

Ultra high performance filters for the highest shielding demands



Ultra high performance filters for the highest shielding demands 8010

For anechoic chamber, shielded room, cabinet and shelter, where the effective suppression of radiated and conducted emission is required.

Insertion loss: 100 dB @ 14 kHz - 40 GHz (MIL-STD-220C)

The Ultra high performance filter is a superior filter housed in a three compartment casing with bolted covers and accessible terminals that achieves 100 dB insertion transmission loss at 14 kHz and above.

This series is offered as a two line filter (single phase and neutral) or as a four line filter (three phases and neutral). The two line filter can withstand up to 230 Volt, 1-150 amp and 46 kW. If you are looking for a filter that can withstand more power we have the four line filter, this filter delivers up to 400 Volt, 1-150 amp and 138 kW. The neutral line is always attenuated and all conductors are decoupled from each other. This allows the conductors to operate independently without attenuation loss.

The filter is made to withstand the harshest environment, and is very economical. Because of the custom design for your own filter, the assembly is very simple and always with very low leakage. This filter is also a stock item and therefore always available quickly.

The circuit is designed as a symmetrical double- circuit with high quality rod cores providing inductance. These cores do not saturate due to their large air gap and they are insensitive to asymmetrical load.

Foil capacitors ensure a long operating life by their self healing feature even after voltage transients. A seamless fixing of the filter casing to the shielded room is very important to ensure correct operation. The filter is housed in a casing that has a base flange which provides stable mounting and excellent earthing when bolted to the shielded room via the mounting bolts.

Please note: EMP protection is available on request.

Technical data

Ultra high performance filters for the highest shielding demands

Rated voltage V_R for two-line filters	250 VAC / 500 VDC	line-line or line-case
Rated voltage V_R for four-line filters	up to 440 VAC up to 250 VAC	line-line line-case
Rated Frequency f_R	DC - 60 Hz	
Rated Current I_R	See characteristics	referred to +40 °C ambient temperature
Number of lines	2 or 4	
Insertion Loss, Per MIL-STD-220C	>100 dB	14 kHz - 40 GHz
DC Resistance	See characteristics	Each Line
Power Dissipation	See characteristics	At Rated Current
Test Voltage	1200 VDC / 2 s	Line-line or line-case
Voltage Drop /Phase ΔV	<1%	of V_R at 50 Hz and I_R
Leakage Current $I_{Leakage}$	See characteristics	at 380 V / 220 V and 50 Hz
Reactive Current $I_{Reactive}$	See characteristics	at 380 V / 220 V and 50 Hz
Discharge Time to Below 34V	30 s	
Climatic category	25/070/21	

Advantages

- For harsh environment
- Very economical use
- High performance
- Low leakage
- Easy mounting
- Stock item
- Custom design

Applications

- EMC test laboratories
- Anechoic chambers
- Tempest rooms
- facilities

Ultra high performance filters for the highest shielding demands

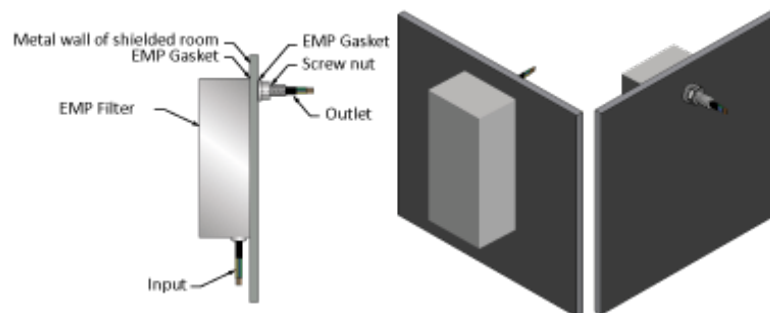
Rated current available from 6 amp to 3000 amp in both single and three phase versions. Filters are ideally suited for applications where the very highest performance is demanded.

Mounting

These protections are designed for mounting on the penetration panel or directly on the non-painted wall of the Faraday cage. Mounting terminals dependent on the amount of power. Please see Connection in the Product range table.

Installation diagram

The technical drawing below shows how a power line filter is mounted on the wall a your Faraday cage.

