

**ENERGY AND AUTOMATION** 

CONTACTOR FOR POWER FACTOR CORRECTION WITH AC CONTROL CIRCUIT, BFK TYPE electric (INCLUDING LIMITING RESISTORS), MAXIMUM IEC OPERATIONAL POWER 400V = 40KVAR, COIL 460VAC 60HZ

Product type designation	Product designation			Power contactor
Number of poles				BFK50
Rated insulation voltage Ui IEC/EN         V         690           Rated impulse withstand voltage Uimp         kV         8           Operational frequency         min         Hz         25           max         Hz         400         400           IEC Conventional free air thermal current Ith         A         90           Rated operational power AC-6b (T≤40°C)         230V         kvar         22           400V         kvar         40         400           440 480V         kvar         46           Short-time allowable current for 10s (IEC/EN60947-1)         A         400           Protection fuse         gG (IEC)         A         80           Making capacity (RMS value)         A         500           Breaking capacity (RMS value)         A         500           Breaking capacity at voltage         440V         A         400           Breaking capacity (RMS value)         A         300         A         350           Breaking capacity at voltage         440V         A         400         A         360           Breaking capacity (RMS value)         Max         MD         8         4         500         A         362         690V         A <t< td=""><td>· · · ·</td><td></td><td></td><td></td></t<>	· · · ·			
Rated impulse withstand voltage Uimp	Number of poles		Nr.	3
Protectional frequency	Rated insulation voltage Ui IEC/EN		V	690
Max   Hz   25 max   Hz   400     EC Conventional free air thermal current Ith   A   90     Rated operational power AC-6b (T≤40°C)     Rated operationa	Rated impulse withstand voltage Uimp		kV	8
Max	Operational frequency			
EC Conventional free air thermal current lth Rated operational power AC-6b (T≤40°C)   230V kvar   40   440V kvar   40   440V kvar   40   440V kvar   46   440V kvar   46   440V kvar   46   46   46   46   46   46   46   4		min	Hz	25
Rated operational power AC-6b (T≤40°C)         230V kvar 40 440 480V kvar 40 440 480V kvar 46           Short-time allowable current for 10s (IEC/EN60947-1)         A 400           Protection fuse         gG (IEC) A 80           Making capacity (RMS value)         A 500           Breaking capacity at voltage         440V A 400 500V A 352 6890V A 3112           Resistance per pole (average value)         mΩ 0.8           Power dissipation per pole (average value)         mn 0 0.8           Tightening torque for terminals         min bin 2.95 max 1bin 2.95 max 1bin 2.95 max 1bin Prodotti finiti max 1bin Pr		max	Hz	400
Part	IEC Conventional free air thermal current Ith		Α	90
Main	Rated operational power AC-6b (T≤40°C)			
Making capacity (RMS value)   A 000		230V	kvar	22
Short-time allowable current for 10s (IEC/EN60947-1)		400V	kvar	40
Short-time allowable current for 10s (IEC/EN60947-1)		440480V	kvar	41
Protection fuse   gG (IEC)   A   80		690V	kvar	46
Making capacity (RMS value)	Short-time allowable current for 10s (IEC/EN60947-1)		Α	400
Making capacity (RMS value)         A         500           Breaking capacity at voltage         440V A         A 400 500V A 352 690V A 312           Resistance per pole (average value)         m0 0.8           Power dissipation per pole (average value)         Ith W 6.5           Tightening torque for terminals         min bin kmx kmx km         5 min bin kmx kmx           Tightening torque for coil terminal         min kmx kmx         Nm 5 min kmx         10 min kmx           Tightening torque for coil terminal         min kmx         Nm 0.8 min kmx         1 min kmx	Protection fuse			
Reaking capacity at voltage		gG (IEC)	Α	80
A 440V	Making capacity (RMS value)		Α	500
Sout	Breaking capacity at voltage			
Resistance per pole (average value)   mΩ   0.8		440V	Α	400
Resistance per pole (average value)   mΩ   0.8		500V	Α	352
Power dissipation per pole (average value)		690V	Α	312
Tightening torque for terminals    min	Resistance per pole (average value)		mΩ	0.8
Tightening torque for terminals    min	Power dissipation per pole (average value)			_
Min   Nm   4   Max   Nm   5   Min   Ibin   2.95   Min   Ibin   2.95   Min   Ibin   3.69		Ith	W	6.5
