



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 ≤ 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
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 mm² 1

		max	mm²	6	
Flexible c/w lug conductor section		min	mm²	1	
		max	mm²	4	
Flexible with insulated spade lug conductor section		min	mm²	1	
		max	mm²	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	496	
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	48	
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 holding	W	5.4	
			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

Rated operational voltage AC (UL)	V	600
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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
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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

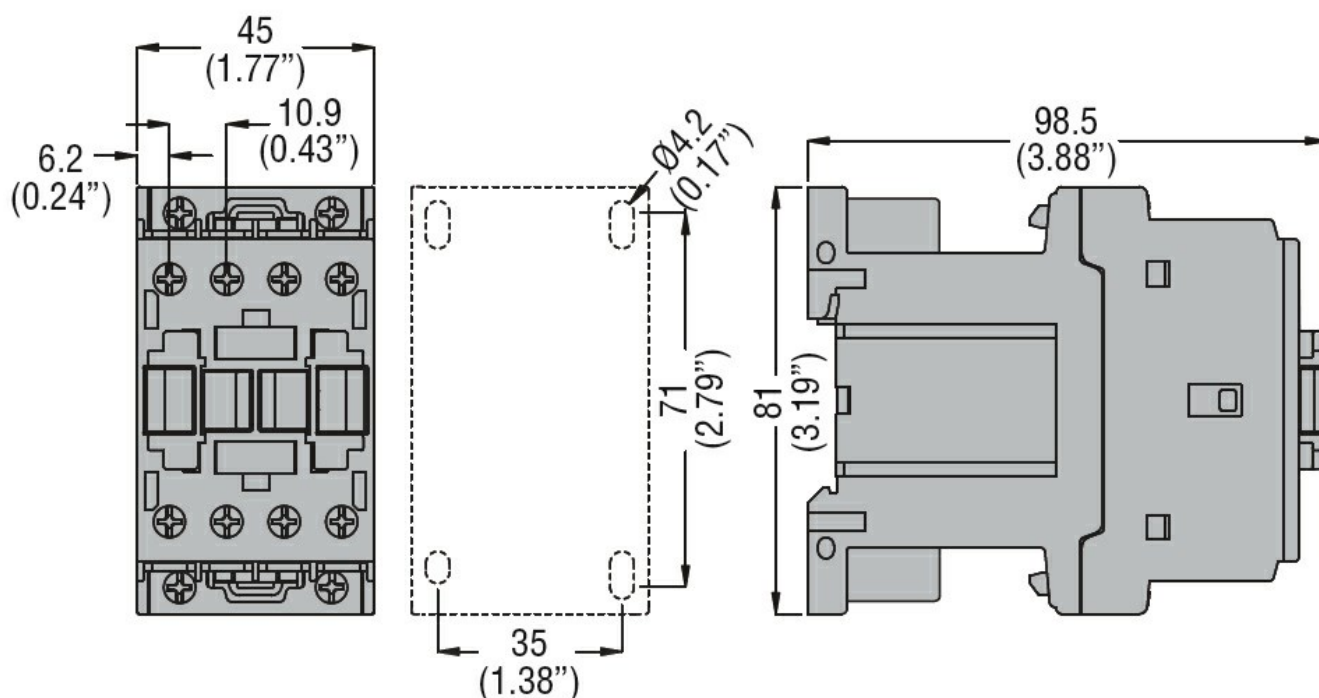
Storage temperature

min	°C	-60
max	°C	80

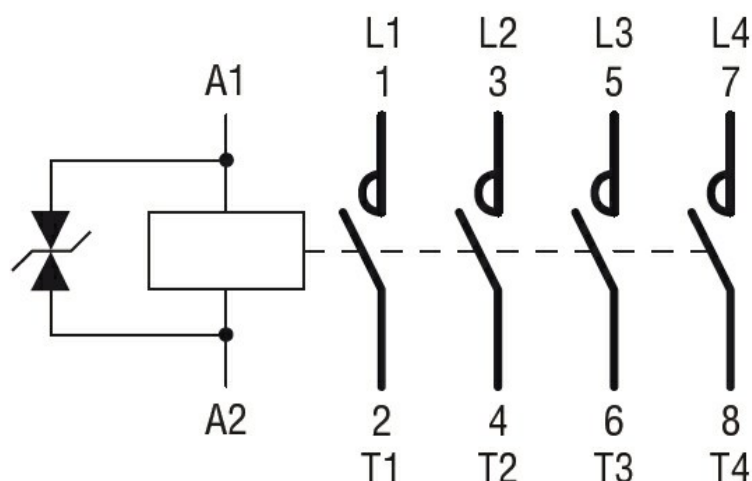
Max altitude

m	3000
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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