



MPF 105 1D02

DC/DC CONVERTER



Description

Designed to supply doors security systems, this isolated-DC/DC converter adapts 24 V voltage into 28 V. This converter is compliant with railway standards.

Input Specifications

Product reference	MPF 105 1D02
Nominal input voltage	24 VDC
Input voltage range	16,8 to 30 VDC
Input transients voltage	14,4 VDC, 33,6 VDC during 100 ms
Reverse input voltage protection	Yes, by reverse diode
Inrush current limitation	< 10 In

Output Specifications

Product reference	MPF 105 1D02
Nominal output voltage	28.5 VDC
Output voltage ripple p-p (WB 0 to 30 MHz)	285 mV
Nominal output current	3.4 A
Crossed regulation (load + line)	1%
Nominal output power	96,9 W
Efficiency	> 85%
Long term stability during 8 hours (after 1/2 hour operating)	< 0.3%
Thermal protection	No
Switching frequency	> 25 kHz, fixed
Output current limitation	> 4.4 A
Overvoltage protection	Yes, by Transil
Permanent short circuit protection	Yes
Power Good	Dry contact closed
	Green LED on

Environmental Details

Product reference	MPF 105 1D02
Operating temperature range	-25°C to +70°C
Derating	Without derating
Storage temperature range	-40°C to +85°C
Temperature coefficient	< 2.10 ⁻⁴ /°C
Relative humidity at 45°C	95%
Cooling	Natural convection
Insulation resistance	> 100 MΩ (500 VDC)
Dielectric strength	500 VAC between primary / secondary + signal
	500 VAC between primary + secondary + signal / ground
MTBF (according to UTE C 80810)	> 620 000 h at 40°C
Coating	PCB coated with varnish
Protection index	IP 20



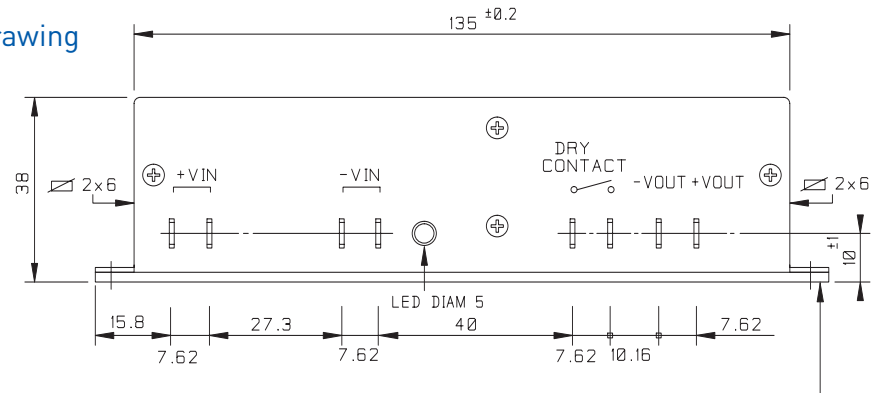
Applicable Norms

Item	Reference	Level	Compliance
Conducted + radiated emissions	EN 55011		X
Railway rolling stocks applications	EN 50155		X
Electrostatic discharges	EN 50121-3-2		X
Vibrations	EN 61373		X

