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DESCRIPTION

PRODUCT COVERED:

\* USR, CNR Component - Appliance Filters, Model Series CE, KFA, FKG, FKH, FKI, KFC, KFB1, KFB2, FKHD, FKID, CG and CD.

\* USR, Component - Appliance Filter, Model FKAK-0100-0640.

GENERAL:

These devices are Electromagnetic Interference (EMI) Filters intended to be factory-installed as a component part of end-use appliances or equipment connected to (supplied by) the branch circuits of a building wiring system. They are provided with metal housing and terminals for factory wiring. The current detailed below is the maximum rated at a maximum ambient temperature rating.

ELECTRICAL RATINGS:

Models	Voltage Rating (V ac)	Current Rating (A)	Phase	Frequency (Hz)	<b>Cold to</b> Maximum Ambient Temp (°C)
CE, KFA, FKG, FKH, FKI, KFC, KFB1, KFB2, FKHD, FKID, CG and CD Series	125/250	1, 2, 3, 4, 6 or 10 A (See Nomenclature breakdown and Ills 1-10)	1	50/60	<b>0 to</b> 40
FKAK-0100-0640	125/250	6	1	50/60	40

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE'S USE):

USR indicates the filters have been evaluated to the Standard for Electromagnetic Interference Filters, UL 1283, Sixth Edition.

CNR indicates investigation to the requirements of the Canadian Standard for Electromagnetic Interference (EMI) Filters, CSA C22.2 No. 8-13, Fifth Edition.

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CONDITIONS OF ACCEPTABILITY:

General - The components covered by this Report are Component Appliance Electromagnetic Interference Filters intended to be used in the end-use product where the acceptability of the combination with the end-use product has been determined by UL LLC.

The following items should be considered in the end use product engineering evaluation.

- 1. The filters should be provided with an overall enclosure suitable for the applicable end-product requirements.
- 2. The filter shall be installed in compliance with the mounting, terminal, spacing and segregation requirements of the end use application.
- 3. The terminals have not been evaluated for field wiring. The acceptability of the grounding terminal should be determined in the end use application.
- 4. Appliance filters inherently have high leakage currents. Leakage current measurements in the end use application should be considered for compliance with the end use application requirements.
- 5. The suitability of the grounding means in conjunction with the filter shall be evaluated in the end-use application.
- 6. The components were submitted and evaluated at a maximum manufacturer's recommended ambient as indicated in the Electrical Ratings Table. The need for additional testing if these devices are used above this rating shall be considered in the end-use application.
- 7. The Abnormal Operation/Limited Short Circuit Test (UL 1283, Cl. 32; CSA C22.2 No. 8, Cl. 6.14) was performed on the following models using a short circuit current and fuse rating as indicated below.

Model	Represented Models	Test Current, A	Fuse rating, A		
*KFA	All FKE Models	2000	15		
*FKH	All FKH Models	2000	15		
KFB1	All <b>KFB1</b> Models	2000	15		
FKAK-0100-0640	-	1000	15		

8. Fuses are not provided with component. The acceptability of the fuse must be determined in the end-product.

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#### CONDITIONS OF ACCEPTABILITY (cont'd):

- 9. See nomenclature for constructional features such as:
  - Switched or un-switched, number of poles switched
  - Fused or un-fused, number of poles fused
  - Voltage selector switch provided
  - X or Y cap provided
- 10. For all 10 A version models the following conditions should be met.
  - a. The marking "Use only with 250 volt fuses" must appear adjacent to the device in the end-use equipment.
  - b. The wiring of the fuseholder shall be such that it is in the ungrounded circuit of the end-use equipment.
  - c. The marking "Disconnect power before replacing fuses" or equivalent wording must be supplied adjacent to the device in the end-use equipment.
  - d. If the end-use application requirements prohibit the use of fuses in both lines leads, only devices incorporating single-pole fuseholders are to be used.

