CHANGZHOU PIONEER ELECTRONIC CO.,LTD.

Tel: +86 519 88293619
Fax:+86 519 86955963
www.cnemifilter.com
Email: sales@cnemifilter.com

Q-FLEX

Avantintie 7, FI-21420 Lieto
+358 2 4894 500
info@q-flex.fi | q-flex.fi

EMC SOLUTION

CHANGZHOU PIONEER ELECTRONIC CO.,LTD.

SHIELDED ROOM FILTER

EMC SOLUTION

CREDIBLE

PROFESSIONAL

EFFICIENT

Company Introduction

PIONEER EMC LTD is a professional manufacturer of high-end technology supporting products such as defense industry, aerospace, medical equipment, and information security. It is a comprehensive high-tech enterprise integrating R&D, design, production, sales and service.

EMCPIONEER has a R&D team with more than 20 years, specializing in the development and production of EMI/EMC filters, and the supporting and service of products in the field of electromagnetic compatibility. We can provide single-phase, three-phase, DC power filters and shield room filters in various specifications from 0.2A to 2000A within 2~3 weeks. We can design and manufacture filters for customers with special requirements to help your equipment effectively suppress electromagnetic interference transmitted along the line and meet the requirements of electromagnetic compatibility (EMC) specifications. We can also provide technical consultation, product design, testing, EDA simulation, EMC rectification and other one-stop services for military and civilian customers. All products have CE certification and RoHS compliance, some has UL certification. Our products also meet the standards of IEC60939, EN60939, UL1283, CSA C22.2 No8, GB/T 15287, GB/T 15288, GJB 1518A and other standards, which are suitable for each country/region.

Our company is committed to building the core competitiveness of brands, products and technical services, and providing customers with high-quality products and excellent services.

Credit establishes basis, Profession creates brand, Efficiency wins market!

EMI Filters

Our company's EMI filter can meet IEC60939, EN60939, UL1283, CSA C22.2 No8, GB/T 15287, GB/T 15288, GJB 1518A and other standards according to customer requirements.The filter involved in this manual is composed of passive components (inductor L, capacitor C, resistor R), and adopts optimally designed common mode (CM) and differential mode (DM) filter impedance networks. The greater the mismatch between the filter impedance and the source impedance and load impedance, the stronger the reflection and suppression ability of the interference signal, and the higher the attenuation characteristic.

Customized acceptable.

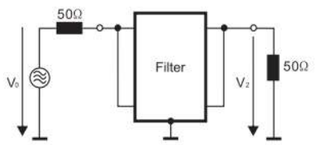
(The data provided in this catalog is for reference only, subject to final product and change without notice)

Insertion loss

Insertion loss (IL) is the ratio of the power delivered by the power supply to the load before and after the filter is inserted into the circuit. It can also be expressed by the ratio of the port voltages V0 and V2 before and after the filter is inserted. If the source impedance and load impedance are 50Ω, it can be calculated as follows:

$$IL=20 \log_{10} \frac{V_0}{2V_2} (dB)$$

Insertion loss a_e (typical values at Z=50Ω)
Measurement circuit

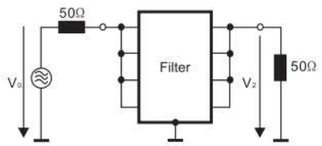


$a_e = 20 \lg \frac{V_0}{2V_2} (dB)$

Asymmetrical measurement circuit to MIL-STD-220A

Single Phase Insertion Loss Test Chart

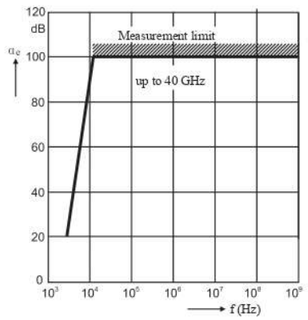
Insertion loss a_e (typical values at Z=50Ω)
Measurement circuit



$a_e = 20 \lg \frac{V_0}{2V_2} (dB)$

Asymmetrical measurement circuit to MIL-STD-220A

Three Phase Insertion Loss Test Chart



Working current

Under different ambient temperatures, the working current Iop should be adjusted to some extent. For products whose supper limit category temperature is 85°C and rated current I_N@40°C, the following formula can be used (θ is the actual working ambient temperature):

$$I_{OP} = I_N \sqrt{\frac{85 - \theta}{45}}$$

EMI Filters

Leakage current

The leakage current Ig of the filter refers to the current flowing between the terminals (phase and neutral) and the case or ground terminal after the AC working voltage is applied to the power filter. This current is caused by the capacitive current generated by the filter's ground capacitance. Its size is related to the applied voltage, frequency and the capacity of the filter grounding capacitor. It can be calculated as follows: $I_g = 2 * \pi * f * V * C$

Withstand voltage test

According to the IEC standard recommendation: During the withstand voltage test, the voltage should increase from zero to the test voltage at a rate of 150V/S, and the test time should be calculated from reaching the test voltage and maintained for 60S. After the test, the filter should be filtered by a suitable resistor. to discharge the capacitor to avoid damage to the internal capacitor caused by direct short-circuit discharge.

Product selection

PESF - L 2 01 A 1 - 10

① ② ③ ④ ⑤ ⑥ ⑦

① Product Code: PESF-Code for EMCPIONEER shield room filter

② Product series: L-Low leakage current filter; U-Standard filter; J-Stainless steel structure filter; G-Ground filter; S-Signal filter; PE7000-Feedthrough filter; E-HEMP filter

③ Line number: 2--tow lines; 3--three lines; 4--four lines

④ Design number: Distinguish between different circuit parameters and structural dimensions

⑤ Filter performance: A→single-stage filter; C→multi-stage filter

⑥ Frequency range: 1→10GHz; 2→40GHz

⑦ Rated current: 10→10A

EMI filters comply with the following international standards

Country & Test Authority	Recognized Mark	Test Standard
Germany VDE		EN60939
Canada CSA		CSA C 22,2
U.S.A UL		UL 1283
E.E.C CE		EN60939

Country & Test Authority	Recognized Mark	Test Standard
Sweden SEMKO		EN60939
Norway NEMKO		EN60939
Denmark DEMKO		EN60939
Finland FIMKO		EN60939

PESF -L Series
EMI Filters

Typical Applications :

- For shielded cabinet, MRI cage, secure communication systems, portable screened enclosures, computer installations and other compact structure.

Product Features :

- With small size and cost-effective performance.
- Low leakage current: mA level offering increased level of safety.
- Shielding performance up to 100dB @150KHz to 10GHz.

Technical Specifications :

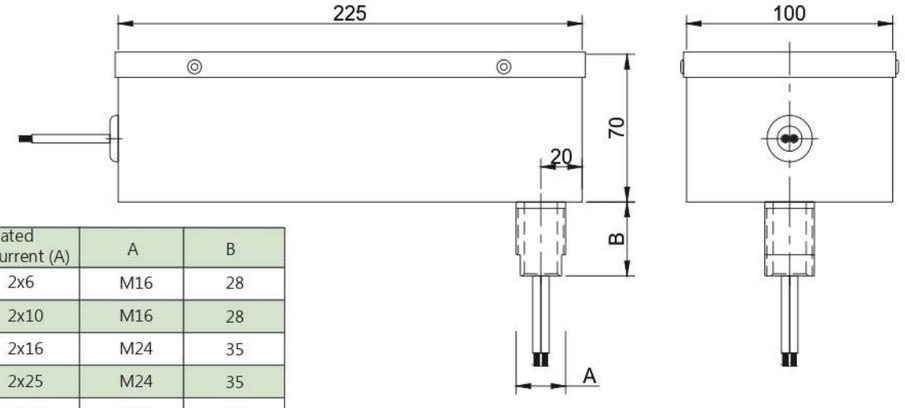
Rated Voltage For Single Phase Two Line:		
	Line To Neutral	250VAC
Rated Voltage For Three Phase Four Line:		
	Line To Line	440VAC
	Line To Neutral	250VAC
Operating Frequency:		DC~60Hz
Test Voltage:		
	Line to Ground:	1000VDC /2S
	Line to Line:	1000VDC /2S
Climatic Category:		25/070/21
Voltage Drop / Phase △V		
	<1% (@V_R/50Hz/I_R)	

PESF - L Series
EMI Filters

Filter Selection Table :

Filter	Rated Current I_R (A)	Leakage Current I_g (mA)	Rated Voltage V_R	Insertion Loss (dB)	Dimension
PESF-L201A-6	2x6	< 20	250VAC	100dB, 10MHz~10/40GHz	Fig.1
PESF-L201A-10	2x10	< 20	250VAC	100dB, 10MHz~10/40GHz	Fig.1
PESF-L201A-16	2x16	< 20	250VAC	100dB, 10MHz~10/40GHz	Fig.1
PESF-L201A-25	2x25	< 20	250VAC	100dB, 10MHz~10/40GHz	Fig.1
PESF-L201A-32	2x32	< 20	250VAC	100dB, 10MHz~10/40GHz	Fig.1
PESF-L206A-6	2x6	< 20	250VAC	100dB, 10MHz~10/40GHz	Fig.2
PESF-L206A-10	2x10	< 20	250VAC	100dB, 10MHz~10/40GHz	Fig.2
PESF-L206A-16	2x16	< 20	250VAC	100dB, 10MHz~10/40GHz	Fig.2
PESF-L206A-25	2x25	< 20	250VAC	100dB, 10MHz~10/40GHz	Fig.2
PESF-L206A-32	2x32	< 20	250VAC	100dB, 10MHz~10/40GHz	Fig.2
PESF-L301A-6/IEC	2x6	< 20	250VAC	100dB, 10MHz~10/40GHz	Fig.3
PESF-L301A-10/IEC	2x10	< 20	250VAC	100dB, 10MHz~10/40GHz	Fig.3
PESF-L301A-16/IEC	2x16	< 20	250VAC	100dB, 10MHz~10/40GHz	Fig.3
PESF-L401A-10	4x10	< 20	440/250VAC	100dB, 10MHz~10/40GHz	Fig.4
PESF-L401A-16	4x16	< 20	440/250VAC	100dB, 10MHz~10/40GHz	Fig.4
PESF-L401A-25	4x25	< 20	440/250VAC	100dB, 10MHz~10/40GHz	Fig.4
PESF-L401A-32	4x32	< 20	440/250VAC	100dB, 10MHz~10/40GHz	Fig.4

Mechanical Dimension (mm) :



