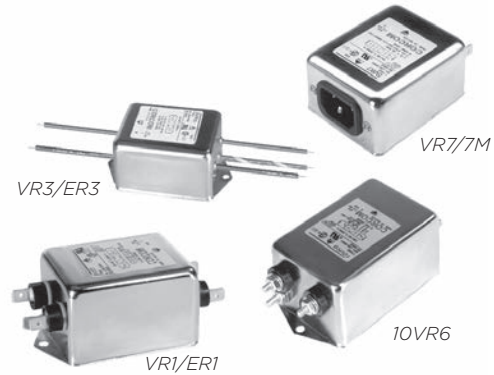


Two-stage General Purpose RFI Power Line Filter

# R Series



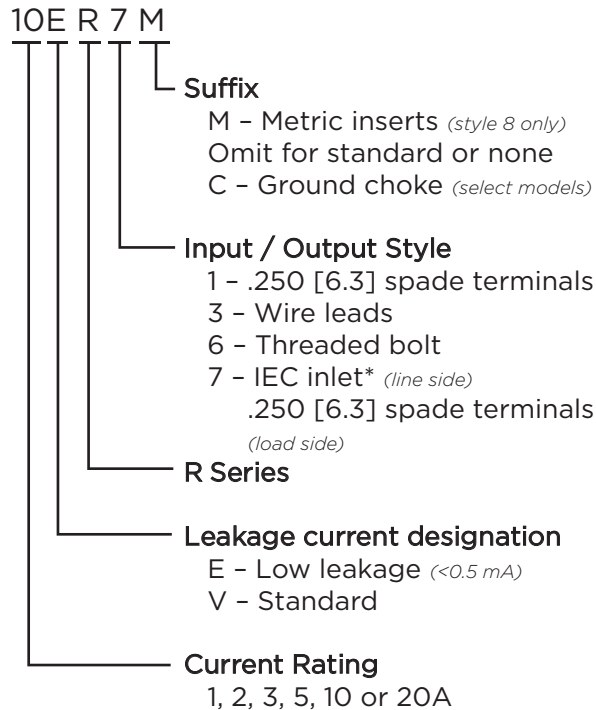
UL Recognized  
CSA Certified  
VDE Approved



## R Series

- Dual T section RFI filter provides premium performance
- Well suited for low impedance loads where noisy RFI environments are present
- Controls pulsed, continuous and/or intermittent interference
- ER models offer low leakage current without deterioration of insertion loss

## Ordering Information



\*IEC 60320-1 C14 inlet mates with C13 connector

## Specifications

### Maximum leakage current each Line to Ground:

	VR Models	ER 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 20A

### 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:  $I_o = I_r \sqrt{(85-T_a)/45}$

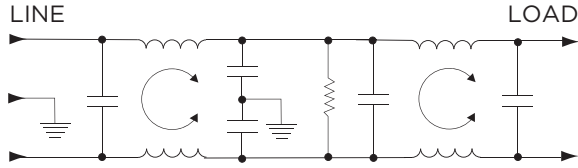
## Available Part Numbers

1VR1	1ER1
1VR3	1ER3
2VR1	2ER1
2VR3	2ER3
3VR1	3ER1
3VR3	3ER3
3VR7	3ER7
3VR7M	3ER7M
5VR1	5ER1
5VR3	5ER3
5VR7	5ER7
5VR7M	5ER7M
10VR1	10ER1
10VR3	10ER3
10VR6	10ER7
10VR7	10ER7M
10VR7M	20ER1
20VR1	
20VR6	

