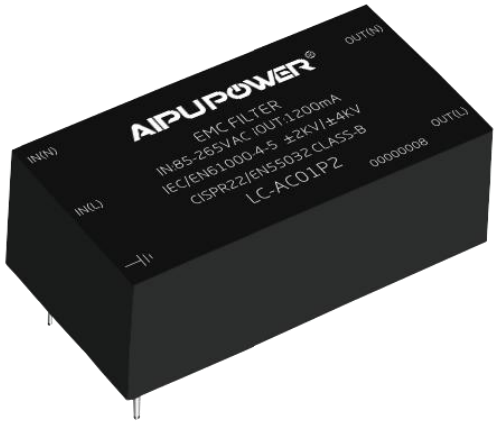
AC/AC EMC Filter
LC-AC01P2

Typical Features

- ◆ Wide input voltage range：85-265VAC
- ◆ Ensure the power supply module to meet EMI CLASS-B limit requirements
- ◆ Used with power modules to withstand surges: DM-2KV, CM-4KV
- ◆ Operating temperature：-40℃~+85℃
- ◆ Small size, suitable for direct plug-in installation on PCB board
- ◆ Enclosed plastic housing, compliant with UL94V-0



Application Field

LC-AC01P2 *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 end of the AC-DC module can make the product meet the surge level requirements of ±2KV (2Ω internal resistance)/±4KV (12Ω internal resistance) in the IEC/EN61000-4-5 standard, and at the same time make the supporting power module meet the EMI limit requirements of CISPR32/EN55032 CLASS-B. 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-AC01P2	85-265	1200	EN61000-4-5 CLASS-4
			EN55032 CLASS-B

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

Note 2: This filter module is compatible with our AC-DC power module input 85-265AC, output 2-20W products meet MEC standard requirements.

Input Specification

Item	Operating Condition	Min.	Typ.	Max.	Unit
Input Voltage Range	AC Input	85	220	265	VAC
	DC Input	120	300	370	VDC
Input Frequency Range		47	50	63	Hz
Input no-load Current	220VAC	--	15	--	mA

General Specification

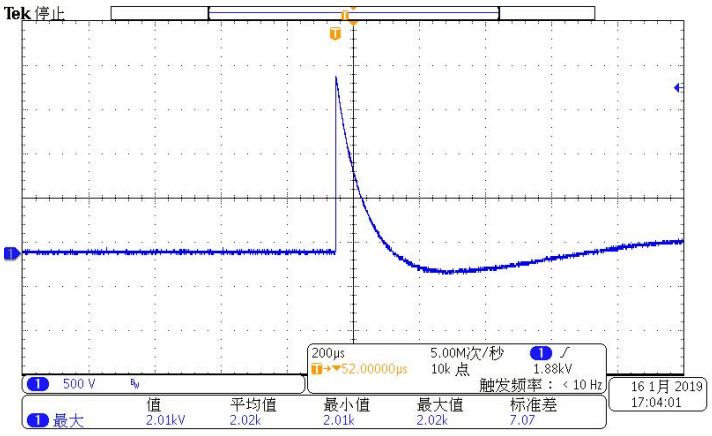
Item	Operating Condition	Min.	Typ.	Max.	Unit
Operating Temperature	--	-40	--	+80	℃
Storage Temperature	--	-50	--	+125	
Case Temperature	220VAC@0.8A	--	--	10	
	220VAC@1.0A	--	--	25	

	220VAC@1.2A	--	--	35	℃
Soldering Temperature	Wave soldering	260±4℃,time 5-10S			
	Manual soldering	360±8℃, time 4-7S			
Relative Humidity	--	10	--	90	%RH
Insulation Voltage	Input- PE, test 1 min, leakage current≤5mA	--	--	1500	VAC
Vibration	--	10-55Hz,10G,30Min,along X, Y, Z			
Case Class	--	UL94V-0			

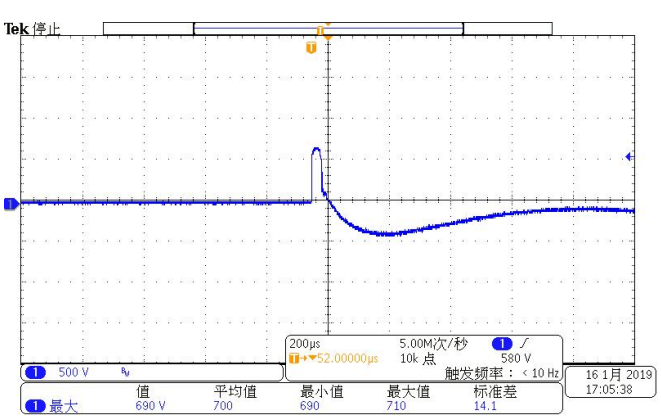
Design Reference Standards

When used with our AC-DC power module, the power module can meet the ±2KV (2Ω internal resistance)/±4KV (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.

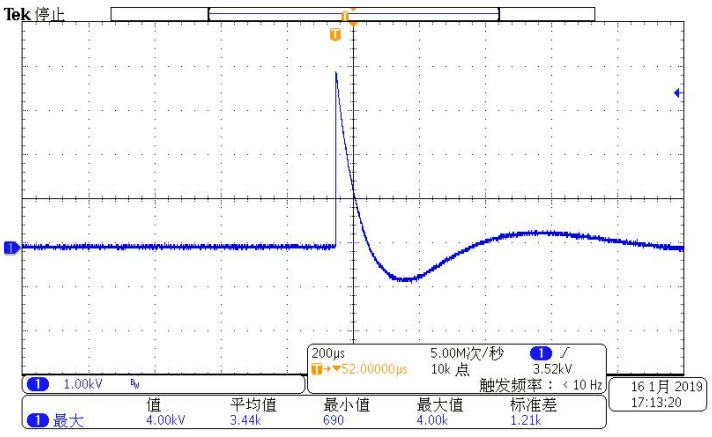
EMC Characteristics (SURRE test results)



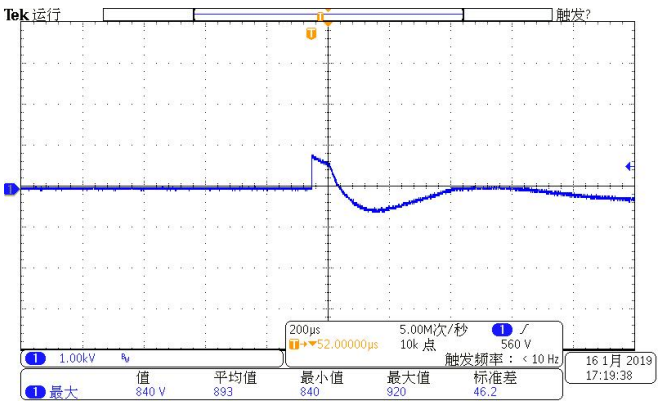
Input terminal voltage waveform
(differential mode 2.01KV)



Output terminal voltage waveform
(differential mode 690V)



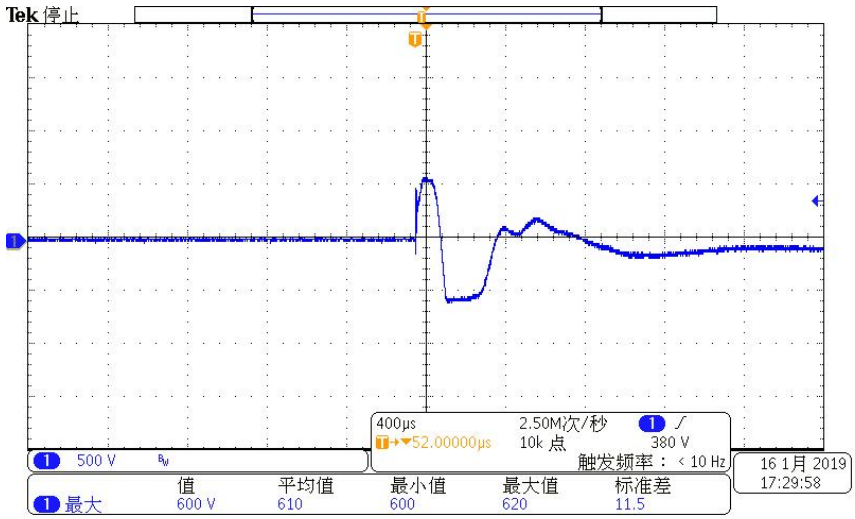
Input terminal voltage waveform
(differential mode 4KV)



Output terminal voltage waveform
(differential mode 840V)

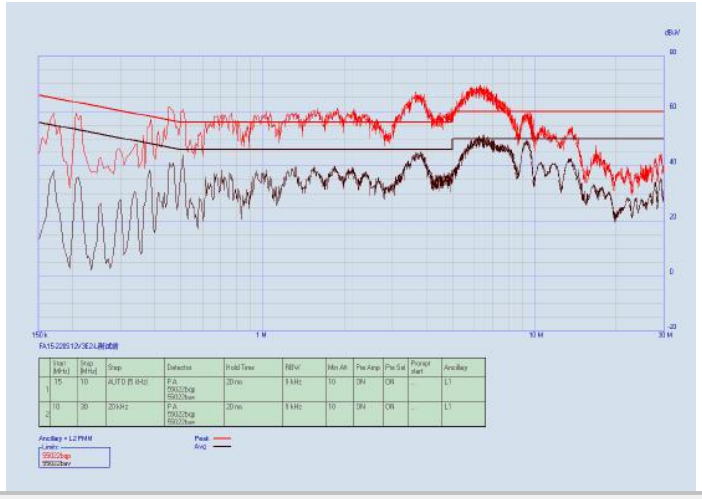
Note 1: The surge results of the above tests were measured under the open circuit condition of LC-AC01P2.

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

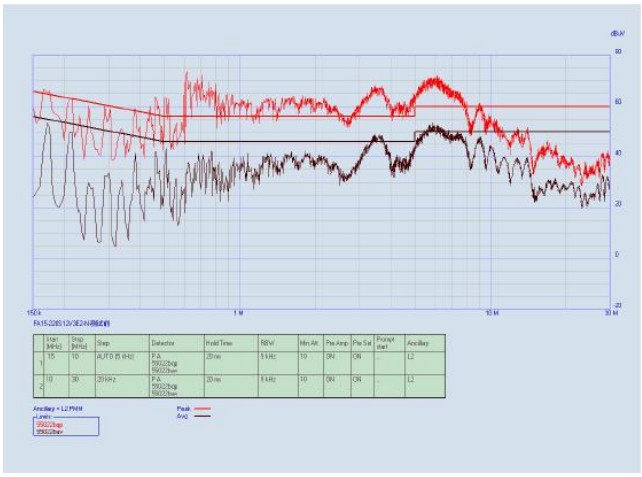


Common mode 4KV output differential mode residual voltage 600V

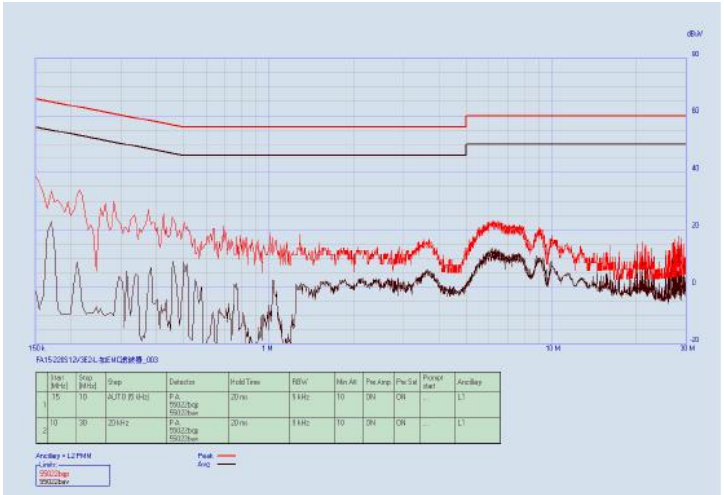
EMI Characteristics (CE test results)



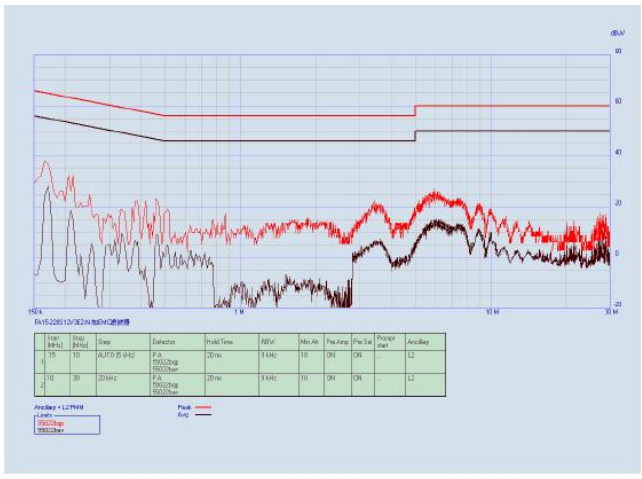
Input L line (no filter added) to test CE waveform



