



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		А	28
Operational current le			
	AC-1 (≤40°C)	А	28
	AC-1 (≤55°C)	А	23
	AC-1 (≤70°C)	А	20
	AC-3 (≤440V ≤55°C)	А	12
	AC-4 (400V)	А	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 $L/R \le 1$ ms with 1 poles in series			
	≤24V	A	17
	48V	Α	15
	75V	A	13
	110V	A	6
	220V	A	-
IEC max current le in DC1 with $L/R \le 1$ ms with 2 poles in series			
	≤24V	A	20
	48V	A	20
	75V	A	18
	110V	A	13
IFO many automatic in DO4 with 1/D < 4ma with 0 males in the	220V	A	1
IEC max current le in DC1 with $L/R \le 1$ ms with 3 poles in series	20 A I	۸	22
	≤24V	A	22
	48V	A	22
	75V	A	20
	110V	А	16



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, AC COIL 50/60HZ, 230VAC, 1NC AUXILIARY CONTACT

	220V	А	11	
IEC max current le in DC1 with $L/R \le 1$ ms with 4 poles in series				
	≤24V	А	20	
	48V	А	20	
	75V	А	20	
	110V	Α	16	
	220V	А	12	
IEC max current le in DC3-DC5 with $L/R \le 15$ ms with 1 poles in series				
	≤24V	Α	12	
	48V	А	11	
	75V	А	10	
	110V	А	2	
	220V	А	_	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series				
	≤24V	А	15	
	48V	А	13	
	75V	A	12	
	110V	A	8	
	220V	A	2	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	2201		-	
	≤24V	А	18	
	48V	A	18	
	48V 75V	A	15	
	110V	A	12	
	220V	A	6	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series	220 V	~	0	
The max current le in DC3-DC3 with Err 3 15ms with 4 poles in series	≤24V	А	15	
	≤24V 48V	A	15	
	48V 75V			
	110V	A	15	
	220V	A	16 7	
Object times allowed by surrout for 40s (IEO/ENICO047.4)	2200	A		
Short-time allowable current for 10s (IEC/EN60947-1)		A	150	
Protection fuse				
	gG (IEC)	A	32	
	aM (IEC)	A	12	
Making capacity (RMS value)		Α	120	
Breaking capacity at voltage				
	440V	А	96	
	500V	А	96	
	690V	A	94	
Resistance per pole (average value)		mΩ	2.5	
Power dissipation per pole (average value)				
	lth	W	2	
	AC-3	W	0.4	
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	Ibin	0.8	

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THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, AC COIL 50/60HZ, 230VAC, 1NC AUXILIARY CONTACT

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	the large of the second state	max	Ibin	0.74
	simultaneously connectable		Nr.	2
Conductor section				
	AWG/Kcmil	201		10
	Flowible w/o lug conductor costion	max		10
	Flexible w/o lug conductor section	min	mm²	1
		max	mm²	6
	Flexible c/w lug conductor section	max	111111	0
		min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section	max		7
	The side with insulated space hag 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 ra
Fixing				35mm
Weight			g	354
Conductor section				
	AWG/kcmil conductor section			
		max		10
Auxiliary contact char	acteristics			
Thermal current Ith			Α	10
IEC/EN 60947-5-1 de				A600 - P600
Operating current AC	15			
		230V	Α	3
		400V	А	1.9
		500V	Α	1.4
Operating current DC	12			
		110V	Α	5.7
Operating current DC	13			
Operating current DC	13	24V	А	5.7
Operating current DC	13	48V	А	2.9
Operating current DC	13	48V 60V	A A	2.9 2.3
Operating current DC	13	48V 60V 110V	А	2.9 2.3 1.25
Operating current DC	13	48V 60V 110V 125V	A A A A	2.9 2.3 1.25 1.1
Operating current DC	13	48V 60V 110V 125V 220V	A A A A	2.9 2.3 1.25 1.1 0.55
	13	48V 60V 110V 125V	A A A A	2.9 2.3 1.25 1.1
Operations	13	48V 60V 110V 125V 220V	A A A A A	2.9 2.3 1.25 1.1 0.55 0.2
Operations Mechanical life	13	48V 60V 110V 125V 220V	A A A A A Cycles	2.9 2.3 1.25 1.1 0.55 0.2 20000000
Operations Mechanical life Electrical life	13	48V 60V 110V 125V 220V	A A A A A	2.9 2.3 1.25 1.1 0.55 0.2
Operations Mechanical life Electrical life Safety related data		48V 60V 110V 125V 220V	A A A A A Cycles	2.9 2.3 1.25 1.1 0.55 0.2 20000000
Operations Mechanical life Electrical life Safety related data	10d according to EN/ISO 13489-1	48V 60V 110V 125V 220V 600V	A A A A A Cycles	2.9 2.3 1.25 1.1 0.55 0.2 20000000 2000000
Operations Mechanical life Electrical life Safety related data		48V 60V 110V 125V 220V	A A A A A Cycles	2.9 2.3 1.25 1.1 0.55 0.2 20000000
Operations Mechanical life Electrical life Safety related data Performance level B ²	10d according to EN/ISO 13489-1	48V 60V 110V 125V 220V 600V	A A A A A cycles cycles	2.9 2.3 1.25 1.1 0.55 0.2 20000000 2000000
Operations Mechanical life Electrical life Safety related data Performance level B ²	10d according to EN/ISO 13489-1	48V 60V 110V 125V 220V 600V	A A A A A cycles cycles	2.9 2.3 1.25 1.1 0.55 0.2 2000000 2000000

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THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, AC COIL 50/60HZ, 230VAC, 1NC AUXILIARY CONTACT

Rated AC voltage at 5	0/60Hz		V	230
AC operating voltage			•	200
1 0 0	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	min	%Us	85
		min max	%Us %Us	85 110
	drop-out	IIIdX	/005	110
	ulop-out	min	%Us	20
		max	%Us	55
AC average coil consu	umption at 20°C	max		
	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 60Hz			
		in-rush	VA	75
		holding	VA	9
Dissipation at holding	≤20°C 50Hz		W	2.5
Max cycles frequency				
MARTIN PROPERTY AND A STREET			/	0000
Mechanical operation			cycles/h	3600
Operating times	ontrol		cycles/h	3600
			cycles/h	3600
Operating times	in AC		cycles/h	3600
Operating times		min		
Operating times	in AC	min max	ms	8
Operating times	in AC Closing NO	min max		
Operating times	in AC		ms	8
Operating times	in AC Closing NO	max	ms ms	8 24
Operating times	in AC Closing NO	max	ms ms ms	8 24 10
Operating times	in AC Closing NO Opening NO	max	ms ms ms	8 24 10 20 14
Operating times	in AC Closing NO Opening NO Closing NC	max min max	ms ms ms ms	8 24 10 20
Operating times	in AC Closing NO Opening NO	max min max min max	ms ms ms ms ms	8 24 10 20 14 28
Operating times	in AC Closing NO Opening NO Closing NC	max min max min max min	ms ms ms ms ms ms	8 24 10 20 14 28 7
Operating times Average time for Us c	in AC Closing NO Opening NO Closing NC	max min max min max	ms ms ms ms ms	8 24 10 20 14 28
Operating times Average time for Us c UL technical data	in AC Closing NO Opening NO Closing NC Opening NC	max min max min max min	ms ms ms ms ms ms	8 24 10 20 14 28 7
Operating times Average time for Us c UL technical data	in AC Closing NO Opening NO Closing NC	max min max min max min max	ms ms ms ms ms ms ms	8 24 10 20 14 28 7 18
Operating times Average time for Us c UL technical data	in AC Closing NO Opening NO Closing NC Opening NC	max min max min max min max at 480V	ms ms ms ms ms ms ms ms	8 24 10 20 14 28 7 18
Operating times Average time for Us controls of the second	in AC Closing NO Opening NO Closing NC Opening NC	max min max min max min max	ms ms ms ms ms ms ms	8 24 10 20 14 28 7 18
Operating times Average time for Us c UL technical data	in AC Closing NO Opening NO Closing NC Opening NC opening NC	max min max min max min max at 480V	ms ms ms ms ms ms ms ms	8 24 10 20 14 28 7 18
Operating times Average time for Us controls of the second	in AC Closing NO Opening NO Closing NC Opening NC	max min max min max min max at 480V at 600V	ms ms ms ms ms ms ms A A	8 24 10 20 14 28 7 18 11 11
Operating times Average time for Us controls of the second	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 ms ms ms ms HP	8 24 10 20 14 28 7 18 11 11 11
Operating times Average time for Us controls of the second	in AC Closing NO Opening NO Closing NC Closing NC Opening NC opening NC	max min max min max min max at 480V at 600V	ms ms ms ms ms ms ms A A	8 24 10 20 14 28 7 18 11 11
Operating times Average time for Us controls of the second	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 ms ms ms ms HP	8 24 10 20 14 28 7 18 11 11 11