**Two-stage General Purpose RFI Power Line Filter** *(continued)*

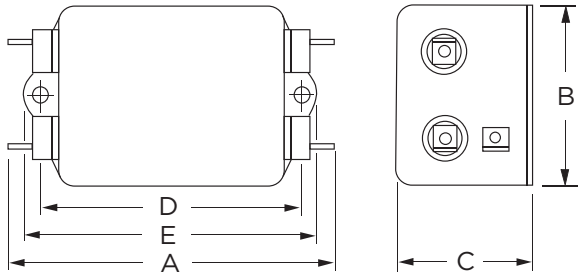
# R Series

## Electrical Schematic



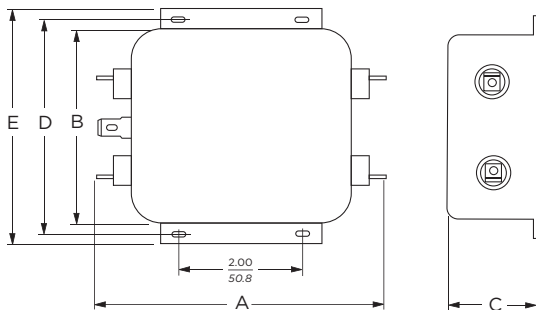
## Case Styles

### R1 (1, 2, 3, 5, 10A)



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 [4.78] Dia.

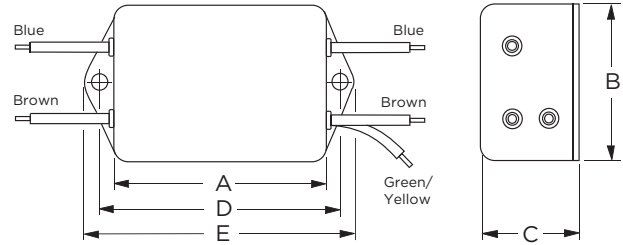
### R1 (20A)



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 Slots (4): .250 x .156 [6.35 x 3.96] Dia.

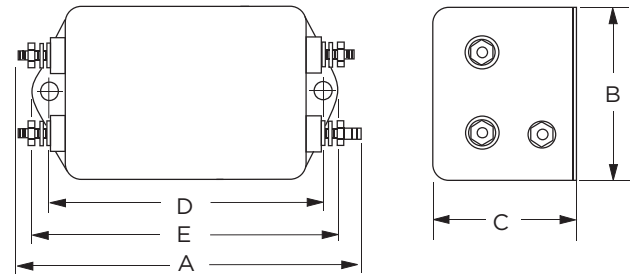
## Case Styles *(continued)*

### R3



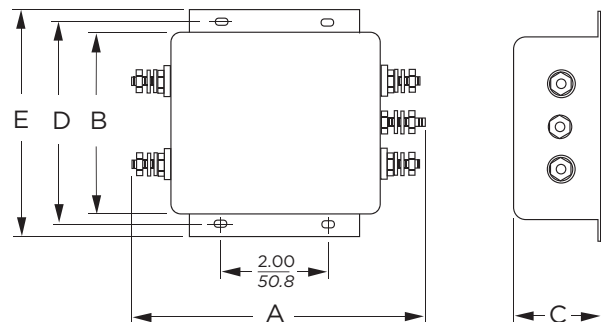
Typical Dimensions:  
 Wire Leads (5): 4.0 [101.6] Min., AWG18  
 Mounting Holes (2): .188 [4.78] Dia.

### 10VR6



Typical Dimensions:  
 Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max. ± 2 [.22]  
 Mounting Holes (2): .188 [4.78] Dia.

### 20VR6



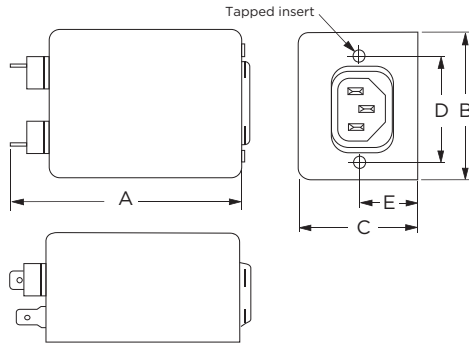
Typical Dimensions:  
 Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max. ± 2 [.22]  
 Mounting Slots (4): .250 x .156 [6.35 x 3.96] Dia.

