Multipurpose Power Line RFI Filter for Emission Control

V and W Series

UL Recognized
CSA Certified
VDE Approved[1]

VV1 / VW1

VV6 / VW6

Both the V and W series are effective to control emissions in equipment using SCR and T²L circuits for compliance with FCC Part 15, Subpart J and EN55022, Level A, down to 150kHz

V Series

- Offers an N = 3 ("T") Line to Ground impedance to common mode and an N = 5 "Dbl. Pi") impedance for Line to Line differential mode interference
- Designed for susceptibility use when equipment impedance at RF frequencies is low

W Series

- Offers an N = 4 ("Dbl. L") Line to Ground impedance for common mode and an N=5 ("Dbl. Pi") impedance for Line to Line differential mode interference
- Designed for use when equipment impedance at RF frequencies is high
- Two stage construction provides excellent suppression at high frequencies

Ordering Information

20 V V 6

- 6 — Input / Output Style
  - 1 – .250 [6.3] spade terminals
  - 6 – Threaded bolt
  - 7 – IEC inlet* *(line side)* .250 [6.3] spade terminals *(load side)*
- V — V or W Series
- V — Leakage current designation
  - V – Standard
- 20 — Current Rating
  - 3, 6, 10 or 20A

**IEC 60320-1 C20 inlet mates with C19 connector*

Specifications

Maximum leakage current each Line to Ground:
@ 120 VAC 60 Hz: .5 mA
@250 VAC 50 Hz: .82 mA

Hipot rating (one minute):
Line to Ground: 2250 VDC
Line to Line: 1450 VDC

Rated Voltage (max): 250 VAC

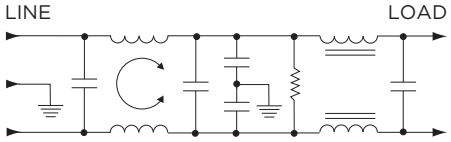
Operating Frequency: 50/60 Hz

Rated Current: 3 to 20A*

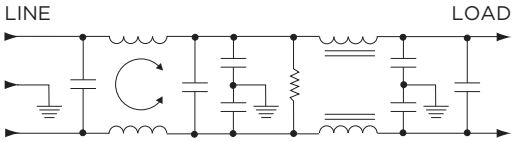
Operating Ambient Temperature Range (at rated current I_r): -10°C to +40°C
In an ambient temperature (T_a) higher than +40°C the maximum operating current (I_o) is calculated as follows: $I_o = I_r \sqrt{(85-Ta)/45}$

Electrical Schematics

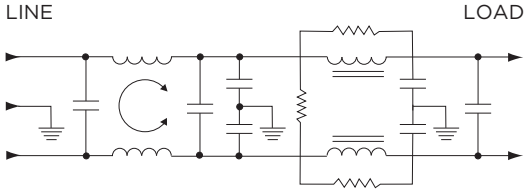
V Series



W Series (3, 6 & 10A)



W Series (20A)



[1]20VW7, 20A model tested by Underwriters Laboratories to US and Canadian requirements and is VDE approved at 16A, 250VAC

Dimensions are in inches and millimeters unless otherwise specified. Values in italics are metric equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.

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Multipurpose Power Line RFI Filter for Emission Control *(continued)*

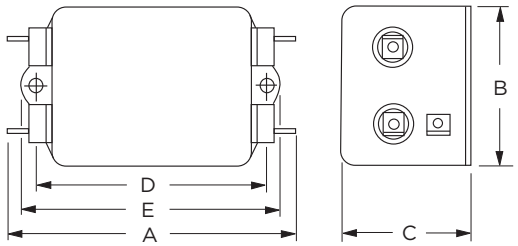
V and W Series

Available Part Numbers

3VV1	3VW1
6VV1	3VW1
10VV1	10VW1
20VV1	20VW1
20VV6	20VW6
	20VW7*

Case Styles

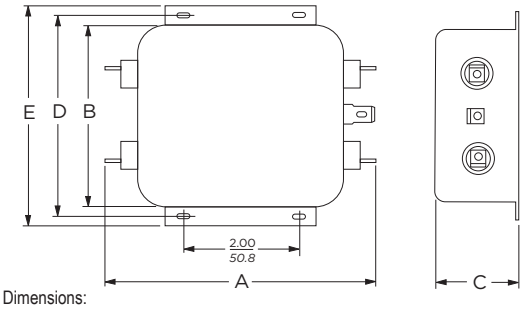
V1 / W1 (3, 6 & 10A)



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.

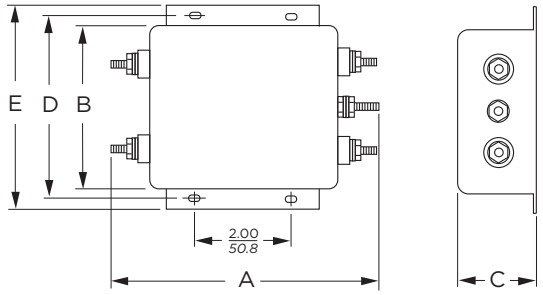
V1 / W1 (20A)



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.

V6 / W6

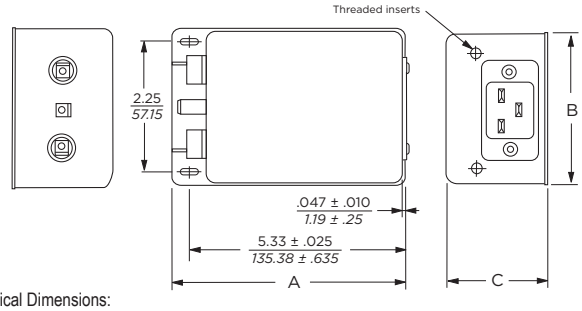


Typical Dimensions:

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.

