



Product designation Power contactor Product type designation BF12 Contact characteristics Number of poles Nr. 3 Rated insulation voltage UIIEC/EN V 690 Rated insulation voltage UIIEC/EN V 6 Operational frequency min Hz 25 max Hz 400 IEC Conventional free air thermal current Ith A 28 Operational current le AC-1 (540°C) A 28 AC-1 (55°C) A 20 AC-3 (5440V 55°C) A 12 AC-4 (400V) A 7. 9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 400V kW 5.7 415V kW 6.2 400V kW 10 Rated operational power AC-1 (T≤40°C) Rated operational power AC-1 (T≤40°C) EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series S24V A 17 48V A 15 75V A 13 110V A 6 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series S24V A 20 48V A 20 75V A 13 110V A 16				
Contact characteristics Nr. 3 Number of poles Nr. 3 Rated insulation voltage UI IEC/EN V 690 Rated insulation voltage UIImp kV 6 Operational frequency min Hz 25 max Hz 400 16 IEC Conventional free air thermal current Ith A 28 0 Operational current Ie AC-1 (≤40°C) A 28 AC-1 (55°C) A 23 AC-1 (≤40°C) A 28 Operational current Ie AC-1 (≤40°C) A 28 AC-1 (≤40°C) A 28 AC-1 (≤40°C) A 28 AC-1 (≤40°C) A 21 AC-1 (≤40°C) A A C A C A C A C A C A C A C A C A C A C A C A C A C A C A C A	Product designation			Power contactor
Number of poles Nr. 3 Rated insulation voltage Ui IEC/EN V 690 Rated insulation voltage Uimp kV 6 Operational frequency min Hz 25 max Hz 400 400 IEC Conventional free air thermal current lth A 28 Operational current le AC-1 (≤40°C) A 28 AC-1 (≤55°C) A 23 AC-1 (≤55°C) A 23 AC-1 (≤00°C) A 28 AC-1 (≤40°C) A 28 AC-3 (≤400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 Adov KW 6.2 440V kW 6.2 Adov KW 10 400V kW 10 <td< td=""><td>Product type designation</td><td></td><td></td><td>BF12</td></td<>	Product type designation			BF12
Rated insulation voltage U IEC/EN V 690 Rated inpulse withstand voltage Uimp KV 6 Operational frequency min Hz 25 max Hz 400 IEC conventional frequency A 28 Operational current le A 28 Operational current le A 28 Operational current le AC-1 (s50°C) A 28 AC-1 (s70°C) A 20 AC-3 (s440V ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 6.2 690V kW 10 400V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series 524V A 17 48V A 15 75V A 13 110V A 6 <	Contact characteristics			
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Rated impulse withstand voltage Uimp kV 6 Operational frequency min Hz 25 max Hz 400 IEC Conventional free air thermal current lth A 28 Operational current le AC-1 (≤40°C) A 28 AC-1 (≤55°C) A 23 AC-1 (≤55°C) A 20 Rated operational power AC-3 (T≤55°C) Z30V kW 3.2 400V kW 5.7 415V kW 6.2 500V kW 5.7 415V kW 6.2 690V kW 10 400V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 Geov kW 10 400V kW 18 500V kW 13 110V A 6 220V A 17 48V A 15 75V A 13 <	Rated insulation voltage Ui IEC/EN		V	690
Operational frequency min Hz 25 max Hz 400 IEC Conventional free air thermal current lth A 28 Operational current le AC-1 (\$40°C) A 28 AC-1 (\$55°C) A 23 AC-1 (\$55°C) A 23 AC-1 (\$70°C) A 20 AC-3 (\$4400 \$57°C) A 12 AC-4 (400V) A 7.9 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 5.7 415V kW 6.2 500V kW 5.7 415V kW 6.2 500V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 10 400V kW 10 400V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 200V kW 10 400V kW 12 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			kV	6