**Two-stage General Purpose RFI Power Line Filter** *(continued)*

# R Series

## Case Styles *(continued)*

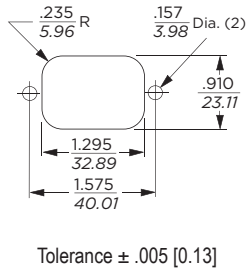
### R7 & R7M



Typical Dimensions:

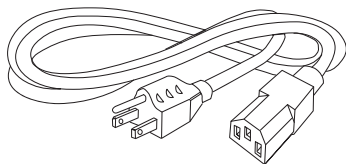
- Load Terminals (2): .250 [6.3] with .07 [1.8] Dia. hole
- Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot
- Line Inlet (1): IEC 60320-1 C14
- K7 Tapped Inserts (2): 6-32 x 1/4
- K7M Tapped Inserts (2): M3 x .5

## Recommended Panel Cutout



## Accessories

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



## Case Dimensions

Part No.	A (max)	B (max)	C (max)	D $\pm .015$ $\pm .38$	E (max)
1VR1, 1ER1,	<b>3.35</b>	<b>1.81</b>	<b>1.16</b>	<b>2.375</b>	<b>2.78</b>
2VR1, 2ER1	<i>85.1</i>	<i>46.0</i>	<i>29.5</i>	<i>60.33</i>	<i>70.6</i>
1VR3, 1ER1,	<b>2.07</b>	<b>1.81</b>	<b>1.16</b>	<b>2.375</b>	<b>2.78</b>
2VR3, 2ER3	<i>52.6</i>	<i>46.0</i>	<i>29.5</i>	<i>60.33</i>	<i>70.6</i>
3VR1, 3ER1,	<b>3.85</b>	<b>2.07</b>	<b>1.16</b>	<b>2.938</b>	<b>3.35</b>
5VR1, 5ER1	<i>97.8</i>	<i>52.6</i>	<i>29.5</i>	<i>74.63</i>	<i>85.1</i>
3VR3, 3ER3,	<b>2.56</b>	<b>2.07</b>	<b>1.16</b>	<b>2.938</b>	<b>3.35</b>
5VR3, 5ER3	<i>65.0</i>	<i>52.6</i>	<i>29.5</i>	<i>74.63</i>	<i>85.1</i>
3VR7/7M,	<b>4.33</b>	<b>2.25</b>	<b>1.28</b>	<b>1.575</b>	<b>0.64*</b>
3ER7/7M	<i>110.0</i>	<i>57.2</i>	<i>32.5</i>	<i>40.01</i>	<i>16.3*</i>
5VR7/7M,	<b>4.33</b>	<b>2.25</b>	<b>1.28</b>	<b>1.575</b>	<b>0.64*</b>
5ER7/7M	<i>110.0</i>	<i>57.2</i>	<i>32.5</i>	<i>40.01</i>	<i>16.3*</i>
10VR1,	<b>3.85</b>	<b>2.07</b>	<b>1.53</b>	<b>2.938</b>	<b>3.35</b>
10ER1	<i>97.8</i>	<i>52.6</i>	<i>38.9</i>	<i>74.63</i>	<i>85.1</i>
10VR3,	<b>2.56</b>	<b>2.07</b>	<b>1.53</b>	<b>2.938</b>	<b>3.35</b>
10ER3	<i>65.0</i>	<i>52.6</i>	<i>38.9</i>	<i>74.63</i>	<i>85.1</i>
10VR6	<b>3.96</b>	<b>2.07</b>	<b>1.53</b>	<b>2.938</b>	<b>3.35</b>
	<i>100.6</i>	<i>52.6</i>	<i>38.9</i>	<i>74.63</i>	<i>85.1</i>
10VR7/7M,	<b>4.33</b>	<b>2.25</b>	<b>1.53</b>	<b>1.575</b>	<b>0.88*</b>
10ER7/7M	<i>110.0</i>	<i>57.2</i>	<i>38.9</i>	<i>40.01</i>	<i>22.4*</i>
20VR1,	<b>5.23</b>	<b>3.37</b>	<b>1.53</b>	<b>3.75</b>	<b>4.20</b>
20ER1	<i>132.8</i>	<i>85.6</i>	<i>38.9</i>	<i>95.25</i>	<i>106.7</i>
20VR6	<b>5.34</b>	<b>3.37</b>	<b>1.53</b>	<b>3.75</b>	<b>4.20</b>
	<i>135.6</i>	<i>85.6</i>	<i>38.9</i>	<i>95.25</i>	<i>406.7</i>

\* $\pm 0.02$  [0.5]