Rated current (A)	A	B
2x6	M16	28
2x10	M16	28
2x16	M24	35
2x25	M24	35
2x32	M24	35

Fig 1

PESF - L Series
EMI Filters

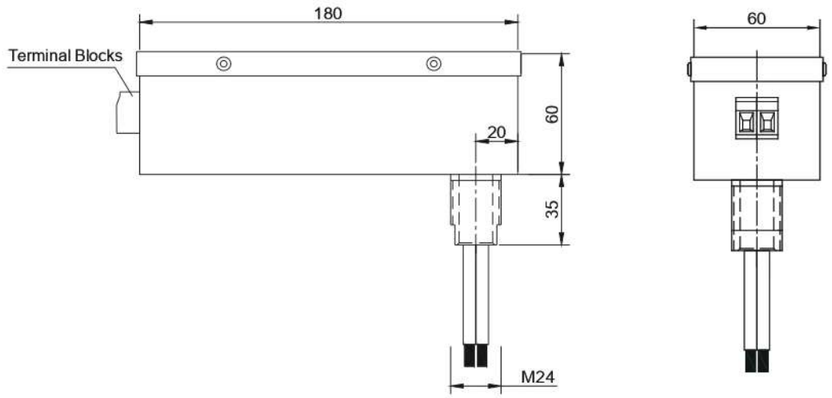


Fig 2

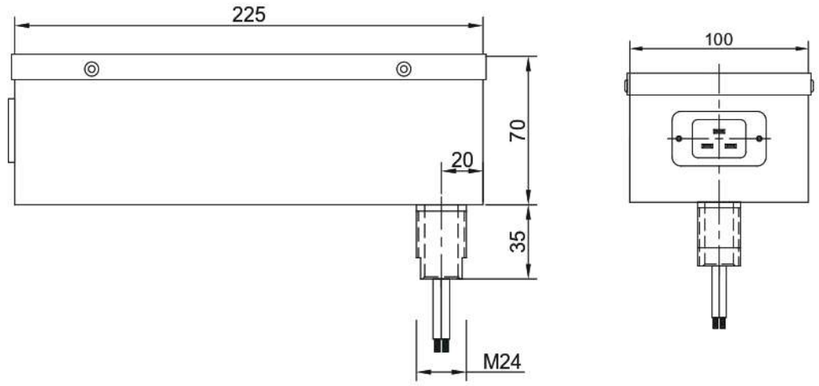


Fig 3

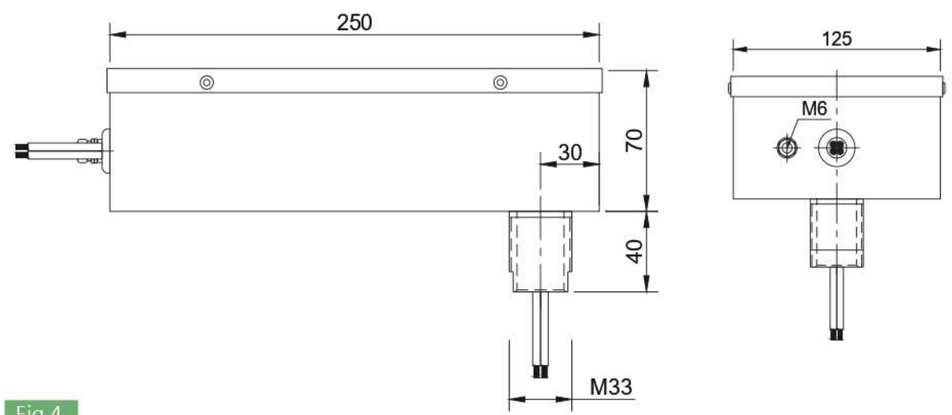


Fig 4

PESF -U Series
EMI Filters

Typical Applications :

◆ For Anechoic chamber, Shielded room, Shelter, Cabinet and other facilities to effectively suppress radiation interference.

Product Features :

◆ Single phase two lines, three phase four lines EMI filter,current ranges from 16 A~2000A.

◆ With small size and cost-effective performance

◆ Leakage current is mA level and voltage drop

◆ Nickel-plated steel case with high mechanical strength and corrosion resistance.

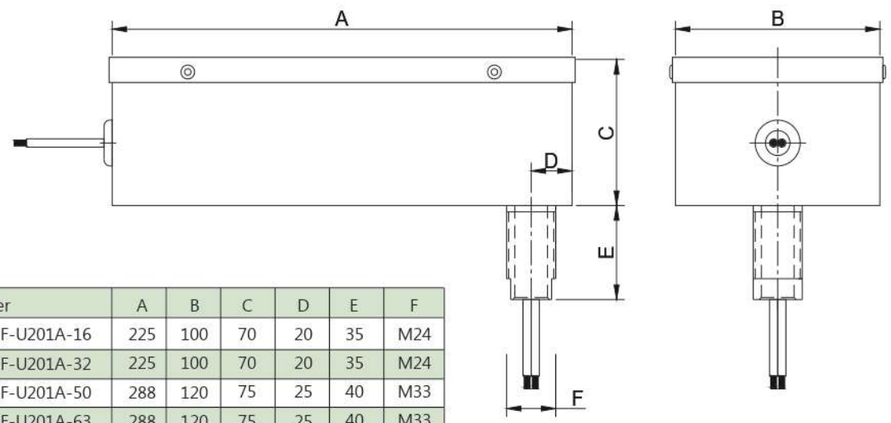
Technical Specifications :

Rated Voltage For Single Phase Two Line:		
	Line To Neutral	250VAC
Rated Voltage For Three Phase Four Line:		
	Line To Line	440VAC
	Line To Neutral	250VAC
Operating Frequency:		DC~60Hz
Test Voltage:		
	Line to Ground:	1000VDC /2S
	Line to Line:	1000VDC /2S
Climatic Category:		25/070/21
Voltage Drop / Phase △V		
	<1% (@V_R/50Hz/I_R)	

Filter Selection Table :

Filter	Rated Current IR (A)	Leakage Current Ig (A)	Rated Voltage VR	Voltage Drop △V	Insertion Loss (dB)	Dimension
PESF-U201A-16	2x16	<0.2	250VAC	<1%	100dB,150KHz~10/40GHz	Fig 1
PESF-U201A-32	2x32	<0.2	250VAC	<1%	100dB,150KHz~10/40GHz	Fig 1
PESF-U201A-50	2x50	<0.2	250VAC	<1%	100dB,150KHz~10/40GHz	Fig 1
PESF-U201A-63	2x63	<0.2	250VAC	<1%	100dB,150KHz~10/40GHz	Fig 1
PESF-U201A-100	2x100	<0.2	250VAC	<1%	100dB,150KHz~10/40GHz	Fig 1
PESF-U201A-150	2x150	<0.2	250VAC	<1%	100dB,150KHz~10/40GHz	Fig 2
PESF-U201A-200	2x200	<0.2	250VAC	<1%	100dB,150KHz~10/40GHz	Fig 2
PESF-U401A-16	4x16	<0.2	440/250VAC	<1%	100dB,150KHz~10/40GHz	Fig 1
PESF-U401A-32	4x32	<0.2	440/250VAC	<1%	100dB,150KHz~10/40GHz	Fig 1
PESF-U401A-50	4x50	<0.2	440/250VAC	<1%	100dB,150KHz~10/40GHz	Fig 3
PESF-U401A-63	4x63	<0.2	440/250VAC	<1%	100dB,150KHz~10/40GHz	Fig 3
PESF-U401A-100	4x100	<0.2	440/250VAC	<1%	100dB,150KHz~10/40GHz	Fig 3
PESF-U401A-150	4x150	<0.2	440/250VAC	<1%	100dB,150KHz~10/40GHz	Fig 4
PESF-U401A-200	4x200	<0.2	440/250VAC	<1%	100dB,150KHz~10/40GHz	Fig 4

Mechanical Dimension (mm) :



Filter	A	B	C	D	E	F
PESF-U201A-16	225	100	70	20	35	M24
PESF-U201A-32	225	100	70	20	35	M24
PESF-U201A-50	288	120	75	25	40	M33
PESF-U201A-63	288	120	75	25	40	M33
PESF-U201A-100	310	130	80	35	45	M42
PESF-U401A-16	250	125	70	30	40	M33
PESF-U401A-32	250	125	70	30	40	M33

Fig 1

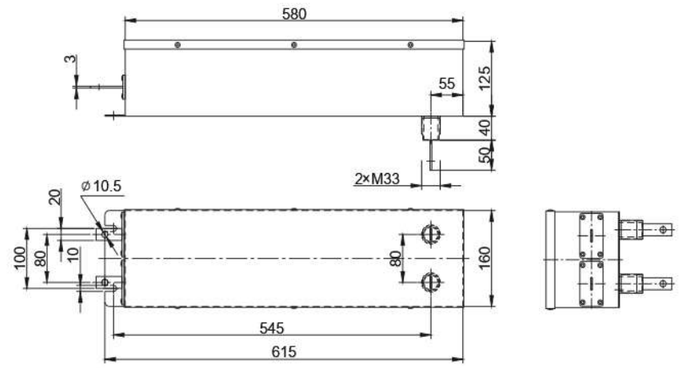


Fig 2

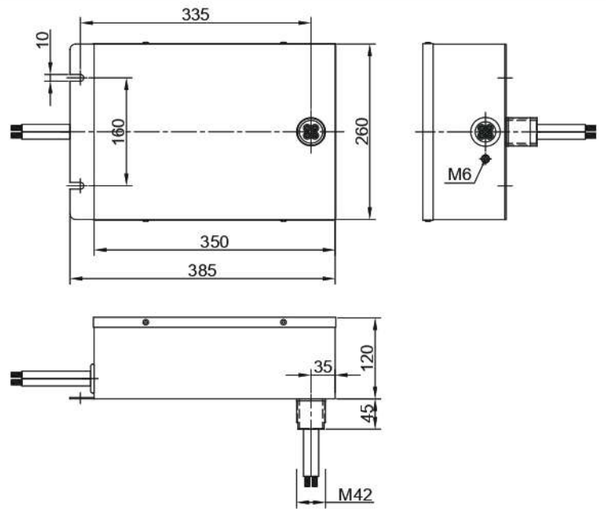


Fig 3

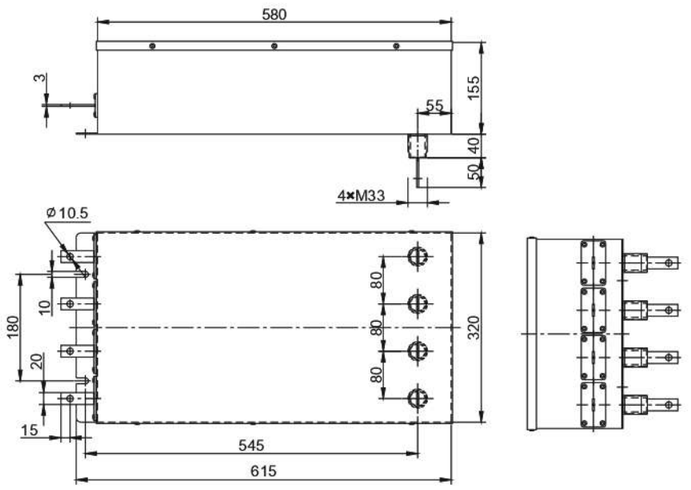


Fig 4

PESF -U Series
EMI Filters

Filter Selection Table :

