



Product designation Product type designation		Power contactor BF09
Contact characteristics		
Number of poles	Nr.	3
Rated insulation voltage Ui IEC/EN	V	690
Rated impulse withstand voltage Uimp	kV	6
Operational frequency		
min	Hz	25
max	Hz	400
IEC Conventional free air thermal current Ith	Α	25
Operational current le		
AC-1 (≤40°C)	Α	25
AC-1 (≤55°C)	Α	20
AC-1 (≤70°C)	Α	18
AC-3 (≤440V ≤55°C)	Α	9
AC-4 (400V)	Α	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 le in DC1 with L/R ≤ 1ms with 1 poles in series		
≤24V	Α	15
48V	Α	13
75V	Α	12
110V	A	6
220V	Α	
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series	_	
≤24V	A	18
48V	A	18
75V	A	17
110V	A	12
220V	Α	
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series	^	00
≤24V	A	20
48V	A	20
75V	Α	20
110V	Α	15





	220V	Α	10
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	16
	220V	Α	12
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	Α	10
	48V	Α	9
	75V	Α	8
	110V	Α	2
	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	Α	13
	48V	Α	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	22U V		
TEO MAX CUITERLIE III DOG-DOG WILLI LIN > 101115 WILLI 3 POLES III SELLES	≤24V	Α	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	Α	15
	48V	Α	15
	75V	Α	15
	110V	Α	12
	220V	Α	7
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150
Protection fuse			
	gG (IEC)	Α	25
	aM (IEC)	Α	10
Making capacity (RMS value)		Α	90
Breaking capacity at voltage			
- · · · · · · · · · · · · · · · · · · ·	440V	Α	72
	500V	Α	72
	690V	Α	71
Resistance per pole (average value)	300.	mΩ	2.5
Power dissipation per pole (average value)		.1134	
Tomos dissipation per pero (average value)	Ith	W	1.6
	AC3	W	0.2
Tightening torque for terminals	AUS	v v	U.Z
rightening torque for terminals	min	Nim	1.5
	min	Nm Nm	1.5
	max	Nm	1.8
	min	lbin	1.1
This is the state of the state	max	lbin	1.5
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	Ibin	0.8



		max	Ibin	0.74
	simultaneously connectable		Nr.	2
Conductor section	A.M.O. #4			
	AWG/Kcmil			40
	Clavible w/o live an diretor anation	max		10
	Flexible w/o lug conductor section	min	mm²	1
		min	mm² mm²	1 6
	Flexible c/w lug conductor section	max	111111	0
	r lexible 6/w lug corluction section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section			•
	r loxilote mar inculated opade lag contactor cooler	min	mm²	1
		max	mm²	4
	(''			IP20 when
Power terminal protect	etion according to IEC/EN 60529			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail
				35mm
Weight			g	360
Conductor section				
	AWG/kcmil conductor section			
A 10		max		10
IALIVIIIary contact chara	ACTAPISTICS			
Auxiliary contact chara	20101101100		۸	10
Thermal current Ith			Α	10 4600 B600
Thermal current Ith IEC/EN 60947-5-1 de	signation		Α	10 A600 - P600
·	signation	2301/		A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de	signation	230V 400V	A	A600 - P600 3
Thermal current Ith IEC/EN 60947-5-1 de	signation	400V	A A	A600 - P600 3 1.9
Thermal current lth IEC/EN 60947-5-1 de Operating current AC1	signation 15		A	A600 - P600 3
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC1	signation 15	400V 500V	A A A	3 1.9 1.4
Thermal current lth IEC/EN 60947-5-1 de Operating current AC1 Operating current DC1	signation 15	400V	A A	A600 - P600 3 1.9
Thermal current lth IEC/EN 60947-5-1 de Operating current AC1 Operating current DC1	signation 15	400V 500V 110V	A A A	3 1.9 1.4 5.7
Thermal current lth IEC/EN 60947-5-1 de Operating current AC1 Operating current DC1	signation 15	400V 500V	A A A	3 1.9 1.4
Thermal current lth IEC/EN 60947-5-1 de Operating current AC1 Operating current DC1	signation 15	400V 500V 110V 24V	A A A	A600 - P600 3 1.9 1.4 5.7
Thermal current lth IEC/EN 60947-5-1 de Operating current AC1 Operating current DC1	signation 15	400V 500V 110V 24V 48V	A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9
Thermal current Ith IEC/EN 60947-5-1 de	signation 15	400V 500V 110V 24V 48V 60V	A A A A A	3 1.9 1.4 5.7 5.7 2.9 2.3
Thermal current lth IEC/EN 60947-5-1 de Operating current AC1 Operating current DC1	signation 15	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC	signation 15	400V 500V 110V 24V 48V 60V 110V 125V	A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC1 Operating current DC2 Operating current DC3 Operating current DC3	signation 15	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	signation 15	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC1 Operating current DC2 Operating current DC3 Operating current DC3 Operations Mechanical life Electrical life	signation 15	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC1 Operating current DC2 Operating current DC3 Operations Mechanical life Electrical life Safety related data	signation 15 12 13	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC1 Operating current DC2 Operating current DC3 Operations Mechanical life Electrical life Safety related data	signation 15	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC1 Operating current DC2 Operating current DC3 Operations Mechanical life Electrical life Safety related data	signation 12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1	signation 12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC1 Operating current DC2 Operating current DC3 Operating current DC3 Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi	signation 12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000 20000000 yes
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1	signation 12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000 20000000



Rated AC voltage at 5	60/60Hz			V	24
AC operating voltage					
	of 50/60Hz coil po	owered at 50Hz			
		pick-up			
			min	%Us	80
			max	%Us	110
		drop-out		0/11	00
			min	%Us	20
	-f F0/001 il		max	%Us	55
	of 50/60Hz coil po				
		pick-up	min	%Us	85
			min max	%Us	110
		drop-out	IIIax	7005	110
		αιορ-σαι	min	%Us	20
			max	%Us	55
C average coil cons	umption at 20°C		Пих	7000	
.c avolago oon oons	of 50/60Hz coil po	owered at 50Hz			
	31 337 331 12 3311 pc	7.1.0.00 at 001 12	in-rush	VA	75
			holding	VA	9
	of 50/60Hz coil po	owered at 60Hz			-
	0. 00/00. i= 00 p 0		in-rush	VA	70
			holding	VA	6.5
	of 60Hz coil powe	ered at 60Hz			
			in-rush	VA	75
			holding	VA	9
Dissipation at holding	≤20°C 50Hz			W	2.5
OC coil operating					
verage coil consump	otion ≤20°C				
			in-rush	W	5.4
			holding	W	2.4
Max cycles frequency					
Mechanical operation				cycles/h	3600
Operating times					
Average time for Us o					
	in AC				
		Closing NO			
			min	ms	8
			max	ms	24
		Opening NO			4.0
			min	ms	10
		Olasias NO	max	ms	20
		Closing NC			4.4
			min	ms	14
		Opening NC	max	ms	28
		Opening NC	min	ma	7
			min	ms	7
II tochnical data			max	ms	18
L technical data) for three phase AC	motor			
full-load current (FLA) for tiffee-phase AC	MOLUI	ot 400\/	۸	7.6
			at 480V at 600V	A A	7.6 0.375
'ioldad maabaaisal -	orformanaa		at 000 v		0.373
ielded mechanical p	erformance for single-phase A	AC motor	at 000 v	Α	0.373

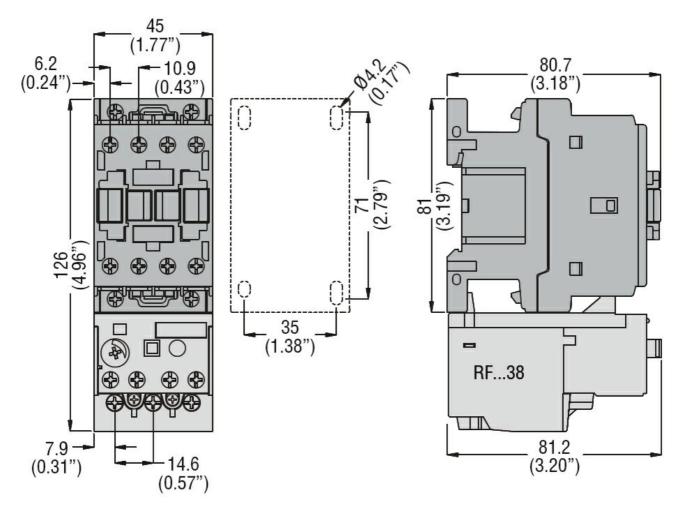




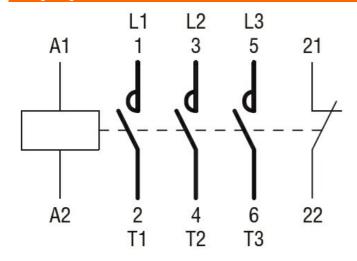
		110/120V	HP	0.75
		230V	HP	2
	for three-phase AC motor			_
		200/208V	HP	3
		220/230V	HP	3
		460/480V	HP	5
		575/600V	HP	7.5
General USE				
	Contactor			
		AC current	Α	25
	Auxiliary contacts	710 04110111		
	raxilary contacts	AC voltage	V	600
		AC current	A	10
		DC voltage	V	250
		DC voltage DC current		1
Ob ant almostitus materatic	- f COOM	DC current	Α	<u> </u>
Short-circuit protectio				
	High fault			
		Short circuit current	kA	100
		Fuse rating	Α	30
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	Α	60
Contact rating of auxil	iary contacts according to UL			A600 - P600
Ambient conditions				
Temperature				
	Operating temperature			
		min	°C	-50
		max	°C	70
	Storage temperature			
	3 - 1	min	°C	-60
		max	°C	80
Max altitude		· · · · · · · · · · · · · · · · · · ·	m	3000
Resistance & Protecti	ion			
Pollution degree				3
Dimensions				

ENERGY AND AUTOMATION

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 50/60HZ, 24VAC, 1NC AUXILIARY CONTACT



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



BF0901A024

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 50/60HZ, 24VAC, 1NC AUXILIARY CONTACT

CCC	
cULus	
EAC	

ETIM classification

ETIM 8.0

EC000066 -Power contactor, AC switching





Product designation Product type designation			Power contactor BF09
Contact characteristics			
Number of poles		Nr.	3
Rated insulation voltage Ui IEC/EN		V	690
Rated impulse withstand voltage Uimp		kV	6
Operational frequency			
• • •	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith		Α	25
Operational current le			
·	AC-1 (≤40°C)	Α	25
	AC-1 (≤55°C)	Α	20
	AC-1 (≤70°C)	Α	18
	AC-3 (≤440V ≤55°C)	Α	9
	AC-4 (400V)	Α	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 le in DC1 with L/R ≤ 1ms with 1 poles in series			
· ·	≤24V	Α	15
	48V	Α	13
	75V	Α	12
	110V	Α	6
	220V	Α	_
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
·	≤24V	Α	18
	48V	Α	18
	75V	Α	17
	110V	Α	12
	220V	Α	1
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			_
·	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	15





	220V	Α	10
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	16
	220V	Α	12
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	Α	10
	48V	Α	9
	75V	Α	8
	110V	Α	2
	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	Α	13
	48V	Α	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	22U V		
TEO MAX CUITERLIE III DOG-DOG WILLI LIN > 101115 WILLI 3 POLES III SELLES	≤24V	Α	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	Α	15
	48V	Α	15
	75V	Α	15
	110V	Α	12
	220V	Α	7
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150
Protection fuse			
	gG (IEC)	Α	25
	aM (IEC)	Α	10
Making capacity (RMS value)		Α	90
Breaking capacity at voltage			
- · · · · · · · · · · · · · · · · · · ·	440V	Α	72
	500V	Α	72
	690V	Α	71
Resistance per pole (average value)	300.	mΩ	2.5
Power dissipation per pole (average value)		.1134	
Tomos dissipation per pero (average value)	Ith	W	1.6
	AC3	W	0.2
Tightening torque for terminals	AUS	v v	U.Z
rightening torque for terminals	min	Nim	1.5
	min	Nm Nm	1.5
	max	Nm	1.8
	min	lbin	1.1
This is the state of the state	max	lbin	1.5
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	Ibin	0.8



		max	Ibin	0.74
	simultaneously connectable		Nr.	2
Conductor section	A.M.O. #4			
	AWG/Kcmil			40
	Clavible w/o live an diretor anation	max		10
	Flexible w/o lug conductor section	min	mm²	1
		min	mm² mm²	1 6
	Flexible c/w lug conductor section	max	111111	0
	r lexible 6/w lug corluction section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section			•
	r loxilote mar inculated opade lag contactor cooler	min	mm²	1
		max	mm²	4
	(''			IP20 when
Power terminal protect	etion according to IEC/EN 60529			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail
				35mm
Weight			g	360
Conductor section				
	AWG/kcmil conductor section			
A 10		max		10
IALIVIIIary contact chara	ACTAPISTICS			
Auxiliary contact chara	20101101100		۸	10
Thermal current Ith			Α	10 4600 B600
Thermal current Ith IEC/EN 60947-5-1 de	signation		Α	10 A600 - P600
·	signation	2301/		A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de	signation	230V 400V	A	A600 - P600 3
Thermal current Ith IEC/EN 60947-5-1 de	signation	400V	A A	A600 - P600 3 1.9
Thermal current lth IEC/EN 60947-5-1 de Operating current AC1	signation 15		A	A600 - P600 3
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC1	signation 15	400V 500V	A A A	3 1.9 1.4
Thermal current lth IEC/EN 60947-5-1 de Operating current AC1 Operating current DC1	signation 15	400V	A A	A600 - P600 3 1.9
Thermal current lth IEC/EN 60947-5-1 de Operating current AC1 Operating current DC1	signation 15	400V 500V 110V	A A A	3 1.9 1.4 5.7
Thermal current lth IEC/EN 60947-5-1 de Operating current AC1 Operating current DC1	signation 15	400V 500V	A A A	3 1.9 1.4
Thermal current lth IEC/EN 60947-5-1 de Operating current AC1 Operating current DC1	signation 15	400V 500V 110V 24V	A A A	A600 - P600 3 1.9 1.4 5.7
Thermal current lth IEC/EN 60947-5-1 de Operating current AC1 Operating current DC1	signation 15	400V 500V 110V 24V 48V	A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9
Thermal current Ith IEC/EN 60947-5-1 de	signation 15	400V 500V 110V 24V 48V 60V	A A A A A	3 1.9 1.4 5.7 5.7 2.9 2.3
Thermal current lth IEC/EN 60947-5-1 de Operating current AC1 Operating current DC1	signation 15	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC	signation 15	400V 500V 110V 24V 48V 60V 110V 125V	A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC1 Operating current DC2 Operating current DC3 Operating current DC3	signation 15	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	signation 15	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC1 Operating current DC2 Operating current DC3 Operating current DC3 Operations Mechanical life Electrical life	signation 15	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC1 Operating current DC2 Operating current DC3 Operations Mechanical life Electrical life Safety related data	signation 15 12 13	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC1 Operating current DC2 Operating current DC3 Operations Mechanical life Electrical life Safety related data	signation 15	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC1 Operating current DC2 Operating current DC3 Operations Mechanical life Electrical life Safety related data	signation 12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1	signation 12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC1 Operating current DC2 Operating current DC3 Operating current DC3 Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi	signation 12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000 20000000 yes
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1	signation 12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000 20000000



