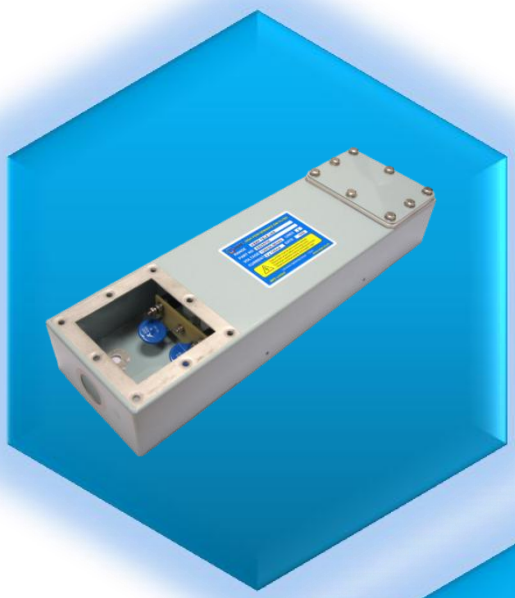
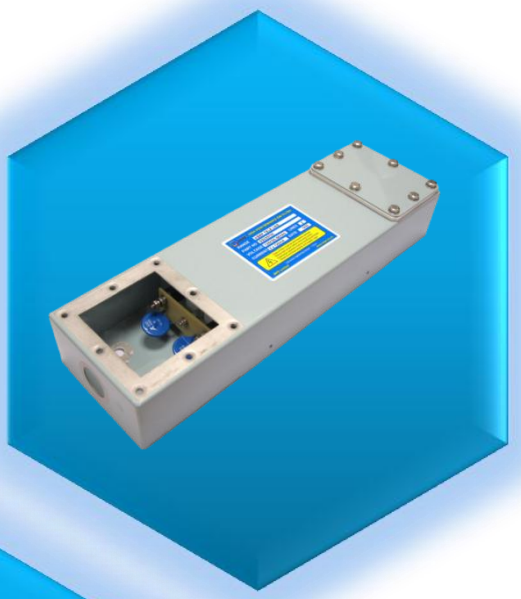
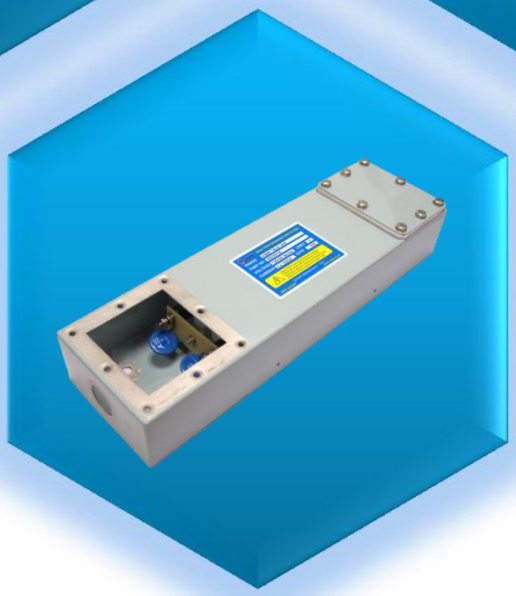
HEMP & IEMI PROTECTION FILTERS FOR PUBLIC ADDRESS LINES







ISO 9001 Quality Management
FM00699

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HEMP PA Filters issue 1 July 2015

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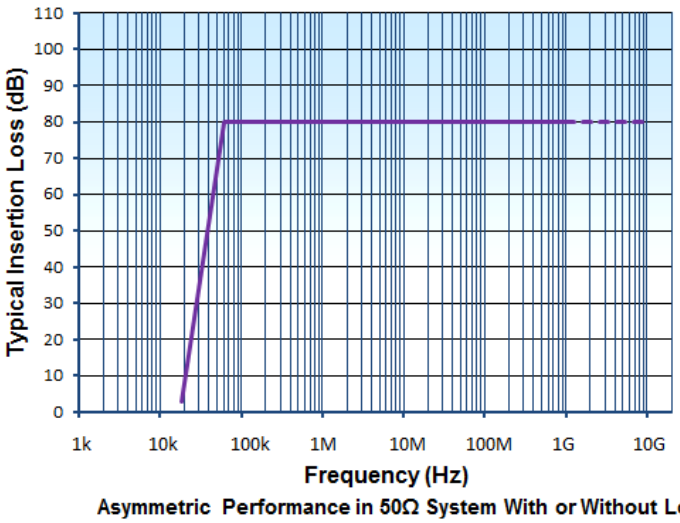
HEMP PUBLIC ADDRESS FILTERS

