 24 VDC output upon initiation by a voltage to input IN1 or IN2 or by a contact opening on DRY1 or DRY2. The unit returns to standby mode when the input is deactivated.

**Wheelock Sync Mode:** Provides signals for synchronization of patented Wheelock audible and strobe notification appliances. Audibles can also be silenced in this mode while the strobes continue to flash.

**In>Out Sync Mode:** Accepts a coded signal or synchronization signal on the input to provide a coded output or synchronized output. This signal may come from a FACP, another POWERPATH or a Wheelock SM or DSM synchronization module. Caution: Do not use strobes on coded output circuits.

**Temporal Mode:** Codes the output voltage in a code-3 temporal pattern to drive audible appliances such as horns, bells or chimes. Caution: Do not use strobes on coded output circuits.

## Specifications and Ordering Information

Model Number	Order Code	Input Voltage/Current	Approvals				
			UL	MEA	CSFM	FM	BFP
PS-24-8MC	0237	120/220 VAC @ 50/60 Hz; 5.0 amps max.	X	X	X	X	*
PS-4CA	1648	Four class "A" plug-in module for PS-24-8MC	X	X	X	X	*
<b>Output NAC Circuit</b>		<b>Output Voltage/Current</b>		X= Approved *= Pending			
Four (4) Class "B" or		24 VDC @ 3 amps per Circuit					
Two (2) Class "A" or		24 VDC @ 3 amps per Circuit					
One (1) Class "A" and Two (2) Class "B" or		24 VDC @ 3 amps per Circuit (Class "A")					
Four (4) Class "A" (optional PS-4CA module)		24 VDC @ 3 amps per Circuit (Class "A")					
<b>Standby Current</b>		0.080 Amps					
<b>Alarm Current</b>		0.240 Amps					
<b>Total NAC Current</b>		8 Amps Max.					
<b>Standby Batteries</b>	<b>Standby Time</b>	<b>Alarm Output Total Amps/Minutes</b>	<b>Aux Output</b>				
			<b>CP Mode</b>	<b>MP Mode</b>			
24 VDC/12 AH (uses two (2) 12 VDC batteries in series)	24 Hours	8 Amps/15 Minutes	200 mA	3.5A during nonalarm			
	60 Hours	8 Amps/15 Minutes	60 mA				

## Architects and Engineers Specifications

The power supply shall be Wheelock **POWERPATH™** Series PS-24-8MC, or equivalent. The unit shall be stand alone power supply intended for powering fire alarm notification appliances via its own Notification Appliance Circuit(s) (NAC). The unit shall be UL 864 Listed for power limited operation of outputs and comply with NFPA 70 (NEC), article 760.

The power supply shall support a full 8A of notification power even if the battery is in a degraded mode and only AC power is connected.

The power supply shall be activated by a standard Notification Appliance Circuit (NAC) from any Fire Alarm Control Panel (FACP) or a "Dry contact" opening. The units shall be 8 ampere, 24 VDC, regulated and filtered, supervised remote power supply/charger. It shall operate over the voltage range of 8 to 33 VDC or FWR. The primary application of the unit shall be able to expand fire alarm system capabilities for additional NAC circuits to support ADA requirements and to provide auxiliary power to support system accessories or functions. The power supply shall provide four Class "B", two Class "A", or two Class "B" and one Class "A" NAC circuit(s). Four Class "A" circuits shall be available with an optional PS-4CA module. The PS-24-8MC unit shall supply up to 200 mA of auxiliary power that is available during both nonalarm and alarm or auxiliary power of not less than 3.5A at 24 VDC during nonalarm. The power supply shall be capable of charging batteries of up to 12 ampere hours per NFPA 72. Input activation options shall be from not less than two NAC circuits or Dry Contact closures. These inputs shall have the capability of being directed to any combination of the four NAC circuit outputs. Each NAC circuit output shall be rated at 3 amperes for Class "B" applications or 3 amperes each for Class "A". The outputs shall be programmable to generate a steady or Temporal (Code 3) output and or a synchronized strobe or horn output. The power supply shall provide independent loop supervision for either Class "A" or Class "B" FACP NAC circuits and shall have the capability to "steer" all alarm or trouble conditions to either incoming NAC circuit. The units shall have common trouble terminals. The power supply shall be powered from a 120 VAC source with a current consumption of 5 amperes max. The unit shall incorporate short circuit protection with auto reset. The power supply shall incorporate a built in battery charger for lead acid or gel type batteries with automatic switchover to battery back up in the event of AC power failure. The charger shall incorporate fused protection for the batteries and have the ability to report low battery and/or no battery condition(s). Standby current for battery back up shall be 80 mA max. The power supply shall have the ability to latch trouble LED's so the circuit in trouble can be identified. The cabinet dimensions shall be 16.70" H x 12.83" W x 5" D.

**▲** WARNING: PLEASE READ THESE SPECIFICATIONS AND INSTALLATION INSTRUCTIONS CAREFULLY BEFORE USING, SPECIFYING OR APPLYING THIS PRODUCT. FAILURE TO COMPLY WITH ANY OF THESE INSTRUCTIONS, CAUTIONS AND WARNINGS COULD RESULT IN IMPROPER APPLICATION, INSTALLATION AND/OR OPERATION OF THESE PRODUCTS IN AN EMERGENCY SITUATION, WHICH COULD RESULT IN PROPERTY DAMAGE, AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

**NOTE:** Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Wheelock Inc. standard terms and conditions.

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3 YEAR WARRANTY  
Made in USA

S8900 PS-24-8MC 07/06