



# Compact Power Supply Unit (PSR)

EN 50155  
EN 45545

## MODULE FUNCTIONS

The Trainnet® Compact Power Supply Unit (PSR) is a highly reliable switching mode power supply module. It takes power directly from the train batteries. The Trainnet® PSR module is primarily designed to power the Trainnet® RIOM but can also be used for some simple VMEbus systems.

## KEY FEATURES

The Trainnet® PSR can be operated with either 24 to 36 V DC (PSR3031A) or 48 to 110 V DC (PSR3032A) coach supply voltage and provide 5 V DC output power. The input supply is provided directly from the train battery to the PSR module through a 2W2C D-Sub connector.

The Trainnet® PSR has built-in circuitry to detect and control the input current in the event of a power-up. Controlling the in-rush current prevents component damages.

When input supply voltage is below the minimum value, Trainnet® PSR minimizes current consumption in order to prevent the deep discharge of train batteries.

The Trainnet® PSR module withstands 10 ms input power breaks without disrupting any of the normal operations (Voltage Supply Interruption as per EN50155 Class S2 and Supply change over as per EN50155 Class C1). In case of a longer break in the power supply, the SYSRESET signal is activated to ensure proper shutdown of the systems.

## TECHNICAL SPECIFICATIONS

Reference	PSR3031A	PSR3032A
Dimensions (W x H x D)	8 TE x 3 U x 160 mm	8 TE x 3 U x 160 mm
Weight	410 g	410 g
Temperature Range (operational)	-40 °C...+70 °C	-40 °C...+70 °C
MTBF (40 °C ambient temperature)	800 000 h	800 000 h
Input Voltage	24 to 36 V DC	42 to 110 V DC
Input Voltage Range (V DC)	16.8 ... 47.8	33.6 ... 143
Input Fluctuation (1s) (V DC)	14.4 ... 50.4	28.8 ... 154
Input Current (<0.1 s/1 s)	7.5 A max.	4 A max.
Supported Supply Interruption (S2)	10 ms	10 ms
Efficiency	> 80% (typically 85%)	> 80% (typically 85%)
Output Power	80 W	80 W
Output Voltage 5 V DC		
Maximum Output Current	16 A max.	16 A max.
Minimum Output Current	0.1 A min.	0.1 A min.
Ripple/noise p-p	50 mVpp (<20 MHz)	50 mVpp (<20 MHz)
Output Voltage		
At nominal line, nominal load	5.15 V DC ± 2 %	5.15 V DC ± 2 %
At line range, load range	5.05 V DC min.	5.05 V DC min.