## ENERGY AND AUTOMATION

CONTACTOR FOR POWER FACTOR CORRECTION WITH AC CONTROL CIRCUIT, electric INCLUDING LIMITING RESISTORS, MAXIMUM IEC OPERATIONAL POWER 400V = 12.5KVAR, COIL 220VAC 60HZ



BFK1210A22060

Contact characteristics         Nr.         3           Number of poles         Nr.         3           Rated insulation voltage UIEC/EN         V         690           Rated insulation voltage UIEC/EN         KV         6           Operational frequency         min         Hz         400           IEC Conventional frequency         min         Hz         400           IEC Conventional frequency         min         Hz         400           IEC Conventional frequency         230V         kvar         7           400V         kvar         7         400V         kvar         7           400V         kvar         14         69V         kvar         14           69V kvar         15         5         440480V         kvar         16           Short-time allowable current for 10s (IEC/EN60947-1)         A         150         7         400V         kvar         16           Making capacity (RMS value)         A         120         8         60V         A         96         500V         A         96         500V         A         96         690V         A         94         7         7         7         7         7         7 <td< th=""><th>Product designation</th><th></th><th></th><th></th><th>Power contactor</th></td<>	Product designation				Power contactor
Number of poles         Nr.         3           Rated insulation voltage Ui IEC/EN         V         690           Operational frequency         min         Hz         25           max         Hz         400         125           IEC Conventional free air thermal current lth         A         28           Rated operational power AC-6b (T≤40°C)         230V         kvar         7           400V         kvar         14         680V         kvar         16           Short-time allowable current for 10s (IEC/EN60947-1)         A         150         150           Protection fuse         gG (IEC)         A         25           Making capacity (RMS value)         A         120         8           Breaking capacity at voltage         440V         A         96           690V         A         96         500V         A         96           500V         A         96         500V         A         96           690V         A         94         94         94         94         94         94         94         94         94         94         94         96         500V         A         96         500V         A         94					BFK12
Rated insulation voltage Ui IEC/EN         V         690           Rated impulse withstand voltage Uimp         KV         6           Operational frequency         min         Hz         25           IEC Conventional frequency         min         Hz         25           IEC Conventional frequency         230V         kvar         7           400         230V         kvar         7           400V         kvar         14         690V         kvar           400480V         kvar         14         690V         kvar         14           690V         kvar         14         690V         kvar         14           690V         kvar         16         5         5         440480V         kvar         14           690V         kvar         16         5         7         440V         4         96           500V         A         96         500V         A         96         500V         A         94           Power dissipation per pole (average value)         m0         2.5         5         5         5           Power dissipation per pole (average value)         min         Nm         1.5         5		S			
Rated impulse withstand voltage Uimp       kV       6         Operational frequency       min       Hz       25         max       HZ       400       12         IEC Conventional free air thermal current lth       A       28         Rated operational power AC-6b (T≤40°C)       230V       kvar       7         400V       kvar       12.5       440480V       kvar       14         690V       kvar       16       5       5       440480V       kvar       14         690V       kvar       16       5       5       7       400V       kvar       14         690V       kvar       16       5       7       400V       8       7       400V       12.5       6       5       7       40V       8       9       8       500V       8       96       500V       A       96       500V       A       96       60VV       A       90 <td></td> <td></td> <td></td> <td></td> <td></td>					
Operational frequency         min         Hz         25           max         Hz         400         1EC Conventional free air thermal current lth         A         28           Rated operational power AC-6b (T≤40°C)         230V         kvar         7         400V         kvar         12.5           440480V         kvar         14         690V         kvar         16           Short-time allowable current for 10s (IEC/EN60947-1)         A         150         150           Protection fuse         gG (IEC)         A         120           Breaking capacity (RMS value)         A         120           Breaking capacity at voltage         440V         A         96           690V         A         92         500V         A         92           Power dissipation per pole (average value)         mC         2.5         5           Power dissipation per pole (average value)         min         Nm         1.5         5           Tightening torque for coil terminals         min         Nm         1.5         5           Tightening torque for coil terminal         min         Nm         1.6         3.74           Max number of wires simultaneously connectable         Nr.         2         2					
$\begin{array}{c c c c c c c c c c c c c c c c c c c $				kV	6
$\begin{tabular}{ c c c c c c } \hline max & Hz & 400 \\ \hline  c c & Conventional power AC-6b (T<40°C) & 28 \\ \hline Rated operational power AC-6b (T<40°C) & 230V & kvar & 7 \\ & 400V & kvar & 12.5 \\ \hline 440480V & kvar & 14 \\ \hline 690V & kvar & 16 \\ \hline Short-time allowable current for 10s (IEC/EN60947-1) & A & 150 \\ \hline Protection fuse & & & & & & & & & & & & & & & & & & &$	Operational frequency	ý l			
