

## Multipurpose Power Line RFI Filter for Emission Control

# V and W Series



UL Recognized  
CSA Certified  
VDE Approved<sup>1</sup>



Both the V and W series are effective to control emissions in equipment using SCR and T<sup>2</sup>L circuits for compliance with FCC Part 15, Subpart J and EN55022, Level A, down to 150kHz

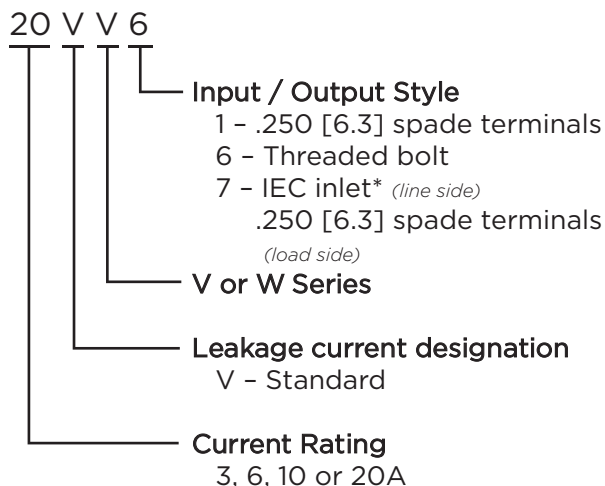
### V Series

- 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



<sup>1</sup>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:

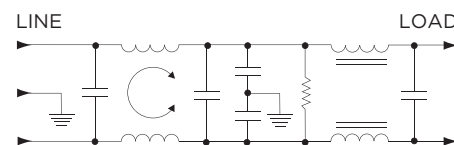
3 to 20A\*

#### Operating Ambient Temperature Range

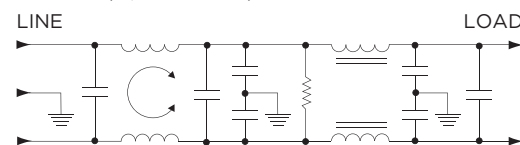
(at rated current  $I_r$ ): -10°C to +40°C  
In an ambient temperature ( $T_a$ ) higher than +40°C the maximum operating current ( $I_o$ ) is calculated as follows:  $I_o = I_r \sqrt{(85-T_a)/45}$

### Electrical Schematics

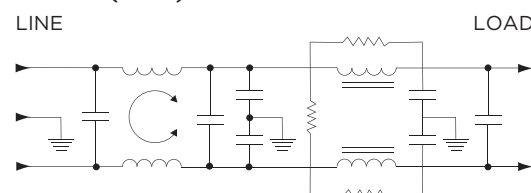
#### V Series



#### W Series (3, 6 & 10A)



#### W Series (20A)



<sup>1</sup>20VW7, 20A model tested by Underwriters Laboratories to US and Canadian requirements and is VDE approved at 16A, 250VAC

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

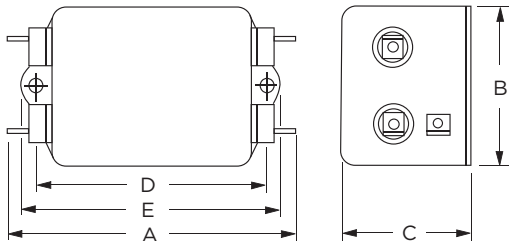
# V and W Series

### Available Part Numbers

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

### Case Styles

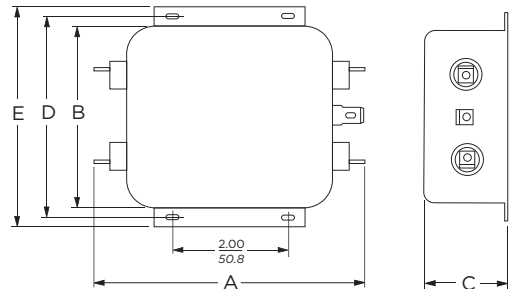
#### V1 / W1 (3, 6 & 10A)



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.

