

# Dual Stage RFI Power Line Filters for Switching Mode Power Supplies



## AMI-M12B/M12C Series

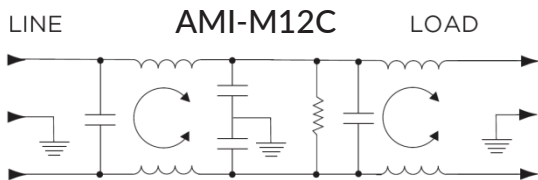
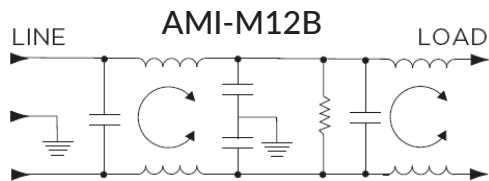
### Metal Enclosure Single Phase Dual Stage Filters

AMI Designation	Input/output Style				Current Rating	Inductance	Capacitance		Resistor	Leakage Current @ 120 VAC 60Hz/250 VAC 50 Hz	TIL Insertion Loss	Case Style
							Cx	Cy				
Available Part Numbers	6.3mm Spade Terminals	Wire Leads	Threaded Bolts	IEC/ 6.3mm Spade Terminals		mH	nF	pF	KΩ	mA		
							AMI-M12B-1-3-B	1				
AMI-M12B-3-3-B	-	3	-	-	3	14.12	740	2800	330	0.21/0.36	001	C
AMI-M12C-7-3-B	-	-	-	7	3	14.12	740	2800	330	0.21/0.36	001	D
AMI-M12C-7M-3-B	-	-	-	7	3	14.12	740	2800	330	0.21/0.36	001	D
AMI-M12B-1-6-B	1	-	-	-	6	17.46	740	2800	330	0.21/0.36	002	A
AMI-M12B-3-6-B	-	3	-	-	6	17.46	740	2800	330	0.21/0.36	002	C
AMI-M12B-1-7-B	1	-	-	-	7	14.6	2000	2800	165	0.21/0.36	003	A
AMI-M12B-3-7-B	-	3	-	-	7	14.6	2000	2800	165	0.21/0.36	003	C
AMI-M12B-1-10-B	1	-	-	-	10	14.26	740	2800	330	0.21/0.36	004	A
AMI-M12B-3-10-B	-	3	-	-	10	14.26	740	2800	330	0.21/0.36	004	A
AMI-M12B-1-12-B	1	-	-	-	12	7.88	2000	2800	165	0.21/0.36	005	A
AMI-M12B-3-12-B	-	3	-	-	12	7.88	2000	2800	165	0.21/0.36	005	D
AMI-M12B-1-20-B	1	-	-	-	20	4.56	2000	2800	165	0.21/0.36	006	B
AMI-M12B-6-20-B	-	-	6	-	20	4.56	2000	2800	165	0.21/0.36	006	E
AMI-M12B-1-20-C	1	-	-	-	20	4.56	2000	10000	165	0.73/1.27	007	C
AMI-M12B-6-20-C	-	-	6	-	20	4.56	2000	10000	165	0.73/1.27	007	E

\*(M) = Metric Inserts

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## Electrical Schematic



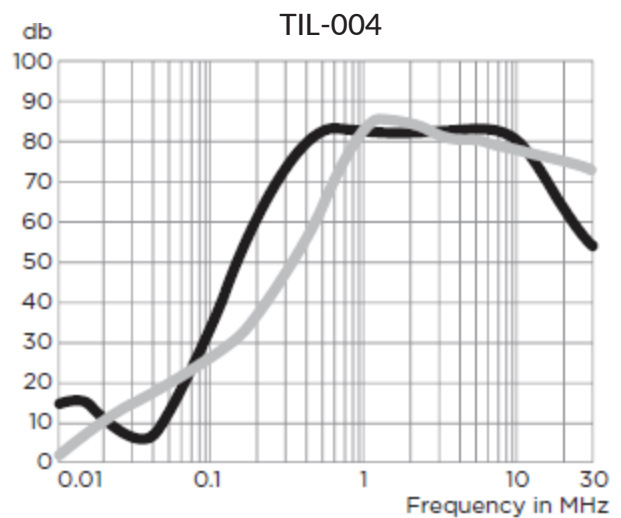
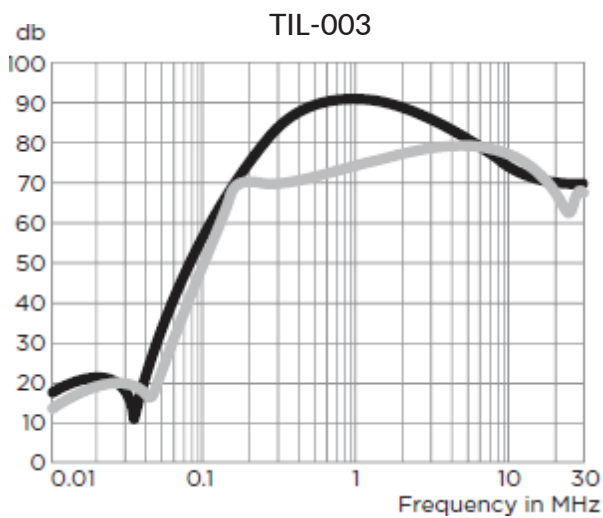
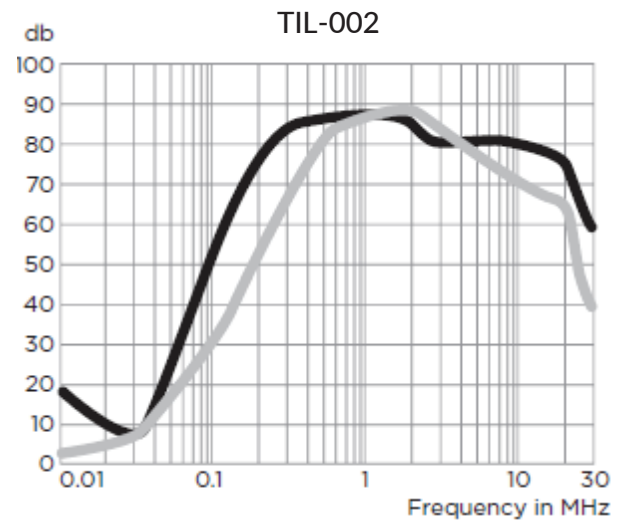
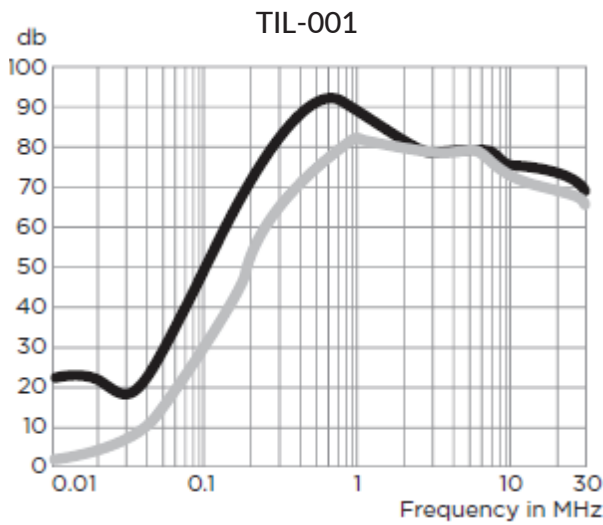
## Specifications:

- Rated Voltage (max): 250 VAC
- Operating Frequency: 50/60 Hz
- Operating Current: 3 to 20 A
- Hi-pot Rating (one minute): Line to Ground: 2250 VDC  
Line to Line: 1450 VDC
- Operating Ambient Temperature Range (at rated current  $I_r$ ):  $-10^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$ . In an ambient temperature ( $T_a$ ) higher than  $+40^{\circ}\text{C}$  the maximum operating current ( $I_o$ ) is calculated as follows:  $I_o = I_r \sqrt{[(85 - T_a)/45]}$

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## Performance Data Typical Insertion Loss

