



AMFE305150



Encapsulated

Aimtec's AMFE30503 series is designed to offer protection against AC power surges. These filters can assist the AC-DC converters in meeting the Surge level of IEC/EN61000-4-5 standard  $\pm 1KV$  ( $2\Omega$  internal resistance) or  $\pm 2KV$  ( $12\Omega$  internal resistance) and EMI requirement of CISPR22/EN55022 Class B standard.

With a wide input voltage range of 85-305 VAC in a compact package these filter modules are best suited for AC-DC application that are sensitive to noise interference.

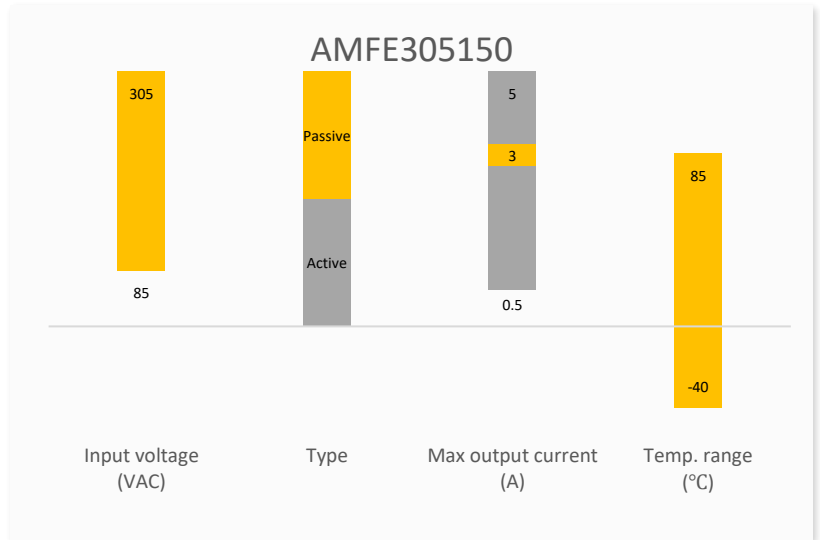
Features



Summary



- Universal Input: 85 - 305VAC
- Operating Temp:  $-40^{\circ}C$  to  $+85^{\circ}C$
- High isolation voltage: 2000VAC
- Surge Suppression Ability: L-N: up to  $\pm 4KV$ , L-G: up to  $\pm 6KV$
- Attenuation Ability: Up to 30dB@150k~1GHz
- EMI meet EN55022 Class B



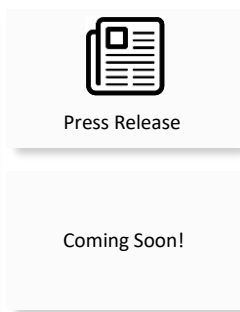
Training



Applications



Product Training Video  
(click to open)



Application Notes



Power Grid



Industrial



Telecom



Instrumentation

## Models & Specifications

Models			
Model	Input Voltage (VAC)	Max Current (A)	Surge Level (IEC/EN61000-4-5,GB/T17626.5)
AMFE305150-LN22	85 - 305	1.5	L-N: ±2KV (2Ω internal) L-GND: ±4KV (12Ω internal)
AMFE305150-LN42	85 - 305	1.5	L-N: ±4KV (2Ω internal) L-GND: ±6KV (12Ω internal)

Output Specifications				
Parameters	Tested Conditions	Typical	Maximum	Units
Suppressed Output Peak Voltage (AMFE305150-LN22)	Input surge voltage L-N : 2KV		1.13	KV
	Input surge voltage L-GND : 4KV		3.18	
Suppressed Output Peak Voltage (AMFE305150-LN42)	Input surge voltage L-N : 4KV		3.16	
	Input surge voltage L-GND : 6KV		5.06	

Frequency Attenuation Specifications					
Parameters	Tested Conditions		Typical	Maximum	Units
The attenuation coefficient of frequency	150KHz ~ 1GHz	AMFE305150-LN22	20		dB
		AMFE305150-LN42	30		

