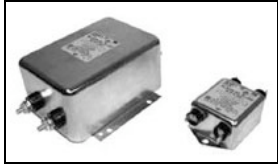


## 1-6609037-1 Product Details



**1-6609037-1**

TE Internal Number: 1-6609037-1



Active

### EMI/RFI Filters and Accessories

 Always EU RoHS/ELV Compliant (Statement of Compliance)

#### Product Highlights:

- Filter - EMI/RFI
- Filter Type = Power Line
- EMC (3-30 Amp) Series
- Dual Stage Noise Reduction to meet CISPR and FCC Application
- Mount Style = Flanged

### Documentation & Additional Information

#### Product Drawings:

- [CUSTOMER DRAWING 3EMC1](#) (PDF, English)

#### Catalog Pages/Data Sheets:

- [1-1654250-1\\_CORCOM\\_EMI\\_RFI\\_QRG](#) (PDF, English)
- [1654001\\_CORCOM\\_PRODUCT\\_GUIDE EMC\\_SERIES](#) (PDF, English)

#### Product Specifications:

- None Available

#### Application Specifications:

- None Available

#### Instruction Sheets:

- None Available

#### CAD Files: (CAD Format & Compression Information)

- [2D Drawing](#) (DXF, Version B)
- [3D Model](#) (IGES, Version B)
- [3D Model](#) (STEP, Version B)

#### Additional Information:

- [Product Line Information](#)

#### Additional Product Images:

- [Insertion Loss/Specifications](#)

#### Related Products:

- [Tooling](#)

### Product Features (Please use the Product Drawing for all design activity)

#### Product Type Features:

- [Product Type](#) = Filter - EMI/RFI
- [Filter Type](#) = Power Line
- [Series](#) = EMC (3-30 Amp)
- [Filtered](#) = Yes

#### Electrical Characteristics:

- [Current Rating \(A\)](#) = 3
- [Voltage ≤ \(VAC\)](#) = 250
- [Leakage Current \(Line-to-Ground\) Max. @ 250 VAC 50 Hz \(mA\)](#) = 0.43
- [Leakage Current \(Line-to-Ground\) Max. @ 120 VAC 60 Hz \(mA\)](#) = 0.21

#### Termination Features:

- [Terminal Input - Output Combination](#) = 1/4" Faston - 1/4" Faston

#### Body Features:

- [Mount Style](#) = Flanged

#### Industry Standards:

- [RoHS/ELV Compliance](#) = RoHS compliant, ELV compliant
- [Lead Free Solder Processes](#) = Not relevant for lead free process
- [RoHS/ELV Compliance History](#) = Always was RoHS compliant
- [Approved Standards](#) = CSA Certified, VDE Approved, UL Recognized

#### Conditions for Usage:

- [Facility Installation](#) = No
- [Need Min Size With IEC Connector](#) = No
- [Need Optional Switch, Fusing, Or Voltage Selector](#) = No

#### Operation/Application:

- [Application](#) = Dual Stage Noise Reduction to meet CISPR and FCC

#### Other:

- [Brand](#) = Corcom

**Compact and Cost-effective Dual Stage RFI Power Line Filters**

# EMC Series



UL Recognized  
CSA Certified  
VDE Approved



EMC6



EMC1

## EMC Series

- Compact dual stage filter series
- Cost-effective design
- Current rating up to 30A
- High differential mode attenuation in the lower frequency range
- High common mode performance
- Suitable for switching mode power supplies

## Ordering Information



## Specifications

**Maximum leakage current each Line to Ground:**

	<i>3, 6, 10A</i>	<i>15, 20, 30A</i>
@ 120 VAC 60 Hz:	.21 mA	.73 mA
@ 250 VAC 50 Hz:	.43 mA	1.52 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

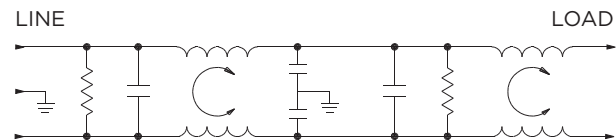
**Rated Current:**

3 to 30A

**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:  $I_o = I_r \sqrt{(85-T_a)/45}$

## Electrical Schematic



## Available Part Numbers

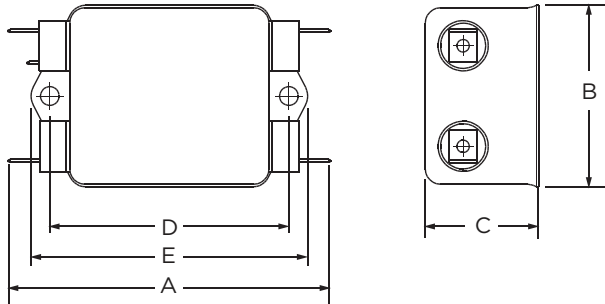
3EMC1	10EMC3
6EMC1	15EMC3
10EMC1	10EMC6
15EMC1	15EMC6
20EMC1	20EMC6
3EMC3	30EMC6
6EMC3	

**Compact and Cost-effective Dual Stage RFI Power Line Filters** *(continued)*

# EMC Series

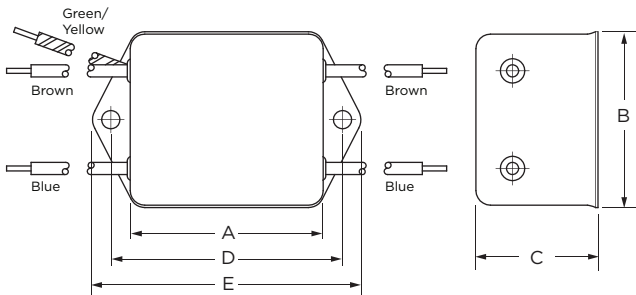
## Case Styles

### EMC1



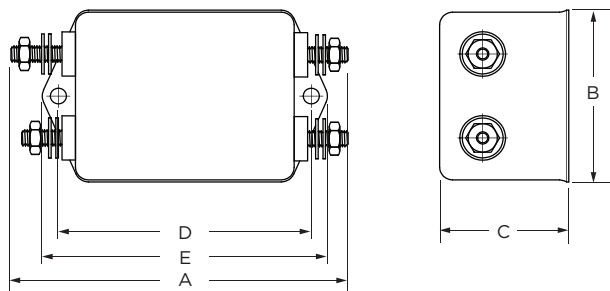
Typical Dimensions:  
 Line/Load Terminals (4): .250 [6.3] with .07 [1.8] Dia. hole  
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot  
 Mounting Holes (2): .187 ±.008 [4.75 ±.20] Dia.

### EMC3



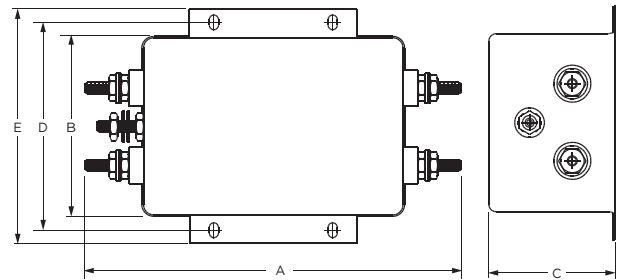
Typical Dimensions:  
 Wire leads (5): 4.0 [101.6] Min., AWG18 (AWG16 for 15A)  
 Mounting Holes (2): .187 ±.008 [4.75 ±.20] Dia.

### EMC6



Typical Dimensions:  
 Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max. ± 2 [22]  
 Mounting Holes (4): .187 ±.008 [4.75 ±.20] Dia.

### 30EMC6



Typical Dimensions:  
 Terminals (5): 10-32, Torque 27 lbf-in. [3.05 N-m] max. ± 3 [.34]  
 Mounting Slots (4): .203 x .156 [5.16 x 3.96]

## Case Dimensions

Part No.	A (max)	B (max)	C (max)	D (max)	E (max)
3EMC1	<b>3.35</b> <i>85.1</i>	<b>1.81</b> <i>46</i>	<b>1.16</b> <i>29.5</i>	<b>2.375</b> <i>60.3</i>	<b>2.78</b> <i>70.6</i>
6EMC1	<b>3.85</b> <i>97.8</i>	<b>2.07</b> <i>52.6</i>	<b>1.16</b> <i>29.5</i>	<b>2.938</b> <i>74.6</i>	<b>3.35</b> <i>85.1</i>
10EMC1	<b>3.85</b> <i>97.8</i>	<b>2.07</b> <i>52.6</i>	<b>1.53</b> <i>38.91</i>	<b>2.938</b> <i>74.6</i>	<b>3.35</b> <i>85.1</i>
15EMC1	<b>4.97</b> <i>126.2</i>	<b>2.25</b> <i>57.2</i>	<b>1.78</b> <i>45.2</i>	<b>4.063</b> <i>103.2</i>	<b>4.46</b> <i>113.3</i>
20EMC1	<b>4.97</b> <i>126.2</i>	<b>2.25</b> <i>57.2</i>	<b>1.78</b> <i>45.2</i>	<b>4.063</b> <i>103.2</i>	<b>4.46</b> <i>113.3</i>
3EMC3	<b>2.07</b> <i>52.6</i>	<b>1.81</b> <i>46</i>	<b>1.16</b> <i>29.5</i>	<b>2.375</b> <i>60.3</i>	<b>2.78</b> <i>70.6</i>
6EMC3	<b>2.56</b> <i>65</i>	<b>2.07</b> <i>52.6</i>	<b>1.16</b> <i>29.5</i>	<b>2.938</b> <i>74.6</i>	<b>3.35</b> <i>85.1</i>
10EMC3	<b>2.56</b> <i>65</i>	<b>2.07</b> <i>52.6</i>	<b>1.53</b> <i>38.9</i>	<b>2.938</b> <i>74.6</i>	<b>3.35</b> <i>85.1</i>
15EMC3	<b>3.69</b> <i>93.7</i>	<b>2.25</b> <i>57.2</i>	<b>1.78</b> <i>45.2</i>	<b>4.063</b> <i>103.2</i>	<b>4.47</b> <i>113.5</i>
10EMC6	<b>3.94</b> <i>99.9</i>	<b>2.07</b> <i>52.6</i>	<b>1.53</b> <i>38.9</i>	<b>2.938</b> <i>74.6</i>	<b>3.35</b> <i>85.1</i>
15EMC6	<b>5.09</b> <i>129.3</i>	<b>2.25</b> <i>57.2</i>	<b>1.78</b> <i>45.2</i>	<b>4.063</b> <i>103.2</i>	<b>4.47</b> <i>113.5</i>
20EMC6	<b>5.09</b> <i>129.3</i>	<b>2.25</b> <i>57.2</i>	<b>1.78</b> <i>45.2</i>	<b>4.063</b> <i>103.2</i>	<b>4.47</b> <i>113.5</i>
30EMC6	<b>6.05</b> <i>153.7</i>	<b>3.12</b> <i>79.2</i>	<b>2.18</b> <i>55.4</i>	<b>3.5</b> <i>88.9</i>	<b>3.96</b> <i>100.6</i>



RFI Power Line Filters

**Compact and Cost-effective Dual Stage RFI Power Line Filters** *(continued)*

# EMC Series

## Performance Data

### Typical Insertion Loss

Measured in closed 50 Ohm system

**3EMC**



**6EMC**



**10EMC**



**15EMC**



**20EMC**



**30EMC**



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

### Minimum Insertion Loss

Common Mode / Asymmetrical (Line to Ground)

Current Rating	Frequency – MHz								
	.05	.07	.11	.15	1	2	10	20	30
3A	6	6	3	16	65	66	62	60	59
6A	6	6	2	15	65	67	65	62	63
10A	5	2	13	24	72	72	56	50	48
15A	3	1	12	22	70	68	57	54	53
20A	2	2	11	21	58	57	63	55	52
30A	2	2	14	22	47	52	60	48	43

Differential Mode / Symmetrical (Line to Line)

Current Rating	Frequency – MHz								
	.05	.07	.11	.15	1	2	10	20	30
3A	12	13	7	18	64	69	65	60	52
6A	12	12	8	27	61	61	59	56	54
10A	14	15	12	33	54	58	47	34	36
15A	16	16	13	34	61	52	36	36	23
20A	17	19	15	37	67	62	36	32	30
30A	17	18	14	40	62	53	30	28	26

### SAFETY ORGANIZATIONS

THIS FILTER HAS BEEN FORMALLY RECOGNIZED, CERTIFIED OR APPROVED BY THE LISTED AGENCY. THEREFORE, ALL TEST/REQUIREMENTS SPECIFIED IN THE LATEST REVISION OF THE FOLLOWING AGENCY STANDARDS HAVE BEEN MET:

UL RECOGNIZED: UL 1283  
 CSA CERTIFIED: CSA 22.2, # 8  
 VDE APPROVED: EN 133200

### OPERATING SPECIFICATIONS

LINE CURRENT/VOLTAGE: 3 AMP/40°C, 120/250VAC

LINE FREQUENCY: 50-60Hz

MAXIMUM LEAKAGE CURRENT,  
 EACH LINE TO GROUND: 0.21mA @ 120V, 60Hz  
 0.36mA @ 250V, 50Hz

OPERATING AMBIENT TEMP. RANGE: -10°C TO +40°C @ RATED CURRENT,  $I_r$ .

IN AN AMBIENT,  $T_a$ , HIGHER THAN 40°C, THE MAXIMUM OPERATING CURRENT,  $I_o$ , IS AS FOLLOWS:

$$I_o = I_r \sqrt{\frac{100 - T_a}{60}}$$

### RELIABILITY SPECIFICATIONS:

STORAGE TEMPERATURE: -40°C TO +85°C  
 HUMIDITY: 21 DAYS @ 40°C 95% RH.  
 CURRENT OVERLOAD TEST: 6 TIMES  $I_r$  FOR 8 SECONDS

### TEST SPECIFICATIONS:

INDUCTANCE: 1.58mH NOMINAL  
 CAPACITANCE: (MEASURED @ 1KHz, 0.250VAC MAX., 25°C±1°C)  
 LINE TO GROUND: 0.005µF ±20%  
 LINE TO LINE: 1.361µF ±20%  
 DISCHARGE RESISTOR: 340KΩ  
 L/G AND L/L I.R.:  
 NO DISCHARGE RESISTOR: 6000MΩ (MIN.) @ 100VDC, 20°C AND 50% RH

### RECOMMENDED RECEIVING INSPECTION HIPOT:

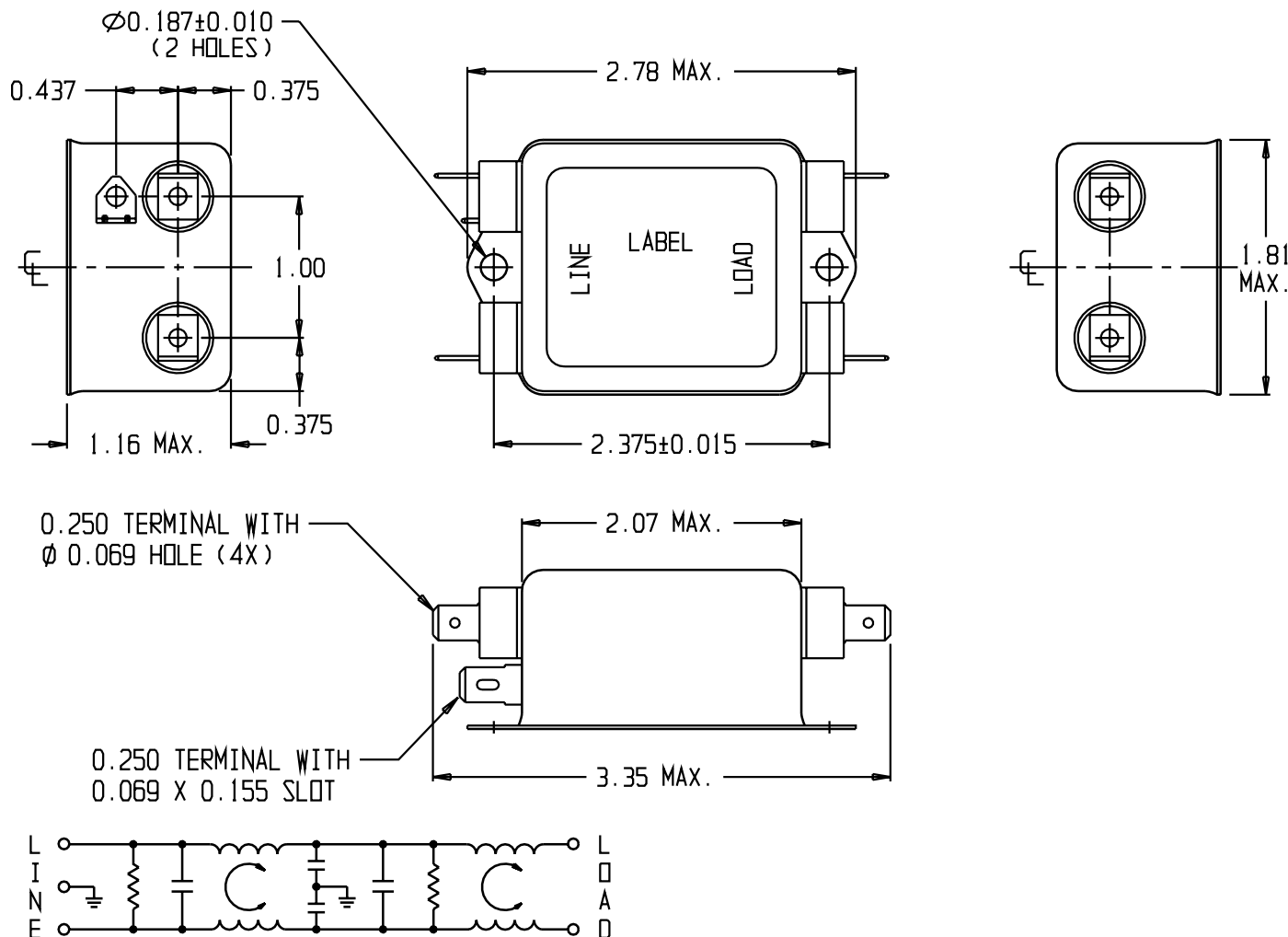
LINE TO GROUND: 1500VAC OR 2250VDC FOR 1 MINUTE  
 LINE TO LINE: 1450VDC FOR 1 MINUTE

### FILTER APPROVAL:

THE BEST WAY TO SELECT AND QUALIFY A FILTER IS FOR YOUR ENGINEERING TO TEST THE UNIT IN YOUR EQUIPMENT.

CATALOG # 3EMC1

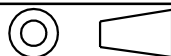
ECD #	APPRVD.	DATE
	KAW	3DEC06



### 50Ω - 50Ω (MINIMUM) INSERTION LOSS

FREQUENCY MHz	0.01	0.05	0.07	0.11	0.15	1.0	2.0	10	20	30
COMMON dB	2	6	6	3	16	65	66	62	60	59
DIFF. dB	6	12	13	7	18	64	69	65	60	52

THIRD ANGLE PROJECTION



UNLESS OTHERWISE SPECIFIED, TOLERANCE TO BE ±.025 MATERIAL & FINISH: AS SUPPLIED

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**tyco** Electronics **corcom**  
 620 S. BUTTERFIELD ROAD MUNDLEIGH IL 60060

CUSTOMER DRAWING 3EMC1

TYCO: 1-6609037-1

SCALE:	DATE: 5DEC03	CATALOG NO.	REV.
DRW. BY: JF	DRG: KAW	3EMC1	B