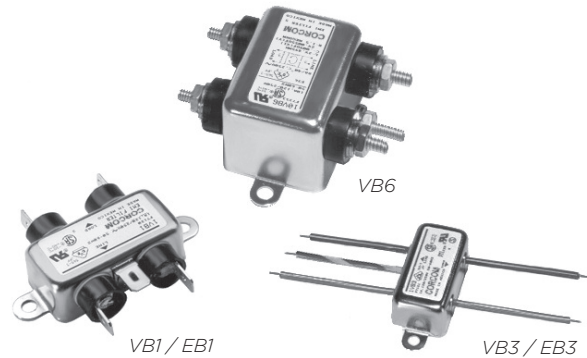


## General Purpose RFI Filters for High Impedance Loads at Low Current

# B Series



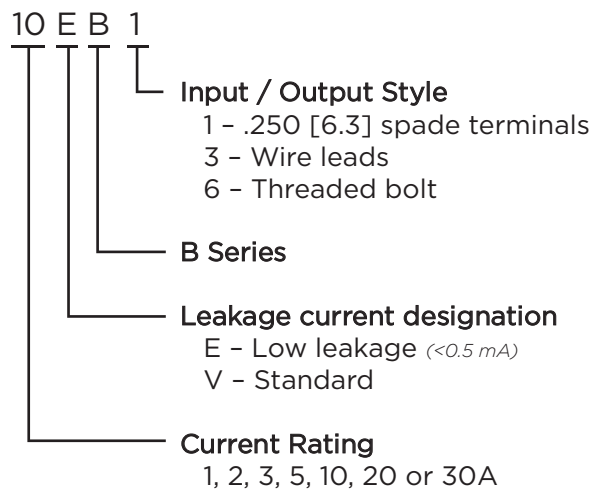
UL Recognized  
CSA Certified  
VDE Approved



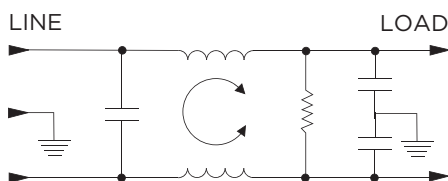
## B Series

- Small size & low cost
- General purpose
- Wide variety of termination options
- Meets low leakage current requirements of VDE portable equipment and non-patient medical equipment

## Ordering Information



## Electrical Schematic



## Specifications

### Maximum leakage current each Line to Ground:

|                  | VB Models | EB Models |
|------------------|-----------|-----------|
| @ 120 VAC 60 Hz: | .4 mA     | .21 mA    |
| @ 250 VAC 50 Hz: | .7 mA     | .36 mA    |

### 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 30A

### Operating Ambient Temperature Range

(at rated current  $I_r$ ):  $-10^\circ\text{C}$  to  $+40^\circ\text{C}$   
In an ambient temperature ( $T_a$ ) higher than  $+40^\circ\text{C}$   
the maximum operating current ( $I_o$ ) is calculated as  
follows:  $I_o = I_r \sqrt{(85 - T_a)/45}$

## Available Part Numbers

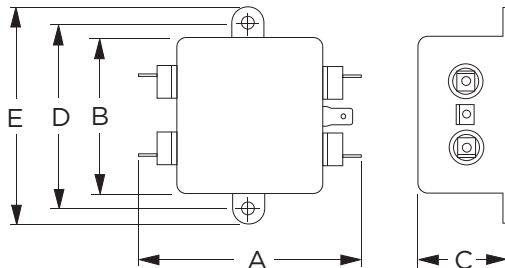
|       |       |
|-------|-------|
| 1VB1  | 1EB1  |
| 1VB3  | 1EB3  |
| 2VB1  | 2EB1  |
| 2VB3  | 2EB3  |
| 3VB1  | 3EB1  |
| 3VB3  | 3EB3  |
| 5VB1  | 5EB1  |
| 5VB3  | 5EB3  |
| 10VB1 | 10EB1 |
| 10VB3 | 10EB3 |
| 10VB6 | 20EB1 |
| 20VB1 |       |
| 20VB6 |       |
| 30VB6 |       |

## General Purpose RFI Filters for High Impedance/ Low Current *(continued)*

# B Series

## Case Styles

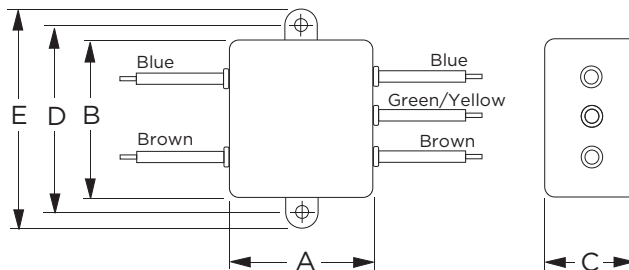
### B1



Typical Dimensions:

Line/Load Terminals (4): .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  
Mounting Holes (2): .188 [4.75] Dia.

