

Safety Instrumented *Fire & Gas System*



PS1400 Fire Alarm Primary/ Secondary 50 Amp Power Supply System

The PS1400 is a pre-engineered, FM approved, Power Supply System that is designed to provide power to fire alarm systems and toxic and combustible gas monitoring systems. Each system consists of a 24 Volt Battery Set and a charger system that has been FM approved to be compliant with the NFPA 72 requirements for primary and secondary power supplies.

The system is comprised of two main components, the Battery Charger Panel and the Battery Set.

Battery Charger Panel Features

The Battery Charger performs several functions: 1) it charges the Battery Set 2) it provides unregulated power for powering field circuits, and 3) it powers one or two DC-DC converters (if equipped) that provide system regulated power. The Battery Charger monitors its own health as well as that of the AC feed and the battery voltage, and provides individual status contacts that can be wired to a Fire alarm panel for indication and alarming. A fused disconnect between the battery charger and battery set is provided. A means for detecting a disconnected battery condition is provided by using a current shunt to measure the charge current being supplied to the Battery Set. If this current drops below a minimum threshold, the Battery Set is assumed to be disconnected. If the charger output fails, current flow will reverse as the Battery Set begins to provide system power.

Battery Set Features

The Battery Set is provided as a secondary power supply as required by NFPA 72. The Battery Set is floor mounted and self-contained, i.e. it does not have to be mounted in an enclosure. Plastic guards are provided to protect the terminals from damage or shorting.

The DC-DC Converter(s) provide a tightly regulated 24VDC nominal output. Regulated power is used for those components and circuits that require tight voltage regulation



and where ground fault detection is not required. A separate ground fault detection circuit is provided for unregulated power, for alarming and reporting to a Fire and Gas alarm panel. Separate regulated and unregulated 24VDC circuits including a disconnect means and over-current protection are provided for powering the Fire and Gas alarm panel.

aeSolutions can provide a turnkey solution from philosophy to field installation.

Environment Specifications

Specification	Data
Ambient Temperature Range: Operating Storage	-20 to 50 Deg C, 0.5 Deg C/min -40 to 50 Deg C, 10 Deg C/min
Relative Humidity: Operating	5 to 95% non-condensing
Vibration	10-150 Hz 1 g. max

Power Requirements for 50 Amp Battery Charger System

Three power feed options are available:

1 Ea. 120/208/240 VAC 1-Phase, 60 Hz @ 23/13/11 Amps

1 Ea. 400 VAC 1-Phase, 60 Hz @ 6.8 Amps

1 Ea. 480 VAC 1-Phase, 60 Hz @ 5.6 Amps

Model Number Breakout

PS1400 - 50 B - 600 - 16 - 40 - LE463630 - RK - FM

Model
PS1400

Charger Capacity
50: 50 Amp

Charger AC Feed
A: 120/208/240 VAC/ 23/13/11 Amps
B: 400 VAC/ 6.8 Amps
C: 480 VAC/ 5.6 Amps

Battery Power Capacity
600: 600 Amp - Hours

Regulated Power Capacity
00: No Regulated Power Supply
08: 8 Amps/24VDC
16: 16 Amps/24VDC

Approvals/Certifications
FM: Factory Mutual
N: None

Mounting Options
RK: Vertical Mounting Rack
NRK: No Mounting Rack

Local Enclosure
LE-H"xW"xD"
Custom Sizes Available

AUX Power Capacity
00: No AUX Power Supply
20: 20 Amps/24VDC
40: 40 Amps/24VDC