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MODEI	L NO	MENC	LATUR	<u>e kfa</u> :											
KFA	-	Х	Х	Х	Х	X	-	X	Х	X	Х	X	-	X	XX
I		II	III	IV	V	VI		VII	VIII	IX	Х	XI		XII	XIII
I	-	Mo KF.		esigna	ition										
II	-	Fu: 1 2 3 4	se dr. = = = =	2-pol 1-pol	.e wit .e wit .e wit	hout h Vo	: Vo olta	ltage ge Se	Selec lector	tor (fo tor (fo (forme (forme	ormer er FKV	FKF) 7)			
III	-	Ra 1 2 3 4 5 7	ted C = = = = = =	urrent 1 A 2 A 3 A 4 A 6 A 10 A											
IV	-	Те 1 2	ermina = =	al L/N Quick Flexi	. Conr		6.3	x 0.	8						
V	-	Te 0 1 2 3	ermina = = = =	Flexi	Conr ble w	nect vire	6.3 wit	x 0. h add	itiona	l Quick onal PE				x 0.	8
VI	-	Те 0 1	ermina = =	Withc	ut Te	ermir	nal :	SiHa (	A and and VS 8						
VII	-	0	=	al SiH Withc A: Sc A: Sc	out Te older	ermir - B:	nal : Sol	lder	A and	В					
VIII	-	1	=	citor X2, 6 X2, 1 <b>X2, 3</b>	.00 nE										
IX	- Y	-Cap 0 1 2 <b>3</b> 4	= = =	Witho Y2, 2 Y1, 0 <b>Y1</b> , 3	2.2 nH 0.47 r 8. <b>3 nH</b>	ıF F	acit	or							

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MODEL NOMENCLATURE KFA (CONT'D):

X - Resistor 0 = Without resistor 1 = 1 MOhm

\*

- PE-Choke XI 0 = Without PE-Choke 1 = 0.15 mH (10 A)2 = 0.6 mH (1 A - 6 A)3 = 0.15 mH, short housing 4 = 0.6 mH (1 A - 6 A), short housing XII - Mounting 1 = Screw front 2 = Screw rear 3 = Snap-in front XIII - Customer specific type 00 = Standard 01...ZZ = Customer specific (e.g. packaging, wire length, etc.)

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# MODEL NOMENCLATURE CE:

CE	-	x	x	x	x	x	-	x	x	x	x	-	x	x	x	-	xx
I		II	III	IV	v	VI		VII	VIII	IX	x		XI	XII	XIII		XIV
I	I - Model Designation CE																
II	<pre>II - Fuse drawer types     1 = 1-pole (former FKA)     2 = 2-pole (former FKB)</pre>																
III	III - Rated current  1 = 1 A  2 = 2 A  4 = 4 A  5 = 6 A  7 = 10 A																
IV	<pre>IV - Terminal L 1 = Quick Connect 4.8 x 0.8 2 = Connection</pre>																
v	-							4.8	x 0.8								
VI	-		- Tern 1 =			Conn	ect	4.8	ĸ 0.8								
VII	-		ninal 1 =				ect	4.8	ĸ 0.8								
VIII	- 1		apacit 1 =	tor X2	, 68	nF											
IX	-		apacit 0 = 1 = 2 =	Wi Y2	, 2.	2 nF		acito	r								
х	-		lstor 0 = 1 =		thou MOhm		sist	tor									
XI	-		Choke 0 =	wi	thou	t PE	-Ch	oke									
<b>XII</b> *	-		nting 1 =	Sc	rew	fron	t										

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## MODEL NOMENCLATURE CE (CONT'D):

\*

01...ZZ = Customer specific (e.g. packaging, etc.)

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\*

KFB1	-	х	X	х	х	-	x	x	X VIII	х	-	х	xx
I		II	III	IV	v		VI	VII	VIII	IX		х	XI
	- Мо	del	Desig	natio	n								
	KF	в1											
II -	- Ra	ted	curre	nt									
			1 A										
			2 A										
			4 A										
			6 A 10 A										
	'	-	10 A										
III -			citor										
	1	=	X2,	68 nF									
IV -	- v-(	Cana	citor										
_ •				out Y-	Capad	cito	r						
				2.2 nF									
v -	- Re			out Re									
	0	=	With	out Re	SIST	Dr							
vi -	- Ro	cker	-swit	ch									
	1	=	1 po	le non	-illu	ımina	ated	ΟΙ					
VII	_	<b></b>	ninal	т /м									
VII				c Conn	ect (	6.3 3	κ Ο.	8					
	_		2					-					
VIII -													
				out Te				•					
	1	=	Quic	c Conn	ect (	5.3 1	к 0.	8					
IX - M	lount	ing											
	0	=	Scre	v									
X – Co	-												
	U	=	Blac	c									
xı – c	ust	mer	speci	fic t	ype								
	00	=	Stand	dard									
~ ~ ~		_	Custo			<b>-</b> -	,				•		

