

## Redundant DC/DC Converter System with 300W Plug-in Modules for Professional Applications DCP 65 Series



- Rugged industrial quality
- 4U x 19" x 15" shelf
- 300W per module or 1500W per 19" shelf
- Front panel adjustment & LED status
- Hot insertable
- N+1 redundancy
- Fully protected
- Field-proven design in wide range of applications

This system contains rugged, industrial quality DC/DC plug in converters and uses field-proven topology to generate the required output power. It is a mature design with large design headrooms and rated for operation over a wide temperature range without derating. The strict use of components with many years of established reliability results in a high demonstrated MTBF confirmed by a track record in hundreds of applications. Each module has a built-in redundancy diode which allows for an unlimited number of units to be paralleled for higher output power and N+1 redundant operation. The built-in redundancy also allows battery connection to the output for back-up purposes. The modules are hot insertable. 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. The unit has full electronic input/output protection, and meets EMI emission standards with wide margins. The design is optimized for low component count and high efficiency. The whole system is manufactured at our plant under strict quality control.

### SPECIFICATIONS

#### Input Voltage

24Vdc (21 – 30V)  
48Vdc (42 – 60V)  
125Vdc (88 – 140V)  
Please consult factory for other voltages and ranges

#### Input Protection

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

#### Input Isolation

1000VDC input to chassis and 1500VDC input to chassis  
500VDC output to chassis as a minimum  
Isolation voltages correspond to input/output combination

#### Standards

Designed to meet EN 60950 and related standards.

#### EMI

EN 55022 Class A as a minimum

#### Switching Frequency

55KHz +/- 3KHz

#### Output Voltages/Currents

12V/25A, 24V/12A, 48V/6A or 125V/2.5A  
300W per module with convection cooling  
Consult factory for other voltages

#### Redundancy Diode

Installed on each plug-in module

#### Line/Load Regulation

Typically  $\pm 1\%$  combined from no load to full load (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 (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 (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.  
Conformal coating and full ruggedizing as option

#### MTBF

180,000 hours at 45°C per plug-in module.  
Demonstrated MTBF is significantly higher

#### Indicators

Output ON LED  
Test Points on front-panel

#### Controls

Adjustment potentiometer on front-panel

#### Alarm Output

Form C module fail alarm on the shelf.  
Optocoupler alarm on the module

#### Mechanical

4U x 16HP x 304mm (module)  
4U x 19" x 15" (shelf)  
including connections

#### Connections:

H15 DIN connector on modules.  
Terminal block for shelf  
Other terminations available, please consult factory

#### 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 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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