

Cost-effective EMI Power Inlet Filter

EEA & EEB Series



UL Recognized
CSA Certified
VDE Approved



EEA Series

- Compact single stage EMI filter with IEC 60320-1 C14 inlet
- Two element circuit provides basic attenuation
- Same performance as the EF Series
- Available in three terminal configurations
- Supersedes EF Series

EEB Series

- Compact EMI filter with IEC 60320-1 C14 inlet
- Two element circuit provides extended attenuation
- Extended differential mode performance
- Available in three terminal configurations

EAS & EBS Models

- Same performance as EEA and EEB Series
- Snap-in mounting
- Spade terminals

EAH & EBH Models

- Same size as EEA and EEB
- Minimal leakage current suitable for medical applications
- Flange mounted
- Spade terminals

Specifications

Maximum leakage current each Line to Ground:

	<u>EEA/EEB</u>	<u>EAS/EBS</u>	<u>EAH/EBH</u>
@ 120 VAC 60 Hz:	.22 mA		2 μA
@ 250 VAC 50 Hz:	.38 mA		5 μA

Hipot rating (one minute):

Line to Ground:	2250 VDC
Line to Line:	1450 VDC

Rated Voltage (max.):

250 VAC

Operating Frequency:

50/60 Hz

Rated Current:

1 to 10A

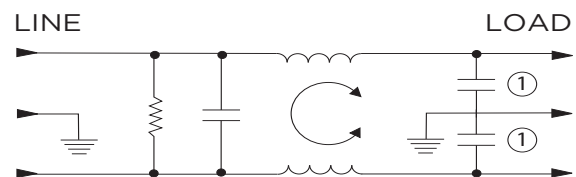
Operating Ambient Temperature Range

(at rated current I_r):

-10°C to +40°C

In an ambient temperature (T_a) higher than +40°C the maximum operating current (I_o) is calculated as follows: $I_o = I_r \sqrt{(85-T_a)/45}$

Electrical Schematic

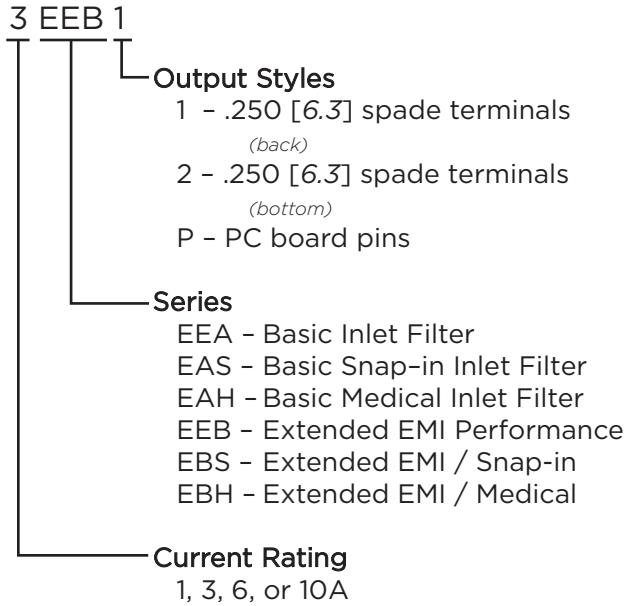


Note 1: Not present in EAH / EBH versions

Cost-effective EMI Power Inlet Filter *(continued)*

EEA & EEB Series

Ordering Information

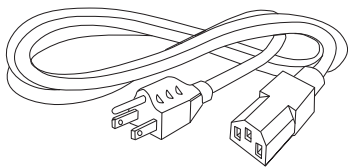


Available Part Numbers

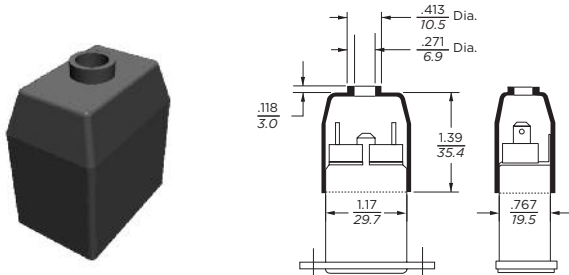
EEA Models	EEB Models
1EEA1	1EEB1
1EEA2	1EEB2
1EEAP	1EEBP
3EEA1	3EEB1
3EEA2	3EEB2
3EEAP	3EEBP
6EEA1	6EEB1
6EEA2	6EEB2
6EEAP	6EEBP
10EEA1	10EEB1
10EEA2	10EEB2
10EEAP	10EEBP
EAS Models	EBS Models
1EAS1	1EBS1
3EAS1	3EBS1
6EAS1	6EBS1
10EAS1	10EBS1
EAH Models	EBH Models
1EAH1	1EBH1
3EAH1	3EBH1
6EAH1	6EBH1
10EAH1	10EBH1

Accessories

GA400: NEMA 5-15P to IEC 60320-1 C-13 line cord



FA601: Insulating Shroud



Dimensions are in inches and millimeters unless otherwise specified. Values in italics are metric equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.

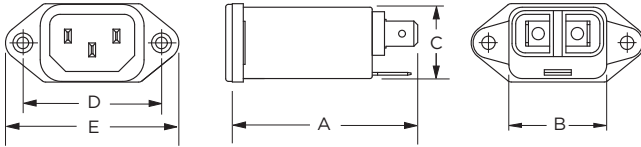
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Cost-effective EMI Power Inlet Filter *(continued)*

EEA & EEB Series

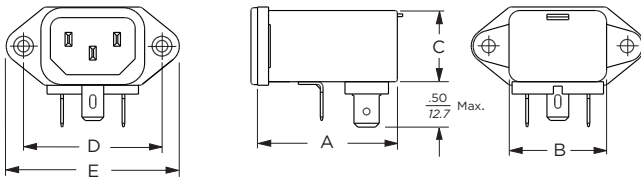
Case Styles

EEA1, EEB1, EAH1 & EBH1



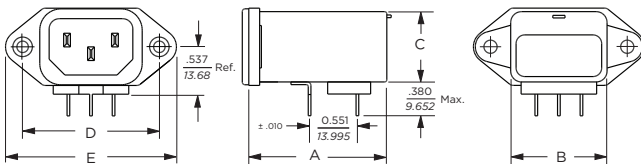
Typical Dimensions:
 Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw IEC 60320-1 C14
 Line Inlet (1): .250 [6.3] with .07 [1.8] Dia. hole
 Load Terminals (2): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot

EEA2 & EEB2



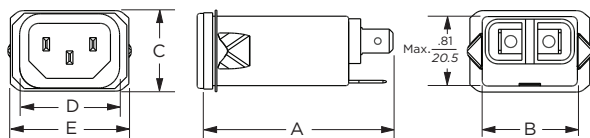
Typical Dimensions:
 Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw IEC 60320-1 C14
 Line Inlet (1): .250 [6.3] with .07 [1.8] Dia. hole
 Load Terminals (2): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot

EEAP & EEBP



Typical Dimensions:
 Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw IEC 60320-1 C14
 Line Inlet (1): IEC 60320-1 C14
 PC board pins (3): .031 [.07] square, ± .003 [.07]

EAS1 & EBS1



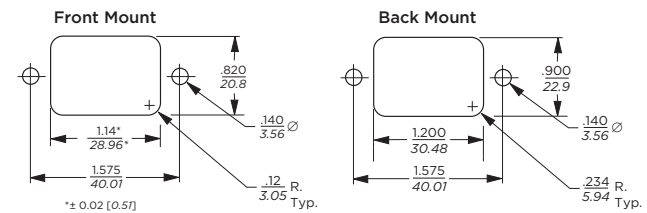
Typical Dimensions:
 Line Inlet (1): IEC 60320-1 C14
 Load Terminals (2): .250 [6.3] with .07 [1.8] Dia. hole
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot

Case Dimensions

Part No.	A (max.)	B (max.)	C (max.)	D $\pm .010$ $\pm .25$	E (max.)
EEA1, EEB1, EBH1, EBH1	2.15 54.6	1.12 28.4	0.81 20.6	1.575 40.01	1.98 50.3
EEA2, EEB2	1.54 39.1	1.12 28.4	0.81 20.6	1.575 40.01	1.98 50.3
EEAP, EEBP	1.54 39.1	1.12 28.4	0.81 20.6	1.575 40.01	1.98 50.3
EAS1, EBS1	2.20 55.88	1.15 29.2	.96 24.38	1.185 30.10	1.41 35.81

