



Product designation	Power contactor		
Product type designation	BF09		
<b>Contact characteristics</b>			
Number of poles	Nr.	4	
Rated insulation voltage U <sub>i</sub> IEC/EN	V	690	
Rated impulse withstand voltage U <sub>imp</sub>	kV	6	
Operational frequency	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current I <sub>th</sub>		A	25
Operational current I <sub>e</sub>			
	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-1 (T=40°C)	230V	kW	9.5
	400V	kW	16
	500V	kW	21
	690V	kW	27
IEC max current I <sub>e</sub> 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 <sub>e</sub> 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 <sub>e</sub> 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 <sub>e</sub> 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 le 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 le 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 le 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 le 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	lbin	0.74

Max number of wires simultaneously connectable Nr. 2

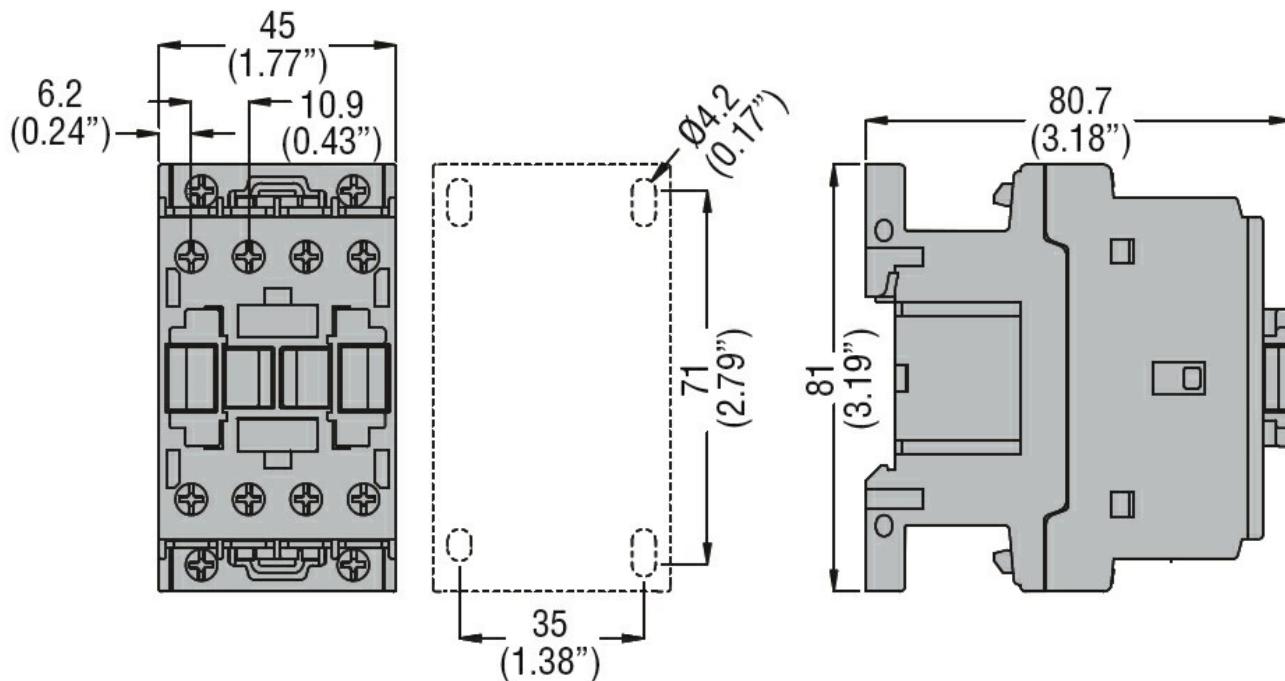
Conductor section

AWG/Kcmil	max	10
Flexible w/o lug conductor section	min	mm <sup>2</sup> 1

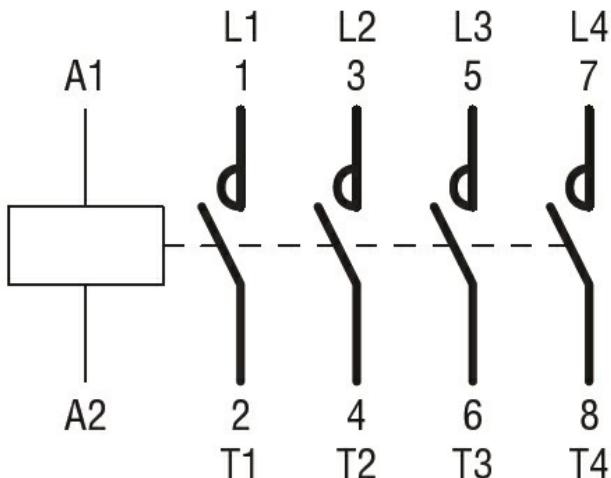
Flexible w/o lug conductor section	min	mm <sup>2</sup>	1

	max	mm <sup>2</sup>	6
Flexible c/w lug conductor section			
	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	4
Flexible with insulated spade lug conductor section			
	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	4
Power terminal protection according to IEC/EN 60529			IP20 when wired
<b>Mechanical features</b>			
Operating position	normal allowable		Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight	g		356
Conductor section			
AWG/kcmil conductor section	max		10
<b>Operations</b>			
Mechanical life	cycles		20000000
Electrical life	cycles		2000000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1	rated load mechanical load	cycles	2000000 20000000
Mirror contacts according to IEC/EN 609474-4-1			yes
EMC compatibility			yes
<b>AC coil operating</b>			
Rated AC voltage at 50/60Hz	V		230
AC operating voltage			
of 50/60Hz coil powered at 50Hz			
pick-up	min max	%Us %Us	80 110
drop-out	min max	%Us %Us	20 55
of 50/60Hz coil powered at 60Hz			
pick-up	min max	%Us %Us	85 110
drop-out	min max	%Us %Us	20 55
AC average coil consumption at 20°C			
of 50/60Hz coil powered at 50Hz			
in-rush holding	VA VA		75 9
of 50/60Hz coil powered at 60Hz			
in-rush holding	VA VA		70 6.5
of 60Hz coil powered at 60Hz			
in-rush holding	VA VA		75 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
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 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