

Typical Features

- ◆ Global adapted input voltage range 85-265VAC
- ◆ Meet EMI Class B with power supply
- ◆ Meet Surges DM-2KV & CM-4KV with power supply
- ◆ Operating temperature from -40°C to +80°C
- ◆ Compact size, PCB DIP mounting
- ◆ Encapsulated in plastic case, flame class UL94 V-0



Application Field

LC-AC01P2 ---- A compact size modular filter with global adapted input voltage range, it is suitable for the analog circuit which is critical on the High frequency Noise. The AC-DC power supply with the filter connected at the input can meet IEC/EN61000-4-5 Surge level $\pm 2KV$ (2Ω internal resistance)/ $\pm 4KV$ (12Ω internal resistance), and meet EMI CISPR32/EN55032 Class B. The maximum input voltage of the AC-DC power supply should be less than the maximum operating voltage of this filter, the maximum input current of the AC-DC power supply should be less than the filter rated operating current.

Typical Product List

Part No.	Input voltage Range (VAC)	Rated Output Current (mA @ MAX)	Standards
LC-AC01P2	85 - 265	1200	EN61000-4-5 CLASS-4
			EN55032 CLASS-B

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

Note 2 - This filter is adapted with Aipu AC-DC modular power supply with input 85-265AC & output 2-20W to meet EMC requirements.

Note 3 - The suffix -T is for a kind of chassis packaging, -TS is for a kind of packaging of DIN Rail.

Input Specifications

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 Specifications

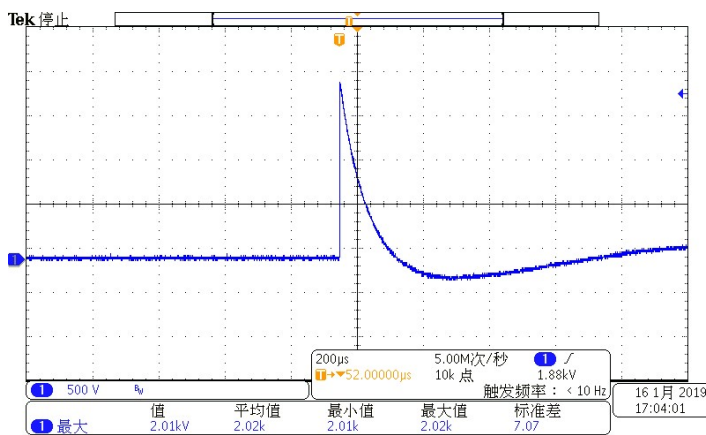
Item	Operating Condition	Min.	Typ.	Max.	Unit
Operating Temperature	--	-40	--	+80	°C
Storage Temperature	--	-50	--	+125	
Case Temperature Rise	220VAC@0.8A	--	--	10°	
	220VAC@1.0A	--	--	25°	
	220VAC@1.2A	--	--	35°	
Soldering Temperature	Wave soldering	260 \pm 4°C, time 5-10S			

	Manual soldering	360 ±8°C, time 4-7S			
Relative Humidity	--	10	--	90	%RH
Insulation Voltage	Test 1 min, leakage current ≤5mA	--	--	1500	VAC
Vibration	--	10-55Hz, 10G, 30 Min, along X, Y, Z			
Case Flame Class	--	UL94V-0			
Unit Weight	Part No.	Weight (Typ.)			
	LC-AC01P2	50g			
	LC-AC01P2-T	70g			
	LC-AC01P2-TS	90g			

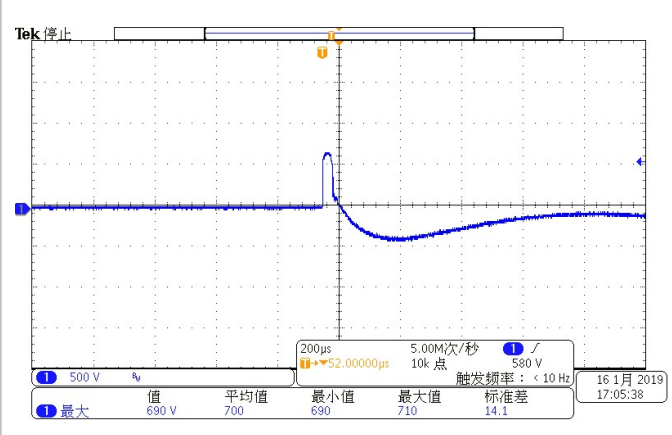
Application

It is recommended to adapt with Aipu AC-DC modular power supplies which can meet IEC/EN61000-4-5 Surge level ±2KV (2Ω internal resistance)/±4KV (12Ω internal resistance), and EMI CISPR32/EN55032 Class B.

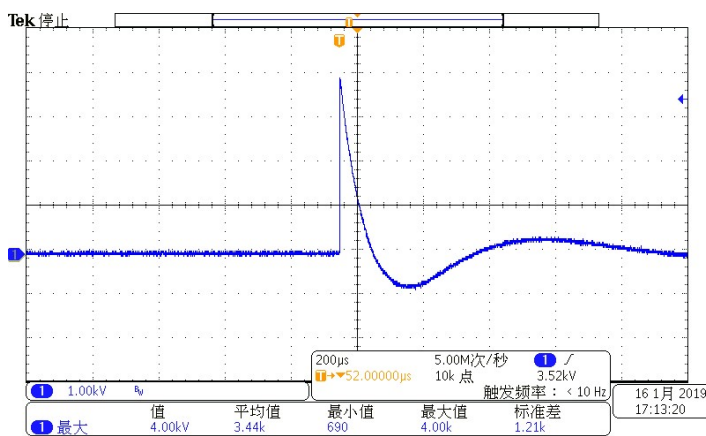
EMS Performance (SURGES)



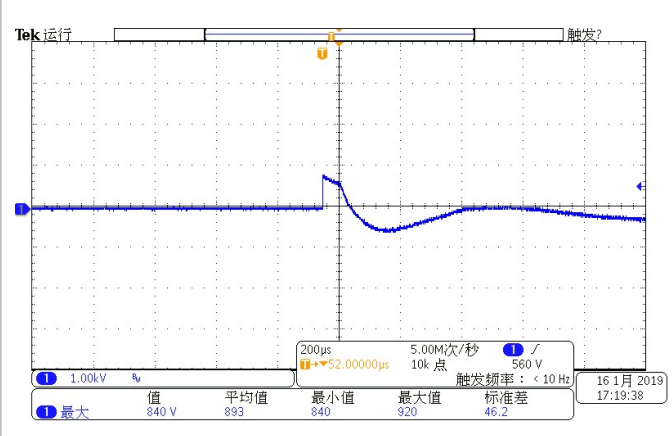
Input voltage waveform
(Differential mode 2.01KV)



Output residual voltage waveform
(Differential mode 690V)



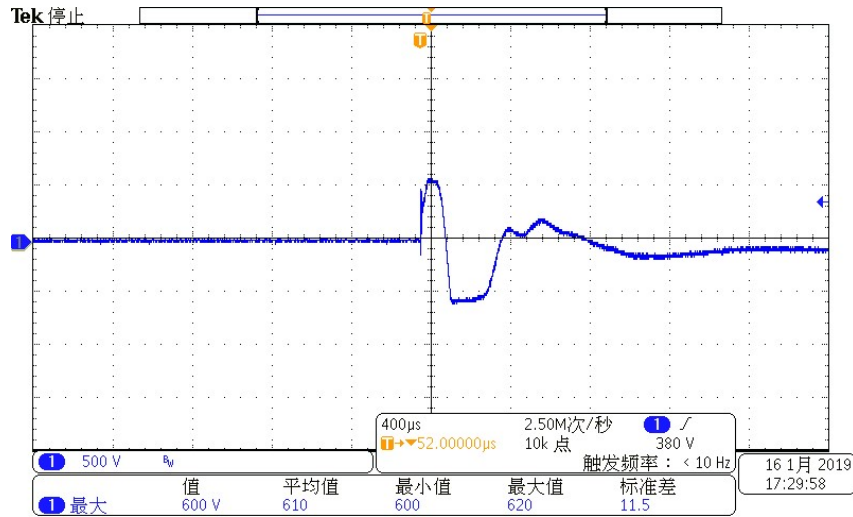
Input voltage waveform
(Common mode 4KV)



Output residual voltage waveform
(Common mode 840V)

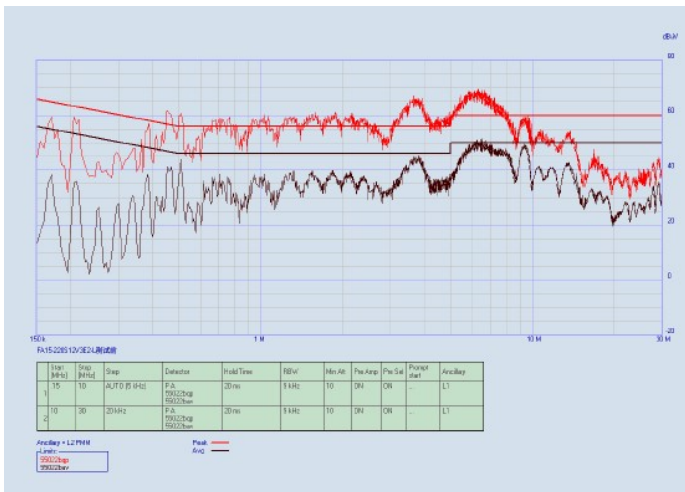
Note 1 - Above surges were measured with LC-AC01P2 open circuit.

Note 2 - Test standard IEC/EN-61000-4-5.



Common mode 4KV output residual voltage 600V

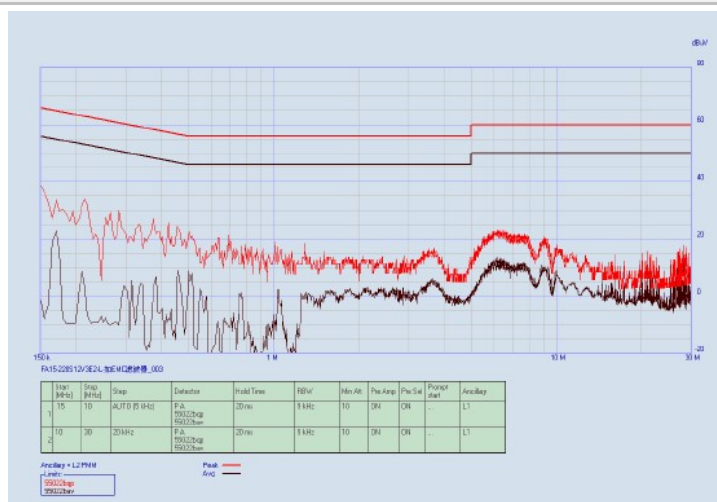
EMI Performance (CE)



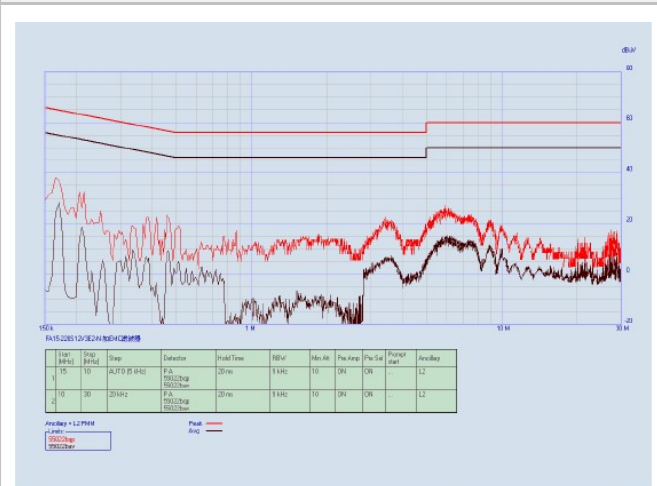
Input L line (without the filter)



Input N line (without the filter)



Input L line (with the filter)

