



SERIES: EMC-30 | DESCRIPTION: AC POWER LINE FILTER

FEATURES

- 30 dB AC-line noise filtering (150 kHz ~ 1 GHz)
- ensures surge compliance to IEC/EN61000-4-5 standard
±4 kV (2Ω) / ±6 kV (12Ω)
- reduces emissions to help comply with CISPR22 / EN 55022 Class B
- accepts up to 1.5 A (rms) of nominal input current
- wide input voltage range (85~305 Vac)
- wide operating temperature range (-40 to +85 °C)
- options for board-mount, chassis-mount, or DIN-Rail mounting

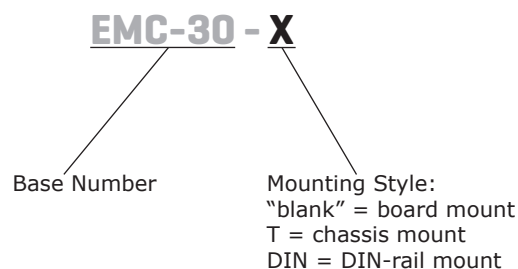


SPECIFICATIONS

parameter	conditions/description	min	typ	max	units
input voltage		85		305	Vac
input current				1.5	A
noise attenuation	at 150 kHz ~ 1 GHz		30		dB
isolation voltage	L/PE, N/PE at 1 minute and leakage current 5 mA max		2,000		Vac
RoHS	yes				
operating temperature		-40		85	°C
storage temperature		-55		125	°C
storage humidity	non-condensing			95	%
case temperature rise	at 220 Vac, 0.5 A			5	°C
	at 220 Vac, 1.0 A			20	°C
	at 220 Vac, 1.5 A			30	°C

Notes: 1. All specifications are measured at Ta=25°C, humidity < 75%, nominal unless otherwise specified.

PART NUMBER KEY

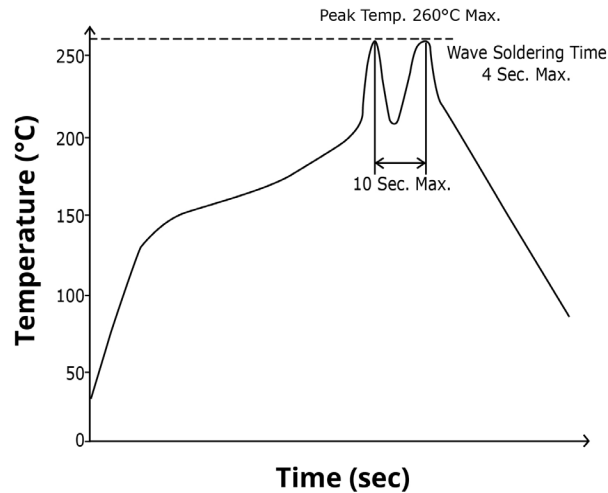


SOLDERABILITY²

parameter	conditions/description	min	typ	max	units
hand soldering	for 3~5 seconds	350	360	370	°C
wave soldering	see wave soldering profile			260	°C

Note: 2. For board mount models only.

WAVE SOLDERING PROFILE



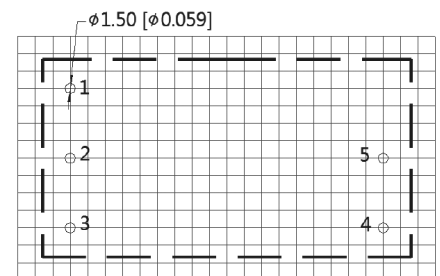
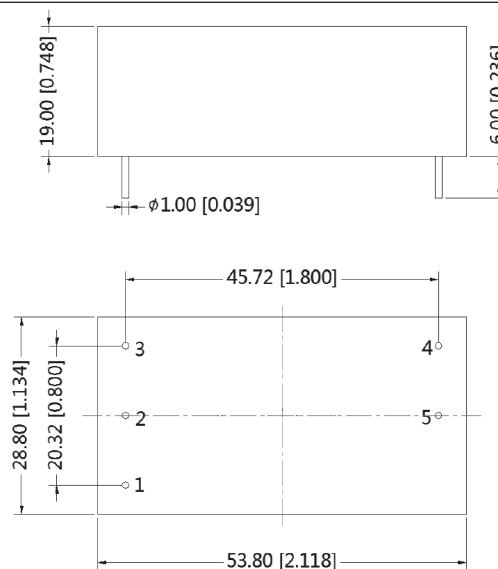
MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	board mount: 53.80 x 28.80 x 19.00 [2.118 x 1.134 x 0.748 inch]				mm
	chassis mount: 76.00 x 31.50 x 27.80 [2.992 x 1.240 x 1.094 inch]				mm
	DIN-Rail mount: 76.00 x 31.50 x 32.40 [2.992 x 1.240 x 1.276 inch]				mm
case material	black flame-retardant heat-proof epoxy resin (UL94V-0)				
weight	board mount		50		g
	chassis mount		70		g
	DIN-rail mount		90		g

