



Product designation	Power contactor		
Product type designation	BF09		
<b>Contact characteristics</b>			
Number of poles	Nr.	3	
Rated insulation voltage $U_i$ IEC/EN	V	690	
Rated impulse withstand voltage $U_{imp}$	kV	6	
Operational frequency	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current $I_{th}$	A	25	
Operational current $I_e$			
	AC-1 ( $=40^\circ\text{C}$ )	A	25
	AC-1 ( $=55^\circ\text{C}$ )	A	20
	AC-1 ( $=70^\circ\text{C}$ )	A	18
	AC-3 ( $=440\text{V} = 55^\circ\text{C}$ )	A	9
	AC-4 (400V)	A	4.9
Rated operational power AC-3 ( $T=55^\circ\text{C}$ )	230V	kW	2.2
	400V	kW	4.2
	415V	kW	4.5
	440V	kW	4.8
	500V	kW	5.5
	690V	kW	7.5
Rated operational power AC-1 ( $T=40^\circ\text{C}$ )	230V	kW	9.5
	400V	kW	16
	500V	kW	21
	690V	kW	27
IEC max current $I_e$ in DC1 with $L/R = 1\text{ms}$ with 1 poles in series	=24V	A	15
	48V	A	13
	75V	A	12
	110V	A	6
	220V	A	—
IEC max current $I_e$ in DC1 with $L/R = 1\text{ms}$ with 2 poles in series	=24V	A	18
	48V	A	18
	75V	A	17
	110V	A	12
	220V	A	1
IEC max current $I_e$ in DC1 with $L/R = 1\text{ms}$ with 3 poles in series	=24V	A	20
	48V	A	20
	75V	A	20
	110V	A	15

	220V	A	10
IEC max current Ie in DC1 with L/R = 1ms with 4 poles in series	=24V	A	20
	48V	A	20
	75V	A	20
	110V	A	16
	220V	A	12
IEC max current Ie in DC3-DC5 with L/R = 15ms with 1 poles in series	=24V	A	10
	48V	A	9
	75V	A	8
	110V	A	2
	220V	A	—
IEC max current Ie in DC3-DC5 with L/R = 15ms with 2 poles in series	=24V	A	13
	48V	A	11
	75V	A	10
	110V	A	7
	220V	A	2
IEC max current Ie in DC3-DC5 with L/R = 15ms with 3 poles in series	=24V	A	15
	48V	A	15
	75V	A	13
	110V	A	11
	220V	A	6
IEC max current Ie in DC3-DC5 with L/R = 15ms with 4 poles in series	=24V	A	15
	48V	A	15
	75V	A	15
	110V	A	12
	220V	A	7
Short-time allowable current for 10s (IEC/EN60947-1)		A	150
Protection fuse			
	gG (IEC)	A	25
	aM (IEC)	A	10
Making capacity (RMS value)		A	90
Breaking capacity at voltage			
	440V	A	72
	500V	A	72
	690V	A	71
Resistance per pole (average value)		m?	2.5
Power dissipation per pole (average value)			
	I <sub>th</sub>	W	1.6
	AC3	W	0.2
Tightening torque for terminals			
	min	Nm	1.5
	max	Nm	1.8
	min	I <sub>bin</sub>	1.1
	max	I <sub>bin</sub>	1.5
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	I <sub>bin</sub>	0.8