	60/60Hz			V	48
AC operating voltage					
	of 50/60Hz coil powered	at 50Hz			
	t	oick-up			
			min	%Us	80
		l (max	%Us	110
	C	drop-out		0/116	20
			min	%Us %Us	20 55
	of 50/60Hz coil powered	at 60∐-z	max	%US	55
	·	oick-up			
	٢	лок ар	min	%Us	85
			max	%Us	110
	C	drop-out		,,,,,	
			min	%Us	20
			max	%Us	55
AC average coil cons	umption at 20°C				
Ŭ	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 6	60Hz			
			in-rush	VA	75
			holding	VA	9
Dissipation at holding				W	2.5
Max cycles frequency				. "	
Mechanical operation				cycles/h	3600
Operating times	ontrol				
Average time for Us c	Jillioi				
	in AC				
	in AC	Closing NO			
		Closing NO	min	ms	8
		Closing NO	min max	ms ms	8 24
	C	-	min max	ms ms	8 24
	C	Closing NO			
	C	-	max	ms	24
	(-	max min	ms ms	10
	(Opening NO	max min	ms ms	10
	(Opening NO	max min max	ms ms ms	24 10 20
		Opening NO	max min max min	ms ms ms	24 10 20 14 28
		Opening NO Closing NC	max min max min	ms ms ms	24 10 20 14 28 7
		Opening NO Closing NC	max min max min max	ms ms ms ms	24 10 20 14 28
		Opening NO Closing NC Opening NC	max min max min max min	ms ms ms ms ms	24 10 20 14 28 7
		Opening NO Closing NC Opening NC	max min max min max min max	ms ms ms ms ms	24 10 20 14 28 7 18
		Opening NO Closing NC Opening NC	max min max min max min max at 480V	ms ms ms ms ms ms	24 10 20 14 28 7 18
Full-load current (FLA) for three-phase AC motor	Opening NO Closing NC Opening NC	max min max min max min max	ms ms ms ms ms	24 10 20 14 28 7 18
Full-load current (FLA) for three-phase AC motor	Opening NO Closing NC Opening NC	max min max min max min max at 480V	ms ms ms ms ms ms	24 10 20 14 28 7 18
Full-load current (FLA) for three-phase AC motor	Opening NO Closing NC Opening NC	max min max min max min max at 480V at 600V	ms ms ms ms ms A A	24 10 20 14 28 7 18 7.6 0.375
Full-load current (FLA) for three-phase AC motor	Opening NO Closing NC Opening NC	max min max min max min max at 480V at 600V	ms ms ms ms ms A A	24 10 20 14 28 7 18 7.6 0.375
JL technical data Full-load current (FLA Yielded mechanical p) for three-phase AC motor erformance for single-phase AC motor	Opening NO Closing NC Opening NC	max min max min max min max at 480V at 600V	ms ms ms ms ms A A	24 10 20 14 28 7 18 7.6 0.375
Full-load current (FLA) for three-phase AC motor	Opening NO Closing NC Opening NC	max min max min max min max at 480V at 600V	ms ms ms ms ms A A	24 10 20 14 28 7 18 7.6 0.375

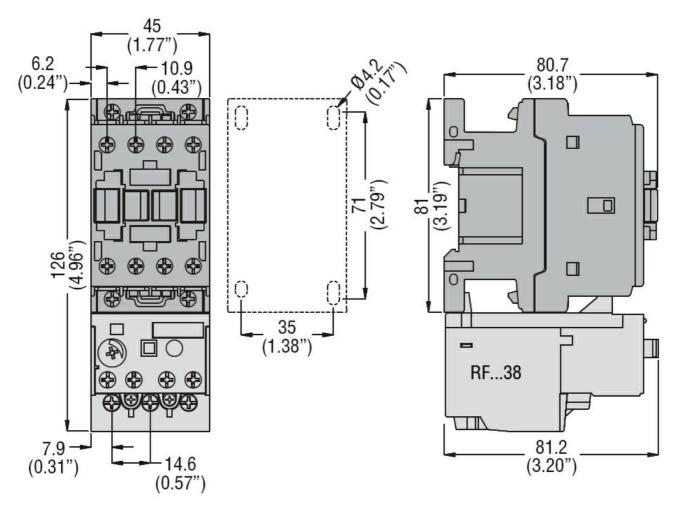




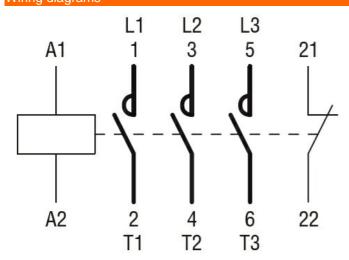
		220/230V	HP	3
		460/480V	HP	5
		575/600V	HP	7.5
General USE				
000.0.	Contactor			
	Contactor	AC current	Α	25
	Auviliany contacts	AC current		
	Auxiliary contacts	A.O		000
		AC voltage	V	600
		AC current	Α	10
		DC voltage	V	250
		DC current	Α	1
Short-circuit protection	on fuse, 600V			
	High fault			
	9	Short circuit current	kA	100
		Fuse rating	Α	30
		Fuse class	,,	J
	Standard fault	1 430 01433		
	Standard radit	Object singuit summent	1. 0	F
		Short circuit current	kA	5
		Fuse rating	Α	60
	liary contacts according to UL			A600 - P600
Ambient conditions				
Temperature				
	Operating temperature			
		min	°C	-50
		max	°C	70
	Storage temperature			-
	Clorago tomporataro	min	°C	-60
		max	°C	80
Max altitude		IIIdX		
	e		m	3000
Resistance & Protect	tion			
Pollution degree				3
Dimensions				

ENERGY AND AUTOMATION

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 50/60HZ, 48VAC, 1NC AUXILIARY CONTACT



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



BF0901A048

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 50/60HZ, 48VAC, 1NC AUXILIARY CONTACT

CCC	
cULus	
EAC	

ETIM classification

ETIM 8.0

EC000066 -Power contactor, AC switching







Contact characteristics Number of poles Nr. 3 Rated insulation voltage Ui IEC/EN V 690 Rated impulse withstand voltage Uimp kV 6 Operational frequency min Hz 25 IEC Conventional free air thermal current Ith A 25 Operational current Ie AC-1 (≤40°C) A 25 AC-1 (≤70°C) A 18 AC-3 (4400°S5°C) A 18 AC-3 (4400°S5°C) A 9 AC-4 (400°V) A 4.9 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4.2 400V kW 4.2 400V kW 4.5 40V kW 4.5 440V kW 4.5 40V kW 2.5 40V kW 2.5 40V kW	Product designation Product type designation			Power contactor BF09
Rated insulation voltage Ui IEC/EN				
Rated impulse withstand voltage Ulmp	Number of poles		Nr.	3
Operational frequency min max mathematics and the state of the state			V	690
Min Hz 25 400 IEC Conventional free air thermal current Ith	Rated impulse withstand voltage Uimp		kV	6
EC Conventional free air thermal current Ith	Operational frequency			
EC Conventional free air thermal current lth		min	Hz	25
Operational current le 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 1.6 500V kW 2.1 690V kW 2.7 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series \$24V A 18 48V A 18 75V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series \$24		max	Hz	400
AC-1 (≤40°C)	IEC Conventional free air thermal current Ith		Α	25
AC-1 (≤55°C)	Operational current le			
AC-1 (≤55°C)	·	AC-1 (≤40°C)	Α	25
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 le in DC1 with L/R ≤ 1ms with 1 poles in series 524V A 15 48V A 13 75V A 12 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series 524V A 18 48V A 18 75V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series 524V A 18 75V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series 524V A 20 48V A 20 75V A 20		•	Α	20
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 16 500V kW 21 690V kW 27 IEC max current le 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 le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 18 48V A 18 75V A 12 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 18 48V A 18 75V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series		,	Α	18
Rated operational power AC-3 (T≤55°C) 230V kW 2.2 4400V 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 440V kW 16 500V kW 21 690V kW 27 IEC max current le 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 le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 18 48V A 18 75V A 17 110V A 18 48V A 18 75V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 18 48V A 18 75V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			Α	9
230V kW 2.2 400V kW 4.2 415V kW 4.5 446V kW 4.5 446V kW 4.8 500V kW 5.5 690V kW 7.5 5.5 690V kW 7.5 5.5 690V kW 7.5 690V kW 16 500V kW 21 690V kW 27 690V kW 28 690V kW 28 690V kW 28 690V kW 29 690V kW 29		AC-4 (400V)	Α	4.9
400V kW 4.2 415V kW 4.5 440V kW 4.8 500V kW 5.5 690V kW 5.5 690V kW 7.5	Rated operational power AC-3 (T≤55°C)			
415V	, ,	230V	kW	2.2
A40V kW 4.8 500V kW 5.5 690V kW 7.5		400V	kW	4.2
Soov kW 5.5 690V kW 7.5		415V	kW	4.5
Rated operational power AC-1 (T≤40°C) 230V kW 9.5 400V kW 16 500V kW 21 690V kW 27 27 220V A 15 48V A 12 110V A 6 220V A - 220V A 17 110V A 18 48V A 17 110V A 12 220V A 1 220V A 20 48V A 20 48V A 20 75V A 20		440V	kW	4.8
Rated operational power AC-1 (T≤40°C) 230V kW 9.5 400V kW 16 500V kW 21 690V kW 27 IEC max current le 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 le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 18 48V A 18 75V A 18 48V A 18 75V A 17 110V A 18 48V A 18 75V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 20 48V A 20 75V A 20		500V	kW	5.5
		690V	kW	7.5
A00V kW 16 500V kW 21 690V kW 27 27	Rated operational power AC-1 (T≤40°C)			
EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series S24V A 15 48V A 13 75V A 12 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series S24V A 18 48V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series S24V A 20 48V A 20 48V A 20 75V A 20 48V A 20 48V		230V	kW	9.5
EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series		400V	kW	16
SEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series S24V		500V	kW	21
		690V	kW	27
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			
T5V A 12 110V A 6 220V A -		≤24V	Α	15
110V A 6 220V A -		48V	Α	13
EC max current le in DC1 with L/R \leq 1ms with 2 poles in series \leq 24V A 18 48V A 18 75V A 17 110V A 12 220V A 1 1 1 1 1 1 1 1 1		75V	Α	12
IEC max current le 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 le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 20 48V A 20 75V A 20		110V	Α	6
		220V	Α	_
	IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
		≤24V	Α	18
		48V	Α	18
		75V	Α	17
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 20 48V A 20 75V A 20		110V	Α	12
≤24V A 20 48V A 20 75V A 20		220V	Α	1
48V A 20 75V A 20	IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			
75V A 20		≤24V	Α	20
		48V	Α	20
440)/		75V	Α	20
TIUV A 15		110V	Α	15





	220V	Α	10
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	16
	220V	Α	12
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	Α	10
	48V	Α	9
	75V	Α	8
	110V	Α	2
	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	Α	13
	48V	Α	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	22U V		
TEO MAX CUITERLIE III DOG-DOG WILLI LIN > 101115 WILLI 3 POLES III SELLES	≤24V	Α	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	Α	15
	48V	Α	15
	75V	Α	15
	110V	Α	12
	220V	Α	7
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150
Protection fuse			
	gG (IEC)	Α	25
	aM (IEC)	Α	10
Making capacity (RMS value)		Α	90
Breaking capacity at voltage			
- · · · · · · · · · · · · · · · · · · ·	440V	Α	72
	500V	Α	72
	690V	Α	71
Resistance per pole (average value)	300.	mΩ	2.5
Power dissipation per pole (average value)		.1134	
Tomos dissipation per pero (average value)	Ith	W	1.6
	AC3	W	0.2
Tightening torque for terminals	AUS	v v	U.Z
rightening torque for terminals	min	Nim	1.5
	min	Nm Nm	1.5
	max	Nm	1.8
	min	lbin	1.1
This is the state of the state	max	lbin	1.5
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	Ibin	0.8





		max	Ibin	0.74
	simultaneously connectable		Nr.	2
Conductor section	1110/14			
	AWG/Kcmil			4.0
	Clavible w/o live an diretor postion	max		10
	Flexible w/o lug conductor section	min	mama ²	1
		min	mm² mm²	1 6
	Flexible c/w lug conductor section	max	111111	0
	r lexible 6/w lug corluction section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section			•
	r loxible mar inediated opade lag confederer cooler	min	mm²	1
		max	mm²	4
D (('			IP20 when
Power terminal protect	tion according to IEC/EN 60529			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail
				35mm
Weight			g	358
Conductor section				
	AWG/kcmil conductor section			
A 10	and the second s	max		10
Auxiliary contact chara Thermal current Ith	acteristics		Α	10
	aignation		<u> </u>	10 A600 B600
IEC/EN 60947-5-1 de	•		A	A600 - P600
IEC/EN 60947-5-1 de	•	2201/		A600 - P600
IEC/EN 60947-5-1 de	•	230V	A	A600 - P600 3
IEC/EN 60947-5-1 de	•	400V	A A	A600 - P600 3 1.9
IEC/EN 60947-5-1 de Operating current AC	15		A	A600 - P600 3
IEC/EN 60947-5-1 de Operating current AC	15	400V 500V	A A A	3 1.9 1.4
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V	A A	A600 - P600 3 1.9
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V 500V 110V	A A A	3 1.9 1.4 5.7
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V 500V 110V 24V	A A A	3 1.9 1.4 5.7
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V 500V 110V	A A A	3 1.9 1.4 5.7
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V 500V 110V 24V 48V	A A A A	3 1.9 1.4 5.7 5.7
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V 500V 110V 24V 48V 60V	A A A A A	3 1.9 1.4 5.7 5.7 2.9 2.3
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V 500V 110V 24V 48V 60V 110V	A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25
IEC/EN 60947-5-1 de Operating current AC Operating current DC	12	400V 500V 110V 24V 48V 60V 110V 125V	A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1
IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC	12	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Operating current DC Mechanical life	12	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Operating current DC Electrical life	12	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Operating current DC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data	12	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Operating current DC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data	12	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000
Operating current DC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data	12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000
Operating current DC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1	12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000 20000000
Operating current DC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi	12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000 20000000 yes
Operating current DC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1	12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000 20000000