MECHANICAL DRAWING (BOARD MOUNT)

units: mm [inch]
 tolerance: ± 0.50 [± 0.020]
 pin diameter tolerance: ± 0.10 [± 0.004]

PIN CONNECTIONS	
PIN	Function
1	GND
2	IN(N)
3	IN(L)
4	OUT(L)
5	OUT(N)



Note : Grid 2.54*2.54mm

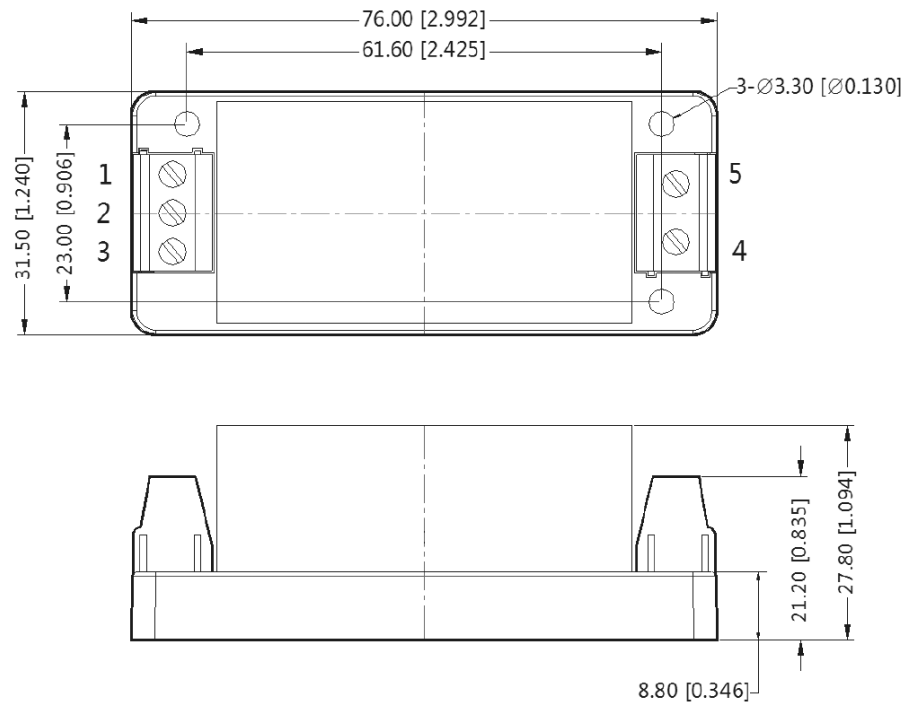
Recommended PCB Layout
Top View

MECHANICAL DRAWING (CHASSIS MOUNT)

units: mm [inch]
tolerance: ± 0.50 [± 0.020]

wire range: 24~12 AWG

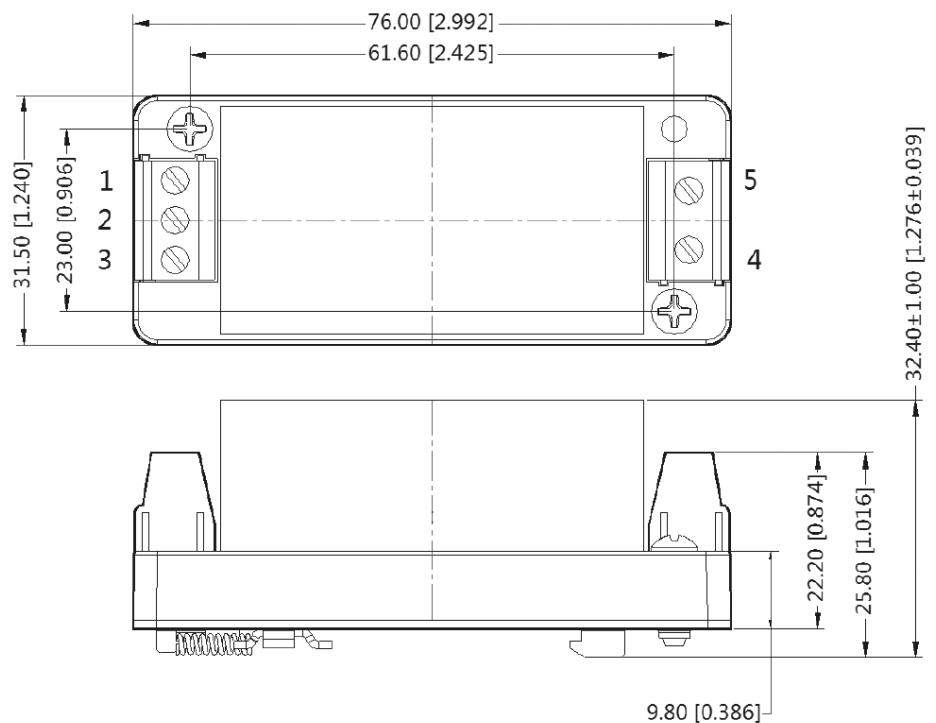
PIN CONNECTIONS	
PIN	Function
1	GND
2	IN(N)
3	IN(L)
4	OUT(L)
5	OUT(N)