min Hz 25 max Hz 400 IEC Conventional free air thermal current lth A 28 Operational current le AC-1 (\$40°C) A 28 AC-1 (\$55°C) A 23 AC-1 (\$55°C) A 20 AC-3 (\$440V \$55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 6.2 500V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 690V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 48V 8 15 500V kW 10 48V A 15 75V A 13 110V A 6 220V A - 48V A 15 75V A 13 10V A 6				
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$ \begin{array}{ccccc} AC-1 (\leq 55^{\circ}C) & A & 23 \\ AC-1 ((S7^{\circ}C) & A & 20 \\ AC-3 (\leq 4400V) \leq 55^{\circ}C) & A & 12 \\ AC-4 (400V) & A & 7.9 \\ \hline \\ Rated operational power AC-3 (T≤55^{\circ}C) & & & & & & & & \\ & & & & & & & & & & $		AC-1 (≤40°C)	А	28
AC-1 (≤70°C) A 20 AC-3 (≤440V >555°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 6.2 440V kW 6.2 500V kW 7.5 690V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 10 400V kW 13 1EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series 524V A 17 48V A 20 75V A 13 110V A 6 220V A 1 EC max current le in DC1 with L/R ≤ 1ms with 2 poles in series 524V A 20		. ,		
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AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 6.2 500V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 18 500V kW 23 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 17 48V A 15 75V A 13 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 75V A 13 110V A 6 220V A 1 1 1 1 IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 75V A 13 2 2 4 IEC max current le in DC				
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$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Rated operational power AC-3 (T≤55°C)	- ()		-
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		230V	kW	3.2
$ \begin{array}{c} 415 \vee & k \mathbb{W} & 6.2 \\ 440 \vee & k \mathbb{W} & 6.2 \\ 500 \vee & k \mathbb{W} & 7.5 \\ 690 \vee & k \mathbb{W} & 10 \end{array} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ Rated operational pow$				
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$ \begin{array}{c c c c c c c c c c c c c c c c c c c $				
Rated operational power AC-1 (T≤40°C) $230V$ kW10 $400V$ kW18 $500V$ kW23 $690V$ kW32IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series $≤24V$ A17 $48V$ A1575VA13 $110V$ A6220VA-IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series $≤24V$ A20 $48V$ A2075VA18 $110V$ A13220VA1IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $≤24V$ A20 $48V$ A2075VA18 $110V$ A13220VA1IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $≤24V$ A22 $48V$ A2275VA20				
$\begin{array}{c} 230 \lor kW 10 \\ 400 \lor kW 18 \\ 500 \lor kW 23 \\ 690 \lor kW 32 \end{array}$ IEC max current le in DC1 with L/R < 1ms with 1 poles in series $\begin{array}{c} \leq 24 \lor A 17 \\ 48 \lor A 15 \\ 75 \lor A 13 \\ 110 \lor A 6 \\ 220 \lor A - \end{array}$ IEC max current le in DC1 with L/R < 1ms with 2 poles in series $\begin{array}{c} \leq 24 \lor A 20 \\ 48 \lor A 20 \\ 75 \lor A 13 \\ 110 \lor A 6 \\ 220 \lor A - \end{array}$ IEC max current le in DC1 with L/R < 1ms with 2 poles in series $\begin{array}{c} \leq 24 \lor A 20 \\ 48 \lor A 20 \\ 75 \lor A 18 \\ 110 \lor A 13 \\ 220 \lor A 1 \end{array}$ IEC max current le in DC1 with L/R < 1ms with 3 poles in series $\begin{array}{c} \leq 24 \lor A 22 \\ 48 \lor A 22 \\ 75 \lor A 20 \end{array}$	Rated operational power AC-1 (T≤40°C)			
