EMIS

DATA SHEET

SINGLE PHASE EMI FILTER - SMF2232

Description

These series of filters designed for motor and power drive systems which can provide superior attenuation performance and suppress conducted noise even when high interference level are present.

Approvals & Compliances

(Pending)

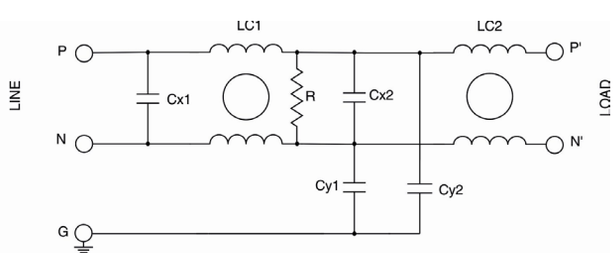
Features:

- Two stage filters designed for noisy application requiring excellent filter performance.
- General purpose filters with low leakage current for safety critical application.
- Filters available in single stage and double stage.
- All filters provide an exceptional conducted attenuation performance based on chokes with high permeable core material and excellent thermal behavior
- All filters provide high attenuation performance.
- Filters are also available as single- stage filters.
- Filters are also available with differential mode choke.
- Designed for easy and fast chassis mounting
- Various terminal options allow you to select the desired pulse connection style.

Applications:

- UPS/Inverters.
- Industrial applications
- Frequency convertors
- Medical equipment
- Industrial application
- Automotive application
- Weighting Machines
- Printing Machinery
- Electrical equipment application Stepper Motor Drives.

Typical Circuit Diagram:



Technical Specifications:

Maximum continuous operating voltage	:	250 VAC, 50/60Hz, 250 VDC
Operating Frequency	:	DC to 400Hz
Current ratings	:	1A to 36A @40°C
High Potential test voltage	:	P to G 2250VDC for 2 Sec P to N 1075VDC for 2 Sec P to G 1500VAC for 2 Sec (M Types)
Overload Capability	:	4 x rated current at switch on
		1.5x rated current for 1 minute, once per hour
Design Corresponding to	:	UL 60939-3 and IEC 60939-1&2
Flammability corresponding to	:	UL 94 V-0 or better
Temperature range	:	-25°C to +100°C
Climatic Category	:	25/100/21
Protection category	:	IP20

Ordering information:

STANDARD VERSION								
Model Number	Part Number	Current Rating @ 40°C (A)	Leakage current @ 250 VAC/50 Hz (mA)	Power loss @25°C / 50Hz (W)	Termination			Weight Approx. (g)
								
SMF2232-1-4	E108192-1	1	0.37	2.5	-4	-	-	200
SMF2232-1-5	E108192-2	1	0.37	2.5	-	-5	-	200
SMF2232-3-4	E108193-1	3	0.37	2.5	-4	-	-	250
SMF2232-3-5	E108193-2	3	0.37	2.5	-	-5	-	250
SMF2232-6-4	E108194-1	6	0.37	3.5	-4	-	-	450
SMF2232-6-5	E108194-2	6	0.37	3.5	-	-5	-	450
SMF2232-10-4	E108195-1	10	0.37	9.5	-4	-	-	700
SMF2232-10-5	E108195-2	10	0.37	9.5	-	-5	-	700
SMF2232-10-1	E108195-3	10	0.37	9.5	-	-	-1	700
SMF2232-12-4	E108196-1	12	0.37	13.5	-4	-	-	700
SMF2232-12-5	E108196-2	12	0.37	13.5	-	-5		700
SMF2232-12-1	E108196-3	12	0.37	13.5	-	-	-1	700
SMF2232-16-4	E108197-1	16	0.37	10	-4	-	-	1000
SMF2232-16-5	E108197-2	16	0.37	10	-	-5	-	1000
SMF2232-16-1	E108197-3	16	0.37	10	-	-	-1	1000
SMF2232-25-1	E108198-1	25	0.37	12	-	-	-1	1000
SMF2232-36-1	E108199-1	36	0.37	13.5	-	-	-1	1000

SAFETY VERSION								
Model Number	Part Number	Current Rating @ 40°C (A)	Leakage current @ 250 VAC/50 Hz (mA)	Power loss @25°C / 50Hz (W)	Termination			Weight Approx. (g)
								
SMF2232S-1-4	E108200-1	1	0.05	2.5	-4	-	-	200
SMF2232S-1-5	E108200-2	1	0.05	2.5	-	-5	-	200
SMF2232S-3-4	E108231-1	3	0.05	2.5	-4	-	-	250
SMF2232S-3-5	E108231-2	3	0.05	2.5	-	-5	-	250
SMF2232S-6-4	E108232-1	6	0.05	3.5	-4	-	-	450
SMF2232S-6-5	E108232-2	6	0.05	3.5	-	-5	-	450
SMF2232S-10-4	E108233-1	10	0.05	9.5	-4	-	-	700
SMF2232S-10-5	E108233-2	10	0.05	9.5	-	-5	-	700
SMF2232S-10-1	E108233-3	10	0.05	9.5	-	-	-1	700
SMF2232S-12-4	E108234-1	12	0.05	13.5	-4	-	-	700
SMF2232S-12-5	E108234-2	12	0.05	13.5	-	-5	-	700
SMF2232S-12-1	E108234-3	12	0.05	13.5	-	-	-1	700
SMF2232S-16-4	E108235-1	16	0.05	10	-4	-	-	1000
SMF2232S-16-5	E108235-2	16	0.05	10	-	-5	-	1000
SMF2232S-16-1	E108235-3	16	0.05	10	-	-	-1	1000
SMF2232S-25-1	E108236-1	25	0.05	12	-	-	-1	1000
SMF2232S-36-1	E108237-1	36	0.05	13.5	-	-	-1	1000

MEDICAL VERSION								
Model Number	Part Number	Current Rating @ 40°C (A)	Leakage current @ 250 VAC/50 Hz (mA)	Power loss @25°C / 50Hz (W)	Termination			Weight Approx. (g)
								
SMF2232M-1-4	E108238-1	1	0	2.5	-4	-	-	200
SMF2232M-1-5	E108238-2	1	0	2.5	-	-5	-	200
SMF2232M-3-4	E108239-1	3	0	2.5	-4	-	-	250
SMF2232M-3-5	E108239-2	3	0	2.5	-	-5	-	250
SMF2232M-6-4	E108240-1	6	0	3.5	-4	-	-	450
SMF2232M-6-5	E108240-2	6	0	3.5	-	-5	-	450
SMF2232M-10-4	E108241-1	10	0	9.5	-4	-	-	700
SMF2232M-10-5	E108241-2	10	0	9.5	-	-5	-	700
SMF2232M-10-1	E108241-3	10	0	9.5	-	-	-1	700
SMF2232M-12-4	E108242-1	12	0	13.5	-4	-	-	700
SMF2232M-12-5	E108242-2	12	0	13.5	-	-5	-	700
SMF2232M-12-1	E108242-3	12	0	13.5	-	-	-1	700
SMF2232M-16-4	E108243-1	16	0	10	-4	-	-	1000
SMF2232M-16-5	E108243-2	16	0	10	-	-5	-	1000
SMF2232M-16-1	E108243-3	16	0	10	-	-	-1	1000
SMF2232M-25-1	E108256-1	25	0	12	-	-	-1	1000
SMF2232M-36-1	E108257-1	36	0	13.5	-	-	-1	1000

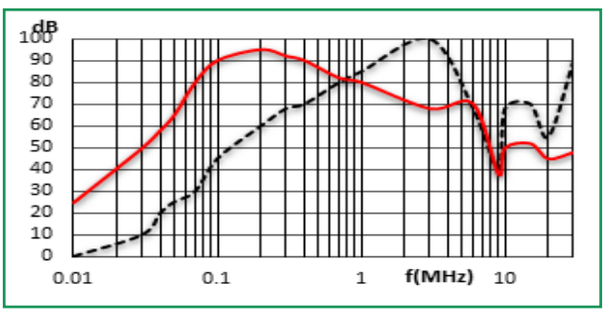
ENHANCED VERSION							
Model Number	Part Number	Current Rating @ 40°C (A)	Leakage current @ 250 VAC/50 Hz (mA)	Power loss @25°C / 50Hz (W)	Termination		Weight Approx.(g)
							
SMF2232N-1-4	E108258-1	1	3.69	2.5	-4	-	200
SMF2232N-3-4	E108259-1	3	3.69	2.5	-4	-	250
SMF2232N-6-4	E108260-1	6	3.69	3.5	-4	-	450
SMF2232N-10-4	E108261-1	10	3.69	9.5	-4	-	670
SMF2232N-10-1	E108261-2	10	3.69	9.5	-	-1	670
SMF2232N-12-4	E108262-1	12	3.69	13.5	-4	-	670
SMF2232N-12-1	E108262-2	12	3.69	13.5	-	-1	670
SMF2232N-16-4	E108263-1	16	3.69	10	-4	-	1000
SMF2232N-16-1	E108263-2	16	3.69	10	-	-1	1000
SMF2232N-25-1	E108264-1	25	3.69	12	-	-1	1000
SMF2232N-36-1	E108265-1	36	2.6	13.5	-	-1	1000

Note : Maximum leakage current is according to IEC 60939-3 under normal AC operating conditions. The worst leakage current could double the value if the neutral is interrupted.