Mechanical Characteristics

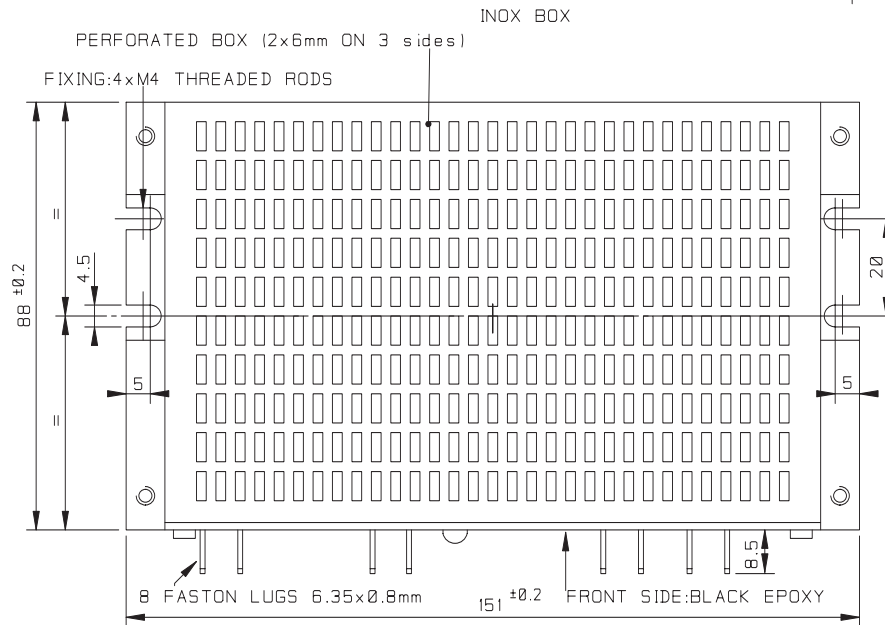
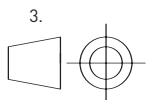
Product reference	MPF 105 1D02
Box material	PCB on aluminium plate (2 mm), inox box
Potting	No
Dimension	151 x 88 x 38 mm
Weight	410 g
Fixing	4 x M3 threaded rods
Input connector	4 Faston 6,35 x 0,8
Output connector	2 Faston 6,35 x 0,8
Power Good connector	2 Faston 6,35 x 0,8

Technical Drawing



NOTES

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



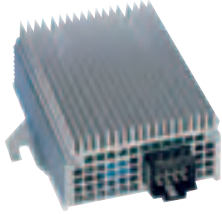
FIXING REQUIREMENT:
THE PLATE MUST BE FIX ON A METALLIC SURFACE.
USE OF THERMIC GREASE IS NOT NECESSARY.



24/12 SERIES

NON-ISOLATED DC/DC CONVERTERS

MPF 280 2D01



MPF 210 2D01



MPF 154 2D01



MPF 140 1D01



Description

Specially designed for truck, bus or off-road construction vehicles markets, this DC/DC converter allows customers to use 12 VDC electric equipments with a 24 VDC original installation. This series offers several output powers, depending on customer applications.

Input Specifications

Product reference	All references
Nominal input voltage	24 VDC
Input voltage range	16 to 34 VDC
Input transients voltage	36 V during 2 h 48 V during 2 min
Reverse input voltage protection	Yes (30 V continuous)

Output Specifications

Product reference	MPF 140 1D01	MPF 154 2D01	MPF 210 2D01	MPF 280 2D01
Nominal output voltage	14 VDC			
Output voltage ripple p-p (WB 0 to 30 MHz)	150 mV			
Maximal output current	10 A	11 A	15 A	20 A
Crossed regulation (load + line)	± 0.7 V	± 0.7 V	± 0.7 V	± 0.7 V
Nominal output power	140 Watt	154 Watt	210 Watt	280 Watt
Efficiency	> 92%			
Long term stability during 8 hours (after 1/2 hour operating)	< 0.3%			
Thermal protection	No			
Switching frequency	> 25 kHz, fixed			
Output current limitation	1,2 In			
Overvoltage protection	Yes, by fuse			
Permanent short circuit protection	Yes			

NB: When the supply voltage is 8V the converter must deliver at least 1A under 5V

Environmental Details

Product reference	All references
Operating temperature range	-40 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	93%
Cooling	Natural convection
Insulation resistance	No
Dielectric strength	No
MTBF (according to "MIL HDBK.217F")	GM 40°C: > 90 000 h
Coating	PCB coated with varnish
Protection index	IP 20

