

## 600W, MODULAR POWER SUPPLY SYSTEM WITH PFC-INPUT FOR RAILWAY AND INDUSTRIAL APPLICATIONS BR3U-3PFC280-24BD



- Universal AC input 90VAC-264VAC
- Delivers 200W per plug-in module with convection
- Distributed output; N+1 redundant
- Fully protected
- Made in North America

The BR3U-3PFC280-24BR is a modular AC/DC power supply system with power factor corrected modules. The system is built with three, 200W, PFC280 plug-in units assembled in a 3U x 19" card-frame. It delivers up to 600W output power or 400W with N+1 redundancy. The standard plug-in modules are rated for 0°C to 50 °C for full specification with convection cooling and 0°C to 70°C with forced air cooling. The shelf has six distribution breakers on the front panel. Each breaker is equipped with an alarm contact which indicates tripping only. No alarm is generated if the breaker is turned-off manually. The breaker alarms are summarized into one Form C output, with a second Form C alarm output provided for the module alarms. Additional structural elements are added for increased ruggedness. Each plug-in module is supported by four guide rails. The system has full electronic protection. Robust construction and the use of components with established reliability results in a high MTBF. It is manufactured at our plant under strict quality control.

### SPECIFICATIONS

#### Input Voltage

Universal 90 ... 264VAC  
47 - 63Hz  
Input current 8.1Arms max.

#### Input Protection

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

#### Power Factor

Provided by the plug-in modules  
Min. 0.97 at full load for the entire input range. Meets EN61000-3-2

#### Isolation

2250VDC input to chassis  
4300VDC input to output  
8mm spacing  
500VDC output to chassis

#### Standards

Designed to meet EN 60950 and EN 50155 trackside application. Ground leakage current exceeds 3.5mA with 3 modules installed.

#### Immunity

Meets criteria of EN50155 and EN50121-3-2 according to the following standards:  
EN 61000-4-2 (ESD)  
EN 61000-4-3 (RF Immunity)  
EN 61000-4-4 (Fast Transients)  
EN 50155 (Surge)  
EN 61000-4-6 (Conducted Immunity)  
EN 50155 (Voltage Variations)

#### EMI

EN55022 Class B

#### Output Voltage/Current

24V +/- 0.2V / 8.3A per plug-in module. Total 25A with 3 modules or 17A with (n+1) redundancy.

#### Line/Load Regulation

+/- 2% combined from 10% load to full load including breakers & internal wiring

#### Output Distribution

6 circuits with 10A breakers

#### Output Ripple / Noise

Better than 30mVrms or 200mVpp (20MHz BW)

#### Output Overload Protection

10A circuit breakers installed on each output  
The plug-in modules have rectangular current limiting with short-circuit protection (no hiccup)  
Current limit typically set for 12A ±1A on each module

#### Output Overvoltage Protection

Installed on each plug-in module  
Second regulator loop.  
Typically set at 30V ±2V on each module

#### Efficiency

Min. 80% at full load with PFC280 modules

#### Operating Temp. Range

0°C to 50 °C for full specification with convection cooling and 0°C to 70°C with forced air cooling.

#### Temperature Drift

0.03% per °C over operating temp. range

#### Cooling

Convection cooling.  
Additional system air flow is required for operation at elevated temperatures

#### Environmental Protection

Basic ruggedizing  
Conformal coating of sensitive areas to withstand high humidity

#### Humidity

95% non-condensing

#### MTBF

Min. 150,000 hours at 45 °C for each plug-in module

#### Indicators

Power ON LED installed on each module

#### Control Input

None

#### Alarm Output

Two Form C contacts  
- Module Fail Alarm  
- Breaker Trip Alarm

#### Package / Dimensions

Eurocard Shelf  
3U x 19" x 340mm including connectors and handles  
Plug-in module size: 3Ux12HPx280mm

#### Weight

7.94 kg (17.5 lbs.) with 3 modules

#### Connections

Input: Phoenix PCV 4/3.G-7,62  
Mating PC4/3-STF-7,62  
Outputs: Phoenix PCV4/4.G-7,62  
Mating PC4/4-STF-7,62  
Alarms: Phoenix MSTBV2.5/3-GF-5.08  
Mating MSTB2.5/3-STF-5.08

#### RoHS Compliance

(Directive 2002/95/EC)  
According to requirements

#### Warranty

Two years subject to application within good engineering practice

**Enhancements to these general specifications and customizing 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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