

**Typical Features**

- ◆ Wide input voltage range: 85-305VAC
- ◆ Small size, good temperature characteristics
- ◆ Suppress AC power line surge voltage to achieve first-level protection
- ◆ Ensure the power supply module to meet EMI CLASS-B limit requirements
- ◆ Used with power modules to withstand surges: DM-4KV, CM-6KV
- ◆ Operating temperature: -40℃~+85℃
- ◆ Three packaging styles: horizontal, wiring and Din- rail
- ◆ Enclosed plastic housing, compliant with UL94V-0



**Application Field**

**LC-AC01F2 series**---- is a small-volume filter module that AIPU provides to customers that complies with EMC. This filter has a global input voltage range and is suitable for analog circuits and other noise-sensitive applications. Adding this module to the input of the AC-DC module can make the product meet the surge level requirements of ±4KV (2Ω internal resistance)/±6KV (12Ω internal resistance) in the IEC/EN61000-4-5 standard, and at the same time make the supporting power module meet the CISPR32/EN55032/CE/CLASS-B EMI limit requirements. When used with AIPU AC-DC module power supply, the maximum input voltage of the AC-DC module power supply should not be greater than the maximum operating voltage of the EMC filter, and the maximum input current of the AC-DC module power supply should be less than the rated operating current of the EMC filter.

**Typical Product List**

Part No	Input voltage Range (VAC)	Rated Current (mA @ MAX)	Standards Compliant
LC-AC01F2 LC-AC01F2-T LC-AC01F2-TS	85~305	500	EN61000-4-5 CISPR32/EN55032 CLASS-B

Note 1: Complies with EMC standards IEC/EN61000-4-5 and CISPR32/EN55032.

Note 2: This filter module can be used with our AC-DC power module input 85-305VAC, 85-265VAC.

Note 3: Products that meet the output power of 2-20W have successfully passed the RE, CE, SURGE and other standard requirements.

**Input Specification**

Item	Operating Condition	Min.	Typ.	Max.	Unit
Input Voltage Range	AC Input	85	220	305	VAC
Input Frequency Range		47	50	63	Hz
Input no-load Current	220VAC	--	34	--	mA
Input no-load Consumption		--	90	--	mW

**General Specification**

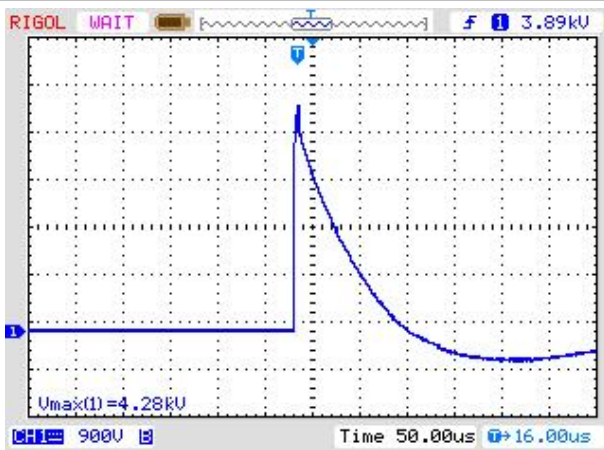
Item	Operating Condition	Min.	Typ.	Max.	Unit
Operating Temperature	--	-40	--	+85	℃

Storage Temperature	--	-40	--	+100	
Case Temperature	220VAC@50mA	--	--	10	
	220VAC@300mA	--	--	20	
	220VAC@500mA	--	--	30	°C
Soldering Temperature	Wave soldering	260±4 °C, time 5-10S			
	Manual soldering	360±8 °C, time 4-7S			
Relative Humidity	--	10	--	90	%RH
Insulation Voltage	Input- PE, test 1 min, leakage current ≤5mA	--	--	2000	VAC
Vibration	--	10-55Hz, 10G, 30Min, along X, Y, Z			
Case Class	--	UL94V-0			