$ \begin{array}{c c} 400 \lor & kW & 18\\ 500 \lor & kW & 23\\ 690 \lor & kW & 32 \end{array} \end{array} $ IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series $ \begin{array}{c c} \leq 24 \lor & A & 17\\ 48 \lor & A & 15\\ 75 \lor & A & 13\\ 110 \lor & A & 6\\ 220 \lor & A & - \end{array} $ IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series $ \begin{array}{c c} \leq 24 \lor & A & 20\\ 48 \lor & A & 20\\ 75 \lor & A & 18\\ 110 \lor & A & 13\\ 220 \lor & A & 1 \end{array} $ IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series $ \begin{array}{c c} \leq 24 \lor & A & 20\\ 48 \lor & A & 20\\ 75 \lor & A & 18\\ 110 \lor & A & 13\\ 220 \lor & A & 1 \end{array} $ IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $ \begin{array}{c c} \leq 24 \lor & A & 22\\ 48 \lor & A & 22\\ 75 \lor & A & 22\\ 48 \lor & A & 22\\ 75 \lor & A & 20 \end{array} $		230V	kW	10
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		400V	kW	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		500V	kW	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		690V	kW	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			
$\begin{array}{cccc} 75 & A & 13 \\ 110 & A & 6 \\ 220 & A & - \end{array}$ IEC max current le in DC1 with L/R < 1ms with 2 poles in series $\begin{array}{cccc} \leq 24 & A & 20 \\ 48 & A & 20 \\ 75 & A & 18 \\ 110 & A & 13 \\ 220 & A & 1 \end{array}$ IEC max current le in DC1 with L/R < 1ms with 3 poles in series $\begin{array}{ccccc} \leq 24 & A & 20 \\ 75 & A & 18 \\ 110 & A & 13 \\ 220 & A & 1 \end{array}$		≤24V	А	17
$ \begin{array}{c cccc} & 110 & A & 6 \\ & 220 & A & - \end{array} \\ \hline \mbox{IEC max current le in DC1 with L/R \le 1ms with 2 poles in series} \\ & \le 24 & A & 20 \\ & 48 & A & 20 \\ & 48 & A & 20 \\ & 75 & A & 18 \\ & 110 & A & 13 \\ & 220 & A & 1 \\ \hline \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & IEC max current l$		48V	А	15
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		75V	А	13
IEC max current le in DC1 with L/R < 1ms with 2 poles in series		110V	А	6
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		220V	А	_
$ \begin{array}{cccc} 48 \ensuremath{V} & \ensuremath{A} & 20 \\ 75 \ensuremath{V} & \ensuremath{A} & 18 \\ 110 \ensuremath{V} & \ensuremath{A} & 13 \\ 220 \ensuremath{V} & \ensuremath{A} & 13 \\ 220 \ensuremath{V} & \ensuremath{A} & 1 \end{array} $ IEC max current le in DC1 with L/R \leq 1ms with 3 poles in series $ \begin{array}{ccc} \leq 24 \ensuremath{V} & \ensuremath{A} & 22 \\ 48 \ensuremath{V} & \ensuremath{A} & 22 \\ 75 \ensuremath{V} & \ensuremath{A} & 20 \end{array} $	IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
$\begin{array}{c cccc} 75 & A & 18 \\ 110 & A & 13 \\ 220 & A & 1 \end{array}$ IEC max current le in DC1 with L/R < 1ms with 3 poles in series $\begin{array}{c ccccccccccccccccccccccccccccccccccc$		≤24V	А	20
$\begin{tabular}{cccc} 110V & A & 13\\ 220V & A & 1\\ \hline \end{tabular}$ IEC max current le in DC1 with L/R < 1ms with 3 poles in series $\begin{tabular}{cccc} \leq 24V & A & 22\\ 48V & A & 22\\ 75V & A & 20\\ \hline \end{tabular}$		48V	А	20
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		75V	А	18
IEC max current le in DC1 with L/R < 1ms with 3 poles in series $\leq 24V$ A2248VA2275VA20		110V	А	13
≤24V A 22 48V A 22 75V A 20		220V	А	1
48V A 22 75V A 20	IEC max current le in DC1 with $L/R \le 1$ ms with 3 poles in series			
75V A 20		≤24V	А	22
		48V	А	22
110V A 16		75V	А	20
		110V	А	16



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 12VDC, 1NO AUXILIARY CONTACT

	220V	А	11
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	А	20
	48V	А	20
	75V	А	20
	110V	А	16
	220V	А	12
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	А	12
	48V	А	11
	75V	А	10
	110V	А	2
	220V	А	_
IEC max current le in DC3-DC5 with $L/R \le 15$ ms with 2 poles in series			
	≤24V	А	15
	48V	A	13
	75V	A	12
	110V	A	8
	220V	A	2
IEC max current le in DC3-DC5 with $L/R \le 15$ ms with 3 poles in series	220 V		2
	≤24V	А	18
	 48V	A	18
	48V 75V	A	15
	110V	A	12
	220V	A	6
IFC may autrent to in DC2 DC5 with L/D < 15mg with 4 palagin agrics	2200	A	0
IEC max current le in DC3-DC5 with $L/R \le 15$ ms with 4 poles in series	<241	^	4 5
	≤24V	A	15
	48V	A	15
	75V	A	15
	110V	A	16
	220V	A	7
Short-time allowable current for 10s (IEC/EN60947-1)		Α	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
	AC3	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

BF1210D012



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 12VDC, 1NO AUXILIARY CONTACT

Max number of wires	simultaneously connectable	max	Ibin Nr.	0.74
Conductor section			INI.	2
	AWG/Kcmil			
		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 with insulated spade lug conductor section			
		min	mm²	1
		max	mm²	4
Power terminal prote	ction according to IEC/EN 60529			IP20 when
				properly wired
Mechanical features				
Operating position				Vortical star
		normal allowable		Vertical plan ±30°
		anowable		±30 Screw / DIN rai
Fixing				35mm
Weight			g	400
Conductor section			3	
	AWG/kcmil conductor section			
		max		10
Auxiliary contact char	acteristics			
Thermal current Ith			А	10
IEC/EN 60947-5-1 de	esignation			A600 - P600
Operating current AC	15			
		230V	А	3
		400V	Α	1.9
		500V	Α	1.4
Operating current DC	12			
		110V	Α	5.7
Operating current DC	13			
Operating current DC				F 7
Operating current DC		24V	A	5.7
Operating current DC		48V	А	2.9
Operating current DC		48V 60V	A A	2.9 2.3
Operating current DC		48V 60V 110V	A A A	2.9 2.3 1.25
Operating current DC		48V 60V 110V 125V	A A A A	2.9 2.3 1.25 1.1
Operating current DC		48V 60V 110V 125V 220V	A A A A	2.9 2.3 1.25 1.1 0.55
		48V 60V 110V 125V	A A A A	2.9 2.3 1.25 1.1
Operations		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		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		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	10d according to EN/ISO 13489-1	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 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 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	me	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 2000000
Operations Mechanical life Electrical life Safety related data Performance level B	-	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

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BF1210D012 THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 12VDC,

1NO AUXILIARY CONTACT

DC rated control voltag	je			V	12
DC operating voltage					
	pick-up			o () I	
			min	%Us	70
			max	%Us	125
	drop-out			0/110	10
			min	%Us %Us	10 40
Average coil consumpt	tion <20°C		max	/005	40
Average con consumpt			in-rush	W	5.4
			holding	Ŵ	5.4
Max cycles frequency			nording	vv	0.4
Mechanical operation				cycles/h	3600
Operating times					
Average time for Us co	ontrol				
Ū	in AC				
		Closing NO			
		-	min	ms	8
			max	ms	24
		Opening NO			
			min	ms	10
			max	ms	20
		Closing NC			
			min	ms	14
			max	ms	28
		Opening NC			_
			min	ms	7
			max	ms	18
	in DC				
		Closing NO	min	ms	54
			max	ms	66
		Opening NO	Пах	mo	00
		oponing i to	min	ms	14
			max	ms	17
UL technical data					
Full-load current (FLA)	for three-phase AC m	notor			
. ,	-		at 480V	А	11
			at 600V	А	11
Yielded mechanical pe					
	for single-phase AC	motor			
			110/120V	HP	1
			230V	HP	2
	for three-phase AC	notor			
			200/208V	HP	5
			220/230V	HP	5
			460/480V	HP	7.5
Conorol LICE			575/600V	HP	10
General USE	Contactor				
	Contactor			۸	20
	Auxiliary contacts		AC current	A	28
	Auxiliary contacts		AC voltage	V	600
			AC voltage	A	10
				п	

BF1210D012

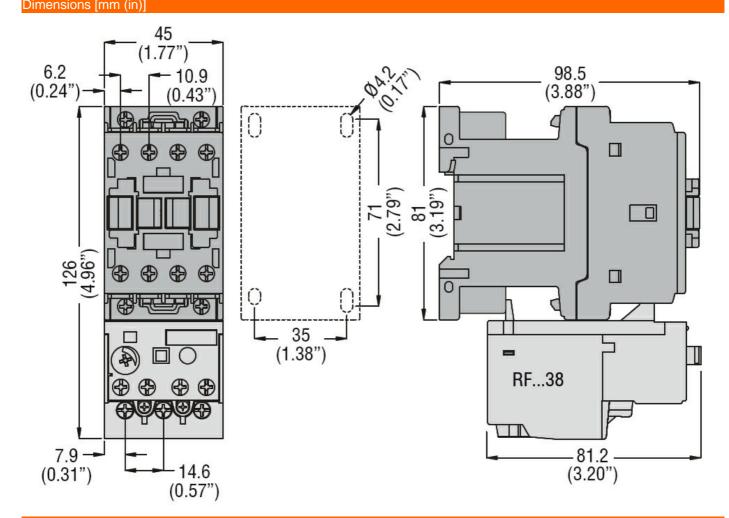
The characteristics described in this document are subject to updates or modifications at any time. The descriptions, technical and functional information, illustrations and instructions in this brochure are purely illustrative, and are consequently not contractually binding



