

FEATURES AND APPLICATIONS

- 77 - 155 Vdc Input for Railway Applications
- 600W regulated Output
- Efficiency up to 88%
- Isolated Remote On/Off
- Operating Temperature: -40°C to +100°C
- Full-Brick Size meet Industry Standard
- Over Temperature-, Over Voltage/Current Protection
- Meet EN50155 with External Circuits
- Meet Shock & Vibration EN50155
- Meet UL60950-1 2nd (Basic Insulation)
- Meet Fire & Smoke EN45545-2



GENERAL DESCRIPTION

The VCW600-Series is a family of cost effective 600 Watt single and dual DC/DC converters designed for mobile and stationary railway applications in accordance to EN50155 standard.

These converters achieve low cost in a full brick housing without compromising performance or field reliability. Models operate from a railway input bus voltage of 110 Vdc offering different single and dual outputs.

BASIC SPECIFICATIONS

Model No.	Input Voltage	Output 1		Output 2		Efficiency @Max. Load
	Nominal (Range)	Voltage	Current	Voltage	Current	
VCW600-1102405D	110 Vdc (77~155)	24 Vdc	12 A (25A <2sec)	5 Vdc	2 A	87%

INPUT SPECIFICATIONS		
Item	Conditions	Typ.
Input Voltage Range	110 Vdc Nominal	77 - 155 Vdc
Under Voltage Lockout	Power On	76 Vdc
	Power Off	74 Vdc
Remote Funktion	Opto isolated Remote ON/OFF	
Input Filter	PI Type	

OUTPUT SPECIFICATIONS			
Item	Conditions	Typ.	
Outputs	Output 1	24V / 12 A; (25A <2sec)	
	Output 2	5 V / 2A	
Voltage Accuracy	-	±1.5%	
Ripple and Noise 20 MHz BW	measured with 1µF ceramic capacitor across output	Output 1	240 mVpp max.
		Output 2	100 mVpp max.
Line Regulation	Measured from High line to Low line	±0.2%	
Load Regulation	Measured from Full load to Zero load	±0.5%	
Over Voltage Protection	Trip Range, % Vo nominal	Vo1: 115 - 140%	
Short Circuit Protection	-	Continuous	
Current Limit	-	105 - 150% Nominal Output	
Start Up Time	-	160ms	

GENERAL SPECIFICATIONS		
Item	Conditions	Typ.
Efficiency	-	88%
Isolation Voltage	Input / Output	2250 Vdc min.
	Input / Case	2250 Vdc min.
	Output / Case	1500 Vdc min.
Switching Frequency	-	250 kHz
Safety	meet UL62368-1	
EMC	meet EN50155 (EN50121-3-2) with external filter	

ENVIRONMENTAL SPECIFICATIONS

Item	Typ.
Operating Case Temperature Range	-40°C to +100°C
Storage Temperature Range	-55°C to +105°C
Thermal Shutdown Range, Case Temperature	110°C
Cooling	Natural Convection, 20ft./min. (0.1m/s)

PHYSICAL SPECIFICATIONS

Item	Typ.
Dimensions	4.60 x 2.40 x 0.50 Inches (116.8 x 61.0 x 12.7 mm)
Case Material	Aluminum Baseplate with Plastic Case

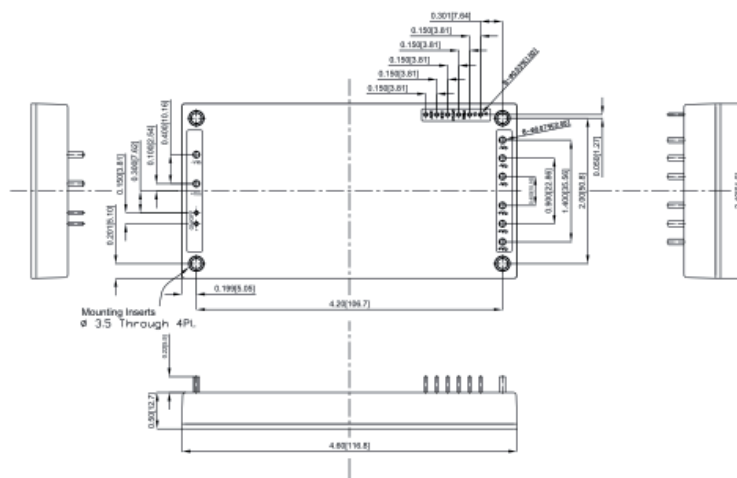
NOTE:

- 1) Design meet EN50155 and RIA 12 refer to application note.
2. An external input capacitor 220µF, that are recommended to reduce input ripple voltage.
3. The output terminal required minimum capacitor 470µF to maintain specified regulation.
4. Trim-up: Connect a Resistor between Trim Pin and +Sense.
 Trim-down: Connect a Resistor between Trim Pin and -Sense.

PINNING

All Dimensions in Inches[mm]
 Tolerance Inches:x.xx=±0.02 , x.xxx=±0.01
 Millimeters:x.x=±0.5 , x.xx=±0.25

Pin
 ±0.004
 ±0.1



PIN Connection

1	-V Input
2	+V Input
3	-On/Off
4	+On/Off
5-7	+Vo1
8-10	-Vo1
11	-Vo1 Sense
12	+Vo1 Sense
13	TRIM
14	+Vo2
15	IOC
16	AUX