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$			min		
Rated operational power AC-6b (Ts40°C)         230V         kvar         7           400V         kvar         12.5           440480V         kvar         14           690V         kvar         16           Short-time allowable current for 10s (IEC/EN60947-1)         A         150           Protection fuse         gG (IEC)         A         25           Making capacity (RMS value)         A         120           Breaking capacity at voltage         440V         A         96           500V         A         96         500V         A         96           90wer dissipation per pole (average value)         mΩ         2.5         Power dissipation per pole (average value)         Tightening torque for terminals         min         Nm         1.5           Tightening torque for coil terminal         min         Nm         1.5         max         Nm         1.8           min         Ibin         1.5         max         Nm         1.8         min         10         1.5           Tightening torque for coil terminal         min         Nm         1.8         max         Nm         1.8         min         10         0.8         max         10         74           <			max		
230V         kvar         7           400V         kvar         12.5           440460V         kvar         14           690V         kvar         16           Short-time allowable current for 10s (IEC/EN60947-1)         A         150           Protection fuse         gG (IEC)         A         25           Making capacity (RMS value)         A         120           Breaking capacity at voltage         440V         A         96           500V         A         96         500V         A         96           690V         A         94         8         96         500V         A         96           Fower dissipation per pole (average value)         mQ         2.5         9         9         15           Power dissipation per pole (average value)         mN         1.5         15         15           Tightening torque for terminals         min         Nm         1.5         16           Tightening torque for coil terminal         min         1.5         1.5         1.5           Tightening torque for coil terminal         min         1.5         1.5         1.5           Max number of wires simultaneously connectable         Nr.         2<				А	28
$\begin{array}{c cccccc} & 400 & \text{kvar} & 12.5 \\ 440480 & \text{kvar} & 14 \\ 690 & \text{kvar} & 16 \\ \hline \\ $	Rated operational pov	wer AC-6b (T≤40°C)			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $				kvar	
690V         kvar         16           Short-time allowable current for 10s (IEC/EN60947-1)         A         150           Protection fuse         gG (IEC)         A         25           Making capacity (RMS value)         A         120           Breaking capacity at voltage         440V         A         96           690V         A         96         500V         A         96           690V         A         94         8         94         8           Resistance per pole (average value)         mΩ         2.5         9         9         2.5         9         9         16         W         2         16         1.1         1.5         1.3         1.6         1.1				kvar	
Short-time allowable current for 10s (IEC/EN60947-1)         A         150           Protection fuse         gG (IEC)         A         25           Making capacity (RMS value)         A         120           Breaking capacity at voltage         440V         A         96           500V         A         96         500V         A         94           Resistance per pole (average value)         mΩ         2.5         Power dissipation per pole (average value)         mΩ         2.5           Power dissipation per pole (average value)         min         Nm         1.5           Tightening torque for terminals         min         Nm         1.5           Tightening torque for coil terminal         min         Nm         1.5           Tightening torque for coil terminal         min         Nm         1.6           Max number of wires simultaneously connectable         Nr.         2         Conductor section           AWG/Kcmil         max         10         Textbe w/o lug conductor section         min         mm²         1           Flexible c/w lug conductor section         min         mm²         1         max         min²         1				kvar	
Protection fuse       gG (IEC)       A       25         Making capacity (RMS value)       A       120         Breaking capacity at voltage       440V       A       96         500V       A       96         690V       A       94         Resistance per pole (average value)       mΩ       2.5         Power dissipation per pole (average value)       Ith       W       2         Tightening torque for terminals       min       Nm       1.5         max       Nm       1.8       min       1bin       1.1         max       Ibin       1.5       max       Nm       1.8         Tightening torque for coil terminal       min       Nm       0.8       max       Nm       1         Tightening torque for coil terminal       min       Nm       0.8       max       10       0.8         Max number of wires simultaneously connectable       Nr.       2       Conductor section       min       min       1min       1min<			690V	kvar	16
gG (IEC)         A         25           Making capacity (RMS value)         A         120           Breaking capacity at voltage         440V         A         96           500V         A         96         690V         A         94           Resistance per pole (average value)         mΩ         2.5         Power dissipation per pole (average value)         mIn         W         2           Tightening torque for terminals         min         Nm         1.5         max         Nm         1.8           Tightening torque for coil terminal         min         lbin         1.1         max         Nm         1.8           Tightening torque for coil terminal         min         Nm         0.8         max         Nm         1.5           Taghtening torque for coil terminal         min         Nm         0.8         max         Nm         1           Max number of wires simultaneously connectable         Nr.         2         Conductor section         Nr.         2         Conductor section         max         10         Flexible w/o lug conductor section         max         10         max         1         max         1         max         1         max         6         6         Exible c/w lug conductor sec		current for 10s (IEC/EN60947-1)		Α	150
