Redundant AC/DC Converter System with 200W Plug-in Modules
EOL 53 Series

- Rugged industrial quality
- 3U x 19" x 14" shelf
- 200W per module or 1200W per 19" shelf
- Front panel adjustment & LED status
- Hot insertable
- N+1 redundancy
- Fully electronic protection
- Field-proven design in wide range of applications

This system is comprised of up to six rugged, industrial quality AC/DC plug in power supply modules. Each module has a built-in redundancy diode, which allows for parallel connection or N+1 redundant operation, including hot-insertion. The built-in redundancy also allows battery connection to the output for back-up purposes. Modules with different outputs can be combined in 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, which is connected to the large heatsink on the side of each module. Modules have input and output filtering in compliance with EN 55022 EMI standards. Full electronic protection eliminates failure due to abnormal operational conditions, including application errors. Low component count, large design headrooms, and the use of components with established reliability result in a high MTBF. This is a mature design with a track record in numerous applications. The system is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage
115/230Vac +/- 15%
47 - 63Hz, jumper selectable on each plug-in module
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
EN 60950 and corresponding UL and CSA standards

EMI
EN 55022 Class A as minimum

Switching Frequency
55KHz +/- 3KHz

Hold Up Time
Min. 10ms at any input for 5% drop of the output voltage

Output Voltage/Current (per module)
5V/25A, 12V/16A, 24VDC/8A, 48VDC/4A or 125VDC/1.6A with convection cooling.
Consult factory for other voltages

Redundancy Diode
Installed on each plug-in module

Line/Load Regulation
Typically ±1% combined from no load to full load, including redundancy diode (depending on output voltage)

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 (no hiccup)
Thermal shutdown with automatic recovery in case of reduced airflow

Output Overvoltage Protection
Second regulator loop completely stable and independent of main regulator loop

Efficiency
85% typical depending on the input/output configuration

Operating Temperature
0 to +50°C without derating on standard model with convection cooling
Extended temperature range available

Temperature Drift
0.03% per °C over operating temperature range

Cooling
Natural air convection

Environmental Protection
Basic ruggedizing.
Full ruggedizing and conformal coating as option

Shock/Vibration
IEC 61373 Cat 1 A&B

Humidity
5-95% non-condensing

MTBF
160,000 hours at 45°C per plug-in module.
Demonstrated MTBF is significantly higher

Indicators
Green "OUTPUT ON" LED on front-panel of each module
Test Points on front-panel as option

Controls
Adjustment potentiometer on front-panel as option

Alarm Output
Form C module fail alarm on the shelf.
Module fail alarm via optocoupler, C-E.

Mechanical
3U x 14HP x 220mm (module)
3U x 19" or 23" x 14" (shelf) including connections
Other front-panel widths available.

Weight
Plug-in module: 1.2 kg (2.7 lb)

Connections:
H15 DIN connector on modules.
Terminal block for shelf
Different terminations available

RoHS Compliance
Fully compliant

Warranty
Two years subject to application within good engineering practice

Enhancements to these general specifications can be accommodated upon request. Specifications are subject to change.

Designer and manufacturer of quality converters, inverters, UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard. Absopulse is a BABT-approved Facility

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