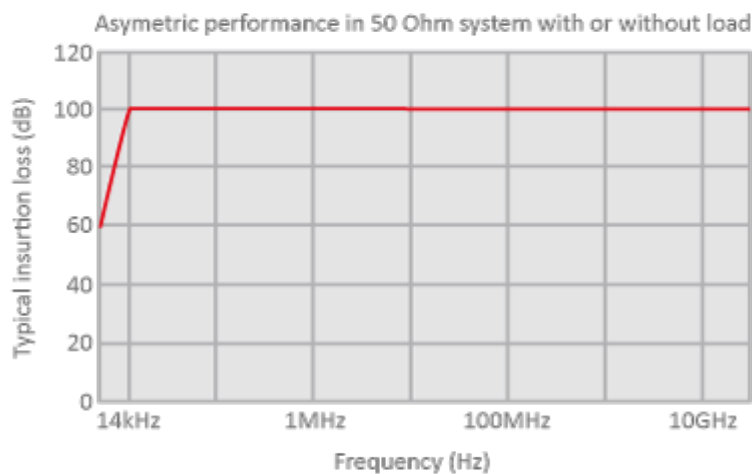


General characteristics

For a clean main supply into a shielded room, high performance filters are indispensable. Usually, these filters are directly mounted on the shielding wall. It is recommended to route filtered lines into the shielded room (Faraday cage) through the wall with an optional flexible metal conduit.

- Mains filter for single and three phase systems
- Insertion transmission loss 100 dB @ 14 kHz
- Double - π circuit
- Rod cores allow asymmetrical load
- Self-healing effect of foil capacitors

Shielding performance



Ultra high performance filters for the highest shielding demands

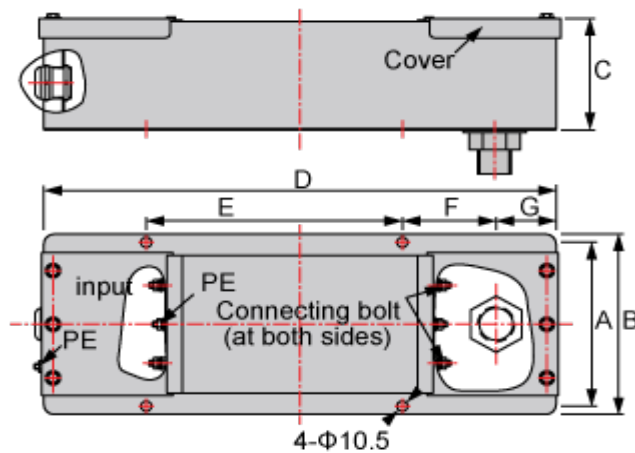


Diagram 1

Type	A	B	C	D	E	F	G	installation instructions	Dimensional diagram	I_n (A)	$I_{Leakage}$ (A)*	$I_{Reactive}$ (A)	DC Resistance (Ω)	Power dissipation (W)	Connection
8010-2-16	188	205	120	750	450	110	80	M24 conduit screw	1	16	3.5	3.5	70	40	M6 Screw
8010-2-32	188	205	120	750	450	110	80	M24 conduit screw	1	32	5	5	20	40	M6 Screw
8010-2-63	188	205	140	920	620	110	80	M33 conduit screw	1	63	5	5	15	90	M6 Screw
8010-2-100	288	305	180	1180	800	110	80	M60 conduit screw	1	100	9	9	5	120	M12 Screw
8010-2-150	288	305	180	1180	800	110	80	M60 conduit screw	1	150	9	9	3	140	M12 Screw

