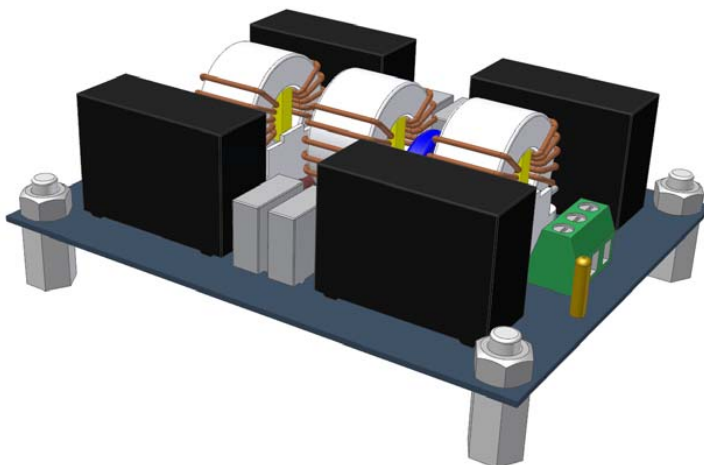


## EMI Audio filter



### Description:

FA filters are passive elements intended for suppression of unwanted electrical signals. Their basic feature is insertion loss which is the ability to minimize the level of interference of electrical signals in a specific frequency band. They have a feature of reciprocity, they minimize the conductive disturbances coming from the mains to a given device and coming from the device towards the mains.

Interference suppression is a very complex issue. The growing number of electrical devices using non-linear and semiconductor elements causes an increase in interferences in the power grid. One of the basic difficulties in suppressing interferences is their random nature of the amplitude and frequency spectrum and the frequency of their occurrence. The effectiveness of suppression of interferences conducted by a given filter depends, inter alia, on the type of these interferences and the operating parameters of the device installed behind the filter - the filter load.

FA-... filters are designed based on the specified inductive and capacitive elements combined in a multi-stage system. Filters suppress symmetrical and asymmetrical interferences. In addition to suppression of interferences, they protect the device against typical overvoltages occurring in the low voltage power network.

### Application:

FA filters - ... are optimized and dedicated to professional audiophile devices powered from 230V ~ mains, which are very sensitive to electrical interference and their effective suppression is one of the basic issues of audio technology. They are characterized by higher attenuation than typical single-stage anti-interference filters used, for example, in household appliances and home electronics.

## EMI Audio filter

A three-stage filter with three chokes with nanocrystalline cores. The use of nanocrystalline cores allowed for the minimization of the weight and dimensions of the inductors and a significant reduction in their series resistance in relation to inductors of similar parameters with ferrite cores. Reducing the series resistance of the chokes reduces the active power losses emitted in the filter, which has a positive effect on its durability and energy savings. A further reduction in parasitic resistances and an increase in resistance to current flow was achieved by using a laminate with increased copper thickness. The improvement of the parameters of solder joints was achieved thanks to the use of tin with silver content.

The filter is only intended for use inside any enclosure . Protection degree IP 00. The filter meets the requirements of PN-EN 60939-2, PN-EN 60335-1. The distribution of RLC elements on the PCB allowed to obtain optimal attenuation characteristics. Two versions of the filter are available with different attenuation characteristics:

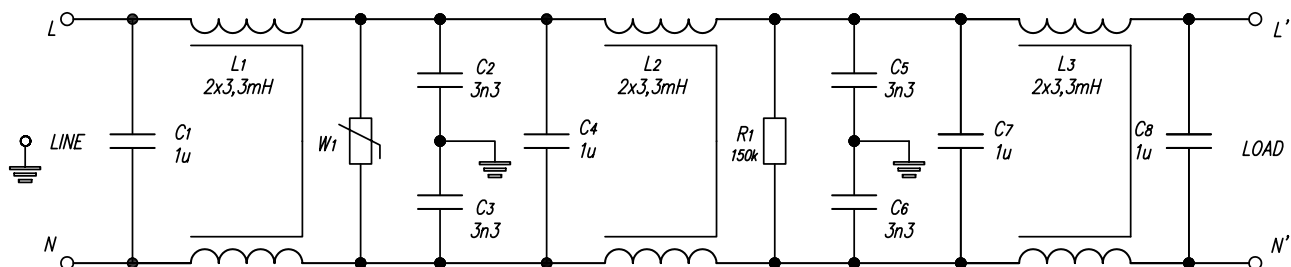
- FA-007A - filter with increased attenuation for asymmetric interference
- FA-007S - filter with increased attenuation for symmetrical interference.

### Technical data

Code	FA-007A	FA-007S
Rated voltage Un	250 V~	250 V~
Rated frequency fn	50-60Hz	50-60Hz
Rated current Irms @ 40°C max	6A	6A
Choke inductance L1, L2, L3 @10kHz 1V	2x3,3mH ±35%	2x3,3mH ±35%
Rated capacitance @1kHz 1V	cl. X2 4x1,0uF ±5% cl. Y2 - 4x3n3 ±20%	cl. X2 4x1,0uF ±5% cl. Y2 - 4x3n3 ±20%
Discharge resistor	150kΩ ±5%	150kΩ ±5%
Resistance R N-N'	≤ 30mΩ	≤ 30mΩ
Resistance R L-L'	≤ 30mΩ	≤ 30mΩ
Climatic category	25/85/21C	25/85/21C
Expected life time	150 000 h	150 000 h
Weight	~155g	~155g
100% Voltage Test in production	kl.X2 - 1625Vdc -2s kl.Y2 - 2800Vdc - 2s	kl.X2 - 1625Vdc -2s kl.Y2 - 2800Vdc - 2s

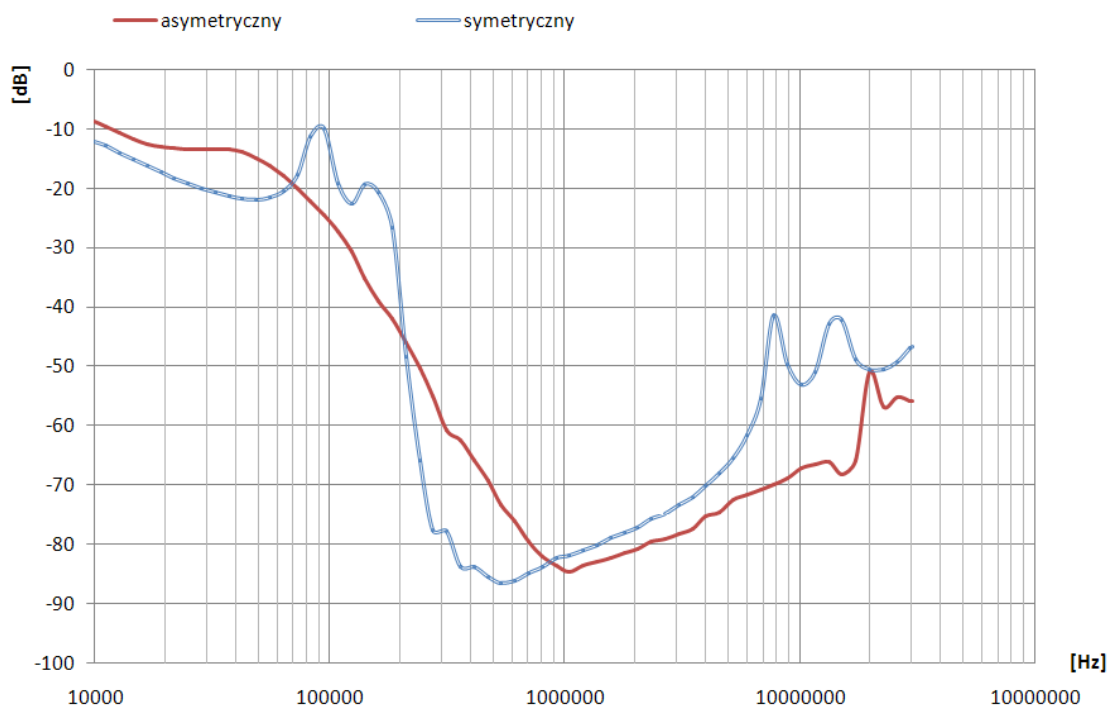
This product fulfils the requirements of the RoHS Directive (2011/65/EC).

## EMI Audio filter

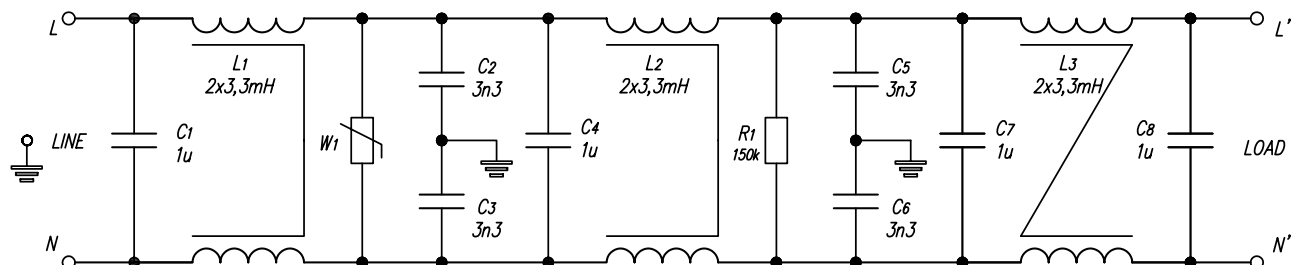


Typical filter attenuation

Per CISPR 17 / asymmetrical 50  $\Omega$ /50  $\Omega$  and symmetrical 50  $\Omega$ /50  $\Omega$

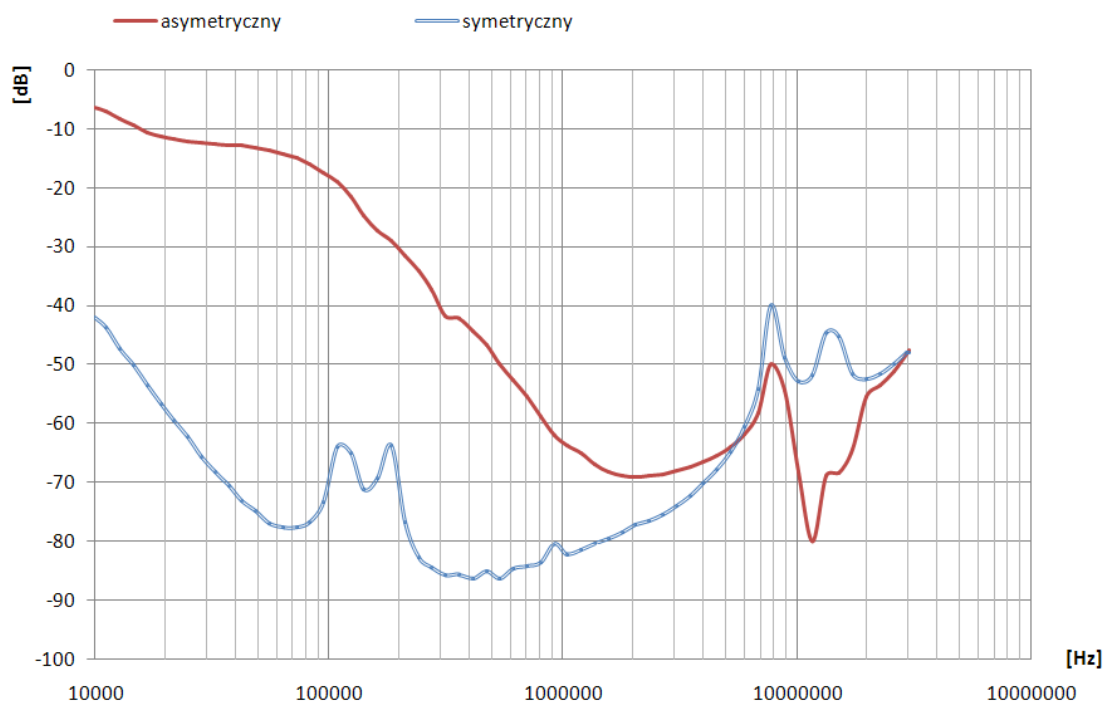


## EMI Audio filter

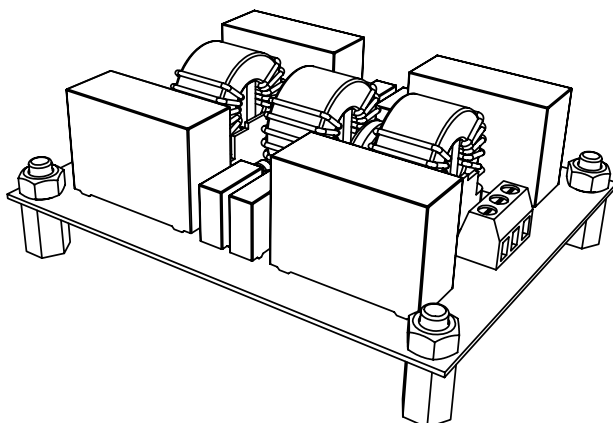


Typical filter attenuation

Per CISPR 17 / asymmetrical 50  $\Omega$ /50  $\Omega$  and symmetrical 50  $\Omega$ /50  $\Omega$



## EMI Audio filter



Basic dimensions

