

# Redesign DC/DC-converter for railway applications

in accordance with IEC571-EN50155-RIA12

Two international standards are used to regulate the compliance of electrical and electronic equipment in railway applications:

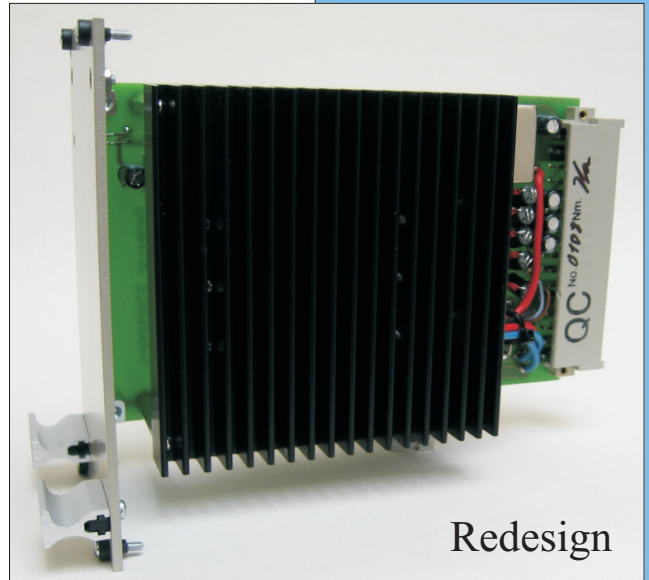
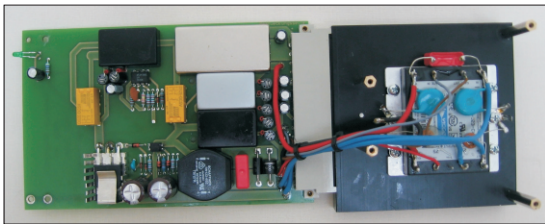
IEC571, EN50155, (UK) RIA12

RIA 12 (UK) requires overvoltage protection exceeding those of the requirements in the European standards.

The present power supply meets or exceeds all the basic standards.

The device was developed as a pin and functionally compatible redesign to a plug-and-play replacement for power supply type SV STN24249/L and has fully modular design.

The input modules for the galvanic separation of the input/output voltage are designed for nominal 35V DC. According to EN50155, the necessary input voltage range is  $0.7 \dots 1.25 \times U_N = 24 \dots 48V$ .



The under/over voltage range needs to include both 20V and 60V.

The modules used are designed for 20 V to 60V and are also equipped with an active transient protection, which securely eliminates the RIA12-specified overvoltage (for 20 mS) of the 3.5V-times of the nominal input voltage of up to 120V, as well as peaks of up to 1800V/50 $\mu$ s.

The MTBF is > 250.000h for the module, which meets the life requirements for railway equipment of 24/d for 30a.

The 19" 3HE insert meets the requirements for vehicle applications is extremely robust and can resist a vibration load on three axels with and amplitude of 7,5mm at 5-150Hz and acceleration of 20m/s<sup>2</sup>.

## Technical data:

PCB-card	: 100 x 160mm, Frontplate 14TE 3HE
Plug-in	: DIN 41612 F32
Supply voltage	: nom. 35V DC, min. 24V DC, max. 48V DC
Power	: max. 98VA
Efficiency	: ca. 85%
Temperature range:	-25...+70°C
Output	: 24V 3A; 12V 0,25A; +-12V 0,1A; 5V 2A; 5V 0,05A

VEW-Redesign  
STN24249/L

**VEW**<sup>®</sup>

DIE ENTWICKLER

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