

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	–
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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
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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
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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
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Short-time allowable current for 10s (IEC/EN60947-1)		A	150
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Protection fuse	gG (IEC)	A	25
	aM (IEC)	A	10
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Making capacity (RMS value)		A	90
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Breaking capacity at voltage	440V	A	72
	500V	A	72
	690V	A	71
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Resistance per pole (average value)		mΩ	2.5
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Power dissipation per pole (average value)	I _{th}	W	1.6
	AC3	W	0.2
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Tightening torque for terminals	min	Nm	1.5
	max	Nm	1.8
	min	lbin	1.1
	max	lbin	1.5
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Tightening torque for coil terminal	min	Nm	0.8
	max	Nm	1
	min	lbin	Prodotti finiti
	max	lbin	Prodotti finiti
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Max number of wires simultaneously connectable		Nr.	2
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Conductor section	Flexible w/o lug conductor section		
	min	mm ²	1
	max	mm ²	6
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	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	502
Auxiliary contact characteristics			
Type of contact			1 NC
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 ≤20°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
Closing NC	min	ms	24
	max	ms	30
Opening NC	min	ms	67
	max	ms	81

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
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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