



## 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

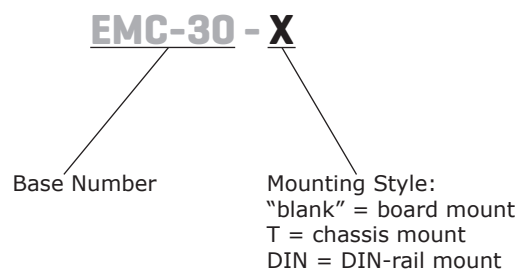


### SPECIFICATIONS

| 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.

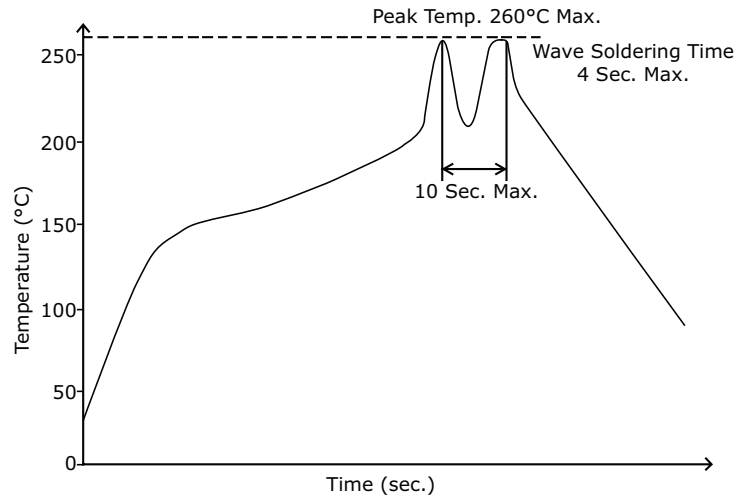
### PART NUMBER KEY



## SOLDERABILITY<sup>2</sup>

| 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.



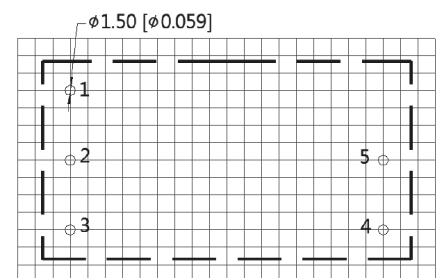
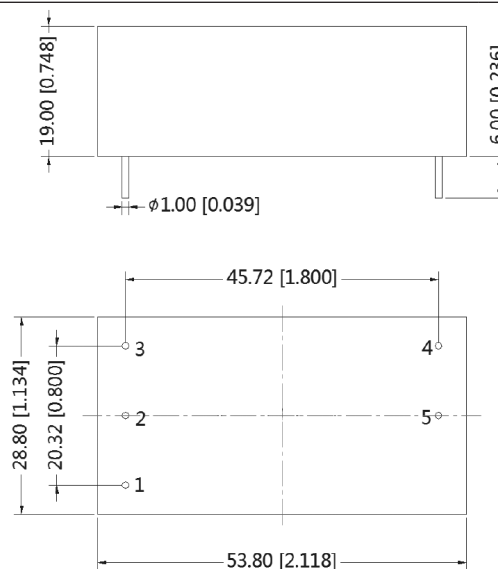
## MECHANICAL

| 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]<br>chassis mount: 76.00 x 31.50 x 27.80 [2.992 x 1.240 x 1.094 inch]<br>DIN-Rail mount: 76.00 x 31.50 x 32.40 [2.992 x 1.240 x 1.276 inch] |     |                |     | mm<br>mm<br>mm |
| case material | black flame-retardant heat-proof epoxy resin (UL94V-0)                                                                                                                                                     |     |                |     |                |
| weight        | board mount<br>chassis mount<br>DIN-rail mount                                                                                                                                                             |     | 50<br>70<br>90 |     | g<br>g<br>g    |

## MECHANICAL DRAWING (BOARD MOUNT)

units: mm [inch]  
tolerance:  $\pm 0.50$  [ $\pm 0.020$ ]  
pin diameter tolerance:  $\pm 0.10$  [ $\pm 0.004$ ]

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



Note : Grid 2.54\*2.54mm

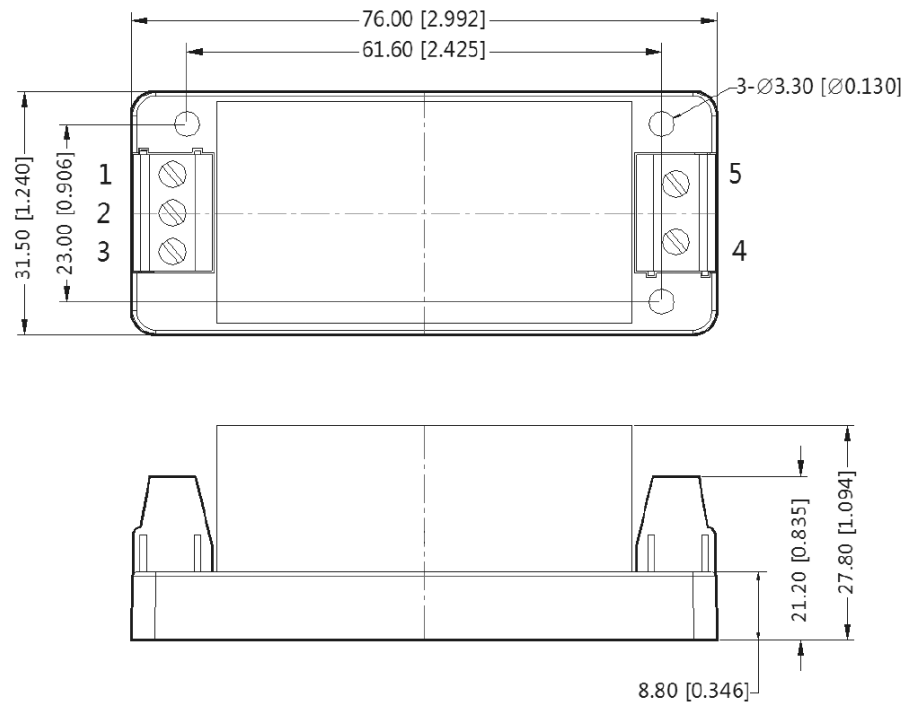
Recommended PCB Layout  
Top View

**MECHANICAL DRAWING (CHASSIS MOUNT)**

units: mm [inch]  
tolerance:  $\pm 0.50$  [ $\pm 0.020$ ]

wire range: 24~12 AWG

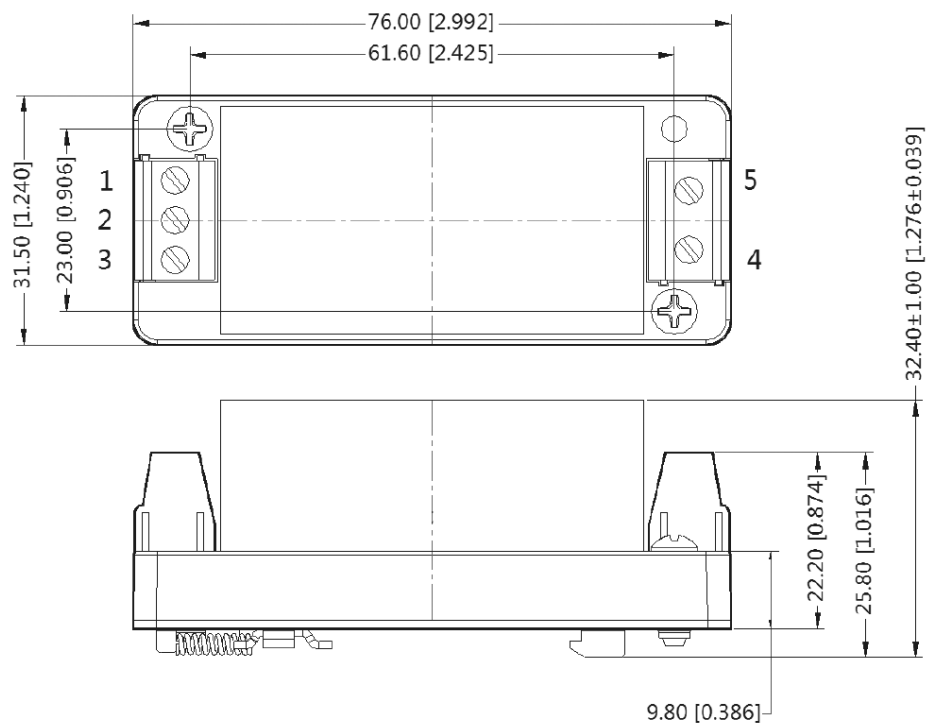
| PIN CONNECTIONS |          |
|-----------------|----------|
| PIN             | Function |
| 1               | GND      |
| 2               | IN(N)    |
| 3               | IN(L)    |
| 4               | OUT(L)   |
| 5               | OUT(N)   |

