



BF12	Product designation			Power contactor
Number of poles Nr. 3 Rated insulation voltage Ui IEC/EN V 690 Rated insulation voltage Uimp kV 6 Operational frequency min Hz 25 max Hz 400 LEC Conventional free air thermal current lth A 28 Operational current le AC-1 (≤40°C) A 28 AC-1 (555°C) A 23 AC-1 (≤55°C) A 20 AC-3 (≤440°V ≤55°C) A 20 AC-3 (≤440°V ≤55°C) A 12 AC-4 (4000V) A 7.9 AC-3 (≤440°V ≤55°C) A 12 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.5 500V kW 5.5 500V kW 5.5 500V kW 5.5 500V kW 5.0 690V kW 10 400V kW 10 400V kW 18 400V kW 18 400V kW 18 400V kW 18 <th>Product type designation</th> <th></th> <th></th> <th>BF12</th>	Product type designation			BF12
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 28 Operational current Ie AC-1 (≤40°C) A 28 AC-1 (≤55°C) A 20 AC-3 (≤440V ≤55°C) A 20 AC-3 (≤440V ≤55°C) A 20 AC-3 (≤440V ≤55°C) A 12 Rated operational power AC-3 (T≤55°C) 230V kW 5.7 415V kW 6.2 440V kW 5.5 500V kW 5. 500V kW 5. Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 18 500V kW 5 690V kW 3.2 400V kW 18 690V kW 3.2 400V kW 3.2 400V kW 3.2 400V <t< td=""><td></td><td></td><td></td><td>•</td></t<>				•
Rated impulse withstand voltage Uimp				
Operational frequency min max bit				
Min Hz 25 max Hz 400 EC Conventional free air thermal current lth			kV	6
The properties of the prope	Operational frequency			
EC Conventional free air thermal current Ith				
Operational current le AC-1 (≤40°C) A 28 AC-1 (≤55°C) A 23 AC-1 (≤70°C) A 20 AC-3 (≤440V ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.5 500V kW 5.5 500V kW 5.5 500V kW 5.5 690V kW 5.5 500V kW 18 500V kW 18 500V kW 23 690V kW 32 32 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 15 A 75V A 13 110V A 6 220V A - - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 48V A 20 75V A 18 110V A 13 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 20 48V A 22 48V A 22 48V A 22 48V A 22 75V A 20		max		
AC-1 (≤40°C)			A	28
AC-1 (≤55°C) A 23 AC-1 (≤70°C) A 20 AC-3 (≤440V ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 5.5 500V kW 5.6 690V kW 5.6 690V kW 5.7 Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 18 500V kW 23 690V kW 32 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 17 48V A 15 75V A 13 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 48V A 20 75V A 18 110V A 13 120V A 13 110V A 13 120V A 20 120V A 1 120V A 20 120V A 13 130V A 20 120V A 13 130V A 20 130V A 20 140V A 22 150V A 13 150V A 22	Operational current le			
AC-1 (≤70°C) A 20 AC-3 (≤440V ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 4440V kW 5.5 500V kW 5.5 500V kW 5.5 690V kW 5.5 890V kW 5.5 890V kW 10 400V kW 18 500V kW 23 690V kW 32 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 17 48V A 15 75V A 13 110V A 6 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 48V A 20 75V A 18 110V A 13 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 13 110V A 13 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series		,	Α	
AC-3 (≤440V ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 5.5 500V kW 5. 690V kW 5. Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 18 500V kW 23 690V kW 32 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 17 48V A 15 75V A 13 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 48V A 20 75V A 18 110V A 13 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series		,	Α	
AC-4 (400V)				
Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 4440V kW 5.5 500V kW 5 690V kW 5 690V kW 5 Rated operational power AC-1 (T≤40°C) Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 18 500V kW 23 690V kW 32 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 17 48V A 15 75V A 13 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 48V A 20 48V A 20 75V A 18 110V A 13 120V A 13 110V A 13 120V A 15 110V A 13 120V A 15 110V A 20 48V A 22				
230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 5.5 500V kW 5.5 500V kW 5 500V kW 10 400V kW 18 500V kW 32 100 10		AC-4 (400V)	A	7.9
400V	Rated operational power AC-3 (T≤55°C)			
A15V				
A440V				
Soov kW 5				
Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 18 500V kW 23 690V kW 32 224V A 15 75V A 13 110V A 6 220V A - 220V A 18 220V A 18 110V A 18 220V A 18 110V A 13 120V A 13 110V A 13				
Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 18 500V kW 23 690V kW 32 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 17 48V A 15 75V A 13 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 48V A 20 75V A 18 110V A 13 110V A 13 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 18 110V A 13 220V A 1				
		690V	kW	5
	Rated operational power AC-1 (T≤40°C)			
Soov kW 23 690V kW 32				
EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V				
Section Sec				
		690V	kW	32
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			
T5V				
110V A 6 220V A -				
EC max current le in DC1 with L/R \leq 1ms with 2 poles in series \leq 24V A 20 48V A 20 75V A 18 110V A 13 220V A 1				
EC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V				6
		220V	Α	
	IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 22 48V A 22 75V A 20				
≤24V A 22 48V A 22 75V A 20		220V	Α	
48V A 22 75V A 20	IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			
75V A 20			Α	
110V A 16				
		110V	Α	16