Making capacity (RMS value)         A         120           Breaking capacity at voltage         440V         A         96           500V         A         96           690V         A         94           Resistance per pole (average value)         mΩ         2.5           Power dissipation per pole (average value)         mIn         W         2           Tightening torque for terminals         min         Nm         1.5           Tightening torque for coil terminal         min         1.0         1.5           Tightening torque for coil terminal         min         1.1         max         Nm         1.5           Tightening torque for coil terminal         min         1.5         1.5         1.5         1.5           Tightening torque for coil terminal         min         1.6         1.5         1.5           Tightening torque for coil terminal         min         1.5         1.5         1.5           Tightening torque for coil terminal         min         1.6         1.5           Max number of wires simultaneously connectable         Nr. 2         2         2           Conductor section         max         10         10         10           Flexible w/o lug conductor section <td>Protection fuse</td> <td></td> <td></td> <td></td> <td></td>	Protection fuse				
Breaking capacity at voltage       440V       A       96         500V       A       96         690V       A       94         Resistance per pole (average value)       mQ       2.5         Power dissipation per pole (average value)       Ith       W       2         Tightening torque for terminals       min       Nm       1.5         Tightening torque for coil terminal       min       Nm       0.8         Max number of wires simultaneously connectable       Nr.       2         Conductor section       MWG/Kcmil       min       min         Flexible w/o lug conductor section       min       mm²       1         Flexible c/w lug conductor section       min       min       mm²       1			gG (IEC)	А	25
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Making capacity (RMS	S value)		А	120
500V         A         96           690V         A         94           Resistance per pole (average value)         mΩ         2.5           Power dissipation per pole (average value)         Ith         W         2           Tightening torque for terminals         min         Nm         1.5           max         Nm         1.8         min         Ibin         1.1           max         Ibin         1.5         Tightening torque for coil terminal         min         Nm         1.8           Tightening torque for coil terminal         min         Nm         1.5         Tightening torque for coil terminal         1.1           Max number of wires simultaneously connectable         Nr.         2         2           Conductor section         MWG/Kcmil         max         10           Flexible w/o lug conductor section         min         mm²         1           Max         mm²         10         1	Breaking capacity at v	voltage			
690V         A         94           Resistance per pole (average value)         mΩ         2.5           Power dissipation per pole (average value)         Ith         W         2           Tightening torque for terminals         min         Nm         1.5           max         Nrn         1.8         min         1.6           Tightening torque for coil terminal         min         Nm         1.5           Tightening torque for coil terminal         min         Nm         1.5           Tightening torque for coil terminal         min         Nm         0.8           Max number of wires simultaneously connectable         Nr.         2           Conductor section         MWG/Kcmil         max         10           Flexible w/o lug conductor section         min         mmx         10           Flexible c/w lug conductor section         min         mmx         10			440V	А	96
Resistance per pole (average value)       mΩ       2.5         Power dissipation per pole (average value)       Ith       W       2         Tightening torque for terminals       min       Nm       1.5         min       Nm       1.5       max       Nm       1.8         min       lbin       1.1       max       Nm       1.5         Tightening torque for coil terminal       min       Nm       0.8       max       Nm       1         Tightening torque for coil terminal       min       Nm       0.8       max       Nm       1         Max number of wires simultaneously connectable       Nr.       2       2       2       2         Conductor section       AWG/Kcmil       max       10       10       10         Flexible w/o lug conductor section       min       min       mm²       1         max       mm²       1       max       10			500V	А	96
Power dissipation per pole (average value)       Ith       W       2         Tightening torque for terminals       min       Nm       1.5         max       Nm       1.8       min       Ibin       1.1         max       Ibin       1.5       Tightening torque for coil terminal       min       Nm       0.8         Tightening torque for coil terminal       min       Nm       0.8       max       Nm       1         Max number of wires simultaneously connectable       Nr.       2       Conductor section       Nr.       2         AWG/Kcmil       max       10       Texible w/o lug conductor section       min       mm²       1         Flexible c/w lug conductor section       min       mm²       1       max       mm²       1			690V	А	94
IthW2Tightening torque for terminalsminNm1.5maxNm1.8minIbin1.1maxIbin1.51.51.5Tightening torque for coil terminalminNm0.8maxNm1minIbin0.8maxIbin0.7410.74Max number of wires simultaneously connectableNr.22Conductor sectionNr.21Flexible w/o lug conductor sectionmax10Flexible c/w lug conductor sectionminmm²1maxmm²61	Resistance per pole (	average value)		mΩ	2.5
Tightening torque for terminals       min       Nm       1.5         max       Nm       1.8       min       Ibin       1.1         max       Ibin       1.5       1.5         Tightening torque for coil terminal       min       Nm       0.8         max       Nm       1       1         max       Nm       1       1         max       Nm       0.8       1         min       Ibin       0.8       1         min       Ibin       0.74       1         Max number of wires simultaneously connectable       Nr.       2         Conductor section       Nr.       2         Max number of wires simultaneously conductor section       max       10         Flexible w/o lug conductor section       min       mm²       1         flexible c/w lug conductor section       min       mm²       1         max       mm²       6       6       1	Power dissipation per	pole (average value)			
$\begin{array}{c cccc} & & & & & & & & & & & & & & & & & $			Ith	W	2
max         Nm         1.8           min         Ibin         1.1           max         Ibin         1.5           Tightening torque for coil terminal         min         Nm         0.8           max         Nm         1         min         1bin         0.74           Max number of wires simultaneously connectable         Nr.         2         0           Conductor section         max         10         10           Flexible w/o lug conductor section         min         mm²         1           max         mm²         6         1	Tightening torque for	terminals			
min         lbin         1.1           max         lbin         1.5           Tightening torque for coil terminal         min         Nm         0.8           max         Nm         1         min         lbin         0.8           max         lbin         0.74         max         lbin         0.74           Max number of wires simultaneously connectable         Nr.         2         max         lbin         0.74           Conductor section         Nr.         2         max         10         max         10           Flexible w/o lug conductor section         min         mm²         1         max         mm²         1           Flexible c/w lug conductor section         min         mm²         1         max         mm²         6			min	Nm	1.5
max       Ibin       1.5         Tightening torque for coil terminal       min       Nm       0.8         max       Nm       1         min       Ibin       0.8         max       Ibin       0.8         max       Ibin       0.74         Max number of wires simultaneously connectable       Nr.       2         Conductor section       Nr.       2         Max       AWG/Kcmil       max       10         Flexible w/o lug conductor section       min       mm²       1         max       mm²       1       6         Flexible c/w lug conductor section       min       mm²       6			max	Nm	1.8
Tightening torque for coil terminal       min       Nm       0.8         max       Nm       1         min       Ibin       0.8         max       Ibin       0.74         Max number of wires simultaneously connectable       Nr.       2         Conductor section       Nr.       2         Flexible w/o lug conductor section       max       10         Flexible w/o lug conductor section       min       mm²         Flexible c/w lug conductor section       Flexible c/w lug conductor section       min			min	lbin	1.1
min       Nm       0.8         max       Nm       1         min       Ibin       0.8         max       Ibin       0.74         Max number of wires simultaneously connectable       Nr.       2         Conductor section       Nr.       2         AWG/Kcmil       max       10         Flexible w/o lug conductor section       min       mm²         min       mm²       1         Flexible c/w lug conductor section       Flexible c/w lug conductor section			max	lbin	1.5
max       Nm       1         min       lbin       0.8         max       lbin       0.74         Max number of wires simultaneously connectable       Nr.       2         Conductor section       Nr.       10         Flexible w/o lug conductor section       max       10         Flexible w/o lug conductor section       max       mm²         Flexible c/w lug conductor section       Flexible c/w lug conductor section       mm²	Tightening torque for	coil terminal			
min     Ibin     0.8       max     Ibin     0.74       Max number of wires simultaneously connectable     Nr.     2       Conductor section     AWG/Kcmil     result       AWG/Kcmil     10       Flexible w/o lug conductor section     min     mm²       Flexible c/w lug conductor section     flexible c/w lug conductor section			min	Nm	0.8
max     Ibin     0.74       Max number of wires simultaneously connectable     Nr.     2       Conductor section     AWG/Kcmil     III       AWG/Kcmil     max     10       Flexible w/o lug conductor section     III       Min     mm²     1       Flexible c/w lug conductor section     max     mm²			max	Nm	1
Max number of wires simultaneously connectable       Nr.       2         Conductor section       AWG/Kcmil       10         Flexible w/o lug conductor section       min       mm²       10         Flexible c/w lug conductor section       Flexible c/w lug conductor section       10			min	lbin	0.8
Conductor section          AWG/Kcmil       max       10         Flexible w/o lug conductor section       min       mm²       1         max       mm²       6       6         Flexible c/w lug conductor section       mm²       6			max	lbin	0.74
AWG/Kcmil max 10 Flexible w/o lug conductor section min mm <sup>2</sup> 1 max mm <sup>2</sup> 6 Flexible c/w lug conductor section	Max number of wires	simultaneously connectable		Nr.	2
max     10       Flexible w/o lug conductor section     min     mm²     1       max     mm²     6   Flexible c/w lug conductor section	Conductor section				
Flexible w/o lug conductor section min mm <sup>2</sup> 1 max mm <sup>2</sup> 6 Flexible c/w lug conductor section		AWG/Kcmil			
min mm <sup>2</sup> 1 max mm <sup>2</sup> 6 Flexible c/w lug conductor section			max		10
min mm <sup>2</sup> 1 max mm <sup>2</sup> 6 Flexible c/w lug conductor section		Flexible w/o lug conductor section			
max mm <sup>2</sup> 6 Flexible c/w lug conductor section		-	min	mm²	1
Flexible c/w lug conductor section			max		6
•		Flexible c/w lug conductor section			
		-	min	mm²	1

BFK1210A22060 The characteristics described in this document are subject to updates or modifications at any time. The descriptions, technical and functional information, illustrations and instructions in this brochure are purely illustrative, and are consequently not contractually binding



BFK1210A22060 CONTACTOR FOR POWER FACTOR CORRECTION WITH AC CONTROL CIRCUIT, electric INCLUDING LIMITING RESISTORS, MAXIMUM IEC OPERATIONAL POWER 400V = 12.5KVAR,

COIL 220VAC 60HZ

	max	mm²	4
Flexible with insulated spade lug conductor sect	ion		
	min	mm²	1
	max	mm²	4
Power terminal protection according to IEC/EN 60529			IP20 when properly wired
Mechanical features			
Operating position			
	normal allowable		Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight		g	406
Conductor section		9	
AWG/kcmil conductor section			
	max		10
Auxiliary contact characteristics			
Thermal current Ith		А	10
EC/EN 60947-5-1 designation			A600 - P600
Operating current AC15			
	230V	А	3
	400V	A	1.9
	500V	A	1.4
Operating current DC12	0001		
	110V	А	5.7
Operating current DC13			
	24V	А	5.7
	48V	А	2.9
	60V	A	2.3
	110V	A	1.25
	125V	A	1.1
	220V	A	0.6
On another a	600V	A	0.1
Operations			0000000
Mechanical life		cycles	2000000
Electrical life		cycles	400000
Safety related data			
Performance level B10d according to EN/ISO 13489-1	roted lood	ovelee	400000
	rated load mechanical load	cycles	400000 20000000
Mirror contate according to IEC/EN 600474.4.4		cycles	20000000 YES
Mirror contats according to IEC/EN 609474-4-1			
EMC compatibility AC coil operating			yes
Rated AC voltage at 60Hz		V	220
AC operating voltage		v	220
of 60Hz coil powered at 60Hz			
pick-up			
μισκ-αρ	min	%Us	80
	max	%Us %Us	110
drop-out	Παλ	/005	110
alop-out	min	%Us	20
	max	%Us %Us	20 55
AC average coil consumption at 20°C	Παλ	/003	00

AC average coil consumption at 20°C



BFK1210A22060 CONTACTOR FOR POWER FACTOR CORRECTION WITH AC CONTROL CIRCUIT, electric INCLUDING LIMITING RESISTORS, MAXIMUM IEC OPERATIONAL POWER 400V = 12.5KVAR,

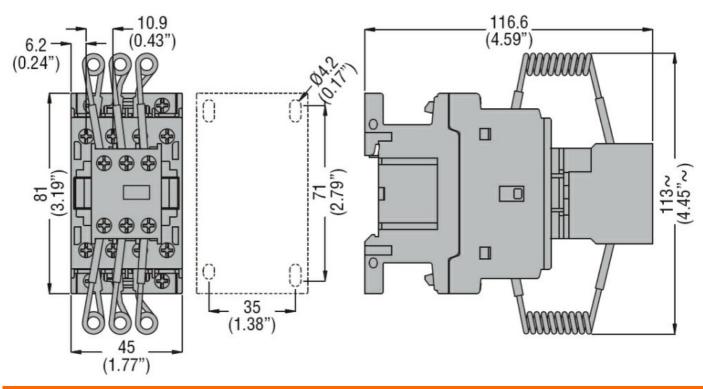
COIL 220VAC 60HZ

	of 60Hz coil powered at	t 60Hz			
			in-rush	VA	75
			holding	VA	9
Dissipation at holding ≤	20°C 50Hz			W	2.5
Max cycles frequency					
Mechanical operation				cycles/h	3600
Operating times					
Average time for Us co	ntrol				
	in AC				
		Closing NO			
			min	ms	8
			max	ms	24
		Opening NO			
			min	ms	10
			max	ms	20
		Closing NC			
			min	ms	14
			max	ms	28
UL technical data					
General USE					
	Contactor				
			AC current	А	28
	Auxiliary contacts				
			AC voltage	V	600
			AC current	А	10
			DC voltage	V	250
			DC current	Α	1
_	ary contacts according to	UL			A600 - P600
Ambient conditions					
Temperature					
	Operating temperature				
			min	°C	-50
			max	°C	70
	Storage temperature				
	-		min	°C	-60
			max	°C	80
Max altitude				m	3000
Resistance & Protectio	n				
Pollution degree					3
Dimensions					

## BFK1210A22060



CONTACTOR FOR POWER FACTOR CORRECTION WITH AC CONTROL CIRCUIT, Electric INCLUDING LIMITING RESISTORS, MAXIMUM IEC OPERATIONAL POWER 400V = 12.5KVAR, AND AUTOMATION COIL 220VAC 60HZ



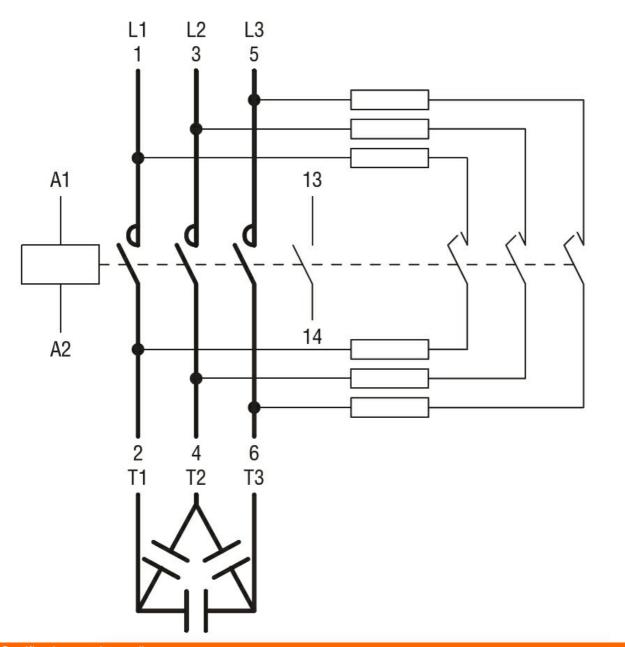
Wiring diagrams

BFK1210A22060



CONTACTOR FOR POWER FACTOR CORRECTION WITH AC CONTROL CIRCUIT, electric INCLUDING LIMITING RESISTORS, MAXIMUM IEC OPERATIONAL POWER 400V = 12.5KVAR, COIL 220VAC 60HZ

ENERGY AND AUTOMATION



## Certifications and compliance

Com	oliance
COULT	manoo

Compliance		
	CSA C22.2 n° 60947-1	
	CSA C22.2 n° 60947-4-1	
	IEC/EN/BS 60947-1	
	IEC/EN/BS 60947-4-1	
	UL 60947-1	
	UL 60947-4-1	
Certificates		
	CCC	
	cULus	
	EAC	
ETIM classification		
		EC001079 -
ETIM 8.0		Capacitor

contactor