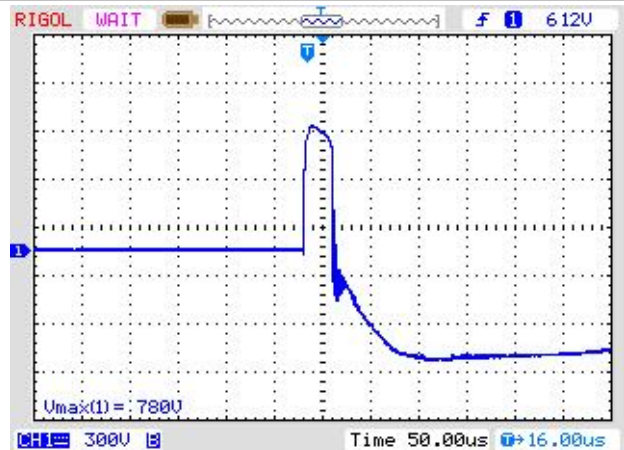
**Design Reference Standards**

When used with our AC-DC power module, the power module can meet the ±4KV (2Ω internal resistance)/±6KV (12Ω internal resistance) surge level requirements of the IEC/EN61000-4-5 standard, as well as the limit requirements of CISPR32/EN55032 and CLASS-B.

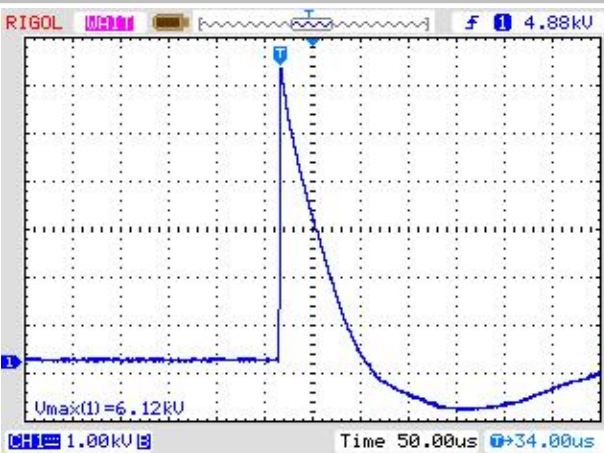
**EMC Characteristics**



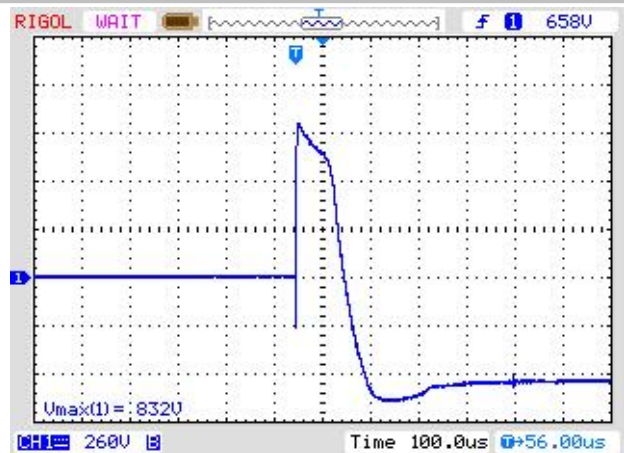
Input terminal voltage waveform  
(differential mode 4.28KV)



Output terminal voltage waveform  
(differential mode 780V)



Input terminal voltage waveform  
(differential mode 6.12KV)

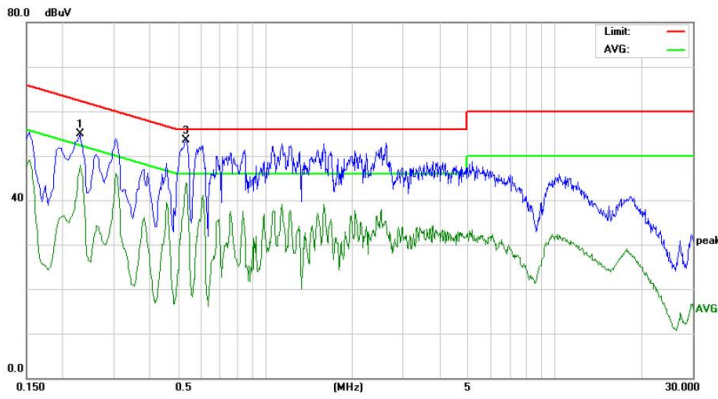


Output terminal voltage waveform  
(differential mode 832V)

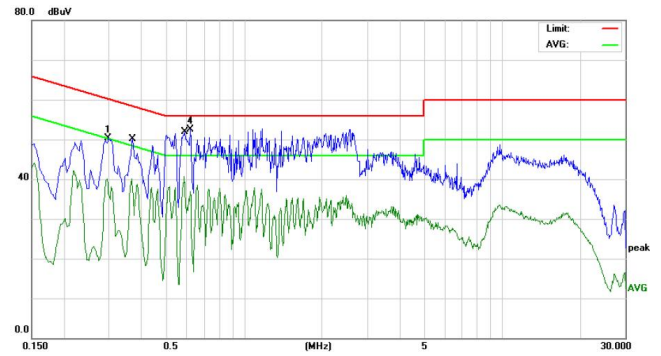
Note 1: The surge results of the above tests were measured under the open circuit condition of LC-AC01F2.

Note 2: The above tests were measured according to the requirements of standard IEC/EN-61000-4-5.

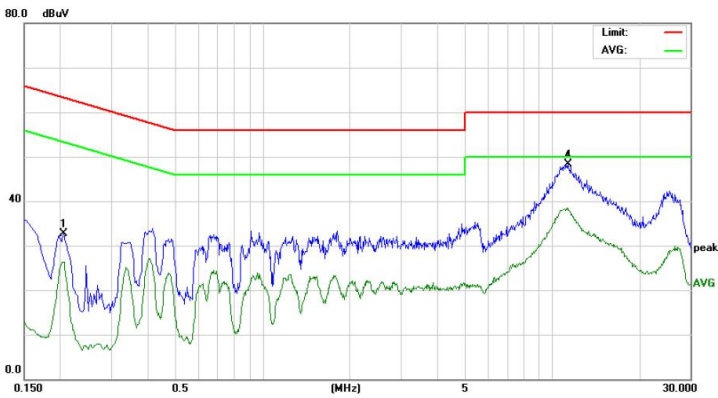
**EMI Characteristics**



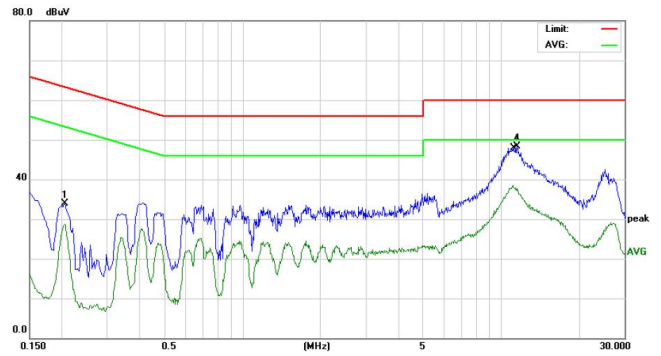
Input L line (no filter added) to test CE waveform



Input N line (no filter added) to test CE waveform



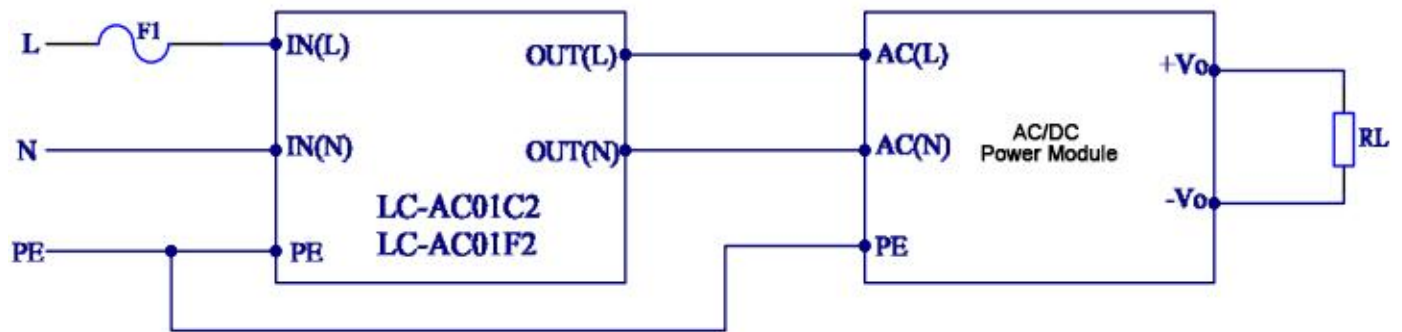
Input L line (with EMC filter) to test CE waveform



Input N line (with EMC filter) to test CE waveform

Note 1: The above test was conducted using the filter LC-AC01F2 and our AC-DC power module FA25-220SXXF2D4 series.  
 Note 2: The test was conducted based on the limit requirements of standard EN55032/CLASS-B.

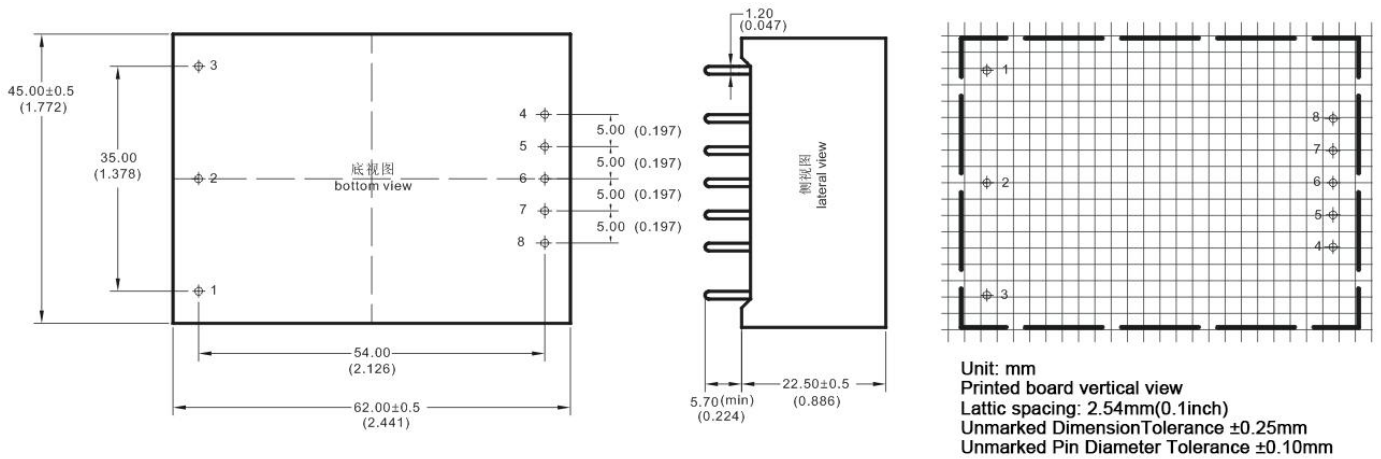
**Design Reference**



(Connection diagram of filter and module power supply)

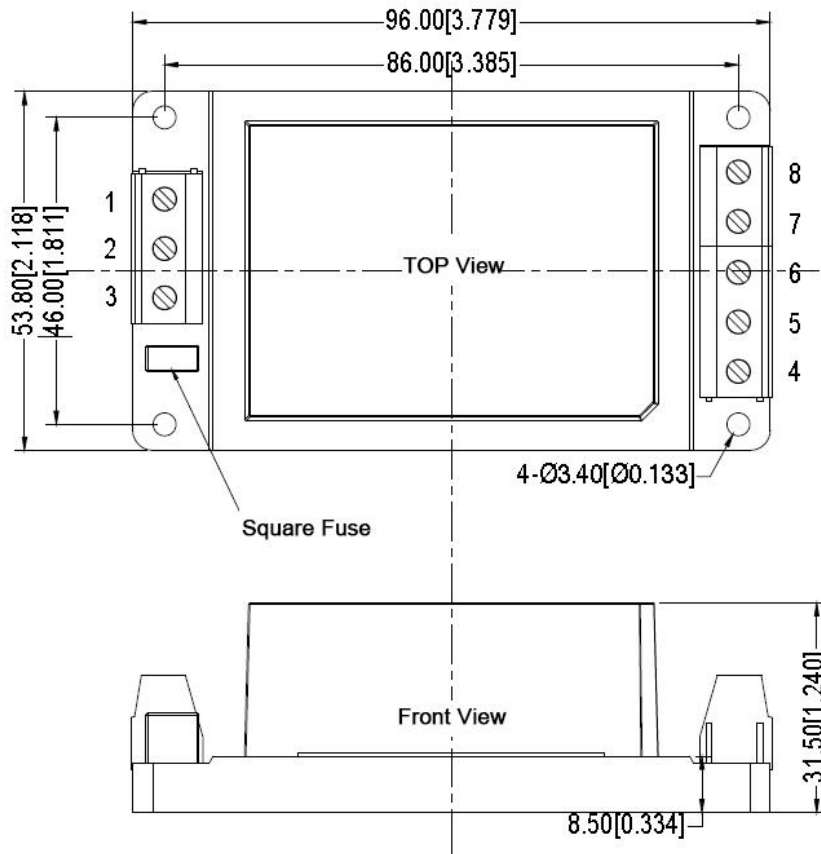
**FUSE:** Due to the difference in input current of different power modules, please refer to the power module specification for the recommended fuse value.

**LC-AC01F2 Dimension**



Part No.	L x W x H				
F2	Horizontal package			62.0X45.0X22.5mm	
Case Material	Black flame retardant and heat resistant plastic (UL94V-0)				
Product Weight	93g (TYP)				
Pin Definition	1	2	3	4	8
	PE	IN (N)	IN (L)	OUT (L)	OUT (N)

**LC-AC01F2-T Dimension**

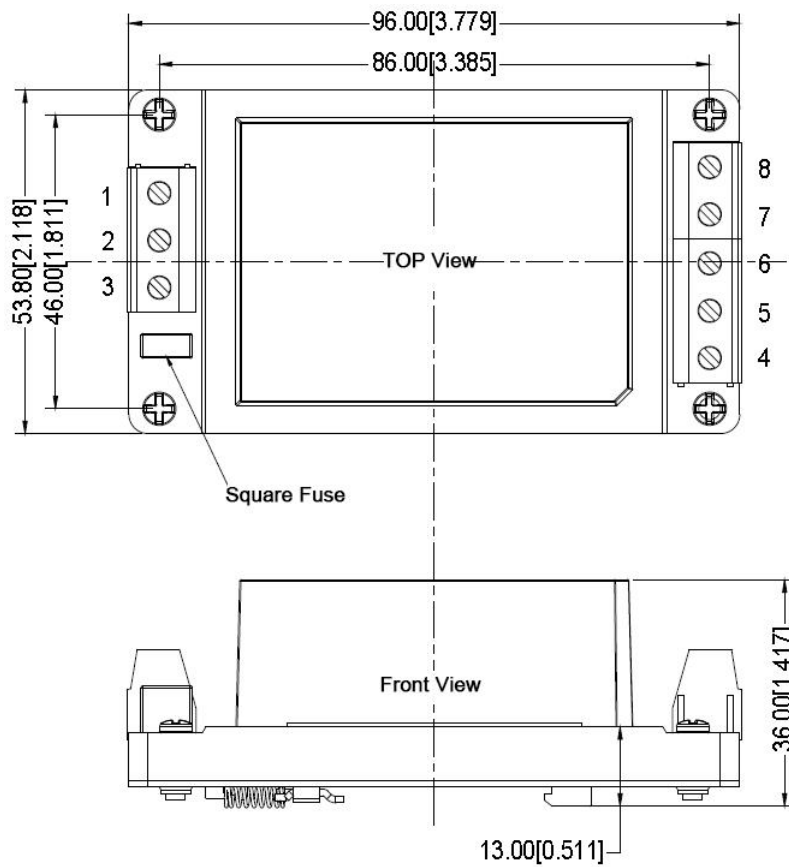




Part No.	L x W x H		
F2-T	Wiring package	96.0X53.8X31.5mm	
Case Material	Black flame retardant and heat resistant plastic (UL94V-0)		
Product Weight	130g (TYP)		

Pin	1	2	3	4	5	6	7	8
Definition	PE	IN (N)	IN (L)	OUT (L)	NC	NC	NC	OUT (N)

**LC-AC01F2-TS Dimension**



Part No.	L x W x H		
F2-TS	Din-rail package	96.0X53.8X36mm	
Case Material	Black flame retardant and heat resistant plastic (UL94V-0)		
Product Weight	170g (TYP)		

Pin	1	2	3	4	5	6	7	8
Definition	PE	IN (N)	IN (L)	OUT (L)	NC	NC	NC	OUT (N)

Note: If the pin definitions of the power module are inconsistent with those in the selection manual, the markings on the actual label shall prevail.

**Frequency Attenuation Characteristics**

Item	Operating Condition	Min.	Typ.	Max.	Unit
Decay Rate	150KHz-1GHz	--	20	--	DB

Note:

1. Unless otherwise specified, all indicators in this manual are measured at Ta=25°C, humidity<70%, nominal input voltage and positive output rated load
2. All indicator test methods in this specification are based on our company's corporate standards, and the test standards adopt national unified standards
3. Some indicators of non-standard models will exceed the above requirements. For specific circumstances, please contact our technical staff directly;
4. Our company can provide product customization. For specific needs, please contact our technical staff directly
5. Product-related laws and regulations: See "Product Features" and "EMC Characteristics"
6. Product specifications are subject to change without prior notice. Please pay attention to the latest manual published on our official website.

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