BF1210D012 THREE-POLE CONTACTOR, IEC OPERATING CURREI

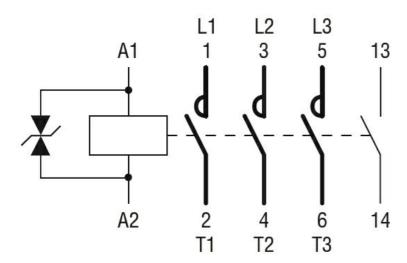
NT	IΕ	(AC3) =	12A,	DC	CO	IL,	12V	DC,
		1	NO	AUX	(ILIA	٨RY	CC	DNT/	٩СТ

		DC voltage	V	250
		DC current	А	1
Short-circuit protectio	n fuse, 600V			
	High fault			
	-	Short circuit current	kA	100
		Fuse rating	А	30
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	А	70
Contact rating of auxil	liary 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	ion			
Pollution degree				3
Dimensions [mm (in)]				



Wiring diagrams





Certifications and compliance

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
	cULus
	EAC
ETIM classification	

ETIM 8.0

EC000066 -Power contactor, AC switching





Product designation Power contactor Product type designation BF12 Contact characteristics Number of poles Nr. 3 Rated insulation voltage UIIEC/EN V 690 Rated insulation voltage UIIEC/EN V 6 Operational frequency min Hz 25 max Hz 400 IEC Conventional free air thermal current Ith A 28 Operational current le AC-1 (540°C) A 28 AC-1 (55°C) A 20 AC-3 (5440V 55°C) A 12 AC-4 (400V) A 7. 9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 400V kW 5.7 415V kW 6.2 400V kW 10 Rated operational power AC-1 (T≤40°C) Rated operational power AC-1 (T≤40°C) EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series S24V A 17 48V A 15 75V A 13 110V A 6 220V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series S24V A 20 48V A 20 75V A 13 110V A 16				
Contact characteristics Nr. 3 Number of poles Nr. 3 Rated insulation voltage UI IEC/EN V 690 Rated insulation voltage UIImp kV 6 Operational frequency min Hz 25 max Hz 400 16 IEC Conventional free air thermal current Ith A 28 0 Operational current Ie AC-1 (≤40°C) A 28 AC-1 (55°C) A 23 AC-1 (≤40°C) A 28 Operational current Ie AC-1 (≤40°C) A 28 AC-1 (≤40°C) A 28 AC-1 (≤40°C) A 28 AC-1 (≤40°C) A 21 AC-1 (≤40°C) A A C A C A C A C A C A C A C A C A C A C A C A C A C A C A C A	Product designation			Power contactor
Number of poles Nr. 3 Rated insulation voltage Ui IEC/EN V 690 Rated insulation voltage Uimp kV 6 Operational frequency min Hz 25 max Hz 400 400 IEC Conventional free air thermal current lth A 28 Operational current le AC-1 (≤40°C) A 28 AC-1 (≤55°C) A 23 AC-1 (≤55°C) A 23 AC-1 (≤00°C) A 28 AC-1 (≤40°C) A 28 AC-3 (≤400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 Adov KW 6.2 440V kW 6.2 Adov KW 10 400V kW 10 <td< td=""><td>Product type designation</td><td></td><td></td><td>BF12</td></td<>	Product type designation			BF12
Rated insulation voltage U IEC/EN V 690 Rated inpulse withstand voltage Uimp KV 6 Operational frequency min Hz 25 max Hz 400 IEC conventional frequency A 28 Operational current le A 28 Operational current le A 28 Operational current le AC-1 (s50°C) A 28 AC-1 (s70°C) A 20 AC-3 (s440V ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 6.2 690V kW 10 400V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series 524V A 17 48V A 15 75V A 13 110V A 6 <	Contact characteristics			
Rated insulation voltage Ui IEC/EN V 690 Rated impulse withstand voltage Uimp kV 6 Operational frequency min Hz 25 max Hz 400 25 IEC Conventional free air thermal current Ith A 28 Operational current le AC-1 (≤40°C) A 28 AC-1 (≤55°C) A 20 AC-3 (≤440V ≤55°C) A 12 AC-3 (≤440V ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (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 Rated operational power AC-1 (T≤40°C) 230V kW 10 21EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series 524V A 17 48V A 15 75V A 13 110V A 6 220V	Number of poles		Nr.	3
