

Catalog: 1654001 Issue Date: 06.2011

EMI Power Inlet Filter

EF Series



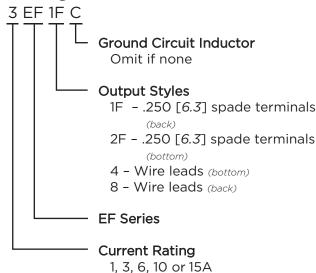
UL Recognized CSA Certified VDE Approved*



EF Series

- Compact single stage EMI filter with IEC 60320-1 C14 inlet
- Two element circuit provides basic attenuation
- Available with an internal ground-circuit inductor (C suffix versions) to isolate equipment chassis from power line ground at radio frequencies
- Superseded by the EEA Series

Ordering Information



Available Part Numbers

| 1EF1F | 1EF2F | 1EF4 | 1EF8 | | |
|----------------------------------|-------|------|------|--|--|
| 3EF1F | 3EF2F | 3EF4 | 3EF8 | | |
| 6EF1F | 6EF2F | 6EF4 | 6EF8 | | |
| 10EF1F | | | | | |
| 15EF1F | | | | | |
| Ground Circuit Inductor Versions | | | | | |
| 10FE1EC | | | | | |

Specifications

Maximum leakage current each Line to Ground:

| @ 120 VAC 60 Hz: | .21 mA |
|------------------|--------|
| @250 VAC 50 Hz: | .36 mA |

Hipot rating (one minute):

Line to Ground: 2250 VDC
Line to Line: 1450 VDC

Rated Voltage (max.): 250 VAC

Operating Frequency: 50/60 Hz

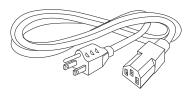
Rated Current: 1 to 15A*

Operating Ambient Temperature Range

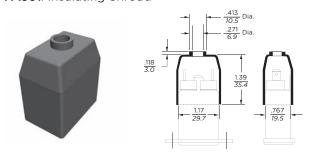
(at rated current I_r): -10°C to +40°C In an ambient temperature (T_a) higher than +40°C the maximum operating current (I_o) is calculated as follows: $I_o = I_r \sqrt{(85-T_a)/45}$

Accessories

GA400: NEMA 5-15P to IEC 60320-1 C-13 line cord



FA601: Insulating Shroud



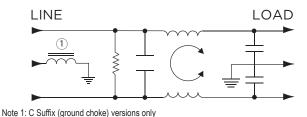
*15A versions are tested by Underwriters Laboratories to US and Canadian requirements and are VDE approved at 10A, 250VAC



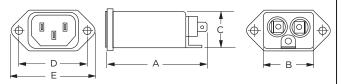
EMI Power Inlet Filter (continued)

EF Series

Electrical Schematic



Case Styles EF1F & EF1FC



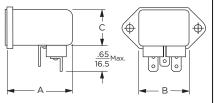
Typical Dimensions:

Line Inlet (1): Load Terminals (2): Ground Terminal (1): IEC 60320-1 C14 .250 [6.3] with .07 [1.8] Dia. hole .250 [6.3] with .07 x .16 [1.8 x 3.8] slot

EF2F



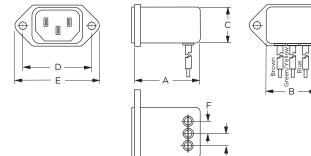
Typical Dimensions:
Line Inlet (1):
Load Terminals (2):
Ground Terminal (1):



IEC 60320-1 C14 .250 [6.3] with .07 [1.8] Dia. hole

.250 [6.3] with .07 x .16 [1.8 x 3.8] slot

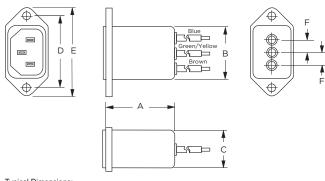
EF4



Typical Dimensions: Line Inlet (1): Wire Leads:

IEC 60320-1 C14 4.0 [101.6] Min., 18AWG, UL1015

EF8



Typical Dimensions: Line Inlet (1): Wire Leads:

IEC 60320-1 C14 4.0 [*101.6*] Min., 18AWG, UL1015

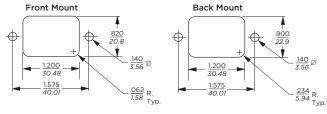
Catalog: 1654001

Issue Date: 06.2011

Case Dimensions

| Α | В | С | D | E | F |
|--------|--|---|--|---|---|
| (max.) | (max.) | (max.) | ± .015 ± .38 | (max.) | (ref.) |
| 2.21 | 1.19 | 0.81 | 1.575 | 1.98 | _ |
| 56.0 | 30.2 | 20.6 | 40.01 | 50.3 | |
| 1.55 | 1.19 | 0.85 | 1.575 | 1.98 | _ |
| 39.4 | 30.2 | 21.6 | 40.01 | 50.3 | |
| 1.55 | 1.19 | 0.85 | 1.575 | 1.98 | .295 |
| 39.4 | 30.2 | 21.6 | 40.01 | 50.3 | 7.5 |
| 1.55 | 1.19 | 0.81 | 1.575 | 1.98 | .295 |
| 39.4 | 30.2 | 20.06 | 40.01 | 50.3 | 7.5 |
| 2.62 | 1.19 | 0.81 | 1.575 | 1.98 | _ |
| 66.5 | 30.2 | 20.6 | 40.01 | 50.3 | |
| 2.62 | 1.19 | 0.81 | 1.575 | 1.98 | _ |
| 66.5 | 30.2 | 20.6 | 40.01 | 50.3 | |
| | (max.) 2.21 56.0 1.55 39.4 1.55 39.4 1.55 39.4 2.62 66.5 2.62 | (max.) (max.) 2.21 1.19 56.0 30.2 1.55 1.19 39.4 30.2 1.55 1.19 39.4 30.2 1.55 1.19 39.4 30.2 2.62 1.19 66.5 30.2 2.62 1.19 | (max.) (max.) (max.) 2.21 1.19 0.81 56.0 30.2 20.6 1.55 1.19 0.85 39.4 30.2 21.6 1.55 1.19 0.85 39.4 30.2 21.6 1.55 1.19 0.81 39.4 30.2 20.06 2.62 1.19 0.81 66.5 30.2 20.6 2.62 1.19 0.81 | (max.) (max.) (max.) ± .015 ± .38 2.21 1.19 0.81 1.575 56.0 30.2 20.6 40.01 1.55 1.19 0.85 1.575 39.4 30.2 21.6 40.01 1.55 1.19 0.85 1.575 39.4 30.2 21.6 40.01 1.55 1.19 0.81 1.575 39.4 30.2 20.06 40.01 2.62 1.19 0.81 1.575 66.5 30.2 20.6 40.01 2.62 1.19 0.81 1.575 66.5 30.2 20.6 40.01 2.62 1.19 0.81 1.575 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ |

Recommended Panel Cutouts



Tolerances \pm .005 [0.13] unless otherwise noted

Note 1: EF1F, EF1FC and EF8 allow for front or back mounting Note 2: EF2F and EF4 allow for back mounting only



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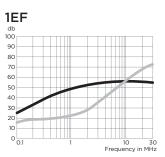
EMI Power Inlet Filter (continued)

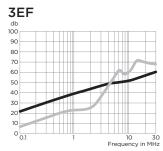
EF Series

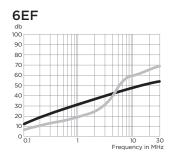
Performance Data

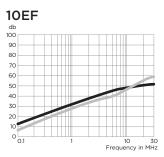
Typical Insertion Loss

Measured in closed 50 Ohm system

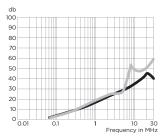








15EF



Common Mode / Asymmetrical (L-G)
Differential Mode / Symmetrical (L-L)

Minimum Insertion Loss

Measured in closed 50 Ohm system

Common Mode / Asymmetrical (Line to Ground)

| Current | Frequency – MHz | | | | | |
|------------|-----------------|----|----|----|----|----|
| Rating | .15 | .5 | 1 | 5 | 10 | 30 |
| EF1F, EF2F | | | | | | |
| 1A | 22 | 35 | 40 | 46 | 50 | 49 |
| 3A | 15 | 25 | 30 | 45 | 50 | 54 |
| 6A | 9 | 20 | 25 | 41 | 45 | 50 |
| 10A | 8 | 15 | 20 | 34 | 39 | 44 |
| 15A | - | 6 | 12 | 20 | 25 | 25 |
| EF4, EF8 | | | | | | |
| 1A | 22 | 35 | 40 | 46 | 50 | 49 |
| 3A | 15 | 25 | 30 | 45 | 50 | 54 |
| 6A | 9 | 20 | 25 | 41 | 45 | 47 |
| EF1FC | | | | | | |
| 10A | 8 | 15 | 20 | 34 | 39 | 44 |

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