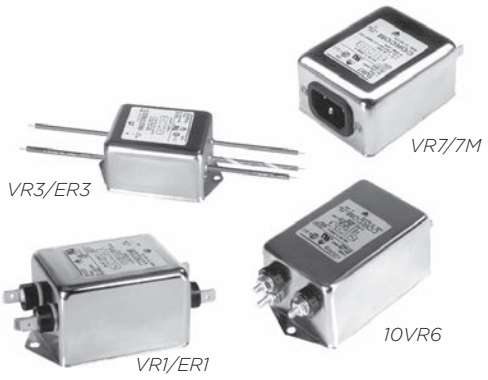
Two-stage General Purpose RFI Power Line Filter

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

10E R 7 M

Suffix
M – Metric inserts *(style 8 only)*
Omit for standard or none
C – Ground choke *(select models)*

Input / Output Style
1 – .250 [6.3] spade terminals
3 – Wire leads
6 – Threaded bolt
7 – IEC inlet* *(line side)*
.250 [6.3] spade terminals
(load side)

R Series

Leakage current designation
E – Low leakage *(<0.5 mA)*
V – Standard

Current Rating
1, 2, 3, 5, 10 or 20A

**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: $I_o = I_r \sqrt{(85-Ta)/45}$

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	

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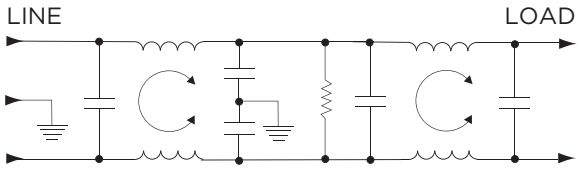
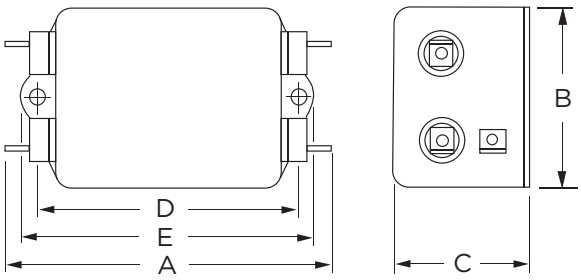
R Series

Electrical Schematic



Case Styles

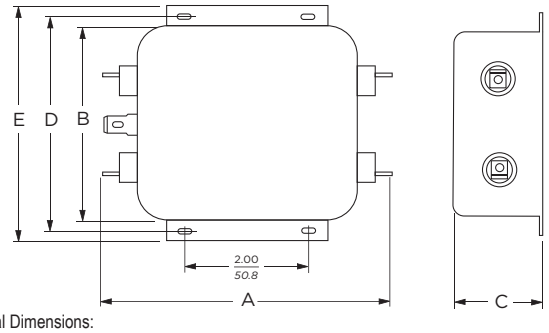
R1 (1, 2, 3, 5, 10A)



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)

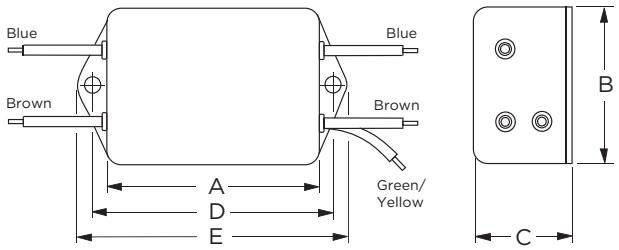


Typical Dimensions:

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)*

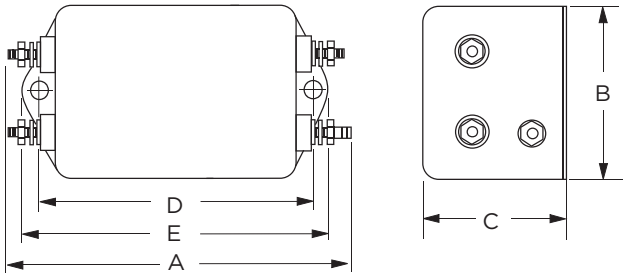
R3



Typical Dimensions:

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

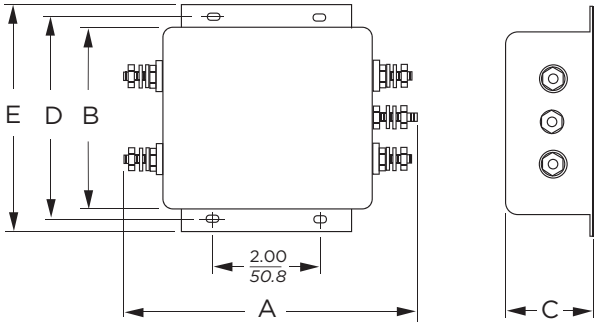
10VR6



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.

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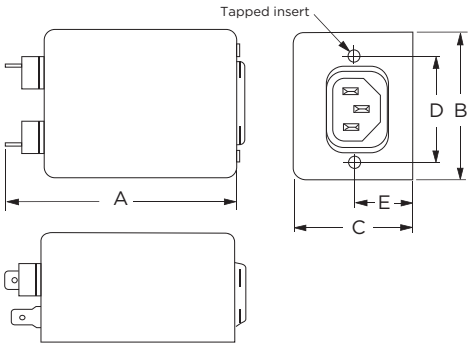
R Series

Case Styles *(continued)*

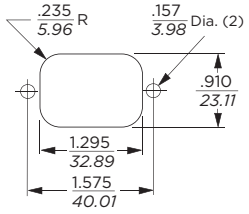
R7 & R7M



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

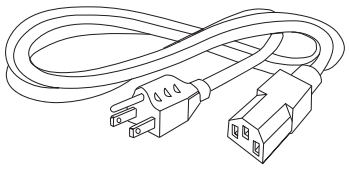
Recommended Panel Cutout



Tolerance ± .005 [0.13]

Accessories

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



Case Dimensions

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

*±0.02 [*0.5*]

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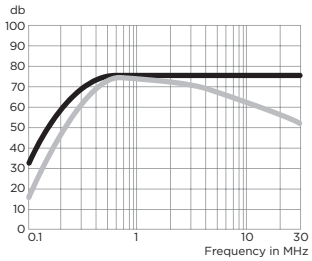
Performance Data

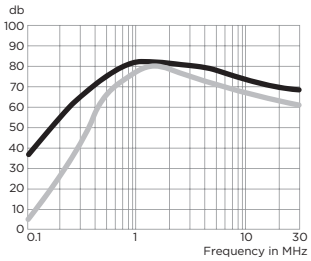
Typical Insertion Loss

Measured in closed 50 Ohm system

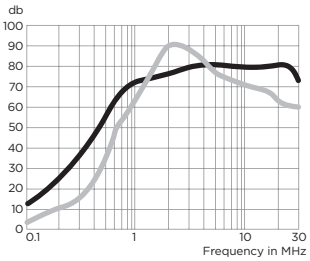
1ER



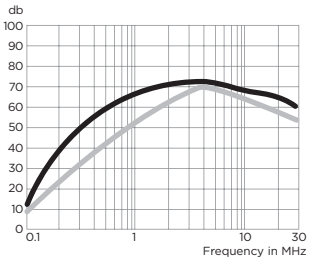
3ER



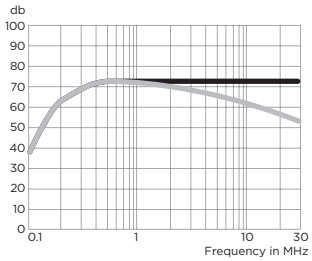
5ER



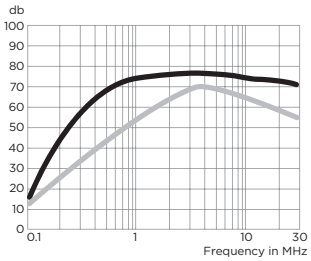
2ER, 10ER & 20ER



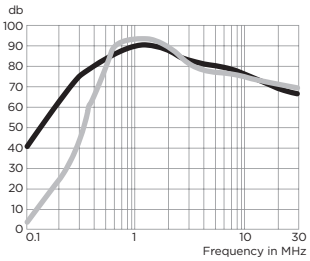
1VR



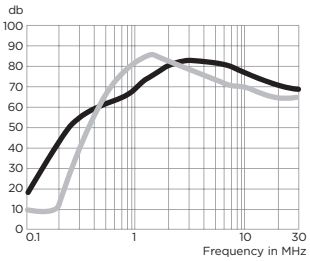
2VR



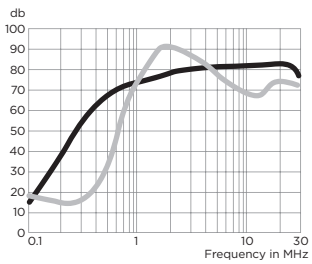
3VR



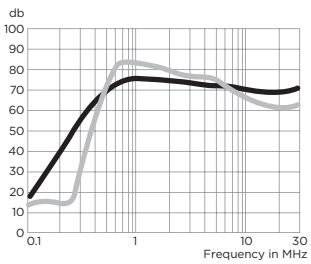
5VR



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
VR Models						
1A, 3A	30	65	65	65	65	65
2A, 5A, 10A, 20A	5	44	60	65	65	60
ER Models						
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
VR Models						
1A, 3A	-	-	65	60	54	46
2A, 5A, 10A, 20A	-	-	35	60	57	45
ER Models						
1A, 3A	-	-	65	60	54	46
2A, 5A, 10A, 20A	-	-	35	60	57	45

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