



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			
	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 $L/R \le 1$ ms 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	A	_
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 10ms with 2 poles in series	≤24V	Α	15
	48V	A	
	48 V 75 V		13 12
		A	
	110V	A	8
150	220V	Α	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)	I±L	147	2
	Ith	W	2
<del></del>	AC3	W	0.4
Tightening torque for terminals			
	min	Nm	1.5
	max	Nm	1.8
	min	lbin	1.1
	max	Ibin	1.5
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	lbft	0.8



BF1210A230

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

Max number of wires simultaneously connectable         r.r.         2           Conductor section         Fiexible w/o lug conductor section         min         mm²         1           Flexible c/w lug conductor section         min         mm²         4           Flexible with insulated spade lug conductor section         min         mm²         4           Power terminal protection according to IEC/EN 60529         Textory         1           Power terminal protection according to IEC/EN 60529         Textory         1           Power terminal protection according to IEC/EN 60529         Textory         1           Power terminal protection according to IEC/EN 60529         Textory         1000           Fixing         Textory         1000         2000           Fixing         Textory         300         2000           Fixing         Textory         300         356           Auxilary contact         Textory         1 NO           Type of contact         1 NO         1 NO           Thereal current Burdent Ith         2000         2000           EC/EN 60847-5-1 designation         2000         2000           Operating current DC12         1100         A 5.7           Operating current DC13         24V         A 5.7			max	lbft	0.74
Flexible w/o lug conductor section		nultaneously connectable		nr.	2
Properties   Pro					
Flexible c/w lug conductor section		Flexible w/o lug conductor section			4
Flexible c/w lug conductor section					
Pickible with insulated spade lug conductor section		Elevible c/w lug conductor coction	Шах	IIIII-	0
Flexible with insulated spade lug conductor section   min		Flexible C/W lug corludctor section	min	mm²	1
Flexible with insulated spade lug conductor section   min					
min max         min max         mm² d 4           Power terminal protection according to IEC/EN 60529         1P20 when wired           Mechanical features         Inormal allowable         Vertical plan ±30°           Operating position         normal allowable         Vertical plan ±30°           Fixing         Screw / DIN rail 35mm           Weight         35mm         Screw / DIN rail 35mm           Weight         A 1NO           Auxiliary contact characteristics         35mm           Thermal current th         A 1NO           IEC/EN 60947-5-1 designation         A 000 P600           Operating current DC15         230V A 1.4           Operating current DC12         110V A 5.7           Operating current DC13         24V A 5.7           Operating current DC16         2000 A 1.25           125V A 1.1         250V A 1.25           125V A 1.2         250V A 1.2	•	Flexible with insulated spade lug conductor section			<u> </u>
Power terminal protection according to IEC/EN 60529   Power terminal floatures		η		mm²	1
Mechanical features           Operating position         normal allowable         Vertical plan ±30°           Fixing         g 356           Weight         g 356           Auxiliary contact characteristics         1 NO           Type of contact         1 NO           hernal current th         A 10           EC/EN 60947-5-1 designation         A 600 - P600           Operating current AC15         230 ∨ A 3           Operating current DC12         1100 ∨ A 1.9           Operating current DC13         400 ∨ A 1.9           Operating current DC13         24 ∨ A 5.7           48 ∨ A 2.9         400 ∨ A 2.3           1110 ∨ A 1.25         1.25 ∨ A 1.1           22 ∨ A 0.55         600 ∨ A 2.3           1110 ∨ A 1.25         1.25 ∨ A 0.55           600 ∨ A 0.55         600 ∨ A 0.55           600 ∨ B 0.00         A 0.5           Operations         Tated load           Performance level B10d according to EN/ISO 13489-1         Tated load           Performance level B10d according to EN/ISO 13489-1         Tated load           Roc coil operating         V 2000000           Mirror contats according to IEC/EN 609474-4-1         yes           EMC compatibility         V 230			max	mm²	4
Operating position         normal allowable         Vertical plan ±30°           Fixing         Screw / DIN rail 35mm           Weight         9 356           Auxiliary contact characteristics         Total plan 15mm           Type of contact         1 NO           Thermal current th         A 10           IEC/EN 60947-5-1 designation         A 600 - P600           Operating current AC15         230∨ A 3           Query of the control of t		on according to IEC/EN 60529			IP20 when wired
Normal allowable   Normal all					
Fixing   Screw / DIN rail   DIN rail   Screw / DIN rail	1 01		normal		Vertical plan
Fixing			allowable		
Auxiliary contact characteristics	Fixing				
Auxiliary contact characteristics	Weight			g	356
Thermal current lth	Auxiliary contact charact	teristics			
EC/EN 60947-5-1 designation	Type of contact				1 NO
Departing current AC15				Α	
Comparing current DC12					A600 - P600
A	Operating current AC15				
Soov   A   1.4					
Name					
Name	Operating ourrent DC12		500V	А	1.4
Operating current DC13	Operating current DC12		110\/	۸	5 <b>7</b>
24V	Operating current DC13		1100	A	5.7
ABV   A   2.9   60V   A   2.3   110V   A   1.25   125V   A   1.1   1220V   A   0.55   600V   A   0.2   0.55   0.55   600V   A   0.2   0.55	Operating current DO13		24\/	Δ	5.7
Comparising					
110V A 1.25   125V A 1.1   125V A 1.1   125V A 1.1   125V A 0.55   126V A 0.55   126V A 0.55   126V A 0.2   125V A 0.2					
220V A 0.55   600V A 0.2					
600V A 0.2           Operations           Mechanical life         cycles         20000000           Electrical life         cycles         20000000           Safety related data           Performance level B10d according to EN/ISO 13489-1         rated load cycles         20000000 cycles           Mirror contats according to IEC/EN 609474-4-1         yes           EMC compatibility         yes           AC coil operating         V         230           AC operating voltage         of 50/60Hz coil powered at 50Hz pick-up         V         230			125V	Α	1.1
Operations           Mechanical life         cycles         20000000           Electrical life         cycles         2000000           Safety related data           Performance level B10d according to EN/ISO 13489-1           rated load cycles         20000000 cycles           Mirror contats according to IEC/EN 609474-4-1         yes           EMC compatibility         yes           AC coil operating         V         230           Rated AC voltage at 50/60Hz         V         230           AC operating voltage         of 50/60Hz coil powered at 50Hz pick-up         pick-up			220V	Α	0.55
Mechanical life         cycles         20000000           Electrical life         cycles         2000000           Safety related data           rated load according to EN/ISO 13489-1           rated load mechanical load cycles         20000000           Mirror contats according to IEC/EN 609474-4-1         yes           EMC compatibility         yes           AC coil operating         V         230           Rated AC voltage at 50/60Hz         V         230           AC operating voltage         of 50/60Hz coil powered at 50Hz pick-up         pick-up			600V	Α	0.2
Electrical life cycles 2000000  Safety related data  Performance level B10d according to EN/ISO 13489-1  rated load cycles 20000000  mechanical load cycles 20000000  Mirror contats according to IEC/EN 609474-4-1  EMC compatibility yes  AC coil operating  Rated AC voltage at 50/60Hz V 230  AC operating voltage  of 50/60Hz coil powered at 50Hz pick-up	•				
Safety related data  Performance level B10d according to EN/ISO 13489-1  rated load cycles 2000000  mechanical load cycles 20000000  Mirror contats according to IEC/EN 609474-4-1  EMC compatibility yes  AC coil operating  Rated AC voltage at 50/60Hz V 230  AC operating voltage  of 50/60Hz coil powered at 50Hz pick-up				_	
Performance level B10d according to EN/ISO 13489-1  rated load cycles 2000000  mechanical load cycles 20000000  Mirror contats according to IEC/EN 609474-4-1  EMC compatibility yes  AC coil operating  Rated AC voltage at 50/60Hz V 230  AC operating voltage  of 50/60Hz coil powered at 50Hz pick-up				cycles	2000000
rated load cycles 2000000  Mirror contats according to IEC/EN 609474-4-1  EMC compatibility  AC coil operating  Rated AC voltage at 50/60Hz  Of 50/60Hz coil powered at 50Hz pick-up	-	A consisting to EN/ICO 42400 4			
Mirror contats according to IEC/EN 609474-4-1  EMC compatibility  AC coil operating  Rated AC voltage at 50/60Hz  AC operating voltage  of 50/60Hz coil powered at 50Hz pick-up	Performance level B100	a according to EN/ISO 13489-1	الممال المما	avalaa.	2000000
Mirror contats according to IEC/EN 609474-4-1  EMC compatibility  AC coil operating  Rated AC voltage at 50/60Hz  AC operating voltage  of 50/60Hz coil powered at 50Hz pick-up				-	
EMC compatibility  AC coil operating  Rated AC voltage at 50/60Hz  AC operating voltage  of 50/60Hz coil powered at 50Hz  pick-up	Mirror contate according	a to IEC/EN 600474-4-1	mechanicai idau	Cycles	_
AC coil operating  Rated AC voltage at 50/60Hz  AC operating voltage  of 50/60Hz coil powered at 50Hz pick-up		9 10 120/214 0034/4-4-1			
Rated AC voltage at 50/60Hz  AC operating voltage  of 50/60Hz coil powered at 50Hz pick-up					y 0.3
AC operating voltage of 50/60Hz coil powered at 50Hz pick-up	-	60Hz		V	230
of 50/60Hz coil powered at 50Hz pick-up				*	
pick-up		of 50/60Hz coil powered at 50Hz			
·					
			max	%Us	110

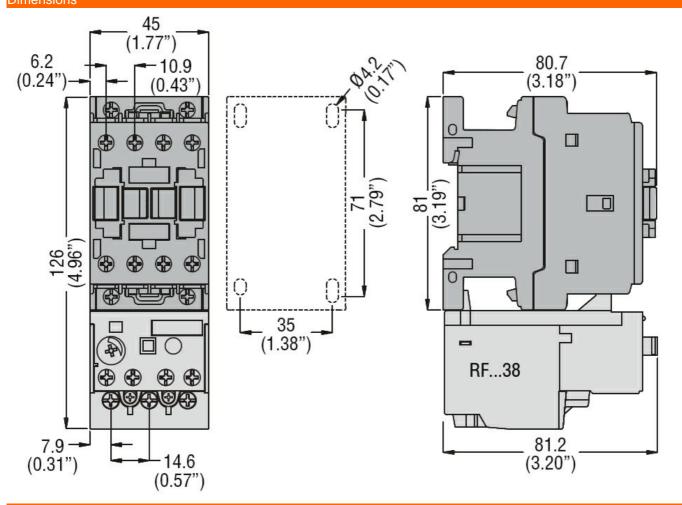


	dana and			
	drop-out	min	%Us	20
		min	%Us %Us	55
	of 50/60Hz coil powered at 60Hz	max	/005	55
	pick-up			
	рюк ир	min	%Us	85
		max	%Us	110
	drop-out		,,,,	
	·	min	%Us	20
		max	%Us	55
AC operating voltage	at 20°C			
	of 50/60Hz coil powered at 50Hz			
		in-rush	VA	75
		holding	VA	9
	of 50/60Hz coil powered at 60Hz			
		in-rush	VA	70
	. ( 0011	holding	VA	6.5
	of 60Hz coil powered at 60Hz		3.74	7.5
		in-rush holding	VA VA	75 9
Dissipation at holding	<20°C 50∐-	nolaing	W	2.5
Max cycles frequency			VV	2.5
Mechanical operation			cycles/h	3600
Operating times			oy oloo/11	0000
Average time for Us c	ontrol			
J	in AC			
	Closing NO			
	-	min	ms	8
		max	ms	24
	Opening NO			
		min	ms	10
		max	ms	20
	Closing NC			4.4
		min	ms	14
	Opening NC	max	ms	28
	Opening NC	min	ms	7
		max	ms	18
UL technical data		Hida		. 0
	) for three-phase AC motor			
(	,	at 480V	Α	11
		at 600V	Α	11
Yielded mechanical pe	erformance			
	for single-phase AC motor			
		110/120V	HP	1
		230V	HP	2
	for three-phase AC motor			
		200/208V	HP	5
		220/230V	HP	5
		460/480V	HP	7.5
Operators of the Control of the Cont	Campanagata anna Process III	575/600V	HP	10
	iary contacts according to UL			A600 - P600
General USE				

Contactor



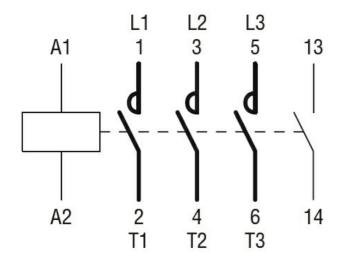
		AC current	Α	28
	Auxiliary contacts			
		AC voltage	V	600
		AC current	Α	10
		DC voltage	V	250
		DC current	Α	1
Ambient conditions				
Temperature				
	Operating temperature			
		min	°C	-50
		max	°C	70
	Storage temperature			
		min	°C	-60
		max	°C	80
Max altitude			m	3000
Resistance & Protect	ction			
Pollution degree				3
Dimensions				



Wiring diagrams

**ENERGY AND AUTOMATION** 

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



#### Certifications and compliance

Compliance

CSA C22.2 n° 60947-1

CSA C22.2 n° 60947-4-1

IEC/EN 60947-1

IEC/EN 60947-4-1

UL 60947-1

UL 60947-4-1

Certificates

CCC

cULus

EAC

### ETIM classification

**ETIM 8.0** 

EC000066 -Power contactor, AC switching