

# 500W Plug-in AC-DC Power Supply Module with Convection Cooling, Rugged, Industrial Quality PFC 419-EH Series



- Electronic power factor correction (PFC)
- Rugged industrial quality
- Full electronic protection
- Convection cooling
- Field-proven design
- Hot swappable, N+1 redundant

This rugged, industrial quality AC-DC plug-in power supply with PFC-input utilizes field-proven technology to generate the required output power. It is a mature design with a track record in numerous applications. A built-in redundancy diode allows parallel connection to achieve higher output power or N+1 redundant operation, including hot insertion. Cooling is by natural air convection. Heat generating components are installed on an aluminum heatsink block, which is connected to the heatsink plate on the side of the module. This also provides exceptional mechanical ruggedness. The input and output are filtered for low noise. Full electronic protection, low component count, large design headroom, and the exclusive use of components with established reliability contribute to a high MTBF. The unit is manufactured at our plant under strict quality control.

## SPECIFICATIONS

### Input Voltage

95-264Vac (Universal) 47... 63Hz  
 Input Current: 7Arms max. per plug in module  
 Power Factor is better than 0.97 at full load for the entire input range.  
 Meets EN61000-3-2

### Input Protection

Inrush current limiting  
 Varistor  
 Internal safety fuse  
 Lower voltage than the specified minimum input will not damage the unit

### Isolation

2250Vdc input to chassis  
 4300Vdc input to output  
 8mm spacing  
 1000Vdc output to chassis

### Standards

Designed to meet EN62368-1 and related standards.

### EMI

EN 55032 Class A with margins

### Switching Frequency

100kHz  $\pm$ 5kHz input stage  
 55kHz  $\pm$ 3kHz output stage

### Hold-Up Time

Minimum 5ms at full load for 5% drop of output voltage at nominal input

### Output Voltage/Current

24V/20A, 48V/10A, 110V/4.5A or 125V/4A per module with convection cooling  
 500W continuous  
 Output is floating, either terminal can be grounded  
 Consult factory for other outputs

### Redundancy Diode

Installed internally  
 Hot insertion allowed

### Line/Load Regulation

$\pm$ 1.5% combined from zero load to full load including redundancy diode

### Dynamic Response

Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time

### Output Ripple/Noise

Better than 0.2% RMS or 1% of output voltage peak-to-peak (20MHz BW)

### Overload Protection

Current limiting with short-circuit protection (no hiccup)  
 Thermal shutdown in case of insufficient cooling (self-resetting)

### Output Overvoltage Protection

Second regulator loop completely stable and independent of the main regulator loop

### Efficiency

Output voltage dependent  
 Typically 80% at full load

### Operating Temperature

0°C to 50°C for full specification  
 Extended temperature range available on request

### Temperature Drift

0.03% per °C over operating temperature range

### Cooling

By natural convection

### Environmental Protection

Basic ruggedizing  
 Heavy ruggedizing and conformal coating as option

### Shock/Vibration

IEC 61373 Cat 1 A&B

### Humidity

5-95% non-condensing

### MTBF

135,000 hours @ 45°C  
 Per plug-in module  
 Demonstrated MTBF is significantly higher.

### Indicators

On front panel of the module:  
 Green "Output ON" LED connected before redundancy diode

### Control Input

None  
 Options available

### Alarm Output

Module Fail alarm by optocoupler  
 C-E fail open

### Package/Dimensions (H x W x D)

4U x 16HP x 304mm

### Weight

2.54 kg (5.6 lb.)

### Connections:

H15 DIN connector

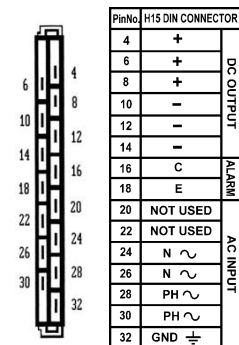
### RoHS Compliance

Fully compliant

### Warranty

Two years subject to application within good engineering practice

### Pin-out drawing, H15 connector



ABSOPULSE power supplies are designed and built to customer requirements. The specifications on this data sheet are generic guidelines only and are subject to change

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