General Specifications				
Parameters	Conditions	Typical	Maximum	Units
Operating temperature		-40 to +85		°C
Storage temperature		-55 to +125		°C
Case temperature rise	220VAC / 0.5A		5	°C
	220VAC / 1.0A		20	
	220VAC / 1.5A		30	
Isolation Voltage (L/PE ; N/PE)	1 min,5mA leakage current	2000		VAC
Case material	Heat resistant black Plastic (flammability to UL 94V-0)			
Weight (AMFE305150-LN22)	PCB mountable models	20		g
	With optional -ST mounting plate	40		
	With optional -STD mounting plate	60		
Weight (AMFE305150-LN42)	PCB mountable models	50		
	With optional -ST mounting plate	70		
	With optional -STD mounting plate	90		
Dimensions (L x W x H) (AMFE305150-LN22)	PCB mountable models	1.33 x 0.87 x 0.71 inches (33.70 x 22.20 x 18.00mm)		
	With optional -ST mounting plate	2.99 x 1.24 x 1.06 inches (76.00 x 31.50 x 26.80mm)		
	With optional -STD mounting plate	2.99 x 1.24 x 1.24 inches (76.00 x 31.50 x 31.40mm)		
Dimensions (L x W x H) (AMFE305150-LN42)	PCB mountable models	2.12 x 1.13 x 0.75 inches (53.80 x 28.80 x 19.00mm)		
	With optional -ST mounting plate	2.99 x 1.24 x 1.52 inches (76.00 x 31.50 x 27.80mm)		

With optional -STD mounting plate

2.99 x 1.24 x 1.28 inches (76.00 x 31.50 x 32.40mm)

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

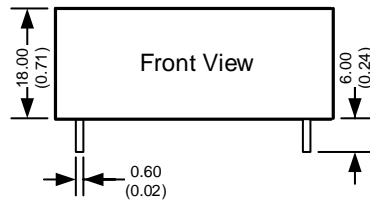
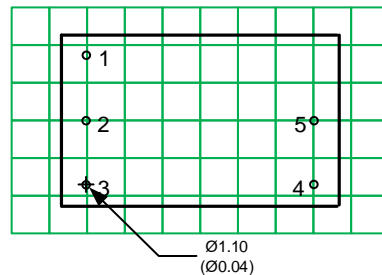
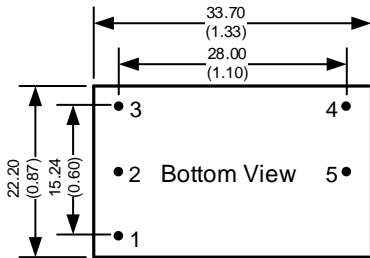
## Safety Specifications

### Parameters

Standards	Put AMFE305150-LN22 on to the input of AC/DC module can ensure the module meet Surge level of IEC/EN61000-4-5 standard $\pm 2\text{KV}$ ( $2\Omega$ internal resistance) / $\pm 4\text{KV}$ ( $12\Omega$ internal resistance).
	Put AMFE305150-LN42 on to the input of AC/DC module can ensure the module meet Surge level of IEC/EN61000-4-5 standard $\pm 4\text{KV}$ ( $2\Omega$ internal resistance) / $\pm 6\text{KV}$ ( $12\Omega$ internal resistance) and EMI requirement of CISPR22/EN55022 Class B.

