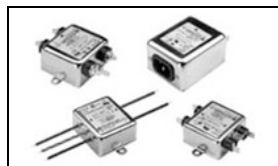


40VK6 Product Details



40VK6

TE Internal Number: 2-6609028-3



Active

EMI/RFI Filters and Accessories



Always EU RoHS/ELV Compliant (Statement of Compliance)

Product Highlights:

- Filter - EMI/RFI
- Filter Type = Power Line
- K (20-40 Amp) Series
- General Purpose Application
- Mount Style = Flanged

Documentation & Additional Information

Product Drawings:

- [CUSTOMER DRAWING 40VK6](#) (PDF, English)

Catalog Pages/Data Sheets:

- [1-1654250-1_CORCOM_EMI_RFI_QRG](#) (PDF, English)
- [1654001_CORCOM_PRODUCT_GUIDE_K_SERIES](#) (PDF, English)
- [1773449-2_CORCOM_HIGH_CURRENT](#) (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](#) = K (20-40 Amp)
- Ground Choke Option = Without
- [Filtered](#) = Yes
- [Ground Option](#) = None

Electrical Characteristics:

- [Current Rating \(A\)](#) = 40
- [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](#) = Stud - Stud

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](#) = General Purpose

Other:

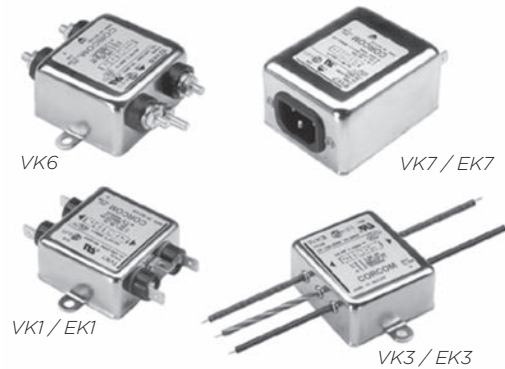
- Brand = Corcom

General Purpose RFI Power Line Filters – Ideal for High Impedance Load

K Series



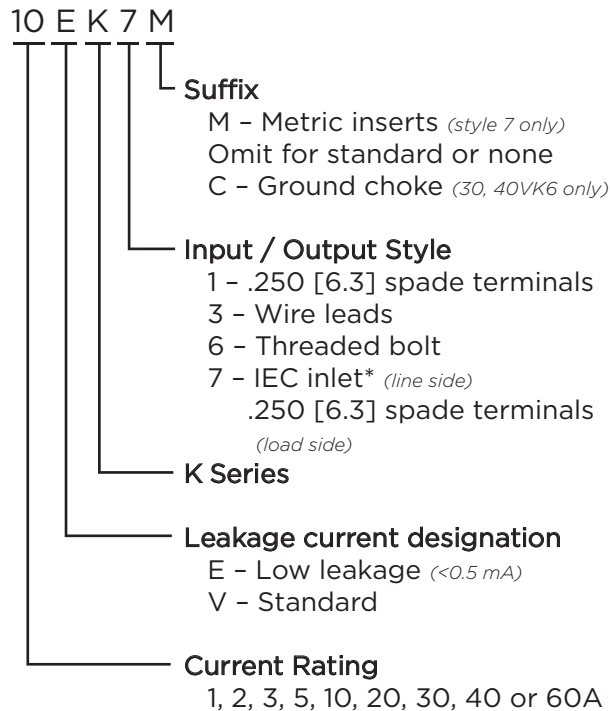
UL Recognized
CSA Certified
VDE Approved**



K Series

- Suitable for high impedance loads
- Well suited to applications where pulsed, continuous and/or intermittent RFI interference is present
- EK models meet the very low leakage current requirements for VDE portable equipment and non-patient care medical equipment
- Available with ground line inductor (choke)

Ordering Information



*1-15A: IEC 60320-1 C14 inlet mates with C13 connector
20VK7: C20 inlet mates with C19 connector

Specifications

Maximum leakage current each Line to Ground:

	VK Models	EK Models
@ 120 VAC 60 Hz:	.5 mA	.21 mA
@ 250 VAC 50 Hz:	1.0 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 60A*

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

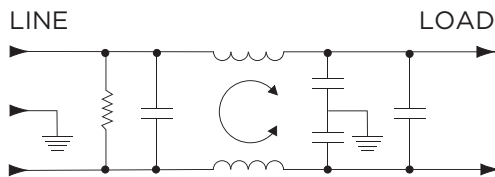
1VK1	10VK6	2EK3
1VK3	10VK7	3EK1
2VK1	10VK7M	3EK3
2VK3	20VK1	3EK7
3VK1	20VK6	3EK7M
3VK3	20VK7*	5EK1
3VK7	30VK6	5EK3
3VK7M	30VK6C	5EK7
5VK1	40VK6	5EK7M
5VK3	40VK6C	10EK1
5VK7	60VK6	10EK3
5VK7M	1EK1	10EK7
10VK1	1EK3	10EK7M
10VK3	2EK1	20EK1

**20VK7, 20A model tested by Underwriters Laboratories to US and Canadian requirements and is VDE approved at 16A, 250VAC

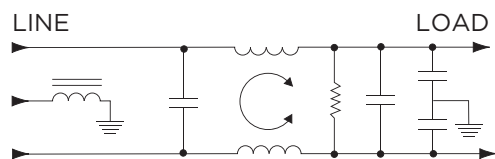
General Purpose RFI Power Line Filters *(continued)*

K Series

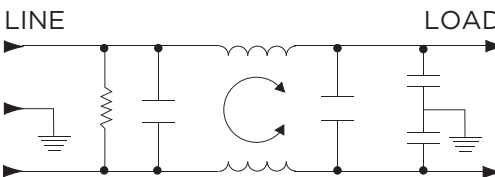
Electrical Schematics



30 & 40VK6C *(Inductor in Ground Line)*

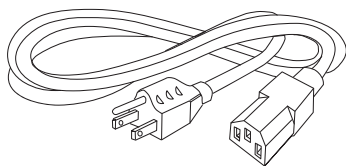


60VK6



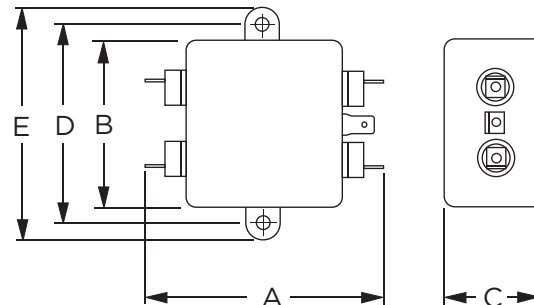
Accessories

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



Case Styles

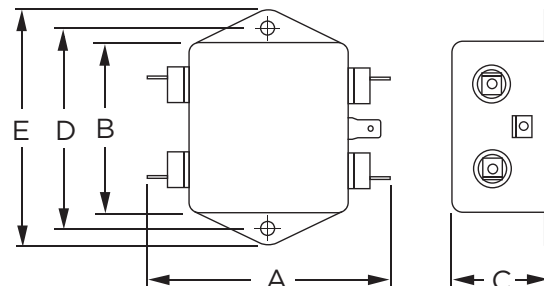
K1 (1, 2, 3, 6, 10A)



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 [4.78] Dia.

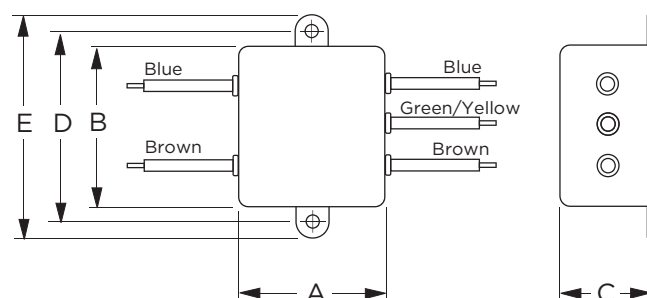
K1 (20A)



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 [4.78] Dia.