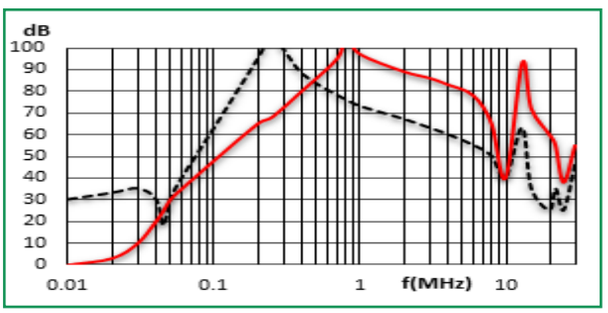
Insertion Loss : ..... Common mode _____Differential Mode

Per CISPR 17; C=50 Ω/50 Ω D=50 Ω/50 Ω

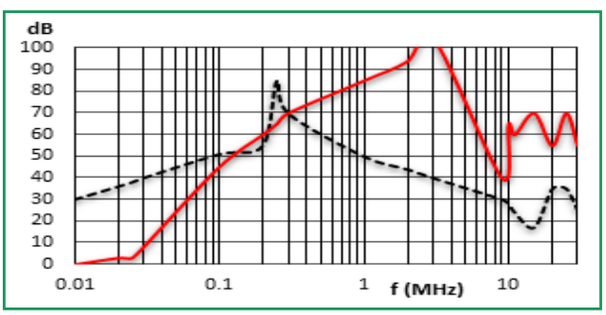
1A Standard Version



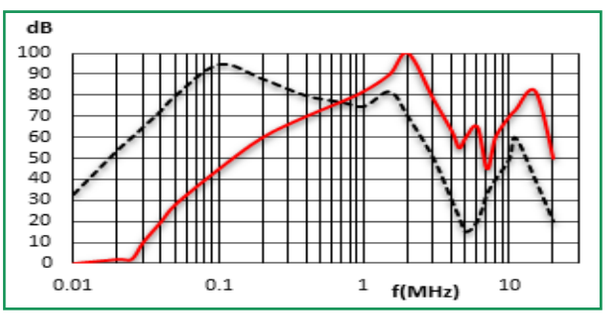
Safety Version



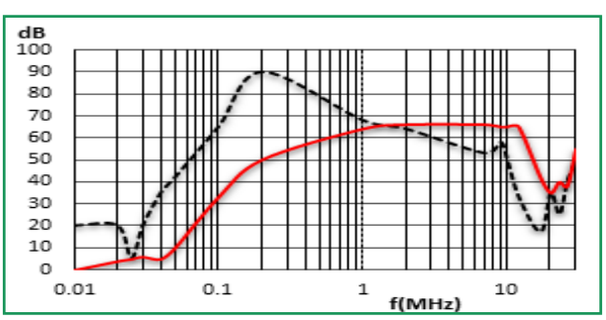
Medical Version



Enhanced Performance



3A Standard Version



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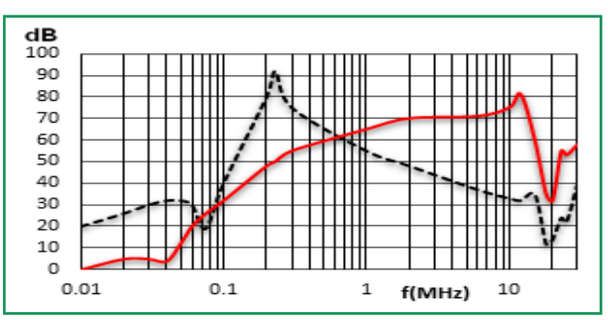

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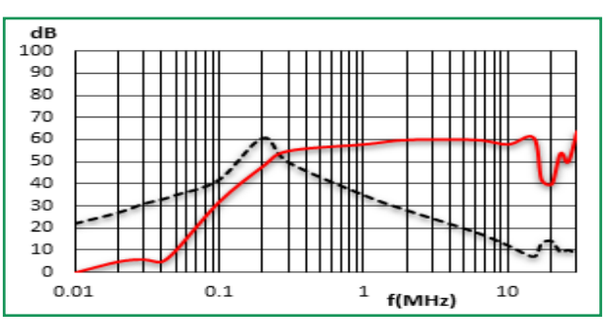

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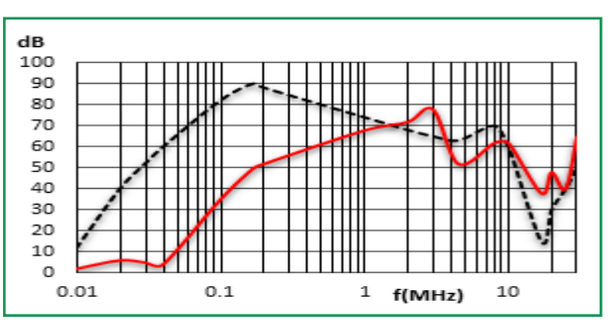

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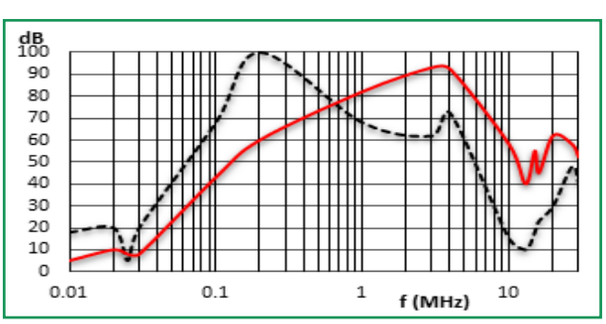

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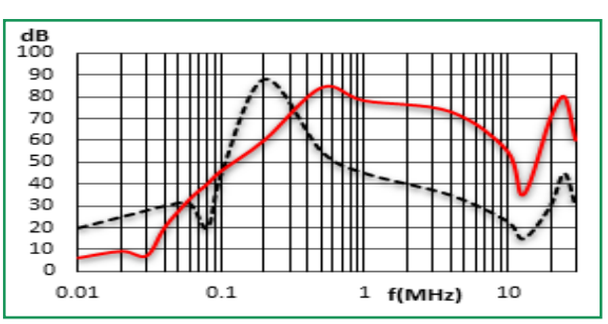

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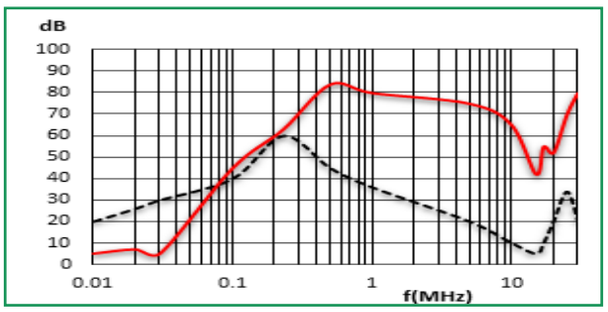

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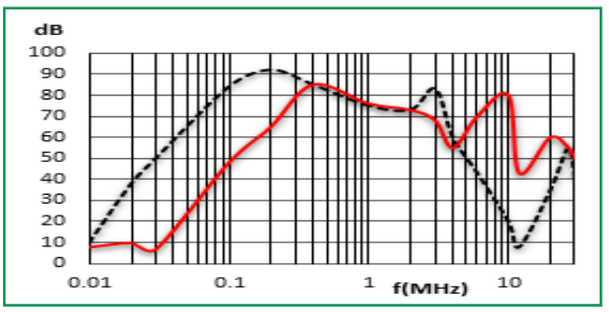
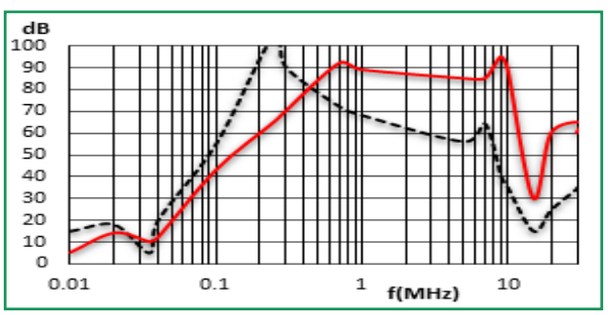


10A Standard Version



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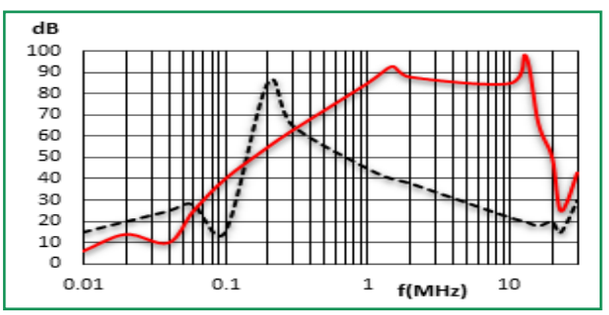
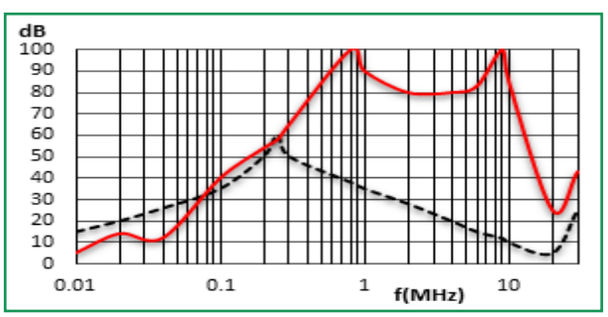
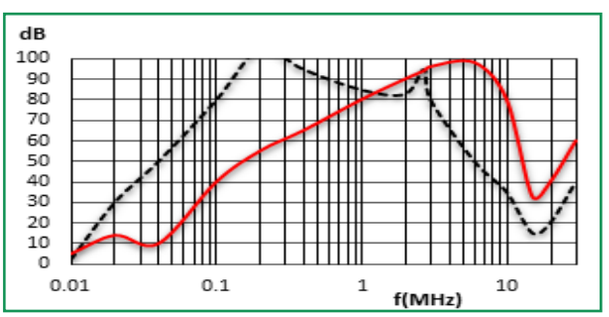


