Descriptions

EMC Filter



RoHS

Note: The image certification marks are for reference only; please refer to the selection table for actual specifications. Certification is based on the physical mark or packaging label.

CE Report UKCA Report

EN62368-1 BS EN62368-1

Features

- Input voltage range: 85 - 305VAC
- Operating temperature range: -40℃ to +85℃
- Ensure the power supply module complies with the ±2 kV (2 Ω internal resistance) / ±4 kV (12 Ω internal resistance) surge requirements specified in IEC/EN 61000-4-5.
- Ensure the power supply module to meet the requirement of CISPR32/EN55032 Class B

Applications

- Industrial control
- Power
- Home appliances
- Instrumentation
- Communication
- Civil applications

Selection Guide

Certification	Model*	Input Voltage Range (VAC)	Nominal Current (A)(max)
EN/BS EN	EFP2D1X5	85 - 305	1.5
	EFP2D1X52	85 - 305	1.5

Note: 1.* Product model suffix "E2S" for wiring type package expansion, suffix "D4S" for rail type package expansion;
2.The product picture is for reference only.For details, please refer to the actual product.

Specifications

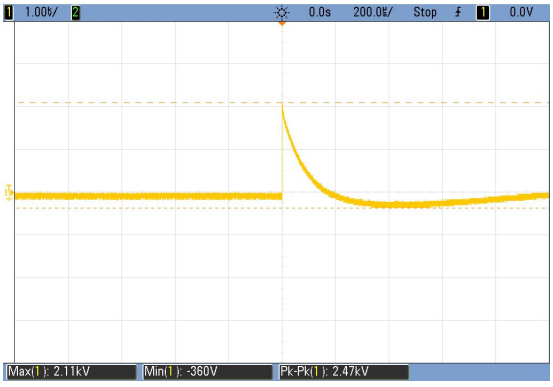
Product Specifications	Item		Operating Conditions	Min.	Typ.	Max.	Unit
General Specifications	Operating Temperature			-40	--	+85	℃
	Storage Temperature			-55	--	+125	
	Case Temperature Rise		220VAC@0.5A	--	--	5	
			220VAC@1.0A	--	--	20	
			220VAC@1.5A	--	--	30	
	Test Voltage (L/PE, N/PE)		Tested for 1 minute and leakage current ≤5 mA	--	2000	--	VAC
Mechanical Specifications	Case Material		Black epoxy resin; flame-retardant, heat-resistant (UL94 V-0)				
	Dimension	EFP2D1X5	Horizontal package	33.70x22.20x18.00 mm			
			E2S wiring package	76.00x31.50x26.80 mm			
			D4S rail package	76.00x31.50x31.40 mm			
		EFP2D1X52	Horizontal package	53.80x28.80x19.00 mm			
			E2S wiring package	76.00x31.50x27.80 mm			
			D4S rail package	76.00x31.50x32.40 mm			
	Weight	EFP2D1X5	Horizontal package/E2S wiring package/D4S rail package	20g/40g/60g (Typ.)			
		EFP2D1X52		50g/70g/90g(Typ.)			

Selection Guide Frequency Attenuation Specifications

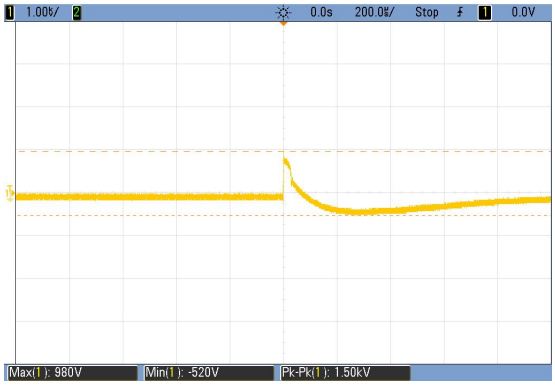
Item	Test Conditions		Min.	Typ.	Max.	Unit
The attenuation coefficient of frequency	150KHz–1GHz	EFP2D1X5	--	20	--	dB
		EFP2D1X52	--	30	--	

EMC Characteristic Curve

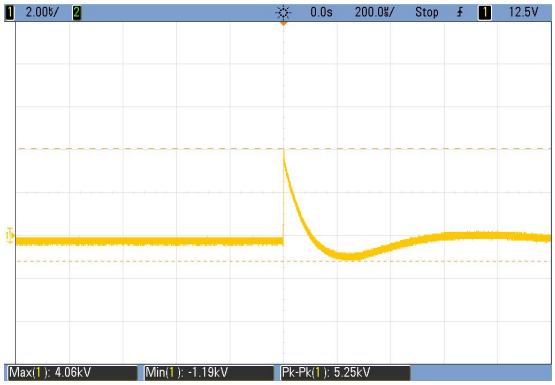
EFP2D1X5 Surge Test Result



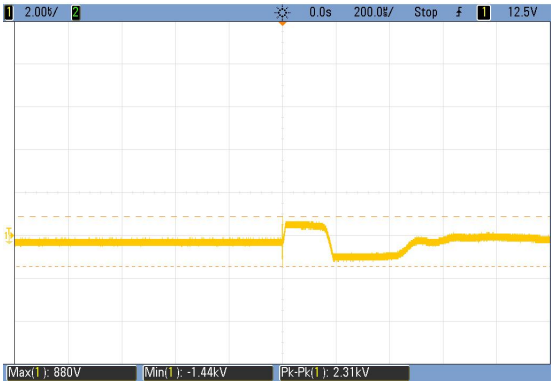
Input voltage waveform (Differential mode 2.11KV)



Output voltage waveform (0.98KV)



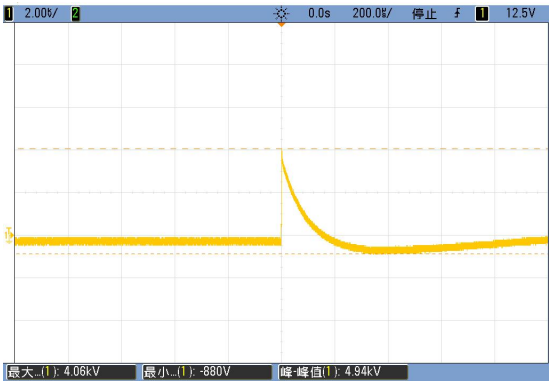
Input voltage waveform (Common mode 4.06KV)



Output voltage waveform(0.88KV)

Note: Above result was tested under EFP2D1X5 open-circuit condition.

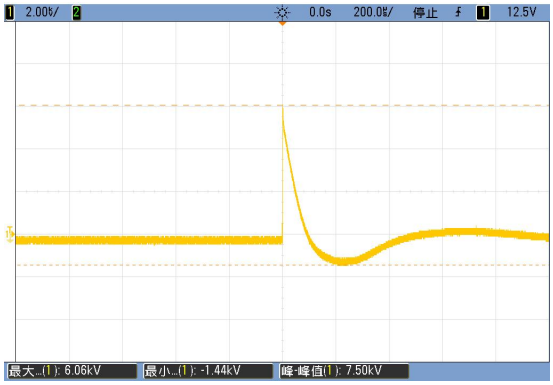
EFP2D1X52 Surge Test Result



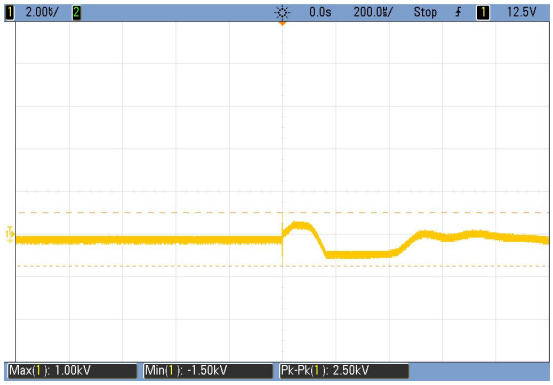
Input voltage waveform (Differential mode 4.06KV)



Output voltage waveform (1.13KV)



Input voltage waveform (Common mode 6.06KV)

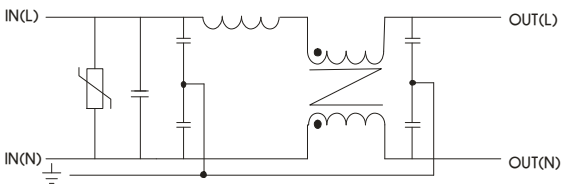


Output voltage waveform(1.00KV)

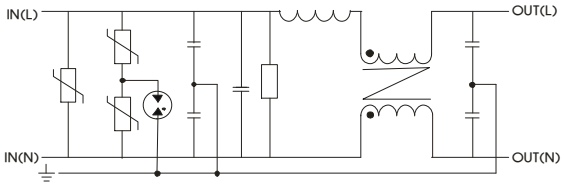
Note: Above result was tested under EFP2D1X52open-circuit condition.

Design Reference

1.Inside schematic

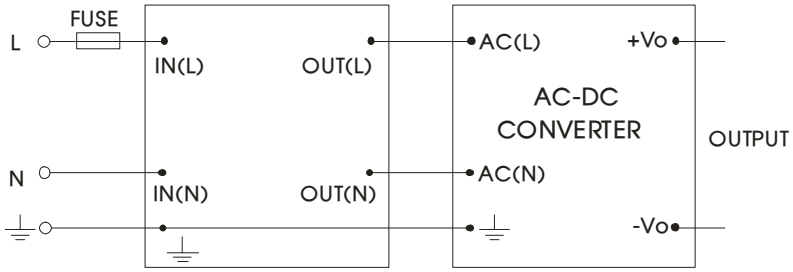


(Figure 1)EFP2D1X5



(Figure 2)EFP2D1X52

2. Typical application

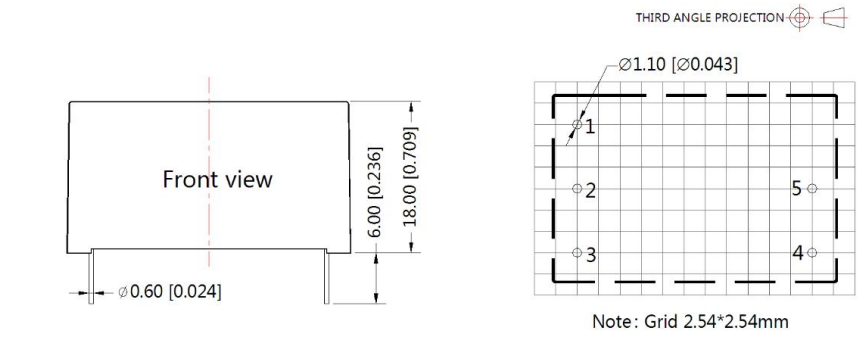


FUSE: Due to the difference of the power module input current, the fuse of the recommended values, please refer to the Technical Manual for the power module.

3.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 EFP2D1X5)	Surge (With EFP2D1X52)
APD05-xx Series	CISPR32/EN55032 CLASS B	--	IEC/EN61000-4-4 ±2KV	IEC/EN61000-4-4 ±4KV	IEC/EN61000-4-5 ±1KV	IEC/EN61000-4-5 ±2KV/±4KV	--
APH Series	CISPR32/EN55032 CLASS B	--	IEC/EN61000-4-4 ±2KV	IEC/EN61000-4-4 ±4KV	IEC/EN61000-4-5 ±1KV/±2KV	IEC/EN61000-4-5 ±2KV/±4KV	--
Power Converter For Power System APH(E) Series	CISPR32/EN55032 CLASS A	CISPR32/EN55032 CLASS B	IEC/EN61000-4-4 ±4KV	--	IEC/EN61000-4-5 ±2KV/±4KV	--	EC/EN61000-4-5 ±4KV/±6KV
APD Series	CISPR32/EN55032 CLASS B	--	IEC/EN61000-4-4 ±4KV	--	IEC/EN61000-4-5 ±2KV/±4KV	IEC/EN61000-4-5 ±2KV/±4KV	--

EFP2D1X5 Dimensions and Recommended

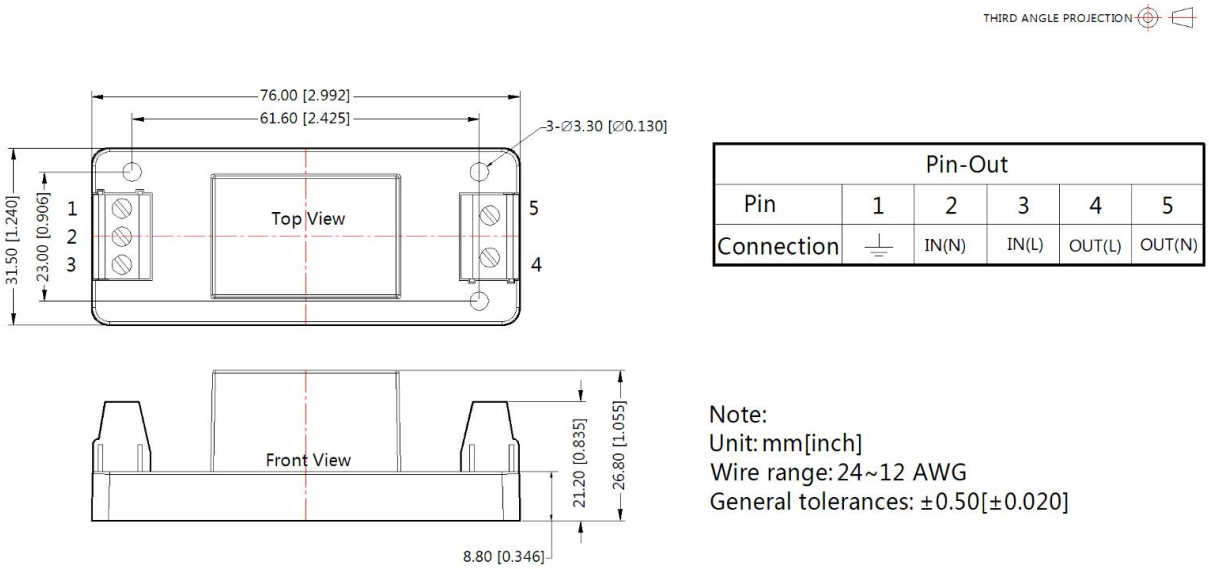


Note: Grid 2.54*2.54mm

Pin-Out	
Pin	Function
1	⏚
2	IN(N)
3	IN(L)
4	OUT(L)
5	OUT(N)

Note:
Unit: mm[inch]
Pin diameter tolerances: ±0.10[±0.004]
General tolerances: ±0.50[±0.020]

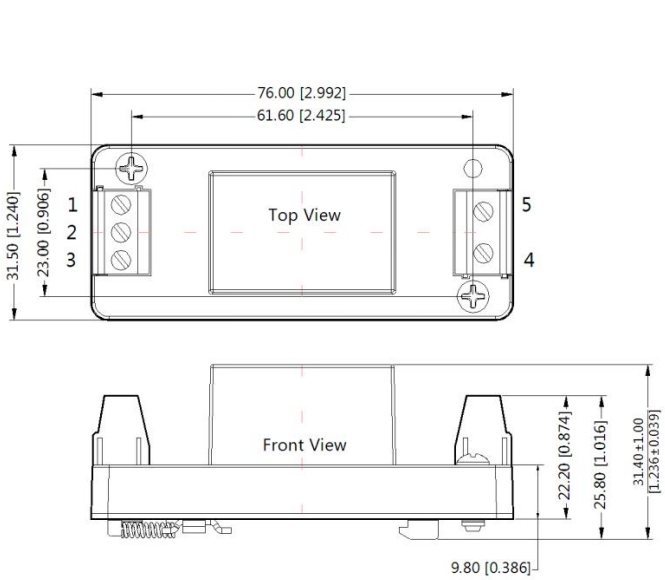
EFP2D1X5E2S Dimension



Pin-Out					
Pin	1	2	3	4	5
Connection	⏚	IN(N)	IN(L)	OUT(L)	OUT(N)

Note:
Unit: mm[inch]
Wire range: 24~12 AWG
General tolerances: ±0.50[±0.020]

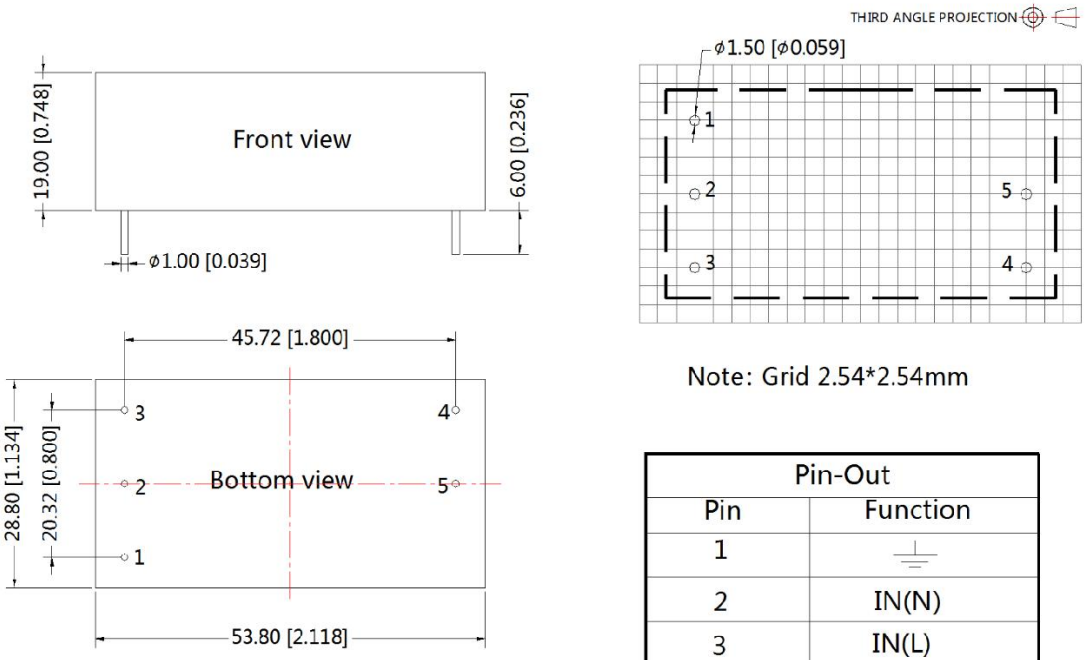
EFP2D1X5 D4S Dimension



Pin-Out					
Pin	1	2	3	4	5
Function	⏚	IN(N)	IN(L)	OUT(L)	OUT(N)

Note:
Unit: mm[inch]
Wire range: 24~12 AWG
General tolerances: ±0.50[±0.020]

EFP2D1X52 Dimension

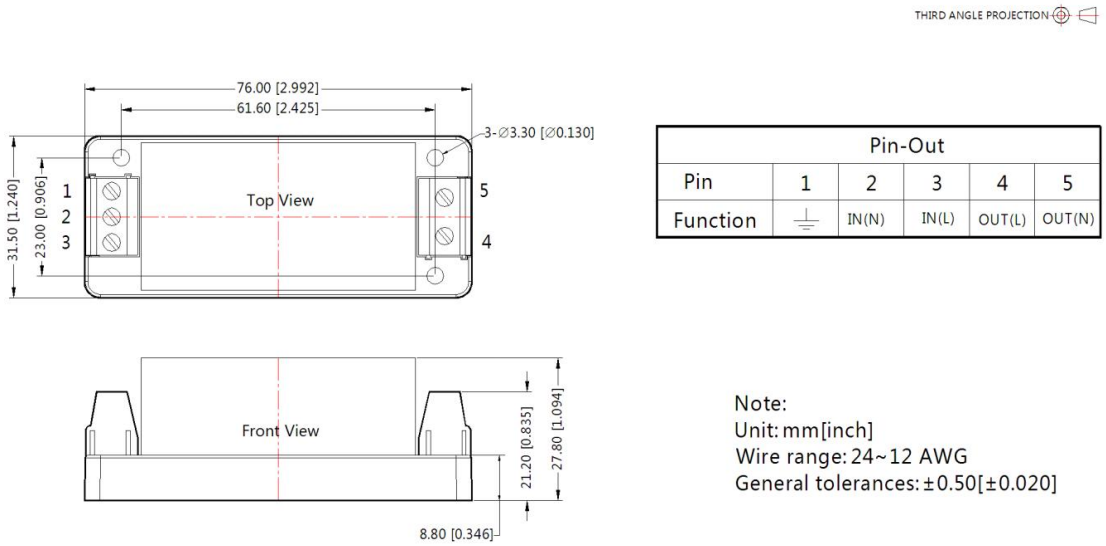


Note: Grid 2.54*2.54mm

Pin-Out	
Pin	Function
1	⏚
2	IN(N)
3	IN(L)
4	OUT(L)
5	OUT(N)

Note:
Unit: mm[inch]
Pin diameter tolerances: ±0.10[±0.004]
General tolerances: ±0.50[±0.020]

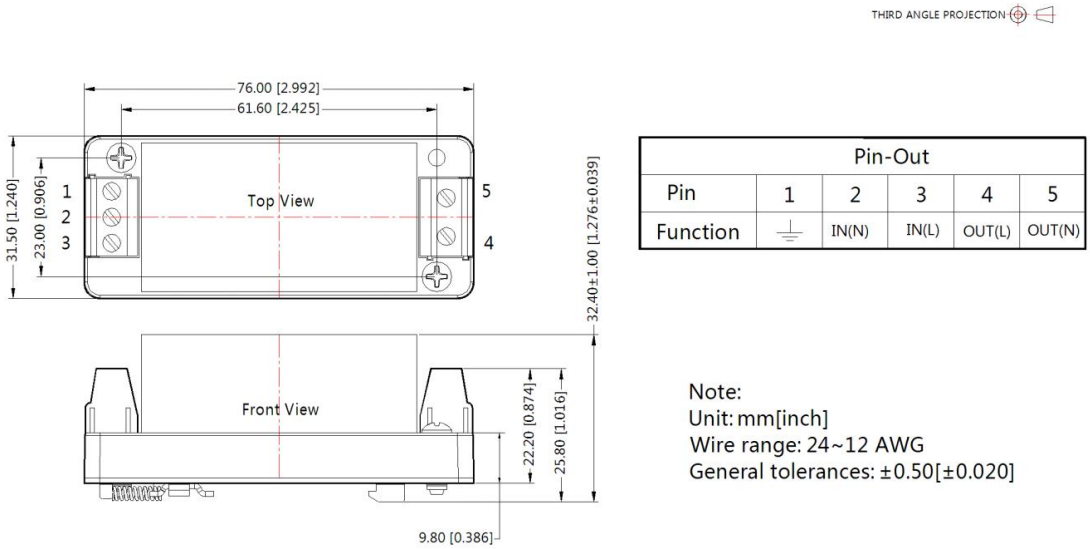
EFP2D1X52 E2S Dimension



Pin-Out					
Pin	1	2	3	4	5
Function	⏚	IN(N)	IN(L)	OUT(L)	OUT(N)

Note:
Unit: mm[inch]
Wire range: 24~12 AWG
General tolerances: ±0.50[±0.020]

EFP2D1X52 D4S Dimension



Pin-Out					
Pin	1	2	3	4	5
Function	⏚	IN(N)	IN(L)	OUT(L)	OUT(N)

Note:
Unit: mm[inch]
Wire range: 24~12 AWG
General tolerances: ±0.50[±0.020]

Note:
1. If the product is not operated within the required load range, the product performance cannot be guaranteed to comply with all parameters in the datasheet;
2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75% with nominal input voltage and rated output load;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. Products are related to laws and regulations: see "Features" and "EMC";
5. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.