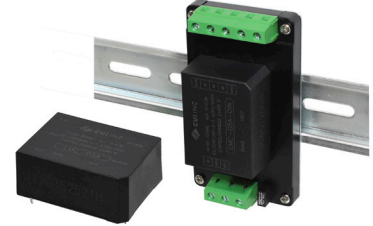
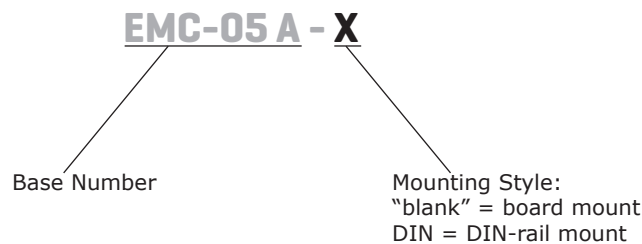


SERIES: EMC-05A | DESCRIPTION: AC POWER LINE FILTER
FEATURES

- reduces emissions to help comply with CISPR22 / EN 55022 Class B
- protects against surge events and Electrical Fast Transients
- wide input voltage range (85 ~ 305 Vac)
- 0.5 A rated current
- -40 to +85°C temperature range
- options for board-mount and DIN-Rail mounting


SPECIFICATIONS

parameter	conditions/description	min	typ	max	units
input voltage		85		305	Vac
input current				0.5	A
RoHS	yes				
operating temperature		-40		85	°C
storage temperature		-40		105	°C
storage humidity	non-condensing				
case temperature rise	at 220 Vac, 0.05 A			5	°C
	at 220 Vac, 0.25 A			20	°C
	at 220 Vac, 0.5 A			30	°C
leakage current (line to ground)	2000 Vac, tested for 1 minute		2		mA
noise attenuation	150 kHz ~ 1 GHz: EMC-05A		20		dB
EFT	IEC/EN61000-4-4		±4		kV
surge	IEC/EN61000-4-5, +/-2 kV (2 ohms) / +/-4 kV (12 ohms)				

PART NUMBER KEY


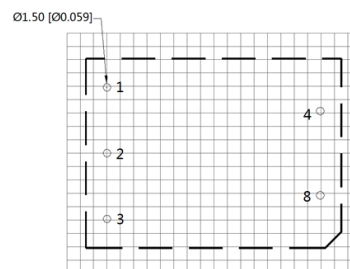
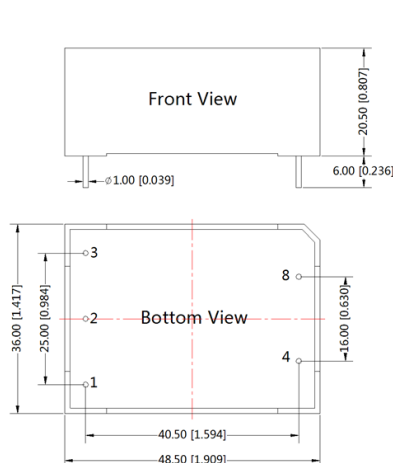
MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	board mount - 48.50 x 36.00 x 20.50 [1.91 x 1.42 x 0.81 inch] DIN-Rail - 96.10 x 54.00 x 33.60 [3.78 x 2.13 x 1.32 inch]				mm
case material	black flame-retardant heat-proof epoxy resin (UL94-V0)				
weight	board mount, DIN-Rail		50/140		g

MECHANICAL DRAWING (BOARD MOUNT-A)

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

PIN-OUT	
PIN	Function
1	GND
2	IN(N)
3	IN(L)
4	OUT(N)
8	OUT(L)



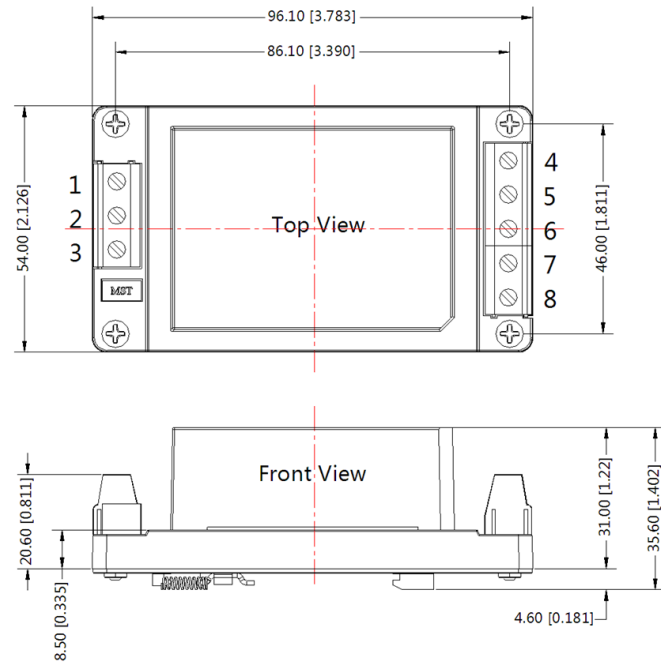
Note : Grid 2.54*2.54mm
Recommended PCB Layout
Top View

Supporting Product Table						
Model	EMI (without external circuit)	EMI (with EMC filter)	EFT (w/o external circuit)	EFT (with EMC filter)	Surge (w/o external circuit)	Surge (with EMC filter)
VSK-S1	CISPR22/EN55022 CLASS B	-	-	IEC/EN61000-4-4 $\pm 2KV$	-	IEC/EN61000-4-5 $\pm 1K / \pm 2KV$
VSK-S2	CISPR22/EN55022 CLASS B	-	-	IEC/EN61000-4-4 $\pm 2KV$	-	IEC/EN61000-4-5 $\pm 1K / \pm 2KV$
VSK-S3	CISPR22/EN55022 CLASS A	CISPR22/EN55022 CLASS B	-	IEC/EN61000-4-4 $\pm 2KV$	-	IEC/EN61000-4-5 $\pm 1K / \pm 2KV$
VSK-S5	CISPR22/EN55022 CLASS A	CISPR22/EN55022 CLASS B	IEC/EN61000-4-4 $\pm 2KV$	IEC/EN61000-4-4 $\pm 4KV$	IEC/EN61000-4-5 $\pm 1K / \pm 2KV$	IEC/EN61000-4-5 $\pm 2K / \pm 4KV$
VSK-S10	CISPR22/EN55022 CLASS A	CISPR22/EN55022 CLASS B	IEC/EN61000-4-4 $\pm 2KV$	IEC/EN61000-4-4 $\pm 4KV$	IEC/EN61000-4-5 $\pm 1K$	IEC/EN61000-4-5 $\pm 2K / \pm 4KV$

MECHANICAL DRAWING (DIN-RAIL)

units: mm [inch]
 tolerance: ± 0.50 [± 0.020]
 wire range: 24~12 AWG
 dimensions: 96.1 x 54 x 33.6 mm

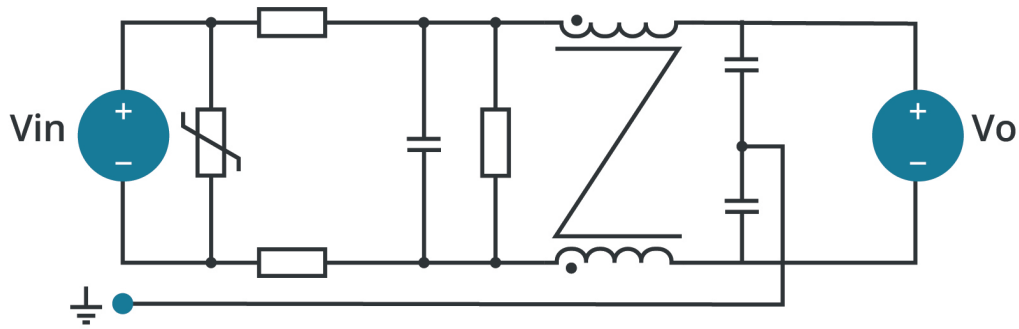
PIN	Function
1	GND
2	IN(N)
3	IN(L)
4	OUT(N)
5	NC
6	NC
7	NC
8	OUT(L)



EMC SPECIFICATIONS

Adding the EMC-05A upstream from the AC/DC module can ensure surge level requirements are met according to IEC/EN61000-4-5 $\pm 2\text{KV}$ (2Ω internal resistance)/ $\pm 4\text{KV}$ (12Ω internal resistance). This model assists in meeting EMI requirements according to CISPR22 /EN 55022 Class B.

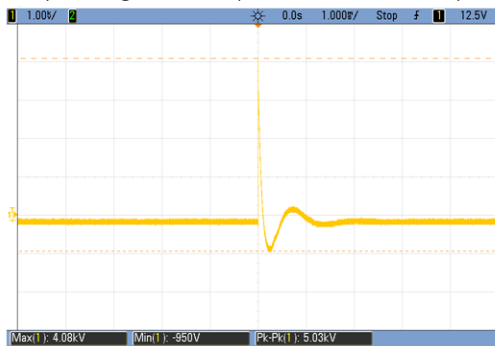
Figure 1
Internal Circuit



EMC-05A



Input voltage waveform (Differential mode 1.99kV)



Input voltage waveform (Common mode 4.084.62kV)



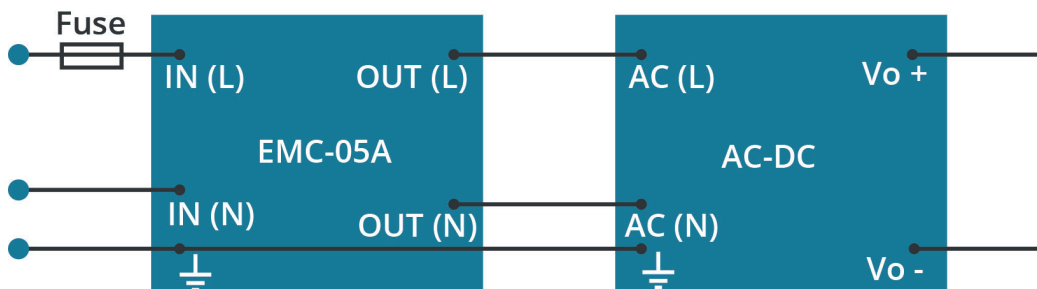
Output voltage waveform (0.9 kV)



Output voltage waveform (0.71 kV)

APPLICATION CIRCUIT

Figure 2
Application Circuit



REVISION HISTORY

rev.	description	date
1.0	initial release	12/10/2019
1.01	chassis mount model removed	04/09/2021
1.02	circuit figures updated	01/12/2022

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



CUI INC
a bel group

Headquarters
20050 SW 112th Ave.
Tualatin, OR 97062
800.275.4899

Fax 503.612.2383
cui.com
techsupport@cui.com

CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.