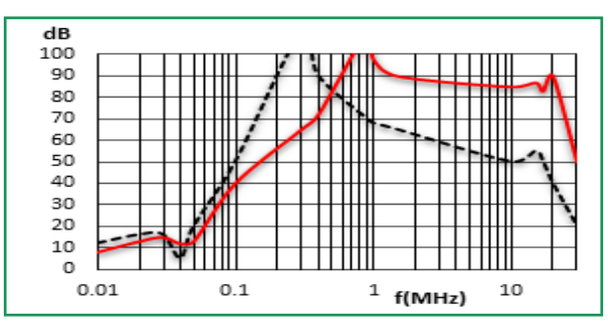
Medical Version



Enhanced Performance



12A Standard Version



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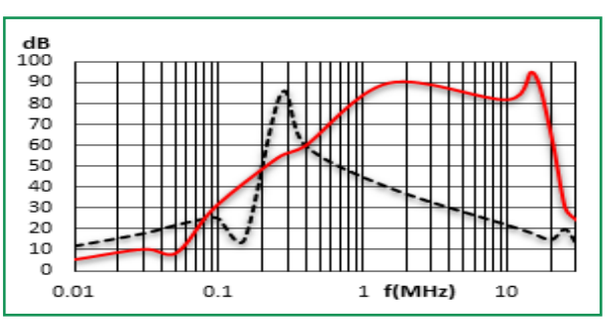

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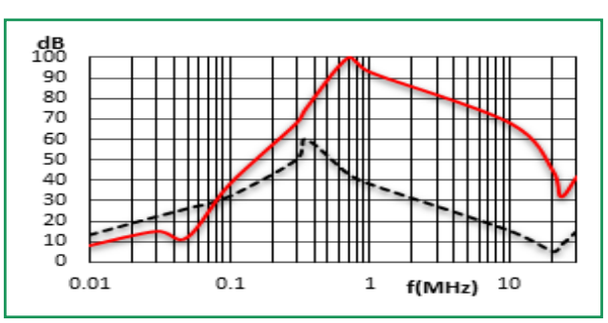

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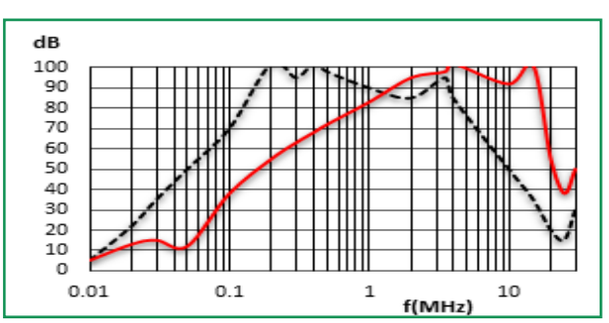
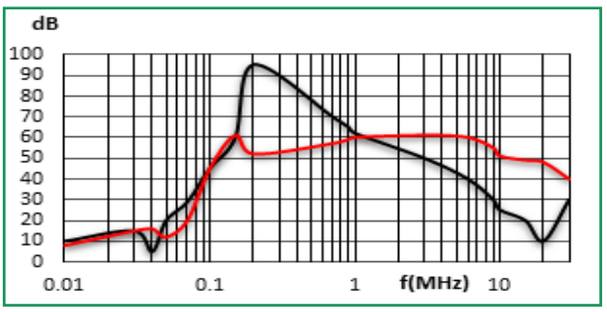


16A Standard Version



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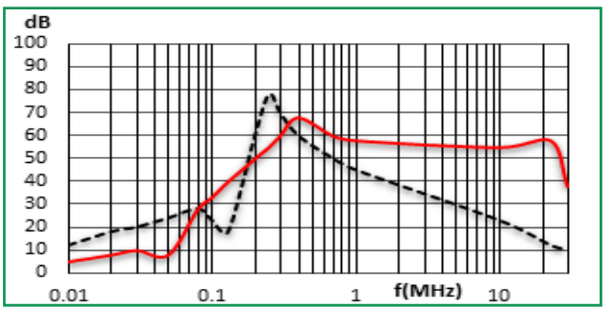

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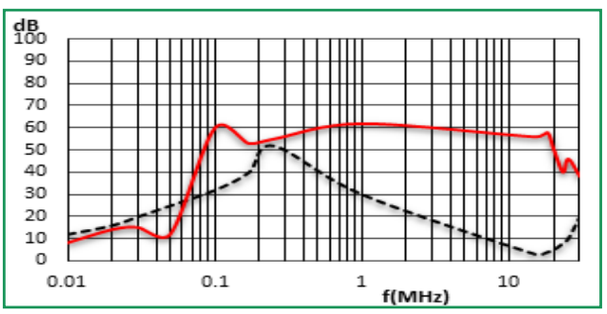

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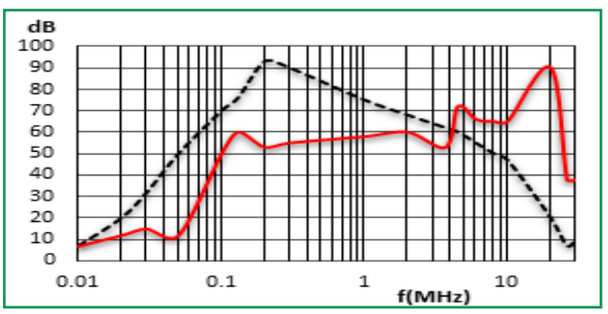

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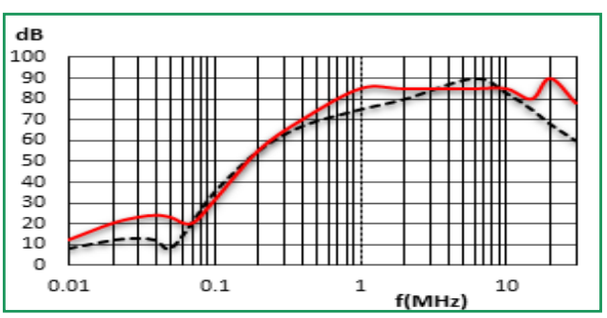

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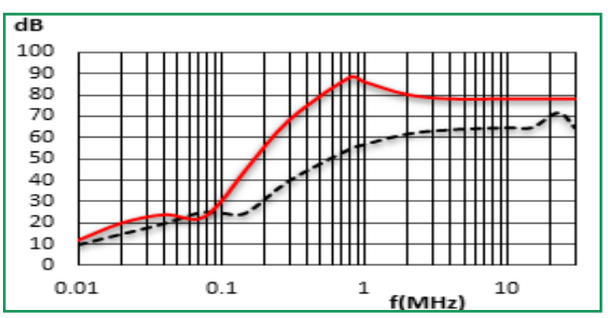
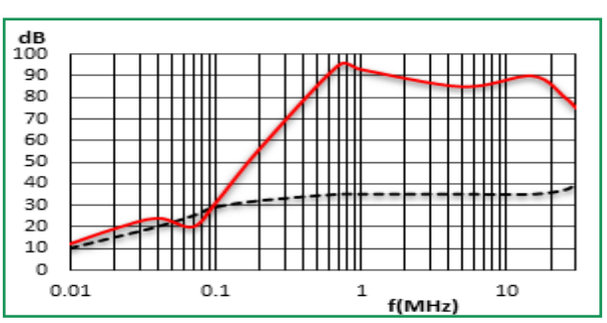


Medical Version



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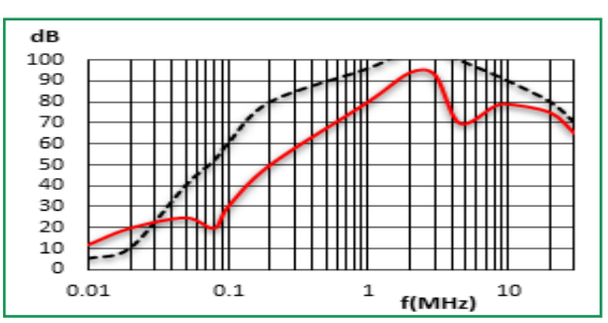
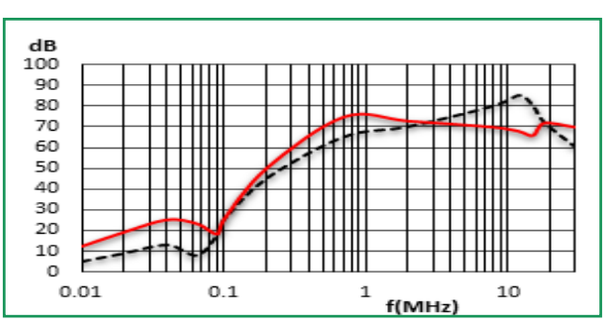


36A Standard Version



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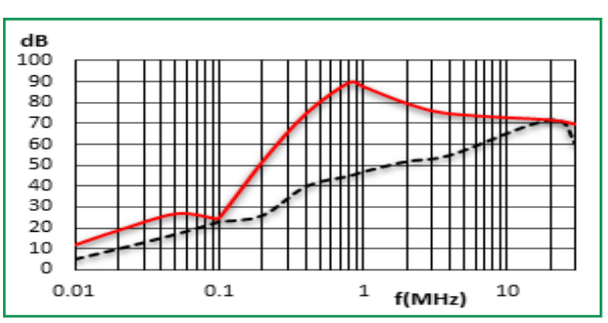
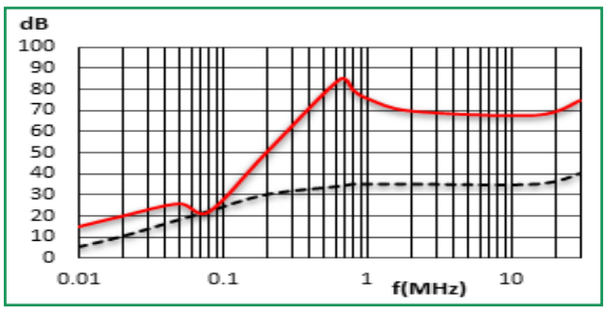
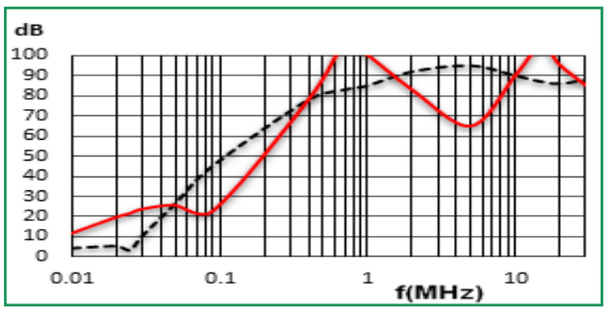


36A

Medical Version



Enhanced Performance



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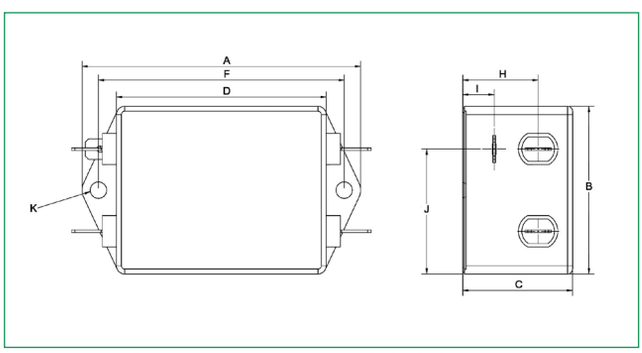
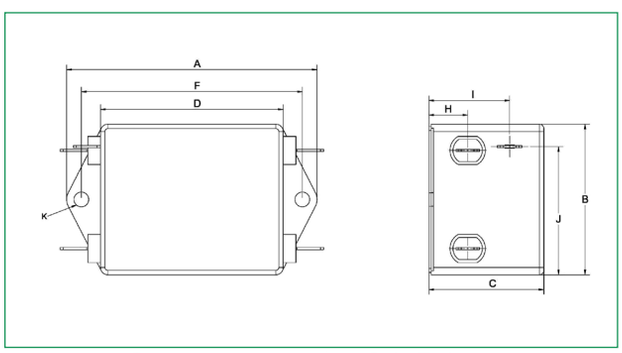


Connection style -04, 1 A type



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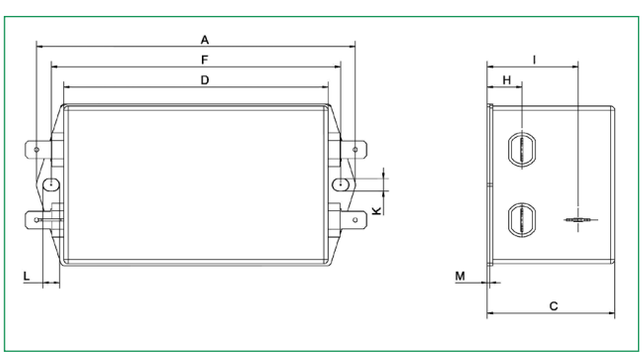
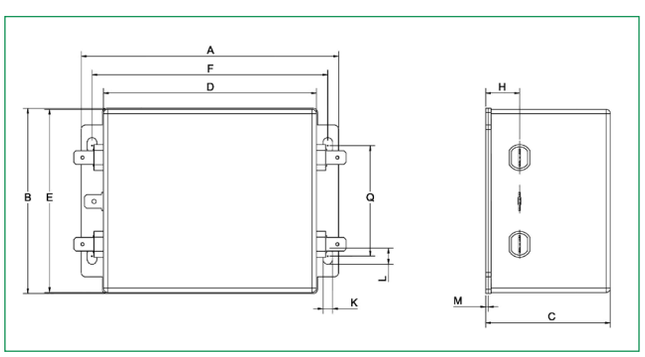
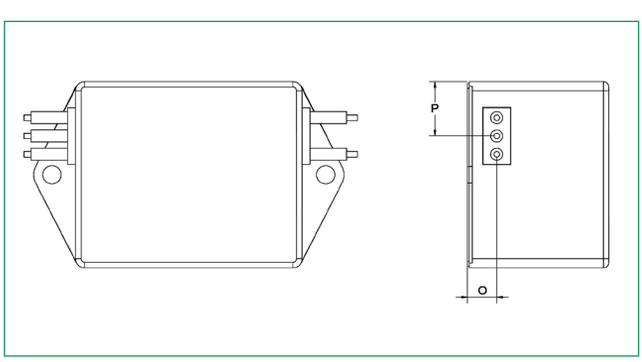


