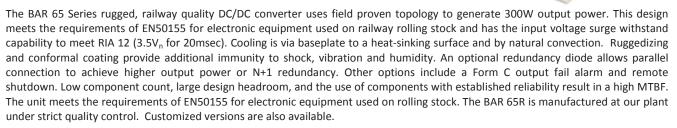
# 300W, Rugged DC/DC Converter with built-in RIA 12 Protection for Railway Applications

**BAR 65R-F3 Series** 

- Meets RIA 12 (surge withstanding)
- Field-proven rugged design
- For train and mobile applications
- Conduction/convection cooled
- Full electronic protection
- Wide input ranges



## **SPECIFICATIONS**

#### **Input Voltage**

72Vdc (43 – 101V) 96Vdc (58 – 135V) 110Vdc (66 - 154V) Other inputs upon request

#### Input Protection

Inrush current limiting
Varistor
Reverse polarity protection
Internal safety fuse
Limiter circuit for RIA 12 surges
Low input voltages of less than the
specified minimum will not damage
the unit

#### Isolation

1500VDC input to chassis 3000VDC input to output 1500VDC output to chassis

#### Standards

Designed to meet EN60950-1 and EN50155

## Immunity

Meets criteria as requested in EN50155 and EN50121-3-2 according to:
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)
Built-in protection against the 3.5Vn, 20ms surge according to RIA 12.

#### FMI

EN50121-3-2

## Switching Frequency

55kHz ±3kHz

## **Output Voltage/Current**

Any voltage from 12V to 110Vdc Outputs is floating; either terminal can be grounded Consult factory for other voltages

## **Redundancy Diode**

Optional

#### Line/Load Regulation

±1% combined from zero load to full load

## **Dynamic Response**

Max 5% voltage deviation for 10% to 50% load step, with better than 2msec recovery time

## **Output Ripple / Noise**

Better than 1% of output voltage peak to peak or 0.2% RMS of the output voltage (20MHZ BW)

## **Output Overload Protection**

Rectangular current limiting with short-circuit protection. Thermal shutdown with automatic Recovery in case of insufficient cooling

## **Output Overvoltage Protection**

Double regulator loop. Second loop completely stable and independent of main regulator loop

#### Efficiency

Typically min. 80% at full load depending on input/output configuration

#### **Operating Temperature Range**

-25 °C to +70 °C cold plate temperature for full specification

#### Temperature Drift

0.03% per  $^{\circ}\text{C}$  over operating temperature range

#### Cooling

Conduction to customer heatsink or chassis and natural convection

### **Environmental Protection**

Ruggedizing Conformal coating

## Shock/Vibration

IEC 61373 Cat 1 A&B

#### Humidity

5 – 95% non-condensing

## MTBF

150,000 hours @ 45 °C Demonstrated MTBF is significantly higher

#### Indicators

Green "Output ON" LED visible through the cooling slots

## **Control Input**

Optional

#### **Alarm Outputs**

Optional

#### Package / Dimensions (W x H x L)

F3: 132 x 64 x 300 mm (5.2" x 2.5" x 11.8") including terminal block and mounting flanges. Mounting holes are clear

## Weight

2 kg (4.4 lbs)

## Connections

12-pole barrier type terminal block with 3/8" spacing

## **RoHS Compliance**

Compliant

## Warranty

Two years subject to application within good engineering practice