K3



Typical Dimensions:

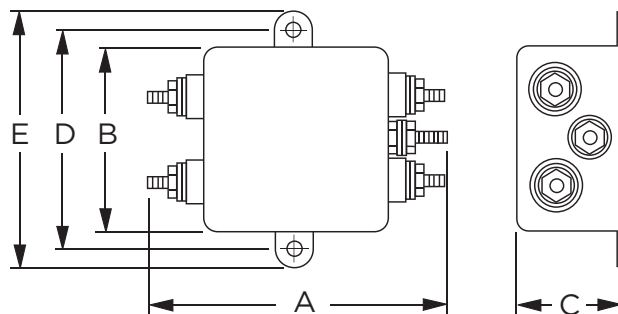
Wire Leads (5): 4.0 [101.6] Min., AWG18 (AWG16 for 10A)
Mounting Holes (2): .188 [4.78] Dia.

General Purpose RFI Power Line Filters (continued)

K Series

Case Styles (continued)

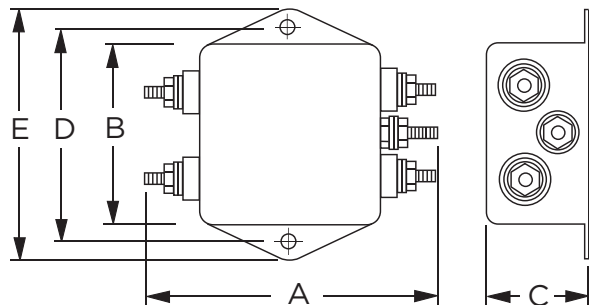
10VK6



Typical Dimensions:

Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max. ± 2 [.22]
Mounting Holes (2): .188 [4.78] Dia.

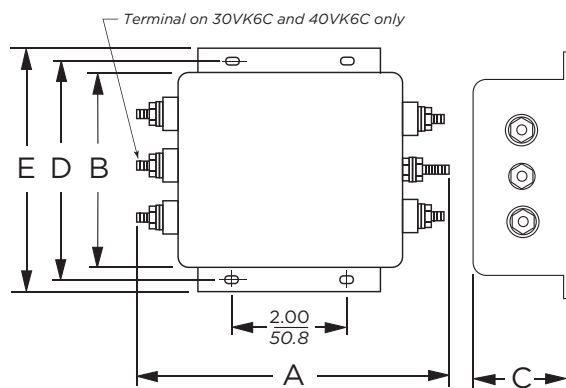
20VK6



Typical Dimensions:

Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max. ± 2 [.22]
Mounting Holes (2): .188 [4.78] Dia.

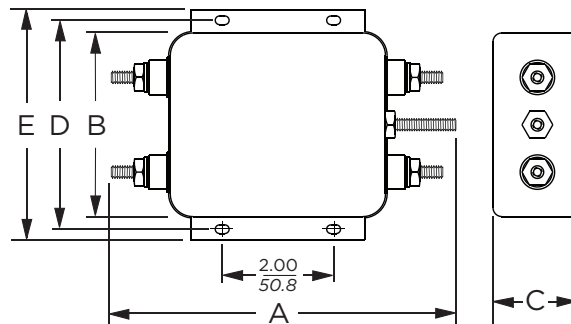
30VK6/6C & 40VK6/6C



Typical Dimensions:

Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max. ± 2 [.22]
Mounting Slots (4): .250 x .156 [6.35 x 3.96] Dia.

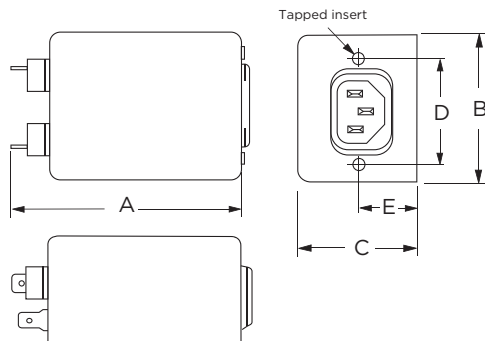
60VK6



Typical Dimensions:

Terminals (5): 1/4-20, Torque 56 lbf-in. [6.32 N-m] max. ± 2 [.22]
Mounting Slots (4): .250 x .156 [6.35 x 3.96] Dia.

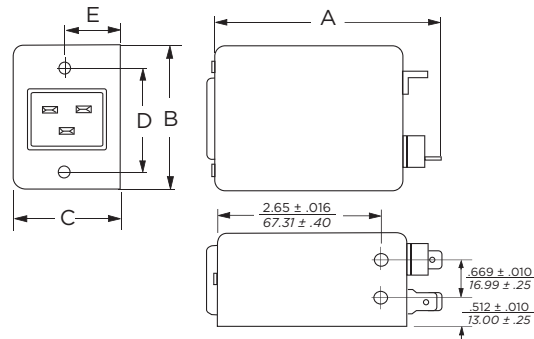
K7 & K7M (3, 5, 10A)



Typical Dimensions:

Load Terminals (2): .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
Line Inlet (1): IEC 60320-1 C14
K7 Tapped Inserts (2): 6-32 x 1/4
K7M Tapped Inserts (2): M3 x .5

20VK7



Typical Dimensions:

Load Terminals (2): .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
Line Inlet (1): IEC 60320-1 C20
K7 Tapped Inserts (2): 6-32 x 1/4
K7M Tapped Inserts (2): M3 x .5

General Purpose RFI Power Line Filters (continued)

K Series

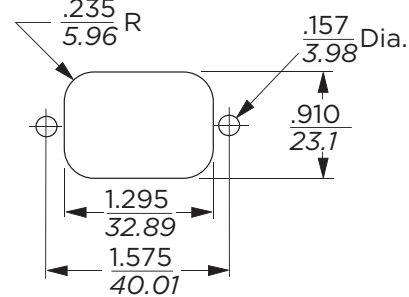
Case Dimensions

Part No.	A (max)	B (max)	C (max)	D $\pm .015$ $\pm .38$	E (max)
1VK1, 1EK1,	3.1	2.07	0.91	2.375	2.81
2VK1, 2EK1	78.7	52.6	23.1	60.33	74.1
1VK3, 1EK3,	1.81	2.07	0.91	2.375	2.81
2VK3, 2EK3	46.0	52.6	23.1	60.33	74.1
3VK1, 3EK1,	3.10	2.07	1.16	2.375	2.81
5VK1, 5EK1	78.7	52.6	29.5	60.33	74.1
3VK3, 3EK3,	1.81	2.07	1.16	2.375	2.81
5VK5, 5EK3	46.0	52.6	29.5	60.33	74.4
3VK7/7M,	3.21	2.25	1.28	1.575	0.63*
3EK7/7M	81.5	57.2	32.5	40.01	16.0*
5VK7/7M,	3.21	2.25	1.28	1.575	0.63*
5EK7/7M	81.5	57.2	32.5	40.01	16.0*
10VK1,	3.35	2.07	1.16	2.375	2.81
10EK1	85.1	52.6	29.5	60.33	71.4
10VK3,	2.07	2.07	1.16	2.375	2.81
10EK3	52.6	52.6	29.5	60.33	71.4
10VK6	3.46	2.07	1.16	2.375	2.81
	87.9	52.6	29.5	60.33	71.4
10VK7/7M,	3.71	2.25	1.28	1.575	0.63*
10EK7/7M	94.2	57.2	32.5	40.01	16.0*
20VK1,	3.35	2.56	1.53	2.938	3.35
20EK1	85.1	65.0	38.9	74.63	85.1
20VK6	3.46	2.56	1.53	2.938	3.35
	87.9	65.0	38.9	74.63	85.1
20VK7	3.8	2.28	1.78	1.575	.846*
	90.4	54.6	39.6	74.63	85.8*
30VK6,	5.34	3.38	1.53	3.75	4.20
30VK6C	135.6	85.9	38.9	95.25	106.7
40VK6,	5.34	3.38	1.53	3.75	4.20
40VK6C	135.6	85.9	38.9	95.25	106.7
60VK6	6.0	3.38	1.53	3.75	4.20
	152.4	85.9	38.9	95.25	106.7

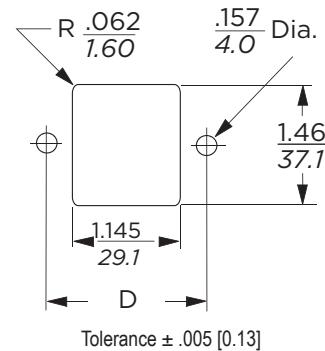
*±0.02 [0.5]
*±0.01 [0.25]

Recommended Panel Cutouts

K7 & K7M Cutout (3, 5, 10A)



20VK7 Cutout

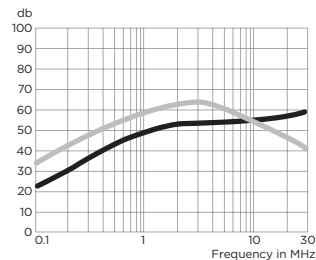


Performance Data

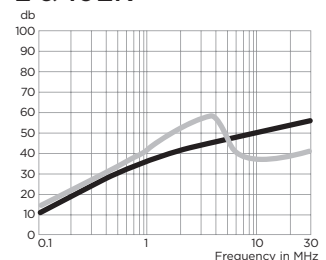
Typical Insertion Loss

Measured in closed 50 Ohm system

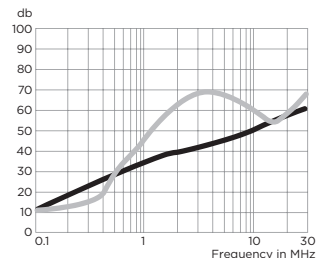
1 & 3EK



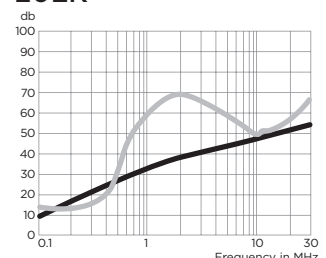
2 & 10EK



5EK



20EK



General Purpose RFI Power Line Filters *(continued)*

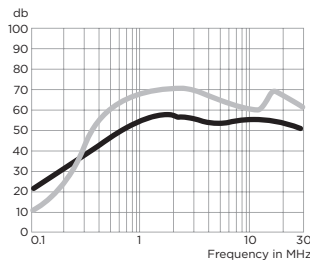
K Series

Performance Data *(continued)*

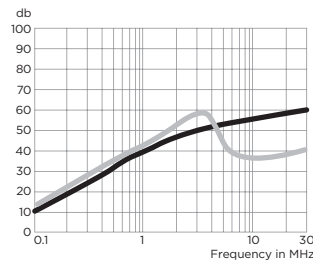
Typical Insertion Loss

Measured in closed 50 Ohm system

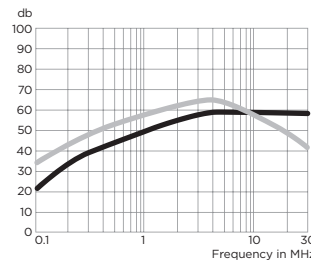
1VK



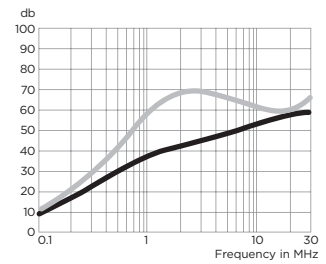
2VK



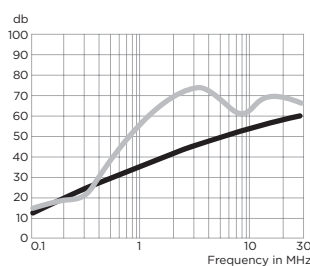
3VK



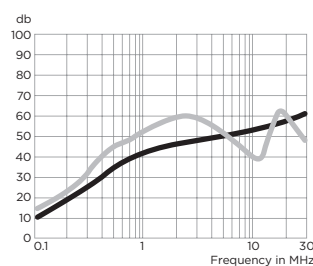
5VK



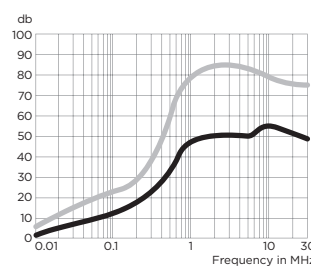
10VK



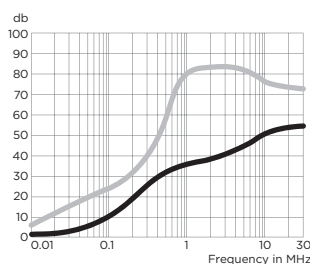
20VK



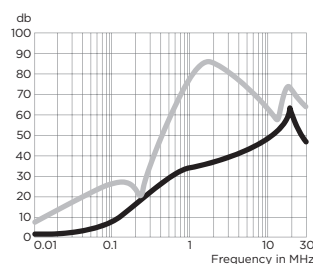
30VK & 30VK6C



40VK & 40VK6C



60VK



— 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 Rating	Frequency – MHz					
	.15	.5	1	5	10	30
VK Models						
1A, 3A	15	30	38	50	50	50
2A, 5A, 10A	6	19	28	42	45	50
20A	6	19	28	42	45	50
30A, 40A	6	19	28	42	45	50
60A	6	22	28	32	39	35
EK Models						
1A, 3A	15	29	35	45	45	50
2A, 5A, 10A	8	19	25	38	40	45
20A	8	19	25	38	40	45

Differential Mode / Symmetrical (Line to Line)

Current Rating	Frequency – MHz					
	.15	.5	1	5	10	30
VK Models						
1A, 3A	-	-	48	55	50	35
2A, 5A, 10A	-	-	30	50	30	30
20A	6	6	30	50	30	30
30A, 40A	2	40	60	65	57	55
60A	13	49	67	57	53	53
EK Models						
1A, 3A	-	-	48	55	50	35
2A, 5A, 10A	-	-	30	50	30	30
20A	6	6	30	50	30	30

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: VDE 565-3

OPERATING SPECIFICATIONS

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

LINE FREQUENCY: 50-60Hz

MAXIMUM LEAKAGE CURRENT,

EACH LINE TO GROUND: 0.40 mA @ 120V 60Hz
0.70 mA @ 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:

$$I_o = I_r \sqrt{\frac{85 - T_a}{45}}$$

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: 0.59 mH NOMINAL
CAPACITANCE: (MEASURED @ 1KHz, 0.250VAC MAX., 25°C±1°C)
LINE TO GROUND: 0.011 μ F±20%
LINE TO LINE: 0.943 μ F±20%
DISCHARGE RESISTOR: 235K Ω
L/G AND L/L I.R.:
NO DISCHARGE RESISTOR: 6000M Ω (MIN.) @ 100VDC,
20°C AND 50% RH

RECOMMENDED RECEIVING INSPECTION HIPOT:

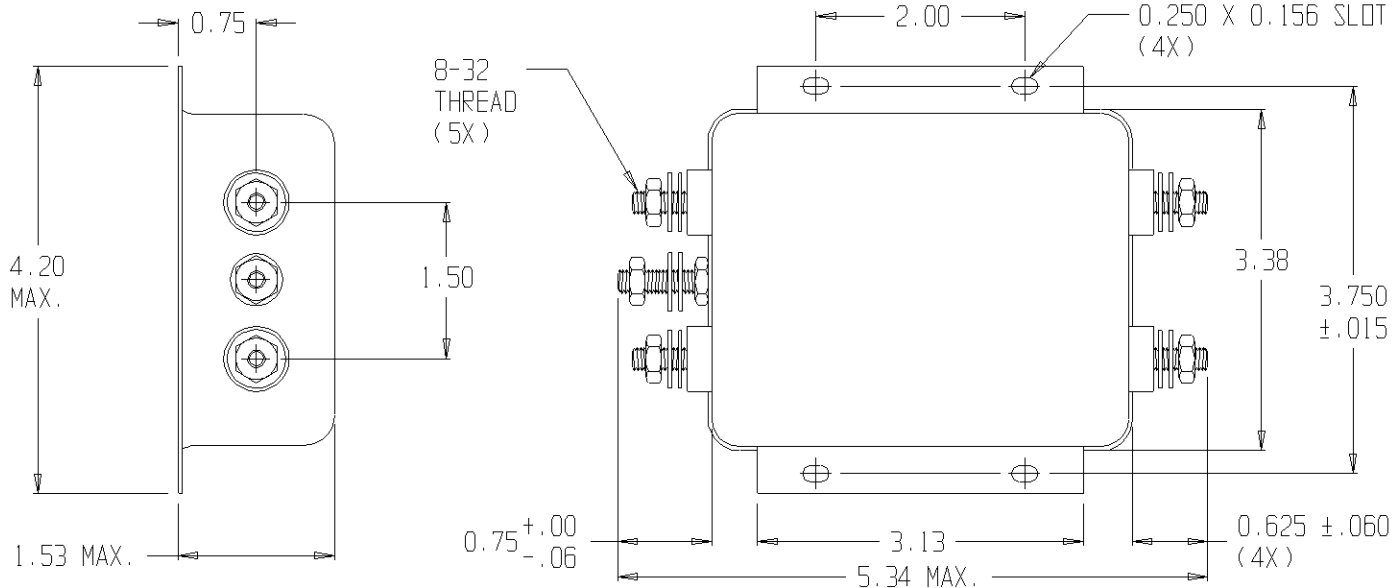
LINE TO GROUND: 1500VAC OR 2250VDC FOR 1 MINUTE
LINE TO LINE: 1450VDC FOR 1 MINUTE

FILTER APPROVAL:

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

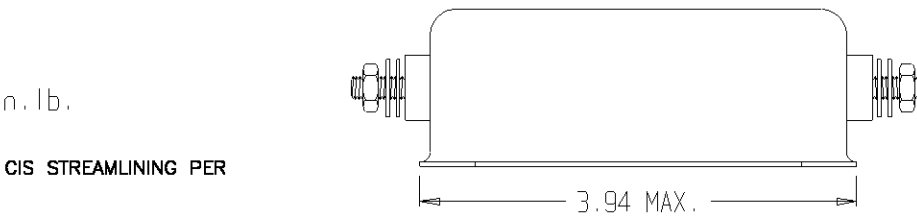
CATALOG # 40VK6

ECN #	APPRVD.	DATE
ECO-09-026495	AEG	15DEC09



NOTE:
TORQUE: 18 ± 2 in.lb.

1 OBSOLETE PARTS: OBSOLETE CIS STREAMLINING PER
D.RENAUD/D.SINISI

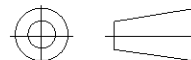


2-4609028-3 OBSOLETE
2-6609028-3

50 Ω - 50 Ω (MINIMUM) INSERTION LOSS

FREQUENCY MHz	.15	.5	1	2	5	10	20	30						
COMMON dB	9	24	29	29	39	44	44	34						
DIFF. dB	6	52	69	70	70	60	53	53						

THIRD ANGLE
PROJECTION



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

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corcom
844 E. ROCKLAND RD. LIBERTYVILLE IL 60048

POWER LINE FILTER

CAD FILE: G:\CD\40VK600	A
SCALE: NTS	REV.
DATE: 10/10/97	
DRW. BY: JF	
ORIG: KAW	
CATALOG NO. 40VK6	A1