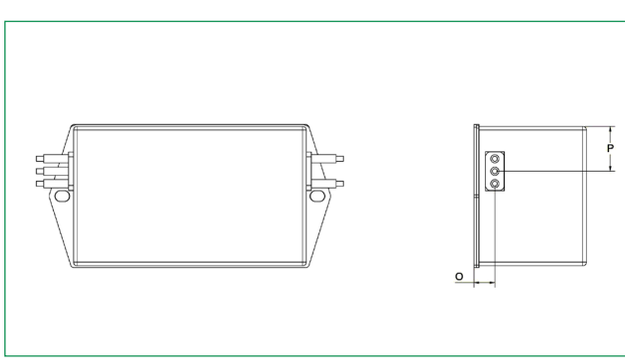
Connection style -04, 6A to 12A type



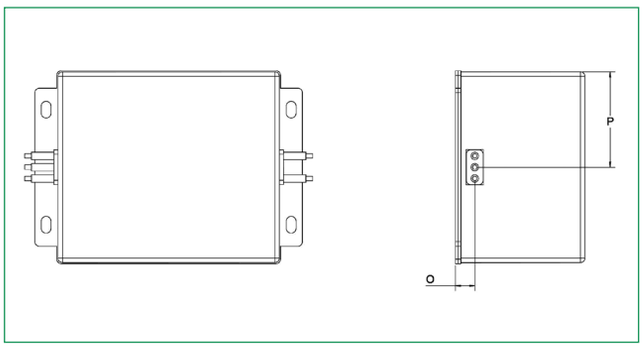
Connection style -04, 16A types



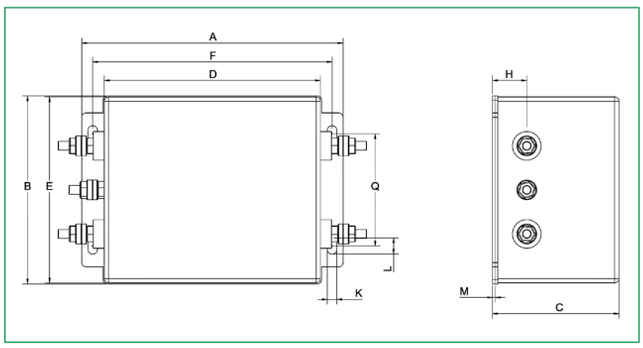
Connection style -05, 1A to 3A type
(same dimension as style -04)



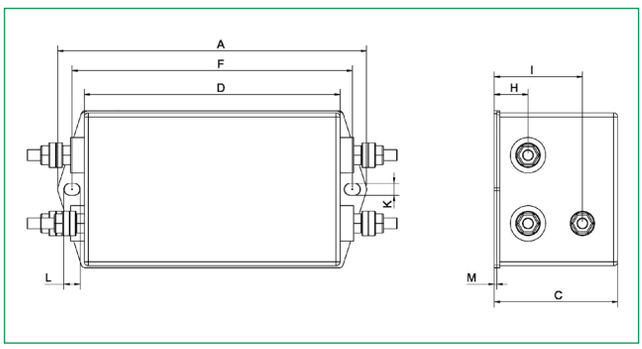
Connection style -05, 6A to 12A type
(same dimension as style -04)



Connection style -05,16 A types
(same dimension as style -04)



Connection style -01, 16 A type
(same dimensions as style -03)



Connection style -01, 10A, 12A, 25A and
36A types

Mechanical dimensions:

	1A	3A	6A	10A	12A	16A	25A	36A
A	85±1	85±1	113.5±1	156±1	156±1	119±1	156±1	156±1
B	51±1	51±1	57.5±1	57.5±1	57.5±1	85.5±1	57.5±1	57.5±1
C	32.5±1	39±1	45.4±1	45.4±1	45.4±1	57.6±1	45.4±1	45.4±1
D	64±1	62±1	94±1	130.5±1	130.5±1	98.5±1	130.5±1	130.5±1
E	-	-	56	56	56	84.5	56	56
F	75	75	103	143	143	109	143	143
H	21.5	13	12.4	12.4	12.4	15.6	12.4	12.4
I	9	27.5	32.4	32.5	32.5	-	32.5	32.5
K	5	5	4.4	5.3	5.3	4.4	5.3	5.3
L	-	-	6	6	6	7.4	6	6
M	0.8	0.8	1	1	1	1.2	1	1
Connection Style-04	-	-	-	-	-	-	-	-
N	6.3x0.8	6.3X0.8	6.3X0.8	6.3X0.8	6.3X0.8	6.3X0.8	-	-
Connection Style-05	-	-	-	-	-	-	-	-
O	8.3	8.3	8.4	8.4	8.4	8.6	-	-
P	14.9	14.9	18	18	18	42.25	-	-
AWG Type Wire	AWG 20	AWG 20	AWG 18	AWG 18	AWG 16	AWG 16	-	-
Wire Length	140	140	140	140	140	140	-	-
Connection Style-01	-	-	-	-	-	-	-	-
N	-	-	-	M4	M4	M4	M4	M4
Recommended torque (Nm)	-	-	-	1.2-1.3	1.2-1.3	1.2-1.3	1.2-1.3	1.2-1.3
Earth terminal Recommended torque (Nm)	-	-	-	1.5-1.7	1.5-1.7	1.5-1.7	1.5-1.7	1.5-1.7

All dimensions in mm;Tolerance according: ISO 2768-c