

Standard HEMP/HPM Power Line Filter



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1. Product Description

HEMP filters protect electronic devices from High-Altitude Electromagnetic Pulses (HEMP). With transient pulse suppression circuits, they filter regular interference and weaken EMP signals, preventing damage or failure and ensuring device stability and reliability during high-energy events.

HPM High Power Microwave Power Filter is specifically designed for protection against high-power microwaves. It features transient pulse suppression capabilities, effectively filtering electromagnetic interference, resisting HPM and EMP threats. The product complies with international standards and has been certified by key national testing institutions.

2. Typical Applications

- Provide protection for public service facilities, financial centers, data centers, and similar applications by ensuring a clean electromagnetic environment and effectively suppressing radiation interference.
- Shielding Room: Applied in shielding rooms to enhance electromagnetic shielding performance and protect internal devices from external interference.
- Electronic Shelter: Suitable for electronic shelters, improving resistance to electromagnetic interference and ensuring stable operation of critical equipment.
- Shielded Cabinet: Used for electromagnetic interference protection in cabinets, ensuring the reliability and safety of equipment operation.

3. Product Features

- **Electromagnetic Pulse Protection:** Integrates anti-EMP modules and optimized circuit design to effectively protect against lightning-induced electromagnetic pulses and EMP, complying with MIL-STD-188-125-1 (1998) and MIL-STD-188-125-2 (1999).
- **High-Strength Metal Enclosure:** Made from specialized stainless steel, offering excellent mechanical strength and corrosion resistance for harsh environments.
- **Innovative Wiring Structure:** Unique design allows wiring within an open shielding cavity, providing convenience and enhanced safety.

4. Technical Data

Rated Voltage	250VAC 250/440VAC	Single-phase Three-phase
Rated Frequency	50/60Hz	
Number of lines	2 or 4	
Max Leakage Current	1A	
Peak Surge Current	40kA (8/20 μ s)	
Power Dissipation	Refer to product selection table	At Rated Current
Test Voltage	2250Vdc, 2s	Line/Ground
Voltage Drop/line	<1%	Rated Voltage 250/440V@50/60Hz
Discharge Time to Blow 34V	<30s	
Climatic Category (EN 60068-1)	-40°C~+85°C	


5. Insertion Loss Performance

Minimum Insertion Loss in 50 Ω System with/without Load (Meets shielding effectiveness requirements per MIL-STD-188-125)						
Frequency	10kHz	100kHz	1MHz	10MHz	100MHz	1GHz
Insertion loss	20dB	40dB	60dB	80dB	80dB	80dB

6. Transient Suppression Performance

MIL-STD-188-125-1 Acceptance Test Short Pulse Current Injection, Waveform: 20/500 ns					
Input pulse amplitude	250A	500A	1000A	1800A	2500A
MIL-STD-188-125 residual requirement	<10A	<10A	<10A	<10A	<10A
Typical filter residual let-through	<1.5A	<2A	<3A	<3.5A	<4.5A

7. Product Selection Table

Type	Rated Current (A)	Rated Voltage (VAC)	Line	Power Dissipation (W)	Terminal	Dimension
GPF252A-16/EMP	16	250	2	<15		Fig 1
GPF252A-32/EMP	32	250	2	<15		
GPF252A-50/EMP	50	250	2	<25		
GPF252A-63/EMP	63	250	2	<25		
GPF452A-16/EMP	16	250/440	4	<30		Fig 2
GPF452A-32/EMP	32	250/440	4	<30		
GPF452A-50/EMP	50	250/440	4	<35		
GPF452A-63/EMP	63	250/440	4	<35		
GPF452A-100/EMP	100	250/440	4	<45		Fig 3
GPF452A-150/EMP	150	250/440	4	<55		Fig 4
GPF452A-200/EMP	200	250/440	4	<55		

