

1200W Rugged, Industrial Quality Rack-mount AC-DC Power System PFC-input with 200W Convection Cooled Plug-in Modules PFC 53-1K2-3U19 Series

- Electronic power factor correction (PFC)
- Rugged industrial quality
- Up to 1200W per 19" shelf
- Up to 200W per plug-in module
- Full electronic protection
- Convection cooled
- Field-proven design topology
- Hot swappable, N+1 redundant



PFC 53-EH plug-in module (200W)
3U x 14HP x 220mm



Fully loaded PFC 53-1K2-3U19 system (1200W)
3U x 19" x 13"

This is a modular, industrial quality AC-DC power supply system with power factor corrected input. It can be built with up to six, 200W plug-in modules assembled in a 3U x 19" card-frame that delivers a maximum of 1200W or 1000W with N+1 redundancy. Each hot-insertable module has a built-in redundancy diode which allows for parallel connection and N+1 redundant operation. This feature also makes the system suitable for battery charging. Modules with different outputs can be combined into one shelf to create a multi-output system. The plug-in modules are cooled by natural air convection. Heat generating components are installed on an aluminum heatsink block that are connected to a large heatsink on the side of each 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 system is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage

Universal 95-264Vac, 47 ... 63Hz
Power Factor is better than 0.97 at full load for the entire input range.
Meets EN61000-3-2

Input Protection

On each plug-in module:
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
500VDC output to chassis

Standards

Designed to meet EN 62368-1 and related standards.

EMI

EN 55032 Class A minimum

Switching Frequency

See plug-in module data sheet

Hold Up Time

Min. 10ms at any input for 5% drop in the output voltage

Output Voltage/Current (per plug-in module)

12V/16A, 24V/8A, 48V/4A, 110V/1.8A or 125V/1.6A
Max output 200W per module
Max output 1200W per shelf
Consult factory for other outputs

Redundancy Diode

Installed on each plug-in module
Hot insertion allowed

Line/Load Regulation

±1% 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

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

Output Overload Protection

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

Output Overvoltage Protection

Double regulator loop

Efficiency

Output voltage dependent
Typically 80% at full load

Operating Temperature Range

0°C to +50°C for full specification without derating,
Extended temp. range available

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Natural air convection
(Vertical airflow)

Environmental Protection

Basic ruggedizing
Conformal coating

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

140,000 hours @ 45 °C
Demonstrated MTBF is significantly higher.

Indicators

On the front-panel of each module:
Green "Output ON" LED
Test Points

Alarm Output

Module Fail Alarm by opto-coupler on the plug-in module
(C-E opens on alarm)
Form C on the shelf

Package / Dimension (H x W x D)

Plug-in module:
3U x 14HP x 220mm
Shelf: 3U x 19" x 13"

Connections

H15 Connector on plug-in module
Terminal blocks on the shelf

RoHS Compliance

Compliant

Warranty

Two years subject to application within good engineering practice

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.



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