



MPF 330 & MPF 420 SERIES

NON-ISOLATED DC/DC CONVERTERS



Description

The MPF 330 W and MPF 420 W are non isolated DC/DC converters designed to power the headlights, windshield wipers or other equipments on board trains. They allow the adaptation of railway approved 72 V input products into a 110 V input. Inputs are available in 72 V and 110 VDC and outputs in 24 V, 27 V and 72 VDC.

Model 110 V/72 V is the ideal railway application adaptor to feed 72 VDC devices from a 110 VDC input. Both converters are compliant to railway standards EN 50155 and EN 50121-3-2.

Input Specifications

Product reference	MPF330 1K02	MPF 420 1102	MPF 420 1103
Nominal input voltage	72 VDC	110 VDC	
Input voltage range	50 to 90 VDC	77 to 137,5 VDC	
Input transients voltage	43 VDC, 101 VDC during 100 ms	66 VDC, 154 VDC during 100 ms	
Reverse input voltage protection	Yes, by reverse diode		
Inrush current limitation	Yes		

Output Specifications

Product reference	MPF330 1K02	MPF 420 1102	MPF 420 1103
Nominal output voltage	27 V	72 V	24 V
Output voltage ripple p-p (WB 0 to 30 MHz)	500 mV		
Nominal output current	12.5 A	4.6 A	13 A
Crossed regulation (load + line)	± 5%		
Nominal output power	338 W	331 W	312 W
Efficiency	> 85%		
Long term stability during 8 hours (after 1/2 hour operating)	< 0.3%		
Switching frequency	> 25 kHz, fixed		
Output current limitation	< 1,2 I _n		
Overload protection	Yes, over current = red LED on		
Overvoltage protection	Yes		
Permanent short circuit protection	Yes		
Power Good	By dry contact when Output voltage is ok		Green LED on

Environmental Details

Product reference	All references
Operating temperature range	-20°C to +70°C
Derating	Without derating
Storage temperature range	-40°C to +85°C
Temperature coefficient	< 2.10 ⁻⁴ /°C
Relative humidity at 40°C	Up to 95% non condensing
Cooling	Natural convection
Insulation resistance	No insulation
Dielectric strength	1500 VAC between Input + output and ground
MTBF (according to "MIL HDBK.217F")	GM 40°C: 200 000 h
Coating	PCB coated with varnish
Protection index	IP 20





Applicable Norms

Item	Reference	Level	Compliance
Railway rolling stocks	EN 50 155		X
EMC	EN 50 121-3		X
Railway rolling stocks	NFF 67 001		X
Railway rolling stocks	NFF 01 510		X

Mechanical Characteristics

Product reference	All references
Box material	Metal
Potting	No
Dimension	238 x 130 x 70 mm
Weight	1,25 kg
Fixing	6 x Ø7 mm
Input connector	Screw terminal
Output connector	Screw terminal

Technical Drawing

NOTES

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