	max	lbin	0.74			
Max number of wires simultaneously connectable	Nr. 2					
<b>Conductor section</b>						
AWG/Kcmil						
Flexible w/o lug conductor section	max	10				
	min	mm <sup>2</sup>	1			
	max	mm <sup>2</sup>	6			
Flexible c/w lug conductor section	min	mm <sup>2</sup>	1			
	max	mm <sup>2</sup>	4			
Flexible with insulated spade lug conductor section	min	mm <sup>2</sup>	1			
	max	mm <sup>2</sup>	4			
Power terminal protection according to IEC/EN 60529	IP20 when wired					
<b>Mechanical features</b>						
Operating position	normal allowable	Vertical plan ±30°				
Fixing	Screw / DIN rail 35mm					
Weight	g	502				
<b>Conductor section</b>						
AWG/kcmil conductor section	max	10				
<b>Auxiliary contact characteristics</b>						
Thermal current Ith	A	10				
IEC/EN 60947-5-1 designation	A600 - P600					
Operating current AC15	230V	A	3			
	400V	A	1.9			
	500V	A	1.4			
Operating current DC12	110V	A	5.7			
Operating current DC13	24V	A	5.7			
	48V	A	2.9			
	60V	A	2.3			
	110V	A	1.25			
	125V	A	1.1			
	220V	A	0.55			
	600V	A	0.2			
<b>Operations</b>						
Mechanical life	cycles	20000000				
Electrical life	cycles	2000000				
<b>Safety related data</b>						
Performance level B10d according to EN/ISO 13489-1	rated load	cycles	2000000			
	mechanical load	cycles	20000000			
Mirror contacts according to IEC/EN 609474-4-1	yes					
EMC compatibility	yes					
<b>DC coil operating</b>						
DC rated control voltage	V	24				

DC operating voltage

pick-up	min	%Us	80
	max	%Us	110
drop-out	min	%Us	10
	max	%Us	40

Average coil consumption =20°C

in-rush	W	2.4
holding	W	2.4

Max cycles frequency

Mechanical operation cycles/h 3600

Operating times

Average time for Us control  
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
Opening NC	min	ms	7
	max	ms	18

in DC

Closing NO	min	ms	75
	max	ms	91
Opening NO	min	ms	15
	max	ms	19
Closing NC	min	ms	24
	max	ms	30
Opening NC	min	ms	67
	max	ms	81

UL technical data

Full-load current (FLA) for three-phase AC motor

at 480V	A	7.6
at 600V	A	0.375

Yielded mechanical performance

for single-phase AC motor

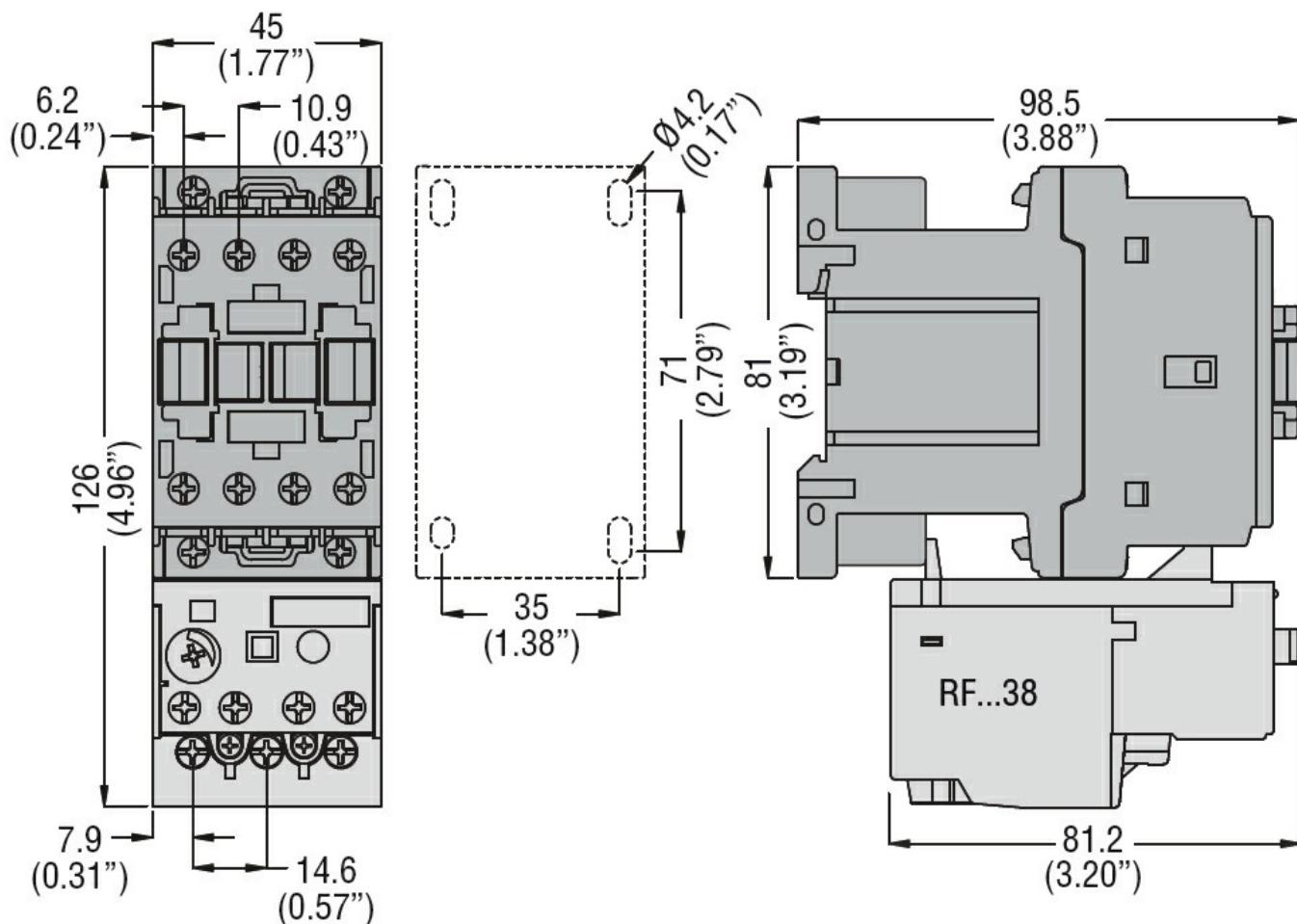
110/120V	HP	0.75
230V	HP	2

for three-phase AC motor

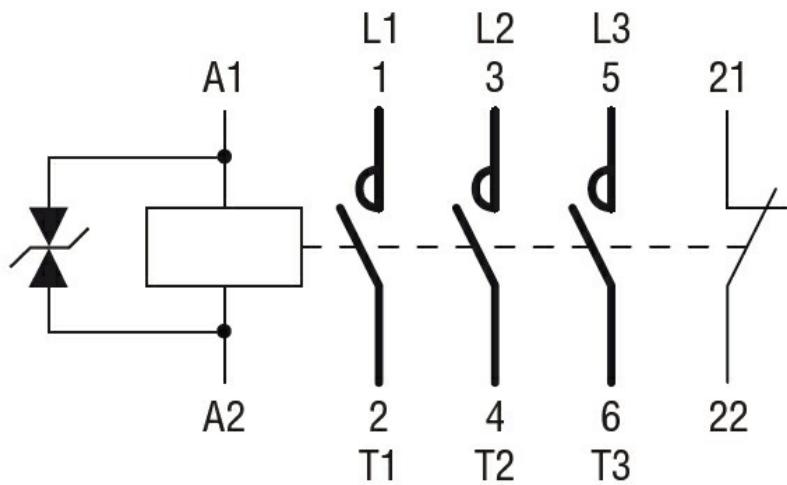
200/208V	HP	3
220/230V	HP	3
460/480V	HP	5
575/600V	HP	7.5

General USE

Contactor	AC current	A	25
Auxiliary contacts	AC voltage	V	600
	AC current	A	10
	DC voltage	V	250
	DC current	A	1
Short-circuit protection fuse, 600V			
High fault	Short circuit current	kA	100
	Fuse rating	A	30
	Fuse class		J
Standard fault	Short circuit current	kA	5
	Fuse rating	A	60
Contact rating of auxiliary 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 & Protection			
Pollution degree			3
Dimensions			



#### Wiring diagrams



#### Certifications and compliance

##### 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

EAC

**ETIM classification**

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching