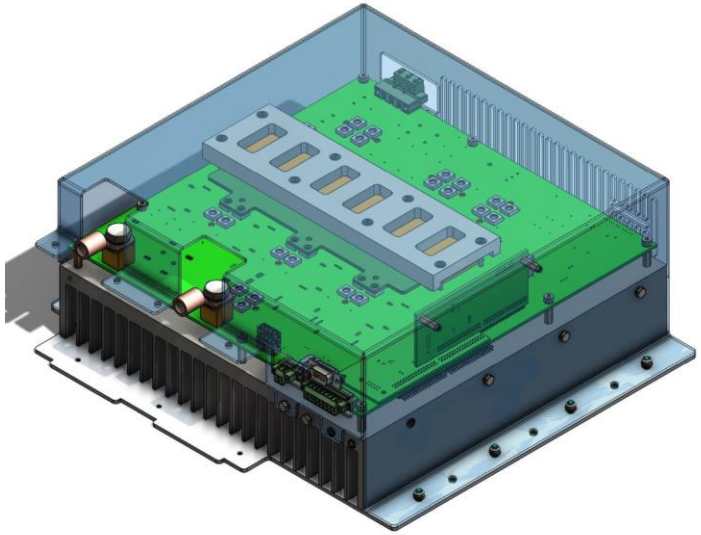
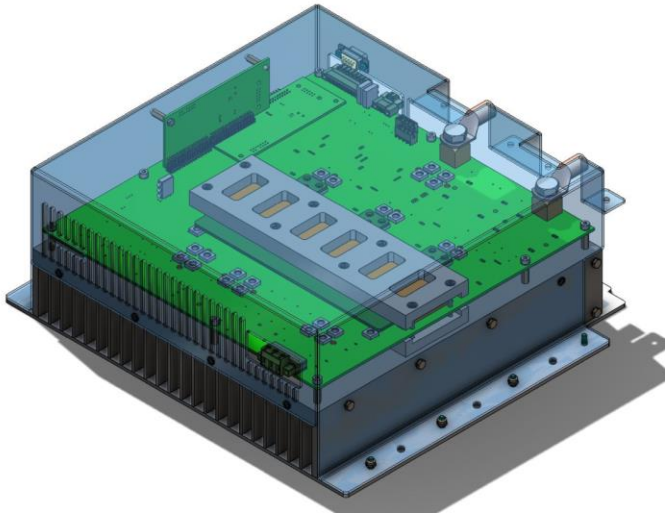
Brochure

Low Voltage Power Supply for Rail Application
V20





Power Supply Hilights

Hilights:

- Developed from the scratch for harsh rail environmental conditions
- High frequency switching for low volume and weight (> 60kHz)
- Built-in micro-processor control- and regulation
- CAN Interface (optional)
- Integrated filter and EMI filter
- Extremly rugged due to ‚Planar' transformer technology (Transformer is integrated within the board layout)
- Extreme long service life (no electrolytic capacitors used)

Standards and Environmental Conditions

The Power Module meets the following environmental conditions:

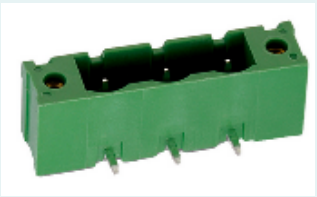
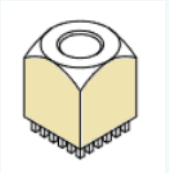
Description	Requirement	Standard
Storage temperature	-40° C … +71° C	
Operating temperature	-40° C … +60° C	
Degree of contamination	Level 2	EN 60664-1
Isolation	2.5kV AC RMS 1min	
Power Electronics, general		VG 96968-1
Sea level altitude, operation	2.000 Meter	Comment: 3.000 Meter with reduced performance
Maximum transport height	16.000 feet (4.876m) without pressure compensation	Comment: No electrolytic capacitors used
Humidity	Humidity 3% to 100% including condensation during storage and commissioning.	
Vibration	MIL-STD-810-H, Method 514.8 Kat. 4	MIL-STD-810-H
Shock	Longitudinal: ± 8.0g Lateral: ± 3.0g Vertikal: ↓7,52g ↑3,03g	
Mains feedback		DIN EN 61000-3-2, DIN EN 61000-3-12
EMI		According to customer requirements.

Technical Data

Technical Data:

Description	Requirement	Notes
Input Voltage Range	400 … 800V DC	continuous
Output Voltages	24V DC, 28V DC, 37.5V DC, 48V DC	Nominal; not settable
Output Power with optional Fans:	2kW	Continuous, 2.5kW short term
Output Power (no fans)	1.4kW	Continuous, 2kW short term
Output voltage control	Via CAN- Interface	Settable range: Nominal output voltages +/- 15%
Output current control	Via CAN- Interface	
Maximum transport height	16.000 feet (4.876m) without pressure compensation	Comment: No electrolytic capacitors used
Tolerance output voltage	+/- 2%	
Tolerance output current	+/- 5%	
Protection	Short circuit, overload, temperature	Optional: Reversed input voltage
Weight	Approx. 25lbs	
Volume	11,85 x 11.85 x 5.4 in (l x w x h)	Also refer to Step File

ces

Nr.	Function	Description	Order No. / Specification	Picture
J6	High- Voltage Input	WR-TBL Series 3174 - 7.62 mm Close Horizontal PCB Header	Wuerth 691317410003 (RM 7,62) 3-pin	
n/a	High- Current Bolts Output; 1 x Bolt (Plus) 1 x Bolt (Minus) Size: M10 Press fit element	WP-BUFU REDCUBE PRESS-FIT with internal thread, full plain	Wuerth 7461061 M10 Bolt (PCB-side: 36 Pins)	
3	Digital I/Os (Output: Failure Output: Customer specific Input: Enable)	WR-TBL Series 3253 - 3.81 mm Horizontal PCB Header with Flanges	Wuerth 691325310008 (RM 3,81) 8-pin	
4	37.5V Input (Supply internal electronic)	WR-TBL Series 3253 - 3.81 mm Horizontal PCB Header with Flanges	Würth 691325310002 2-pin RM 3.81 mm	
5	CAN – BUS (optional)	SUB-D9 Male connector	Any distributor	

Options

Options:

- Reversed input voltage protection
- Fan cooling for increased for increased output power
- Higher IP rating (e.g. IP54)
- Customized interfaces