HEMP Protection Filters For Public Address Lines



Asymmetric Performance in 50Ω System With or Without Load

Description

A HEMP protection filter for public address systems for use on HEMP protected installations. All lines are individually filtered and feature inductive input to offer both good continuous wave EMC performance and superior transient handling performance. All lines feature high-energy varistor transient suppressors at the input end.

Features

- Typical use is 100V line pa systems
- Wide passband for high quality audio
- RoHS compliant

Ratings and Characteristics

Rated Voltage	100VAC
Test Voltage	1250Vdc each line to case (Prior to fitting transient suppressors)
Rated Current	500mA
Insulation Resistance	>500MΩ (Prior to fitting transient suppressors)
DC Resistance	5Ω max
Full Load Operating Temperature Range	-40ºC to +50ºC
Varistor rating	115VAC
Peak Surge Current	6.5kA (8/20μs)
Insertion Loss in 50Ω system	See graph
Pass Band (300Ω)	0 – 18kHz

Transient Suppression Performance

MIL STD 188-125-1 acceptance test, E1 short pulse current injection, wave shape 20/500ns					
Input pulse amplitude	250A	500A	1000A	1800A	2500A
MIL-STD-188-125 residual requirement for audio lines (intersite)	<0.1A	<0.1A	<0.1A	<0.1A	<0.1A
MIL-STD-188-125 residual requirement for control /signal lines >90V (intrasite)	<1A	<1A	<1A	<1A	<1A
Typical filter residual let-through (computer predicted and not guaranteed)	<0.25A	<0.3A	<0.3A	<0.3A	<0.3A

Note: Mil-Std-188-125-1 only gives a single category for audio and data lines in general and classifies them all as intersite (long lines which also require an E2 requirement). PA lines will naturally be very local and have a 100V line so should be more appropriately classified as high voltage (>90V) signal lines with a 1A residual requirement and no E2 requirement.

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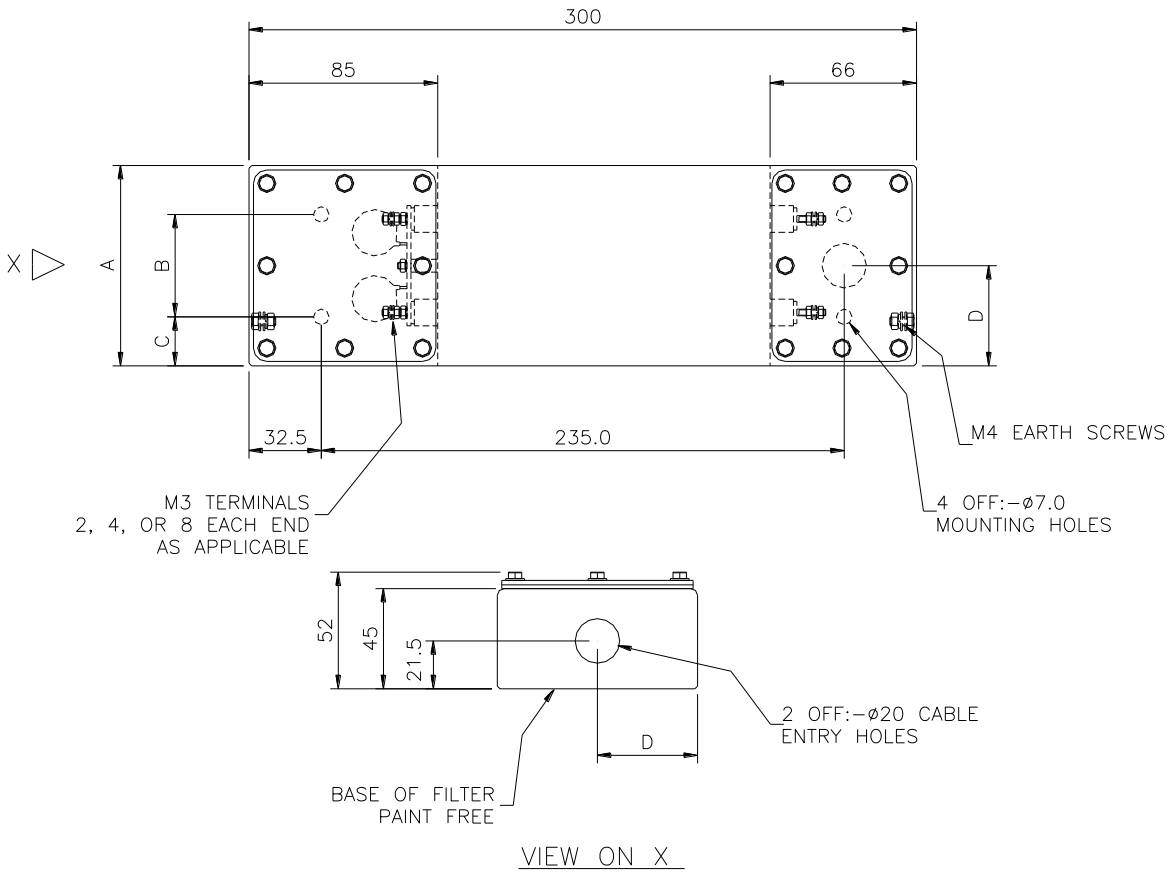
Product Range