Rated impulse withstand voltage Uimp kV 6 Operational frequency min Hz 25 max Hz 400 IEC Conventional free air thermal current lth A 28 Operational current le AC-1 (≤40°C) A 28 AC-1 (≤55°C) A 23 AC-1 (≤55°C) A 20 Rated operational power AC-3 (T≤55°C) Z30V kW 3.2 400V kW 5.7 415V kW 6.2 500V kW 5.7 415V kW 6.2 690V kW 10 400V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 Geov kW 10 400V kW 18 500V kW 13 110V A 6 220V A 17 48V A 15 75V A 13 <	Rated insulation voltage Ui IEC/EN		V	690
Operational frequency min Hz 25 max Hz 400 IEC Conventional free air thermal current lth A 28 Operational current le AC-1 (\$40°C) A 28 AC-1 (\$55°C) A 23 AC-1 (\$55°C) A 23 AC-1 (\$70°C) A 20 AC-3 (\$4400 \$57°C) A 12 AC-4 (400V) A 7.9 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 5.7 415V kW 6.2 500V kW 5.7 415V kW 6.2 500V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 10 400V kW 10 400V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 200V kW 10 400V kW 12 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			kV	6
min Hz 25 max Hz 400 IEC Conventional free air thermal current lth A 28 Operational current le AC-1 (\$40°C) A 28 AC-1 (\$55°C) A 23 AC-1 (\$55°C) A 20 AC-3 (\$440V \$55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 6.2 500V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 690V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 48V 8 15 500V kW 10 48V A 15 75V A 13 110V A 6 220V A - 48V A 15 75V A 13 10V A 6				
max Hz 400 IEC Conventional free air thermal current lth A 28 Operational current le AC-1 (s56°C) A 28 AC-1 (s55°C) A 23 AC-1 (s56°C) A 20 AC-3 (st40V s55°C) A 20 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 500V kW 6.2 500V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 32 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series 524V A 17 48V A 12 IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series 524V A 12 75V <td></td> <td>min</td> <td>Hz</td> <td>25</td>		min	Hz	25
IEC Conventional free air thermal current IthA28Operational current leAC-1 (≤40°C)A28AC-1 (≤55°C)A23AC-1 (≤55°C)A20AC-3 (≤440V ≤55°C)A12AC-4 (400V)A7.9Rated operational power AC-3 (T≤55°C)230VkW3.2400VkW5.7415VkW6.2500VkW10Rated operational power AC-1 (T≤40°C)230VkW10Rated operational power AC-1 (T≤40°C)230VkW10Rated operational power AC-1 (T≤40°C)230VkW10Rated operational power AC-1 (T≤40°C)230VkW10IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series524VA1748VA1575VA13110VA6220VA-IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series524VA2048VA2075VA18110VA6220VA-IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series524VA2048VA2075VA18110VA13220VA1IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series524VA2248VA2275VA18120VA120A1120VA120				
Operational current le AC-1 (≤40°C) A 28 AC-1 (≤55°C) A 23 AC-1 (≤55°C) A 20 AC-3 (≤440V ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 500V kW 6.2 500V kW 7.5 690V kW 10 400V kW 10 400V kW 12 Rated operational power AC-1 (T≤40°C) 230V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 10 400V kW 12 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series \$24V A 17 48V A 20 75V A 13 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series \$24V </td <td>IEC Conventional free air thermal current Ith</td> <td></td> <td></td> <td></td>	IEC Conventional free air thermal current Ith			
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$				-
$ \begin{array}{ccccc} AC-1 (\leq 55^{\circ}C) & A & 23 \\ AC-1 ((S7^{\circ}C) & A & 20 \\ AC-3 (\leq 4400V) \leq 55^{\circ}C) & A & 12 \\ AC-4 (400V) & A & 7.9 \\ \hline \\ Rated operational power AC-3 (T≤55^{\circ}C) & & & & & & & & \\ & & & & & & & & & & $		AC-1 (≤40°C)	А	28
AC-1 (≤70°C) A 20 AC-3 (≤440V >555°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 6.2 440V kW 6.2 500V kW 7.5 690V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 10 400V kW 13 1EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series 524V A 17 48V A 20 75V A 13 110V A 6 220V A 1 EC max current le in DC1 with L/R ≤ 1ms with 2 poles in series 524V A 20		. ,		
