15W POWERTRON® MBR SERIES

DC/DC CONVERTER FOR RAILWAY APPLICATIONS

> Description

The MBR series consists of low power encapsulated converters which incorporate full surge and transient protection to RIA12 and EN50155. They are available in single, dual, and triple output versions, with nominal inputs from 24V up to 110V. Normally supplied with pins for PCB mounting, they are also available with flying leads for bulkhead mounting.

Special features include:

- Fully protected to rail norms
- Rugged encapsulated construction
- Up to three outputs
- Wide input range

> Input Specifications

The following input voltages versions are available as standard:

110V	(66.0 -137.5V)	dc	(Suffix A)
72V	(43.2 - 90.0V)	dc	(Suffix D)
52V	(31.2 - 65.0V)	dc	(Suffix C)
36V	(21.0 - 50.4V)	dc	(Suffix F)
24V	(16.8 - 33.6V)	dc	(Suffix B)

Other ranges are available to order

Parameter	Detail
Input Ripple	To RIA 13 and EN50155
Input Protection	Reverse polarity protection. Surges and transients to RIA 12 & EN50155
Inrush Current	Limited to typically 5 x nominal current *(after 0.1ms)*
Efficiency	75% typical
Hold up time	10ms to EN50155 Class S2

> Output Specifications

Parameter	Detail
Maximum Output Power	Up to 15W
Output Versions	Single, Dual and Triple
Output Voltage	Can be specified from 5V to 48V
Setting Tolerance	±1.0% at 50% load, 15°C to 25°C
Minimum Load	Typically zero for all outputs, although in some cases a minimum load of up to 5% on U1 for full performance.
Line Regulation	±0.2%
Load Regulation	±0.5%
Temperature Coefficient	<0.02% / °C
Output Ripple	<1% Pk-Pk of Output Voltage
Output Noise	<50mV Pk-Pk superimposed (up to 20MHz)
Response Time	1.0ms to within 2% (for a 20% - 90% load change)
Output Protection	All output protected against indirect transients to RIA 12
Current limit	Operates at approximately 120% of full power. Auto recovery.
Isolation (tested at dc equivalent voltage)	Input to Output 1.0kV ac Output to Output 500V ac

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> Environmental Details

Parameter	Detail
Operating Temperature	-25°C to +65°C (no derating)
Storage Temperature	-40°C to +85°C
Cooling	Convection
Relative Humidity	99% max.
Shock & Vibration	EN 50155 (EN 61373), RIA 20
Environmental Protection	IP65

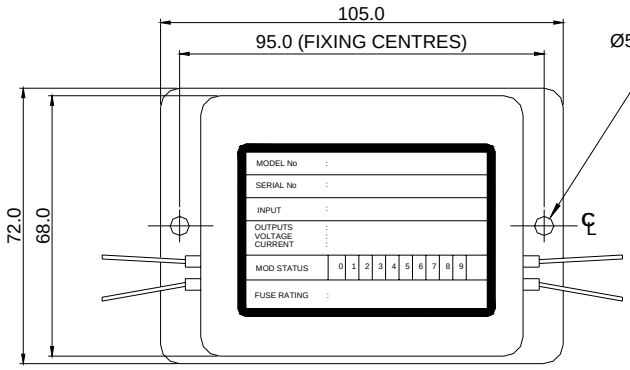
> Applicable Norms

Parameter	Detail
EMC	RIA 12, 18; EN50155 (2007), EN50121-3-2 (2006)
Other	RIA 13, 18, 20; EN50155 (2007)

> Mechanical Characteristics

Option	Detail	Code
Connections	Input / output cables 350mm	Q7
Connections	Input / output cables 500mm	Q8
Connections	Input cables 1000mm Output cables 300mm	Q12
Din rail mounting plate	Drawing 900-931	D

Parameter	Detail
Construction	Encapsulated Module
Dimensions	Length = 84 mm (mounting flange increases length to 105 mm) Width = 72 mm Height = 32 mm
Weight	300g
Connections	Solder pins for PCB mounting as standard Option for input / output cables (halogen free cable)
Fixings	Two ø 5mm clear holes mounting flange



Notes:

All dimensions in mm.

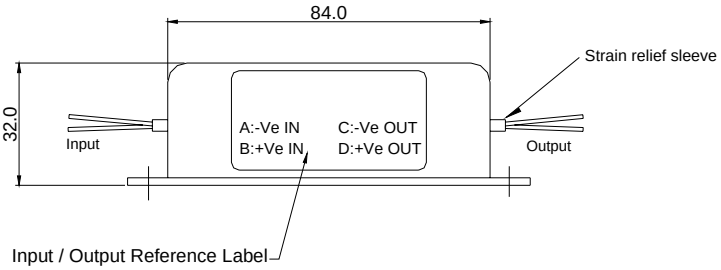
Case: Moulded in flame retardant ABS to UL94 V-0.

All leadouts are 0.6mm² (19/0.2mm) halogen free cable (Powertron p/n 361072)

Length from outside of the potted box is 350mm ±10mm unterminated.

Cable marker code (as per label)

A: -Ve IN
B: +Ve IN
C: -Ve OUT
D: +Ve OUT



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