



Product designation	Power contactor		
Product type designation	BF09		
Contact characteristics			
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 ($\leq 40^\circ\text{C}$)	A	25
	AC-1 ($\leq 55^\circ\text{C}$)	A	20
	AC-1 ($\leq 70^\circ\text{C}$)	A	18
	AC-3 ($\leq 440\text{V} \leq 55^\circ\text{C}$)	A	9
	AC-4 (400V)	A	4.9
Rated operational power AC-3 ($T \leq 55^\circ\text{C}$)	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 ($T \leq 40^\circ\text{C}$)	230V	kW	9.5
	400V	kW	16
	500V	kW	21
	690V	kW	27
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A	15
	48V	A	13
	75V	A	12
	110V	A	6
	220V	A	—
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 2 poles in series	$\leq 24\text{V}$	A	18
	48V	A	18
	75V	A	17
	110V	A	12
	220V	A	1
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series	$\leq 24\text{V}$	A	20
	48V	A	20
	75V	A	20
	110V	A	15

	220V	A	10
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series	$\leq 24V$	A	20
	48V	A	20
	75V	A	20
	110V	A	16
	220V	A	12
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 1 poles in series	$\leq 24V$	A	10
	48V	A	9
	75V	A	8
	110V	A	2
	220V	A	—
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 2 poles in series	$\leq 24V$	A	13
	48V	A	11
	75V	A	10
	110V	A	7
	220V	A	2
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 3 poles in series	$\leq 24V$	A	15
	48V	A	15
	75V	A	13
	110V	A	11
	220V	A	6
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 4 poles in series	$\leq 24V$	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)		$\text{m}\Omega$	2.5
Power dissipation per pole (average value)			
	I _{th}	W	1.6
	AC-3	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

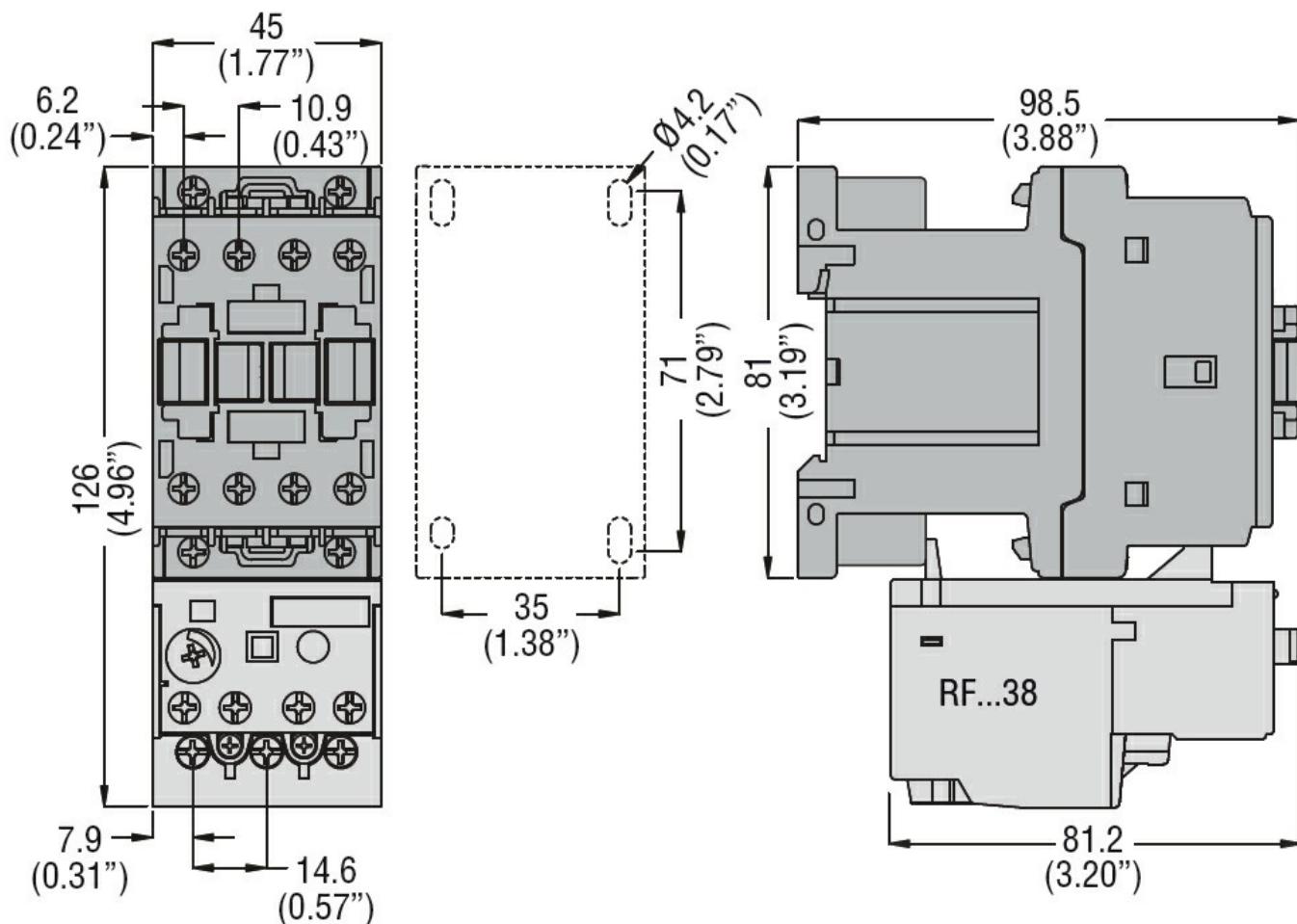
	max	Ibin	0.74			
Max number of wires simultaneously connectable	Nr. 2					
Conductor section						
AWG/Kcmil						
Flexible w/o lug conductor section	max		10			
	min	mm ²	1			
	max	mm ²	6			
Flexible c/w lug conductor section	min	mm ²	1			
	max	mm ²	4			
Flexible with insulated spade lug conductor section	min	mm ²	1			
	max	mm ²	4			
Power terminal protection according to IEC/EN 60529	IP20 when properly wired					
Mechanical features						
Operating position	normal	Vertical plan				
	allowable	±30°				
Fixing	Screw / DIN rail 35mm					
Weight	g	492				
Auxiliary contact characteristics						
Thermal current I _{th}	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					
DC coil operating						
DC rated control voltage	V	110				
DC operating voltage	pick-up					

