Catalog: 1654001

Issue Date: 06.2011



Two-stage General Purpose RFI Power Line Filter

R Series



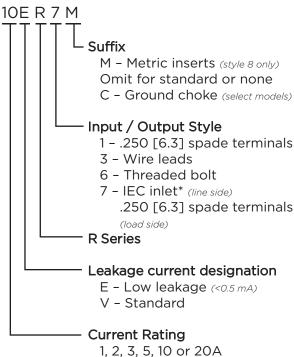
UL Recognized CSA Certified VDE Approved



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 | |

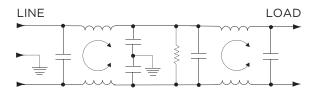


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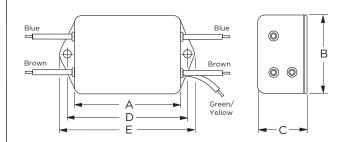
R Series

Electrical Schematic



Case Styles (continued)

R3

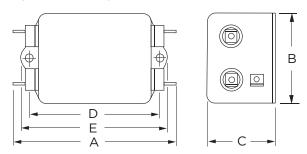


Typical Dimensions:

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

Case Styles

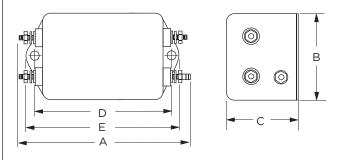
R1 (1, 2, 3, 5, 10A)



Typical Dimensions:

Line/Load Terminals (4): Ground Terminal (1): Mounting Holes (2): .250 [6.3] with .07 [1.8] Dia. hole .250 [6.3] with .07 x .16 [1.8 x 3.8] slot .188 [4.78] Dia.

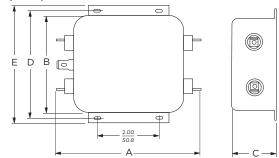
10VR6



Typical Dimensions:

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

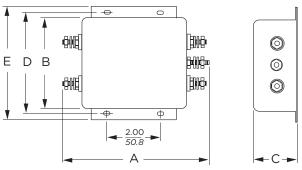
R1 (20A)



Typical Dimensions:

Line/Load Terminals (4): Ground Terminal (1): Mounting Slots (4): .250 [6.3] with .07 [1.8] Dia. hole .250 [6.3] with .07 x .16 [1.8 x 3.8] slot .250 x .156 [6.35 x 3.96] Dia.

20VR6



Typical Dimensions:

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

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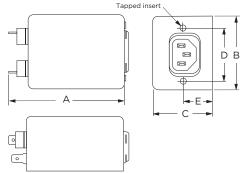
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Two-stage General Purpose RFI Power Line Filter (continued)

R Series

Case Styles (continued) R7 & R7M



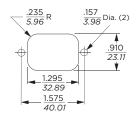
Typical Dimensions:

Load Terminals (2): Ground Terminal (1): Line Inlet (1): K7 Tapped Inserts (2):

K7M Tapped Inserts (2):

.250 [6.3] with .07 [1.8] Dia. hole .250 [6.3] with .07 x .16 [1.8 x 3.8] slot IEC 60320-1 C14 6-32 x 1/4 M3 x .5

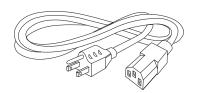
Recommended Panel Cutout



Tolerance ± .005 [0.13]

Accessories

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



Case Dimensions

| Part No. | Α | В | С | D | E |
|-------------|-------|-------|-------|-----------------|--------------|
| Fait No. | (max) | (max) | (max) | ± .015 ± .38 | (max) |
| 1VR1, 1ER1, | 3.35 | 1.81 | 1.16 | 2.375 | 2.78 |
| 2VR1, 2ER1 | 85.1 | 46.0 | 29.5 | 60.33 | 70.6 |
| 1VR3, 1ER1, | 2.07 | 1.81 | 1.16 | 2.375 | 2.78 |
| 2VR3, 2ER3 | 52.6 | 46.0 | 29.5 | 60.33 | 70.6 |
| 3VR1, 3ER1, | 3.85 | 2.07 | 1.16 | 2.938 | 3.35 |
| 5VR1, 5ER1 | 97.8 | 52.6 | 29.5 | 74.63 | 85.1 |
| 3VR3, 3ER3, | 2.56 | 2.07 | 1.16 | 2.938 | 3.35 |
| 5VR3, 5ER3 | 65.0 | 52.6 | 29.5 | 74.63 | 85.1 |
| 3VR7/7M, | 4.33 | 2.25 | 1.28 | 1.575 | 0.64* |
| 3ER7/7M | 110.0 | 57.2 | 32.5 | 40.01 | 16.3* |
| 5VR7/7M, | 4.33 | 2.25 | 1.28 | 1.575 | 0.64* |
| 5ER7/7M | 110.0 | 57.2 | 32.5 | 40.01 | 16.3* |
| 10VR1, | 3.85 | 2.07 | 1.53 | 2.938 | 3.35 |
| 10ER1 | 97.8 | 52.6 | 38.9 | 74.63 | 85.1 |
| 10VR3, | 2.56 | 2.07 | 1.53 | 2.938 | 3.35 |
| 10ER3 | 65.0 | 52.6 | 38.9 | 74.63 | 85.1 |
| 10VR6 | 3.96 | 2.07 | 1.53 | 2.938 | 3.35 |
| 10 V K 0 | 100.6 | 52.6 | 38.9 | 74.63 | 85.1 |
| 10VR7/7M, | 4.33 | 2.25 | 1.53 | 1.575 | 0.88* |
| 10ER7/7M | 110.0 | 57.2 | 38.9 | 40.01 | 22.4* |
| 20VR1, | 5.23 | 3.37 | 1.53 | 3.75 | 4.20 |
| 20ER1 | 132.8 | 85.6 | 38.9 | 95.25 | 106.7 |
| 20VR6 | 5.34 | 3.37 | 1.53 | 3.75 | 4.20 |
| 20 V KU | 135.6 | 85.6 | 38.9 | 95.25 | 406.7 |
| | | | | | *±0.02 [0.5] |



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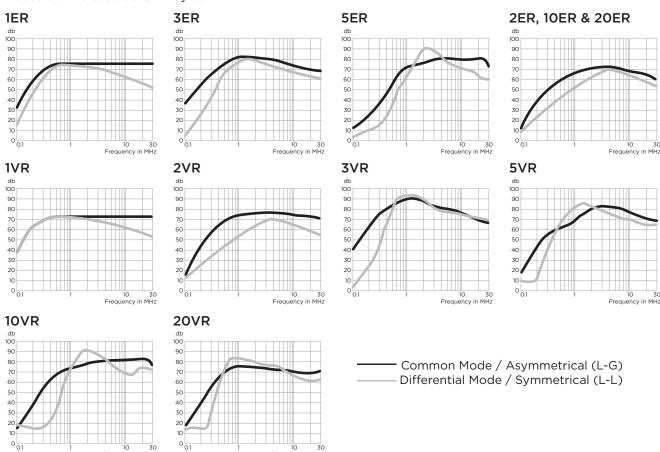
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R Series

Performance Data

Typical Insertion Loss

Measured in closed 50 Ohm system



Minimum Insertion Loss

Measured in closed 50 Ohm system

Common Mode / Asymmetrical (Line to Ground)

| _ | Common Plode / Asymmetrical (Line to Ground) | | | | | | |
|---|--|-----------------|----|----|----|----|----|
| | Current | Frequency – MHz | | | | | |
| | Rating | .15 | .5 | 1 | 5 | 10 | 30 |
| ٧ | R Models | | | | | | |
| | 1A, 3A | 30 | 65 | 65 | 65 | 65 | 65 |
| | 2A, 5A, 10A, 20A | 5 | 44 | 60 | 65 | 65 | 60 |
| E | 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 | Frequency – MHz | | | | | |
|------------------|-----------------|----|----|----|----|----|
| Rating | .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 |