



Product designation			Power contactor
Product type designation			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		i v	
Operational frequency	min	Hz	25
		Hz	400
IFC Conventional free air the model or monthly	max		
IEC Conventional free air thermal current Ith		Α	28
Operational current le	10.4 (11000)		0.0
	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			
The max carrent to in Bot with Effe Time with a police in conce	≤24V	Α	17
	48V	A	15
	75V	A	13
	110V	A	6
	220V	A	O
IFC may current to in DC1 with L/D < 1 mg with 2 notes in parios	Z20 V	A	<u>-</u>
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series	40 AV		0.0
	≤24V	A	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





	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 forts 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



		max	Ibin	0.74
	simultaneously connectable		Nr.	2
Conductor section	A1440/44 11			
	AWG/Kcmil			4.0
	Clavible w/s has senductor costion	max		10
	Flexible w/o lug conductor section	min	mm²	1
		min	mm² mm²	1 6
	Flexible c/w lug conductor section	max	111111	· ·
	r lexible 6/w rug corrudctor section	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section			•
	r loxiloto mar modilatos opaso 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	360
Conductor section				
	AWG/kcmil conductor section			
A 112		max		10
Auxiliary contact chara	acteristics			
The arms of account out lith			٨	10
Thermal current Ith	oignation		Α	10
IEC/EN 60947-5-1 de	•		A	10 A600 - P600
Thermal current lth IEC/EN 60947-5-1 de Operating current AC	•	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	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	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
Operating current ACCCOPERATION	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
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  Operations  Mechanical life  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	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	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



Rated AC voltage at 5	0/60Hz			V	24
AC operating voltage	-f-50/00LI=:I	-1 -4 5011-			
	of 50/60Hz coil powere				
		pick-up	min	%Us	80
			max	%Us	110
		drop-out	max	7003	110
		a. op 0 a.	min	%Us	20
			max	%Us	55
	of 50/60Hz coil powere	ed at 60Hz			
	·	pick-up			
			min	%Us	85
			max	%Us	110
		drop-out			
			min	%Us	20
			max	%Us	55
AC average coil consu	-				
	of 50/60Hz coil powere	ed at 50Hz		3.75	7.5
			in-rush	VA	75
	of E0/0011= == " · · ·	ad at COLL-	holding	VA	9
	of 50/60Hz coil powere	eu at buhz	in-rush	VA	70
			holding	VA VA	6.5
	of 60Hz coil powered a	ot 60Hz	Holding		0.5
	or our iz con powered a	מני טטו וב			7.5
	•		in-ruch	\/Δ	/ h
	·		in-rush holding	VA VA	75 9
Dissipation at holding			in-rush holding	VA	9
	≤20°C 50Hz				
Max cycles frequency	≤20°C 50Hz			VA W	9 2.5
Max cycles frequency Mechanical operation	≤20°C 50Hz			VA	9 2.5
Max cycles frequency Mechanical operation Operating times	≤20°C 50Hz			VA W	9 2.5
Max cycles frequency Mechanical operation Operating times	≤20°C 50Hz			VA W	9 2.5
Max cycles frequency Mechanical operation Operating times	≤20°C 50Hz	Closing NO		VA W	9 2.5
Max cycles frequency Mechanical operation Operating times	≤20°C 50Hz	Closing NO		VA W	9 2.5 3600
Max cycles frequency Mechanical operation Operating times	≤20°C 50Hz	-	holding	VA W cycles/h	9 2.5 3600
Max cycles frequency Mechanical operation Operating times	≤20°C 50Hz	Closing NO Opening NO	holding min max	VA W cycles/h ms ms	9 2.5 3600 8 24
Max cycles frequency Mechanical operation Operating times	≤20°C 50Hz	-	min max	VA W cycles/h ms ms	9 2.5 3600 8 24 10
Max cycles frequency Mechanical operation Operating times	≤20°C 50Hz	Opening NO	holding min max	VA W cycles/h ms ms	9 2.5 3600 8 24
Max cycles frequency Mechanical operation Operating times	≤20°C 50Hz	-	min max min max	VA W cycles/h ms ms ms	9 2.5 3600 8 24 10 20
Max cycles frequency Mechanical operation Operating times	≤20°C 50Hz	Opening NO	min max min max	VA W cycles/h ms ms ms ms	9 2.5 3600 8 24 10 20
Max cycles frequency Mechanical operation Operating times	≤20°C 50Hz	Opening NO Closing NC	min max min max	VA W cycles/h ms ms ms	9 2.5 3600 8 24 10 20
Max cycles frequency Mechanical operation Operating times	≤20°C 50Hz	Opening NO	min max min max	VA W cycles/h ms ms ms ms ms	9 2.5 3600 8 24 10 20 14 28
Max cycles frequency Mechanical operation Operating times	≤20°C 50Hz	Opening NO Closing NC	min max min max min max	W cycles/h ms ms ms ms ms ms	9 2.5 3600 8 24 10 20 14 28
Max cycles frequency Mechanical operation Operating times Average time for Us o	≤20°C 50Hz	Opening NO Closing NC	min max min max	VA W cycles/h ms ms ms ms ms	9 2.5 3600 8 24 10 20 14 28
Max cycles frequency Mechanical operation Operating times Average time for Us co	≤20°C 50Hz  ontrol in AC	Opening NO Closing NC Opening NC	min max min max min max	W cycles/h ms ms ms ms ms ms	9 2.5 3600 8 24 10 20 14 28
Max cycles frequency Mechanical operation Operating times Average time for Us co	≤20°C 50Hz	Opening NO Closing NC Opening NC	min max min max min max min max	VA W cycles/h ms ms ms ms ms ms	9 2.5 3600 8 24 10 20 14 28 7 18
Max cycles frequency Mechanical operation Operating times Average time for Us co	≤20°C 50Hz  ontrol in AC	Opening NO Closing NC Opening NC	min max min max min max at 480V	VA W cycles/h ms ms ms ms ms ms ms	9 2.5 3600 8 24 10 20 14 28 7 18
Max cycles frequency Mechanical operation Operating times Average time for Us co	≤20°C 50Hz  ontrol in AC  ) for three-phase AC mot	Opening NO Closing NC Opening NC	min max min max min max min max	VA W cycles/h ms ms ms ms ms ms	9 2.5 3600 8 24 10 20 14 28 7 18
Max cycles frequency Mechanical operation Operating times Average time for Us co	≤20°C 50Hz  ontrol in AC  ) for three-phase AC moterformance	Opening NO Closing NC Opening NC	min max min max min max at 480V	VA W cycles/h ms ms ms ms ms ms ms	9 2.5 3600 8 24 10 20 14 28 7 18
Max cycles frequency Mechanical operation Operating times Average time for Us co	≤20°C 50Hz  ontrol in AC  ) for three-phase AC mot	Opening NO Closing NC Opening NC	min max min max min max at 480V	VA W cycles/h ms ms ms ms ms ms ms	9 2.5 3600 8 24 10 20 14 28 7 18
Dissipation at holding Max cycles frequency Mechanical operation Operating times Average time for Us of the company of the cycles of the cycle	≤20°C 50Hz  ontrol in AC  ) for three-phase AC moterformance	Opening NO Closing NC Opening NC	min max min max min max at 480V at 600V	VA W cycles/h ms ms ms ms ms ms A A	9 2.5 3600 8 24 10 20 14 28 7 18
Max cycles frequency Mechanical operation Operating times Average time for Us co	≤20°C 50Hz  ontrol in AC  ) for three-phase AC moterformance	Opening NO Closing NC Opening NC or	min max min max min max at 480V at 600V	W cycles/h ms ms ms ms ms ms A A	9 2.5 3600 8 24 10 20 14 28 7 18

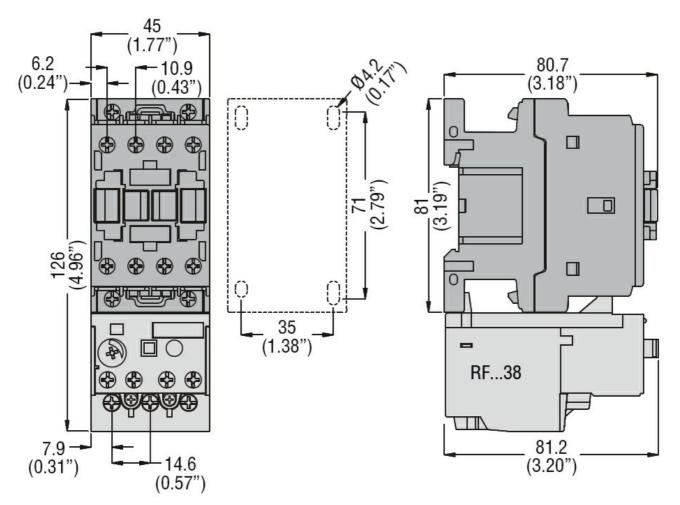




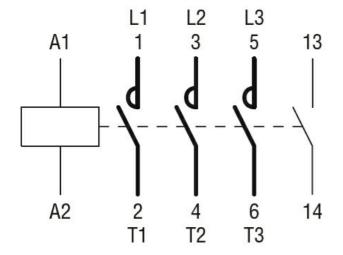
		220/230V	HP	5
		460/480V	HP	7.5
		575/600V	HP	10
General USE				
	Contactor			
		AC current	Α	28
	Auxiliary contacts			
		AC voltage	V	600
		AC current	Α	10
		DC voltage	V	250
		DC current	Α	1
Short-circuit protect	ion fuse, 600V			
	High fault			
		Short circuit current	kA	100
		Fuse rating	Α	30
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	Α	70
Contact rating of au	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) = 12A, AC COIL 50/60HZ, 24VAC, 1NO 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

CCC



#### BF1210A024

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, AC COIL 50/60HZ, 24VAC, 1NO AUXILIARY CONTACT

cULus			
EAC			

ETIM classification

ETIM 8.0

EC000066 -Power contactor, AC switching