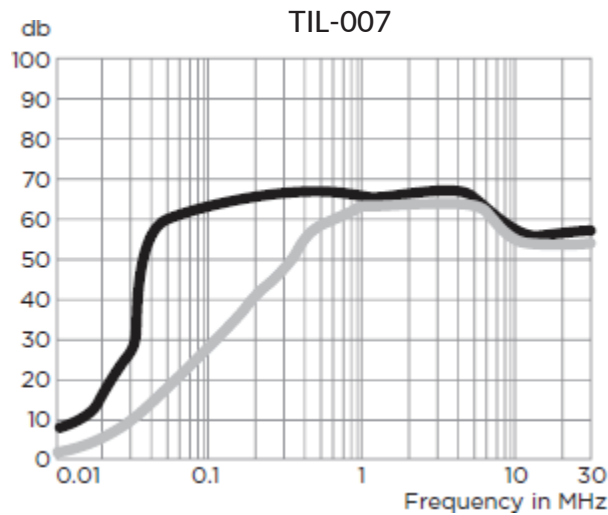
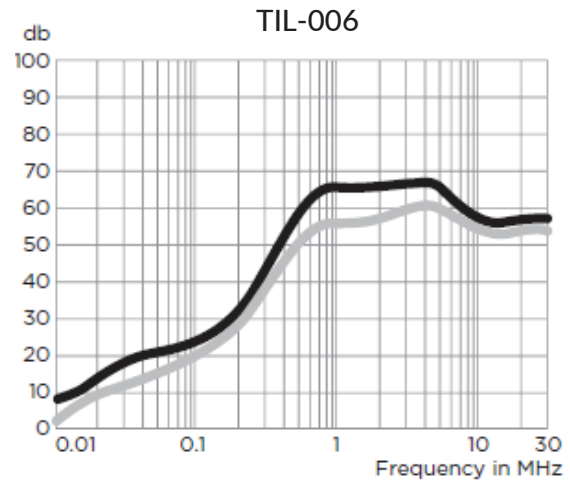
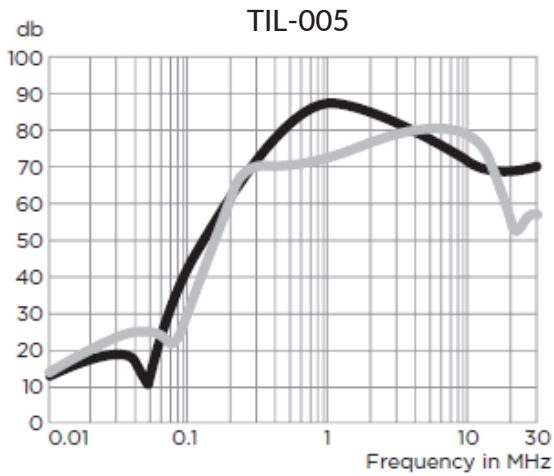
Measured in closed 50 Ohm system



# Dual Stage RFI Power Line Filters for Switching Mode Power Supplies

## Performance Data Typical Insertion Loss

Measured in closed 50 Ohm system



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

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## Minimum Insertion Loss

Measured in closed 50 Ohm system

### Common Mode/Asymmetrical (Line to Ground)

Current Rating	Frequency-MHz							
	.01	.05	.15	.5	1	5	10	30
<i>AMI-M12C-X-X-B</i>								
3A	12	10	58	65	65	66	62	30
6, 10A	10	15	60	65	65	65	60	35
7A	15	28	63	75	78	75	75	55
12A	12	7	52	68	70	70	70	45
20A	3	6	28	50	55	60	55	55
<i>AMI-M12B-X-X-C/D</i>								
20A	3	2	42	60	65	65	55	55

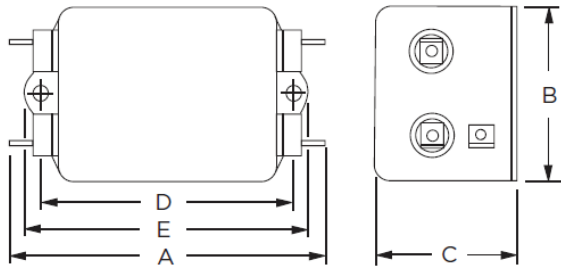
### Differential Mode/Symmetrical (Line to Line)

Current Rating	Frequency-MHz							
	.01	.05	.15	.5	1	5	10	30
<i>AMI-M12C-X-X-B</i>								
3A	1	3	36	65	65	65	58	58
6, 10A	1	3	30	65	65	65	65	35
7A	10	13	55	65	68	70	65	50
12A	11	7	43	70	70	70	65	45
20A	8	25	60	65	65	58	58	58
<i>AMI-M12B-X-X-C</i>								
20A	8	-	25	60	65	65	58	58

# Dual Stage RFI Power Line Filters for Switching Mode Power Supplies

## Case Styles

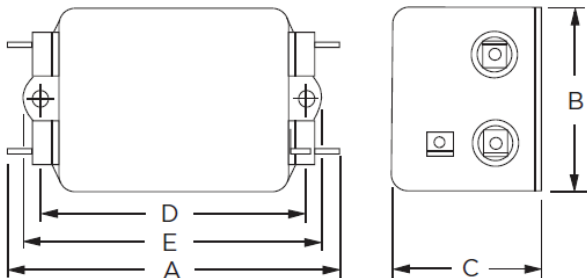
### STYLE A



#### 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.

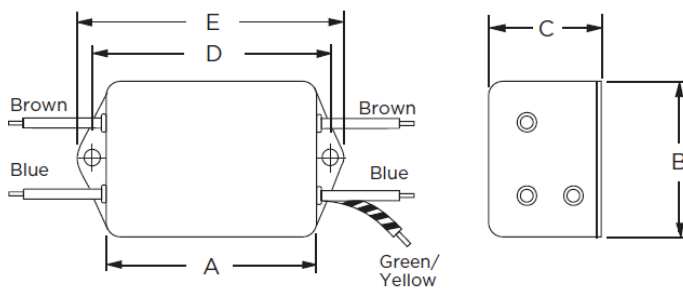
### STYLE B



#### 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.

### STYLE C



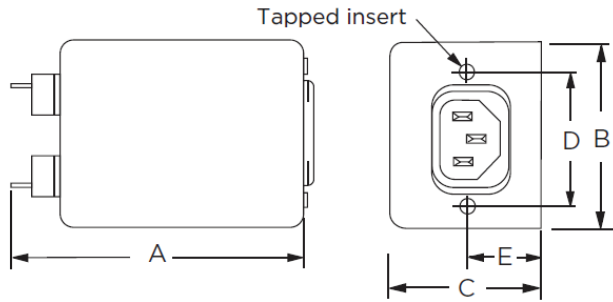
#### Typical Dimensions:

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

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## Case Styles

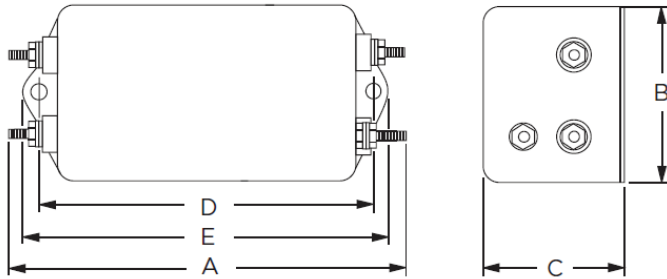
### STYLE D



#### Typical Dimensions:

Load Terminals (2):	.250 [6.3] with .07 [1.8] Dia. hole
Line Inlet (1):	IEC 60320-1 C14
EP7 Tapped Inserts (2):	6-32 x 1/4
EP7M Tapped Inserts (2):	M3 x .5

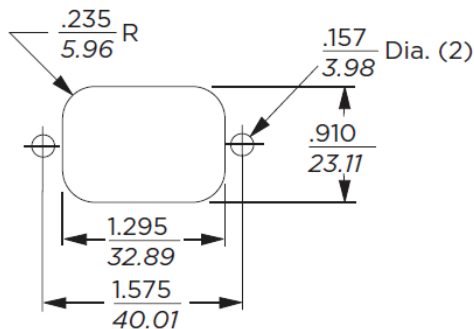
### STYLE E



#### Typical Dimensions:

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

## Recommended Panel Cutout



Tolerance  $\pm .005$  [0.13]

# Dual Stage RFI Power Line Filters for Switching Mode Power Supplies

## Case Dimensions:

Model Number	A max	B max	C max	D $\begin{smallmatrix} \pm .015 \\ \pm .38 \end{smallmatrix}$	E max
AMI-M12B-1-3	3.85"/97.8mm	2.07"/52.6mm	1.78"/45.2mm	2.938"/74.63mm	3.35"/85.1mm
AMI-M12B-3-3	2.56"/65.0mm	2.07"/52.6mm	1.78"/45.2mm	2.938"/74.63mm	3.35"/85.1mm
AMI-M12C-7M-3/ AMI-M12C-7-3	3.21"/81.5mm	2.25"/57.2mm	1.78"/45.2mm	1.575"/40.01mm	0.63"/12.1mm
AMI-M12B-1-6	6.62"/168.1mm	2.07"/52.6mm	2.28"/57.9mm	5.625"/142.8mm	6.03"/153.2mm
AMI-M12B-3-6	5.33"/135.4mm	2.07"/52.6mm	2.28"/57.9mm	5.625"/142.8mm	6.03"/153.2mm
AMI-M12B-1-7	4.79"/121.7mm	2.07"/52.6mm	1.53"/38.9mm	3.947"/10.25mm	4.33"/109.98mm
AMI-M12B-3-7	3.50"/88.9mm	2.07"/52.6mm	1.53"/38.9mm	3.947"/10.25mm	4.33"/109.98mm
AMI-M12HB-1-10	6.62"/168.1mm	2.07"/52.6mm	2.78"/70.6mm	5.625"/142.8mm	6.03"/153.2mm
AMI-M12B-3-10	5.35"/135.9mm	2.03"/52.6mm	2.78"/70.6mm	5.625"/142.8mm	6.03"/153.2mm
AMI-M12B-1-12	4.97"/126.2mm	1.78"/45.2mm	1.78"/45.2mm	4.063"/103.2mm	4.46"/113.28mm
AMI-M12B-3-12	3.624"/92.05mm	1.78"/45.2mm	1.78"/45.2mm	4.063"/103.2mm	4.46"/113.28mm
AMI-M12B-1-20	4.95"/125.7mm	1.8"/45.7mm	1.8"/45.7mm	4.063"/103.2mm	4.47"/113.5mm
AMI-M12B-6-20	5.09"/127.3mm	1.78"/45.2mm	1.78"/45.2mm	4.063"/103.2mm	4.46"/113.3mm

±0.02 [0.5]