Filter	Rated Current IR (A)	Leakage Current Ig (A)	Rated Voltage VR	Voltage Drop △V	Insertion Loss (dB)	Dimension
PESF-U201C-16	2x16	<0.2	250VAC	<1%	100dB,14KHz~10/40GHz	Fig 1
PESF-U201C-32	2x32	<0.2	250VAC	<1%	100dB,14KHz~10/40GHz	Fig 1
PESF-U201C-50	2x50	<0.2	250VAC	<1%	100dB,14KHz~10/40GHz	Fig 1
PESF-U201C-63	2x63	<0.2	250VAC	<1%	100dB,14KHz~10/40GHz	Fig 1
PESF-U201C-100	2x100	<0.2	250VAC	<1%	100dB,14KHz~10/40GHz	Fig 1
PESF-U201C-150	2x150	<0.2	250VAC	<1%	100dB,14KHz~10/40GHz	Fig 2
PESF-U201C-200	2x200	<0.2	250VAC	<1%	100dB,14KHz~10/40GHz	Fig 2
PESF-U201C-300	2x300	<0.2	250VAC	<1%	100dB,14KHz~10/40GHz	Fig 3
PESF-U201C-600	2x600	<0.2	250VAC	<1%	100dB,14KHz~10/40GHz	Fig 3
PESF-U201C-800	2x800	<0.2	250VAC	<1%	100dB,14KHz~10/40GHz	Fig 3
PESF-U201C-1000	2x1000	<0.2	250VAC	<1%	100dB,14KHz~10/40GHz	Fig 4
PESF-U401C-16	4x16	<0.2	440/250VAC	<1%	100dB,14KHz~10/40GHz	Fig 5
PESF-U401C-32	4x32	<0.2	440/250VAC	<1%	100dB,14KHz~10/40GHz	Fig 5
PESF-U401C-50	4x50	<0.2	440/250VAC	<1%	100dB,14KHz~10/40GHz	Fig 5
PESF-U401C-63	4x63	<0.2	440/250VAC	<1%	100dB,14KHz~10/40GHz	Fig 5
PESF-U401C-100	4x100	<0.2	440/250VAC	<1%	100dB,14KHz~10/40GHz	Fig 5
PESF-U401C-150	4x150	<0.2	440/250VAC	<1%	100dB,14KHz~10/40GHz	Fig 6
PESF-U401C-200	4x200	<0.2	440/250VAC	<1%	100dB,14KHz~10/40GHz	Fig 6
PESF-U401C-300	4x300	<0.2	440/250VAC	<1%	100dB,14KHz~10/40GHz	Fig 7
PESF-U401C-600	4x600	<0.2	440/250VAC	<1%	100dB,14KHz~10/40GHz	Fig 7
PESF-U401C-800	4x800	<0.2	440/250VAC	<1%	100dB,14KHz~10/40GHz	Fig 7
PESF-U401C-1000	4x1000	<0.2	440/250VAC	<1%	100dB,14KHz~10/40GHz	Fig 8
PESF-U401C-1500	4x1500	<0.2	440/250VAC	<1%	100dB,14KHz~10/40GHz	Fig 9
PESF-U211C-16	2x16	<0.2	250VAC	<3.6%	100dB,14KHz~10/40GHz	Fig 10
PESF-U211C-32	2x32	<0.2	250VAC	<2.9%	100dB,14KHz~10/40GHz	Fig 10
PESF-U211C-50	2x50	<0.2	250VAC	<2.3%	100dB,14KHz~10/40GHz	Fig 10
PESF-U211C-63	2x63	<0.2	250VAC	<1.9%	100dB,14KHz~10/40GHz	Fig 10
PESF-U211C-100	2x100	<0.2	250VAC	<1.2%	100dB,14KHz~10/40GHz	Fig 10
PESF-U211C-150	2x150	<0.2	250VAC	<0.7%	100dB,14KHz~10/40GHz	Fig 11
PESF-U211C-200	2x200	<0.2	250VAC	<0.6%	100dB,14KHz~10/40GHz	Fig 11

PESF -U Series
EMI Filters

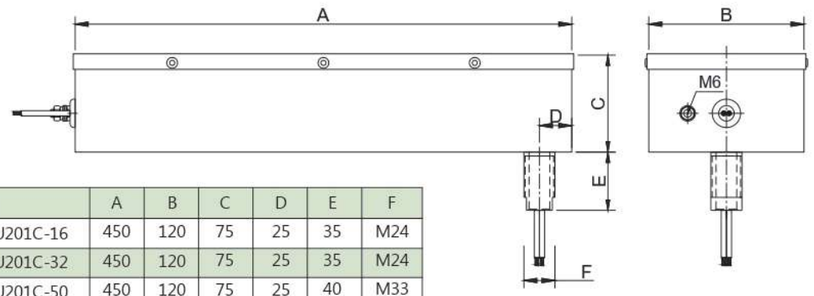
Filter Selection Table :

Filter	Rated Current IR (A)	Leakage Current Ig (A)	Rated Voltage VR	Voltage Drop △V	Insertion Loss (dB)	Dimension
PESF-U411C-16	4x16	<0.2	440/250VAC	<3.6%	100dB,14KHz~10/40GHz	Fig 10
PESF-U411C-32	4x32	<0.2	440/250VAC	<2.9%	100dB,14KHz~10/40GHz	Fig 10
PESF-U411C-50	4x50	<0.2	440/250VAC	<2.3%	100dB,14KHz~10/40GHz	Fig 10
PESF-U411C-63	4x63	<0.2	440/250VAC	<1.9%	100dB,14KHz~10/40GHz	Fig 10
PESF-U411C-100	4x100	<0.2	440/250VAC	<1.2%	100dB,14KHz~10/40GHz	Fig 10
PESF-U411C-150	4x150	<0.2	440/250VAC	<0.7%	100dB,14KHz~10/40GHz	Fig 12
PESF-U411C-200	4x200	<0.2	440/250VAC	<0.6%	100dB,14KHz~10/40GHz	Fig 12
PESF-U221C-16	2x16	<4	250VAC	<9.9%	100dB,14KHz~10/40GHz	Fig 10
PESF-U221C-32	2x32	<4	250VAC	<8.0%	100dB,14KHz~10/40GHz	Fig 10
PESF-U221C-50	2x50	<4	250VAC	<6.2%	100dB,14KHz~10/40GHz	Fig 10
PESF-U221C-63	2x63	<4	250VAC	<5.2%	100dB,14KHz~10/40GHz	Fig 10
PESF-U211C-100	2x100	<6	250VAC	<3.3%	100dB,14KHz~10/40GHz	Fig 10
PESF-U221C-150	2x150	<9	250VAC	<2.0%	100dB,14KHz~10/40GHz	Fig 11
PESF-U221C-200	2x200	<9	250VAC	<1.8%	100dB,14KHz~10/40GHz	Fig 11
PESF-U421C-16	4x16	<4	440/250VAC	<9.9%	100dB,14KHz~10/40GHz	Fig 10
PESF-U421C-32	4x32	<4	440/250VAC	<8.0%	100dB,14KHz~10/40GHz	Fig 10
PESF-U421C-50	4x50	<4	440/250VAC	<6.2%	100dB,14KHz~10/40GHz	Fig 10
PESF-U421C-63	4x63	<4	440/250VAC	<5.2%	100dB,14KHz~10/40GHz	Fig 10
PESF-U421C-100	4x100	<6	440/250VAC	<3.3%	100dB,14KHz~10/40GHz	Fig 10
PESF-U421C-150	4x150	<9	440/250VAC	<2.0%	100dB,14KHz~10/40GHz	Fig 12
PESF-U421C-200	4x200	<9	440/250VAC	<1.8%	100dB,14KHz~10/40GHz	Fig 12

◆ Note: U201C, U401C series are suitable for power supply of internal lighting, instruments and other equipment in shield room;

U211C, U221C, U411C, U421C series are suitable for the power supply of EUT (50/60Hz) equipment in the electromagnetic compatibility laboratory of military standard (MIL-STD-461F, GJB151B-2013).

Mechanical Dimension (mm) :



Filter	A	B	C	D	E	F
PESF-U201C-16	450	120	75	25	35	M24
PESF-U201C-32	450	120	75	25	35	M24
PESF-U201C-50	450	120	75	25	40	M33
PESF-U201C-63	450	120	75	25	40	M33
PESF-U201C-100	550	150	100	35	45	M42

Fig 1

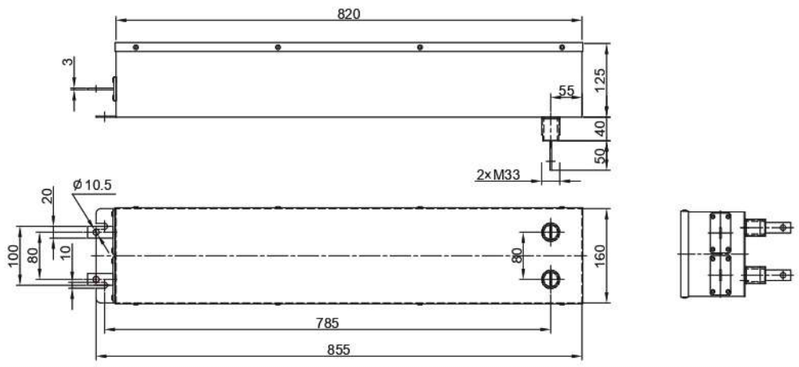
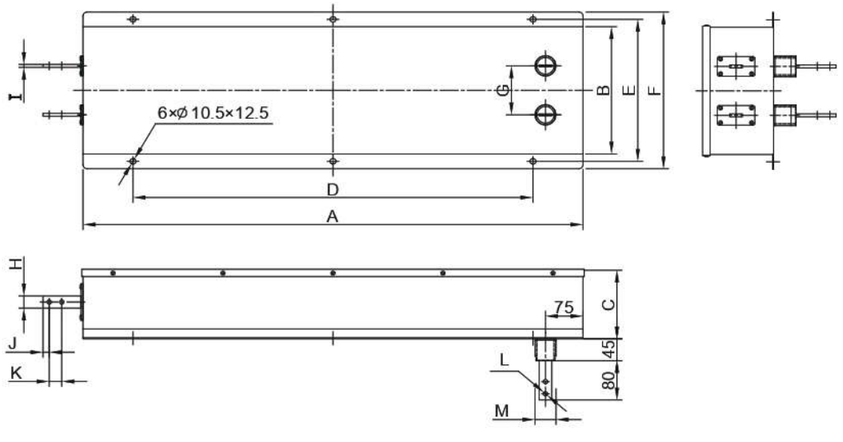