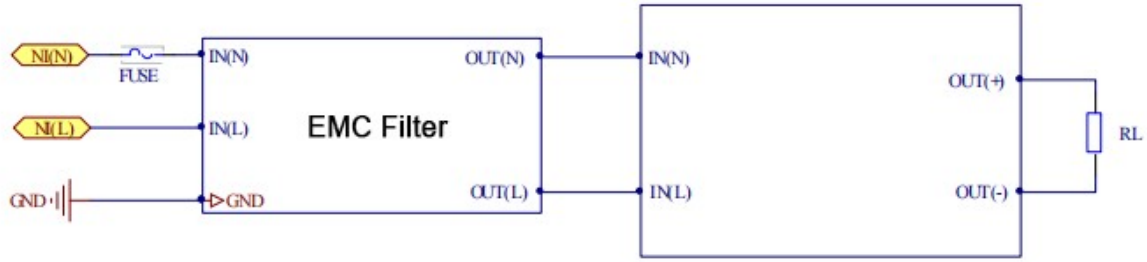


Input N line (with the filter)

Note 1 - Above tests were conducted on Aipu AC-DC power supply (FA15-220SXXE2) with the filter LC-AC01P2.

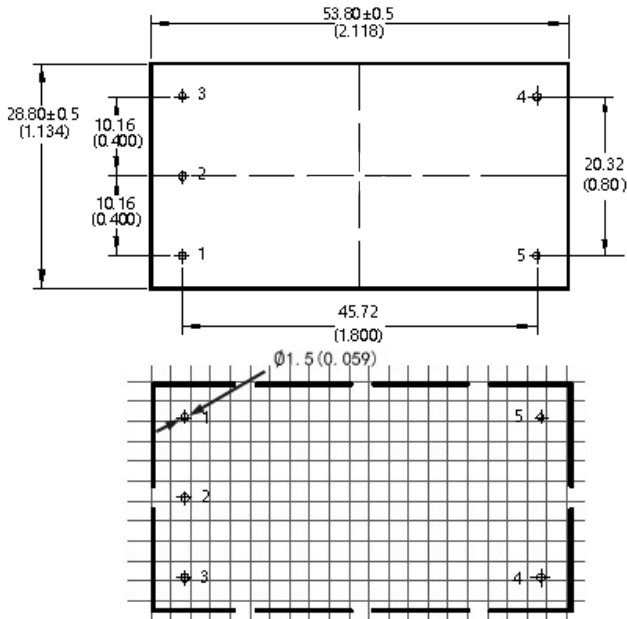
Note 2 - Test standard EN55032/CLASS-B.

Recommended circuit for Application



FUSE can be the same recommended as the power supply.

LC-AC01P2 Mechanical Dimensions

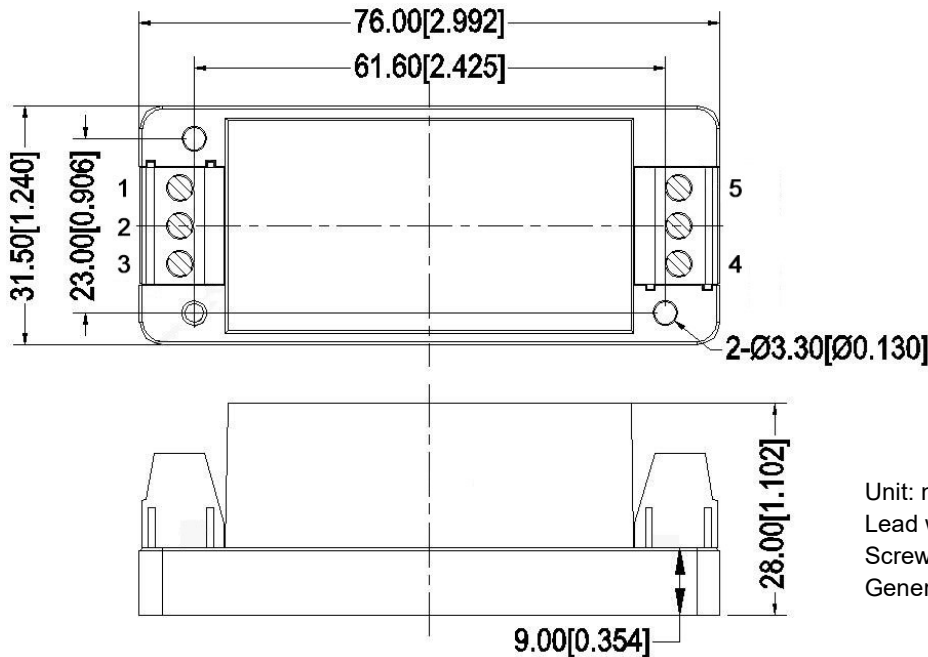


Pin No.	Description
1	IN(N)
2	IN(L)
3	GND
4	OUT(L)
5	OUT(N)

Note:
 Unit: mm(inch)
 Grid: 2.54x2.54 (0.10x0.10)
 Pin diameter tolerance: ±0.10 (±0.004)
 General tolerance: ±0.50 (±0.020)

PCB layout vertical view

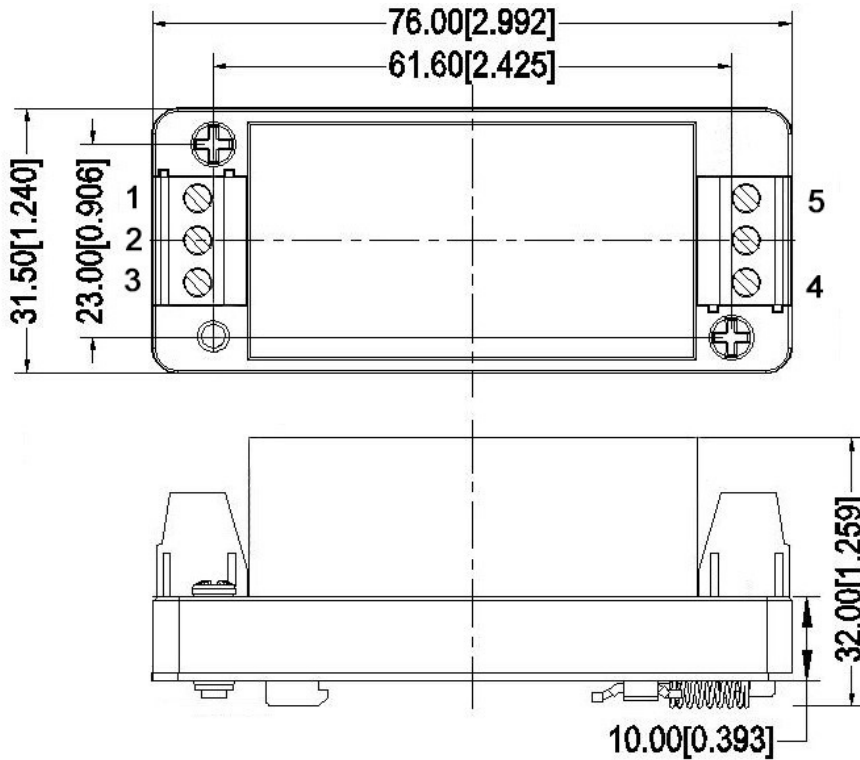
LC-AC01P2-T Mechanical Dimensions



Pin No.	Description
1	IN(N)
2	IN(L)
3	GND
4	OUT(L)
5	OUT(N)

Unit: mm[inch]
 Lead wires 24-12AWG
 Screwing torque 0.4N.m Max
 General tolerance ±1.00[±0.039]

LC-AC01P2-TS Mechanical Dimensions



Pin No.	Description
1	IN(N)
2	IN(L)
3	GND
4	OUT(L)
5	OUT(N)

Unit: mm[inch]
Lead wires 24-12AWG
Screwing torque 0.4N.m Max
General tolerance $\pm 1.00[\pm 0.039]$

Packaging Code	Dimensions L x W x H	
P2	53.8X28.8X19.0 mm	2.118X1.134X0.748 inch
P2-T	76.0X31.5X28.0 mm	2.992X1.240X1.102 inch
P2-TS	76.0X31.5X32.0 mm	2.992X1.240X1.259 inch

Note - Unless otherwise specified, all values or indicators in this data sheet had been tested at Ta=25°C, humidity<75%RH, nominal input voltage.

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