

**Cost-effective EMI Power Inlet Filter**

# EEA & EEB Series

Including the EAS/EBS and EAH/EBH Models



**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:**

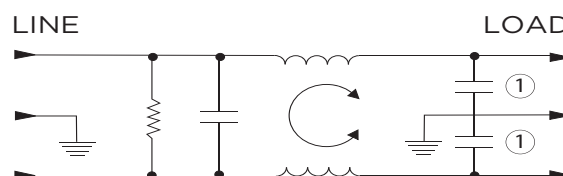
1 to 10A

**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

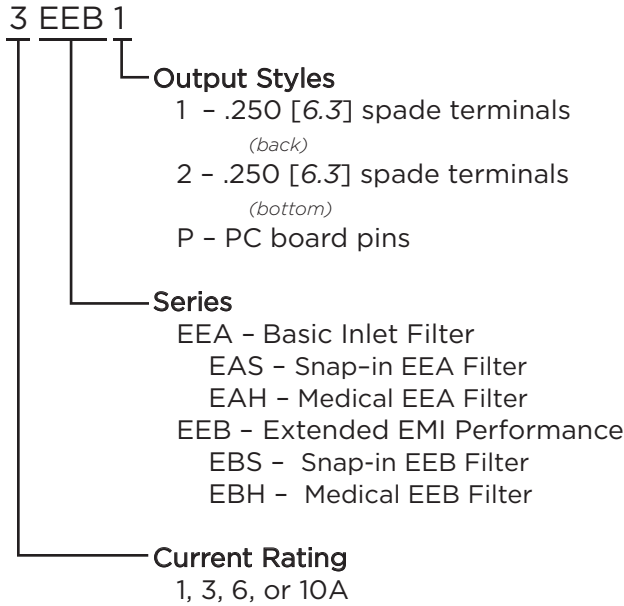


Note 1: Not present in EAH / EBH versions

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

# EEA & EEB Series

## Ordering Information

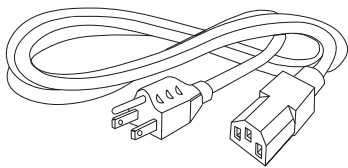


## Available Part Numbers

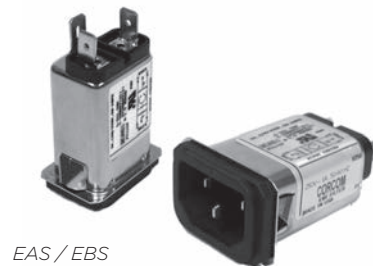
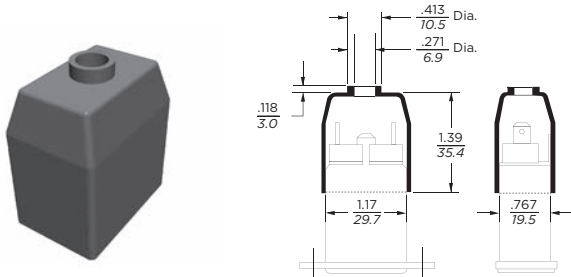
EEA Models	EEB Models
1EEA1	1EEB1
1EEA2	1EEB2
1EEAP	1EEBP
3EEA1	3EEB1
3EEA2	3EEB2
3EEAP	3EEBP
6EEA1	6EEB1
6EEA2	6EEB2
6EEAP	6EEBP
10EEA1	10EEB1
10EEA2	10EEB2
10EEAP	10EEBP
EAS Models	EBS Models
1EAS1	1EBS1
3EAS1	3EBS1
6EAS1	6EBS1
10EAS1	10EBS1
EAH Models	EBH Models
1EAH1	1EBH1
3EAH1	3EBH1
6EAH1	6EBH1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

## Accessories

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



**FA601:** Insulating Shroud

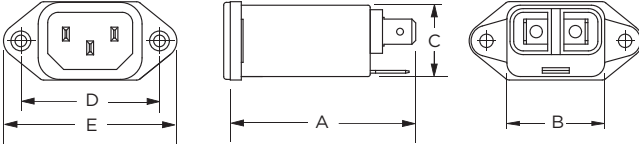


Cost-effective EMI Power Inlet Filter (continued)

# EEA & EEB Series

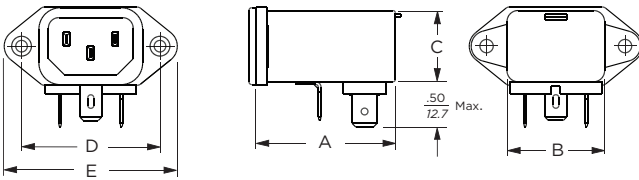
## Case Styles

### EEA1, EEB1, EAH1 & EBH1



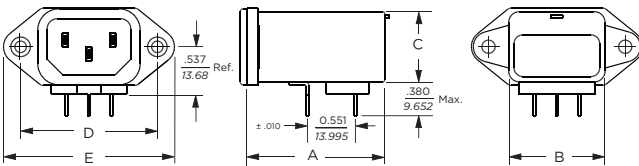
Typical Dimensions:  
 Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw IEC 60320-1 C14  
 Line Inlet (1): IEC 60320-1 C14  
 Load Terminals (2): .250 [6.3] with .07 [1.8] Dia. hole  
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot

### EEA2 & EEB2



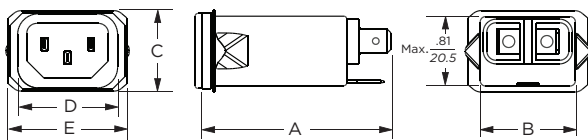
Typical Dimensions:  
 Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw IEC 60320-1 C14  
 Line Inlet (1): IEC 60320-1 C14  
 Load Terminals (2): .250 [6.3] with .07 [1.8] Dia. hole  
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot

### 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



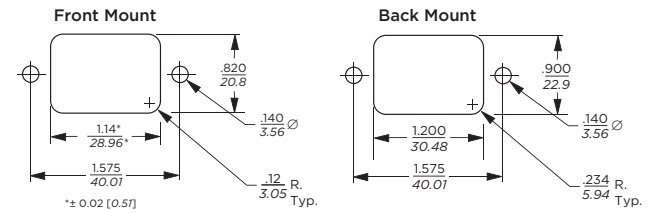
Typical Dimensions:  
 Line Inlet (1): IEC 60320-1 C14  
 Load Terminals (2): .250 [6.3] with .07 [1.8] Dia. hole  
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot

## Case Dimensions

Part No.	A (max.)	B (max.)	C (max.)	D $\pm .010$ $\pm .25$	E (max.)
EEA1, EEB1, EAH1, 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

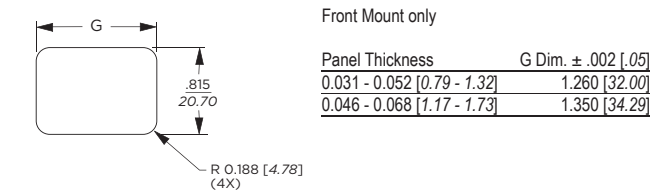
## Recommended Panel Cutouts

### 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

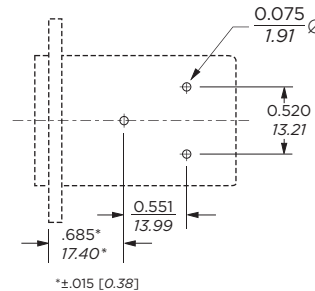
### EAS, EBS



Front Mount only

Panel Thickness	G Dim. ± .002 [.05]
0.031 - 0.052 [0.79 - 1.32]	1.260 [32.00]
0.046 - 0.068 [1.17 - 1.73]	1.350 [34.29]

## PC Board Layout



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

# EEA & EEB Series

## Performance Data

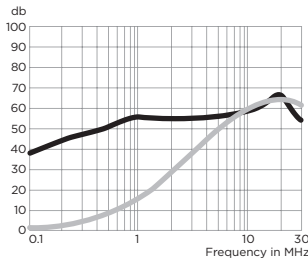
### Typical Insertion Loss

Measured in closed 50 Ohm system

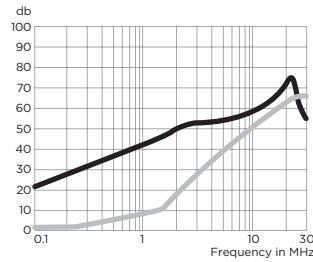
— Common Mode / Asymmetrical (L-G)  
— Differential Mode / Symmetrical (L-L)