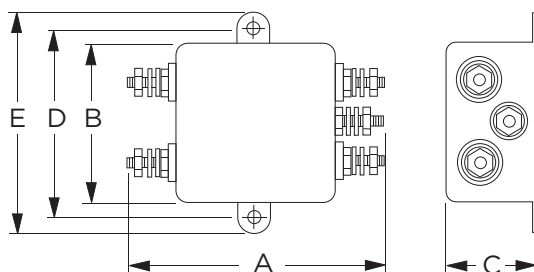
### B3



Typical Dimensions:

Wire leads (5): 4.0 [101.6] Min. AWG18, (AWG16 for 10A)  
Mounting Holes (2): .188 [4.75] Dia.

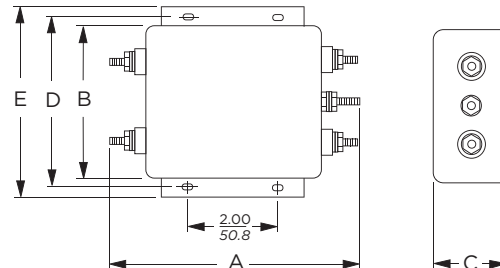
### 10VB6 & 20VB6



Typical Dimensions:

Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max.  $\pm 2$  [.22]  
Mounting Holes (4): .188 [4.75] Dia.

### 30VB6



Typical Dimensions:

Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max.  $\pm 2$  [.22]  
Mounting Slots (4): .250 x .156 [6.35 x 3.96]

## Case Dimensions

| Part No.     | A<br>(max)  | B<br>(max)  | C<br>(max)  | D<br>$\pm .015$<br>$\pm .38$ | E<br>(max)  |
|--------------|-------------|-------------|-------------|------------------------------|-------------|
| 1VB1, 1EB1,  | <b>2.25</b> | <b>1.82</b> | <b>0.66</b> | <b>2.125</b>                 | <b>2.53</b> |
| 2VB1, 2EB1   | 57.2        | 46.2        | 16.8        | 53.98                        | 64.3        |
| 1VB3, 1EB3,  | <b>0.96</b> | <b>1.82</b> | <b>0.66</b> | <b>2.125</b>                 | <b>2.53</b> |
| 2VB3, 2EB3   | 24.4        | 46.2        | 16.8        | 53.98                        | 64.3        |
| 3VB1, 3EB1,  | <b>2.61</b> | <b>1.82</b> | <b>0.78</b> | <b>2.125</b>                 | <b>2.53</b> |
| 5VB1, 5EB1   | 66.3        | 46.2        | 193.8       | 53.98                        | 64.3        |
| 3VB3, 3EB3,  | <b>1.32</b> | <b>1.82</b> | <b>0.78</b> | <b>2.125</b>                 | <b>2.53</b> |
| 5VB3, 5EB3   | 33.5        | 46.2        | 19.8        | 53.98                        | 64.3        |
| 10VB1, 10EB1 | <b>2.61</b> | <b>1.82</b> | <b>1.16</b> | <b>2.125</b>                 | <b>2.53</b> |
|              | 66.3        | 46.2        | 29.5        | 53.98                        | 6.3         |
| 10VB3, 10EB3 | <b>1.32</b> | <b>1.82</b> | <b>1.16</b> | <b>2.125</b>                 | <b>2.53</b> |
|              | 33.5        | 46.2        | 29.5        | 53.98                        | 64.3        |
| 10VB6        | <b>2.72</b> | <b>1.82</b> | <b>1.16</b> | <b>2.125</b>                 | <b>2.53</b> |
|              | 69.1        | 46.2        | 29.5        | 53.98                        | 64.3        |
| 20VB1, 20EB1 | <b>3.36</b> | <b>2.07</b> | <b>1.16</b> | <b>2.375</b>                 | <b>2.81</b> |
|              | 85.3        | 52.6        | 29.5        | 60.33                        | 71.4        |
| 20VB6        | <b>3.46</b> | <b>2.07</b> | <b>1.16</b> | <b>2.375</b>                 | <b>2.81</b> |
|              | 87.9        | 52.6        | 29.5        | 60.33                        | 71.4        |
| 30VB6        | <b>5.34</b> | <b>3.38</b> | <b>1.53</b> | <b>3.75</b>                  | <b>4.20</b> |
|              | 135.6       | 85.9        | 38.9        | 95.3                         | 106.7       |