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## MODEL NOMENCLATURE FKG:

FKG	-	х	х	х	-	х	х	х	х	-	xx
I		II	III	IV		v	VI	VII	VIII		IX

- I Model Designation FKG II - Rated Current 1 = 1 A 2 = 2 A 4 = 4 A 5 = 6 A 7 = 10 A
- III Switch
   0 = Without Switch
   1 = Non-illuminated O I
- IV Fusedrawer marking
  3 = Blind cover without marking
- V X-Capacitor 1 = X2, 68 nF
- VI Y-Capacitor 0 = Without Y-Capacitor 1 = Y2, 2.2 nF
- VII Resistor 0 = Without Resistor 1 = 1 MOhm
- VIII Filter case material 1 = Steel 2 = Aluminum
- \*

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## MODEL NOMENCLATURE FKH:

\*

FKH	_	x	x	х	-	х	х	x	X VIII	_	xx
I		II	III	IV		v	VI	VII	VIII		IX
I	- Mo FK		Desig	natior	ı						
	FL	л									
II -	Rat	ted (	Curre	nt							
	1	=	1 A								
	2	=	2 A 4 A								
	5	=	6 A 10 A								
	/	=	10 A								
III -	- Swi	itch									
	0	=	With	out Sw	itch	L					
	1	=	Non-	illumi	nate	d O	I				
	_										
IV -				markin	-	<b>b</b>	<b>1</b>		<b>b</b> = ± ± =		
	2	=	Text	legib	le,	wher	i inio	et on	bottom	L	
	2	-	IEXC	regro	ite,	witer	1 1111		cop		
v -			citor								
	1	=	Х2,	68 nF							
vi -	. v_(		-:+~~								
VI -				out Y-	Cana	cito	r				
	1	=	¥2.	2.2 nF	' '						
				0.47 n							
VII -											
				out Re	sist	or					
	1	=	1 MO	hm							
VIII -	- Fil	lter	case	mater	ial						
			Stee								
	2	=	Alum	inum							
IX -	- Cus			ecific		е					
				tandar ustome					<b>_</b> -		

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MODEL NOMENCLATURE FKI:

							Х	
I	II	III	IV	V	VI	VII	VIII	IX

I - Model Designation FKI

ΙI - Rated Current

- 1 = 1 A $\begin{array}{cccc}
  1 & 1 & 1 \\
  2 & = & 2 & A \\
  4 & = & 4 & A
  \end{array}$
- 5 = 6 A
- 7 = 10 A

# III - Switch

- 0 = Without Switch
- 1 = Non-illuminated O I 2 = Non-illuminated O -
- IV - Fusedrawer marking 1 = Text legible, when inlet on bottom 2 = Text legible, when inlet on top
- V - X-Capacitor 1 = X2, 68 nF

#### - Y-Capacitor VI 0 = Without Y-Capacitor 1 = Y2, 2.2 nF2 = Y1, 0.47 nF

- VII Resistor 0 = Without Resistor 1 = 1 MOhm
- VIII Filter case material 1 = Steel 2 = Aluminum
- Customer specific type IΧ 00 = Standard 01...ZZ = Customer specific (e.g. packaging, etc.)