### EEA, EAS Models

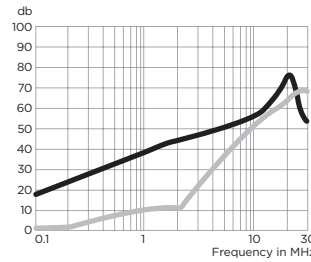
#### 1A



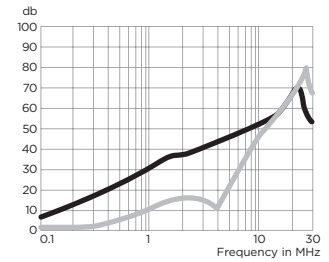
#### 3A



#### 6A

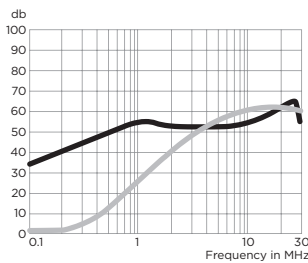


#### 10A

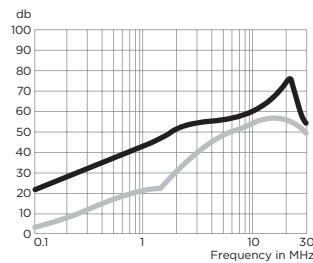


### EEB, EBS Models

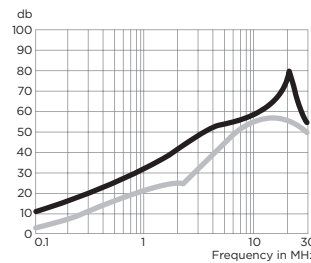
#### 1A



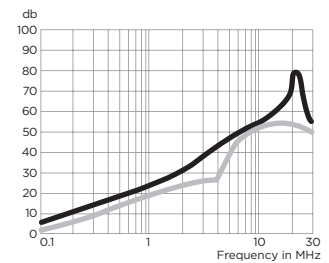
#### 3A



#### 6A

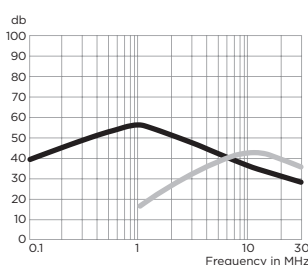


#### 10A

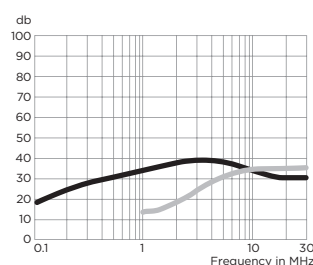


### EAH Models

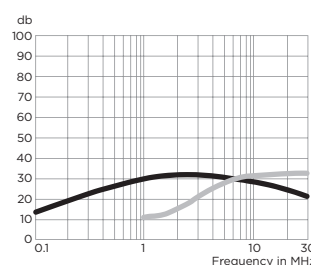
#### 1A



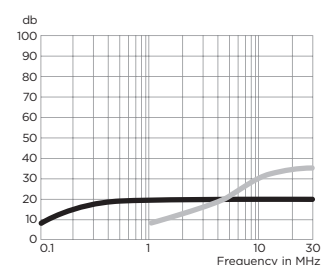
#### 3A



#### 6A

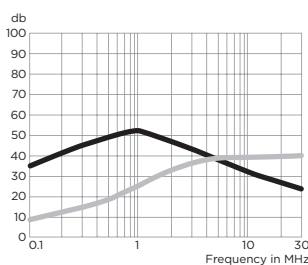


#### 10A

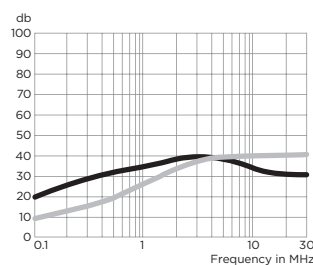


### EBH Models

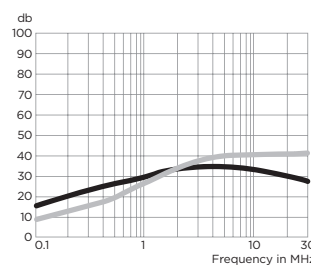
#### 1A



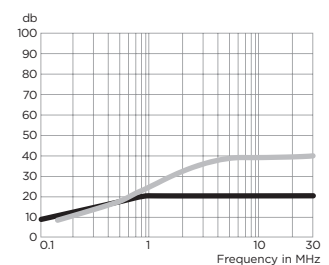
#### 3A



#### 6A



#### 10A



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

# 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
<b>EEA / EAS Models</b>									
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	
<b>EEA / EAS Models</b>								
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