

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 ≤ 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
	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	Prodotti finiti
	max	lbin	Prodotti finiti
Max number of wires simultaneously connectable		Nr.	2
Conductor section			
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	352
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
Rated AC voltage at 60Hz		V	120
AC coil operating			
AC operating voltage			
of 60Hz coil powered at 60Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out			
	min	%Us	20
	max	%Us	55
AC average coil consumption at 20°C			
of 50/60Hz coil powered at 50Hz			
	in-rush	VA	75
	holding	VA	9
of 50/60Hz coil powered at 60Hz			
	in-rush	VA	70
	holding	VA	6.5
of 60Hz coil powered at 60Hz			
	in-rush	VA	75
	holding	VA	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