



Product designation	Power contactor		
Product type designation	BF09		
Contact characteristics			
Number of poles	Nr.	3	
Rated insulation voltage Ui IEC/EN	V	690	
Rated impulse withstand voltage $Uimp$	kV	6	
Operational frequency	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith		A	25
Operational current le			
	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 le 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 le 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 le 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 _{th}	W	1.6
	AC3	W	0.2
Tightening torque for terminals			
	min	Nm	1.5
	max	Nm	1.8
	min	I _{bin}	1.1
	max	I _{bin}	1.5
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	I _{bin}	0.8

	max	lbin	0.74			
Max number of wires simultaneously connectable	Nr. 2					
Conductor section						
AWG/Kcmil						
Flexible w/o lug conductor section	max	10				
	min	mm ²	1			
	max	mm ²	6			
Flexible c/w lug conductor section	min	mm ²	1			
	max	mm ²	4			
Flexible with insulated spade lug conductor section	min	mm ²	1			
	max	mm ²	4			
Power terminal protection according to IEC/EN 60529	IP20 when wired					
Mechanical features						
Operating position	normal allowable	Vertical plan ±30°				
Fixing	Screw / DIN rail 35mm					
Weight	g	362				
Conductor section						
AWG/kcmil conductor section	max	10				
Auxiliary contact characteristics						
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			
Operations						
Mechanical life	cycles	20000000				
Electrical life	cycles	2000000				
Safety related data						
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				
AC coil operating						
Rated AC voltage at 50/60Hz	V	24				

AC operating voltage

of 50/60Hz coil powered at 50Hz	pick-up	min	%Us	80
	drop-out	max	%Us	110
	drop-out	min	%Us	20
		max	%Us	55
of 50/60Hz coil powered at 60Hz	pick-up	min	%Us	85
	drop-out	max	%Us	110
		min	%Us	20
		max	%Us	55

AC average coil consumption at 20°C

of 50/60Hz coil powered at 50Hz	in-rush	VA	75
	holding	VA	9
of 50/60Hz coil powered at 60Hz	in-rush	VA	70
	holding	VA	6.5
of 60Hz coil powered at 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 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

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

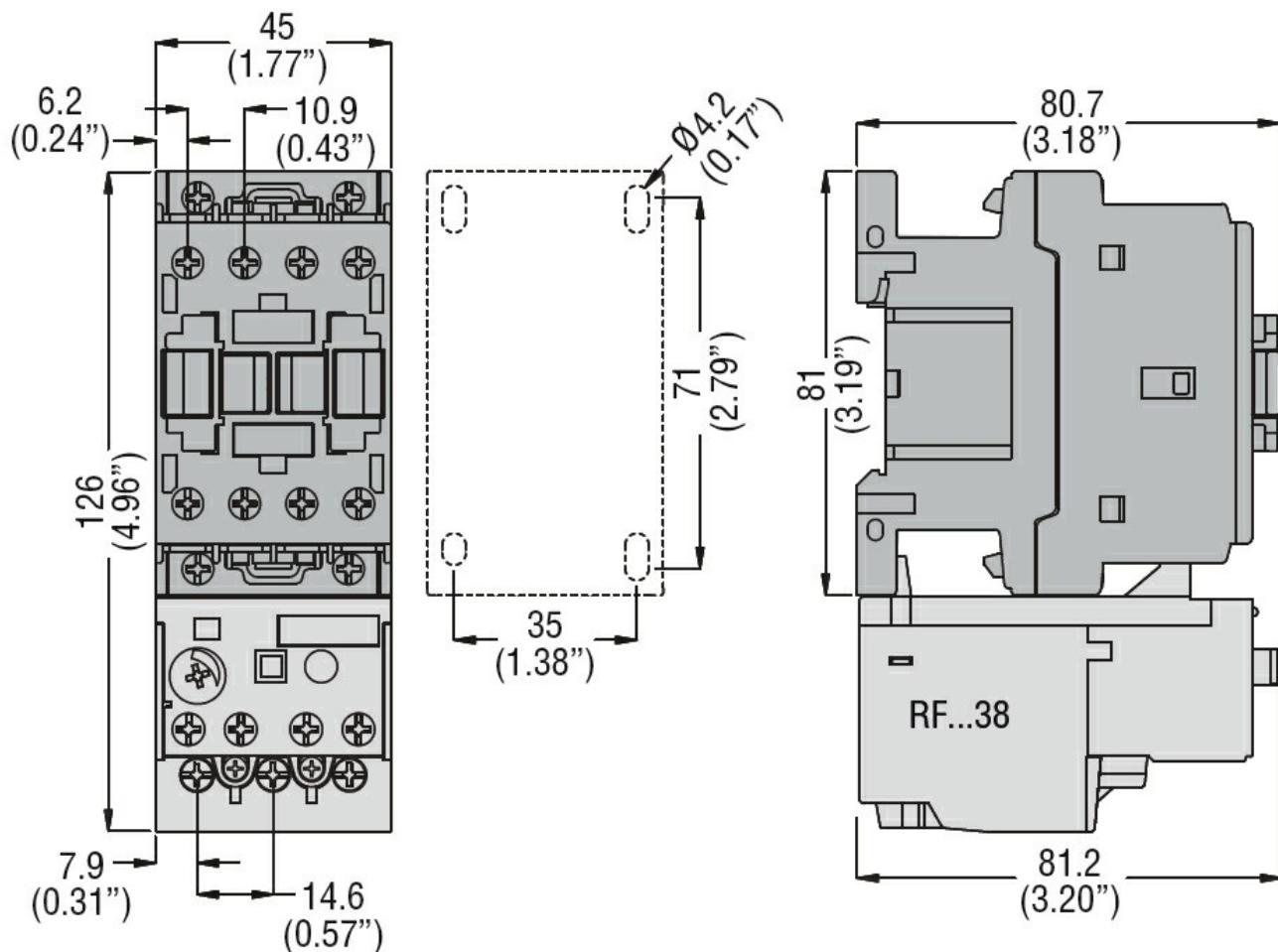
for three-phase AC motor

200/208V HP 3
220/230V HP 3

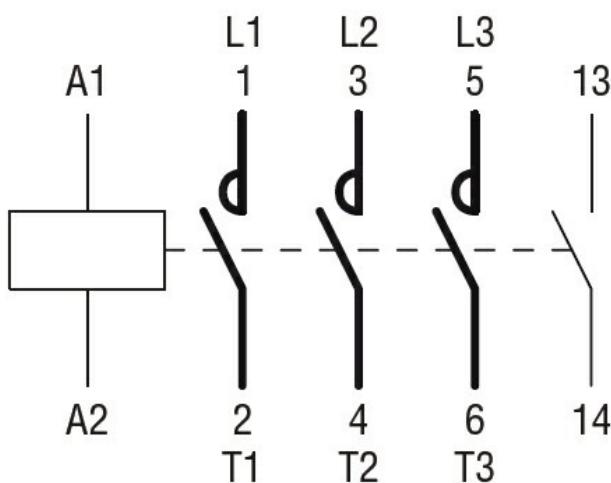
460/480V	HP	5
575/600V	HP	7.5

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