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

units: mm [inch]  
tolerance:  $\pm 0.50$  [ $\pm 0.020$ ]

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

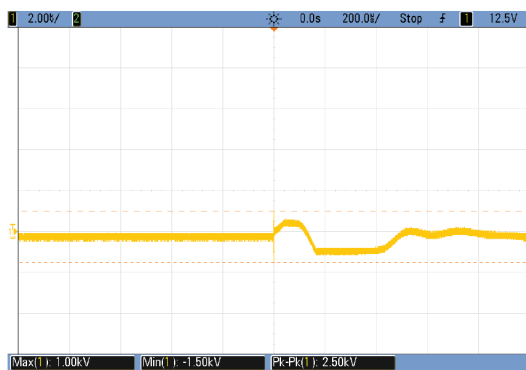
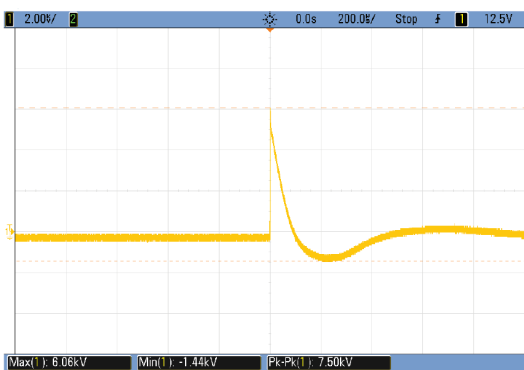
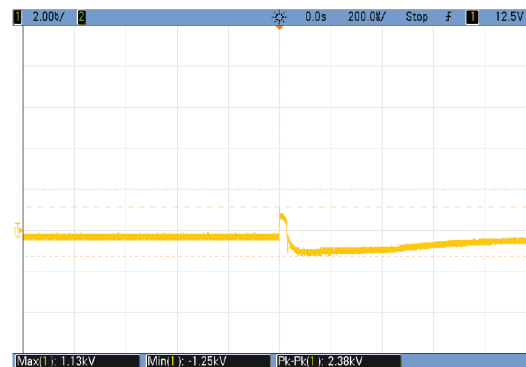
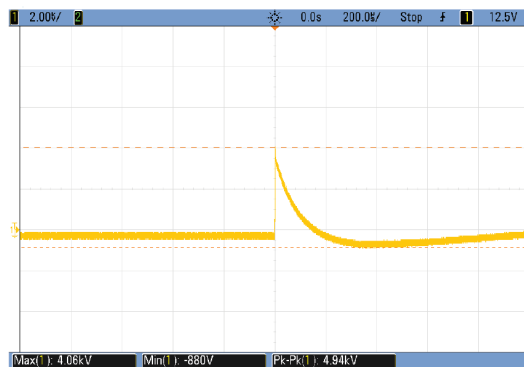
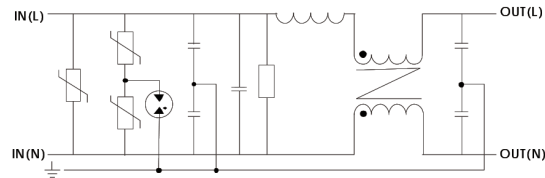
| PIN CONNECTIONS |          |
|-----------------|----------|
| PIN             | Function |
| 1               | GND      |
| 2               | IN(N)    |
| 3               | IN(L)    |
| 4               | OUT(L)   |
| 5               | OUT(N)   |



## EMC SPECIFICATIONS

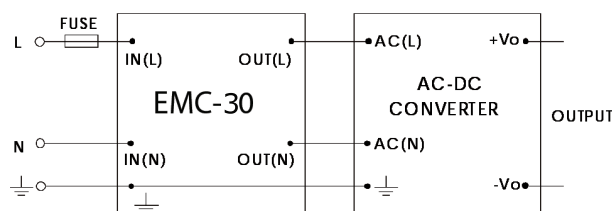
Put the EMC-30 on the input of the AC-DC module to meet surge level IEC/EN 61000-4-5  $\pm 4$  kV ( $2\ \Omega$  internal resistance),  $\pm 6$  kV ( $12\ \Omega$  internal resistance), and help to meet EN 55022 Class B.

Figure 1  
Internal Circuit



## APPLICATION CIRCUIT

Figure 2  
Application Circuit



## REVISION HISTORY

| rev. | description     | date       |
|------|-----------------|------------|
| 1.0  | initial release | 10/26/2018 |

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



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