



# MPF 1K0 1101

NON-ISOLATED DC/DC CONVERTER



## Description

The 1kW railway application adaptor (non-isolated DC/DC converter) transforms 110 VDC voltage into 72 VDC. This unit allows the use of railway approved 72 VDC input products with 110 VDC input. It has natural convection and complies with railway standards EN 50155 and EN 50121-3-2.

## Input Specifications

Product reference	MPF 1K0 1101
Nominal input voltage	110 VDC
Input voltage range	77 to 137,5 VDC
Input transients voltage	66 VDC, 154 VDC during 100 ms
Overvoltage protection	Yes, by transil 1,5 KE 150 V
Reverse input voltage protection	Yes, with reverse diode
Inrush current limitation	< 10 In

## Output Specifications

Product reference	MPF 1K0 1101
Nominal output voltage	72 VDC
Output voltage ripple p-p (WB 0 to 30 MHz)	500 mV
Nominal output current	13,9A
Crossed regulation (load + line)	± 5%
Nominal output power	1000 W
Efficiency	95%
Long term stability during 8 hours (after 1/2 hour operating)	< 0,3%
Switching frequency	25kHz, fixed
Output current limitation	17A
Overvoltage protection	Yes, by transil BZW50-82 5 kW
Permanent short circuit protection	Yes
Power Fail	Dry contact open when VOut < 50 V   Green LED off

## Environmental Details

Product reference	MPF 1K0 1101
Operating temperature range	-25°C to +70°C
Derating	Without derating
Storage temperature range	-40°C to +85°C
Temperature coefficient	< 2.10 <sup>-4</sup> /°C
Relative humidity at 40°C	95%
Cooling	Natural convection
Insulation resistance	100MΩ (500 VDC) between input output / case
Dielectric strength	1 500 Vrms between input output and box
MTBF (according to "MIL HDBK.217F")	GB 40°C: >4 000 000 h GM 40°C: >227 000 h
Coating	PCB coated with varnish





### Applicable Norms

Item	Reference	Level	Compliance
Railway rolling stocks applications	EN 50 155		X
Electronic equipments used into rolling stocks	STME 001		X
Fire and smokes	NF F16-101/102		X
Electrostatic discharges	EN50121-3-2		X
Vibrations	EN61373		X
Transients response	NFC 42801 C		X

### Mechanical Characteristics

Product reference	MPF 1K0 1I01		
Box material	aluminium		
Potting	No		
Dimension	360 x 70 x 120 mm		
Fixing	Using the box profil		
Input connector	8 Faston 6,35 x 0,8 mm		
Output connector	2 Faston 6,35 x 0,8 mm		
Signals details	Power Fail		2 Faston 6,35 x 0,8 mm

#### NOTES

### Technical Drawing

- All dimensions in mm
- Specifications subject to change without notification