**MECHANICAL DRAWING (DIN-RAIL MOUNT)**

units: mm [inch]
tolerance: ± 0.50 [± 0.020]

installed on DIN rail TS35
wire range: 24~12 AWG

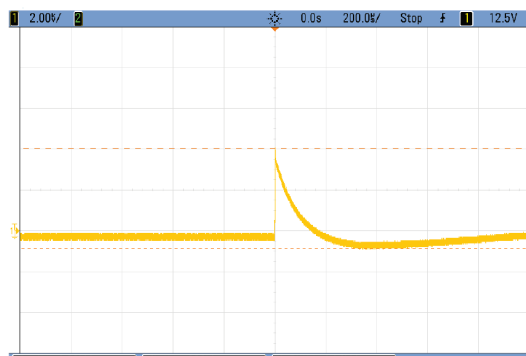
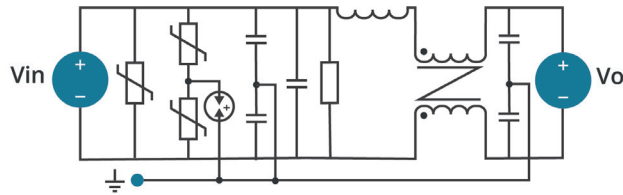
PIN CONNECTIONS	
PIN	Function
1	GND
2	IN(N)
3	IN(L)
4	OUT(L)
5	OUT(N)



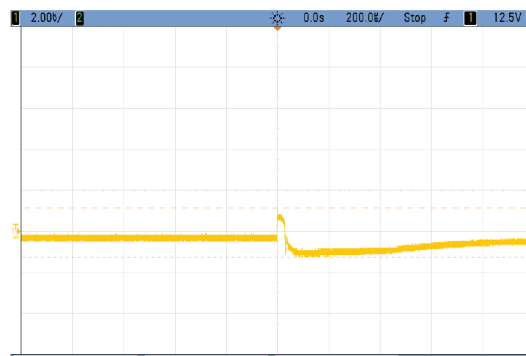
EMC SPECIFICATIONS

Put the EMC-30 on the input of the AC-DC module to meet surge level IEC/EN 61000-4-5 ± 4 kV ($2\ \Omega$ internal resistance), ± 6 kV ($12\ \Omega$ internal resistance), and help to meet EN 55022 Class B.

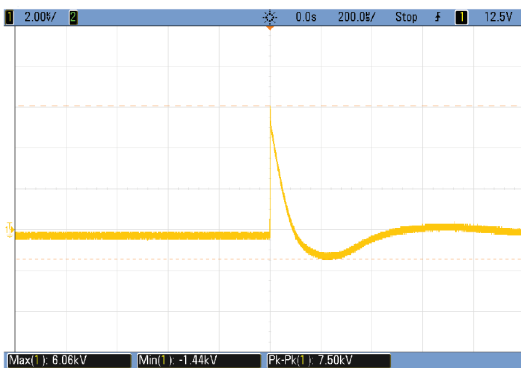
Figure 1
Internal Circuit



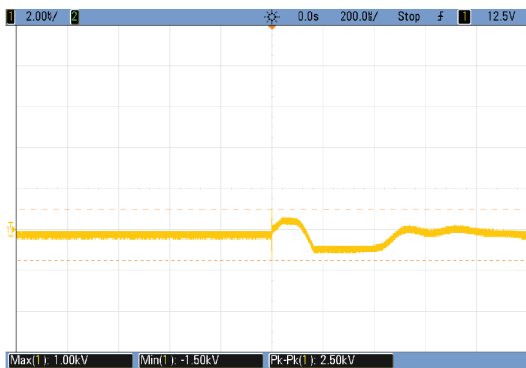
Input voltage waveform (Differential mode 4.06KV)



Output voltage waveform (Differential mode 0.90KV)



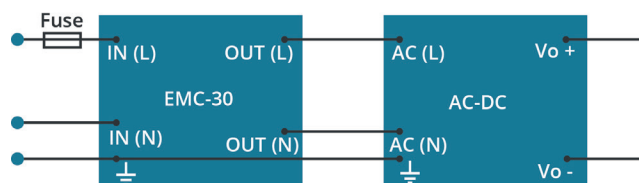
Input voltage waveform (Common mode 6.06KV)



Output voltage waveform (Common mode 1.00KV)

APPLICATION CIRCUIT

Figure 2
Application Circuit



REVISION HISTORY

rev.	description	date
1.0	initial release	10/26/2018
1.01	circuit figures updated	01/12/2022

The revision history provided is for informational purposes only and is believed to be accurate.

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