Case Styles *(continued)*

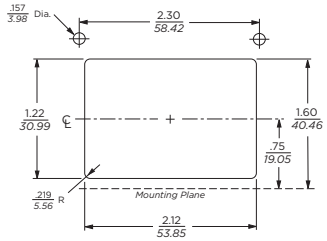
VW7



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 C20
Tapped Inserts (2):	6-32 x 1/4

Recommended Panel Cutout



Case Dimensions

Part No.	A (max)	B (max)	C (max)	D ± .015 ± .38	E (max)
3VV1, 3VW1	**3.36** *85.3*	**1.82** *46.2*	**1.28** *32.5*	**2.375** *60.33*	**2.78** *70.6*
6VV1, 6VW1	**3.86** *98.0*	**2.08** *52.8*	**1.53** *38.9*	**2.938** *74.63*	**3.34** *84.8*
10VV1, 10VW1	**3.86** *98.0*	**2.08** *52.8*	**1.53** *38.9*	**2.938** *74.63*	**3.34** *84.8*
20VV1, 20VW1	**5.23** *132.8*	**3.38** *85.9*	**1.53** *38.9*	**3.75** *95.25*	**4.20** *106.7*
20VV6, 20VW6	**5.34** *135.64*	**3.38** *85.9*	**1.53** *38.9*	**3.76** *95.5*	**4.20** *106.7*
20VW7	**5.65** *143.51*	**3.12** *79.25*	**2.29** *58.17*	—	—

**20VW7, 20A model tested by Underwriters Laboratories to US and Canadian requirements and is VDE approved at 16A, 250VAC*

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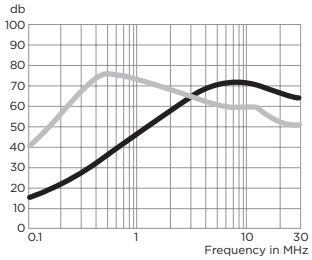
Performance Data

Typical Insertion Loss

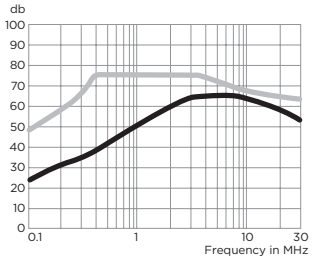
Measured in closed 50 Ohm system

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

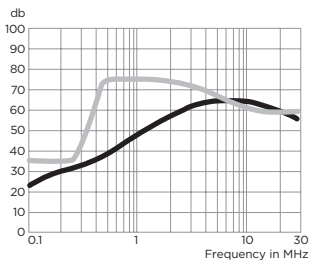
3VV



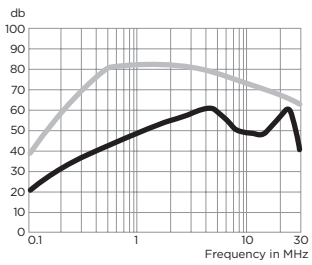
6VV



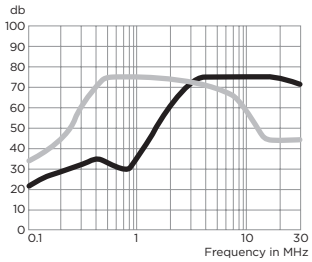
10VV



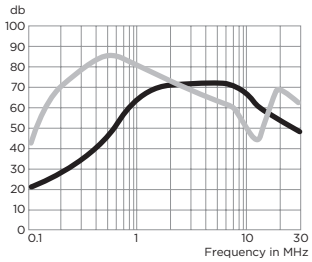
20VV



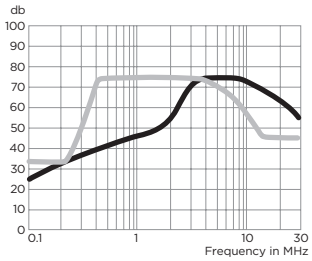
3VW



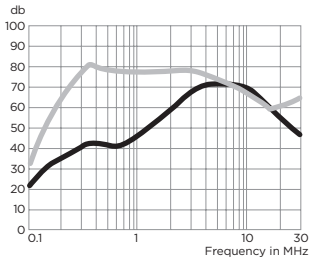
6VW



10VW



20VW



Minimum Insertion Loss

Measured in closed 50 Ohm system

Common Mode / Asymmetrical (Line to Ground)

Current Rating	Frequency – MHz .15	.5	1	2	5	10	20	30
V Series								
3A	15	27	38	47	55	55	50	48
6A	15	27	28	47	55	55	50	48
10A	15	27	38	47	55	55	50	48
20A	15	30	41	49	55	46	36	30
W Series								
3A	13	25	20	45	60	65	65	63
6A	18	30	34	40	65	65	57	47
10A	18	30	34	40	65	65	57	47
20A	18	30	34	40	65	65	57	47

Differential Mode / Symmetrical (Line to Line)

Current Rating	Frequency – MHz .15	.5	1	2	5	10	20	30
V Series								
3A	25	25	65	63	60	52	50	50
6A	40	54	65	65	65	60	57	55
10A	25	25	65	63	60	52	50	50
20A	25	25	65	63	60	52	50	50
W Series								
3A	25	40	65	65	62	55	35	35
6A	30	54	65	65	60	55	38	38
10A	25	25	65	65	65	50	45	45
20A	25	25	65	65	65	50	45	45

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