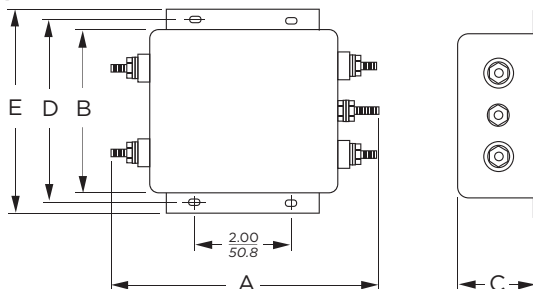
#### V1 / W1 (20A)



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

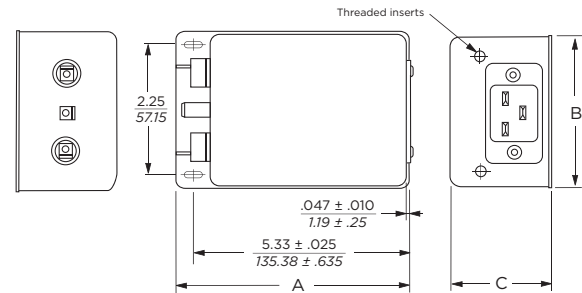


Typical Dimensions:

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)*

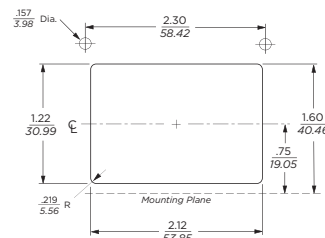
#### VW7



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

1

RFI Power Line Filters

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

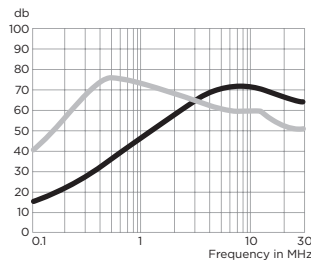
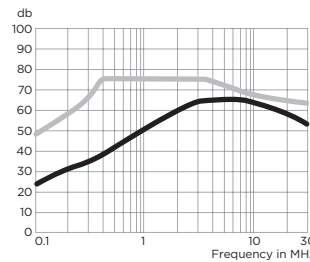
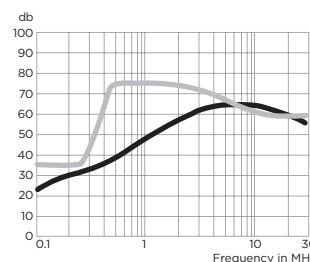
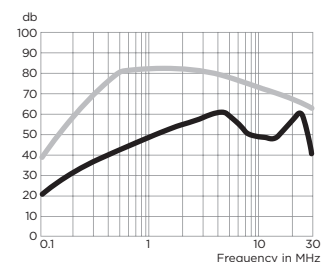
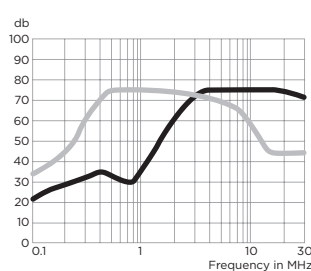
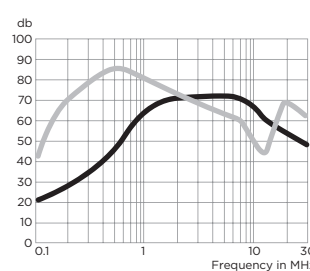
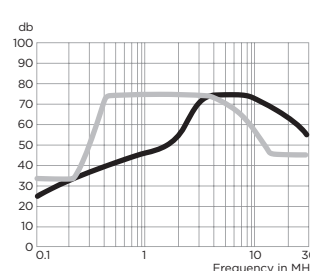
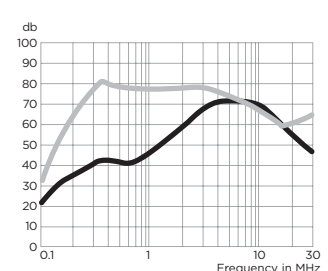
# V and W Series

## 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
<b>V Series</b>								
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
<b>W Series</b>								
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
<b>V Series</b>								
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
<b>W Series</b>								
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