CLEANPOWER FILTERS

FM00699

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APPLICATIONS

Cost-Effective Range of Power Line Filters where the performance requirement is not quite so stringent as to need the very high performance of MPE's High Performance Power Line Filters. Typical applications include screened rooms, enclosures, cabinets, industrial power and equipment applications.

FEATURES

Suitable for chassis or bulkhead mounting

- High quality, high reliability, ruggedness, safety and corrosion resistance
- Single box solution to EMC requirements
- Wide frequency performance up to 1GHz
- Incorporates MPE feedthrough capacitors for high reliability
- Optimum performance for unit cost
- Enclosed terminals for shielding and safety
- RoHS compliant
- Low power dissipation
- High attenuation to symmetric and asymmetric EMI

All MPE power filters are tested using the test methods defined within the following standards and meet or exceed the relevant performance and/or safety criteria defined within these standards: Mil-F-15733
Mil-Std-220C
CISPR17:2011/BS EN 55017:2011
UL1283
EN60950/IEC60950/UL60950

DESCRIPTION

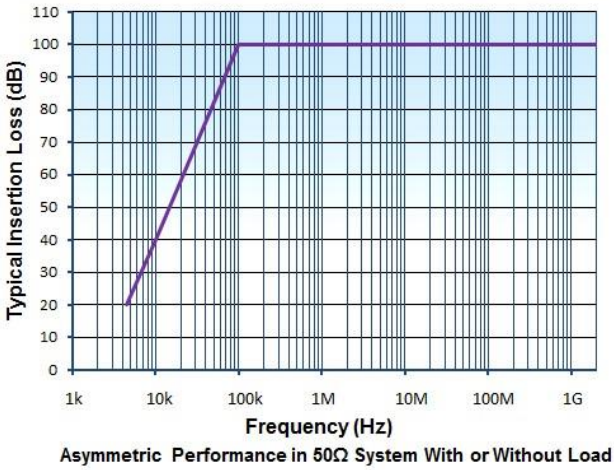
For any EMC strategy applied to a system design, the selection of the appropriate EMI filter is of prime importance. The MPE CleanPower range of EMI filters attenuates interference in the form of conducted emissions. It will also limit radiated emissions in a properly shielded system.
The filters are bi-directional and are designed to reduce equipment generated EMI from emanating into the environment as well as protecting the integrity of the installation against hostile incident EMI. The terminal compartments of the filter are fully gasketed and EMI sealed and are designed to allow the filter to be mounted either internal or external to the equipment boundary.

High reliability and safety characteristics are inherent in the CleanPower range of EMI filters. The filters use proprietary self-healing metallised plastic film feedthrough capacitors. The filters are designed to comply with the appropriate safety requirements of EN60950 and relevant insulating components are made from UL listed material to flammability class UL 94V-0. The filter case is manufactured from corrosion resistant stainless steel.

INSTALLATION AND SAFETY

For full safety and optimum performance the filter must be SOLIDLY and PERMANENTLY earthed in accordance with current safety regulations. The filter includes an integral safety earth, and the terminal compartments are fully enclosed. A true low impedance earth bond should be made between the filter enclosure and a clean paint free metal surface of a chassis or bulkhead. The filter is self-discharging, but usual industry safety practice of confirmation of discharge by short circuiting after power supply is removed should be observed.

MPE
Quality, Reliability, Performance



Asymmetric Performance in 50Ω System With or Without Load

GENERAL SPECIFICATION

Rated Voltage	Single phase filters	250VAC 50/60Hz
	Also suitable for	300VAC 50/60Hz
		115VAC 400Hz
		300/520VAC 50/60Hz 2 phase
		400VDC 2 line
	Three phase filters	250/440VAC 50/60Hz
	Also suitable for	300/520AC 50/60Hz
		277/480VAC 50/60Hz
		115/200VAC 400Hz
Rated Current		As tabulated
Insertion Loss		See graph for typical performance in 50Ω system under all load conditions
Operating temperature range		-45°C to +85°C
Full Load Operating temperature range		-45°C to +50°C
Maximum temperature rise on full load		20°C
Storage temperature		-55°C to +85°C
Discharge time to below 30V		30s maximum
Current overload rating		10x rated current for 1 second
		1.5x rated current for 15 minutes
Voltage overload rating		1.1x rated voltage continuously (not appropriate to transient suppressed filters)
		1.5x rated voltage for 1 minute
Proof voltage test		2250VDC line to line and line to earth
Protection index guide		IP64
Flammability of appropriate components		UL 94V-0
Transient suppression - when specified		Peak surge current 10kA 8/ 20µs
		Peak energy absorption 270J 2ms

RATINGS

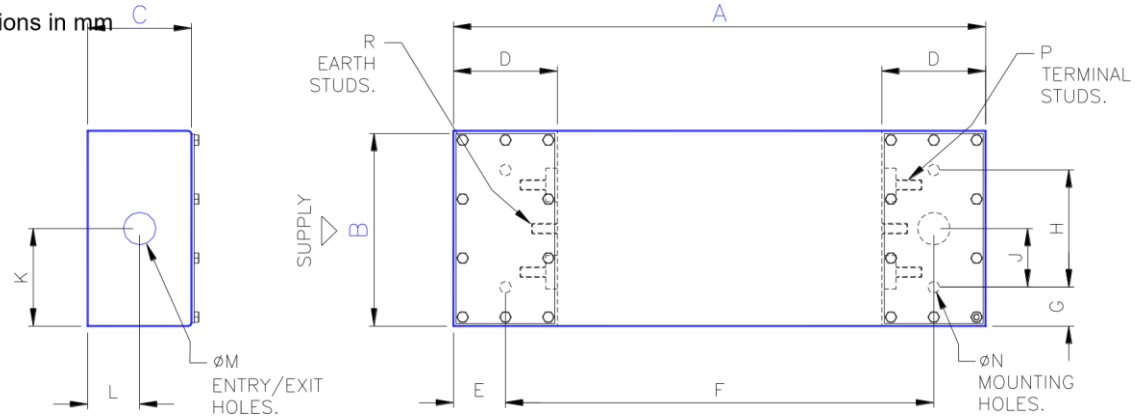
This range of filters is identical to the CPF41006 – CPF43160 range shown in previous catalogues

SINGLE PHASE (+ N)				CURRENT RATING, I_R @ 50°C*	THREE PHASE (+ N)			
Part No	Volt Drop (mV)	Heat Dissipation (W)	Leakage Current (mA)		Part No	Volt Drop (mV)	Heat Dissipation (W)	Leakage Current (mA)
DS41006	400	5	100	**6A**	**DS43006**	300	10	200
DS41016	300	10	200	**16A**	**DS43016**	200	15	300
DS41032	200	15	300	**32A**	**DS43032**	150	20	500
DS41063	100	20	400	**63A**	**DS43063**	80	25	700
DS41100	80	25	600	**100A**	**DS43100**	60	30	1000
DS41160	60	30	800	**160A**	**DS43160**	40	40	1300

*Current derating between 50ºC and 85ºC For temperature, θ $I_\theta = I_R \sqrt{(85-\theta)/35}$

DIMENSIONS AND MECHANICAL DETAILS

Dimensions in mm



Case Stainless steel
Terminals Nickel plated brass
Each terminal supplied with 2 nuts, 2 washers and spring washer
(hardware not shown on drawing for clarity)

Part Number	A Length	B Width	C Depth	D	E	F	G	H	J	K	L	M	N	P	R	Weight (kg)
DS41006	220	80	50	60	20	180	15	50	25	40	20	16	7	M4	M5	2
DS43006	220	150	50	60	20	180	25	100	50	75	20	16	7	M4	M5	3
DS41016	250	110	55	60	25	200	25	60	30	55	25	20	7	M4	M5	3
DS43016	250	180	55	60	25	200	25	130	65	90	25	20	7	M4	M5	4
DS41032	350	120	65	70	30	290	25	70	35	60	30	20	9	M5	M6	5
DS43032	350	200	65	70	30	290	25	150	75	100	30	25	9	M5	M6	8
DS41063	400	140	80	80	35	330	25	90	45	70	35	25	9	M6	M8	8
DS43063	400	230	80	80	35	330	25	180	90	115	35	32	9	M6	M8	12
DS41100	500	200	95	100	40	420	25	150	75	100	45	32	11	M8	M10	18
DS43100	500	240	95	100	40	420	25	190	95	120	45	32	11	M8	M10	20
DS41160	600	210	110	110	45	510	25	160	80	105	50	32	11	M10	M12	25
DS43160	600	250	110	110	45	510	25	200	100	125	50	40	11	M10	M12	30

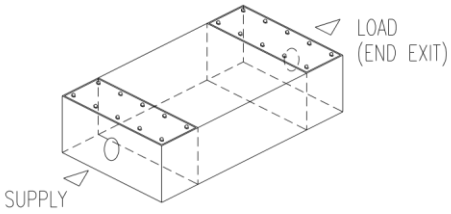
Recommended tightening torques

Lid screws	M5	1N-m
Terminals (use 2 spanners)	M4	1.2N-m
	M5	2N-m
	M6	2.5N-m
	M8	5N-m

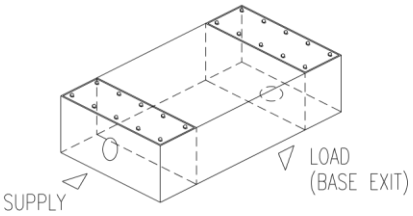
M10 8N-m

M12 11N-m

CABLE ENTRY OPTIONS



Part number DSXXXXXA



Part number DSXXXXXC

ORDERING INFORMATION

DSXXXXX X X

Filter part number

Cable entry option

Add suffix V for transient suppressed version

CONTACT DETAILS

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