RFI Power Line Filters

**Two-stage General Purpose RFI Power Line Filter** *(continued)*

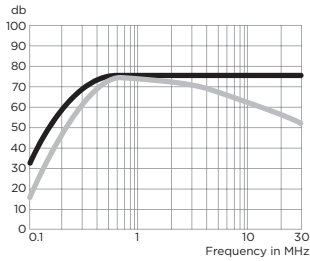
# R Series

## Performance Data

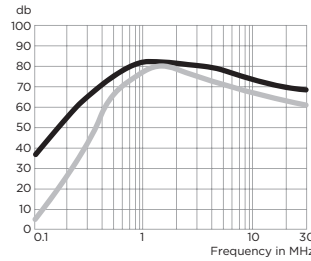
### Typical Insertion Loss

Measured in closed 50 Ohm system

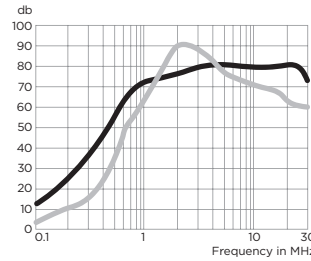
**1ER**



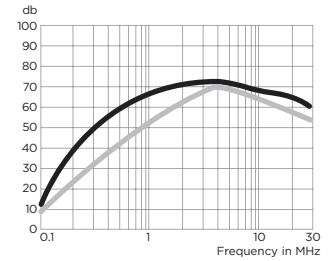
**3ER**



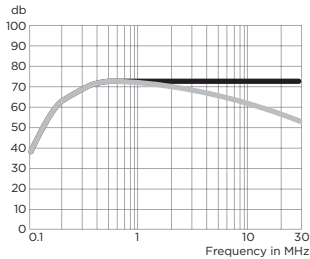
**5ER**



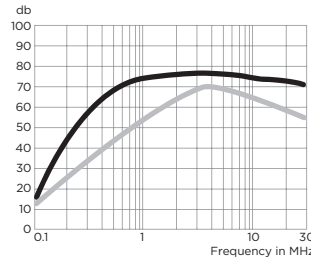
**2ER, 10ER & 20ER**



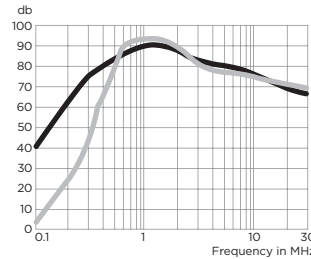
**1VR**



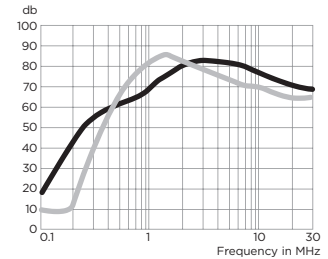
**2VR**



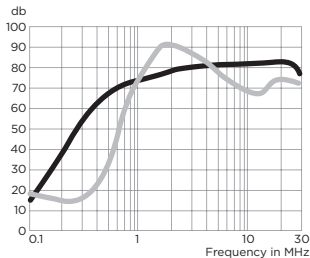
**3VR**



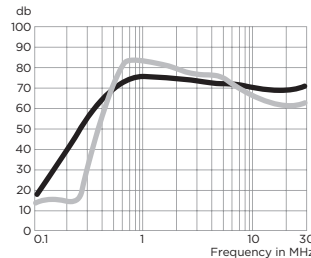
**5VR**



**10VR**



**20VR**



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

### 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>VR Models</b>						
1A, 3A	30	65	65	65	65	65
2A, 5A, 10A, 20A	5	44	60	65	65	60
<b>ER Models</b>						
1A, 3A	25	60	65	65	65	65
2A, 5A, 10A, 20A	2	35	51	63	60	50

**Differential Mode / Symmetrical (Line to Line)**

Current Rating	Frequency – MHz					
	.15	.5	1	5	10	30
<b>VR Models</b>						
1A, 3A	-	-	65	60	54	46
2A, 5A, 10A, 20A	-	-	35	60	57	45
<b>ER Models</b>						
1A, 3A	-	-	65	60	54	46
2A, 5A, 10A, 20A	-	-	35	60	57	45