Fig 2



Filter	A	B	C	D	E	F	G	H	I	J	K	L	M
PESF-U201C-300	1000	260	140	800	290	320	100	25	6	12.5	25	8xΦ9	2xM42
PESF-U201C-600	1100	280	200	800	310	340	120	30	8	15	30	8xΦ11	2xM48
PESF-U201C-800	1100	280	240	800	310	340	120	30	10	15	30	8xΦ11	2xM48

Fig 3

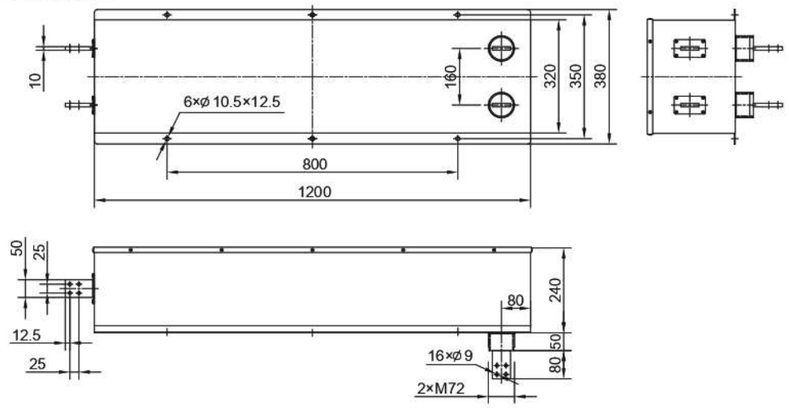
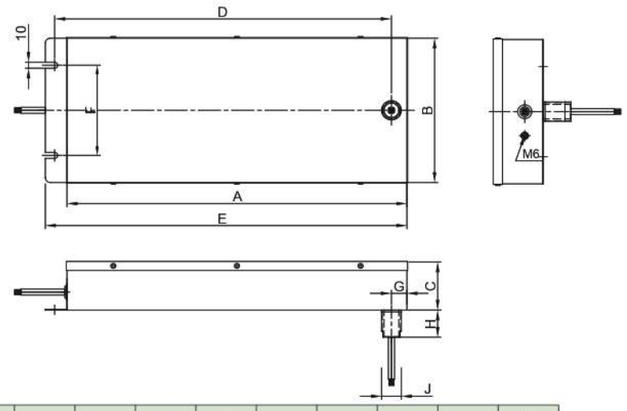


Fig 4



Filter	A	B	C	D	E	F	G	H	J
PESF-U401C-16	550	240	80	545	585	150	25	40	M33
PESF-U401C-32	550	240	80	545	585	150	25	40	M33
PESF-U401C-50	700	260	120	685	735	160	35	45	M42
PESF-U401C-63	700	260	120	685	735	160	35	45	M42
PESF-U401C-100	700	260	120	685	735	160	35	45	M42

Fig 5

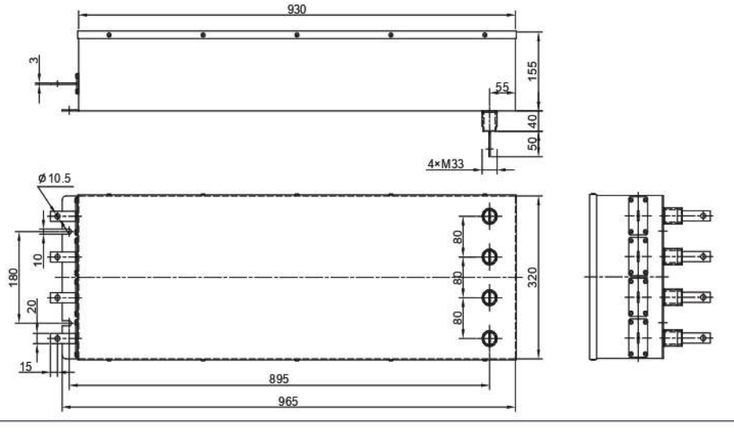
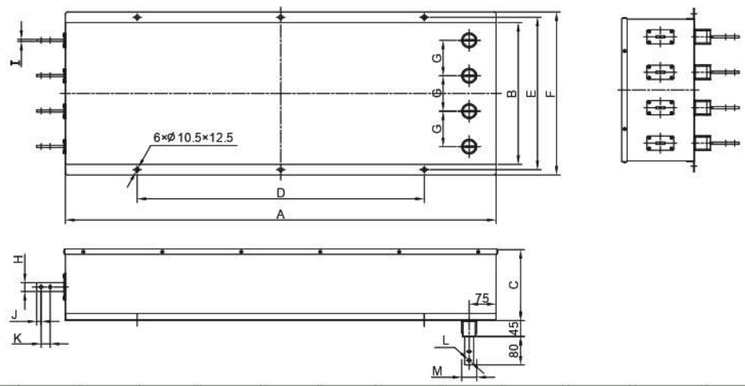


Fig 6



Filter	A	B	C	D	E	F	G	H	I	J	K	L	M
PESF-U401C-300	1200	400	200	800	430	460	100	25	6	12.5	25	16xΦ9	4xM42
PESF-U401C-600	1200	400	200	800	430	460	100	30	8	15	30	16xΦ11	4xM48
PESF-U401C-800	1200	400	240	800	430	460	100	30	10	15	30	16xΦ11	4xM48

Fig 7

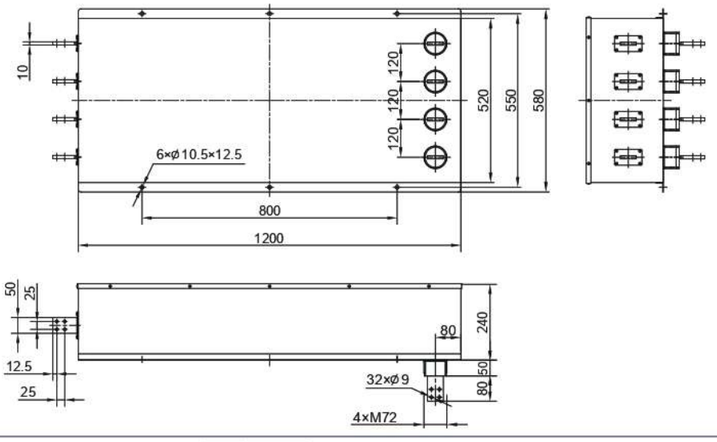


Fig 8

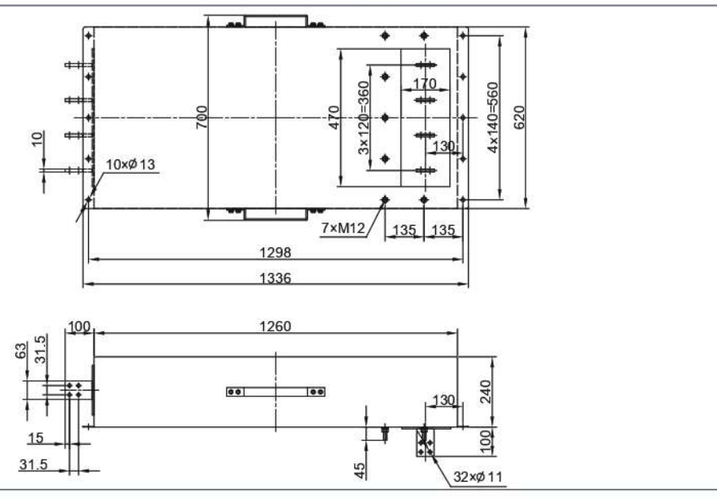
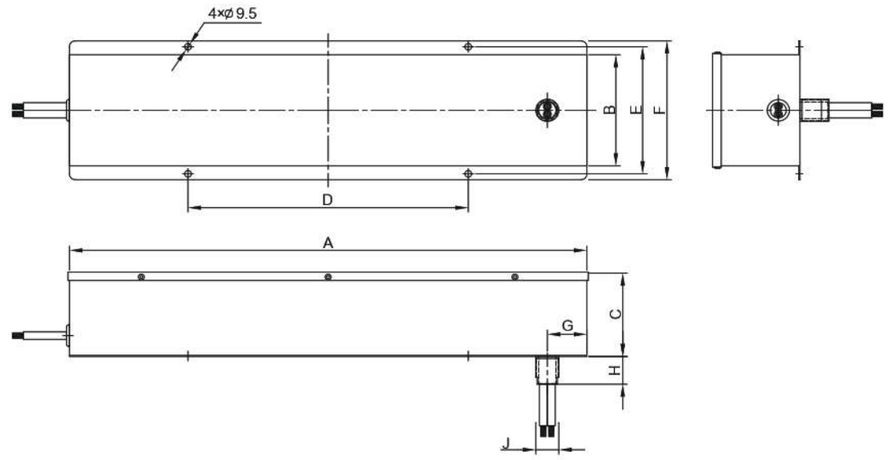


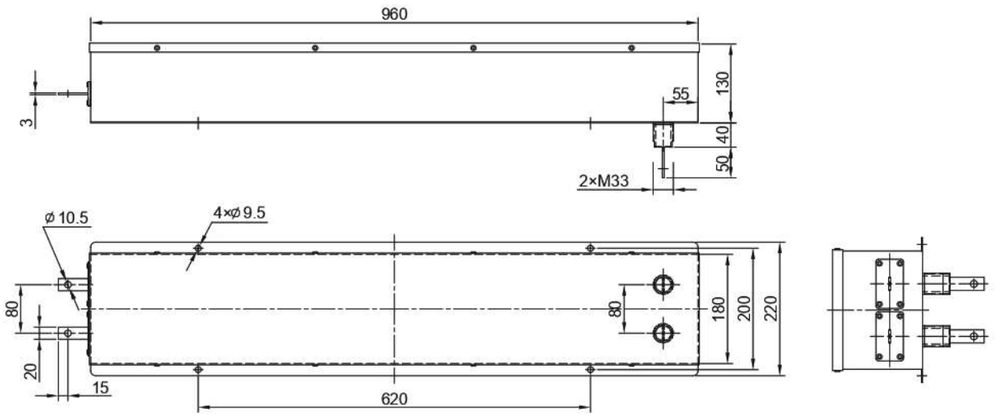
Fig 9



Filter	A	B	C	D	E	F	G	H	J
PESF-U211C-16	720	160	120	390	180	200	55	40	M33
PESF-U211C-32	720	160	120	390	180	200	55	40	M33
PESF-U211C-50	720	160	120	390	180	200	55	40	M33
PESF-U211C-63	720	160	120	390	180	200	55	40	M33
PESF-U211C-100	720	160	120	390	180	200	55	40	M33
PESF-U221C-16	940	200	140	600	220	240	55	40	M33
PESF-U221C-32	940	200	140	600	220	240	55	40	M33
PESF-U221C-50	940	200	140	600	220	240	55	40	M33
PESF-U221C-63	940	200	140	600	220	240	55	40	M33
PESF-U221C-100	940	200	140	600	220	240	55	40	M33
PESF-U411C-16	890	300	130	560	320	340	55	45	M42
PESF-U411C-32	890	300	130	560	320	340	55	45	M42
PESF-U411C-50	890	300	130	560	320	340	55	45	M42
PESF-U411C-63	890	300	130	560	320	340	55	45	M42
PESF-U411C-100	890	300	130	560	320	340	55	45	M42
PESF-U421C-16	940	400	140	600	420	440	55	45	M42
PESF-U421C-32	940	400	140	600	420	440	55	45	M42
PESF-U421C-50	940	400	140	600	420	440	55	45	M42
PESF-U421C-63	940	400	140	600	420	440	55	45	M42
PESF-U421C-100	940	400	140	600	420	440	55	45	M42