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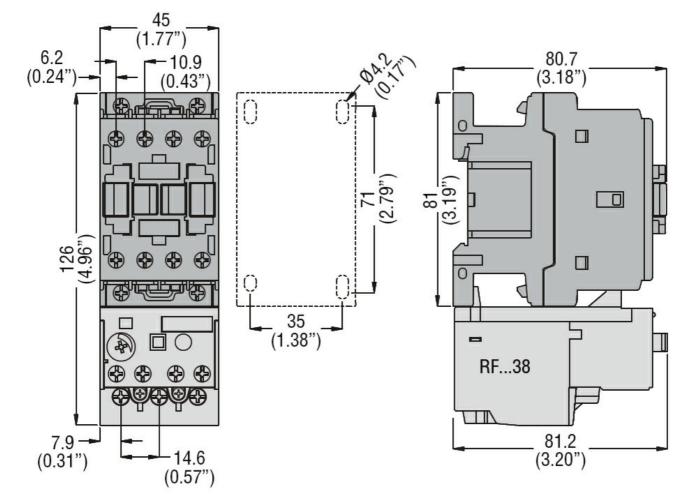


BF1201A230 THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, AC COIL 50/60HZ, 230VAC, 1NC AUXILIARY CONTACT

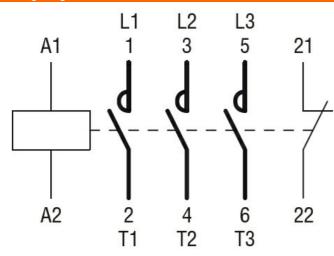
$\begin{tabular}{ c c c c } \hline Contactor & AC current & A & 28 \\ \hline Auxiliary contacts & & & & & & & & & & & & & & & & & & &$					
General USE Contactor AC current A 28 Auxiliary contacts AC voltage V 600 AC current A 10 DC voltage V 250 DC voltage V 250 DC current A 1 Short-circuit protection fuse, 600V High fault A Yesse rating A 30 Fuse class J J Standard fault Short circuit current KA 5 Contact rating of auxiliary contacts according to UL A 70 Antibient conditions C 70 Contact rating of auxiliary contacts according to UL Max 5 Antibient conditions C 70 Temperature min °C -50 Max altitude max °C 60 Max altitude max °C 60 Resistance & Protection m 3000			220/230V	HP	5
General USE Contactor AC current A 28 Auxiliary contacts AC voltage V 600 AC current A 10 DC voltage V 250 DC voltage V 250 DC current A 1 Short-circuit protection fuse, 600V High fault Short circuit current kA 100 Fuse rating A 30 Fuse rating A 30 Fuse class J Standard fault Short circuit current kA 5 Contact rating of auxiliary contacts according to UL A A600 - P600 Ambient conditions Temperature min °C -50 Operating temperature min °C -50 max °C 70 Storage temperature min °C -60 max °C -60 Max altitude m 3 3000 Resistance & Protection 3			460/480V	HP	7.5
Contactor AC current A 28 Auxiliary contacts AC voltage V 600 AC current A 10 DC voltage V 250 DC voltage V 250 DC current A 1 Short-circuit protection fuse, 600V High fault X 100 Fuse rating A 30 30 Fuse class J J J Standard fault Short circuit current KA 5 Fuse rating A 70 Contact rating of auxiliary contacts according to UL A600 - P600 Ambient conditions Temperature min °C -50 Temperature Operating temperature min °C -50 Storage temperature min °C -60 -60 Max altitude min °C -60 -60 Max altitude min °C 80 -60 Max altitude min °C -60 -60 Max altitude min °C -60 <			575/600V	HP	10
AC current A 28 Auxiliary contacts AC voltage V 600 AC current A 10 DC voltage V 250 DC current A 1 Short-circuit protection fuse, 600V High fault KA 100 Fuse rating A 30 30 Fuse rating A 30 30 Standard fault Short circuit current KA 5 Standard fault Short circuit current KA 5 Contact rating of auxiliary contacts according to UL A 70 Ambient conditions X 4600 - P600 Ambient conditions X 70 Temperature Coperating temperature Min °C Max altitude min °C -50 Max altitude °C 80 80 Max altitude max °C 80 Max altitude °C 80 80	General USE				
Auxiliary contacts AC voltage V 600 AC current A 10 DC voltage V 250 DC current A 1 Short-circuit protection fuse, 600V DC current A 1 High fault Short circuit current kA 100 Fuse rating A 30 1 Standard fault Short circuit current kA 5 Standard fault Short circuit current kA 5 Contact rating of auxiliary contacts according to UL A 70 Ambient conditions A 70 A Temperature Operating temperature min °C -50 Max altitude max °C 70 A Max altitude min °C -50 -50 Max altitude min °C -60 -60 Max altitude max °C 80 -60 Pollution degree 3 3 -60 -60		Contactor			
