

3VB1 Product Details



3VB1

TE Internal Number: 6609021-5



EMI/RFI Filters and Accessories

 Always EU RoHS/ELV Compliant (Statement of Compliance)

Product Highlights:

- Filter - EMI/RFI
- Filter Type = Power Line
- B (1-30 Amp) Series
- General Purpose Application
- Mount Style = Flanged

Documentation & Additional Information

Product Drawings:

- [CUSTOMER DRAWING 3VB1](#) (PDF, English)

Catalog Pages/Data Sheets:

- [1-1654250-1_CORCOM_EMI_RFI_QRG](#) (PDF, English)
- [1654001_Corcom_Product_Guide_B_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](#) = B (1-30 Amp)
- [Filtered](#) = Yes

Electrical Characteristics:

- [Current Rating \(A\)](#) = 3
- [Voltage ≤ \(VAC\)](#) = 250
- [Leakage Current \(Line-to-Ground\) Max. @ 250 VAC 50 Hz \(mA\)](#) = 0.7
- [Leakage Current \(Line-to-Ground\) Max. @ 120 VAC 60 Hz \(mA\)](#) = 0.4

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](#) = UL Recognized, CSA Certified, VDE Approved

Conditions for Usage:

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

Operation/Application:

- [Application](#) = General Purpose

Other:

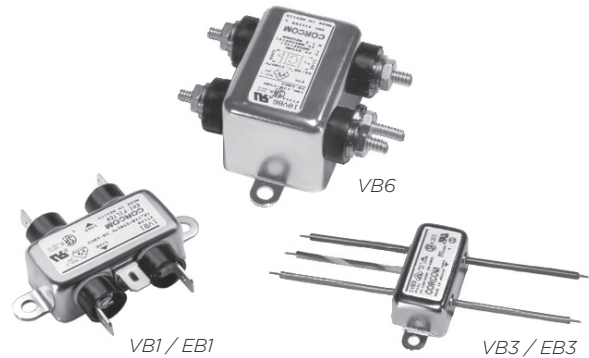
- [Brand](#) = Corcom

General Purpose RFI Filters for High Impedance Loads at Low Current

B Series



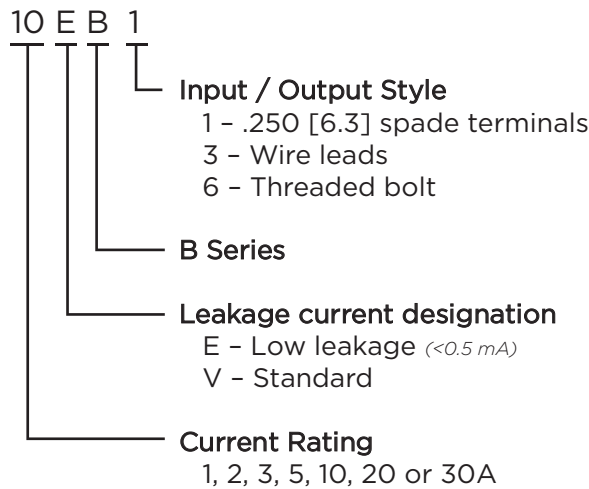
UL Recognized
CSA Certified
VDE Approved



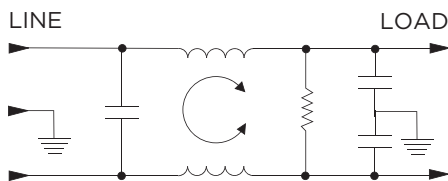
B Series

- Small size & low cost
- General purpose
- Wide variety of termination options
- Meets low leakage current requirements of VDE portable equipment and non-patient medical equipment

Ordering Information



Electrical Schematic



Specifications

Maximum leakage current each Line to Ground:

	VB Models	EB Models
@ 120 VAC 60 Hz:	.4 mA	.21 mA
@ 250 VAC 50 Hz:	.7 mA	.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 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: $I_o = I_r \sqrt{(85-T_a)/45}$

Available Part Numbers

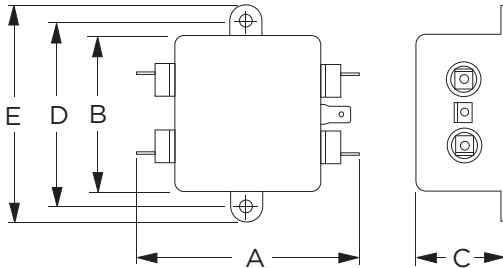
1VB1	1EB1
1VB3	1EB3
2VB1	2EB1
2VB3	2EB3
3VB1	3EB1
3VB3	3EB3
5VB1	5EB1
5VB3	5EB3
10VB1	10EB1
10VB3	10EB3
10VB6	20EB1
20VB1	
20VB6	
30VB6	

General Purpose RFI Filters for High Impedance/ Low Current *(continued)*

B Series

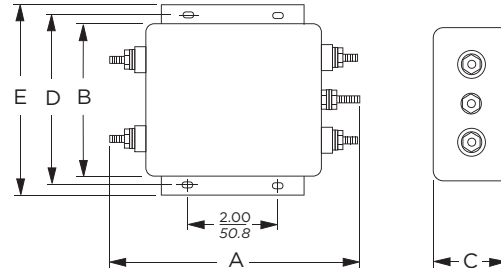
Case Styles

B1



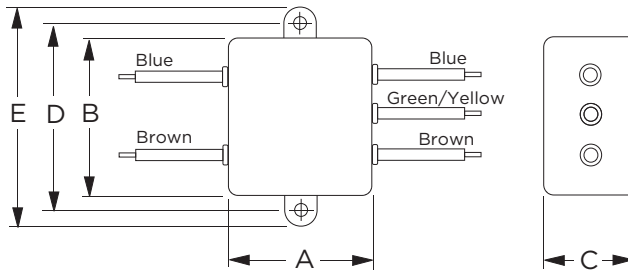
Typical Dimensions:
 Line/Load Terminals (4): .250 [6.3] with .07 [1.8] Dia. hole
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot
 Mounting Holes (2): .188 [4.75] Dia.

30VB6



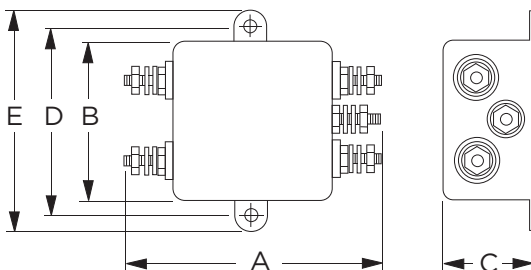
Typical Dimensions:
 Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max. ± 2 [2.2]
 Mounting Slots (4): .250 x .156 [6.35 x 3.96]

B3



Typical Dimensions:
 Wire leads (5): 4.0 [101.6] Min. AWG18, (AWG16 for 10A)
 Mounting Holes (2): .188 [4.75] Dia.

10VB6 & 20VB6



Typical Dimensions:
 Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max. ± 2 [2.2]
 Mounting Holes (4): .188 [4.75] Dia.

Case Dimensions

Part No.	A (max)	B (max)	C (max)	D $\pm .015$ $\pm .38$	E (max)
1VB1, 1EB1,	2.25	1.82	0.66	2.125	2.53
2VB1, 2EB1	57.2	46.2	16.8	53.98	64.3
1VB3, 1EB3,	0.96	1.82	0.66	2.125	2.53
2VB3, 2EB3	24.4	46.2	16.8	53.98	64.3
3VB1, 3EB1,	2.61	1.82	0.78	2.125	2.53
5VB1, 5EB1	66.3	46.2	193.8	53.98	64.3
3VB3, 3EB3,	1.32	1.82	0.78	2.125	2.53
5VB3, 5EB3	33.5	46.2	19.8	53.98	64.3
10VB1, 10EB1	2.61	1.82	1.16	2.125	2.53
	66.3	46.2	29.5	53.98	6.3
10VB3, 10EB3	1.32	1.82	1.16	2.125	2.53
	33.5	46.2	29.5	53.98	64.3
10VB6	2.72	1.82	1.16	2.125	2.53
	69.1	46.2	29.5	53.98	64.3
20VB1, 20EB1	3.36	2.07	1.16	2.375	2.81
	85.3	52.6	29.5	60.33	71.4
20VB6	3.46	2.07	1.16	2.375	2.81
	87.9	52.6	29.5	60.33	71.4
30VB6	5.34	3.38	1.53	3.75	4.20
	135.6	85.9	38.9	95.3	106.7

General Purpose RFI Filters for High Impedance/ Low Current *(continued)*

B Series

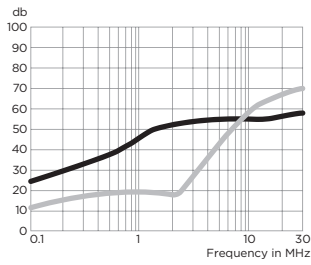
Performance Data

Typical Insertion Loss

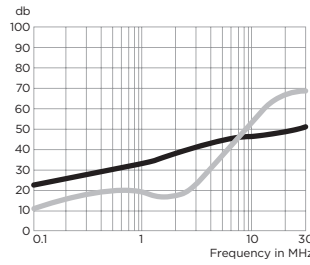
Measured in closed 50 Ohm system

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

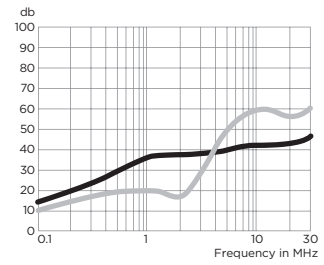
1EB & 3EB



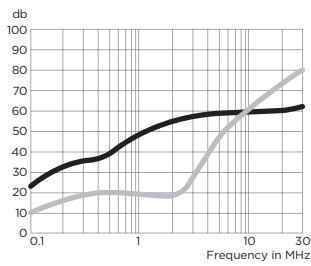
2EB, 5EB & 10EB



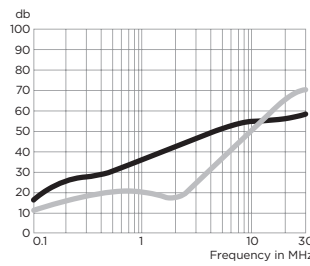
20EB



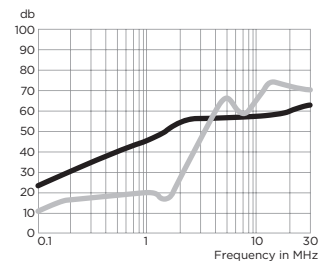
1VB



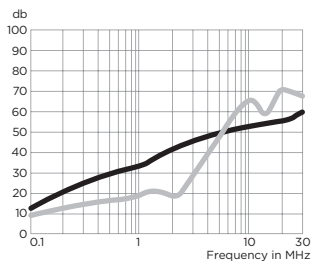
2VB



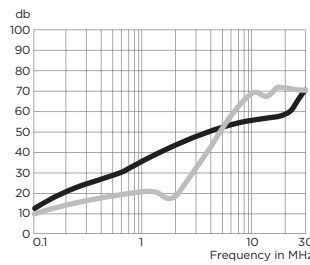
3VB



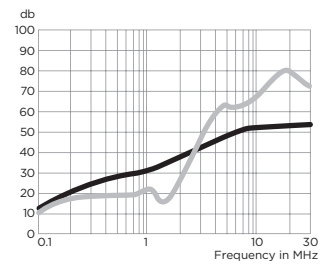
10VB



20VB



30VB



Minimum Insertion Loss

Measured in closed 50 Ohm system

Common Mode / Asymmetrical (Line to Ground)

Current Rating	Frequency – MHz					
	.15	.5	1	5	10	30
VB Models						
1A, 3A	15	30	38	50	50	50
2A, 5A, 10A, 20A, 30A	7	20	25	40	45	48
EB Models						
1A, 3A	15	29	35	45	45	48
2A, 5A, 10A, 20A	7	19	23	34	37	42

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:
 0.40mA @ 120V, 60Hz
 0.70mA @ 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: 1.76mH NOMINAL
 CAPACITANCE: (MEASURED @ 1KHz, 0.250VAC MAX., 25°C±1°C)
 LINE TO GROUND: 0.0089µF ±20%
 LINE TO LINE: 0.012µF ±20%
 DISCHARGE RESISTOR: 1.5MΩ
 L/G AND L/L I.R.
 NO DISCHARGE RESISTOR: 6000MΩ (MIN.) @ 100VDC, 20°C AND 50% RH

RECOMMENDED RECEIVING INSPECTION HIPOT:

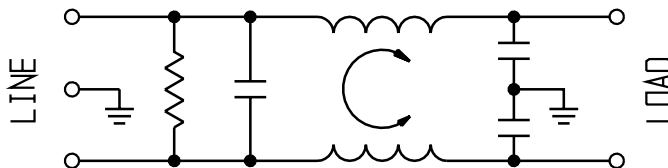
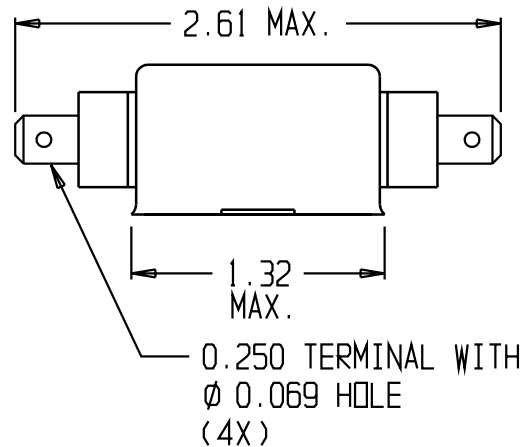
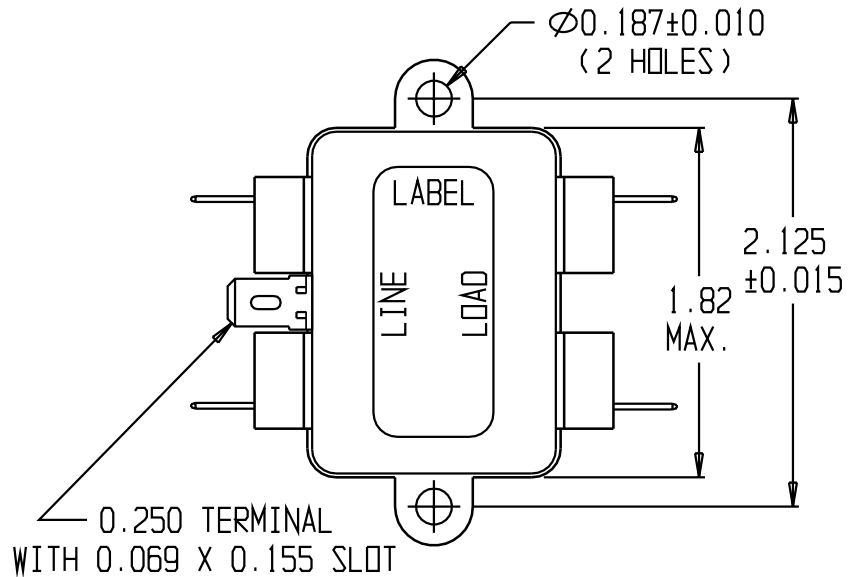
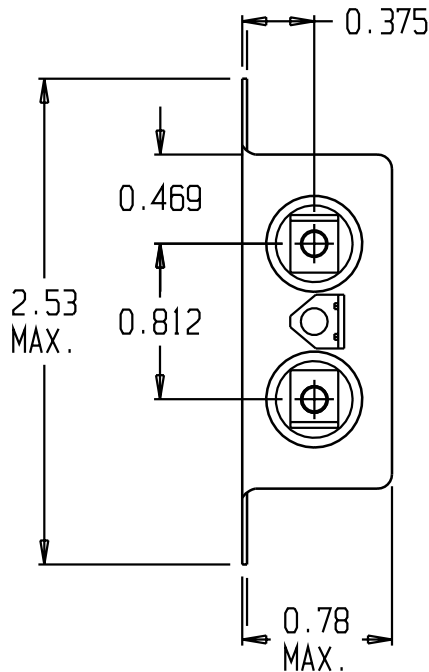
LINE TO GROUND: 1500VAC OR 2250VDC FOR 1 MINUTE
 LINE TO LINE: 1450VDC FOR 1 MINUTE

FILTER APPROVAL:

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

CATALOG # 3VB1

ECD #	APPRVD.	DATE
	KAW	30NOV06



50Ω- 50Ω (MINIMUM) INSERTION LOSS

FREQUENCY MHz	0.15	0.5	1.0	2.0	5.0	10	20	30		
COMMON dB	15	30	38	48	50	50	52	54		
DIFF. dB										

THIRD ANGLE PROJECTION

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

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 620 S. BUTTERFIELD ROAD MUNDLEIGH IL 60060

CUSTOMER DRAWING 3VB1

TYCO: 0-6609021-5
 SCALE: NTS DATE: 12SEP89 CATALOG NO. 3VB1 REV. B
 DRW. BY: JF ORIG: CW