## Dimensions

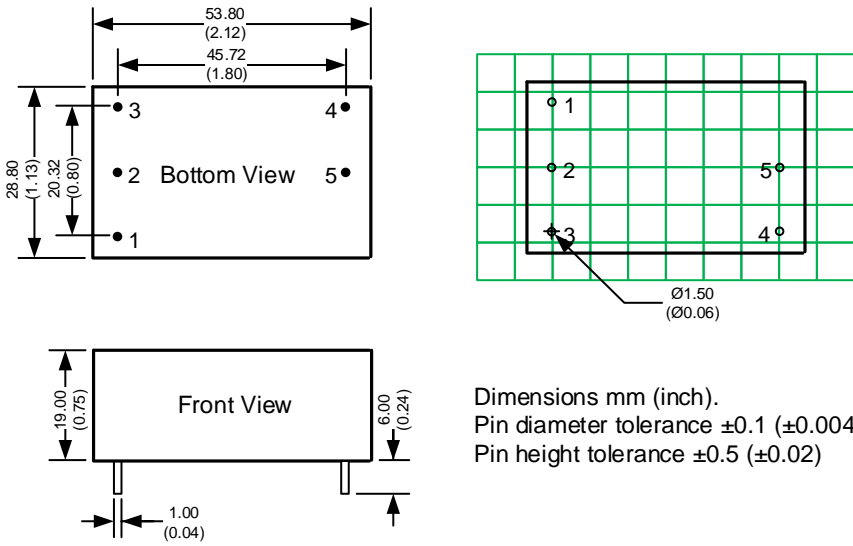
### AMFE305150-LN22



Dimensions mm (inch).  
Pin diameter tolerance  $\pm 0.1$  ( $\pm 0.004$ )  
Pin height tolerance  $\pm 0.5$  ( $\pm 0.02$ )

Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

### AMFE305150-LN42

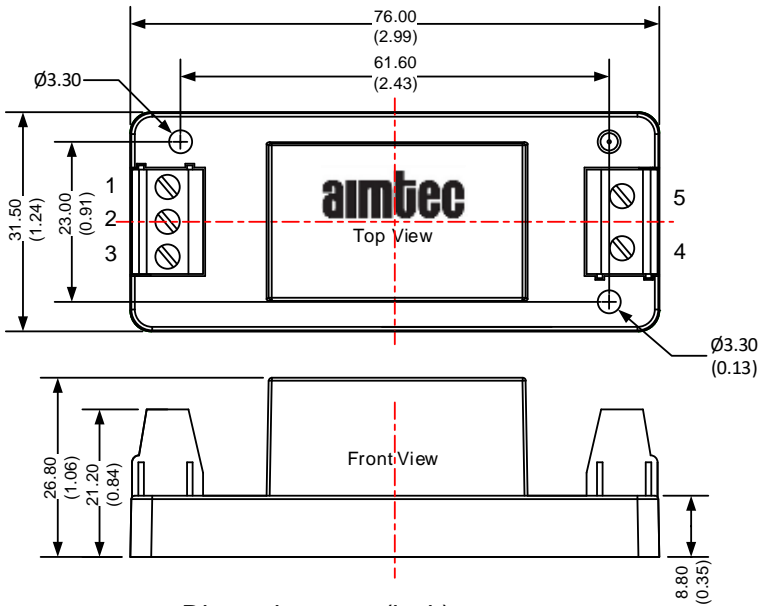


Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

### Dimensions with ST Optional

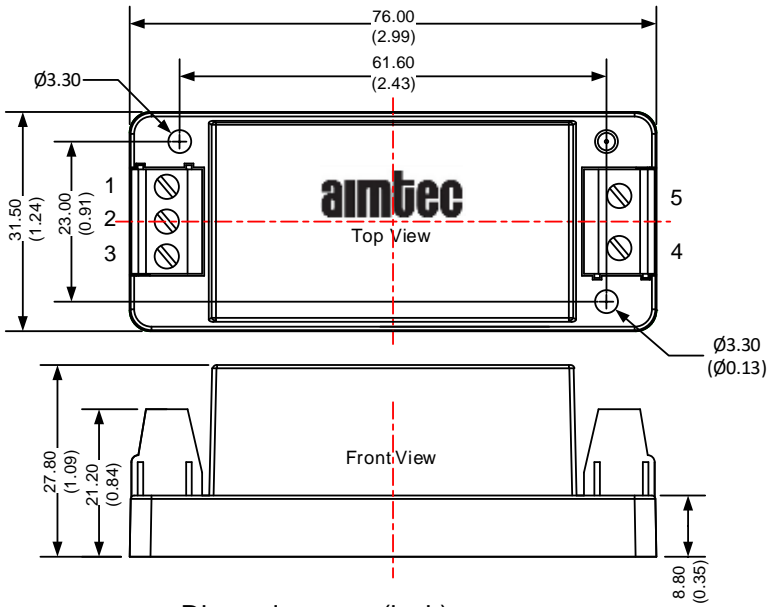


### AMFE305150-LN22-ST



Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

### AMFE305150-LN42-ST



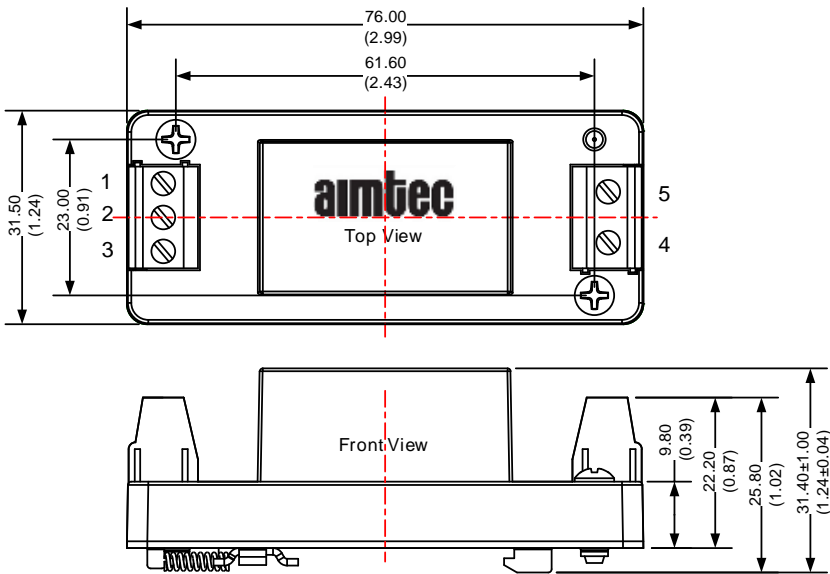
Dimensions mm (inch)  
Wire range: 24-12 AWG  
General tolerances  $\pm 0.50$  ( $\pm 0.02$ )

Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

### Dimensions with STD Optional



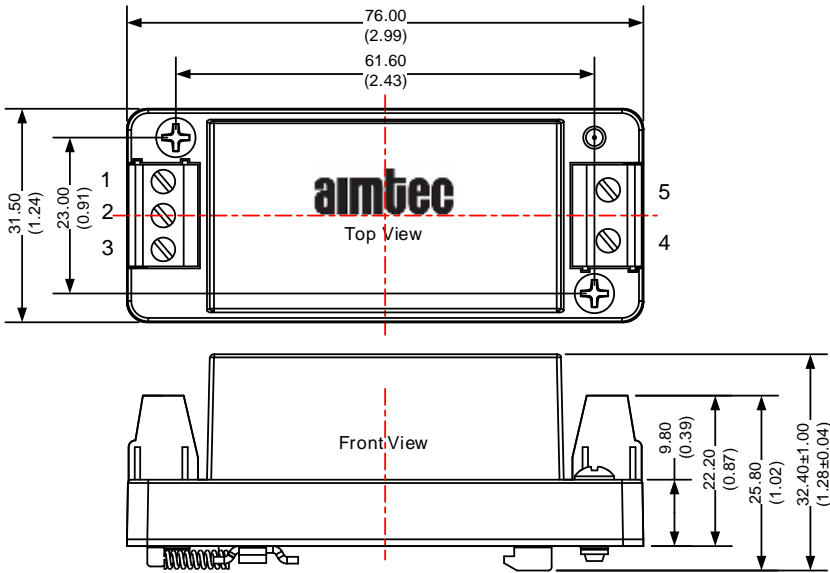
#### AMFE305150-LN22-STD



Dimensions mm (inch)  
Wire range: 24-12 AWG  
General tolerances:  $\pm 0.50$  ( $\pm 0.02$ )

Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

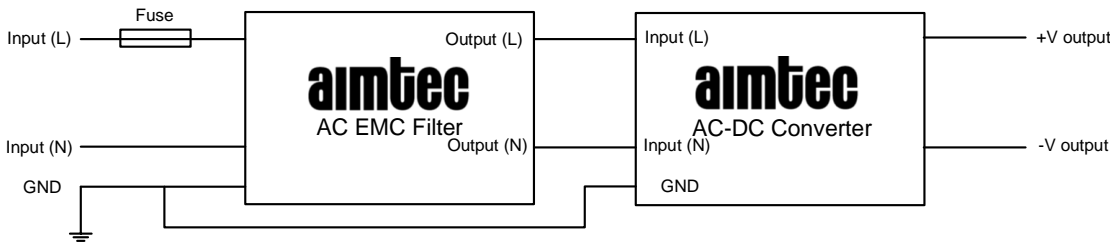
#### AMFE305150-LN42-STD



Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

Dimensions mm (inch)  
Wire range: 24-12 AWG  
General tolerances:  $\pm 0.50$  ( $\pm 0.02$ )

## Application Circuit



Model	Recommended external circuit parameters
Fuse	The fuse value varies with different power modules and must be selected in accordance with the specified input current of the corresponding power converter, but not exceeding the filter specifications.

## Supporting the power module product model

Model	EMI (Without External Circuit)	EMI (With EMC filter)	EFT (Without External Circuit)	EFT (With EMC filter)	Surge (Without External Circuit)	Surge (With AMFE305150-LN22)	Surge (With AMFE305150-LN42)
AME1-JZ AME2-JZ	CISPR22/ EN55022 Class B			IEC/EN61000-4-4 $\pm 2KV$		IEC/EN61000-4-5 $\pm 1KV / \pm 2KV$	

Preliminary

AME3-CJZ	CISPR22/ EN55022 Class A	CISPR22/E N55022 Class B		IEC/EN61000-4-4 ± 2KV		IEC/EN61000-4-5 ± 1KV / ± 2KV	
AMEL5-CJZ	CISPR22/ EN55022 Class A	CISPR22/E N55022 Class B	IEC/EN61000-4-4 ± 2KV	IEC/EN61000-4-4 ± 4KV	IEC/EN61000-4-5 ± 1KV / ± 2KV	IEC/EN61000-4-4 ± 2KV / ± 4KV	
AMEL5-JZ	CISPR22/ EN55022 Class B		IEC/EN61000-4-4 ± 2KV	IEC/EN61000-4-4 ± 4KV	IEC/EN61000-4-5 ± 1KV	IEC/EN61000-4-4 ± 2KV / ± 4KV	
AMEL10- MJZ	CISPR22/ EN55022 Class A	CISPR22/E N55022 Class B	IEC/EN61000-4-4 ± 2KV	IEC/EN61000-4-4 ± 4KV	IEC/EN61000-4-5 ± 1KV	IEC/EN61000-4-4 ± 2KV / ± 4KV	
AMEL12-CJZ AMEL20-CJZ	CISPR22/ EN55022 Class B		IEC/EN61000-4-4 ± 4KV		IEC/EN61000-4-5 ± 2KV		IEC/EN61000-4-4 ± 4KV / ± 6KV
AME5-CJZ AME5-JZ AME10-CJZ AME10-JZ AME15-CJZ AME15-JZ AME15-MJZ AME20-CJZ AME20-JZ AME25-CJZ AME25-JZ AME25-MJZ AME40-CJZ AME40-MJZ AME60-MJZ	CISPR22/ EN55022 Class B		IEC/EN61000-4-4 ± 2KV	IEC/EN61000-4-4 ± 4KV	IEC/EN61000-4-5 ± 1KV / ± 2KV	IEC/EN61000-4-4 ± 2KV / ± 4KV	

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