Max   Nm   5   5   5   5   5   5   5   5   5	Tightening torque for terminals			
Min		min	Nm	4
Tightening torque for coil terminal		max	Nm	5
Tightening torque for coil terminal    min   Nm   0.8   max   Nm   1   min   Ibin   Prodotti finiti   max   Ibin   Prodotti finiti   Max number of wires simultaneously connectable   Nr.   2		min	Ibin	2.95
Max number of wires simultaneously connectable   Min   Nin		max	Ibin	3.69
Max number of wires simultaneously connectable   Nr.   2	Tightening torque for coil terminal			
Max number of wires simultaneously connectable         Nr.         2           Conductor section         min max         mm² 1.5           Flexible w/o lug conductor section         min max         mm² 35           Flexible c/w lug conductor section         min mm² mm² 1.5         1.5           Flexible c/w lug conductor section         min max         mm² 35           Power terminal protection according to IEC/EN 60529         IP20 front           Mechanical features         IP20 front           Operating position         normal allowable ± 30°           Fixing         Screw / DIN rail 35mm           Weight         g 1090		min	Nm	0.8
Max number of wires simultaneously connectable         Nr.         2           Conductor section         Flexible w/o lug conductor section           min         min         mm²         1.5           max         mm²         35           Flexible c/w lug conductor section         min         mm²         1.5           max         mm²         35           Power terminal protection according to IEC/EN 60529         IP20 front           Mechanical features         Inormal allowable         ±30°           Screw / DIN rail 35mm         35mm           Weight         g         1090		max	Nm	1
Max number of wires simultaneously connectable         Nr.         2           Conductor section         Flexible w/o lug conductor section         min mm² mm² 1.5 max mm² 35           Flexible c/w lug conductor section         min mm² mm² 1.5 max mm² 35           Power terminal protection according to IEC/EN 60529         IP20 front           Mechanical features           Operating position         normal allowable ±30°           Fixing         Screw / DIN rail 35mm           Weight         g 1090		min	Ibin	Prodotti finiti
Flexible w/o lug conductor section		max	Ibin	Prodotti finiti
Flexible w/o lug conductor section	Max number of wires simultaneously connectable		Nr.	2
Min mm²   1.5 max mm²   35	Conductor section			
Max   mm²   35	Flexible w/o lug conductor section			
Flexible c/w lug conductor section  min mm² 1.5  max mm² 35  Power terminal protection according to IEC/EN 60529  IP20 front  Mechanical features  Operating position  normal vertical plan allowable ±30°  Fixing  Fixing  Weight  G 1090		min	mm²	1.5
Power terminal protection according to IEC/EN 60529 IP20 front  Mechanical features  Operating position  normal allowable ±30°  Fixing  Weight  Total plan some state of the s		max	mm²	35
max         mm²         35           Power terminal protection according to IEC/EN 60529         IP20 front           Mechanical features         Operating position           normal allowable         Vertical plan ±30°           Fixing         Screw / DIN rail 35mm           Weight         g         1090	Flexible c/w lug conductor section			_
Power terminal protection according to IEC/EN 60529  Mechanical features  Operating position  normal Vertical plan allowable ±30°  Fixing  Weight  Screw / DIN rail 35mm  Weight		min	mm²	1.5
Mechanical features           Operating position         normal allowable         Vertical plan ±30°           Fixing         Screw / DIN rail 35mm           Weight         g 1090		max	mm²	35
Operating position         normal allowable         Vertical plan ±30°           Fixing         Screw / DIN rail 35mm           Weight         g         1090	·			IP20 front
normal allowable         Vertical plan ±30°           Fixing         Screw / DIN rail 35mm           Weight         g 1090				
Fixing         allowable ±30°           Screw / DIN rail 35mm           Weight         g 1090	Operating position			
Fixing         Screw / DIN rail 35mm           Weight         g 1090		normal		-
Fixing         35mm           Weight         g 1090		allowable		±30°
Weight g 1090	Fixing			
<u> </u>	- Initing			
Operations			g	1090
<del>Operations —</del>	Operations			



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Mechanical life			cycles	15000000
Electrical life			cycles	400000
Safety related data				
Performance level B1	Od according to EN/ISO 13489-1			
		rated load	cycles	400000
=110		mechanical load	cycles	15000000
EMC compatibility	011			Yes
Rated AC voltage at 6	JHZ		V	460
AC operating voltage				
AC operating voltage	of 60Hz coil powered at 60Hz			
	pick-up			
	plok up	min	%Us	80
		max	%Us	110
	drop-out		,,,,,	
	2.21	min	%Us	20
		max	%Us	55
AC average coil consu	ımption at 20°C			
-	of 50/60Hz coil powered at 50Hz			
		in-rush	VA	210
		holding	VA	15
	of 50/60Hz coil powered at 60Hz			_
		in-rush	VA	195
		holding	VA	13
	of 60Hz coil powered at 60Hz			
		in-rush	VA	210
		holding	VA	15
Dissipation at holding	≤20°C 50Hz		W	5
Max cycles frequency	≤20°C 50Hz			
Max cycles frequency Mechanical operation	≤20°C 50Hz		W cycles/h	
Max cycles frequency Mechanical operation Operating times				
Max cycles frequency Mechanical operation	ontrol			
Max cycles frequency Mechanical operation Operating times	ontrol in AC			
Max cycles frequency Mechanical operation Operating times	ontrol	min	cycles/h	3600
Max cycles frequency Mechanical operation Operating times	ontrol in AC	min max	cycles/h	3600
Max cycles frequency Mechanical operation Operating times	ontrol in AC Closing NO	min max	cycles/h	3600
Max cycles frequency Mechanical operation Operating times	ontrol in AC	max	cycles/h ms ms	3600 12 28
Max cycles frequency Mechanical operation Operating times	ontrol in AC Closing NO		cycles/h	3600
Max cycles frequency Mechanical operation Operating times	ontrol in AC Closing NO	max min	cycles/h ms ms ms	3600 12 28 8
Max cycles frequency Mechanical operation Operating times	ontrol in AC Closing NO Opening NO	max min	cycles/h ms ms ms	3600 12 28 8
Max cycles frequency Mechanical operation Operating times	ontrol in AC Closing NO Opening NO in DC	max min	cycles/h ms ms ms	3600 12 28 8
Max cycles frequency Mechanical operation Operating times	ontrol in AC  Closing NO  Opening NO  in DC  Closing NO	max min max	ms ms ms ms	3600 12 28 8 22
Max cycles frequency Mechanical operation Operating times	ontrol in AC Closing NO Opening NO in DC	max min max min	ms ms ms ms	3600 12 28 8 22
Max cycles frequency Mechanical operation Operating times	ontrol in AC  Closing NO  Opening NO  in DC  Closing NO	max min max min max min max min	ms ms ms ms ms ms	3600 12 28 8 22 40 85 20
Max cycles frequency Mechanical operation Operating times Average time for Us of	ontrol in AC  Closing NO  Opening NO  in DC  Closing NO	max min max min max	ms ms ms ms	3600 12 28 8 22 40 85
Max cycles frequency Mechanical operation Operating times Average time for Us of	ontrol in AC  Closing NO  Opening NO  in DC  Closing NO	max min max min max min max min	ms ms ms ms ms ms	3600 12 28 8 22 40 85 20
Max cycles frequency Mechanical operation Operating times Average time for Us of	ontrol in AC  Closing NO  Opening NO  in DC  Closing NO  Opening NO	max min max min max min max min	ms ms ms ms ms ms	3600 12 28 8 22 40 85 20
Max cycles frequency Mechanical operation Operating times Average time for Us of	ontrol in AC  Closing NO  Opening NO  in DC  Closing NO	min max min max min max min max	ms ms ms ms ms ms ms	3600 12 28 8 22 40 85 20 55
Max cycles frequency Mechanical operation Operating times Average time for Us of  UL technical data General USE	ontrol in AC  Closing NO  Opening NO  in DC  Closing NO  Opening NO	max min max min max min max min	ms ms ms ms ms ms	3600 12 28 8 22 40 85 20
Max cycles frequency Mechanical operation Operating times Average time for Us of  UL technical data General USE  Ambient conditions	ontrol in AC  Closing NO  Opening NO  in DC  Closing NO  Opening NO	min max min max min max min max	ms ms ms ms ms ms ms	3600 12 28 8 22 40 85 20 55
Max cycles frequency Mechanical operation Operating times Average time for Us of  UL technical data General USE	ontrol in AC  Closing NO  Opening NO  In DC  Closing NO  Opening NO  Opening NO  Contactor	min max min max min max min max	ms ms ms ms ms ms ms	3600 12 28 8 22 40 85 20 55
Max cycles frequency Mechanical operation Operating times Average time for Us of  UL technical data General USE  Ambient conditions	ontrol in AC  Closing NO  Opening NO  in DC  Closing NO  Opening NO	min max min max min max min max	ms ms ms ms ms ms ms	3600 12 28 8 22 40 85 20 55





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		max	°C	70
	Storage temperature			
	3 ,	min	°C	-60
		max	°C	80
Max altitude			m	3000
Resistance & Protection	on			
Pollution degree				3
Dimensions				
Wiring diagrams				
Certifications and com	pliance			
Compliance				
	CSA C22.2 n° 60947-1			
	CSA C22.2 n° 60947-4-1			
	IEC/EN 60947-1			
	IEC/EN 60947-4-1			
	UL 60947-1			
	UL 60947-4-1			
Certificates				
	CCC			
	cULus			
ETIM classification				
				EC001079 -
ETIM 8.0				Capacitor
				contactor