



Product designation	Power contactor		
Product type designation	BF09		
Contact characteristics			
Number of poles	Nr.	4	
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-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			
	$\leq 24\text{V}$	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

$\leq 24\text{V}$	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

$\leq 24\text{V}$	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

$\leq 24\text{V}$	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

$\leq 24\text{V}$	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	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		494
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	2000000
		cycles	20000000
EMC compatibility			yes
DC coil operating			
DC rated control voltage	V		125
DC operating voltage			
pick-up	min max	%Us %Us	70 125
drop-out	min max	%Us %Us	10 40
Average coil consumption ≤20°C			
	in-rush holding	W W	5.4 5.4
Max cycles frequency			
Mechanical operation		cycles/h	3600
Operating times			
Average time for Us control			
in AC			
Closing NO			
	min max	ms ms	8 24
Opening NO			
	min max	ms ms	10 20
Closing NC			
	min max	ms ms	14 28
Opening NC			
	min max	ms ms	7 18
in DC			

Closing NO	min	ms	54
	max	ms	66
Opening NO	min	ms	14
	max	ms	17

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

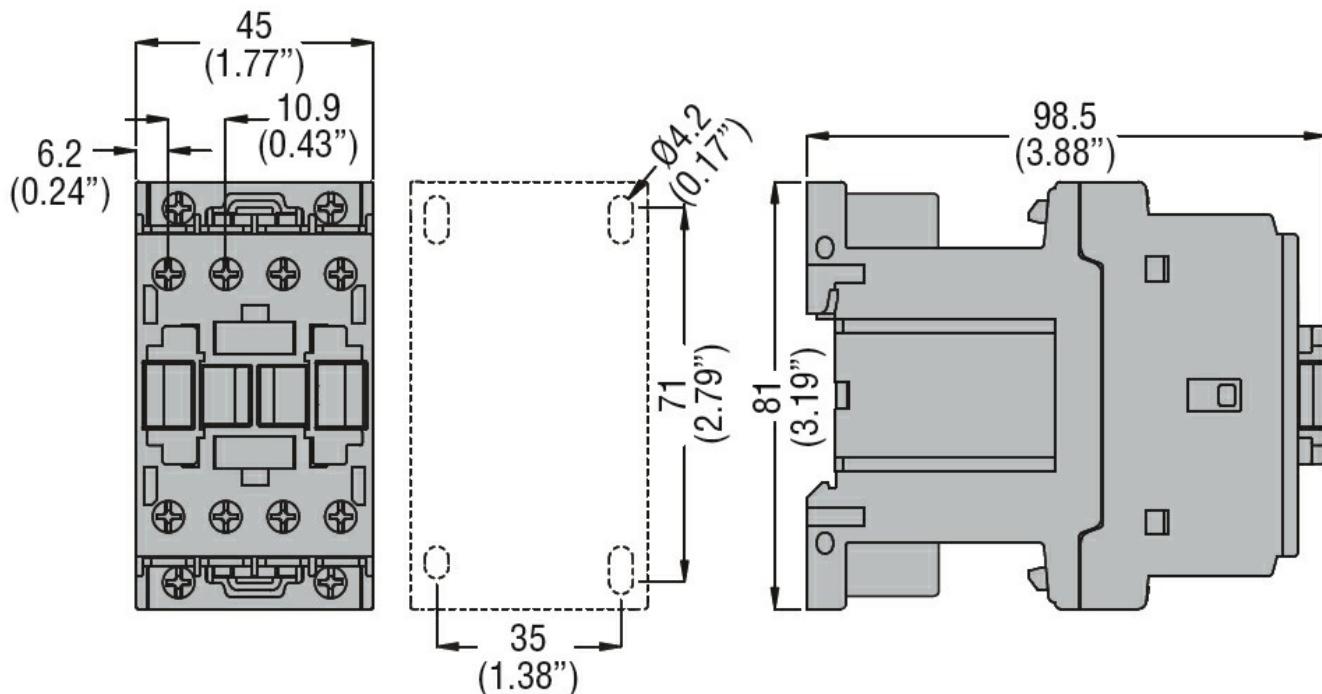
for single-phase AC motor	110/120V	HP	0.75
	230V	HP	2
for three-phase AC motor	200/208V	HP	3
	220/230V	HP	3
	460/480V	HP	5
	575/600V	HP	7.5

General USE

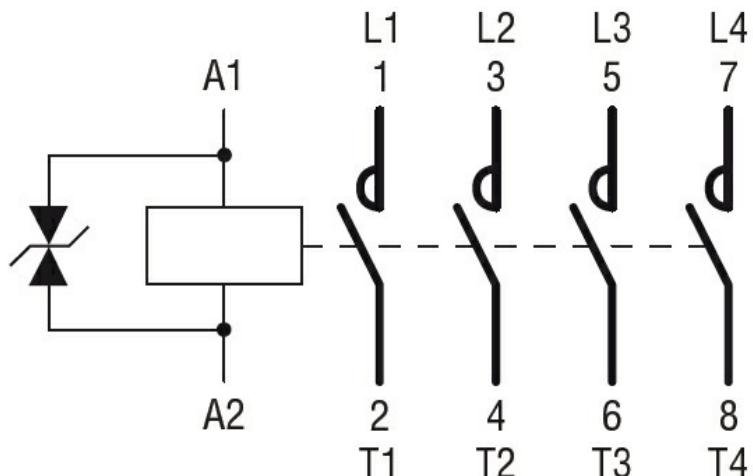
Contactor	AC current	A	25
Short-circuit protection fuse, 600V			
High fault	Short circuit current	kA	100
	Fuse rating	A	30
	Fuse class		J
Standard fault	Short circuit current	kA	5
	Fuse rating	A	60

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/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