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



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

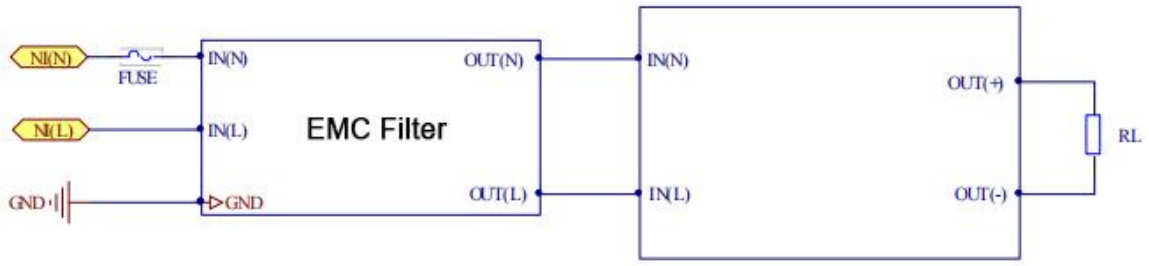


Input N line (with EMC filter) to test CE waveform

Note 1: The above test was conducted using the filter LC-AC01P2 and our AC-DC power supply FA15-220SXXE2 series products.

Note 2: The test was conducted based on the limit requirements of standard EN55032/CLASS-B.

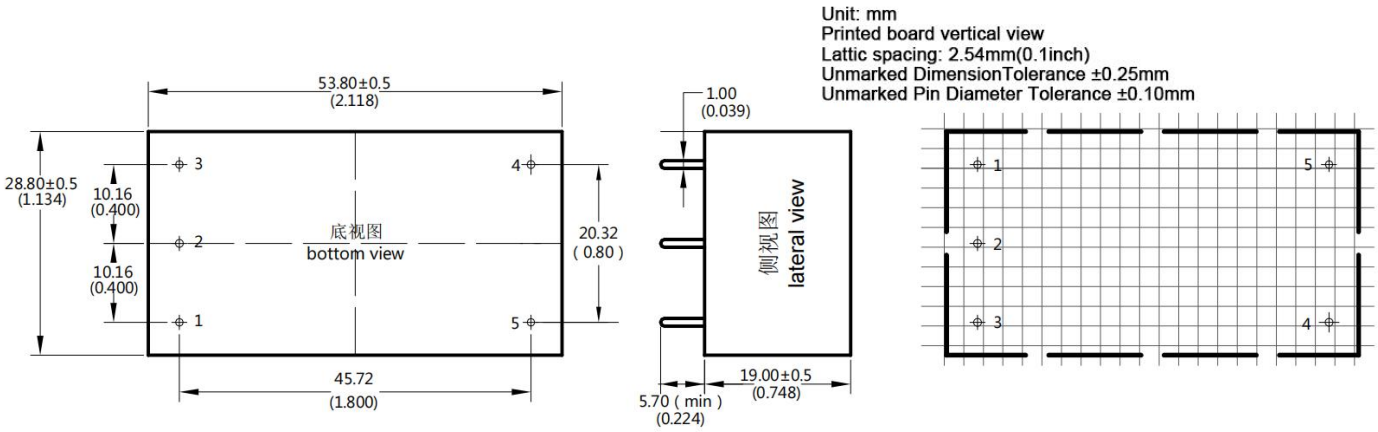
Design Reference



(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	
P2	53.80X28.80X19.00mm	2.118X1.134X0.748inch

Pin Definition	1	2	3	4	8
	IN（N）	IN（L）	PE	OUT（L）	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.

Physical Characteristics

Case Material		Black flame retardant and heat resistant plastic (UL94V-0)
Dimension	Horizontal packaging	53.8X28.8X19.0mm
Weight		52g（TYP）

Note:

1. Unless otherwise specified, the above data are measured at Ta=25℃, humidity<75%, and nominal input voltage;
2. 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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