	0/60Hz			V	110
AC operating voltage					
	of 50/60Hz coil powe	red at 50Hz			
		pick-up			
			min	%Us	80
			max	%Us	110
		drop-out		0/11	
			min	%Us	20
	-f 50/00Ll=:		max	%Us	55
	of 50/60Hz coil powe				
		pick-up	min	%Us	85
			max	%Us	110
		drop-out	IIIax	/003	110
		drop out	min	%Us	20
			max	%Us	55
AC average coil consu	umption at 20°C		iiid.		
	of 50/60Hz coil powe	red at 50Hz			
	2. 22. 30 <u> </u>		in-rush	VA	75
			holding	VA	9
	of 50/60Hz coil powe	red 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				W	2.5
Max cycles frequency					
Mechanical operation				cycles/h	3600
Operating times					
Average time for Us o					
	in AC	Clasias NO			
	in AC	Closing NO	min	mo	0
	in AC	Closing NO	min	ms	8
	in AC	·	min max	ms ms	8 24
	in AC	Closing NO Opening NO	max	ms	24
	in AC	·	max min	ms ms	10
	in AC	Opening NO	max	ms	24
	in AC	·	max min	ms ms	10
	in AC	Opening NO	max min max	ms ms ms	24 10 20
	in AC	Opening NO	max min max min	ms ms ms	24102014
	in AC	Opening NO Closing NC	max min max min	ms ms ms	24102014
	in AC	Opening NO Closing NC	max min max min max	ms ms ms ms	24 10 20 14 28
		Opening NO Closing NC Opening NC	max min max min max min	ms ms ms ms ms	24 10 20 14 28
) for three-phase AC mo	Opening NO Closing NC Opening NC	max min max min max min max	ms ms ms ms ms	24 10 20 14 28 7 18
		Opening NO Closing NC Opening NC	max min max min max min max at 480V	ms ms ms ms ms ms	24 10 20 14 28 7 18
Full-load current (FLA) for three-phase AC mo	Opening NO Closing NC Opening NC	max min max min max min max	ms ms ms ms ms	24 10 20 14 28 7 18
Full-load current (FLA) for three-phase AC mo	Opening NO Closing NC Opening NC	max min max min max min max at 480V	ms ms ms ms ms ms	24 10 20 14 28 7 18
Full-load current (FLA) for three-phase AC mo	Opening NO Closing NC Opening NC	max min max min max min max at 480V at 600V	ms ms ms ms ms ms	24 10 20 14 28 7 18 7.6 0.375
Full-load current (FLA) for three-phase AC mo	Opening NO Closing NC Opening NC	max min max min max min max at 480V at 600V	ms ms ms ms ms ms	24 10 20 14 28 7 18 7.6 0.375
JL technical data Full-load current (FLA /ielded mechanical pe) for three-phase AC mo erformance for single-phase AC r	Opening NO Closing NC Opening NC otor	max min max min max min max at 480V at 600V	ms ms ms ms ms ms	24 10 20 14 28 7 18 7.6 0.375
Full-load current (FLA) for three-phase AC mo	Opening NO Closing NC Opening NC otor	max min max min max min max at 480V at 600V	ms ms ms ms ms ms	24 10 20 14 28 7 18 7.6 0.375

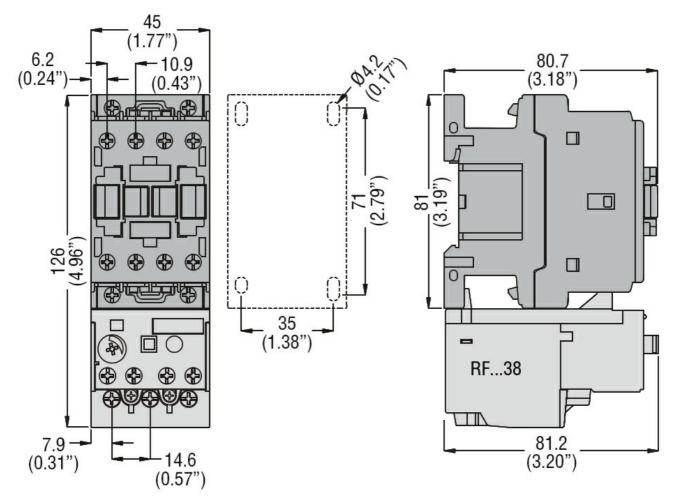




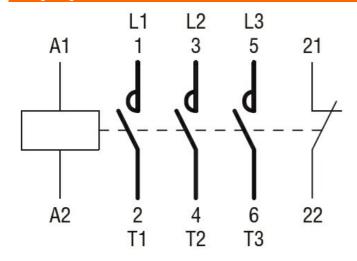
		220/230V	HP	3
		460/480V	HP	5
		575/600V	HP	7.5
General USE				
	Contactor			
		AC current	Α	25
	Auxiliary contacts			
	•	AC voltage	V	600
		AC current	Α	10
		DC voltage	V	250
		DC current	Α	1
Short-circuit protect	tion fuse, 600V		<u> </u>	
Chart and an process	High fault			
	- ngiriaan	Short circuit current	kA	100
		Fuse rating	Α	30
		Fuse class	,,	J
	Standard fault	1 400 01400		
	Claridard radit	Short circuit current	kA	5
		Fuse rating	A	60
Contact rating of au	xiliary contacts according to UL	i use raing		A600 - P600
Ambient conditions				A000 - F000
Temperature				
remperature				
	Operating temperature		°C	5 0
		min	°C	-50 -70
	<u> </u>	max	٠.	70
	Storage temperature			
		min	°C	-60
		max	°C	80
Max altitude			m	3000
Resistance & Prote	ction			
Pollution degree				3
Dimensions				

ENERGY AND AUTOMATION

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 50/60HZ, 110VAC, 1NC AUXILIARY CONTACT



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



BF0901A110

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 50/60HZ, 110VAC, 1NC AUXILIARY CONTACT

CCC	
cULus	
EAC	

ETIM classification

ETIM 8.0

EC000066 -Power contactor, AC switching





Product designation Product type designation			Power contactor BF09
Contact characteristics			
Number of poles		Nr.	3
Rated insulation voltage Ui IEC/EN		V	690
Rated impulse withstand voltage Uimp		kV	6
Operational frequency			
• • •	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith		Α	25
Operational current le			
·	AC-1 (≤40°C)	Α	25
	AC-1 (≤55°C)	Α	20
	AC-1 (≤70°C)	Α	18
	AC-3 (≤440V ≤55°C)	Α	9
	AC-4 (400V)	Α	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 le in DC1 with L/R ≤ 1ms with 1 poles in series			
· ·	≤24V	Α	15
	48V	Α	13
	75V	Α	12
	110V	Α	6
	220V	Α	_
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
·	≤24V	Α	18
	48V	Α	18
	75V	Α	17
	110V	Α	12
	220V	Α	1
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			_
·	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	15



BF0901A230

	220V	Α	10
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	16
	220V	Α	12
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	Α	10
	48V	Α	9
	75V	Α	8
	110V	Α	2
	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	Α	13
	48V	Α	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	22U V		
TEC max current le in DO3-DO3 with E/R > 13ms with 3 poles in series	≤24V	۸	15
	≤24 V 48 V	A	
		A	15
	75V	A	13
	110V	A	11
150 DOS DOS 111 L/D + 45	220V	Α	6
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series		_	
	≤24V	Α	15
	48V	Α	15
	75V	Α	15
	110V	Α	12
	220V	Α	7
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150
Protection fuse			
	gG (IEC)	Α	25
	aM (IEC)	Α	10
Making capacity (RMS value)		Α	90
Breaking capacity at voltage			
	440V	Α	72
	500V	Α	72
	690V	Α	71
Resistance per pole (average value)		mΩ	2.5
Power dissipation per pole (average value)			-
	lth	W	1.6
	AC3	W	0.2
Tightening torque for terminals	7,00	• •	V. <u>L</u>
ngmoning torque for terminals	min	Nm	1.5
	max	Nm	1.8
	min	Ibin	1.1
Tightoning torque for coil torminal	max	Ibin	1.5
Tightening torque for coil terminal		N I.a.:	0.0
	min	Nm	0.8
	max	Nm	1
	min	lbin	0.8



		max	Ibin	0.74
	simultaneously connectable		Nr.	2
Conductor section	AMA # # #			
	AWG/Kcmil			4.0
	Florible w/o live conductor costice	max		10
	Flexible w/o lug conductor section	min	mm²	1
		max	mm²	6
	Flexible c/w lug conductor section	IIIax	111111	0
	r lexible c/w lug corludctor section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section	max		•
	Tromble with inculated opage rag conductor coolien	min	mm²	1
		max	mm²	4
				IP20 when
Power terminal protect	ction according to IEC/EN 60529			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail
				35mm
Weight			g	356
Conductor section				
	AWG/kcmil conductor section			
		max		10
Auxiliary contact char		max		
Thermal current Ith	acteristics	max	A	10
Thermal current Ith IEC/EN 60947-5-1 de	acteristics esignation	max	Α	
Thermal current Ith IEC/EN 60947-5-1 de	acteristics esignation			10 A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de	acteristics esignation	230V	A	10 A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de	acteristics esignation	230V 400V	A A	10 A600 - P600 3 1.9
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation 15	230V	A	10 A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation 15	230V 400V 500V	A A A	10 A600 - P600 3 1.9 1.4
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V	A A	10 A600 - P600 3 1.9
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V	A A A	10 A600 - P600 3 1.9 1.4
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V	A A A	10 A600 - P600 3 1.9 1.4 5.7
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V	A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V	A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V	A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V	A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V	A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
•	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Safety related data	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Safety related data	esignation 15 112	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A A Cycles cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Safety related data	esignation 15 212 213 10d according to EN/ISO 13489-1	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A Cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 2000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Electrical life Safety related data Performance level B1	esignation 15 212 213 10d according to EN/ISO 13489-1	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1	esignation 15 212 213 10d according to EN/ISO 13489-1	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000



Rated AC voltage at 5	0/60Hz			V	230
AC operating voltage					
	of 50/60Hz coil powered at 5	0Hz			
	pick-	up			
			min	%Us	80
			max	%Us	110
	drop	-out		0/11	
			min	%Us	20
	(50/0011 11 1 1 1 1	01.1	max	%Us	55
	of 50/60Hz coil powered at 6				
	pick-	up	min	0/116	85
			min	%Us %Us	110
	dron	out	max	%US	110
	drop	-out	min	%Us	20
			max	%Us	55
AC average coil cons	umption at 20°C		IIIdx	7003	- 33
to average con cons	of 50/60Hz coil powered at 5	0Hz			
	or obtain 12 con powered at o	OI 12	in-rush	VA	75
			holding	VA VA	9
	of 50/60Hz coil powered at 6	0Hz	Holding	٧,١	
	01 00/001 12 0011 powered at 0	0112	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
Mechanical operation				cycles/h	3600
Mechanical operation Operating times				cycles/h	3600
Mechanical operation Operating times				cycles/h	3600
Mechanical operation Operating times	ontrol in AC	ing NO		cycles/h	
Mechanical operation Operating times	ontrol in AC	ing NO	min	cycles/h	8
Mechanical operation Operating times	ontrol in AC Clos				
Mechanical operation Operating times	ontrol in AC Clos	ing NO ning NO	min max	ms ms	8 24
Mechanical operation Operating times	ontrol in AC Clos		min max min	ms ms	8 24 10
Mechanical operation Operating times	ontrol in AC Clos Oper	ning NO	min max	ms ms	8 24
Mechanical operation Operating times	ontrol in AC Clos Oper		min max min max	ms ms ms	8 24 10 20
Mechanical operation Operating times	ontrol in AC Clos Oper	ning NO	min max min max min	ms ms ms ms	8 24 10 20
Mechanical operation Operating times	ontrol in AC Clos Oper Clos	ning NO	min max min max	ms ms ms	8 24 10 20
Mechanical operation Operating times	ontrol in AC Clos Oper Clos	ning NO	min max min max min max	ms ms ms ms	8 24 10 20 14 28
Mechanical operation Operating times	ontrol in AC Clos Oper Clos	ning NO	min max min max min max min	ms ms ms ms ms	8 24 10 20 14 28
Mechanical operation Dperating times Average time for Us o	ontrol in AC Clos Oper Clos	ning NO	min max min max min max	ms ms ms ms	8 24 10 20 14 28
Mechanical operation Dperating times Average time for Us c	ontrol in AC Clos Oper Clos	ning NO	min max min max min max min	ms ms ms ms ms	8 24 10 20 14 28
Mechanical operation Dperating times Average time for Us c	ontrol in AC Clos Oper Clos	ning NO	min max min max min max min max	ms ms ms ms ms	8 24 10 20 14 28 7 18
Mechanical operation Dperating times Average time for Us o	ontrol in AC Clos Oper Clos	ning NO	min max min max min max at 480V	ms ms ms ms ms ms	8 24 10 20 14 28 7 18
Mechanical operation Dperating times Average time for Us of JL technical data Full-load current (FLA	ontrol in AC Clos Oper Clos Oper	ning NO	min max min max min max min max	ms ms ms ms ms	8 24 10 20 14 28 7 18
Mechanical operation Dperating times Average time for Us of JL technical data Full-load current (FLA	ontrol in AC Clos Oper Clos Oper	ning NO	min max min max min max at 480V	ms ms ms ms ms ms	8 24 10 20 14 28 7 18
Mechanical operation Dperating times Average time for Us of JL technical data Full-load current (FLA	ontrol in AC Clos Oper Clos Oper	ning NO	min max min max min max at 480V at 600V	ms ms ms ms ms ms	8 24 10 20 14 28 7 18
Mechanical operation Operating times Average time for Us of	ontrol in AC Clos Oper Clos Oper	ning NO	min max min max min max at 480V at 600V	ms ms ms ms ms ms A	8 24 10 20 14 28 7 18 7.6 0.375
Mechanical operation Dperating times Average time for Us of JL technical data Full-load current (FLA	ontrol in AC Clos Oper Clos Oper Oper	ning NO	min max min max min max at 480V at 600V	ms ms ms ms ms ms	8 24 10 20 14 28 7 18
Mechanical operation Derating times Average time for Us of JL technical data Full-load current (FLA	ontrol in AC Clos Oper Clos Oper	ning NO	min max min max min max at 480V at 600V	ms ms ms ms ms ms A	8 24 10 20 14 28 7 18 7.6 0.375

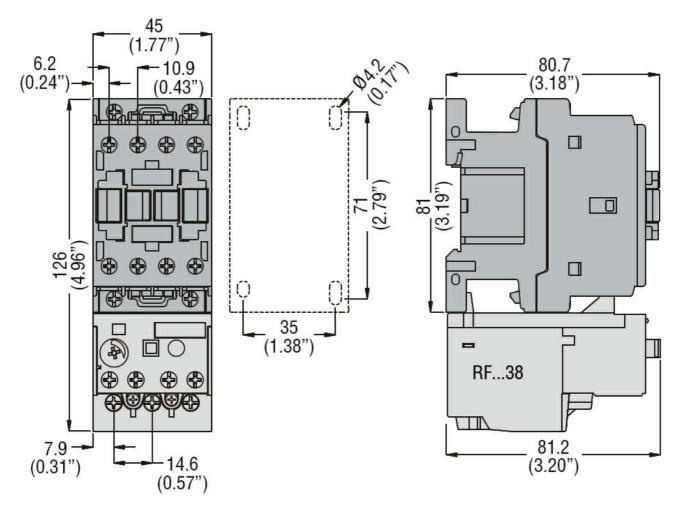




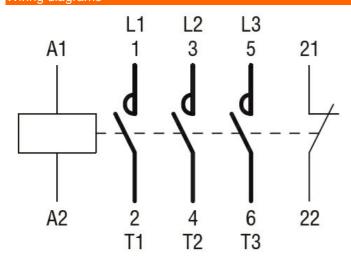
		220/230V	HP	3
		460/480V	HP	5
		575/600V	HP	7.5
General USE				
	Contactor			
		AC current	Α	25
	Auxiliary contacts			
	•	AC voltage	V	600
		AC current	Α	10
		DC voltage	V	250
		DC current	Α	1
Short-circuit protec	tion fuse, 600V			
	High fault			
	· ·	Short circuit current	kA	100
		Fuse rating	Α	30
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	Α	60
Contact rating of au	ixiliary 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 & Prote	ection			
Pollution degree				3
Dimensions				

ENERGY AND AUTOMATION

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 50/60HZ, 230VAC, 1NC AUXILIARY CONTACT



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



BF0901A230

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 50/60HZ, 230VAC, 1NC AUXILIARY CONTACT

CCC				
cULus	_	_		_
EAC				

ETIM classification

ETIM 8.0

EC000066 -Power contactor, AC switching







Contact characteristics Number of poles Nr. 3 Rated insulation voltage Ui IEC/EN V 690 Rated impulse withstand voltage Uimp kV 6 Operational frequency min Hz 25 max Hz 400 IEC Conventional free air thermal current Ith A 25 Operational current le 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	Product designation			Power contactor
Number of poles Nr. 3 Rated insulation voltage Ui IEC/EN V 690 Rated insulation voltage Withstand voltage Uimp kV 6 Operational frequency min Hz 25 max Hz 400 Hz 25 Operational current le AC 1 (≤40°C) A 25 AC-1 (555°C) A 20 AC-1 (570°C) A 18 AC-3 (5440V 555°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 4.5 440V 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6	Product type designation			BF09
Rated insulation voltage Ui IEC/EN V 690 Rated impulse withstand voltage Uimp kV 6 Operational frequency min Hz 25 max Hz 4000 25 IEC Conventional free air thermal current Ith A 25 25 Operational current Ie AC-1 (\$40°C) A 25 AC-1 (\$55°C) A 20 AC-1 (\$55°C) A 20 AC-1 (\$55°C) A 20 AC-1 (\$55°C) A 20 AC-1 (\$40°C) A 4.9 AC-3 (\$4400 \$55°C) A 9 AC-4 (4000V) A 4.9 Rated operational power AC-3 (T≤55°C) 230V kW 4.2 AC-4 (400V) kW 4.2 AC-4 (400V) kW 4.5 AC-4 (400V) kW 4.5 AC-4 (400V) kW 4.5 AC-4 (400V) kW 4.5 AC-4 (400V) kW 4.8 AC-4 (400V) kW 4.				
Rated impulse withstand voltage Ulimp Rated impulse withstand voltage Ulimp Riv 400	·			
Tech many displayment of the properties of the p	-			
Min			kV	6
EC Conventional free air thermal current lth	Operational frequency			
EC Conventional free air thermal current lith		min	Hz	25
Operational current le AC-1 (≤40°C) A 25 AC-1 (≤55°C) A 20 AC-1 (≤55°C) A 20 AC-1 (≤55°C) A 4 9 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 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 16 500V kW 21 690V kW 27 IEC max current le 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 le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 18 48V A 18 75V A 12 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 18 48V A 18 75V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 18 48V A 18 75V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 18 48V A 18 75V A 17 110V A 12 220V A 1		max	Hz	400
AC-1 (≤40°C) A 25 AC-1 (≤55°C) A 20 AC-1 (≤55°C) A 9 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 le 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 le 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 Conventional free air thermal current Ith		Α	25
AC-1 (≤55°C)	Operational current le			
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 440V 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 690V kW 7.5 Rated operational power AC-1 (T≤40°C) 230V kW 9.5 690V kW 21 690V kW 27 IEC max current le 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 le 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 le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 18 48V A 18 75V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series		AC-1 (≤40°C)	Α	25
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 690V kW 7.5 Rated operational power AC-1 (T≤40°C) 230V kW 9.5 400V kW 21 690V kW 21 690V kW 27 IEC max current le 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 le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 18 48V A 18 75V A 17 110V A 6 220V A 17 110V A 12 220V A 17 110V A 12 220V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 18 48V A 18 75V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series		AC-1 (≤55°C)	Α	20
AC-4 (400V)		AC-1 (≤70°C)	Α	18
Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4.5 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 le 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 le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 18 48V A 18 75V A 12 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 18 48V A 18 75V A 17 110V A 12 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series		AC-3 (≤440V ≤55°C)	Α	9
230V kW 2.2 400V kW 4.2 415V kW 4.5 440V kW 4.8 500V kW 5.5 690V kW 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5		AC-4 (400V)	Α	4.9
400V kW 4.2 415V kW 4.5 440V kW 4.5 440V kW 4.8 500V kW 5.5 690V kW 7.5 690V kW 16 690V kW 27 690V kW 28 690V kW 28 690V kW 29 690V kW	Rated operational power AC-3 (T≤55°C)			
415V kW 4.5 440V kW 4.8 500V kW 5.5 690V kW 7.5		230V	kW	2.2
A440V kW 4.8 500V kW 5.5 690V kW 7.5		400V	kW	4.2
A440V kW 4.8 500V kW 5.5 690V kW 7.5		415V	kW	4.5
Soov kW 5.5		440V	kW	
Rated operational power AC-1 (T≤40°C) 230V kW 9.5 400V kW 16 500V kW 21 690V kW 27 27				
Rated operational power AC-1 (T≤40°C) 230V kW 9.5 400V kW 16 500V kW 21 690V kW 27 IEC max current le 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 le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 18 48V A 18 75V A 18 48V A 18 75V A 17 110V A 18 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 18 48V A 18 75V A 17 110V A 12 220V A 1				
	Rated operational power AC-1 (T≤40°C)			
400V kW 16 500V kW 21 690V kW 27 27		230V	kW	9.5
500V kW 21 690V kW 27				
EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V				
Section Sec				
	IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			
48V		≤24V	Α	15
T5V A 12 110V A 6 220V A -				
110V A 6 220V A −				
EC max current le in DC1 with L/R \leq 1ms with 2 poles in series \leq 24V A 18 48V A 18 75V A 17 110V A 12 220V A 1 1 1 1 1 1 1 1 1				
IEC max current le 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 le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 20 48V A 20 75V A 20				_
	IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		<24\/	Α	18
220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $ ≤ 24V A 20 $ $ 48V A 20 $ $ 75V A 20$				
IEC max current le in DC1 with L/R \leq 1ms with 3 poles in series $ \leq 24V \qquad A \qquad 20 \\ 48V \qquad A \qquad 20 \\ 75V \qquad A \qquad 20 $				
≤24V A 20 48V A 20 75V A 20	IFC may current le in DC1 with L/R < 1ms with 3 notes in series	220 V		•
48V A 20 75V A 20	The max surrent to in bot with Lift = this with 5 poles in selies	<2/11	Δ	20
75V A 20				
TIUV A 15				
		1100	А	10





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	220V	Α	10
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	16
	220V	Α	12
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	Α	10
	48V	Α	9
	75V	Α	8
	110V	Α	2
	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	Α	13
	48V	Α	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	22U V		
TEC max current le in DO3-DO3 with E/R > 13ms with 3 poles in series	≤24V	۸	15
	≤24 V 48 V	A	
		A	15
	75V	A	13
	110V	A	11
150 DOS DOS 111 L/D + 45	220V	Α	6
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series		_	
	≤24V	Α	15
	48V	Α	15
	75V	Α	15
	110V	Α	12
	220V	Α	7
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150
Protection fuse			
	gG (IEC)	Α	25
	aM (IEC)	Α	10
Making capacity (RMS value)		Α	90
Breaking capacity at voltage			
	440V	Α	72
	500V	Α	72
	690V	Α	71
Resistance per pole (average value)		mΩ	2.5
Power dissipation per pole (average value)			- -
. The storpasion por polo (arolago raido)	lth	W	1.6
	AC3	W	0.2
Tightening torque for terminals	7,00	V V	V. <u>L</u>
rightening torque for terminals	min	Nm	1.5
		Nm	1.8
	max		
	min	lbin Ibin	1.1
Tightonian tourns for sail towning!	max	lbin	1.5
Tightening torque for coil terminal	•		0.0
	min	Nm	0.8
	max	Nm	1
	min	lbin	0.8





		max	Ibin	0.74
	simultaneously connectable		Nr.	2
Conductor section	AND #4			
	AWG/Kcmil			4.0
	Florible w/e lug conductor coetion	max		10
	Flexible w/o lug conductor section	min	mm²	1
		max	mm²	6
	Flexible c/w lug conductor section	IIIax	111111	0
	r lexible 6/W lug corrudctor section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section	max		•
		min	mm²	1
		max	mm²	4
	.:			IP20 when
Power terminal prote	ction according to IEC/EN 60529			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail
				35mm
Weight			g	370
Conductor section				
	AWG/kcmil conductor section			
		max		10
Auxiliary contact char		max		
Thermal current Ith	racteristics	max	A	10
Thermal current Ith IEC/EN 60947-5-1 de	esignation	max	A	
Thermal current Ith IEC/EN 60947-5-1 de	esignation			10 A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de	esignation	230V	A	10 A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de	esignation	230V 400V	A A	10 A600 - P600 3 1.9
Thermal current lth IEC/EN 60947-5-1 de Operating current AC	esignation 215	230V	A	10 A600 - P600
Thermal current lth IEC/EN 60947-5-1 de Operating current AC	esignation 215	230V 400V 500V	A A A	10 A600 - P600 3 1.9 1.4
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 215	230V 400V	A A	10 A600 - P600 3 1.9
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 215	230V 400V 500V	A A A	10 A600 - P600 3 1.9 1.4
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 215	230V 400V 500V 110V	A A A	10 A600 - P600 3 1.9 1.4 5.7
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 215	230V 400V 500V 110V 24V 48V	A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 215	230V 400V 500V 110V 24V 48V 60V	A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 215	230V 400V 500V 110V 24V 48V 60V 110V	A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 215	230V 400V 500V 110V 24V 48V 60V 110V 125V	A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 215	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC	esignation 215	230V 400V 500V 110V 24V 48V 60V 110V 125V	A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC	esignation 215	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 215	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life	esignation 215	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Safety related data	esignation 215 212 213	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Safety related data	esignation 215	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 2000000
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Safety related data	esignation 315 312 313 10d according to EN/ISO 13489-1	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B	esignation 212 213 10d according to EN/ISO 13489-1	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Electrical life Safety related data Performance level B	esignation 315 312 313 10d according to EN/ISO 13489-1	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000





Rated AC voltage at 5	50/60Hz		V	400
AC operating voltage	0,001.12		•	
	of 50/60Hz coil powered at 50Hz			
	pick-up			
		min	%Us	80
		max	%Us	110
	drop-out			
		min	%Us	20
		max	%Us	55
	of 50/60Hz coil powered at 60Hz			
	pick-up		0/11	
		min	%Us	85
	duan aut	max	%Us	110
	drop-out	min	0/110	20
		min	%Us %Us	55
AC average coil cons	umption at 20°C	max	/005	33
AU average con cons	of 50/60Hz coil powered at 50Hz			
	of 30/00112 coil powered at 30HZ	in-rush	VA	75
		holding	VA	9
	of 50/60Hz coil powered at 60Hz	nolaing	٧, ١	
	01 00/001 12 0011 poworod at 001 12	in-rush	VA	70
		holding	VA	6.5
	of 60Hz coil powered at 60Hz			
	5. 55.1 <u>2</u> 55.1 po 115.1 54 43 55.1 <u>2</u>	in-rush	VA	75
		holding	VA	9
Dissipation at holding	≤20°C 50Hz		W	2.5
Max cycles frequency				
man of old in ordinality				
Mechanical operation			cycles/h	3600
Mechanical operation Operating times			cycles/h	3600
Mechanical operation	ontrol		cycles/h	3600
Mechanical operation Operating times	ontrol in AC		cycles/h	3600
Mechanical operation Operating times	ontrol		cycles/h	
Mechanical operation Operating times	ontrol in AC	min	ms	8
Mechanical operation Operating times	ontrol in AC Closing No	min max		
Mechanical operation Operating times	ontrol in AC	min max IO	ms ms	8 24
Mechanical operation Operating times	ontrol in AC Closing No	min max IO min	ms ms	8 24 10
Mechanical operation Operating times	ontrol in AC Closing No Opening N	min max IO min max	ms ms	8 24
Mechanical operation Operating times	ontrol in AC Closing No	min max IO min max	ms ms ms	8 24 10 20
Mechanical operation Operating times	ontrol in AC Closing No Opening N	min max IO min max C min	ms ms ms ms	8 24 10 20
Mechanical operation Operating times	ontrol in AC Closing No Opening No Closing No	min max IO min max C min max	ms ms ms	8 24 10 20
Mechanical operation Operating times	ontrol in AC Closing No Opening N	min max IC	ms ms ms ms	8 24 10 20 14 28
Mechanical operation Operating times	ontrol in AC Closing No Opening No Closing No	min max IC min max	ms ms ms ms ms	8 24 10 20 14 28
Mechanical operation Operating times Average time for Us of	ontrol in AC Closing No Opening No Closing No	min max IC	ms ms ms ms	8 24 10 20 14 28
Mechanical operation Operating times Average time for Us of	ontrol in AC Closing No Opening No Closing No Opening No	min max IC min max	ms ms ms ms ms	8 24 10 20 14 28
Mechanical operation Operating times Average time for Us of	ontrol in AC Closing No Opening No Closing No	min max IC min max	ms ms ms ms ms	8 24 10 20 14 28
Mechanical operation Operating times Average time for Us of	ontrol in AC Closing No Opening No Closing No Opening No	min max IC min max	ms ms ms ms ms	8 24 10 20 14 28 7 18
Mechanical operation Operating times Average time for Us of the second o	ontrol in AC Closing No Opening No Closing No Opening No	min max IO min max IC min max IC at 480V	ms ms ms ms ms	8 24 10 20 14 28 7 18
Mechanical operation Operating times Average time for Us of	ontrol in AC Closing No Opening No Closing No Opening No	min max IO min max IC min max IC at 480V	ms ms ms ms ms	8 24 10 20 14 28 7 18
Mechanical operation Operating times Average time for Us of the second o	ontrol in AC Closing No Opening No Closing No Opening No	min max IO min max IC min max IC at 480V	ms ms ms ms ms	8 24 10 20 14 28 7 18
Mechanical operation Operating times Average time for Us of the second o	ontrol in AC Closing No Opening No Closing No Opening No	min max IO min max C min max IC min max IC at 480V at 600V	ms ms ms ms ms ms	8 24 10 20 14 28 7 18
Mechanical operation Operating times Average time for Us of the second o	ontrol in AC Closing No Opening No Closing No Opening No	min max IO min max C min max IC min max IC at 480V at 600V	ms ms ms ms ms A A	8 24 10 20 14 28 7 18 7.6 0.375
Mechanical operation Operating times Average time for Us of the second o	ontrol in AC Closing No Opening No Closing No Opening No open	min max IO min max C min max IC min max IC at 480V at 600V	ms ms ms ms ms A A	8 24 10 20 14 28 7 18 7.6 0.375

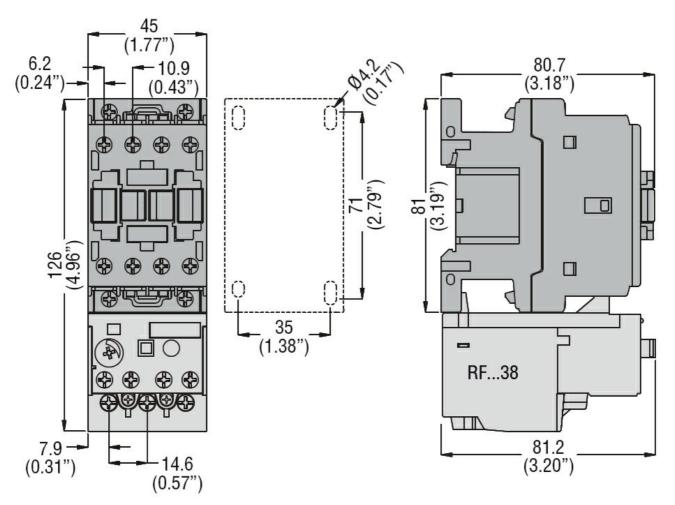




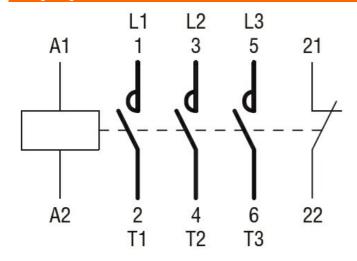
		220/230V	HP	3
		460/480V	HP	5
		575/600V	HP	7.5
General USE				
	Contactor			
		AC current	Α	25
	Auxiliary contacts			
	·	AC voltage	V	600
		AC current	Α	10
		DC voltage	V	250
		DC current	Α	1
Short-circuit protect	tion fuse, 600V			
	High fault			
	· ·	Short circuit current	kA	100
		Fuse rating	Α	30
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	Α	60
Contact rating of au	xiliary 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 & Prote	ction			
Pollution degree				3
Dimensions				

ENERGY AND AUTOMATION

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 50/60HZ, 400VAC, 1NC AUXILIARY CONTACT



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



BF0901A400

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 50/60HZ, 400VAC, 1NC AUXILIARY CONTACT

CCC			
cULus			
EAC			

ETIM classification

ETIM 8.0

EC000066 -Power contactor, AC switching







Product designation Product type designation			Power contactor BF09
Contact characteristics			ы 09
Number of poles		Nr.	3
Rated insulation voltage Ui IEC/EN		V	690
Rated impulse withstand voltage Uimp		kV	6
Operational frequency			
operational moquents)	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith	max	A	25
Operational current le			
	AC-1 (≤40°C)	Α	25
	AC-1 (≤55°C)	Α	20
	AC-1 (≤70°C)	Α	18
	AC-3 (≤440V ≤55°C)	Α	9
	AC-4 (400V)	Α	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 le in DC1 with L/R ≤ 1ms with 1 poles in series			
·	≤24V	Α	15
	48V	Α	13
	75V	Α	12
	110V	Α	6
	220V	Α	_
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
·	≤24V	Α	18
	48V	Α	18
	75V	Α	17
	110V	Α	12
	220V	Α	1
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			
·	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	15





	2201/	٨	40	
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series	220V	A	10	
ILO max current le in DOT with L/N 3 mis with 4 poles in series	≤24V	Α	20	
	48V	A	20	
	75V	A	20	
	110V	A	16	
	220V	Α	12	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			<u> </u>	
,	≤24V	Α	10	
	48V	Α	9	
	75V	Α	8	
	110V	Α	2	
	220V	Α	_	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series				
·	≤24V	Α	13	
	48V	Α	11	
	75V	Α	10	
	110V	Α	7	
	220V	Α	2	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series				
	≤24V	Α	15	
	48V	Α	15	
	75V	Α	13	
	110V	Α	11	
	220V	Α	6	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series	- -			
	≤24V	Α	15	
	48V	Α	15	
	75V	Α	15	
	110V	Α	12	
	220V	Α	7	
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150	
Protection fuse				
	gG (IEC)	Α	25	
	aM (IEC)	Α	10	
Making capacity (RMS value)	,	Α	90	
Breaking capacity at voltage				
· · · · · · · · · · · · · · · · · · ·	440V	Α	72	
	500V	Α	72	
	690V	Α	71	
Resistance per pole (average value)		mΩ	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
	simultaneously connectable		Nr.	2
Conductor section				
	AWG/Kcmil			
		max		10
	Flexible w/o lug conductor section		2	
		min	mm²	1
		max	mm²	6
	Flexible c/w lug conductor section		2	
		min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section		2	
		min	mm²	1
		max	mm²	4
Power terminal prote	ection according to IEC/EN 60529			IP20 when properly wired
Mechanical features				ргорону инос
Operating position				
- ·		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail 35mm
Weight			g	360
Conductor section				
	AWG/kcmil conductor section			
		max		10
Auxiliary contact cha	racteristics			
Thermal current Ith			Α	10
IEC/EN 60947-5-1 d	esignation			A600 - P600
Operating current AC	215			
		230V	Α	3
		400V	Α	1.9
		500V	Α	1.4
Operating current DC	C12			
		110V	Α	5.7
Operating current DC	213			
		24V	Α	5.7
		48V	Α	2.9
		60V	Α	2.3
		110V	Α	1.25
		125V	Α	1.1
		220V	Α	0.55
		600V	Α	0.2
Operations				
Mechanical life			cycles	20000000
Electrical life			cycles	2000000
Safety related data	10d according to EN/ISO 13489-1			
	Tod according to ETV/100 10405 1		_	
	Tod according to ETV/ICC 10400 1	rated load	cycles	2000000
		rated load nechanical load	cycles cycles	2000000 20000000
Performance level B			-	
	m		-	20000000



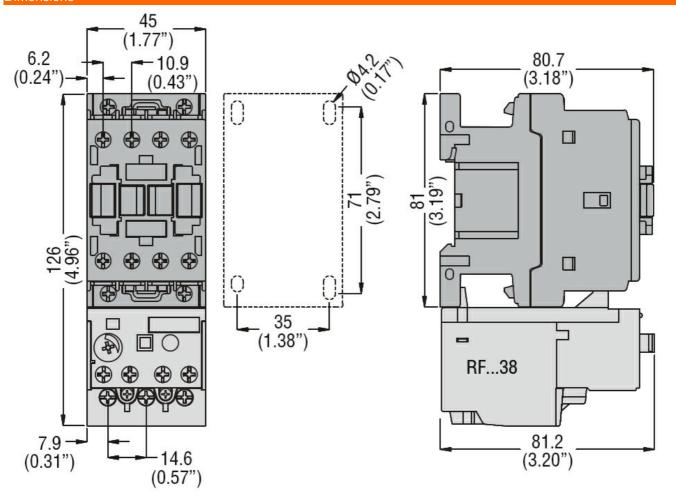


Rated AC voltage at 60Hz		V	24
AC operating voltage			
of 60Hz coil powered at 60Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out			
	min	%Us	20
	max	%Us	55
AC average coil consumption at 20°C			
of 60Hz coil powered at 60Hz			
	in-rush	VA	75
	holding	VA	9
Dissipation at holding ≤20°C 50Hz		W	2.5
Max cycles frequency		. "	
Mechanical operation		cycles/h	3600
Operating times			
Average time for Us control			
in AC			
Closing NO			0
	min	ms	8 24
Opening NO	max	ms	24
Opening NO	min	ms	10
	max	ms	20
Closing NC	IIIdx	1113	20
Clossing 140	min	ms	14
	max	ms	28
Opening NC			
aham. A	min	ms	7
	max	ms	18
UL technical data			
Full-load current (FLA) for three-phase AC motor			
·	at 480V	Α	7.6
	at 600V	Α	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	Α	25
Auxiliary contacts			
	AC voltage	V	600
	AC current	Α	10
	DC voltage	V	250
	DC current	Α	1
Short-circuit protection fuse, 600V			
High fault			





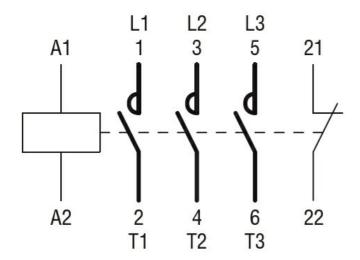
	Short circuit current	kA	100
	Fuse rating	Α	30
	Fuse class		J
Standard fault			·
	Short circuit current	kA	5
	Fuse rating	Α	60
Contact rating of auxiliary contacts according to UL			A600 - P600
Ambient conditions			
Temperature			
Operating temperature			
	min	°C	-50
	max	°C	70
Storage temperature			
	min	°C	-60
	max	°C	80
Max altitude		m	3000
Resistance & Protection			
Pollution degree			3
Dimensions			



Wiring diagrams

ENERGY AND AUTOMATION

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 60HZ, 24VAC, 1NC AUXILIARY CONTACT



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







Product designation			Power contactor
Product type designation			BF09
Contact characteristics			2.00
Number of poles		Nr.	3
Rated insulation voltage Ui IEC/EN		V	690
Rated impulse withstand voltage Uimp		kV	6
Operational frequency			
Operational requestoy	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith	max	A	25
Operational current le			
Operational current le	AC-1 (≤40°C)	Α	25
			20
	AC-1 (≤55°C)	A	
	AC-1 (≤70°C)	A	18
	AC-3 (≤440V ≤55°C)	Α	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)			
1 - ()	230V	kW	9.5
	400V	kW	16
	500V	kW	21
	690V	kW	27
IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series	000 V	IX V	
TEC max current le in DCT with E/N = mis with 1 poles in series	≤24V	۸	15
		A	15
	48V	A	13
	75V	A	12
	110V	Α	6
	220V	Α	-
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
	≤24V	Α	18
	48V	Α	18
	75V	Α	17
	110V	Α	12
	220V	Α	1
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			
·	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	A	15
	1100	, ,	





	220V	Α	10
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	16
	220V	Α	12
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	Α	10
	48V	Α	9
	75V	Α	8
	110V	Α	2
	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	Α	13
	48V	Α	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	220 V		
TEC max current le in DO3-DO3 with E/R > 13ms with 3 poles in series	≤24V	۸	15
	≤24 V 48 V	A	
		A	15
	75V	A	13
	110V	A	11
150 DOS DOS 111 L/D + 45	220V	Α	6
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series		_	
	≤24V	Α	15
	48V	Α	15
	75V	Α	15
	110V	Α	12
	220V	Α	7
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150
Protection fuse			
	gG (IEC)	Α	25
	aM (IEC)	Α	10
Making capacity (RMS value)		Α	90
Breaking capacity at voltage			
	440V	Α	72
	500V	Α	72
	690V	Α	71
Resistance per pole (average value)		mΩ	2.5
Power dissipation per pole (average value)			-
	lth	W	1.6
	AC3	W	0.2
Tightening torque for terminals	7,00	• •	V. <u> </u>
ngmoning torque for terminals	min	Nm	1.5
	max	Nm	1.8
	min	Ibin	1.1
Tightoning torque for coil torminal	max	Ibin	1.5
Tightening torque for coil terminal		N I.a.:	0.0
	min	Nm	0.8
	max	Nm	1
	min	lbin	0.8





		max	lbin	0.74
	simultaneously connectable		Nr.	2
Conductor section				
	AWG/Kcmil			
		max		10
	Flexible w/o lug conductor section		2	
		min	mm²	1
		max	mm²	6
	Flexible c/w lug conductor section		2	
		min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section		2	
		min	mm²	1
		max	mm²	4
Power terminal prote	ection according to IEC/EN 60529			IP20 when properly wired
Mechanical features				ргорону инос
Operating position				
- ·		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail 35mm
Weight			g	360
Conductor section				
	AWG/kcmil conductor section			
		max		10
Auxiliary contact cha	racteristics			
Thermal current Ith			Α	10
IEC/EN 60947-5-1 d	esignation			A600 - P600
Operating current AC	215			
		230V	Α	3
		400V	Α	1.9
		500V	Α	1.4
Operating current DC	C12			
		110V	Α	5.7
Operating current DC	213			
		24V	Α	5.7
		48V	Α	2.9
		60V	Α	2.3
		110V	Α	1.25
		125V	Α	1.1
		220V	Α	0.55
		600V	Α	0.2
Operations				
Mechanical life			cycles	20000000
Electrical life			cycles	2000000
Safety related data	10d according to EN/ISO 13489-1			
	Tod according to ETV/100 10405 1		_	
	Tod according to ETV/ICC 10400 1	rated load	cycles	2000000
		rated load nechanical load	cycles cycles	2000000 20000000
Performance level B			-	
	m		-	20000000



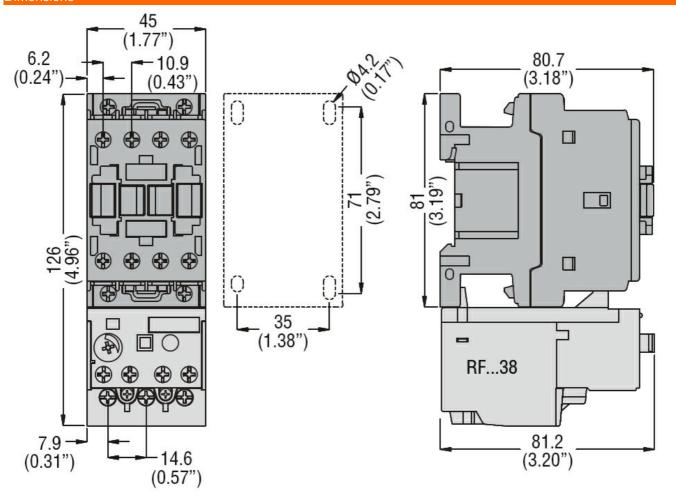


Rated AC voltage at 60Hz		V	48
AC operating voltage			
of 60Hz coil powered at 60Hz			
pick-up		0/11	
	min	%Us	80
dana aut	max	%Us	110
drop-out	ma in	0/116	20
	min	%Us %Us	20 55
AC average coil consumption at 20°C	max	7005	55
of 60Hz coil powered at 60Hz			
of our iz con powered at our iz	in-rush	VA	75
	holding	VA	9
Dissipation at holding ≤20°C 50Hz	Holding	W	2.5
Max cycles frequency		VV	2.0
Mechanical operation		cycles/h	3600
Operating times		5,5.50/11	
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
III technical data	max	ms	18
UL technical data			
Full-load current (FLA) for three-phase AC motor	at 400V/	٨	7.0
	at 480V at 600V	A	7.6 0.375
Violded machanical performance	at 600V	Α	0.375
Yielded mechanical performance			
for single-phase AC motor	110/120V	HP	0.75
	230V	HP	2
for three-phase AC motor	200 V	1 11	
ioi tilico pilase Ao motor	200/208V	HP	3
	220/230V	HP	3
	460/480V	HP	5
	575/600V	HP	7.5
General USE			
Contactor			
	AC current	Α	25
Auxiliary contacts			
•	AC voltage	V	600
	AC current	Α	10
	DC voltage	V	250
	DC current	Α	1
Short-circuit protection fuse, 600V			
High fault			



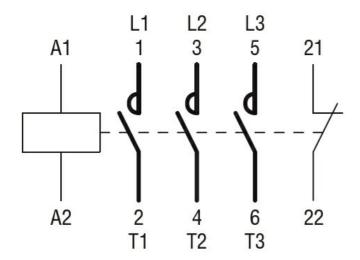


	Short circuit current	kA	100
	Fuse rating	Α	30
	Fuse class		J
Standard fault			·
	Short circuit current	kA	5
	Fuse rating	Α	60
Contact rating of auxiliary contacts according to UL			A600 - P600
Ambient conditions			
Temperature			
Operating temperature			
	min	°C	-50
	max	°C	70
Storage temperature			
	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/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

BF0901A04860

EC000066 -Power contactor, AC switching







Product designation Product type designation			Power contactor BF09
Contact characteristics			
Number of poles		Nr.	3
Rated insulation voltage Ui IEC/EN		V	690
Rated impulse withstand voltage Uimp		kV	6
Operational frequency			
	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith		Α	25
Operational current le			
	AC-1 (≤40°C)	Α	25
	AC-1 (≤55°C)	Α	20
	AC-1 (≤70°C)	Α	18
	AC-3 (≤440V ≤55°C)	Α	9
	AC-4 (400V)	Α	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 le in DC1 with L/R ≤ 1ms with 1 poles in series			
	≤24V	Α	15
	48V	Α	13
	75V	Α	12
	110V	A	6
150	220V	Α	_
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series	40 AV /		4.0
	≤24V	A	18
	48V	A	18
	75V	A	17 12
	110V	A	12
IEC may current to in DC1 with L/B < 1mg with 2 notes in series	220V	Α	1
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series	-21 1	۸	20
	≤24V	A	20
	48V 75V	A	20
	75V 110V	A A	20 15
	1100	^	13





	220V	Α	10	
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series				
	≤24V	Α	20	
	48V	Α	20	
	75V	Α	20	
	110V	Α	16	
	220V	Α	12	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series				
	≤24V	Α	10	
	48V	Α	9	
	75V	Α	8	
	110V	Α	2	
	220V	Α	_	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series				
	≤24V	Α	13	
	48V	Α	11	
	75V	Α	10	
	110V	Α	7	
	220V	Α	2	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series				
	≤24V	Α	15	
	48V	Α	15	
	75V	Α	13	
	110V	Α	11	
	220V	Α	6	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series				
	≤24V	Α	15	
	48V	Α	15	
	75V	Α	15	
	110V	Α	12	
	220V	Α	7	
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150	
Protection fuse				
	gG (IEC)	Α	25	
	aM (IEC)	Α	10	
Making capacity (RMS value)	, ,	Α	90	
Breaking capacity at voltage				
- · · · · · · · · · · · · · · · · · · ·	440V	Α	72	
	500V	Α	72	
	690V	Α	71	
Resistance per pole (average value)		mΩ	2.5	
Power dissipation per pole (average value)				
1 1 (**********************************	lth	W	1.6	
	AC3	W	0.2	
Tightening torque for terminals				
5 5 11 11 2 1 1 2 1 2 1 2 1 2 1 2 1 2 1	min	Nm	1.5	
	max	Nm	1.8	
	min	lbin	1.1	
	max	Ibin	1.5	
Tightening torque for coil terminal			-	
2 2 4	min	Nm	0.8	
	max	Nm	1	
	min	lbin	0.8	
			5.5	





		max	Ibin	0.74
	simultaneously connectable		Nr.	2
Conductor section	AMA # # #			
	AWG/Kcmil			4.0
	Florible w/o live conductor costice	max		10
	Flexible w/o lug conductor section	min	mm²	1
		max	mm²	6
	Flexible c/w lug conductor section	IIIax	111111	0
	r lexible c/w lug corrudctor section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section	max		•
	Tromble with inculated opage rag conductor coolien	min	mm²	1
		max	mm²	4
				IP20 when
Power terminal protect	ction according to IEC/EN 60529			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail
				35mm
Weight			g	356
Conductor section				
	AWG/kcmil conductor section			
		max		10
Auxiliary contact char		max		
Thermal current Ith	acteristics	max	A	10
Thermal current Ith IEC/EN 60947-5-1 de	acteristics esignation	max	Α	
Thermal current Ith IEC/EN 60947-5-1 de	acteristics esignation			10 A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de	acteristics esignation	230V	A	10 A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de	acteristics esignation	230V 400V	A A	10 A600 - P600 3 1.9
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation 15	230V	A	10 A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation 15	230V 400V 500V	A A A	10 A600 - P600 3 1.9 1.4
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V	A A	10 A600 - P600 3 1.9
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V	A A A	10 A600 - P600 3 1.9 1.4
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V	A A A	10 A600 - P600 3 1.9 1.4 5.7
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V	A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V	A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V	A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V	A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V	A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
•	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Safety related data	esignation 15	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Safety related data	esignation 15 112	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A A Cycles cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Safety related data	esignation 15 212 213 10d according to EN/ISO 13489-1	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A Cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 2000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Electrical life Safety related data Performance level B1	esignation 15 212 213 10d according to EN/ISO 13489-1	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1	esignation 15 212 213 10d according to EN/ISO 13489-1	230V 400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	10 A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000



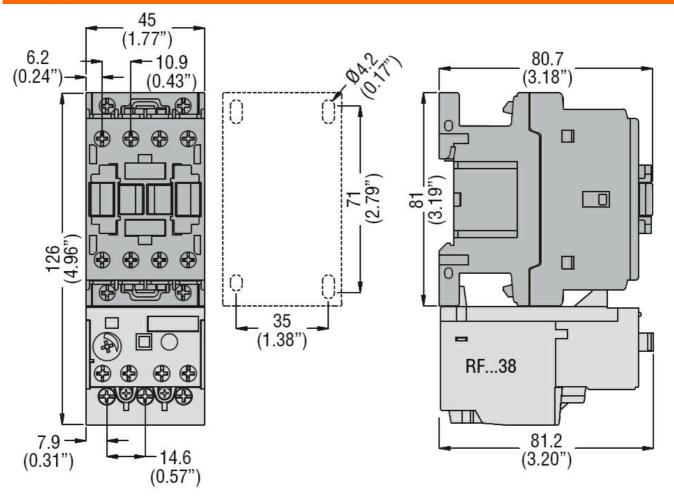


Rated AC voltage at 6	0Hz		V	120
AC operating voltage				
	of 60Hz coil powered at 60Hz			
	pick-up			
		min	%Us	80
	draw and	max	%Us	110
	drop-out	min	%Us	20
		min	%Us %Us	20 55
AC average coil consu	umption at 20°C	max	/003	- 33
Ao average con conse	of 60Hz coil powered at 60Hz			
	or our iz con powered at our iz	in-rush	VA	75
		holding	VA	9
Dissipation at holding	≤20°C 50Hz		W	2.5
Max cycles frequency	-20 0 001.E		.,	2.0
Mechanical operation			cycles/h	3600
Operating times			,	
Average time for Us of	ontrol			
-	in AC			
	Closing NO			
	-	min	ms	8
		max	ms	24
	Opening NO			
		min	ms	10
		max	ms	20
	Closing NC	_		
		min	ms	14
	On a rive NO	max	ms	28
	Opening NC	min	 .	7
		min max	ms ms	7 18
UL technical data		IIIAX	1113	10
) for three-phase AC motor			
Tan load oarront (1 E/ t)	, for all of phase its motor	at 480V	Α	7.6
		at 600V	A	0.375
Yielded mechanical pe	erformance			
,	for single-phase AC motor			
	To the second se	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	Α	25
	Auxiliary contacts			
		AC voltage	V	600
		AC current	A	10
		DC voltage	V	250
Chart aireadt marta at	a funa COOV	DC current	Α	1
Short-circuit protection				
	High fault			



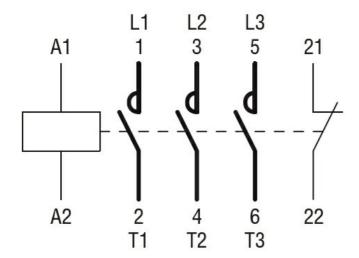


	Short circuit current	kA	100
	Fuse rating	Α	30
	Fuse class		J
Standard fault			
	Short circuit current	kA	5
	Fuse rating	Α	60
Contact rating of auxiliary contacts according to UL			A600 - P600
Ambient conditions			
Temperature			
Operating temperature			
	min	°C	-50
	max	°C	70
Storage temperature			
	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/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







Product designation			Power contactor
Product type designation			BF09
Contact characteristics			
Number of poles		Nr.	3
Rated insulation voltage Ui IEC/EN		V	690
Rated impulse withstand voltage Uimp		kV	6
Operational frequency			
	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith		Α	25
Operational current le			
	AC-1 (≤40°C)	Α	25
	AC-1 (≤55°C)	Α	20
	AC-1 (≤70°C)	Α	18
	AC-3 (≤440V ≤55°C)	Α	9
	AC-4 (400V)	Α	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 le in DC1 with L/R ≤ 1ms with 1 poles in series			
	≤24V	Α	15
	48V	Α	13
	75V	Α	12
	110V	Α	6
	220V	Α	_
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
	≤24V	Α	18
	48V	Α	18
	75V	Α	17
	110V	Α	12
	220V	Α	1
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			
	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	15





	220V	Α	10
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	16
	220V	Α	12
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	Α	10
	48V	Α	9
	75V	Α	8
	110V	Α	2
	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	Α	13
	48V	Α	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	220 V		
TEC max current le in DO3-DO3 with E/R > 13ms with 3 poles in series	≤24V	۸	15
	≤24 V 48 V	A	
		A	15
	75V	A	13
	110V	A	11
150 DOS DOS 111 L/D + 45	220V	Α	6
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series		_	
	≤24V	Α	15
	48V	Α	15
	75V	Α	15
	110V	Α	12
	220V	Α	7
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150
Protection fuse			
	gG (IEC)	Α	25
	aM (IEC)	Α	10
Making capacity (RMS value)		Α	90
Breaking capacity at voltage			
	440V	Α	72
	500V	Α	72
	690V	Α	71
Resistance per pole (average value)		mΩ	2.5
Power dissipation per pole (average value)			-
	lth	W	1.6
	AC3	W	0.2
Tightening torque for terminals	7,00	• •	V. <u> </u>
ngmoning torque for terminals	min	Nm	1.5
	max	Nm	1.8
	min	Ibin	1.1
Tightoning torque for coil torminal	max	Ibin	1.5
Tightening torque for coil terminal		N I.a.:	0.0
	min	Nm	0.8
	max	Nm	1
	min	lbin	0.8





		max	lbin	0.74
	simultaneously connectable		Nr.	2
Conductor section	A1440/44 11			
	AWG/Kcmil			4.0
	Clavible w/s live as director section	max		10
	Flexible w/o lug conductor section	min	mm²	1
		min	mm² mm²	1 6
	Flexible c/w lug conductor section	max	111111	0
	r lexible 6/w rug corrudctor section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section			•
	r loxiloto mar modilatos opado lag contactor cocacin	min	mm²	1
		max	mm²	4
	(''			IP20 when
Power terminal protect	tion according to IEC/EN 60529			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail
				35mm
Weight			g	348
Conductor section				
	AWG/kcmil conductor section			
A 112		max		10
IALIVIIIary contact chara	ACTAPISTICS			
Auxiliary contact chara	20101101100		۸	10
Thermal current Ith			Α	10 A600 B600
Thermal current Ith IEC/EN 60947-5-1 de	signation		Α	10 A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de	signation	2201/		A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de	signation	230V	A	A600 - P600 3
Thermal current Ith IEC/EN 60947-5-1 de	signation	400V	A A	A600 - P600 3 1.9
Thermal current lth IEC/EN 60947-5-1 de Operating current AC	signation 15		A	A600 - P600 3
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	signation 15	400V 500V	A A A	3 1.9 1.4
Thermal current lth IEC/EN 60947-5-1 de Operating current AC	signation 15	400V	A A	A600 - P600 3 1.9
Thermal current lth IEC/EN 60947-5-1 de Operating current AC	signation 15	400V 500V 110V	A A A	3 1.9 1.4 5.7
Thermal current lth IEC/EN 60947-5-1 de Operating current AC	signation 15	400V 500V 110V 24V	A A A	3 1.9 1.4 5.7
Thermal current lth IEC/EN 60947-5-1 de Operating current AC	signation 15	400V 500V 110V	A A A	3 1.9 1.4 5.7
Thermal current lth IEC/EN 60947-5-1 de Operating current AC	signation 15	400V 500V 110V 24V 48V	A A A A	3 1.9 1.4 5.7 5.7 2.9
Thermal current lth IEC/EN 60947-5-1 de Operating current AC	signation 15	400V 500V 110V 24V 48V 60V	A A A A A	3 1.9 1.4 5.7 5.7 2.9 2.3
Thermal current Ith IEC/EN 60947-5-1 de	signation 15	400V 500V 110V 24V 48V 60V 110V	A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25
Thermal current lth IEC/EN 60947-5-1 de Operating current AC	signation 15	400V 500V 110V 24V 48V 60V 110V 125V	A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1
Thermal current lth IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC	signation 15	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	signation 15	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A Cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life	signation 15	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data	signation 15 12 13	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A A Cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data	signation 15	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data	signation 15 12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operating current DC Electrical life Safety related data Performance level B1	signation 15 12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 2000000 2000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi	signation 15 12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000 20000000 yes
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B1	signation 15 12 13 Od according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A A A Cycles cycles	3 1.9 1.4 5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 2000000 2000000



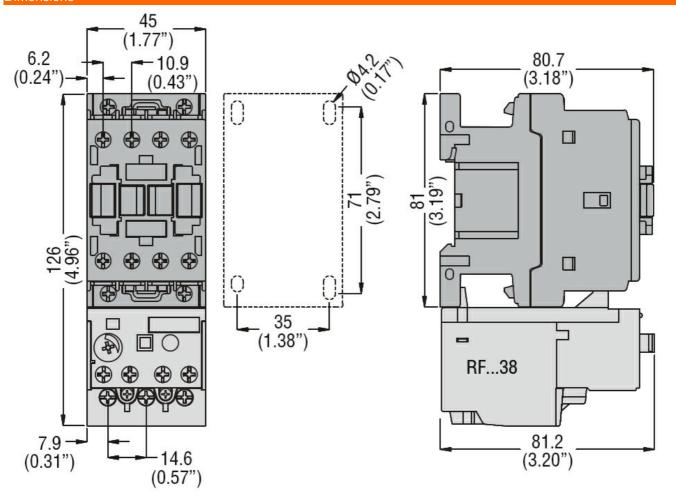


	60Hz		V	220
AC operating voltage				
	of 60Hz coil powered at 60Hz			
	pick-up	min	0/ I Io	90
		min	%Us %Us	80 110
	drop-out	max	70US	110
	diop-out	min	%Us	20
		max	%Us	55
AC average coil con	sumption at 20°C	max	7000	
	of 60Hz coil powered at 60Hz			
	5. 55. <u>1</u>	in-rush	VA	75
		holding	VA	9
Dissipation at holdin	g ≤20°C 50Hz	<u> </u>	W	2.5
Max cycles frequenc	-			
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
	01 1 110	max	ms	20
	Closing NC			4.4
		min	ms	14
	Opening NC	max	ms	28
	Opening NC	min	ms	7
		max	ms	, 18
JL technical data		IIIdA	1113	10
	A) for three-phase AC motor			
(, , , , , , , , , , , , , , , , , , , ,	at 480V	Α	7.6
		at 600V	Α	0.375
/iolded machanical	performance			
neided mechanical				
rieided mechanical	for single-phase AC motor			
neided mechanical		110/120V	HP	0.75
Telded Mechanical		110/120V 230V	HP HP	0.75 2
neided mechanical				
neided mechanical	for single-phase AC motor			3
neided mechanical	for single-phase AC motor	230V 200/208V 220/230V	HP HP HP	3 3
neided mechanical	for single-phase AC motor	230V 200/208V 220/230V 460/480V	HP HP HP	3 3 5
	for single-phase AC motor	230V 200/208V 220/230V	HP HP HP	3 3
	for single-phase AC motor for three-phase AC motor	230V 200/208V 220/230V 460/480V	HP HP HP	3 3 5
	for single-phase AC motor	230V 200/208V 220/230V 460/480V 575/600V	HP HP HP HP	3 3 5 7.5
	for single-phase AC motor for three-phase AC motor Contactor	230V 200/208V 220/230V 460/480V	HP HP HP	3 3 5
	for single-phase AC motor for three-phase AC motor	230V 200/208V 220/230V 460/480V 575/600V	HP HP HP HP	2 3 3 5 7.5
	for single-phase AC motor for three-phase AC motor Contactor	230V 200/208V 220/230V 460/480V 575/600V AC current	HP HP HP HP	2 3 3 5 7.5 25
	for single-phase AC motor for three-phase AC motor Contactor	230V 200/208V 220/230V 460/480V 575/600V AC current AC voltage AC current	HP HP HP HP	3 3 5 7.5 25 600 10
General USE	for single-phase AC motor for three-phase AC motor Contactor	230V 200/208V 220/230V 460/480V 575/600V AC current AC voltage AC current DC voltage	HP HP HP A V A V	2 3 3 5 7.5 25 600 10 250
	for single-phase AC motor for three-phase AC motor Contactor Auxiliary contacts	230V 200/208V 220/230V 460/480V 575/600V AC current AC voltage AC current	HP HP HP HP	2 3 3 5 7.5 25 600 10



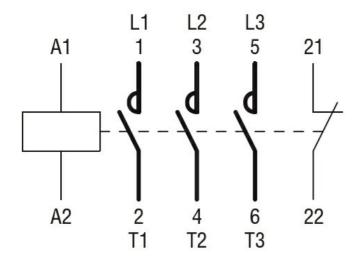


	Short circuit current	kA	100
	Fuse rating	Α	30
	Fuse class		J
Standard fault			·
	Short circuit current	kA	5
	Fuse rating	Α	60
Contact rating of auxiliary contacts according to UL			A600 - P600
Ambient conditions			
Temperature			
Operating temperature			
	min	°C	-50
	max	°C	70
Storage temperature			
	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/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







Product designation Product type designation			Power contactor BF09
Contact characteristics			DI 09
Number of poles		Nr.	3
Rated insulation voltage Ui IEC/EN		V	690
Rated impulse withstand voltage Uimp		kV	6
Operational frequency			
	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith		Α	25
Operational current le			
	AC-1 (≤40°C)	Α	25
	AC-1 (≤55°C)	Α	20
	AC-1 (≤70°C)	Α	18
	AC-3 (≤440V ≤55°C)	Α	9
	AC-4 (400V)	Α	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 le in DC1 with L/R ≤ 1ms with 1 poles in series			
	≤24V	Α	15
	48V	Α	13
	75V	Α	12
	110V	A	6
IFO	220V	Α	_
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series	40 AV /		4.0
	≤24V	A	18
	48V	A	18
	75V	A	17
	110V	A	12
IEC may aurrent to in DC1 with L/D < 1mg with 2 males in series	220V	Α	1
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series	-241	٨	20
	≤24V	A	20
	48V 75V	A	20
	75V 110V	A A	20 15
	1100	A	10





	220V	Α	10	
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			. •	
·	≤24V	Α	20	
	48V	Α	20	
	75V	Α	20	
	110V	Α	16	
	220V	Α	12	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series				
	≤24V	Α	10	
	48V	Α	9	
	75V	Α	8	
	110V	A	2	
150	220V	Α	_	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series	<0.417	^	40	
	≤24V	A	13	
	48V 75V	A A	11 10	
	75 V 110 V	A	10 7	
	220V	A	2	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	22U V			
120 max current to in 200-200 with 2/1(2 forms with 6 poics in series	≤24V	Α	15	
	48V	Α	15	
	75V	Α	13	
	110V	Α	11	
	220V	Α	6	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series				
	≤24V	Α	15	
	48V	Α	15	
	75V	Α	15	
	110V	Α	12	
	220V	Α	7	
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150	
Protection fuse				
	gG (IEC)	Α	25	
	aM (IEC)	Α	10	
Making capacity (RMS value)		Α	90	
Breaking capacity at voltage	4.401.4			
	440V	A	72 70	
	500V	A	72 74	
Desistance normale (evenes valve)	690V	A	71	
Resistance per pole (average value)		mΩ	2.5	
Power dissipation per pole (average value)	Ith	W	1.6	
	AC3	W	0.2	
Tightening torque for terminals	703	v v	0.2	
Tightoning torquo for terminals	min	Nm	1.5	
	max	Nm	1.8	
	min	lbin	1.1	
	max	Ibin	1.5	
Tightening torque for coil terminal			-	
<u> </u>	min	Nm	0.8	
	max	Nm	1	
	min	lbin	0.8	
	* * * * * *			





		max	lbin	0.74
	simultaneously connectable		Nr.	2
Conductor section				
	AWG/Kcmil			
	Ele The delicered streets	max		10
	Flexible w/o lug conductor section			4
		min	mm²	1
	Florible a/w lug conductor coation	max	mm²	6
	Flexible c/w lug conductor section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section	IIIdx	111111	
	Tiexible with insulated space tag conductor section	min	mm²	1
		max	mm²	4
		max		IP20 when
Power terminal prote	ction according to IEC/EN 60529			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail 35mm
Weight			g	352
Conductor section				
	AWG/kcmil conductor section			
		max		10
Auxiliary contact cha	racteristics			
Thermal current Ith			Α	10
IEC/EN 60947-5-1 d	esignation			A600 - P600
Operating current AC	215			
		230V	Α	3
		400V	Α	1.9
		500V	Α	1.4
Operating current DC	212			
		110V	Α	5.7
Operating current DO	213			
		24V	Α	5.7
		48V	Α	2.9
		60V	A	2.3
			Α	1.25
		110V		4 4
		125V	Α	1.1
		125V 220V	A A	0.55
Operations		125V	Α	
		125V 220V	A A A	0.55 0.2
Mechanical life		125V 220V	A A A cycles	0.55 0.2 20000000
Mechanical life Electrical life		125V 220V	A A A	0.55 0.2
Mechanical life Electrical life Safety related data	10d according to EN//SO 12490 1	125V 220V	A A A cycles	0.55 0.2 20000000
Mechanical life Electrical life Safety related data	10d according to EN/ISO 13489-1	125V 220V 600V	A A A cycles	0.55 0.2 20000000 2000000
Mechanical life Electrical life Safety related data	•	125V 220V 600V rated load	A A A Cycles cycles	0.55 0.2 20000000 2000000 2000000
Mechanical life Electrical life Safety related data Performance level B	me	125V 220V 600V	A A A cycles	0.55 0.2 20000000 2000000 2000000 20000000
	•	125V 220V 600V rated load	A A A Cycles cycles	0.55 0.2 20000000 2000000 2000000



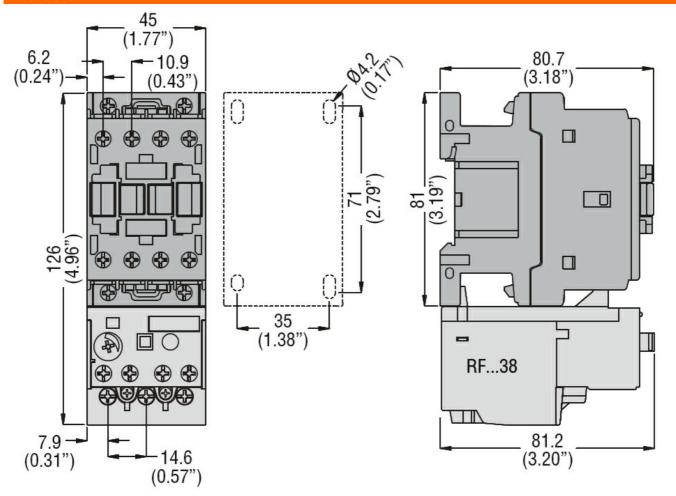


Rated AC voltage at 6	60Hz		V	230
AC operating voltage				
	of 60Hz coil powered at 60Hz			
	pick-up			
		min	%Us	80
	I	max	%Us	110
	drop-out	i-	0/116	20
		min	%Us %Us	20 55
AC average coil consu	umption at 20°C	max	7005	55
AC average con consi	of 60Hz coil powered at 60Hz			
	or our iz con powered at our iz	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 c	ontrol			
	in AC			
	Closing NO			
		min	ms	8
		max	ms	24
	Opening NO			
		min	ms	10
	Clasing NC	max	ms	20
	Closing NC	min	ms	14
		max	ms	28
	Opening NC	max	1110	20
	opolini.gg	min	ms	7
		max	ms	18
UL technical data				
Full-load current (FLA) for three-phase AC motor			
		at 480V	Α	7.6
		at 600V	Α	0.375
Yielded mechanical po				
	for single-phase AC motor			
		110/120V	HP	0.75
	for the south and A.C. markets	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	Α	25
	Auxiliary contacts			
		AC voltage	V	600
		AC current	Α	10
		DC voltage	V	250
		DC current	Α	1
Short-circuit protection				
	High fault			





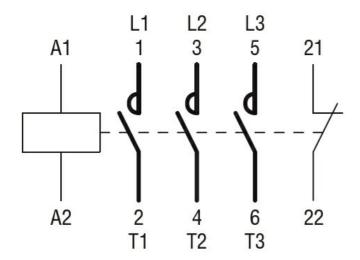
	Short circuit current	kA	100
	Fuse rating	A	30
	•	^	
	Fuse class		J
Standard fault			
	Short circuit current	kA	5
	Fuse rating	Α	60
Contact rating of auxiliary contacts according to UL			A600 - P600
Ambient conditions			
Temperature			
Operating temperature			
	min	°C	-50
	max	°C	70
Storage temperature			
	min	°C	-60
	max	°C	80
Max altitude		m	3000
Resistance & Protection			
Pollution degree			3
Dimensions			



Wiring diagrams

ENERGY AND AUTOMATION

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 60HZ, 230VAC, 1NC AUXILIARY CONTACT



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







Product designation Product type designation			Power contactor BF09
Contact characteristics			
Number of poles		Nr.	3
Rated insulation voltage Ui IEC/EN		V	690
Rated impulse withstand voltage Uimp		kV	6
Operational frequency			
	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith		Α	25
Operational current le			
·	AC-1 (≤40°C)	Α	25
	AC-1 (≤55°C)	Α	20
	AC-1 (≤70°C)	Α	18
	AC-3 (≤440V ≤55°C)	Α	9
	AC-4 (400V)	Α	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 le in DC1 with L/R ≤ 1ms with 1 poles in series			•
·	≤24V	Α	15
	48V	Α	13
	75V	Α	12
	110V	Α	6
	220V	Α	_
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
·	≤24V	Α	18
	48V	Α	18
	75V	Α	17
	110V	Α	12
	220V	Α	1
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			
- 1	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	15





	220V	Α	10
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	16
	220V	Α	12
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	Α	10
	48V	Α	9
	75V	Α	8
	110V	Α	2
	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	Α	13
	48V	Α	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	22U V		
TEC max current le in DO3-DO3 with E/R > 13ms with 3 poles in series	≤24V	۸	15
	≤24 V 48 V	A	
		A	15
	75V	A	13
	110V	A	11
150 DOS DOS 111 L/D + 45	220V	Α	6
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series		_	
	≤24V	Α	15
	48V	Α	15
	75V	Α	15
	110V	Α	12
	220V	Α	7
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150
Protection fuse			
	gG (IEC)	Α	25
	aM (IEC)	Α	10
Making capacity (RMS value)		Α	90
Breaking capacity at voltage			
	440V	Α	72
	500V	Α	72
	690V	Α	71
Resistance per pole (average value)		mΩ	2.5
Power dissipation per pole (average value)			
. The storpasson por polo (arolago raido)	lth	W	1.6
	AC3	W	0.2
Tightening torque for terminals	700	v v	U.L
rightening torque for terminals	min	Nm	1.5
	min	Nm	1.8
	max		
	min	lbin Ibin	1.1
Tightonian tourns for sail towning!	max	lbin	1.5
Tightening torque for coil terminal	·		0.0
	min	Nm	0.8
	max	Nm	1
	min	lbin	0.8





		max	lbin	0.74
	simultaneously connectable		Nr.	2
Conductor section				
	AWG/Kcmil			
	Flagging to Lance to the constant	max		10
	Flexible w/o lug conductor section			4
		min	mm²	1
	Flexible c/w lug conductor section	max	mm²	6
	Flexible C/W lug corlductor Section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section	IIIax	111111	4
	r lexible with insulated spade lug conductor section	min	mm²	1
		max	mm²	4
		Παχ	111111	IP20 when
Power terminal prote	ection according to IEC/EN 60529			properly wired
Mechanical features				propond in a
Operating position				
. 01		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail
				35mm
Weight			g	352
Conductor section				
	AWG/kcmil conductor section			
A :11:		max		10
Auxiliary contact char Thermal current Ith	racteristics		Α	10
IEC/EN 60947-5-1 d	ocianation		A	A600 - P600
Operating current AC				A000 - P000
Operating current Ac	,10	230V	٨	2
		400V	A A	3 1.9
		500V	A	1.4
Operating current DC	``12			1T
operating ourrent be	/12	110V	Α	5.7
Operating current DC	<u>.</u> :13	1101		0.7
oporating ourront be	710	24V	Α	5.7
		48V	A	2.9
		60V	A	2.3
		110V	Α	1.25
		125V	Α	1.1
		220V	Α	0.55
		220V 600V	A A	0.55
Operations				
Mechanical life Electrical life			A	0.2
Operations Mechanical life Electrical life Safety related data			A cycles	20000000
Mechanical life Electrical life Safety related data	10d according to EN/ISO 13489-1		A cycles	20000000
Mechanical life Electrical life Safety related data	10d according to EN/ISO 13489-1		A cycles	20000000
Mechanical life Electrical life Safety related data	-	600V	cycles cycles	20000000 2000000
Mechanical life Electrical life Safety related data Performance level B	-	600V	cycles cycles	20000000 2000000 2000000
Mechanical life Electrical life Safety related data Performance level B	me	600V	cycles cycles	20000000 2000000 2000000 20000000



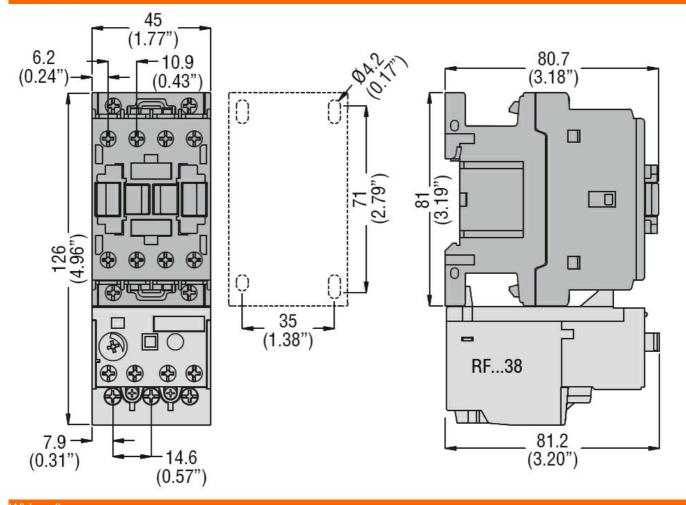


Rated AC voltage at 60Hz			V	460
AC operating voltage				
of 60Hz c	oil powered at 60Hz			
	pick-up			
		min	%Us	80
		max	%Us	110
	drop-out			
		min	%Us	20
100	0000	max	%Us	55
AC average coil consumption at 2				
Of 6UHZ C	oil powered at 60Hz	in much	١/٨	75
		in-rush	VA	75
Discipation at holding 200°C FOLI		holding	VA	9
Dissipation at holding ≤20°C 50Hz	<u>′</u>		W	2.5
Max cycles frequency			ovoloo/b	2600
Mechanical operation Operating times			cycles/h	3000
Average time for Us control				
in AC				
III AC	Closing NO			
	Glosning No	min	ms	8
		max	ms	24
	Opening NO	THO A		
	o por migration	min	ms	10
		max	ms	20
	Closing NC			
	G	min	ms	14
		max	ms	28
	Opening NC			
		min	ms	7
		max	ms	18
UL technical data				
Full-load current (FLA) for three-p	hase AC motor			
		at 480V	Α	7.6
		at 600V	Α	0.375
Yielded mechanical performance				
for single-	-phase AC motor			
		110/120V	HP	0.75
 		230V	HP	2
for three-p	phase AC motor	000/000		•
		200/208V	HP	3
		220/230V	HP	3
		460/480V	HP	5
Conoral LICE		575/600V	HP	7.5
General USE				
Contactor		Λ 🗘 🙃	۸	25
A : 11		AC current	Α	25
Auxiliary o	JUHLACIS	A C	17	600
		AC voltage	V	600
		AC current	Α	10
		DO 1111	١,	250
		DC voltage	V	250
Short-circuit protection fuse, 600\	,	DC voltage DC current	V A	250 1





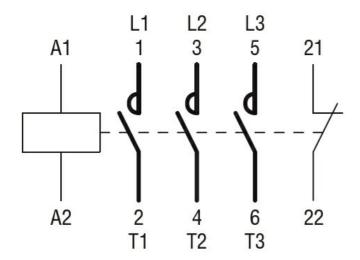
		Short circuit current	kA	100
		Fuse rating	Α	30
		Fuse class		J
Sta	andard fault			
		Short circuit current	kA	5
		Fuse rating	Α	60
Contact rating of auxiliary c	ontacts according to UL			A600 - P600
Ambient conditions				
Temperature				
Op	erating temperature			
		min	°C	-50
		max	°C	70
Sto	orage temperature			
		min	°C	-60
		max	°C	80
Max altitude			m	3000
Resistance & Protection				
Pollution degree				3
Dimensions				



Wiring diagrams

ENERGY AND AUTOMATION

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 60HZ, 460VAC, 1NC AUXILIARY CONTACT



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







Product designation Product type designation			Power contactor BF09
Contact characteristics			DI 09
Number of poles		Nr.	3
Rated insulation voltage Ui IEC/EN		V	690
Rated impulse withstand voltage Uimp		kV	6
Operational frequency			
C potational inequation	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith		Α	25
Operational current le			-
	AC-1 (≤40°C)	Α	25
	AC-1 (≤55°C)	Α	20
	AC-1 (≤70°C)	Α	18
	AC-3 (≤440V ≤55°C)	Α	9
	AC-4 (400V)	Α	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 le in DC1 with L/R ≤ 1ms with 1 poles in series			
	≤24V	Α	15
	48V	Α	13
	75V	Α	12
	110V	Α	6
	220V	Α	_
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
	≤24V	Α	18
	48V	Α	18
	75V	Α	17
	110V	Α	12
	220V	Α	1
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			
	≤24V	Α	20
	48V	Α	20
	75V	Α	20
	110V	Α	15





	220V	Α	10	
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series				
·	≤24V	Α	20	
	48V	Α	20	
	75V	Α	20	
	110V	Α	16	
	220V	Α	12	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series				
	≤24V	Α	10	
	48V	Α	9	
	75V	Α	8	
	110V	Α	2	
150	220V	Α	_	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series	<0.4) /	Δ.	40	
	≤24V	A	13	
	48V	A	11	
	75V 110V	A A	10 7	
	110V 220V	A	2	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	2207	Α		
TEC max current le in DC3-DC3 with L/N \(\Sigma\) Toms with 3 poles in series	≤24V	Α	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	220 V			
TEC MAX can six to in Edge Boo man En (= 10mb man) poloco in consc	≤24V	Α	15	
	48V	Α	15	
	75V	Α	15	
	110V	Α	12	
	220V	Α	7	
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150	
Protection fuse				
	gG (IEC)	Α	25	
	aM (IEC)	Α	10	
Making capacity (RMS value)		Α	90	
Breaking capacity at voltage				
	440V	Α	72	
	500V	Α	72	
	690V	Α	71	
Resistance per pole (average value)		mΩ	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	Ibin	1.1	
Tightoning torque for call torrainal	max	Ibin	1.5	
Tightening torque for coil terminal		N.I	0.0	
	min	Nm	0.8	
	max	Nm	1	
	min	lbin	0.8	





		max	lbin	0.74
	simultaneously connectable		Nr.	2
Conductor section				
	AWG/Kcmil			
	El. The Asia and Advanced a	max		10
	Flexible w/o lug conductor section			4
		min	mm²	1
	Flovible o/w lug conductor poetion	max	mm²	6
	Flexible c/w lug conductor section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section	IIIax	111111	4
	r lexible with insulated space ldg conductor section	min	mm²	1
		max	mm²	4
		max		IP20 when
Power terminal prote	ction according to IEC/EN 60529			properly wired
Mechanical features				, .,,
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail 35mm
Weight				356
Conductor section			g	330
Conductor Section	AWG/kcmil conductor section			
	AVVG/KCITIII COTIQUCTOF Section	may		10
Auxiliary contact char	actoristics	max		10
Thermal current Ith	aciensilos		А	10
IEC/EN 60947-5-1 de	esignation		,,	A600 - P600
Operating current AC				7,000 1 000
operating current re		230V	Α	3
		400V	A	1.9
		500V	Α	1.4
Operating current DC	:12	500V	A	1.4
Operating current DC	:12			
		110V	A	5.7
		110V	Α	5.7
		110V 24V	A A	5.7 5.7
		110V 24V 48V	A A A	5.7 5.7 2.9
		110V 24V 48V 60V	A A A	5.7 5.7 2.9 2.3
		110V 24V 48V 60V 110V 125V 220V	A A A A	5.7 5.7 2.9 2.3 1.25 1.1 0.55
Operating current DC		110V 24V 48V 60V 110V 125V	A A A A A	5.7 5.7 2.9 2.3 1.25 1.1
Operating current DC		110V 24V 48V 60V 110V 125V 220V	A A A A A A	5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Operating current DC Operations Mechanical life		110V 24V 48V 60V 110V 125V 220V	A A A A A A Cycles	5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Operating current DC Operations Mechanical life Electrical life		110V 24V 48V 60V 110V 125V 220V	A A A A A A	5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Operating current DC Operations Mechanical life Electrical life Safety related data	213	110V 24V 48V 60V 110V 125V 220V	A A A A A A Cycles	5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2
Operating current DC Operations Mechanical life Electrical life Safety related data		110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A Cycles cycles	5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000
Operating current DC Operations Mechanical life Electrical life Safety related data	10d according to EN/ISO 13489-1	110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A Cycles cycles	5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000
Operations Mechanical life Electrical life Safety related data Performance level B	10d according to EN/ISO 13489-1	110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A Cycles cycles	5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000
Mirror contats accord	10d according to EN/ISO 13489-1	110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A Cycles cycles	5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000
Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B	10d according to EN/ISO 13489-1	110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A Cycles cycles	5.7 5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 20000000



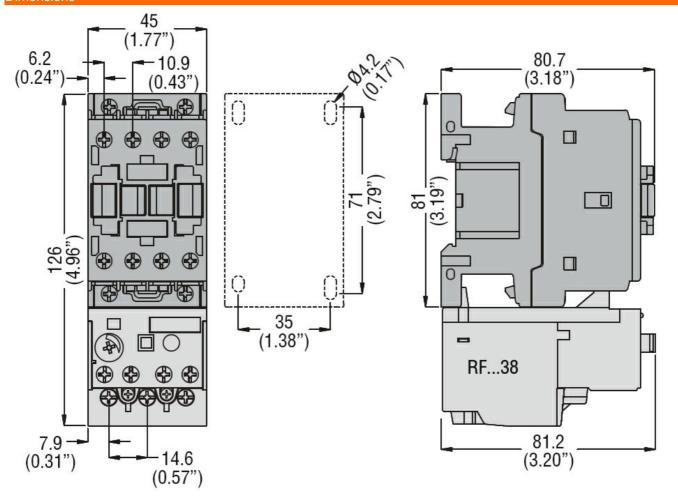


Rated AC voltage at 60Hz		V	575
AC operating voltage			
of 60Hz coil powered at 60Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out		0/11	0.0
	min	%Us	20
A.C	max	%Us	55
AC average coil consumption at 20°C			
of 60Hz coil powered at 60Hz	in much	١/٨	7.5
	in-rush	VA	75
Discipation at halding <20°C FOLL	holding	VA	9
Dissipation at holding ≤20°C 50Hz		W	2.5
Max cycles frequency		avala a /b	2000
Mechanical operation		cycles/h	3000
Operating times			
Average time for Us control			
in AC			
Closing NO	min	ma	8
		ms ms	24
Opening NO	max	1115	24
Opening NO	min	ms	10
			20
Closing NC	max	ms	20
Closing NC	min	me	14
	max	ms ms	28
Opening NC	Παλ	1113	20
Opening No	min	ms	7
	max	ms	18
JL technical data	THOX	1110	
Full-load current (FLA) for three-phase AC motor			
	at 480V	Α	7.6
	at 600V	Α	0.375
fielded mechanical performance			
for single-phase AC motor			
0 	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	Α	25
Auxiliary contacts			
,,,	AC voltage	V	600
	AC current	Å	10
	DC voltage	V	250
	DC current	Å	1
Short-circuit protection fuse, 600V	20 00110111		
p p			



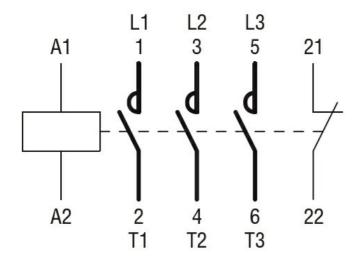


	Short circuit current	kA	100
	Fuse rating	Α	30
	Fuse class		J
Standard fault			·
	Short circuit current	kA	5
	Fuse rating	Α	60
Contact rating of auxiliary contacts according to UL			A600 - P600
Ambient conditions			
Temperature			
Operating temperature			
	min	°C	-50
	max	°C	70
Storage temperature			
	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/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