8. Outline Drawing

Fig 1

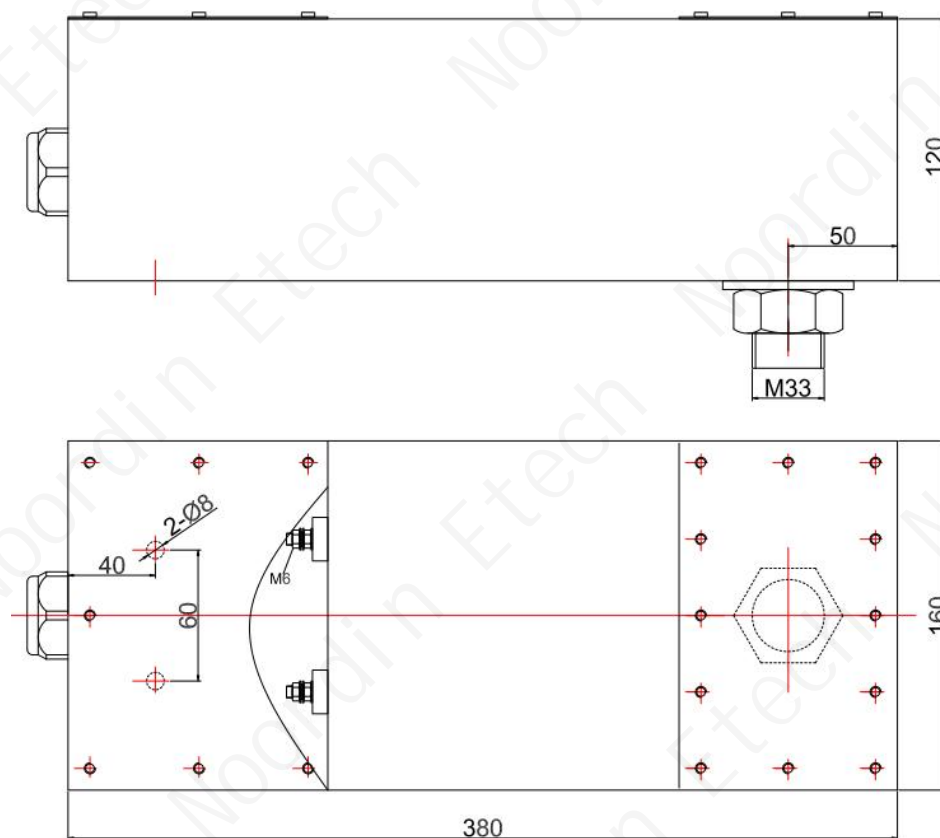


Fig 2

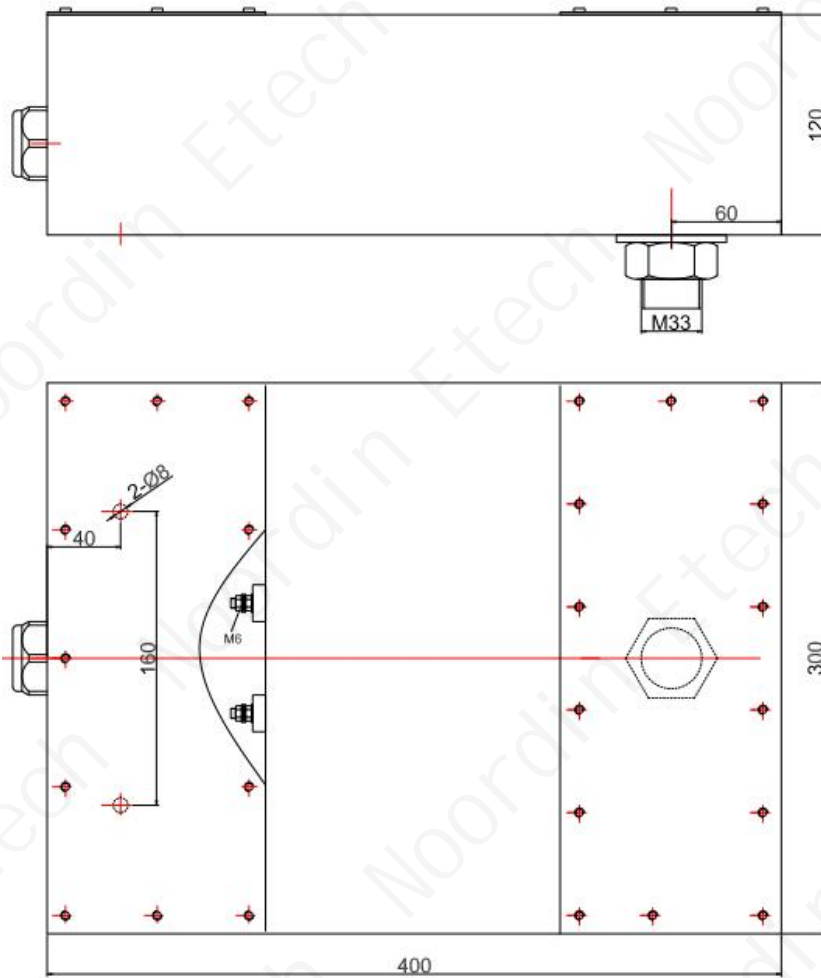


Fig 3