## General Purpose RFI Filters for High Impedance/ Low Current *(continued)*

# B Series

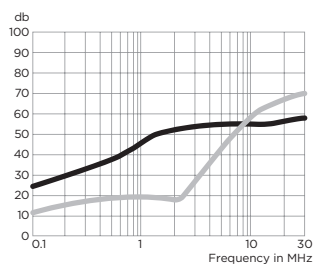
## Performance Data

### Typical Insertion Loss

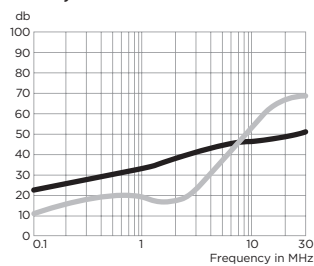
Measured in closed 50 Ohm system

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

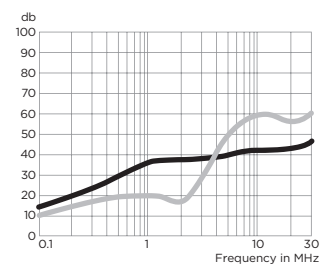
1EB & 3EB



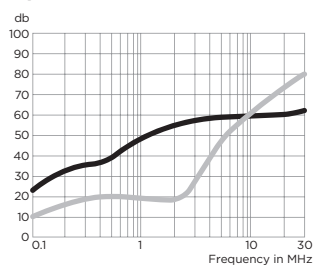
2EB, 5EB & 10EB



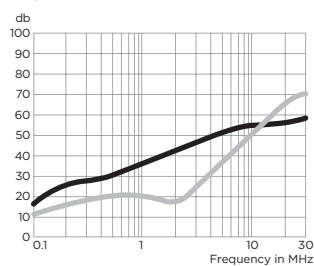
20EB



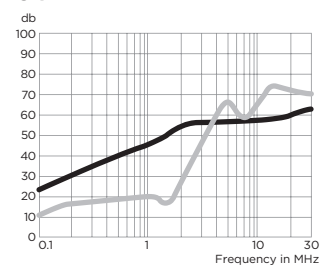
1VB



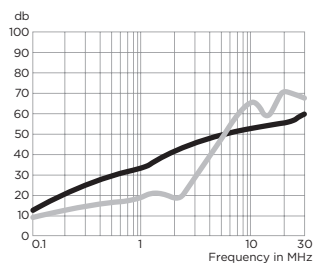
2VB



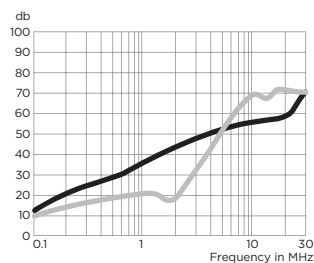
3VB



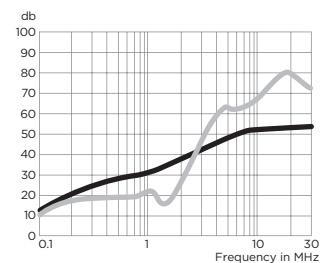
10VB



20VB



30VB



## Minimum Insertion Loss

Measured in closed 50 Ohm system

Common Mode / Asymmetrical (Line to Ground)

| Current Rating        | Frequency – MHz |    |    |    |    |    |
|-----------------------|-----------------|----|----|----|----|----|
|                       | .15             | .5 | 1  | 5  | 10 | 30 |
| <b>VB Models</b>      |                 |    |    |    |    |    |
| 1A, 3A                | 15              | 30 | 38 | 50 | 50 | 50 |
| 2A, 5A, 10A, 20A, 30A | 7               | 20 | 25 | 40 | 45 | 48 |
| <b>EB Models</b>      |                 |    |    |    |    |    |
| 1A, 3A                | 15              | 29 | 35 | 45 | 45 | 48 |
| 2A, 5A, 10A, 20A      | 7               | 19 | 23 | 34 | 37 | 42 |