AC-3 (≤440V ≤55°C) A 12 AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 500V kW 7.5 690V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series 524V A 17 48V A 15 75V A 13 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series 524V A 20 48V A 20 75V A 13 110V A 18 110V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series 524V A 20 48V A 22 75V </td <td></td> <td>. ,</td> <td></td> <td></td>		. ,		
AC-4 (400V) A 7.9 Rated operational power AC-3 (T≤55°C) 230V kW 3.2 400V kW 5.7 415V kW 6.2 440V kW 6.2 500V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 18 500V kW 23 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 17 48V A 15 75V A 13 110V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 75V A 13 110V A 6 220V A 1 1 1 1 IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 75V A 13 2 2 4 IEC max current le in DC				
Rated operational power AC-3 (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 Rated operational power AC-1 (T≤40°C) 230V kW 10 Rated operational power AC-1 (T≤40°C) 230V kW 10 400V kW 18 500V kW 23 690V kW 32 690V kW 32 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 17 48V A 15 75V A 13 10V A 6 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 20 75V A 18 110V A 13 220V A 1 11 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 20 75V A 18 110V A		. , , , , , , , , , , , , , , , , , , ,		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Rated operational power AC-3 (T≤55°C)	- ()		-
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		230V	kW	3.2
$ \begin{array}{c} 415 \vee & k \mathbb{W} & 6.2 \\ 440 \vee & k \mathbb{W} & 6.2 \\ 500 \vee & k \mathbb{W} & 7.5 \\ 690 \vee & k \mathbb{W} & 10 \end{array} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ \mbox{Rated operational power AC-1 (T \le 40 ^{\circ} C)} \\ \hline \\ Rated operational pow$				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $				
Rated operational power AC-1 (T≤40°C) $230V$ kW10 $400V$ kW18 $500V$ kW23 $690V$ kW32IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series $≤24V$ A17 $48V$ A1575VA13 $110V$ A6220VA-IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series $≤24V$ A20 $48V$ A2075VA18 $110V$ A13220VA1IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $≤24V$ A20 $48V$ A2075VA18 $110V$ A13220VA1IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $≤24V$ A22 $48V$ A2275VA20				
$\begin{array}{c} 230 \lor kW 10 \\ 400 \lor kW 18 \\ 500 \lor kW 23 \\ 690 \lor kW 32 \end{array}$ IEC max current le in DC1 with L/R < 1ms with 1 poles in series $\begin{array}{c} \leq 24 \lor A 17 \\ 48 \lor A 15 \\ 75 \lor A 13 \\ 110 \lor A 6 \\ 220 \lor A - \end{array}$ IEC max current le in DC1 with L/R < 1ms with 2 poles in series $\begin{array}{c} \leq 24 \lor A 20 \\ 48 \lor A 20 \\ 75 \lor A 13 \\ 110 \lor A 6 \\ 220 \lor A - \end{array}$ IEC max current le in DC1 with L/R < 1ms with 2 poles in series $\begin{array}{c} \leq 24 \lor A 20 \\ 48 \lor A 20 \\ 75 \lor A 18 \\ 110 \lor A 13 \\ 220 \lor A 1 \end{array}$ IEC max current le in DC1 with L/R < 1ms with 3 poles in series $\begin{array}{c} \leq 24 \lor A 22 \\ 48 \lor A 22 \\ 75 \lor A 20 \end{array}$	Rated operational power AC-1 (T≤40°C)			
$ \begin{array}{c c} 400 \lor & kW & 18\\ 500 \lor & kW & 23\\ 690 \lor & kW & 32 \end{array} \end{array} $ IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series $ \begin{array}{c c} \leq 24 \lor & A & 17\\ 48 \lor & A & 15\\ 75 \lor & A & 13\\ 110 \lor & A & 6\\ 220 \lor & A & - \end{array} $ IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series $ \begin{array}{c c} \leq 24 \lor & A & 20\\ 48 \lor & A & 20\\ 75 \lor & A & 18\\ 110 \lor & A & 13\\ 220 \lor & A & 1 \end{array} $ IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series $ \begin{array}{c c} \leq 24 \lor & A & 20\\ 48 \lor & A & 20\\ 75 \lor & A & 18\\ 110 \lor & A & 13\\ 220 \lor & A & 1 \end{array} $ IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $ \begin{array}{c c} \leq 24 \lor & A & 22\\ 48 \lor & A & 22\\ 75 \lor & A & 22\\ 48 \lor & A & 22\\ 75 \lor & A & 20 \end{array} $		230V	kW	10
