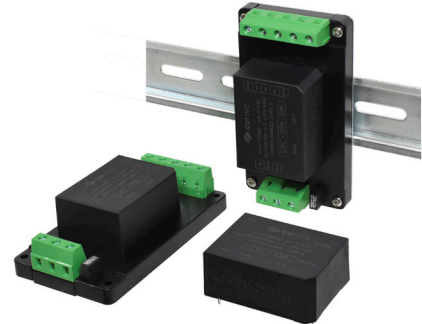


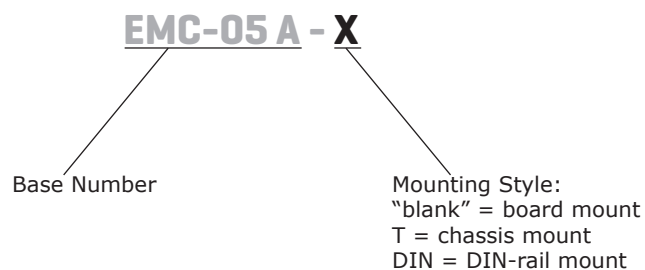
**SERIES:** EMC-05A | **DESCRIPTION:** AC POWER LINE FILTER

**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, chassis-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**


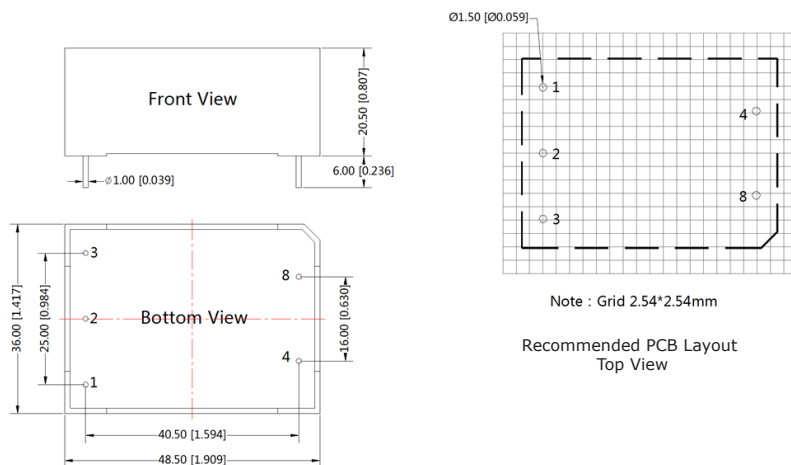
## MECHANICAL

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] chassis mount - 96.10 x 54.00 x 29.00 [3.78 x 2.13 x 1.14 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, chassis mount, DIN-Rail		50/100/140		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)

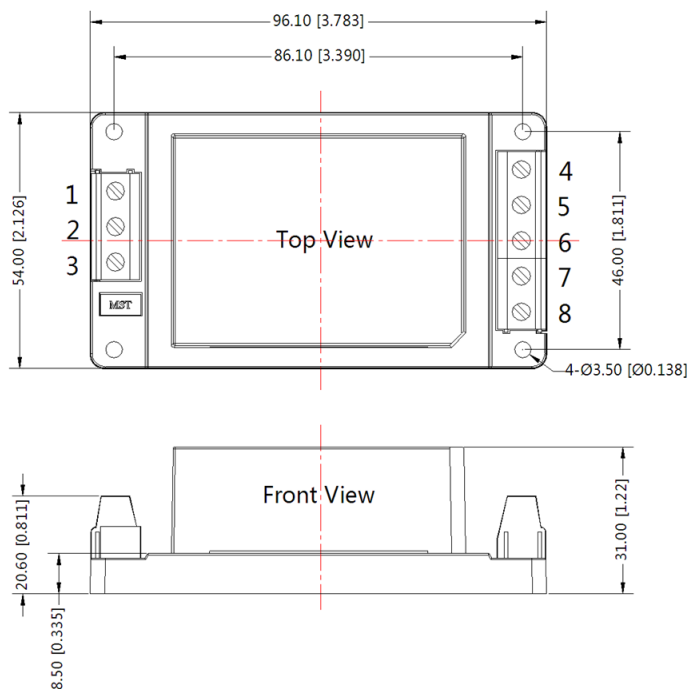


Supporting Product Table						
Model	EMI (without external circuit)	EMI (with EMC filter)	EFT (w/o external circuit)	EFT (with EMC filter)	Surge (w/o external circuit)	Surge (with EMC filter)
VSK-S1	CISPR22/EN55022 CLASS B	-	-	IEC/EN61000-4-4 ±2KV	-	IEC/EN61000-4-5 ±1K /±2KV
VSK-S2	CISPR22/EN55022 CLASS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

## MECHANICAL DRAWING (CHASSIS MOUNT)

units: mm [inch]  
 tolerance:  $\pm 0.50$  [ $\pm 0.020$ ]  
 wire range: 24~12 AWG  
 dimensions: 96.1 x 54 x 29 mm

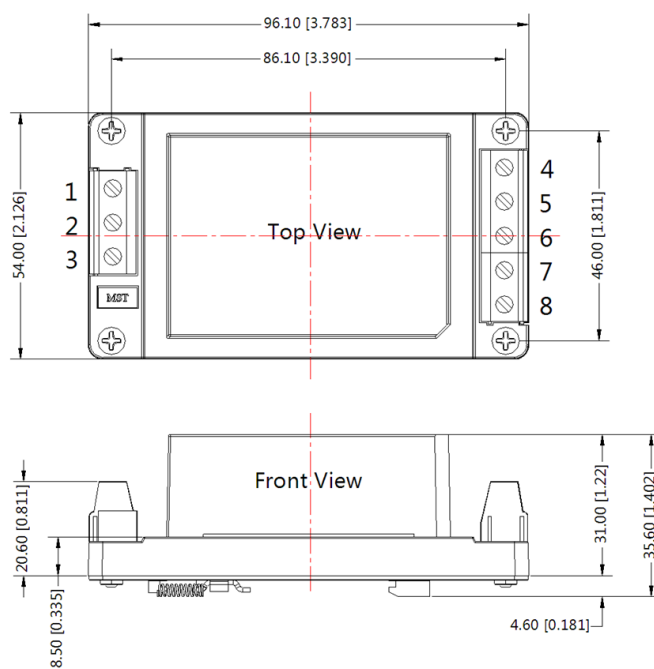
PIN	Function
1	GND
2	IN(N)
3	IN(L)
4	OUT(N)
5	NC
6	NC
7	NC
8	OUT(L)



## MECHANICAL DRAWING (DIN-RAIL)

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

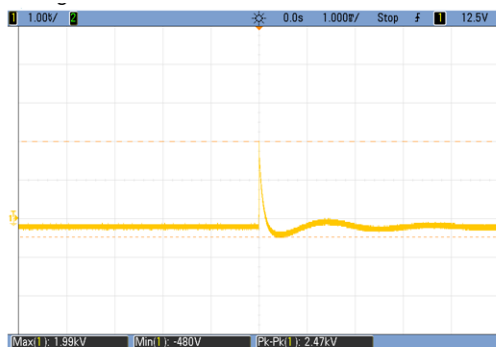
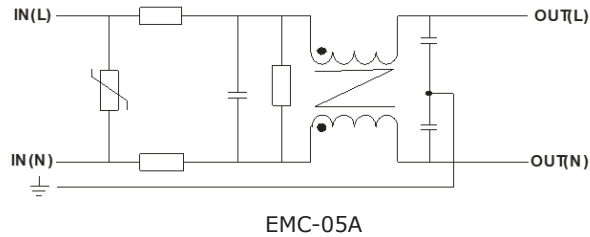
PIN	Function
1	GND
2	IN(N)
3	IN(L)
4	OUT(N)
5	NC
6	NC
7	NC
8	OUT(L)



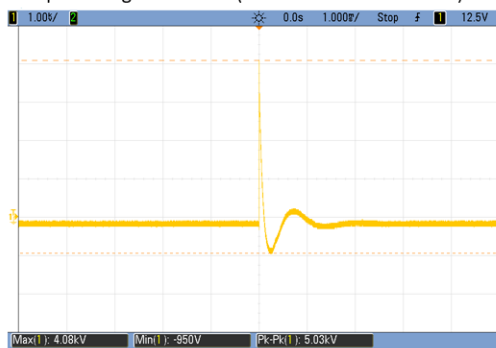
## EMC SPECIFICATIONS

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

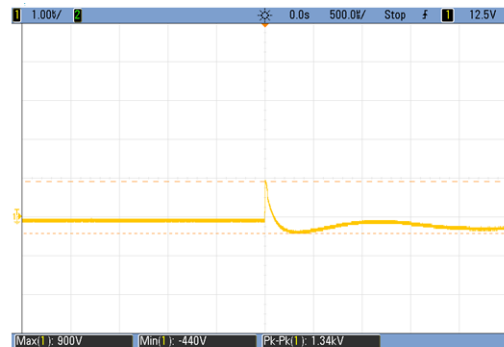
Figure 1  
Internal Circuit



Input voltage waveform (Differential mode 1.99KV)



Input voltage waveform (Common mode 4.084.62KV)



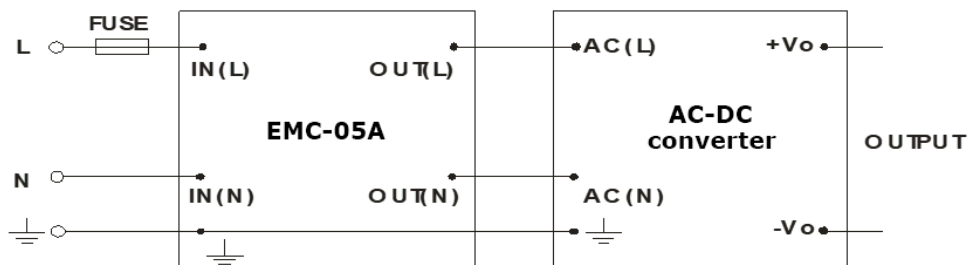
Output voltage waveform (0.9 KV)



Output voltage waveform(0.71 KV)

## APPLICATION CIRCUIT

Figure 2  
Application Circuit



## REVISION HISTORY

---

rev.	description	date
1.0	initial release	12/10/2019

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



**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.