AC voltage V 600 AC current A 10 DC voltage V 250 DC current A 1 Short-circuit protection fuse, 600V High fault Short circuit current KA 100 Fuse rating A 30 Fuse class J Standard fault Short circuit current KA 5 Fuse rating A 70 Contact rating of auxiliary contacts according to UL Ambient conditions Temperature Operating temperature Min °C -50 max °C 70 Storage temperature Min °C -60 max °C 80 Max altitude Max altitude Max altitude Pollution degree Min egree Min °C 3			AC current	Α	28
AC current A 10 DC voltage V 250 DC current A 1 Short-circuit protection fuse, 600V High fault Fuse atting A 30 Fuse class J Standard fault Short circuit current KA 100 Fuse class J Standard fault Short circuit current KA 5 Fuse rating A 70 Contact rating of auxiliary contacts according to UL Ambient conditions Temperature Operating temperature Operating temperature Min °C -50 max °C 70 Storage temperature Min °C -60 max °C 80 Max altitude Max altitude Max altitude Pollution degree Storage temperature Pollution degree Storage temperature Min °C 30 Storage temperature Storage temp		Auxiliary contacts			
DC voltage DC current V 250 1 Short-circuit protection fuse, 600V High fault A 100 Fuse rating A 30 Fuse rating A 30 Fuse class J J Standard fault Short circuit current kA 5 Standard fault Short circuit current kA 5 Contact rating of auxiliary contacts according to UL A 600 - P600 Ambient conditions A 70 Temperature Operating temperature Main Operating temperature min °C -50 Max attitude min °C 80 Max attitude m 3000 3			AC voltage	V	600
DC current A 1 Short-circuit protection fuse, 600V High fault Short circuit current kA 100 Fuse rating A 30 Fuse rating A 30 Fuse rating fault Short circuit current kA 5 5 Standard fault Short circuit current kA 5 5 Contact rating of auxiliary contacts according to UL A600 - P600 Ambient conditions Temperature Operating temperature min °C -50 Max attitude min °C -60 max °C 80 Max attitude mi 3000 Resistance & Protection 3 3			AC current	А	10
Short-circuit protection fuse, 600V High fault Short circuit current kA 100 Fuse rating A 30 Fuse class J Standard fault Short circuit current kA 5 Fuse rating A 70 Contact rating of auxiliary contacts according to UL Ambient conditions Temperature Operating temperature Operating temperature Max altitude Max altitude Max altitude Pollution degree Storage temperature Pollution degree Storage temperature Short circuit current kA 5 Fuse rating A 70 A 70 Storage temperature Max altitude Pollution degree Storage temperature Storage temperature Sto			DC voltage	V	250
High fault Short circuit current kA 100 Fuse rating A 30 Fuse class J Standard fault Fuse class J Contact rating of auxiliary contacts according to UL KA 5 Ambient conditions A600 - P600 Ambient conditions A600 - P600 Operating temperature min °C Operating temperature min °C Max altitude min °C Max altitude m 3000 Resistance & Protection 3			DC current	А	1
Short circuit current kA 100 Fuse rating A 30 Fuse class J Standard fault Short circuit current kA 5 Fuse rating A 70 Contact rating of auxiliary contacts according to UL A600 - P600 Ambient conditions A600 - P600 Temperature V A600 - P600 Operating temperature V V Operating temperature V V Storage temperature V 70 Max altitude m 3000 Resistance & Protection M 3000	Short-circuit protec	tion fuse, 600V			
Fuse rating Fuse class A 30 Standard fault Short circuit current Fuse rating KA 5 Standard fault Short circuit current Fuse rating KA 5 Contact rating of auxiliary contacts according to UL A600 - P600 Ambient conditions A600 - P600 Temperature V A600 - P600 Max attitude Min °C -50 Max altitude min °C -60 Max altitude m 3000 Resistance & Protection Pollution degree 3 3		High fault			
Fuse class J Standard fault Short circuit current kA 5 Fuse rating A 70 Contact rating of auxiliary contacts according to UL A600 - P600 Ambient conditions - - Temperature - - Operating temperature - -			Short circuit current	kA	100
Standard fault Short circuit current kA 5 Fuse rating A 70 Contact rating of auxiliary contacts according to UL A600 - P600 Ambient conditions - Temperature 0 Operating temperature - min °C -50 max °C 70 Storage temperature - - Max altitude m 3000 Resistance & Protection - 3			Fuse rating	А	30
Short circuit current Fuse rating kA 5 Fuse rating A 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 & Protection - - Pollution degree - 3			Fuse class		J
Fuse rating A 70 Contact rating of auxiliary contacts according to UL A600 - P600 Ambient conditions		Standard fault			
Contact rating of auxiliary contacts according to UL A600 - P600 Ambient conditions Femperature Operating temperature min °C -50 max °C 70 70 Storage temperature min °C -60 max °C 80 80 Max altitude m 3000 Resistance & Protection 3			Short circuit current	kA	5
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 3			Fuse rating	А	70
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	Contact rating of au	ixiliary contacts according to UL			A600 - P600
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	Ambient conditions				
min °C -50 max °C 70 Storage temperature min °C -60 max °C 80 Max altitude m 3000 Resistance & Protection 3	Temperature				
max °C 70 Storage temperature min °C -60 max °C 80 Max altitude m 3000 Resistance & Protection Pollution degree 3		Operating temperature			
Storage temperature min °C -60 max °C 80 Max altitude m 3000 Resistance & Protection Pollution degree 3			min	°C	-50
min°C-60max°C80Max altitudem3000Resistance & ProtectionPollution degree3			max	°C	70
max°C80Max altitudem3000Resistance & ProtectionPollution degree3		Storage temperature			
Max altitudem3000Resistance & Protection3			min	°C	-60
Resistance & Protection Pollution degree 3			max	°C	80
Pollution degree 3	Max altitude			m	3000
·	Resistance & Prote	ection			
	Pollution degree				3
	Dimensions				



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, 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	

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	CCC
	cULus
	EAC
classification	

ETIM 8.0

ETIN

EC000066 -Power contactor, AC switching