



Product designation Product type designation			Power contactor BF12
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	28
Operational current le			
•	AC-1 (≤40°C)	Α	28
	AC-1 (≤55°C)	Α	23
	AC-1 (≤70°C)	Α	20
	AC-3 (≤440V ≤55°C)	Α	12
	AC-4 (400V)	Α	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	Α	17
	48V	Α	15
	75V	Α	13
	110V	Α	6
	220V	Α	_
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
	≤24V	Α	20
	48V	Α	20
	75V	Α	18
	110V	Α	13
	220V	Α	1
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			
	≤24V	Α	22
	48V	Α	22
	75V	Α	20
	110V	Α	16



BF1210A230

	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	<u>-</u>
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series	220 V		
The max current to in 600-600 with E/N = 10m3 with 2 poics in 3cmc3	≤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			
	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	0
	Ith	W	2
Till to die teen et te teen de	AC3	W	0.4
Tightening torque for terminals			4.5
	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	Ibin	0.8



		max	Ibin	0.74
	simultaneously connectable		Nr.	2
Conductor section	A.M.O. #4			
	AWG/Kcmil			40
	Clavible w/a lum conductor acation	max		10
	Flexible w/o lug conductor section	min	mm²	1
		min max	mm² mm²	1 6
	Flexible c/w lug conductor section	IIIax	111111	0
	r lexible 6/w lug corluction section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section			•
	r loxiloto mar inculated opade lag contactor coolien	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	356
Conductor section				
	AWG/kcmil conductor section			
A 112		max		10
Auxiliary contact chara	acteristics			
The arrange of account of the			Λ.	4.0
Thermal current lth	aignation		A	10 4600 B600
IEC/EN 60947-5-1 de	•		A	10 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	A600 - P600 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	A600 - P600 3 1.9 1.4 5.7 5.7 2.9
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 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 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 0d 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 0d 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



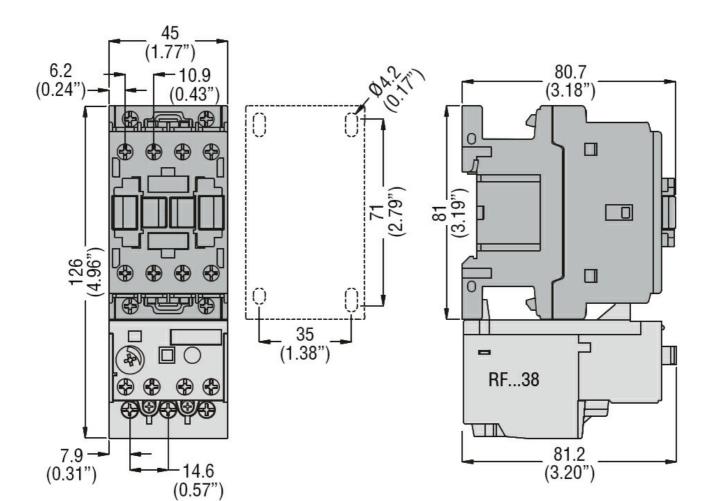
valed AC vollage a	at 50/60Hz		V	230
AC operating voltage	ge			
	of 50/60Hz coil powered at 50Hz			
	pick-up			
		min	%Us	80
	duan and	max	%Us	110
	drop-out		0/116	20
		min	%Us %Us	20
	of 50/60Hz coil powered at 60Hz	max	%08	55
	pick-up			
	ріск-ир	min	%Us	85
		max	%Us	110
	drop-out	παλ	7003	110
	drop out	min	%Us	20
		max	%Us	55
AC average coil co	onsumption at 20°C			- -
	of 50/60Hz coil powered at 50Hz			
	2. 22. 22. <u>Ponoisa at on IL</u>	in-rush	VA	75
		holding	VA	9
	of 50/60Hz coil powered at 60Hz			
	•	in-rush	VA	70
		holding	VA	6.5
	of 60Hz coil powered at 60Hz			
	·	in-rush	VA	75
		holding	VA	9
Dissipation at holdi	ng ≤20°C 50Hz		W	2.5
			V V	
Max cycles frequer	-		VV	
Mechanical operati	ncy		cycles/h	
Mechanical operation Derating times	on			
Mechanical operation Derating times	on s control			
Mechanical operation Derating times	s control in AC			
Mechanical operation Derating times	on s control		cycles/h	3600
Mechanical operation operation operation operating times	s control in AC	min	cycles/h	3600
Mechanical operation operation operation operating times	s control in AC Closing NO	min max	cycles/h	3600
Mechanical operation operation operation operating times	s control in AC	max	cycles/h ms ms	3600 8 24
Mechanical operation operation operation operating times	s control in AC Closing NO	max min	cycles/h ms ms ms	3600 8 24 10
Mechanical operation Derating times	s control in AC Closing NO Opening NO	max	cycles/h ms ms	3600 8 24
Mechanical operation Derating times	s control in AC Closing NO	max min max	ms ms ms ms	3600 8 24 10 20
Mechanical operation Derating times	s control in AC Closing NO Opening NO	max min max min	cycles/h ms ms ms ms ms	3600 8 24 10 20
Mechanical operation Derating times	s control in AC Closing NO Opening NO Closing NC	max min max	ms ms ms ms	3600 8 24 10 20
Mechanical operation Derating times	s control in AC Closing NO Opening NO	max min max min max	ms ms ms ms ms	3600 8 24 10 20 14 28
Mechanical operation Derating times	s control in AC Closing NO Opening NO Closing NC	max min max min max min	ms ms ms ms ms	3600 8 24 10 20 14 28 7
Mechanical operation Derating times Average time for U	s control in AC Closing NO Opening NO Closing NC	max min max min max	ms ms ms ms ms	3600 8 24 10 20 14 28
Mechanical operation Degrating times Average time for U JL technical data	s control in AC Closing NO Opening NO Closing NC Opening NC	max min max min max min	ms ms ms ms ms	3600 8 24 10 20 14 28 7
Mechanical operation Derating times Average time for U JL technical data	s control in AC Closing NO Opening NO Closing NC	max min max min max min max	ms ms ms ms ms ms	3600 8 24 10 20 14 28 7 18
Mechanical operation Derating times Average time for U JL technical data	s control in AC Closing NO Opening NO Closing NC Opening NC	max min max min max at 480V	ms ms ms ms ms ms	3600 8 24 10 20 14 28 7 18
Mechanical operation Decrating times Average time for U JL technical data Full-load current (F	s control in AC Closing NO Opening NO Closing NC Opening NC Opening NC	max min max min max min max	ms ms ms ms ms ms	3600 8 24 10 20 14 28 7 18
Mechanical operation Deperating times Average time for U JL technical data	s control in AC Closing NO Opening NO Closing NC Opening NC Opening NC	max min max min max at 480V	ms ms ms ms ms ms	3600 8 24 10 20 14 28 7 18
Mechanical operation Decrating times Average time for U JL technical data Full-load current (F	s control in AC Closing NO Opening NO Closing NC Opening NC Opening NC	max min max min max at 480V at 600V	ms ms ms ms ms A	3600 8 24 10 20 14 28 7 18
Mechanical operation Decrating times Average time for U JL technical data Full-load current (F	s control in AC Closing NO Opening NO Closing NC Opening NC Opening NC	max min max min max at 480V	ms ms ms ms ms ms	3600 8 24 10 20 14 28 7 18
Mechanical operation Decrating times Average time for U JL technical data Full-load current (F	s control in AC Closing NO Opening NO Closing NC Opening NC Opening NC	max min max min max min max at 480V at 600V	ms ms ms ms ms A A	3600 8 24 10 20 14 28 7 18



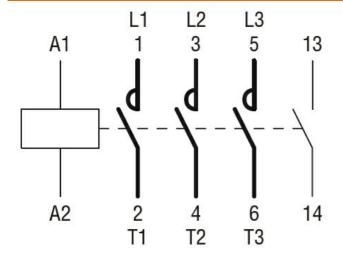


		220/230V	HP	5
		460/480V	HP	7.5
		575/600V	HP	10
General USE				
	Contactor			
		AC current	Α	28
	Auxiliary contacts			
	·	AC voltage	V	600
		AC current	Α	10
		DC voltage	V	250
		DC current	Α	1
Short-circuit protection	on fuse, 600V			
	High fault			
		Short circuit current	kA	100
		Fuse rating	Α	30
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	Α	70
Contact rating of 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 & Protect	tion			
Pollution degree				3
Dimensions [mm (in)]				
[]				





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



BF1210A230

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, AC COIL 50/60HZ, 230VAC, 1NO AUXILIARY CONTACT

cULus		
EAC		

ETIM classification

ETIM 8.0

EC000066 -Power contactor, AC switching