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	220V	Α	11
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	12
	48V	Α	11
	75V	Α	10
	110V	Α	2
	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series	220 V		
The max current le in boo-boo with bit 2 forms with 2 poles in series	≤24V	Α	15
	48V	A	13
	46 V 75 V		13
		A	
	110V	A	8
150	220V	A	2
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	.= :		4.0
	≤24V	Α	18
	48V	Α	18
	75V	Α	15
	110V	Α	12
	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	16
	220V	Α	7
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150
Protection fuse			
	gG (IEC)	Α	32
	aM (IEC)	Α	12
Making capacity (RMS value)	·	Α	120
Breaking capacity at voltage			
J. Safe stand of the stands	440V	Α	96
	500V	A	96
	690V	A	94
Resistance per note (average value)	090 v	mΩ	2.5
Resistance per pole (average value)		11177	۷.ن
Power dissipation per pole (average value)	141	147	2
	Ith	W	2
Till to die teen et te teen de	AC-3	W	0.4
Tightening torque for terminals			4 =
	min	Nm	1.5
	max	Nm	1.8
	min	Ibin	1.1
	max	lbin	1.5
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	Ibin	0.8



Na	an accept a comparate la	max	Ibin	0.74
Max number of wires simulta	aneously connectable		Nr.	2
Conductor section	IC/Komil			
AVV	/G/Kcmil	may		10
Flo	xible w/o lug conductor section	max		10
1 167	Able W/O lag corladctor section	min	mm²	1
		max	mm²	6
Flex	xible c/w lug conductor section	max		
1 10/	will of the lag contractor coolien	min	mm²	1
		max	mm²	4
Flex	xible with insulated spade lug conductor section			
	эр эн	min	mm²	1
		max	mm²	4
D	II IEO/EN 00500			IP20 when
Power terminal protection a	ccording to IEC/EN 60529			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail
				35mm
Weight			g	364
Conductor section				
AW	G/kcmil conductor section			
		max		10
A ! ! :	41			
Auxiliary contact characteris	SIICS			
Thermal current Ith			Α	10
Thermal current Ith IEC/EN 60947-5-1 designat			Α	10 A600 - P600
Thermal current Ith IEC/EN 60947-5-1 designat				A600 - P600
Thermal current Ith IEC/EN 60947-5-1 designat		230V	A	A600 - P600
Thermal current Ith IEC/EN 60947-5-1 designat		400V	A A	A600 - P600 3 1.9
Thermal current lth IEC/EN 60947-5-1 designat Operating current AC15			A	A600 - P600
Thermal current lth IEC/EN 60947-5-1 designat Operating current AC15		400V 500V	A A A	3 1.9 1.4
Thermal current Ith IEC/EN 60947-5-1 designat Operating current AC15 Operating current DC12		400V	A A	A600 - P600 3 1.9
Thermal current Ith IEC/EN 60947-5-1 designat Operating current AC15 Operating current DC12		400V 500V	A A A	3 1.9 1.4 5.7
Thermal current Ith IEC/EN 60947-5-1 designat Operating current AC15 Operating current DC12		400V 500V 110V 24V	A A A	3 1.9 1.4 5.7
Thermal current Ith IEC/EN 60947-5-1 designat Operating current AC15 Operating current DC12		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 designat Operating current AC15 Operating current DC12		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 designat Operating current AC15 Operating current DC12		400V 500V 110V 24V 48V 60V 110V	A A A A A	3 1.9 1.4 5.7 5.7 2.9 2.3 1.25
Thermal current Ith IEC/EN 60947-5-1 designat Operating current AC15 Operating current DC12		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 designat Operating current AC15 Operating current DC12		400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A A	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 designat Operating current AC15 Operating current DC12 Operating current DC13		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 designated Operating current AC15 Operating current DC12 Operating current DC13 Operating current DC13		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 designat Operating current AC15 Operating current DC12 Operating current DC13 Operating current DC13 Operations Mechanical life		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 designat Operating current AC15 Operating current DC12 Operating current DC13 Operating current DC13 Operations Mechanical life Electrical life		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 designat Operating current AC15 Operating current DC12 Operating current DC13 Operating current DC13 Operations Mechanical life Electrical life Safety related data	tion	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 designat Operating current AC15 Operating current DC12 Operating current DC13 Operations Mechanical life Electrical life Safety related data	tion	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 designat Operating current AC15 Operating current DC12 Operating current DC13 Operating current DC13 Operations Mechanical life	cording 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 designat Operating current AC15 Operating current DC12 Operating current DC13 Operating current DC13 Operations Mechanical life Electrical life Safety related data Performance level B10d acc	cording 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 designat Operating current AC15 Operating current DC12 Operating current DC13 Operations Mechanical life Electrical life Safety related data Performance level B10d academical contacts according to	cording 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 2000000 2000000 2000000 yes
Thermal current Ith IEC/EN 60947-5-1 designat Operating current AC15 Operating current DC12 Operating current DC13 Operating current DC13 Operations Mechanical life Electrical life Safety related data Performance level B10d acc	cording 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	48
AC operating voltage					
	of 50/60Hz coil powered at 50)Hz			
	pick-u	ıp			
			min	%Us	80
			max	%Us	110
	drop-	out		0/11	
			min	%Us	20
	of FO/COLLE apil reguered at CC	N. I.—	max	%Us	55
	of 50/60Hz coil powered at 60				
	pick-u	ıh	min	%Us	85
			max	%Us	110
	drop-o	out	max	7003	110
	GIOP (out	min	%Us	20
			max	%Us	55
AC average coil consu	Imption at 20°C				
J ::::::	of 50/60Hz coil powered at 50)Hz			
	,		in-rush	VA	75
			holding	VA	9
	of 50/60Hz coil powered at 60)Hz			
			in-rush	VA	70
			holding	VA	6.5
	of 60Hz coil powered at 60Hz				
			in-rush	VA	75
			holding	VA	9
Dissipation at holding	≤20°C 50Hz			W	2.5
Max cycles frequency					
Mechanical operation				cycles/h	3600
Operating times	antinal .				
Average time for Us of	in AC				
		na NO			
	Closir	ng NO	min	me	8
		ng NO	min may	ms ms	8
	Closir		min max	ms ms	8 24
	Closir	ng NO ing NO	max	ms	24
	Closir		max min	ms ms	10
	Closin	ing NO	max	ms	24
	Closir	ing NO	max min	ms ms	10
	Closin	ing NO	max min max	ms ms ms	24 10 20
	Closir Openi Closir	ing NO	max min max min	ms ms ms	24102014
	Closir Openi Closir	ing NO	max min max min	ms ms ms	24 10 20 14 28 7
	Closir Openi Closir	ing NO	max min max min max	ms ms ms ms	24 10 20 14 28
	Closin Openi Closin Openi	ing NO	max min max min max min	ms ms ms ms ms	24 10 20 14 28 7
	Closir Openi Closir	ing NO	max min max min max min max	ms ms ms ms ms	24 10 20 14 28 7 18
	Closin Openi Closin Openi	ing NO	max min max min max min max	ms ms ms ms ms	24 10 20 14 28 7 18
Full-load current (FLA	Openi Closir Openi Openi	ing NO	max min max min max min max	ms ms ms ms ms	24 10 20 14 28 7 18
JL technical data Full-load current (FLA) Yielded mechanical pe	Openi Closir Openi Openi Offor three-phase AC motor erformance	ing NO	max min max min max min max	ms ms ms ms ms	24 10 20 14 28 7 18
Full-load current (FLA	Openi Closir Openi Openi	ing NO	max min max min max at 480V at 600V	ms ms ms ms ms A A	24 10 20 14 28 7 18
Full-load current (FLA)	Openi Closir Openi Openi Offor three-phase AC motor erformance	ing NO	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
Full-load current (FLA	Openi Closir Openi Openi Ofor three-phase AC motor erformance for single-phase AC motor	ing NO	max min max min max at 480V at 600V	ms ms ms ms ms A A	24 10 20 14 28 7 18
Full-load current (FLA	Openi Closir Openi Openi Offor three-phase AC motor erformance	ing NO	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

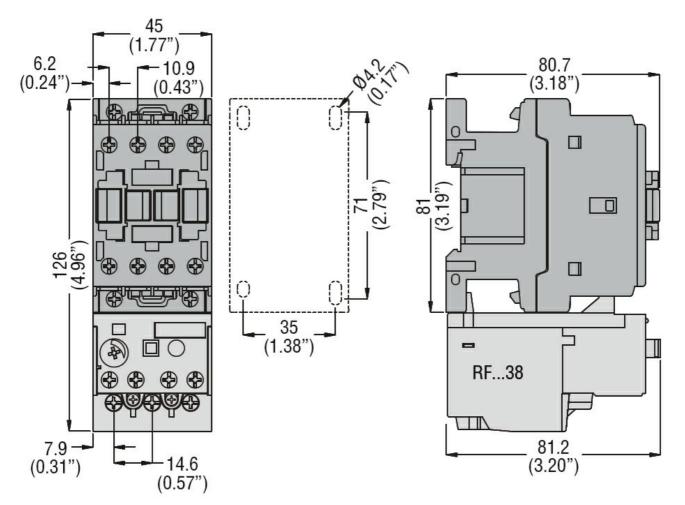




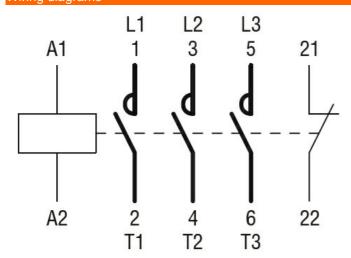
		220/230V	HP	5
		460/480V	HP	7.5
		575/600V	HP	10
General USE				
	Contactor			
		AC current	Α	28
	Auxiliary contacts			
	•	AC voltage	V	600
		AC current	Α	10
		DC voltage	V	250
		DC current	Α	1
Short-circuit protect	tion fuse, 600V			
	High fault			
		Short circuit current	kA	100
		Fuse rating	Α	30
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	Α	70
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) = 12A, 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



BF1201A048

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, AC COIL 50/60HZ, 48VAC, 1NC AUXILIARY CONTACT

CCC		
cULus		
EAC		

ETIM classification

ETIM 8.0

EC000066 -Power contactor, AC switching