	min	%Us	70
	max	%Us	125
drop-out			
	min	%Us	10
	max	%Us	40
Average coil consumption ≤20°C			
	in-rush	W	5.4
	holding	W	5.4
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 54
		max	ms 66
Opening NO		min	ms 14
		max	ms 17
Closing NC		min	ms 24
		max	ms 30
Opening NC		min	ms 47
		max	ms 57
UL technical data			
Rated operational voltage AC (UL)		V	600
Full-load current (FLA) for three-phase AC motor			
	at 480V	A	7.6
	at 600V	A	9
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

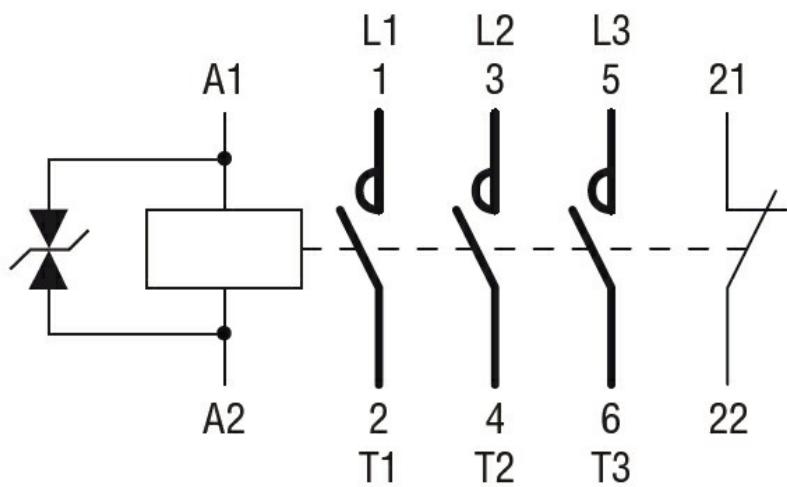
General USE

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			
Impact resistance			""
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/BS 60947-1

IEC/EN/BS 60947-4-1

UL 60947-1

UL 60947-4-1

Certificates

CCC

cULus

EAC

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching