



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 (≤40°C)	A	25	
	AC-1 (≤55°C)	A	20	
	AC-1 (≤70°C)	A	18	
	AC-3 (≤440V ≤55°C)	A	9	
	AC-4 (400V)	A	4.9	
Rated operational power AC-3 (T≤55°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°C)	230V	kW	9.5	
	400V	kW	16	
	500V	kW	21	
	690V	kW	27	
IEC max current I _e in DC1 with L/R ≤ 1ms 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 ≤ 1ms 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 ≤ 1ms with 3 poles in series	≤24V	A	20	
	48V	A	20	
	75V	A	20	
	110V	A	15	

	220V	A	10
IEC max current I _e 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 I _e 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 I _e 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 I _e 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 I _e 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)		mΩ	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	I _{bin}	0.74
Max number of wires simultaneously connectable			Nr.	2
Conductor section	AWG/Kcmil	max		10
Flexible w/o lug conductor section		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 allowable		Vertical plan ±30°
Fixing				Screw / DIN rail 35mm
Weight			g	500
Conductor section	AWG/kcmil conductor section	max		10

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 60947-4-1				yes
EMC compatibility				yes

DC coil operating

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 $\leq 20^{\circ}\text{C}$			
	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

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

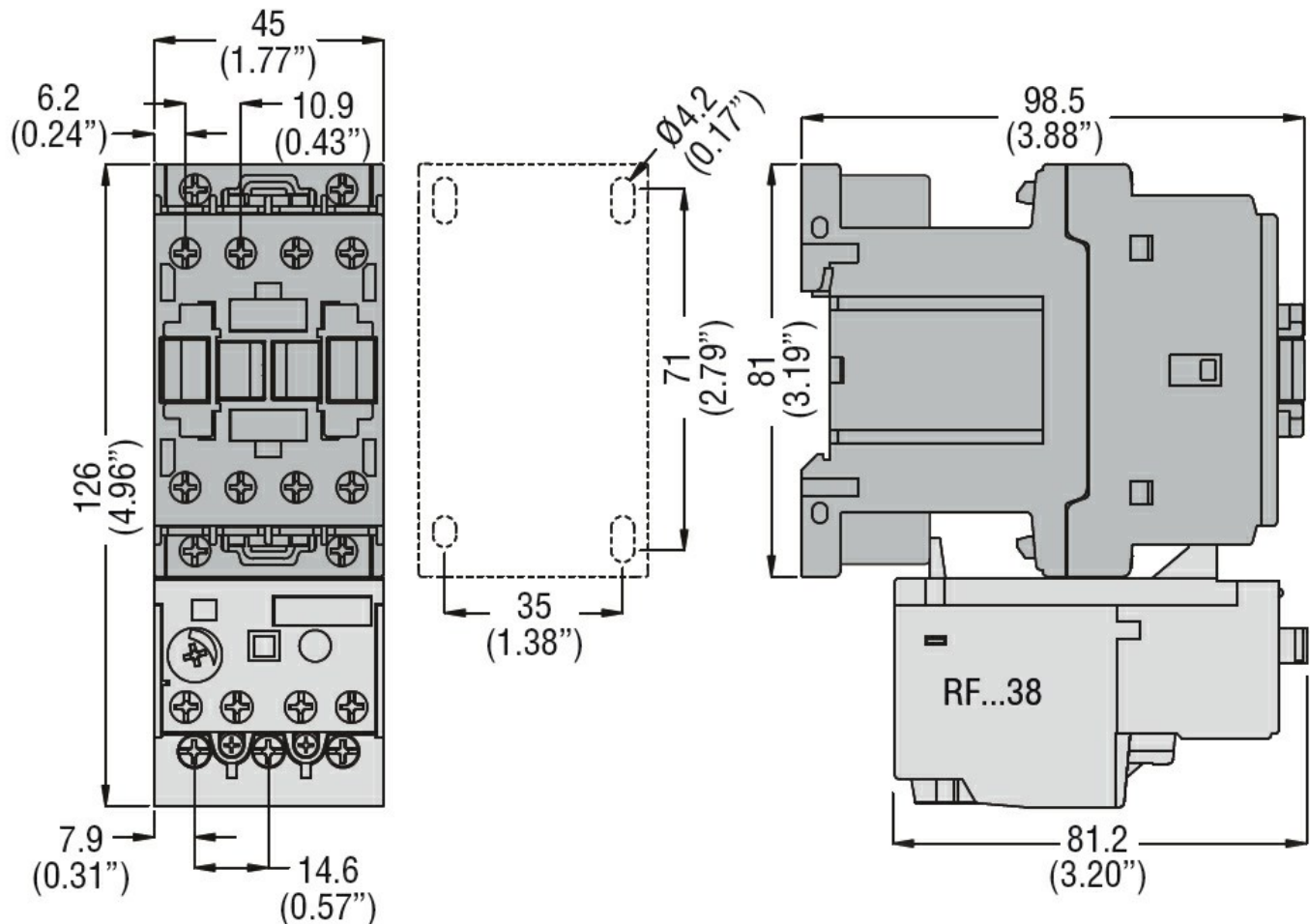
General USE			
	Contactor		
		AC current	A 25
	Auxiliary contacts		
		AC voltage	V 600
		AC current	A 10

	DC voltage	V	250
	DC current	A	1
<hr/>			
Short-circuit protection fuse, 600V High fault	Short circuit current	kA	100
	Fuse rating	A	30
	Fuse class		J
<hr/>			
Standard fault	Short circuit current	kA	5
	Fuse rating	A	60
<hr/>			
Contact rating of auxiliary contacts according to UL			A600 - P600
<hr/>			
Ambient conditions			
Temperature			
Operating temperature			
	min	°C	-50
	max	°C	70
<hr/>			
Storage temperature			
	min	°C	-60
	max	°C	80
<hr/>			
Max altitude		m	3000

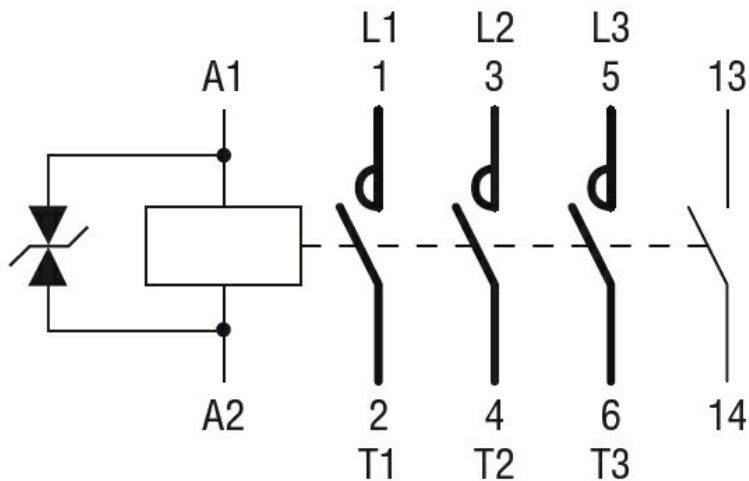
Resistance & Protection

Pollution degree	3
------------------	---

Dimensions [mm (in)]



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