



Product type designation     BF12       Contact characteristics	Product designation			Power contactor
Number of polesnr.3Rated insulation voltage UimpNV690Rated insulation voltage UimpKV6Operating frequencyOperational frequency minHzConventional free air thermal current lthA28Operational current AC1 (≤40°C)A28Operational current AC3 (≤440V ≤55°C)A12Operational current AC3 (≤440V ≤55°C)A12Operational current AC4 (400V)A7.9Rated operational power AC1 (T≤40°C)230VkW10400VkW18500VkW500VkW32690VkW32Rated operational power AC3 (T≤55°C)230VkW5.7415V415VkW6.2500VkW5.7415VkW6.2500VkW105hort-time allowable current for 10s (IEC/EN60947-1)A150Protection fusegG (IEC)A32adking capacity RMS value)A120Breaking capacity at voltageBreaking capacity 440VABreaking capacity 600VA96Breaking capacity 600VA96Breaking capacity 600VA96Breaking capacity 600VA94Resistance per pole (average value)Power dissipation pole (average value)MinPower dissipation per loe (average value)Min1.5Power dissipation per loe (average value)Min1.5Power dissipation per loe (average value) <td>Product type designation</td> <td></td> <td></td> <td>BF12</td>	Product type designation			BF12
Rated insulation voltage Ui     V     690       Rated inpulse withstand voltage Uimp     kV     6       Operating frequency     Operational frequency min     Hz     25       Operational frequency main     Hz     25     0       Operational frequency main     Hz     400     28       Operational current AC1 (≤40°C)     A     28       Operational current AC1 (≤40°C)     A     12       Operational current AC3 (≤440V ≤55°C)     A     12       Operational current AC4 (400V)     A     7.9       Rated operational power AC1 (T≤40°C)     230V     kW     10       400V     kW     10     400V     kW     23       Rated operational power AC3 (T≤55°C)     230V     kW     3.2     400V     kW     5.7       415V     kW     6.2     500V     kW     5.7       5hort-time allowable current for 10s (IEC/EN60947-1)     A     150     Protection fuse     GG (IEC)     A     12       Making capacity RMS value)     A     120     20     Breaking capacity 440V	Contact characteristics			
Rated impulse withstand voltage Uimp     kV     6       Operating frequency     Operational frequency min     Hz     25       Operational frequency max     Hz     400     400       Conventional free air thermal current lth     A     28       Operating current     Operational current AC1 (\$40°C)     A     28       Operational current AC3 (\$440V \$55°C)     A     12       Operational current AC3 (\$440V \$55°C)     A     12       Operational power AC1 (T≤40°C)     230V     kW     10       400V     kW     23     690V     kW     32       Rated operational power AC3 (T≤55°C)     230V     kW     3.2     400V     kW     5.7       415V     kW     6.2     440V     kW     6.2       500V     kW     7.5     690V     kW     10       Short-time allowable current for 10s (IEC/EN60947-1)     A     150     75       Protection fuse     gG (IEC)     A     12       Making capacity (RMS value)     A     120     86       Breaking cap	Number of poles		nr.	3
Operating frequency     Operational frequency min     Hz     25       Operational frequency max     Hz     400       Conventional free air thermal current lth     A     28       Operational current AC1 (s40°C)     A     28       Operational current AC3 (s440V s55°C)     A     12       Operational current AC3 (s440V s55°C)     A     12       Operational current AC3 (s440V s55°C)     A     12       Rated operational power AC1 (Ts40°C)     230V     kW     10       400V     kW     18     500V     kW     32       Rated operational power AC3 (Ts55°C)     230V     kW     32     690V     kW     32       Rated operational power AC3 (Ts55°C)     230V     kW     5.7     415V     6.2     500V     kW     5.7       415V     KW     6.2     500V     kW     7.5     690V     kW     10       Protection fuse     gG (IEC)     A     150     97     15     96       Breaking capacity (RMS value)     A     120     12     12			V	690
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Rated impulse withstand voltage Uimp		kV	6
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Operating frequency			
Conventional free air thermal current lth   A   28     Operating current   Operational current AC1 (540°C)   A   28     Operational current AC3 (5440V 555°C)   A   12     Operational current AC3 (5440V 555°C)   A   12     Operational current AC3 (5440V 555°C)   A   12     Rated operational power AC1 (Ts40°C)   230V   kW   10     400V   kW   18   500V   kW   23     Rated operational power AC3 (Ts55°C)   230V   kW   3.2   400V   kW   5.7     415V   kW   6.2   440V   kW   6.2   500V   kW   10     Short-time allowable current for 10s (IEC/EN60947-1)   A   150   7   5   690V   kW   10     Short-time allowable current for 10s (IEC/EN60947-1)   A   150   7   4   150     Protection fuse   gG (IEC)   A   32   3   3   3   3     Making capacity (RMS value)   A   120   3   3   3   3   3   3   3   3   3   3   3				
Operating current     Operational current AC1 (≤40°C)     A     28       Operational current AC3 (≤440V) ≤55°C)     A     12       Operational current AC3 (≤440V)     A     7.9       Rated operational power AC1 (T≤40°C)     230V     kW     10       400V     kW     18     500V     kW     23       Rated operational power AC3 (T≤55°C)     230V     kW     3.2     400V     kW     3.2       Rated operational power AC3 (T≤55°C)     230V     kW     3.2     400V     kW     5.7       415V     kW     6.2     440V     kW     6.2       500V     kW     7.5     690V     kW     10       Short-time allowable current for 10s (IEC/EN60947-1)     A     150     7       Protection fuse     gG (IEC)     A     32       Making capacity (RMS value)     A     120     8       Breaking capacity 440V     A     96     96       Breaking capacity 690V     A     94     4       Resistance per pole (average value)     mQ     <		Operational frequency max	Hz	
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$			Α	28
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Operating current			
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$		,	А	28