Three phases and neutral filter types: 400 Volt | 1-150 amp | 103 kVA

Ultra high performance filters for the highest shielding demands

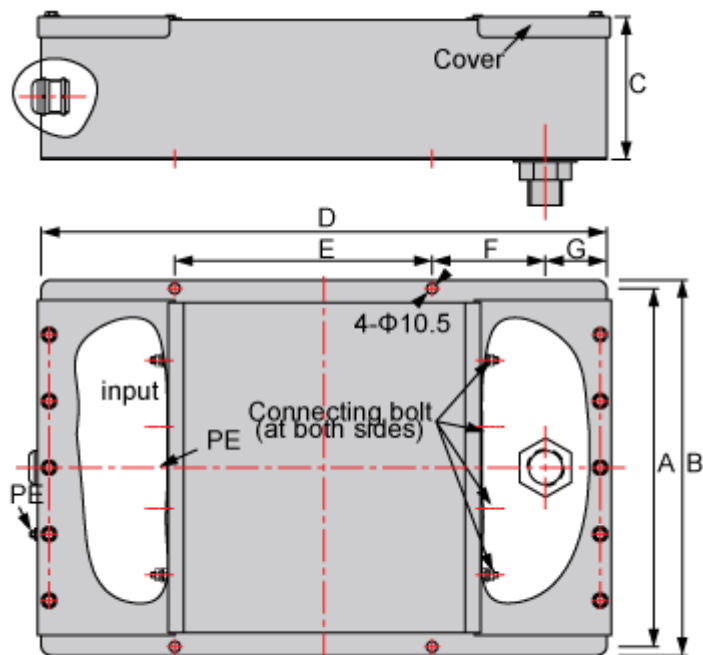


Diagram 2

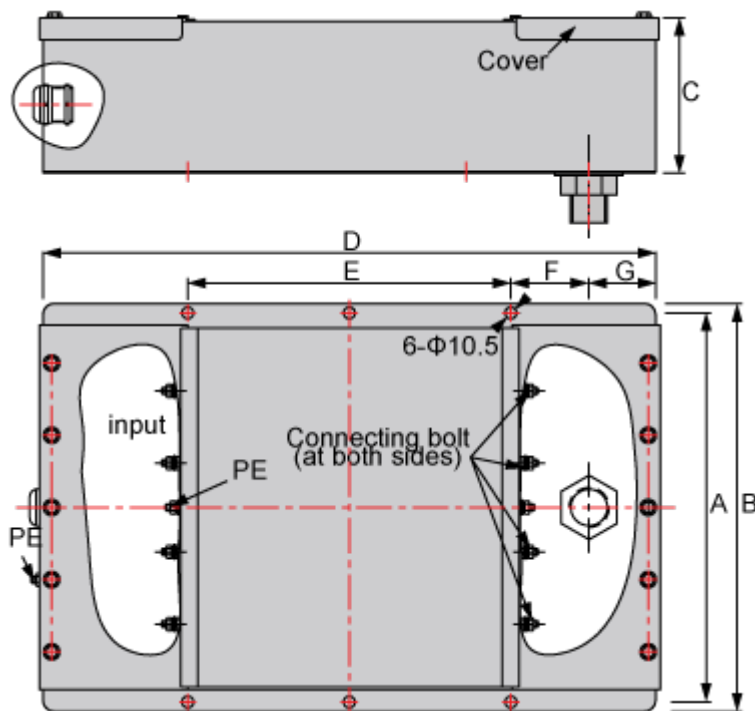


Diagram 3

Ultra high performance filters for the highest shielding demands

Type	A	B	C	D	E	F	G	Installation instructions	Dimensional diagram	I _L (A)	I _{Leakage} (A)*	I _{Reactive} (A)	DC Resistance (Ω)	Power dissipation (W)	Connection
8010-4-16	288	305	120	750	450	110	80	M24 conduit screw	2	16	0.7	3.5	70	70	M6 Screw
8010-4-32	288	305	120	750	450	110	80	M24 conduit screw	2	32	0.9	5	20	80	M6 Screw
8010-4-63	348	365	140	920	620	110	80	M33 conduit screw	2	63	0.9	5	15	170	M6 Screw
8010-4-100	348	365	180	1480	1000	160	80	M60 conduit screw	3	100	1.7	9	5	220	M12 Screw
8010-4-150	348	365	180	1480	1000	160	80	M60 conduit screw	3	150	1.7	9	3	270	M12 Screw

* If voltage between neutral and earth is 0V

Series	Number of lines	Rated current (A)
8010	Select an option:	Select an option:
	2 : 2 lines	16 : 16 ampere
	4 : 4 lines	32 : 32 ampere
		63 : 63 ampere
		100 : 100 ampere
		150 : 150 ampere

Note: The red blocks are required