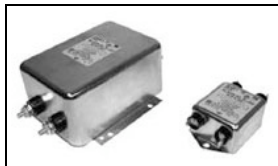


1-6609037-2 Product Details



1-6609037-2

TE Internal Number: 1-6609037-2



EMI/RFI Filters and Accessories



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 6EMC1](#) (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 D)
- [3D Model](#) (IGES, Version D)
- [3D Model](#) (STEP, Version D)

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 \(A\)](#) = 6
- [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

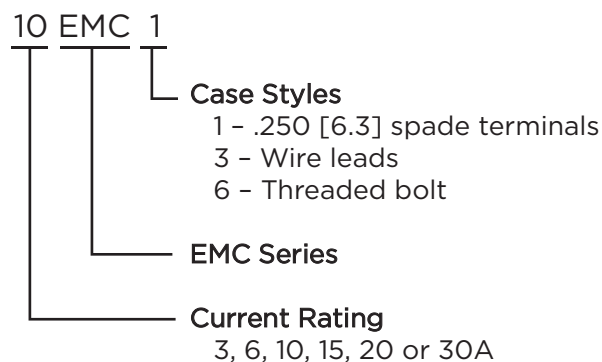


EMC1

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:

	3, 6, 10A	15, 20, 30A
@ 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

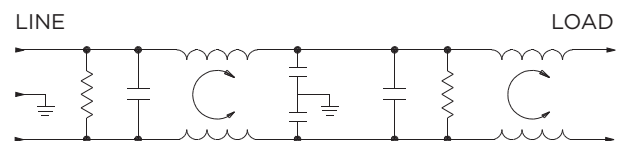
Rated Current:

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

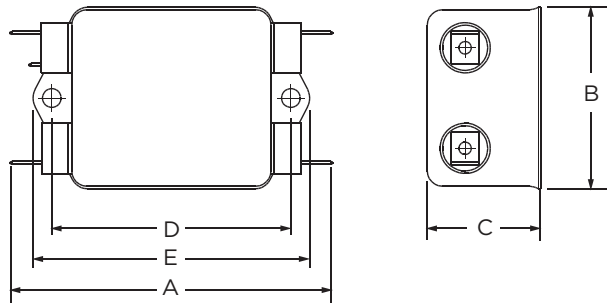
3EMC1	10EMC3
6EMC1	15EMC3
10EMC1	10EMC6
15EMC1	15EMC6
20EMC1	20EMC6
3EMC3	30EMC6
6EMC3	

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

EMC Series

Case Styles

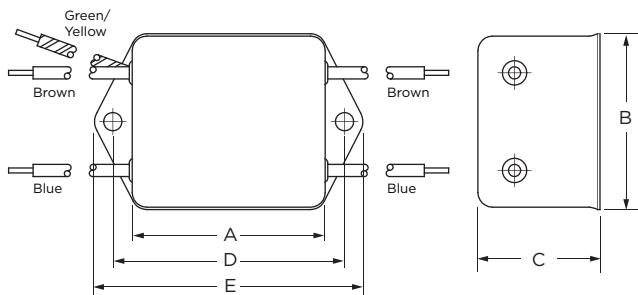
EMC1



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.

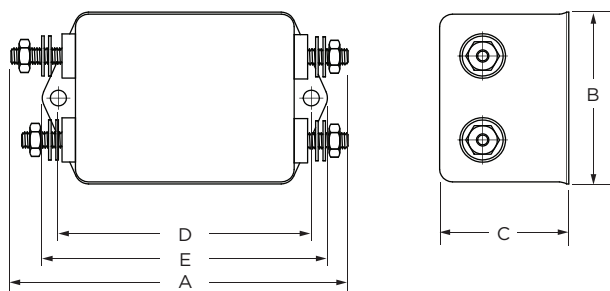
EMC3



Typical Dimensions:

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

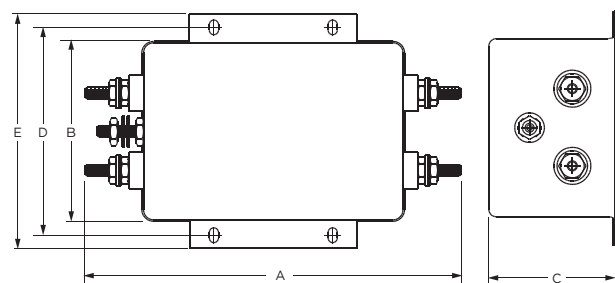
EMC6



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	3.35 85.1	1.81 46	1.16 29.5	2.375 60.3	2.78 70.6
6EMC1	3.85 97.8	2.07 52.6	1.16 29.5	2.938 74.6	3.35 85.1
10EMC1	3.85 97.8	2.07 52.6	1.53 38.91	2.938 74.6	3.35 85.1
15EMC1	4.97 126.2	2.25 57.2	1.78 45.2	4.063 103.2	4.46 113.3
20EMC1	4.97 126.2	2.25 57.2	1.78 45.2	4.063 103.2	4.46 113.3
3EMC3	2.07 52.6	1.81 46	1.16 29.5	2.375 60.3	2.78 70.6
6EMC3	2.56 65	2.07 52.6	1.16 29.5	2.938 74.6	3.35 85.1
10EMC3	2.56 65	2.07 52.6	1.53 38.9	2.938 74.6	3.35 85.1
15EMC3	3.69 93.7	2.25 57.2	1.78 45.2	4.063 103.2	4.47 113.5
10EMC6	3.94 99.9	2.07 52.6	1.53 38.9	2.938 74.6	3.35 85.1
15EMC6	5.09 129.3	2.25 57.2	1.78 45.2	4.063 103.2	4.47 113.5
20EMC6	5.09 129.3	2.25 57.2	1.78 45.2	4.063 103.2	4.47 113.5
30EMC6	6.05 153.7	3.12 79.2	2.18 55.4	3.5 88.9	3.96 100.6

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

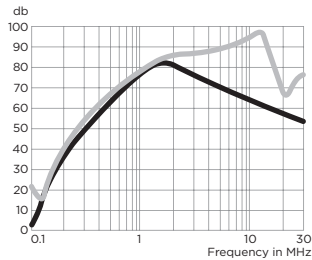
EMC Series

Performance Data

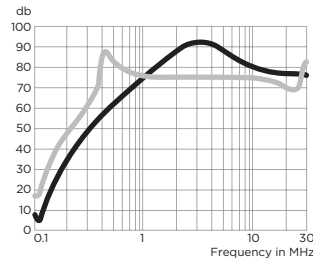
Typical Insertion Loss

Measured in closed 50 Ohm system

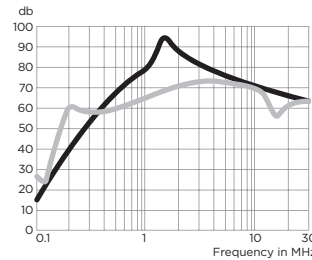
3EMC



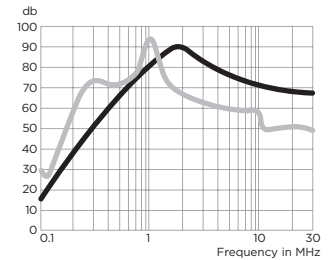
6EMC



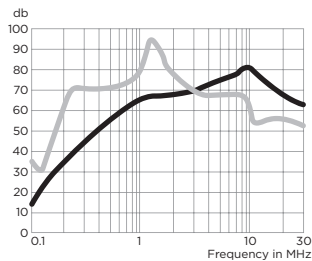
10EMC



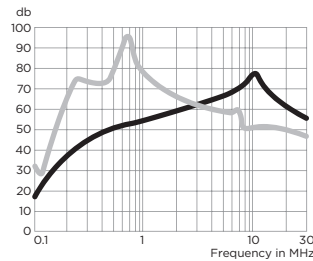
15EMC



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: 6 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_0 , HIGHER THAN 40°C, THE MAXIMUM OPERATING CURRENT, I_0 , IS AS FOLLOWS:

$$I_0 = I_r \sqrt{\frac{100 - T_0}{60}}$$

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: 1.56mH NOMINAL
CAPACITANCE: (MEASURED @ 1kHz, 0.250VAC MAX., 25°C±1°C)
LINE TO GROUND: 0.0056µF ±20%
LINE TO LINE: 1.361µF ±20%
DISCHARGE RESISTOR: 340KΩ
L/G AND L/L I.R.: 6000MΩ (MIN.) @ 100VDC, 20°C AND 50% RH

RECOMMENDED RECEIVING INSPECTION HIPOT:

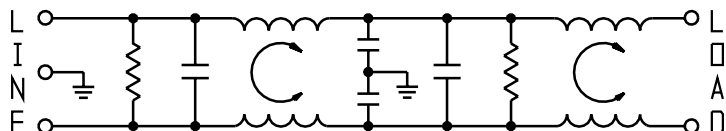
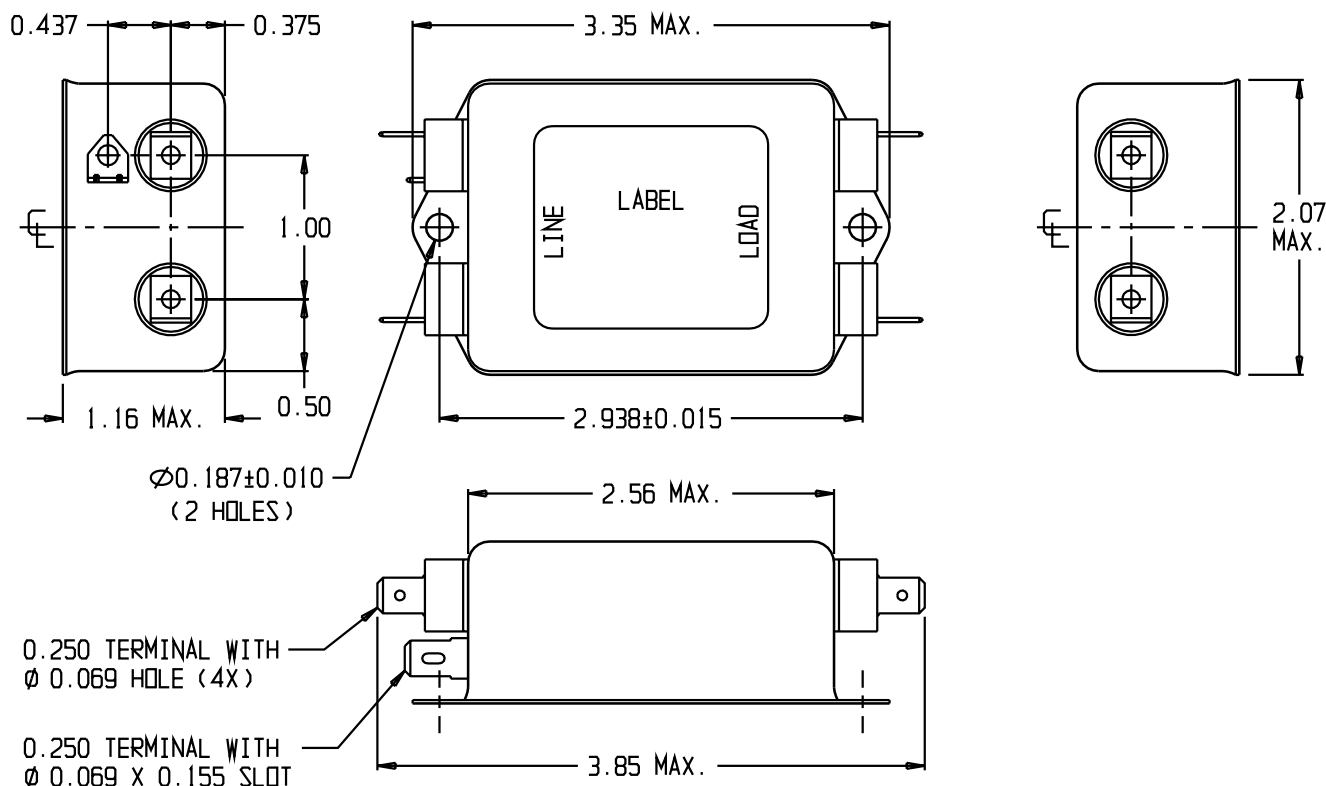
LINE TO GROUND: 1500VAC OR 2250VDC FOR 1 MINUTE
LINE TO LINE: 1450VDC FOR 1 MINUTE

FILTER APPROVAL:

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

CATALOG # 6EMC1

ECO #	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	2	15	65	67	65	62	63
DIFF. dB	6	12	12	8	27	61	61	59	56	54

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 6EMC1

TYCO: 1-6609037-2

SCALE:	DATE: 12DEC03	CATALOG NO.	REV.
DRW. BY: JF	ORIG: KAW	6EMC1	B