Rated operational power AC1 (T≤40°C)230VkW10400VkW18500VkW23690VkW32Rated operational power AC3 (T≤55°C)230VkW3.2415VkW6.2400VkW5.7415VkW6.2440VkW6.2500VkW7.5690VkW10Short-time allowable current for 10s (IEC/EN60947-1)A150Protection fusegG (IEC)A32aM (IEC)ABreaking capacity (RMS value)ABreaking capacity 440VA96Breaking capacity 500VA96Breaking capacity 690VA96Breaking capacity 690VA97AC3W0.4Tightening torque for terminalsminNmminlbft1.1			А	12
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		Operational current AC4 (400V)	Α	7.9
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Rated operational power AC1 (T≤40°C)			
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$		230V	kW	10
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$		400V	kW	18
$\begin{tabular}{l lllllllllllllllllllllllllllllllllll$			kW	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		690V	kW	32
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Rated operational power AC3 (T≤55°C)			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			kW	
$\begin{array}{c cccc} & 440 \\ & 440 \\ & 500 \\ & kW & 6.2 \\ & 500 \\ & kW & 7.5 \\ & 690 \\ & kW & 10 \\ \hline \end{array}$			kW	
$\begin{array}{c cccc} & 500 \ \ kW & 7.5 \\ \hline 690 \ \ kW & 10 \\ \hline \end{array}$				
690VkW10Short-time allowable current for 10s (IEC/EN60947-1)A150Protection fusegG (IEC)A32aM (IEC)A12Making capacity (RMS value)A120Breaking capacity at voltageBreaking capacity 440VA96Breaking capacity 500VA96Breaking capacity 690VA94Resistance per pole (average value)mΩ2.5Power dissipation per pole (average value)Power dissipation pole (average value)W2AC3W0.4Tightening torque for terminalsminNm1.5maxNm1.8minlbft1.1				
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)   A   120     Breaking capacity at voltage   Breaking capacity 440V   A   96     Breaking capacity 500V   A   96     Breaking capacity 500V   A   94     Resistance per pole (average value)   mΩ   2.5     Power dissipation per pole (average value)   Power dissipation pole (average value) Ith   W   2     AC3   W   0.4   Tightening torque for terminals   min   Nm   1.5     min   Ibft   1.1   1.1   1.1				
Protection fuse   gG (IEC)   A   32     aM (IEC)   A   12     Making capacity (RMS value)   A   120     Breaking capacity at voltage   Breaking capacity 440V   A   96     Breaking capacity 500V   A   96     Breaking capacity 500V   A   96     Breaking capacity 690V   A   94     Resistance per pole (average value)   mΩ   2.5     Power dissipation per pole (average value)   Power dissipation pole (average value) Ith   W   2     AC3   W   0.4   115   max   Nm   1.5     max   Nm   1.8   min   Ibft   1.1				
gG (IEC) aM (IEC)A32 AMaking capacity (RMS value)A12Making capacity at voltageA120Breaking capacity 440V Breaking capacity 500VA96 Breaking capacity 500V Breaking capacity 690VAResistance per pole (average value)mΩ2.5Power dissipation per pole (average value)W2 AC3Tightening torque for terminalsminNm1.5 max NmMinI.1I.1	*	60947-1)	A	150
aM (IEC)   A   12     Making capacity (RMS value)   A   120     Breaking capacity at voltage   Breaking capacity 440V   A   96     Breaking capacity 500V   A   96     Breaking capacity 500V   A   96     Breaking capacity 690V   A   94     Resistance per pole (average value)   mΩ   2.5     Power dissipation per pole (average value)   Power dissipation pole (average value) 1th   W   2     AC3   W   0.4   1.5   max   Nm   1.8     min   Ibft   1.1   1.1   1.1   1.1	Protection fuse			
Making capacity (RMS value)   A   120     Breaking capacity at voltage   Breaking capacity 440V   A   96     Breaking capacity 500V   A   96     Breaking capacity 500V   A   96     Breaking capacity 690V   A   94     Resistance per pole (average value)   mΩ   2.5     Power dissipation per pole (average value)   Power dissipation pole (average value) lth   W   2     AC3   W   0.4   Tightening torque for terminals   min   Nm   1.5     min   Nm   1.8   min   Ibft   1.1		<b>•</b> • • <i>•</i>	А	
Breaking capacity at voltage   Breaking capacity 440V   A   96     Breaking capacity 500V   A   96     Breaking capacity 690V   A   94     Resistance per pole (average value)   mΩ   2.5     Power dissipation per pole (average value)   Power dissipation pole (average value) lth   W   2     AC3   W   0.4     Tightening torque for terminals   min   Nm   1.5     max   Nm   1.8   min   Ibft   1.1		aM (IEC)		
Breaking capacity 440V Breaking capacity 500V Breaking capacity 500V AA96 96 96 96Resistance per pole (average value)mΩ2.5Power dissipation per pole (average value)mΩ2 2 4C3Power dissipation pole (average value)W2 0.4Tightening torque for terminalsminNm1.5 max NmMinNm1.8 1.1	Making capacity (RMS value)		Α	120
Breaking capacity 500V   A   96     Breaking capacity 690V   A   94     Resistance per pole (average value)   mΩ   2.5     Power dissipation per pole (average value)   Power dissipation pole (average value) lth   W   2     AC3   W   0.4   MI   1.5     Tightening torque for terminals   min   Nm   1.5     min   Ibft   1.1	Breaking capacity at voltage			
Breaking capacity 690V   A   94     Resistance per pole (average value)   mΩ   2.5     Power dissipation per pole (average value)   Power dissipation pole (average value) Ith AC3   W   2     AC3   W   0.4   0.4   0.4     Tightening torque for terminals   min   Nm   1.5     min   Ibft   1.1		Breaking capacity 440V	А	96
Resistance per pole (average value)   mΩ   2.5     Power dissipation per pole (average value)   Power dissipation pole (average value) lth   W   2     Power dissipation pole (average value)   Resistance per pole (average value)   W   2     AC3   W   0.4     Tightening torque for terminals   min   Nm   1.5     max   Nm   1.8     min   lbft   1.1		Breaking capacity 500V	А	96
Power dissipation per pole (average value) Power dissipation pole (average value) Ith W 2 AC3 W 0.4 Tightening torque for terminals min Nm 1.5 max Nm 1.8 min lbft 1.1		Breaking capacity 690V	Α	94
Power dissipation pole (average value) lth W 2   AC3 W 0.4   Tightening torque for terminals min Nm 1.5   max Nm 1.8   min lbft 1.1			mΩ	2.5
AC3 W 0.4   Tightening torque for terminals min Nm 1.5   max Nm 1.8   min lbft 1.1	Power dissipation per pole (average value)			
Tightening torque for terminals   min   Nm   1.5     max   Nm   1.8     min   lbft   1.1				
min Nm 1.5 max Nm 1.8 min Ibft 1.1		AC3	W	0.4
max Nm 1.8 min Ibft 1.1	Tightening torque for terminals			
min lbft 1.1		min	Nm	1.5
		max	Nm	1.8
max lbft 1.5		min	lbft	
		max	lbft	1.5

## Tightening torque for coil terminal



		min	Nm	0.8
		max	Nm	1
		min	lbft	0.8
		max	lbft	0.74
max number of wires simultaneous	sly connectable		nr.	2
Conductor section				
AWG				
		min		16
		max		10
Flexible w	/o lug conductor section		_	
		min	mm²	1
		max	mm²	6
Flexible c/	w lug conductor section			
		min	mm²	1
		max	mm²	4
Flexible w	ith insulated spade lug conductor section			
		min	mm²	1
		max	mm²	4
Power terminal protection accordir	ng to IEC/EN 60529			IP20 when wire
Auxiliary contact characteristics				
Type of contact				1 NC
Thermal current Ith			А	10
IEC/EN 60947-5-1 designation				A600 - P600
Operational current AC1 (≤40°C)			А	28
Operating current AC15				
opera		230V	А	3
		400V	A	1.9
		500V	A	1.4
Operating current DC12		0001		
operating current DOT2		110V	А	5.7
Operating ourrent DC12		1100	~	5.7
Operating current DC13		241/	۸	F 7
		24V	A	5.7
		48V	A	2.9
		60V	А	2.3
		110V	А	Screw / DIN rai
				35mm
		125V	A	0.6
		220V	А	0.2
		600V	А	1.2
Ambient conditions				
Temperature				
Operating	temperature			
		min	°C	-50
		max	°C	70
		Пал		
Storage te	emperature	max		
Storage te	emperature	min	°C	-60
Storage te	emperature			-60 80
	emperature	min	°C	
Max altitude	emperature	min	°C °C	80
	emperature	min max	°C °C	80 3000
Max altitude	emperature	min max normal	°C °C	80 3000 Vertical plan
Max altitude Operating position	emperature	min max	°C °C	80 3000 Vertical plan ±30°
Max altitude	emperature	min max normal	°C °C	80 3000 Vertical plan

**BF1201A400** The characteristics described in this document are subject to updates or modifications at any time. The descriptions, technical and functional information, illustrations and instructions in this brochure are purely illustrative, and are consequently not contractually binding



Operations				
Mechanical life			Cycles	2000000
Electrical life			Cycles	2000000
Safety related data				
Performance level B1	Od according to EN/ISO 13489-1			
		rated load	Cicli	2000000
		chanical load	Cicli	2000000
	ng to IEC/EN 609474-4-1			yes
EMC compatibility				yes
C coil operating				
C operating voltage				
	of 50/60Hz coil powered at 50Hz			
	pick-up		0/11-	
		min	%Us	0.8
	dram aut	max	%Us	1.1
	drop-out		0/11-	0.0
		min	%Us %Us	0.2
	of 50/60Hz coil powered at 60Hz	max	%US	0.55
	of 50/60Hz coil powered at 60Hz pick-up			
	μισκ-αρ	min	%Us	0.85
		max	%Us	1.1
	drop-out	Пах	/003	1.1
		min	%Us	0.2
		max	%Us	0.55
	of 60Hz coil powered at 60Hz		,	
	pick-up			
		min	%Us	0.8
		max	%Us	1.1
	drop-out			
		min	%Us	0.2
		max	%Us	0.55
AC operating voltage				
	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
DC coil operating				
DC rated control voltage	ge			
		max	V	250
Max cycles frequency			<b>•</b> • •	
lechanical operations			Cycles/h	3600
Operating times				
Average time for Us co				
	in AC			
	Closing NO			
		min	ms	8
		max	ms	24

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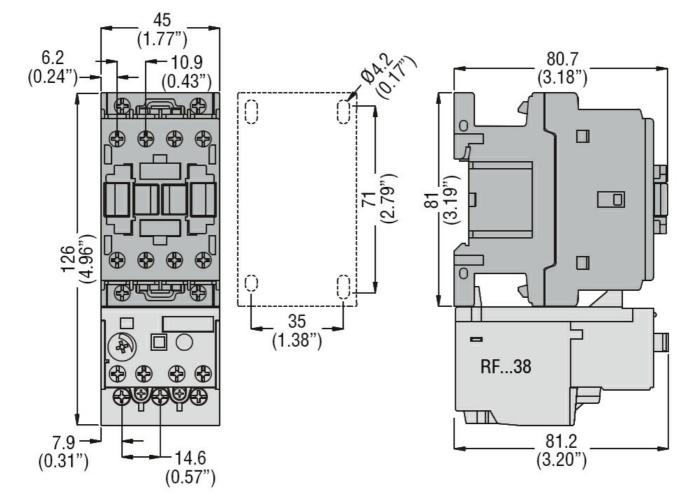


Opening NO			
	min	ms	10
	max	ms	20
Closing NC			
	min	ms	14
	max	ms	28
Opening NC			
	min	ms	7
	max	ms	18
UL technical data			
Full-load current (FLA) for three-phase AC motor			
a	: 480V	А	11
a	: 600V	А	11
Yielded mechanical performance			
for single-phase AC motor			
at 110	/120V	hp	1
at	230V	hp	2
for three-phase AC motor			
at 200	/208V	hp	5
at 220	/230V	hp	5
at 460	/480V	hp	7.5
at 575	/600V	hp	10
Contact rating of auxiliary contacts according to UL			A600 - P600
General USE			
Contactor			
AC o	current	А	28
Other features			
Pollution degree			3
Dimensions			

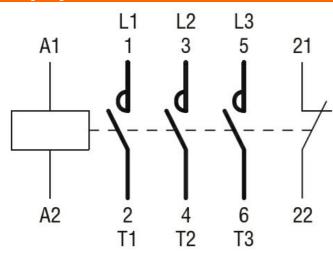
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THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, AC COIL 50/60HZ, 400VAC, 1NC AUXILIARY CONTACT



Wiring diagrams



## Certifications and compliance

CSA C22.2 n° 60947-4-1		
IEC/EN 60947-1		
IEC/EN 60947-4-1		
UL 60947-1		
UL 60947-4-1		

Compliance

BF1201A400



CCC			
cULus			
EAC			

ETIM 6 classification

EC000066 - Power contactor, AC switching