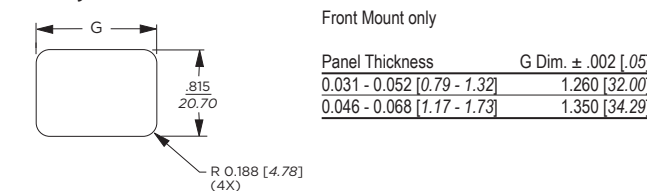
Recommended Panel Cutouts

EEA, EEB, EAH, EBH

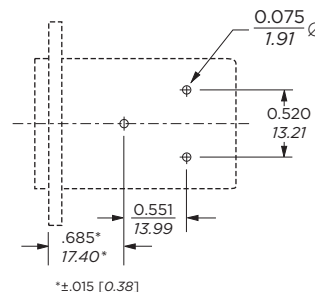


Tolerances ± .005 [0.13] unless otherwise noted
 Note 1: EEA1, EEB1, EAH1, EBH1 can be front or back mounted
 Note 2: EEA2, EEB2, EEAP and EEBP can be back mounted only

EAS, EBS



PC Board Layout



Cost-effective EMI Power Inlet Filter *(continued)*

EEA & EEB Series

Performance Data

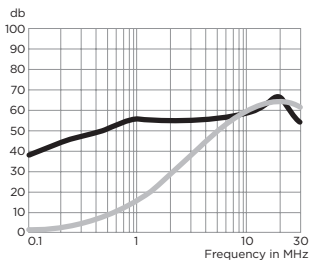
Typical Insertion Loss

Measured in closed 50 Ohm system

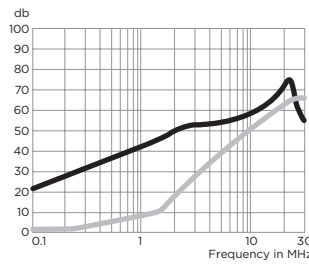
— Common Mode / Asymmetrical (L-G)
— Differential Mode / Symmetrical (L-L)

EEA, EAS Models

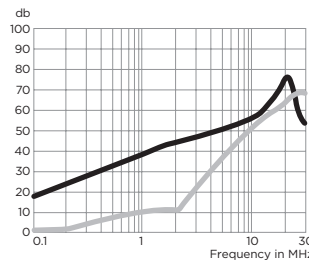
1A



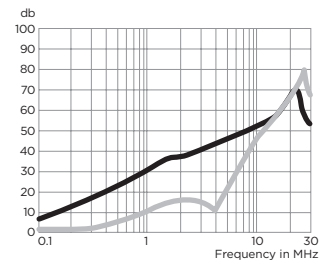
3A



6A

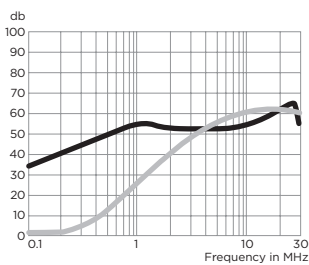


10A

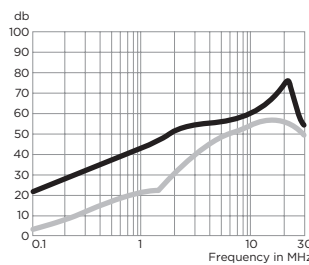


EEB, EBS Models

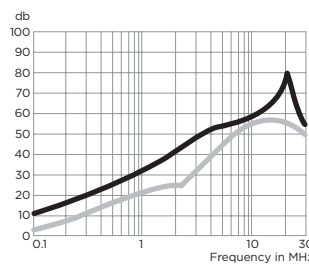
1A



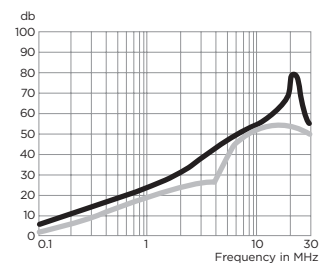
3A



6A

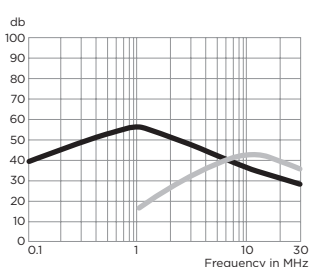


10A

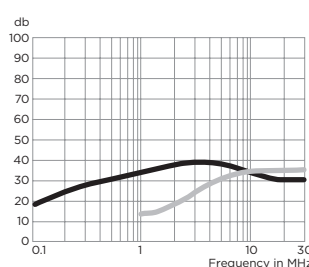


EAH Models

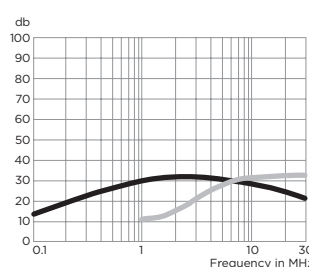
1A



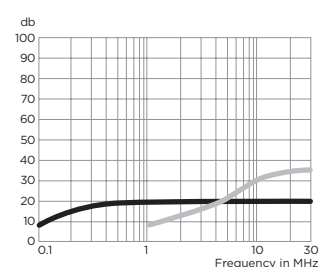
3A



6A

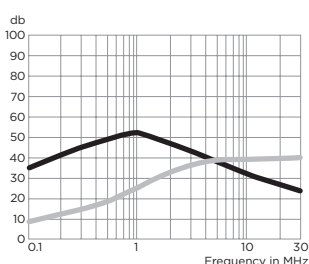


10A

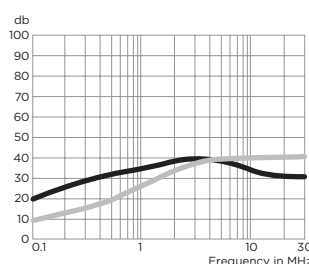


EBH Models

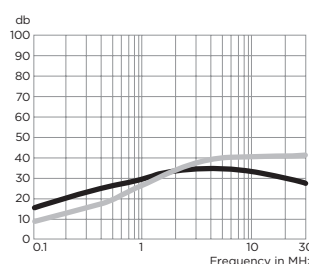
1A



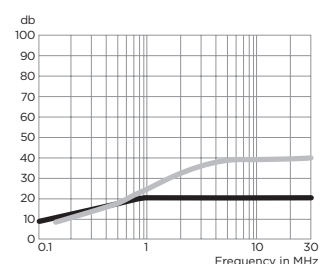
3A



6A



10A



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EEA & EEB Series

Performance Data *(continued)*

Minimum Insertion Loss

Measured in closed 50 Ohm system

Common Mode / Asymmetrical (Line to Ground)

Current Rating	Frequency – MHz								
	.01	.05	.1	.15	.5	1	5	10	30
EEA / EAS Models									
1A	12	23	29	32	41	47	47	47	40
3A	-	10	15	19	30	36	48	50	47
6A	-	1	4	10	22	28	42	48	47
10A	-	1	3	5	14	20	32	38	47

EEB / EBS Models

1A	12	23	29	32	41	47	47	47	40
3A	-	10	14	18	30	36	48	50	47
6A	-	1	4	10	22	28	42	48	47
10A	-	1	3	5	14	20	32	38	47

EAH Models

1A	8	21	29	32	42	45	32	30	19
3A	-	5	10	15	25	27	30	27	22
6A	-	-	5	6	19	21	24	20	15
10A	-	-	1	5	9	12	12	12	12

EBH Models

1A	8	21	29	32	42	45	32	25	19
3A	-	5	10	15	25	27	30	27	22
6A	-	-	5	8	17	20	24	23	18
10A	-	-	-	3	8	12	12	12	12

Differential Mode / Symmetrical (Line to Line)

Current Rating	Frequency – MHz							
	.5	1	1.5	3	5	10	30	
EEA / EAS Models								
1A	1	9	19	32	42	45	40	
3A	2	4	6	20	35	45	40	
6A	2	4	6	6	24	40	40	
10A	1	4	5	5	5	30	40	

EEB / EBS Models

Current Rating	Frequency – MHz							
	.01	.15	.5	1	3	5	10	30
1A	1	3	14	23	41	47	50	44
3A	1	2	11	14	25	38	44	40
6A	1	2	10	14	20	33	42	40
10A	1	2	10	16	19	19	39	40

EAH Models

Current Rating	Frequency – MHz				
	1	1.5	5	10	30
1A	5	13	28	32	25
3A	4	6	20	27	28
6A	2	5	19	25	27
10A	1	5	15	22	27

EBH Models

Current Rating	Frequency – MHz				
	.15	.5	1	10	30
1A	1	10	18	30	31
3A	1	10	18	30	31
6A	1	10	18	30	31
10A	1	10	18	30	31