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## MODEL NOMENCLATURE FKHD:

FKHD	-	х	х	х	-	х	x	х	х	-	х	х	xx
I		II	III	IV		v	VI	VII	VIII		IX	х	XI

- Model Designation Ι FKHD - Rated current II 1 = 1 A2 = 2 A4 = 4 A5 = 6 A7 = 10 AIII - Switch 0 = Without Switch 1 = Non-illuminated O I IV - Fusedrawer marking 1 = Text legible, when inlet on top 2 = Text legible, when inlet on bottom v - X-Capacitor 1-stage 1 = X2, 68 nFVI - Y-Capacitor 1-stage 0 = Without Y-Capacitor 1 = Y2, 1.5 nF2 = Y1, 0.47 nFVII - X-Capacitor 2-stage 1 = X2, 68 nFVIII - Y-Capacitor 2-stage 0 = Without Y-Capacitor 1 = Y2, 1.0 nF2 = Y1, 0.47 nFIX - Resistor 0 = Without Resistor 1 = 1 MOhmх - Filter case material 1 = Steel 2 = Aluminum - Customer specific type XI 00 = Standard 01...ZZ = Customer specific (e.g. packaging, etc.) \*

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## MODEL NOMENCLATURE FKID:

FKID	-	x	x	x	-	x	x	x	x	-	x	x	x	x
I		II	III	IV		v	VI	VII	VIII		IX	x	XI	XII
	I	I	I	I	I	I	I	I	I	1		I	I	I
_														
I -	- мо FK		Desig	nation	n									
		10												
II -			curre	nt										
			1 A											
			2 A 4 A											
			6 A											
	7	=	10 A											
III -	Swit	ch												
			With	out Sw	ritch	1								
	1	=	Non-	illumi	nate	d O	I							
<b>T17</b>	<b>D</b> -				-									
IV -		seara		markin legib		whon	inl	et on	top					
	2								botto	m				
				_										
v -				1-sta	.ge									
	1	=	X2,	68 nF										
vi -	Y-C	apad	citor	1-sta	ge									
	0	=	with	out										
				1.5 nF										
	2	=	Y1,	0.47 n	ıF									
VII -	x-c	Capad	citor	2-sta	ge									
				68 nF	-									
		_		<b>.</b> .										
VIII -				2-sta out Y-		aita	r							
				1.0 nF			-							
	2			0.47 n										
	-													
IX -	Res 0	sisto =		out Re	ei et	or								
	1				:5150	.01								
	_													
х –				mater	ial									
	1 2	=	Stee											
	2	=	Alum	inum										
XI -	Mou	intii	ng Ac	cessor	ies									
	0	=	With	out Mc	ounti				s					
-1-	1	=	With	Mount	ing	Acce	ssor	ies						
*														

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## MODEL NOMENCLATURE FKID (CONT'D):

XII	- Custom	ner	specific	t	ype			
	0	=	Standar	d				
	1Z	=	Custome	er	specific	(e.g.	packaging,	etc.)

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MODE	LÌ	NOME	ENCLA	TURE	CD	:													
CD -	-	Х	X	Х	Х	Х	-	Х	Х	Х	Х	Х	-	X	Х	X	-	Х	Х
I		II	III	IV	V	VI		VII	VIII	IX	Х	XI		XII	XIII	XIV		XV	X
I	_	Mo CD	del I	esic	mat	ion													
II	-	Fus 1 2 3 4	= =	1-po 2-po 1-po	le le le	with with with	nout n vo	t vol <sup>.</sup> oltage	tage s tage s e sele e sele	elec ctor	tor (f	(fo orme	rme r E	er FK: FKSU)					
III	_	Rat 1 2 4 5 7	= = =	urre 1 A 2 A 4 A 6 A 10 A	-														
IV	_	Te: 1 2					ect	4.8	x 0.8										
V	_	Te: 1 2					ect	4.8 :	x 0.8										
VI	_	IV 1	- Te =				ect	4.8 :	x 0.8										
VII	_	1		L: C	onn	ecti			Quick Conne			t 4.	8 >	x 0.8					
VIII	_	1		Quic	k C	onne	ect		x 0.8 x 0.8										
IX	-		Capac =			nF													
Х	_	0 1 2	Capac = = = <b>=</b>	With Y2, Y1,	2.2 0.4	nF 7 nF		acito	r										
XI	_	0	sisto = =	With		Res	sist	or											

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MODEL NOMENCLATURE CD:

XII - PE-Choke 0 = Without PE-Choke

XIII - Mounting 1 = Screw front

XIV - Voltage selector
\* 0 = Without Voltage Selector
\* 3 = VS 3-position
\* 4 = VS 4-position

- \*
- XV Switch 0 = Without Switch 1 = non-illuminated O I 2 = illuminated red 3 = illuminated green 4 = for remote control (Bowden) 5 = for remote control

