



Product designation

Power contactor

Product type designation

BF09

Contact characteristics

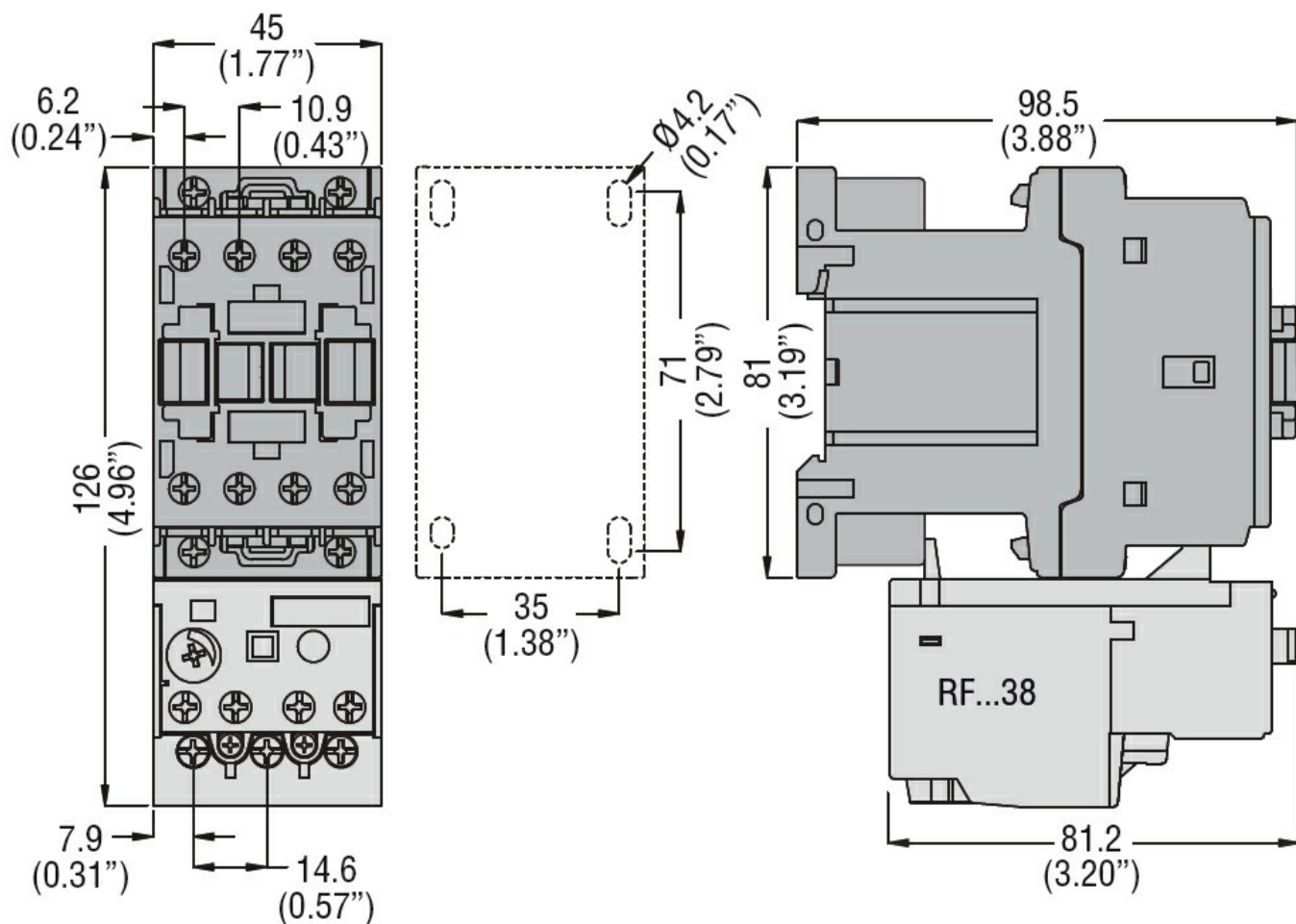
Number of poles	Nr.	3
Rated insulation voltage U_i IEC/EN	V	690
Rated impulse withstand voltage U_{imp}	kV	6
Operational frequency	min	Hz 25
	max	Hz 400
IEC Conventional free air thermal current I_{th}	A	25
Operational current I_e	AC-1 (=40°C)	A 25
	AC-1 (=55°C)	A 20
	AC-1 (=70°C)	A 18
	AC-3 (=440V =55°C)	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 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)			
	Ith	W	1.6
	AC3	W	0.2
Tightening torque for terminals			
	min	Nm	1.5
	max	Nm	1.8
	min	lbin	1.1
	max	lbin	1.5
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	lbin	0.8

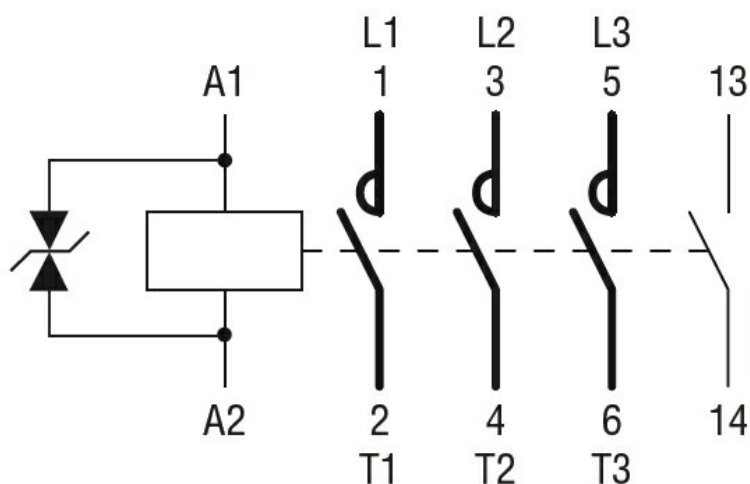
	max	I _{bin}	0.74
Max number of wires simultaneously connectable		Nr.	2
Conductor section			
AWG/Kcmil	max		10
Flexible w/o lug conductor section	min	mm ²	1
	max	mm ²	6
Flexible c/w lug conductor section	min	mm ²	1
	max	mm ²	4
Flexible with insulated spade lug conductor section	min	mm ²	1
	max	mm ²	4
Power terminal protection according to IEC/EN 60529			IP20 when wired
Mechanical features			
Operating position	normal allowable		Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight		g	490
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 mechanical load	cycles cycles	2000000 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	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
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