

Construction

All the filters in this catalogue are hermetically sealed screw-in panel mount filters with bright tin plated steel bodies and bright tin plated copper alloy conductors. In all cases the capacitive element is a low ESR high performance discoidal ceramic multilayer device.

All parts are hermetically sealed to provide environmental protection to the internal elements with zero outgassing. The filters are 100% tested for sealing performance during manufacture.

Filters with case style SLS and fitted with inductors (L-C, Pi or T configuration) are fitted with wound coil or iron powder core inductors dependant on current flow. These inductors offer maximum performance with minimal degradation of insertion loss due to through currents. All other filters incorporating inductors are fitted with conventional ferrite beads and are primarily intended for signal lines. They will carry current to the maximum rated value, but will provide reduced performance at maximum rated current.

Plating Finish

All these filters are plated with bright tin after assembly. The internal surfaces are copper plated to prevent whisker growth inside the filter assembly.

Alternative plating finishes (eg nickel / silver / gold) are available - please contact the factory to discuss your requirements.

Voltage Rating

The quoted voltage rating is the maximum dc voltage up to 125°C. Voltage spikes can have a significant effect on the reliability of the filter, and must be taken into account if anticipated. If in doubt, please contact the factory.

As a general guide, dc rated ceramic filters are suitable for ac operation subject to a voltage derating ratio of 4:1 - ie a 400Vdc rated filters is suitable for operation at 100Vac. However, heating effect and power dissipation (frequency and capacitance dependant) must also be taken into account - please contact the factory to discuss any specific application.

Current Rating

All current ratings quoted are maximum continuous operating currents for temperatures up to 105°C. Between 105°C and 125°C the current rating must be de-rated linearly from 100% quoted maximum to 60% quoted maximum.

Allowance must be made for any anticipated surge currents.

Filter Circuits

C, L-C, C-L and Pi filter configurations are available as standard. T filter and multi-element (eg L-C-L-C-L) configurations are available upon request. Please contact the factory for more information.

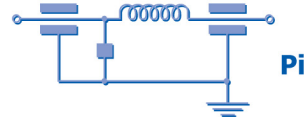
Resistor

Certain filters are also available with a 4.7MΩ shunt resistor fitted in parallel to the capacitive element to prevent static charge and to ensure safe discharge of the capacitor. Please contact the factory to discuss your requirements.

Typical circuit configurations



Shunt resistor (4.7MΩ) is optional



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Dielectric Material

All filters in this catalogue utilise stable X7R dielectric to achieve the optimum balance of stability and high capacitance. Low capacitance ultra stable COG parts are also available.

Also available are variants incorporating MOV dielectric materials to provide the dual role of filtering and bi-directional clamping. This material is available in all variants, but is especially suited to Pi filter configuration, where it can be combined with a conventional high capacitance ceramic disc to provide improved filtering performance. As a general guideline, Syfer can supply varistor filters to a maximum clamping voltage of 100V.

Custom Specials

In line with our existing business, Syfer welcomes enquiries for custom design filters. We are happy to consider modifications both electrical and mechanical. Please contact the factory with your specific requirement.

Safety

Care should be taken not to exceed the maximum rated voltage and current for the filter.

All the filters in this catalogue are designed to operate at high currents / high voltages and may be fitted with high capacitances resulting in a potential electric shock hazard. Electrical energy may be stored for some time after switch off – do not handle filters without first discharging and / or checking that the stored voltage is at a low level.