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MODEL NOMENCLATURE CG:

CG	-	Х	Х	X	Х	Х	-	Х	X	Х	Х	-	Х	Х	X	Х	-	Х	XX
I		II	III	IV	V	VI		VII	VIII	IX	Х		XI	XII	XIII	XIV		XV	XV
I	_	Mo CG	del I	Desig	gnat	ion													
II	-	1		1-po	le	(for		FKSZ FKSI											
III	_	1 2 4 5	ted C = = = =	1 A 2 A 4 A 6 A															
IV	_						ct	4.8 2	x 0.8										
V	_	1	rmina = =	Quic			ct	4.8 2	x 0.8										
VI	-		- Te =				ct	4.8 2	x 0.8										
VII	_	1		L: C	onn	ecti			Quick Conne			t 4	.8 x	c 0.8					
VIII	_		cmina =					4.8 2	x 0.8	- A	&В	Со	nnec	ction					
IX	_		Capac =			nF													
Х	_	0 1	Capac = = =	With Y2,	out 2.2	nF													
XI	_	0	sisto = =	With		Res	ist	or											
XII	_		-Chok =		out	PE-	Chc	ke											

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MODEL NOMENCLATURE CG (CONT'D):

- XIII Mounting 1 = Screw front
- XIV Locking System 0 = Without Locking System 1 = V-Lock
- Switch XV
  - 0 = Without Switch
  - 1 = Non-illuminated O I

  - 2 = Illuminated red 3 = Illuminated green
  - 4 = for remote control (Bowden)
  - 5 = for remote control
- XVI Customer specific type 00 = Standard 01...ZZ = Customer specific (e.g. packaging, etc.)

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MODEL	NOMENCLATURE	KFB2:

KFB2	-	X	X	Х	Х	-	X	X	Х	X	-	X	XX
I		II	III	IV	V		VI	VII	VIII	IX		Х	XI
I		odel 7B2	Desig	natior	1								
II	1 2 4 5	= = =	Curren 1 A 2 A 4 A 6 A 10 A										
III			citor X2,										
IV	0 1	= =	Y2,	out Y- 2.2 nF 0.47 n		cito	ſ						
V				out Re hm	sisto	or							
VI		=		ch le non le ill					I				
VII	- Te 1		al L/ Quic	N k Conn	ect 6	5.3 2	ĸ 0.	8					
VIII		=		out Te k Conn				8					
IX	— Мс 0	unti =	ng Scre	W									
Х	- Cc 0		Blac	k									
XI		00	= S	ecific tandar ustome	d		ic (	e.g.	packag	ing, et	c.)		

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KFC	-	X	X	Х	Х	-	X	X	Х	Х	-	Х	X	Х	Х	-	XX
I		II	III	IV	V		VI	VII	VIII	IX		Х	XI	XII	XIII		XIV
I	-	Mode KFC	el Des	signat	cion												
II	_	1 = 2 = 3 =	= 2- = 1-	pole pole pole	with with with	out Vo	Vol ltag	tage e Sel	Select Select ector ector	or (f. (form	orme er 1	er F FKQ)					
III	-	1 = 2 = 4 = 5 =	d cur = 1 = 2 = 4 = 6 = 10	A A A A													
IV	_		inal : = Qu		onne	ct	4.8	x 0.8	3								
V	_	Term 1 =	inal = Qu	PE ick C	onne	ct	4.8	x 0.8	1								
VI			inal = Qu						A and	B)							
VII	_ 1		pacit = X2	or , 68	nF												
VIII	- 0 1 2	=	= Y2	or thout , 2.2 , 0.4	nF												
IX	0	=	stor = Wi = 1	thout	Res	ist	or										
Х		PE-C	hoke = Wi	thout	PE-	Cho	ke										
XI		Moun =	ting = Sc	rew f	ront												
XII	0	=	ing Sj = Wi = V-	thout		kin	g Sy	stem									

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MODEL NOMENCLATURE KFC (CONT'D):

XIII - Voltage Selector 0 = Without Voltage Selector 3 = VS 3-position 4 = VS 4-position

XIV - Customer specific type 00 = Standard 01...ZZ = Customer specific (e.g. packaging, etc.)