Part Number	Number of Lines *	Major Dimensions (mm)			Weight Approx (kg)
		Length	Width	Depth	
DS33813	2	300	90	45	2

Dimensions and Mechanical Details



No of Lines	Dimensions (mm)			
	A	B	C	D
2	90	46	22	45

Case material	Electroplated steel
Finish	Paint (except base)
Terminals	M3 screw terminals
Cable entry options	See below
Fixing kit	Penetration tube plus fixing screws - Optional extra – please ask

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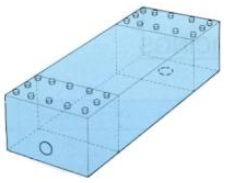
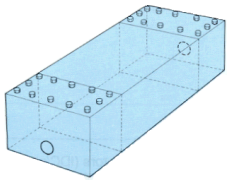
INSTALLATION, BACKGROUND AND SAFETY

Cable Entry Options



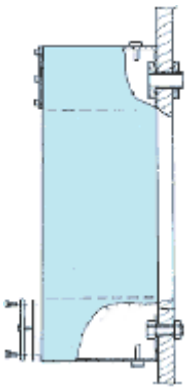
Part No DS XXXXX / C
End entry base exit
(standard cable entry configuration)



Part No DS XXXXX / A
End entry end exit
(alternative cable entry)

Two different cable entry options are available as shown.
Standard configuration is suffix C for shielded room mounting, i.e. end entry, base exit.
For end entry and end exit, substitute suffix C with suffix A in the part number.

Installation Details



Typical Installation

The mounting surface should be clean and unpainted to ensure a low impedance earth bond and good RF seal.
Fixing screws and gland tubes can be supplied as an optional extra.

Recommended tightening torque figures:
M5 lid fixings: 1N-m

Safety

Relevant safety standards have been adhered to in the design and manufacture of these products. However, all capacitors will store charge after power has been removed and must be treated with respect as a shock can be lethal if the voltage and charge are high enough.
No discharge resistors are fitted to this range of filters, so terminals should always be shorted to earth prior to touching to ensure the capacitors are fully discharged.
The user should ensure he is familiar with restrictions on capacitance value, earth leakage current, test voltage, and safety labelling requirements, which may be applicable to his particular installation.
These filters must be solidly and permanently earthed, both for safe operation and to achieve optimum EMC and pulse performance.

Custom Designs

MPE offers a rapid design service for custom designs where special packaging, mounting, terminations, or multiple lines are required. Over 50% of the filters manufactured by MPE are custom designs and this can offer a very cost effective installation solution. Please ask to see examples of previously offered solutions.

Filter Selection Guide

Step 1 Select part number and cable entry suffix

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