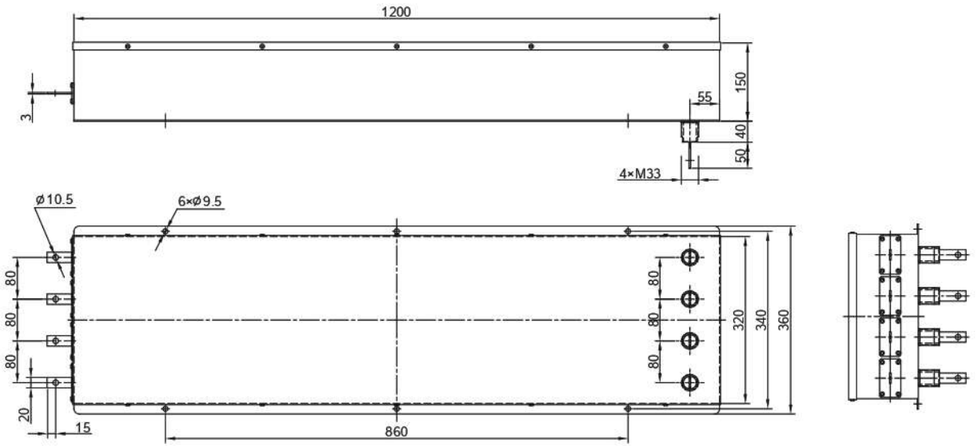
Fig 10

PESF -U Series
EMI Filters



Filter	A	B	C	D	E	F	G
PESF-U211C-150	960	180	130	620	200	220	80
PESF-U211C-200	960	180	130	620	200	220	80
PESF-U221C-150	940	240	140	600	260	280	100
PESF-U221C-200	940	240	140	600	260	280	100

Fig 11



Filter	A	B	C	D	E	F	G
PESF-U411C-150	1200	320	150	860	340	360	80
PESF-U411C-200	1200	320	150	860	340	360	80
PESF-U421C-150	940	480	140	600	500	520	120
PESF-U421C-200	940	480	140	600	500	520	120

Fig 12

PESF -J Series
EMI Filters

Typical Applications :

- For shielded room, anechoic chamber, shelter, shielded cabinet, etc.
- Single phase two lines, three phase four lines EMI filter, current ranges from 16A~200A.

Product Features :

- Stainless steel metal case, surface sprayed, high mechanical strength and corrosion resistance.
- Rectangular style filter are physically isolated within RFI tight terminal compartments. The lids to these compartment are supplied with both RFI and resillient gaskets to provide excellent protection against radiated inerference.
- Easy to install and safe.

Technical Specifications :

Rated Voltage For Single Phase Two Line:	
Line To Neutral	250VAC
Rated Voltage For Three Phase Four Line:	
Line To Line	440VAC
Line To Neutral	250VAC
Operating Frequency:	DC~60Hz
Test Voltage:	
Line to Ground:	1000VDC
Line to Line:	1000VDC
Climatic Category:	25/085/21
Performance:	
100dB from 14KHz to 40GHz	

PESF - J Series
EMI Filters

Filter Selection Table :

Filter	Rated Current IR (A)	Leakage Current Ig (A)	Rated Voltage VR	Voltage Drop △V	Insertion Loss (dB)	Dimension
PESF-J201C-16	2x16	<0.2A	250VAC	<1%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J201C-32	2x32	<0.2A	250VAC	<1%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J201C-50	2x50	<0.2A	250VAC	<1%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J201C-63	2x63	<0.2A	250VAC	<1%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J201C-100	2x100	<0.2A	250VAC	<1%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J201C-200	2x200	<0.2A	250VAC	<1%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J401C-16	4x16	<0.2A	440/250VAC	<1%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J401C-32	4x32	<0.2A	440/250VAC	<1%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J401C-50	4x50	<0.2A	440/250VAC	<1%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J401C-63	4x63	<0.2A	440/250VAC	<1%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J401C-100	4x100	<0.2A	440/250VAC	<1%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J401C-200	4x200	<0.2A	440/250VAC	<1%	100dB, 14KHz~10/40GHz	Fig.3
PESF-J211C-16	2x16	<0.2A	250VAC	<3.6%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J211C-32	2x32	<0.2A	250VAC	<2.9%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J211C-50	2x50	<0.2A	250VAC	<2.3%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J211C-63	2x63	<0.2A	250VAC	<1.9%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J211C-100	2x100	<0.2A	250VAC	<1.2%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J211C-200	2x200	<0.2A	250VAC	<0.6%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J411C-16	4x16	<0.2A	440/250VAC	<3.6%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J411C-32	4x32	<0.2A	440/250VAC	<2.9%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J411C-50	4x50	<0.2A	440/250VAC	<2.3%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J411C-63	4x63	<0.2A	440/250VAC	<1.9%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J411C-100	4x100	<0.2A	440/250VAC	<1.2%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J411C-200	4x200	<0.2A	440/250VAC	<0.6%	100dB, 14KHz~10/40GHz	Fig.3

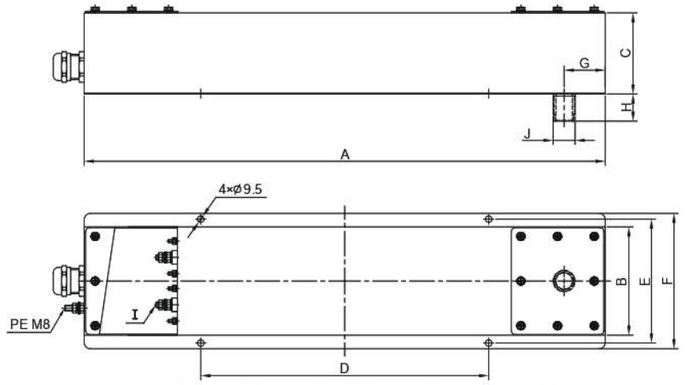
PESF - J Series
EMI Filters

Filter	Rated Current IR (A)	Leakage Current Ig (A)	Rated Voltage VR	Voltage Drop △V	Insertion Loss (dB)	Dimension
PESF-J221C-16	2x16	<4A	250VAC	<9.9%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J221C-32	2x32	<4A	250VAC	<8.0%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J221C-50	2x50	<4A	250VAC	<6.2%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J221C-63	2x63	<4A	250VAC	<5.2%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J221C-100	2x100	<6A	250VAC	<3.3%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J221C-200	2x200	<9A	250VAC	<1.8%	100dB, 14KHz~10/40GHz	Fig.1
PESF-J421C-16	4x16	<4A	440/250VAC	<9.9%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J421C-32	4x32	<4A	440/250VAC	<8.0%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J421C-50	4x50	<4A	440/250VAC	<6.2%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J421C-63	4x63	<4A	440/250VAC	<5.2%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J421C-100	4x100	<6A	440/250VAC	<3.3%	100dB, 14KHz~10/40GHz	Fig.2
PESF-J421C-200	4x200	<9A	440/250VAC	<1.8%	100dB, 14KHz~10/40GHz	Fig.3

◆ Note: J201C, J401C series are suitable for power supply of internal lighting, instruments and other equipment in shield room;

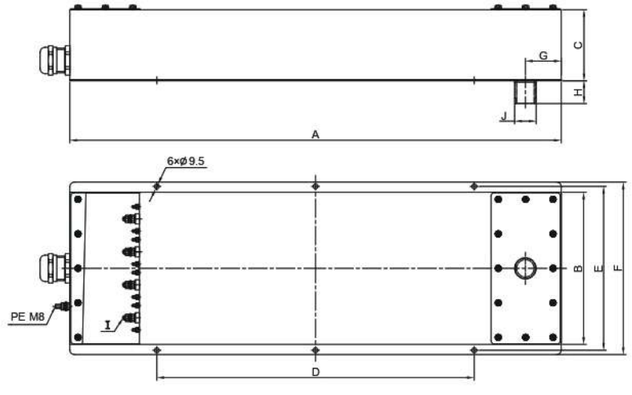
J211C, J221C, J411C, J421C series are suitable for the power supply of EUT (50/60Hz) equipment in the electromagnetic compatibility laboratory of military standard (MIL-STP-461F, GJB151B-2013).

