

500W AC-DC Plug-in Power Supply Module with Convection Cooling

Rugged Industrial Quality HBC 419-EH Series

- Rugged field-proven design
- Industrial quality
- Full electronic protection
- 4U x 16HP x 304mm plug-in module
- Front panel test points & LED status
- Convection cooled (no fans)
- Hot swappable, N+1 redundancy



This rugged, industrial quality plug-in power supply 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 and 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. The front panel of the module has a power 'ON' LED indicator and test points. 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

115/230Vac $\pm 15\%$
47 - 63Hz switch selectable
Auto-ranging available
Please consult factory for other voltages and ranges

Input Protection

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

Input Isolation

2250Vdc input to chassis
4300Vdc input to output,
8mm spacing
500Vdc output to chassis
Isolation voltages correspond to input/output combination

Standards

Designed to meet EN 62368-1 and related standards.

EMI

EN 55032 Class A as a minimum

Switching Frequency

55kHz ± 3 kHz

Output Voltages/Currents

24Vdc/20A or 48Vdc/10A
500W per module with convection cooling
Consult factory for other voltages

Redundancy Diode

Installed internally
Hot insertion allowed

Line/Load Regulation

Typically $\pm 1\%$ combined from no 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 1% of output voltage peak to peak or 0.2% RMS of the output voltage (20HZ BW)

Output Overload Protection

Rectangular current limiting with short circuit protection (constant current). Thermal shutdown with automatic recovery in case of reduced airflow

Output Overvoltage Protection

Second regulator loop

Efficiency

85% typical depending on the input/output configuration.

Operating Temperature

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

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Natural air convection
(Vertical airflow)

Environmental Protection

Basic ruggedizing.
Conformal coating

MTBF

180,000 hours at 45°C per Demonstrated MTBF is significantly higher

Indicators

On front panel of module:
Green "Output ON" LED connected before redundancy diode
Test Points on front-panel

Control Input

Adjustment potentiometer on front-panel

Alarm Output

Module fail alarm by optocoupler
CE-fail open

Mechanical Dimensions (W x H x D)

4U x 16HP x 304mm

Weight

2.2 kg (4.9 lb.)

Connections:

H15 DIN connector on

RoHS Compliance

Compliant

Warranty

Two years subject to application within good engineering practice

Pin-out drawing, H15 connector

PinNo.	H15 DIN CONNECTOR	
4	+	DC OUTPUT
6	+	
8	+	
10	-	
12	-	ALARM
14	-	
16	C	
18	E	
20	NOT USED	AC INPUT
22	NOT USED	
24	N ~	
26	N ~	
28	PH ~	
30	PH ~	
32	GND	

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.

OEM of industrial and railway quality DC-DC converters, AC-DC power supplies and battery chargers, DC-AC sine-wave inverters, phase and frequency converters, DC-output UPS systems and complete power systems in 19" and 23" racks since 1982. Custom or standard. ABSOPULSE is a BABT-approved Facility.



ABSOPULSE ELECTRONICS LTD

110 Walgreen Road, Ottawa, Ontario. K0A 1L0. CANADA

Tel: +1-613-836-3511 | Fax: +1-613-836-7488

<https://absopulse.com/contact> | <https://www.absopulse.com>