Mechanical Dimension (mm) :



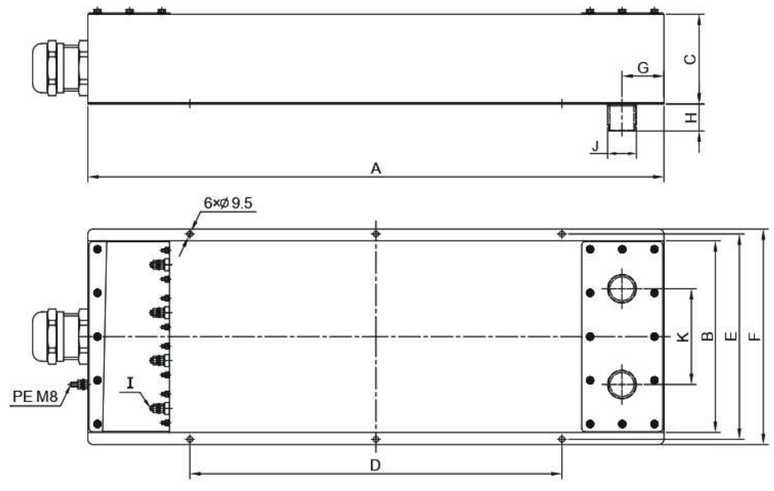
Filter	A	B	C	D	E	F	G	H	I	J
PESF-J201C-16	560	160	120	250	183	200	60	35	4xM6	M24
PESF-J211C-16	560	160	120	250	183	200	60	35	4xM6	M24
PESF-J201C-32	560	160	120	250	183	200	60	35	4xM6	M24
PESF-J211C-32	560	160	120	250	183	200	60	35	4xM6	M24
PESF-J201C-50	760	160	120	420	183	200	60	40	4xM6	M33
PESF-J211C-50	760	160	120	420	183	200	60	40	4xM6	M33
PESF-J201C-63	760	160	120	420	183	200	60	40	4xM6	M33
PESF-J211C-63	760	160	120	420	183	200	60	40	4xM6	M33
PESF-J221C-16	960	200	140	620	223	240	60	40	4xM6	M33
PESF-J221C-32	960	200	140	620	223	240	60	40	4xM6	M33
PESF-J221C-50	960	200	140	620	223	240	60	40	4xM6	M33
PESF-J221C-63	960	200	140	620	223	240	60	40	4xM6	M33
PESF-J201C-100	760	160	120	420	183	200	60	40	4xM8	M33
PESF-J211C-100	760	160	120	420	183	200	60	40	4xM8	M33
PESF-J221C-100	960	200	140	620	223	240	60	40	4xM8	M33
PESF-J201C-200	880	200	150	540	223	240	70	45	4xM10	M48
PESF-J211C-200	1200	200	150	860	223	240	70	45	4xM10	M48
PESF-J221C-200	960	240	150	620	263	280	70	45	4xM10	M48

Fig 1



Filter	A	B	C	D	E	F	G	H	I	J
PESF-J401C-16	800	300	140	460	323	340	70	40	8xM6	M33
PESF-J411C-16	800	300	140	460	323	340	70	40	8xM6	M33
PESF-J401C-32	800	300	140	460	323	340	70	40	8xM6	M33
PESF-J411C-32	800	300	140	460	323	340	70	40	8xM6	M33
PESF-J401C-50	960	300	140	620	323	340	70	45	8xM6	M42
PESF-J411C-50	960	300	140	620	323	340	70	45	8xM6	M42
PESF-J401C-63	960	300	140	620	323	340	70	45	8xM6	M42
PESF-J411C-63	960	300	140	620	323	340	70	45	8xM6	M42
PESF-J421C1-16	960	400	140	620	423	440	70	45	8xM6	M42
PESF-J421C-32	960	400	140	620	423	440	70	45	8xM6	M42
PESF-J421C-50	960	400	140	620	423	440	70	45	8xM6	M42
PESF-J421C-63	960	400	140	620	423	440	70	45	8xM6	M42
PESF-J401C-100	960	300	140	620	323	340	70	45	8xM8	M42
PESF-J411C-100	960	300	140	620	323	340	70	45	8xM8	M42
PESF-J421C-100	960	400	140	620	423	440	70	45	8xM8	M42

Fig 2



Filter	A	B	C	D	E	F	G	H	I	J	K
PESF-J401C-200	960	320	150	620	343	360	70	45	8xM10	2xM48	160
PESF-J411C-200	1400	320	150	900	343	360	70	45	8xM10	2xM48	160
PESF-J421C-200	960	480	150	620	503	520	70	45	8xM10	2xM48	160

Fig 3

PESF -G Series
EMI Filters

Typical Applications :

◆ This series product is used to shield independent ground line filtering for shielded room or shielded cabinet.

Technical Specification :

Rated Voltage:	250 VAC / 650 VDC
Rated Current:	16~200A
Operation Frequency:	DC-60Hz
Voltage Drop:	L To G : 1000VDC/2S
	L To L : 1000VDC/2S
Performance:	100dB from 14KHz to 40GHz

Filter Selection Table :

Filter	Rated Current IR (A)	Cable	Insertion Loss (dB)	Dimension
PESF-G101-16	16	12AWG/4mm²	100dB, 14KHz~40GHz	Fig.1
PESF-G101-32	32	10AWG/6mm²	100dB, 14KHz~40GHz	Fig.1
PESF-G101-50	50	8AWG/10mm²	100dB, 14KHz~40GHz	Fig.1
PESF-G101-63	63	6AWG/16mm²	100dB, 14KHz~40GHz	Fig.1
PESF-G101-100	100	3AWG/25mm²	100dB, 14KHz~40GHz	Fig.2
PESF-G101-200	200	2/0AWG/70mm²	100dB, 14KHz~40GHz	Fig.2

Mechanical Dimension (mm) :

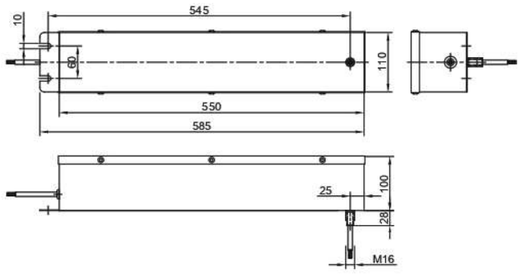


Fig 1

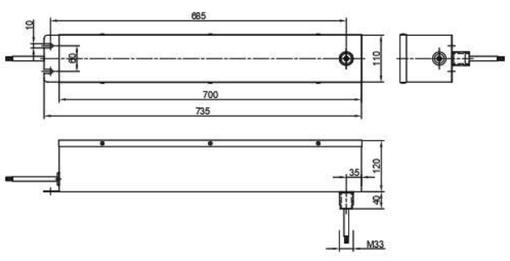


Fig 2

PESF -S Series
EMI Filters

Typical Application :

◆ Used for the transmission control system of telephone communication, network data communication, air conditioning control, fire alarm, access control, and other signals.

Technical Specification :

Rated Voltage VR:	100V~250V
Rated Current IR:	0.3~16A
Shielding performance:	100dB,100KHz-40GHz

Product Features :

◆ Excellent circuit structure.

◆ Easy to install.

◆ Customized acceptable.

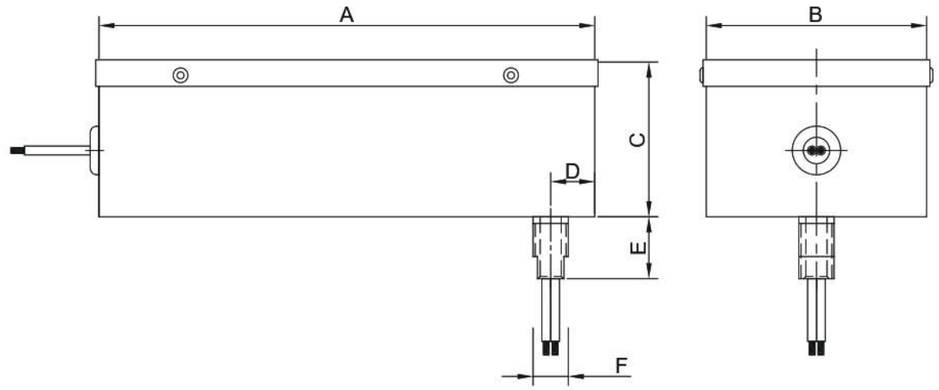
Filter Selection Table :

Filter	Rated Current (A)	Lines	Rated Voltage (V_R)	passband	Dimension	Application
PESF-S201-2	2	2	250VAC	100KHz	Fig.1	T2
PESF-S301-2	2	3	250VAC	100KHz	Fig.1	T2
PESF-S401-2	2	4	250VAC	100KHz	Fig.1	T2
PESF-S501-2	2	5	250VAC	100KHz	Fig.1	T2
PESF-S601-2	2	6	250VAC	100KHz	Fig.1	T2
PESF-S801-2	2	8	250VAC	100KHz	Fig.1	T2
PESF-S1001-2	2	10	250VAC	100KHz	Fig.1	T2
PESF-S1201-2	2	12	250VAC	100KHz	Fig.1	T2
PESF-S1601-2	2	16	250VAC	100KHz	Fig.1	T2
PESF-S2001-2	2	20	250VAC	100KHz	Fig.1	T2
PESF-S203-1	1	2	200VDC	6MHz	Fig.1	T1
PESF-S403-1	1	4	200VDC	6MHz	Fig.1	T1
PESF-S101-1	1	1	100VDC	6MHz	Fig.2	T3
PESF-S206-2	2	2	250VAC	100KHz	Fig.3	T2
PESF-S801-LAN100	---	8	---	---	Fig.4	T4
PESF-S801-LAN1000	---	8	---	---	Fig.5	T5

- T1: Analog/digital telephone, fax, monitoring control, AC and DC switch signal, fire alarm.
- T2: AC and DC switch signal, air conditioning control, fire alarm, voice broadcast, access control
- T3: Video surveillance signal
- T4: transmission rate 100Mbps network data communication
- T5: transmission rate 1000Mbps network data communication

PESF -S Series
EMI Filters

Mechanical Dimension (mm) :



Filter	A	B	C	D	E	F
PESF-S201-2	225	100	70	20	28	M16
PESF-S301-2	225	100	70	20	35	M24
PESF-S401-2	225	100	70	20	35	M24
PESF-S501-2	225	100	70	20	35	M24
PESF-S601-2	225	100	70	20	35	M24
PESF-S801-2	225	120	70	20	35	M24
PESF-S1001-2	225	120	70	20	35	M24
PESF-S1201-2	280	150	100	30	40	M33
PESF-S1601-2	280	150	120	30	40	M33
PESF-S2001-2	280	150	120	30	40	M33
PESF-S203-1	190	65	45	15	28	M16
PESF-S403-1	190	65	45	15	28	M16

Fig 1

PESF - S Series
EMI Filters

Mechanical Dimension (mm) :

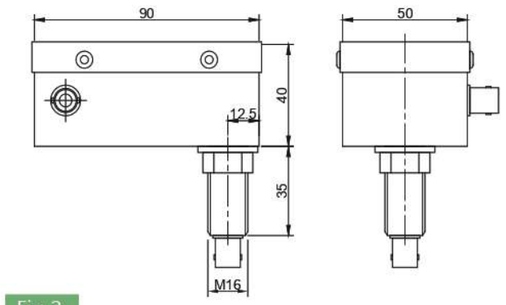


Fig 2

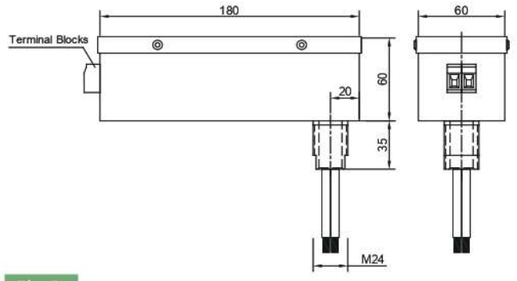


Fig 3

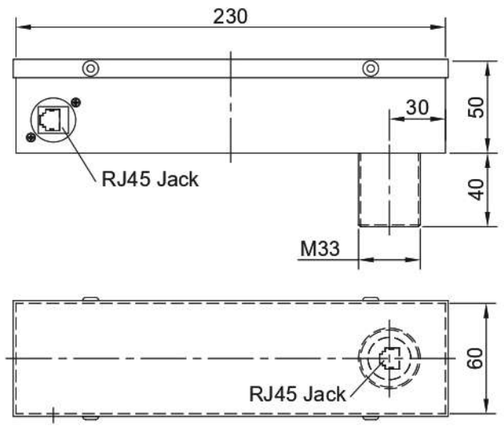


Fig 4

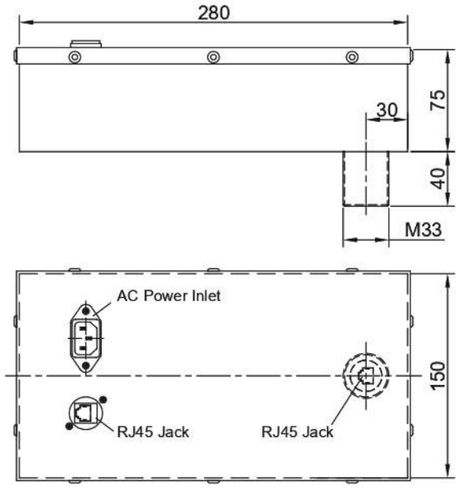


Fig 5

7000 Series
Feedthrough Filters

Typical Applications :

◆Used for AC/DC power lines, such as shielding rooms, MRI shielding rooms, medical equipment, information security protection systems, communication equipment, power terminals, etc. Can effectively absorb and reduce the radiation and conduction interference generated by the power line.

Technical Specification :

Rated Voltage VR:	250VAC/650VDC
Rated Frequency:	DC~60Hz
Rated Current:	1~250A
Climatic Category:	40/100/21

Electrical schematic :

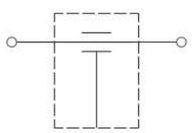


Fig 1

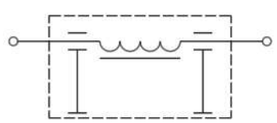


Fig 2

Product Features :

◆Unique through-core capacitor structure design can provide high insertion loss value in a wide frequency range from KHz to GHz;

◆Using metallized film capacitors, with self-healing function, high reliability, in line with IEC60939, EN60939 standard requirements;

◆Metal Housing, Epoxy Potting (UL 94 V-0);

◆Through-type installation structure to ensure effective shielding isolation;

◆Axial screw connection, compact and easy to install;

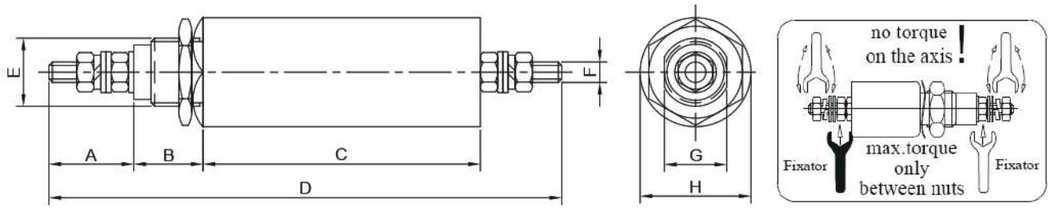
◆Customized acceptable.

7000 Series
Feedthrough Filters

Filter Selection Table :

Filter	Rated Current (A)	Rated Voltage (V)	Leakage Current max@250/50Hz	Capacitance (uF)±20%	Test Voltage(V)	Electrical Schematic	Dimension
PE7002-250-M12-475	250	250VAC/650VDC	450mA	4.7	2250VDC	Fig. 1	Fig. 1
PE7010-32-M4-473	32	250VAC/650VDC	4.5mA	0.047	2250VDC	Fig. 1	Fig. 1
PE7012-63-M6-474	63	250VAC/650VDC	45mA	0.47	2250VDC	Fig. 1	Fig. 1
PE7110-63-M6-474	63	250VAC/650VDC	90mA	2x0.47	2250VDC	Fig. 2	Fig. 1
PE7110-16-M3-472	16	250VAC/650VDC	0.9mA	2x0.0047	2250VDC	Fig. 2	Fig. 1
PE7113-32-M4-104	32	250VAC/650VDC	19mA	2x0.1	2250VDC	Fig. 2	Fig. 2

Mechanical Dimension(mm) :



Filter	A	B	C	D	E	F	G	H
PE7002-250-M12-475	42	32	59	172	M33x2	M12	29	Φ57
PE7010-32-M4-473	13	13.5	20.5	60	M14x1	M4	---	Φ20
PE7012-63-M6-474	21	20	33	95	M20x1	M6	18	Φ32
PE7110-63-M6-474	24.5	20	80	148	M20x1	M6	18	Φ32
PE7110-16-M3-472	10	15	45	80	M10x1	M3	---	Φ16

Fig 1

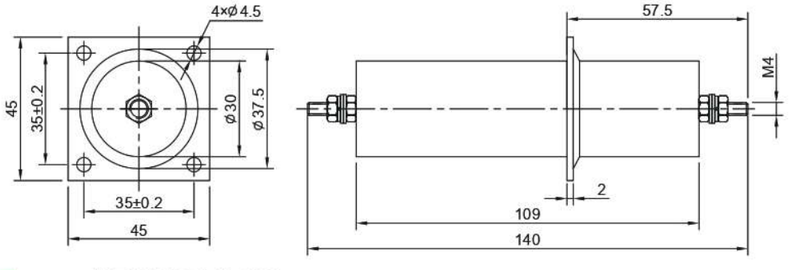


Fig 2 PE7113-32-M4-104

PESF - E Series
HEMP Power Line Filters

Product Features :

- Meet the PCI requirements of MIL-STD-188-125 parts 1 and 2, and DEF STAN 59-188 parts 1 and 2 for E1 and E2 pulses.
- All lines are individually filtered and feature inductive input to offer both good continuous wave EMC performance and superior transient handling performance even on supplies with low source impedance.
- All lines are fitted with high-energy transient suppressors.

Technical Specifications :

Rated Voltage (V_R):

440VAC (phase to phase)

250VAC (phase to case)

Operating Frequency (f_R): DC~60Hz

Leakage current (I_g@250VAC/50Hz):

See Filter Selection Table

Voltage Drop per line (ΔV of V_R @50Hz and I_R):

See Filter Selection Table

Test Voltage (Prior to fitting transient suppressors):

2250VDC (each line to case)

Insulation Resistance:

Discharge Resistors Fitted internally from each line to case

Peak Surge Current: 70KA (8/20us)

Shielding Effectiveness: 100dB@10MHz ~ 10GHz

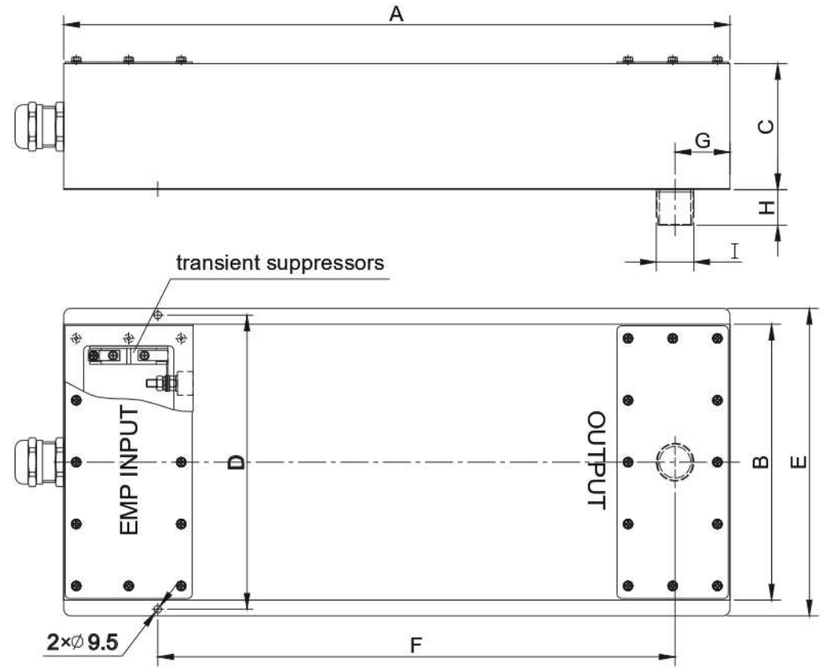
Climatic Category: 40/085/21

Filter Selection Table :

Filter	Rated Current (I_R)@40℃	Rated Voltage V_R	Leakage Current I_g	Voltage Drop ΔV	Dimension
PESF-E221A1-16	2x16	250VAC	<1.5A	<0.7%	Fig.1
PESF-E221A1-32	2x32	250VAC	<1.5A	<0.7%	Fig.1
PESF-E221A1-50	2x50	250VAC	<1.5A	<2.5%	Fig.1
PESF-E221A1-63	2x63	250VAC	<1.5A	<2.0%	Fig.1
PESF-E221A1-100	2x100	250VAC	<5.0A	<3.3%	Fig.1
PESF-E221A1-160	2x160	250VAC	<5.0A	<2.2%	Fig.1
PESF-E221A1-200	2x200	250VAC	<5.0A	<2.0%	Fig.1
PESF-E421A1-16	4x16	440/250VAC	<1.5A	<0.7%	Fig.1
PESF-E421A1-32	4x32	440/250VAC	<1.5A	<0.7%	Fig.1
PESF-E421A1-50	4x50	440/250VAC	<1.5A	<2.5%	Fig.1
PESF-E421A1-63	4x63	440/250VAC	<1.5A	<2.0%	Fig.1
PESF-E421A1-100	4x100	440/250VAC	<5.0A	<3.3%	Fig.2
PESF-E421A1-160	4x160	440/250VAC	<5.0A	<2.2%	Fig.2
PESF-E421A1-200	4x200	440/250VAC	<5.0A	<2.0%	Fig.2
PESF-E121A1-16	1x16	250VAC	<1.5A	<0.7%	Fig.3
PESF-E121A1-32	1x32	250VAC	<1.5A	<0.7%	Fig.3
PESF-E121A1-50	1x50	250VAC	<1.5A	<2.5%	Fig.3
PESF-E121A1-63	1x63	250VAC	<1.5A	<2.0%	Fig.3
PESF-E121A1-100	1x100	250VAC	<5.0A	<3.3%	Fig.3
PESF-E121A1-160	1x160	250VAC	<5.0A	<2.2%	Fig.3
PESF-E121A1-200	1x200	250VAC	<5.0A	<2.0%	Fig.3
PESF-E121A1-300	1x300	250VAC	<14A	<1.1%	Fig.4
PESF-E121A1-400	1x400	250VAC	<14A	<1.4%	Fig.4
PESF-E121A1-630	1x630	250VAC	<14A	<1.4%	Fig.4
PESF-E121A1-800	1x800	250VAC	<14A	<1.4%	Fig.4
PESF-E121A1-1000	1x1000	250VAC	<14A	<1.8%	Fig.5

PESF - E Series
HEMP Power Line Filters

Mechanical Dimension(mm) :



Filter	A	B	C	D	E	F	G	H	I
PESF-E221A1-16	560	220	150	243	260	420	60	35	M24
PESF-E221A1-32	560	220	150	243	260	420	60	35	M24
PESF-E221A1-50	650	250	150	273	290	490	60	40	M33
PESF-E221A1-63	650	250	150	273	290	490	60	40	M33
PESF-E221A1-100	850	350	160	373	390	660	70	45	M48
PESF-E221A1-160	850	350	160	373	390	660	70	45	M48
PESF-E221A1-200	850	350	160	373	390	660	70	45	M48
PESF-E421A1-16	560	440	150	463	480	420	60	40	M33
PESF-E421A1-32	560	440	150	463	480	420	60	40	M33
PESF-E421A1-50	650	500	150	523	540	490	60	45	M42
PESF-E421A1-63	650	500	150	523	540	490	60	45	M42

Fig 1

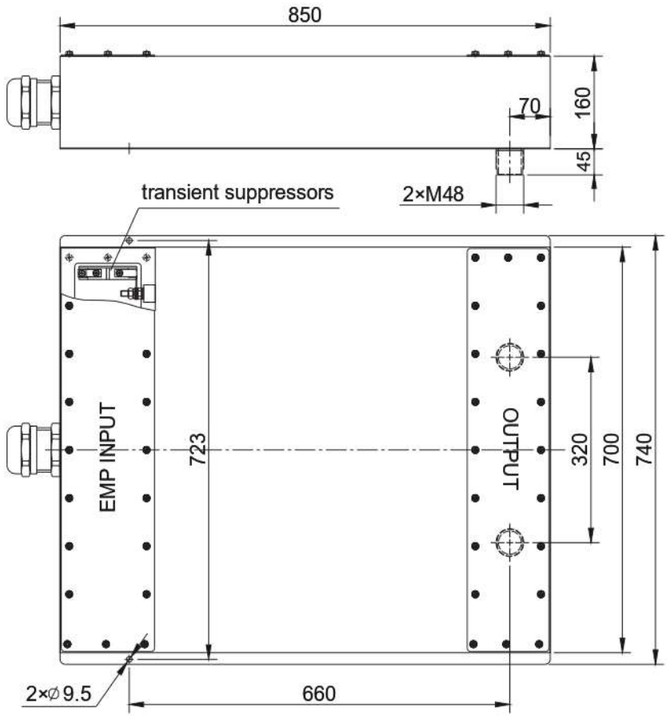
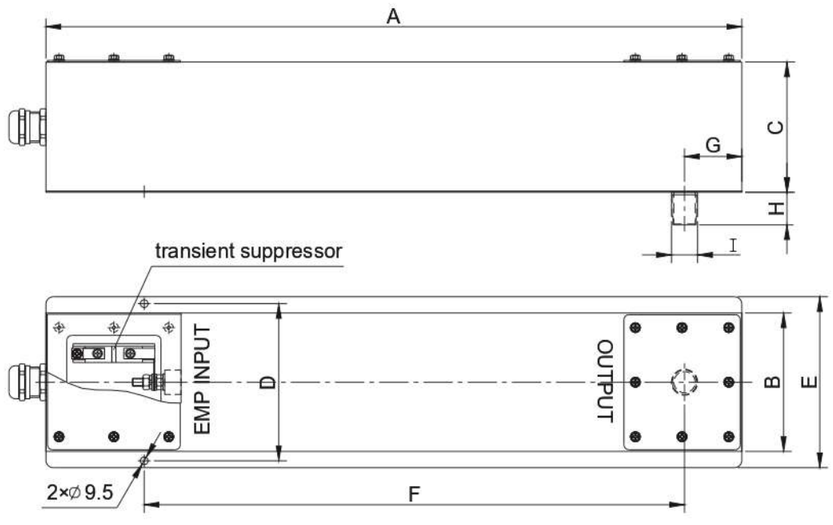


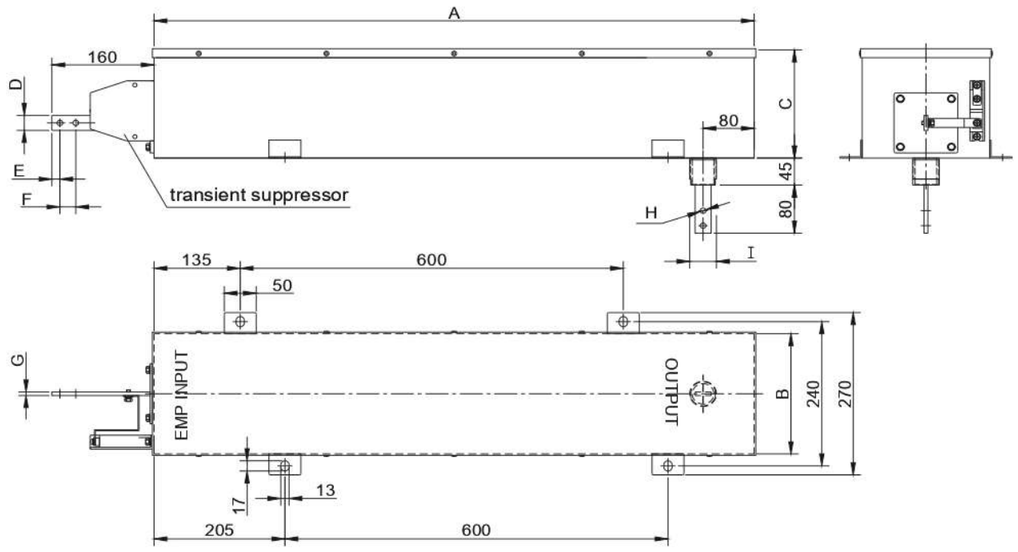
Fig 2 4 lines 100A~200A



PESF - E Series
HEMP Power Line Filters

Filter	A	B	C	D	E	F	G	H	I
PESF-E121A1-16	650	150	150	173	190	490	60	35	M24
PESF-E121A1-32	650	150	150	173	190	490	60	35	M24
PESF-E121A1-50	650	150	150	173	190	490	60	35	M24
PESF-E121A1-63	650	150	150	173	190	490	60	35	M24
PESF-E121A1-100	850	170	160	193	210	660	70	40	M33
PESF-E121A1-160	850	170	160	193	210	660	70	40	M33
PESF-E121A1-200	850	170	160	193	210	660	70	40	M33

Fig 3 Single line 16A~200A



Filter	A	B	C	D	E	F	G	H	I
PESF-E121A1-300	940	200	180	25	12.5	25	6	4xΦ9	M42
PESF-E121A1-400	940	200	180	25	12.5	25	6	4xΦ9	M42
PESF-E121A1-630	940	200	200	30	15	30	8	4xΦ11	M48
PESF-E121A1-800	940	200	200	30	15	30	10	4xΦ11	M48

Fig 4 Single line 300A~800A

PESF - E Series
HEMP Power Line Filters

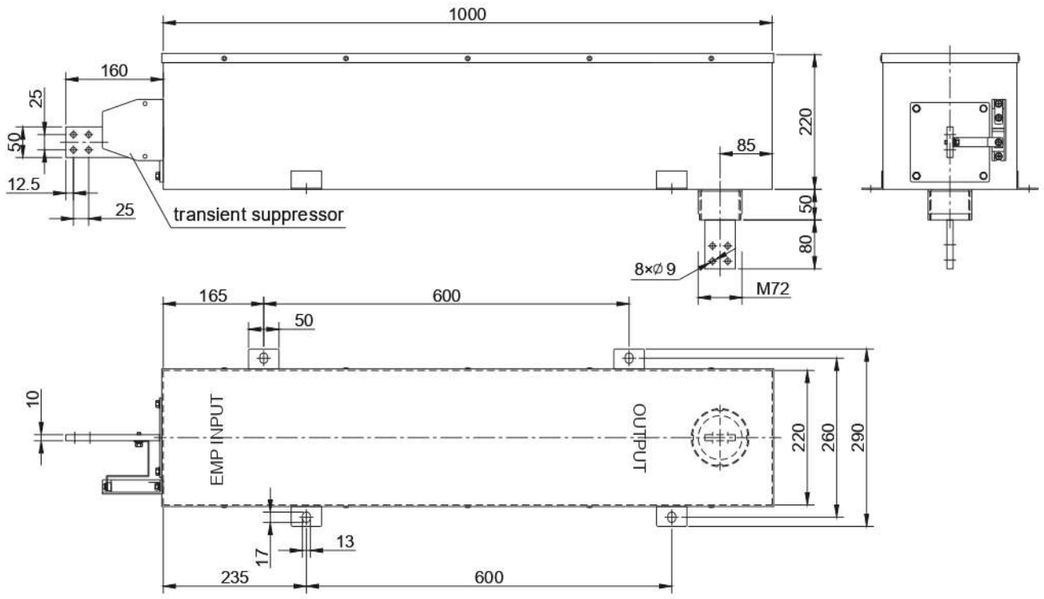


Fig 5 Single line 1000A

Transient Suppression Performance :

MIL-STD-188-125-1 acceptance test, short pulse current injection, wave shape 20/500ns					
Input pulse amplitude	250A	500A	1000A	1800A	2500A
MIL-STD-188-125 residual requirement	<10A	<10A	<10A	<10A	<10A
MIL-STD-188-125-1 acceptance test, intermediate pulse current injection, wave shape 1.5/3000us					
Input pulse amplitude	250A				
MIL-STD-188-125 requirement	No filter damage or performance degradation				

EMC rectification service
Test equipments

Test Equipments

Our company has electromagnetic shielding laboratory and related supporting testing equipment, which can provide customers with EMC rectification and shielding enclosure testing services.
The test criteria are performed as follows: GJB 5792-2006, GB/T12190-2006, NSI/ASTM E1851-2002, MIL-STD-285-1997, IEEE-299-2006 etc.