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		400V	kW	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		500V	kW	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		690V	kW	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			
$\begin{array}{cccc} 75 & A & 13 \\ 110 & A & 6 \\ 220 & A & - \end{array}$ IEC max current le in DC1 with L/R < 1ms with 2 poles in series $\begin{array}{cccc} \leq 24 & A & 20 \\ 48 & A & 20 \\ 75 & A & 18 \\ 110 & A & 13 \\ 220 & A & 1 \end{array}$ IEC max current le in DC1 with L/R < 1ms with 3 poles in series $\begin{array}{ccccc} \leq 24 & A & 20 \\ 75 & A & 18 \\ 110 & A & 13 \\ 220 & A & 1 \end{array}$		≤24V	А	17
$ \begin{array}{c cccc} & 110 & A & 6 \\ & 220 & A & - \end{array} \\ \hline \mbox{IEC max current le in DC1 with L/R \le 1ms with 2 poles in series} \\ & \le 24 & A & 20 \\ & 48 & A & 20 \\ & 48 & A & 20 \\ & 75 & A & 18 \\ & 110 & A & 13 \\ & 220 & A & 1 \\ \hline \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ & IEC max current l$		48V	А	15
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		75V	А	13
IEC max current le in DC1 with L/R < 1ms with 2 poles in series		110V	А	6
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		220V	А	_
$ \begin{array}{cccc} 48 \ensuremath{V} & \ensuremath{A} & 20 \\ 75 \ensuremath{V} & \ensuremath{A} & 18 \\ 110 \ensuremath{V} & \ensuremath{A} & 13 \\ 220 \ensuremath{V} & \ensuremath{A} & 13 \\ 220 \ensuremath{V} & \ensuremath{A} & 1 \end{array} $ IEC max current le in DC1 with L/R \leq 1ms with 3 poles in series $ \begin{array}{ccc} \leq 24 \ensuremath{V} & \ensuremath{A} & 22 \\ 48 \ensuremath{V} & \ensuremath{A} & 22 \\ 75 \ensuremath{V} & \ensuremath{A} & 20 \end{array} $	IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
$\begin{array}{c cccc} 75 & A & 18 \\ 110 & A & 13 \\ 220 & A & 1 \end{array}$ IEC max current le in DC1 with L/R < 1ms with 3 poles in series $\begin{array}{c ccccccccccccccccccccccccccccccccccc$		≤24V	А	20
$\begin{tabular}{cccc} 110V & A & 13\\ 220V & A & 1\\ \hline \end{tabular}$ IEC max current le in DC1 with L/R < 1ms with 3 poles in series $\begin{tabular}{cccc} \leq 24V & A & 22\\ 48V & A & 22\\ 75V & A & 20\\ \hline \end{tabular}$		48V	А	20
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		75V	А	18
IEC max current le in DC1 with L/R < 1ms with 3 poles in series $\leq 24V$ A2248VA2275VA20		110V	А	13
≤24V A 22 48V A 22 75V A 20		220V	А	1
48V A 22 75V A 20	IEC max current le in DC1 with $L/R \le 1$ ms with 3 poles in series			
75V A 20		≤24V	А	22
		48V	А	22
110V A 16		75V	А	20
		110V	А	16



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 24VDC, 1NO AUXILIARY CONTACT

	220V	А	11
IEC max current le in DC1 with $L/R \le 1$ ms with 4 poles in series			
	≤24V	A	20
	48V	А	20
	75V	А	20
	110V	А	16
	220V	А	12
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	А	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	A	13
	48V 75V	A	12
	110V	A	8
	220V	A	o 2
IFC may autrent to in DC3 DC5 with 1/D < 15mg with 3 palas in action	2201	А	۷
IEC max current le in DC3-DC5 with L/R \leq 15ms with 3 poles in series	-0111	^	10
	≤24V	A	18
	48V	A	18
	75V	A	15
	110V	A	12
	220V	A	6
IEC max current le in DC3-DC5 with $L/R \le 15$ ms with 4 poles in series			
	≤24V	A	15
	48V	А	15
	75V	А	15
	110V	А	16
	220V	Α	7
Short-time allowable current for 10s (IEC/EN60947-1)		А	150
Protection fuse			
	gG (IEC)	А	32
	aM (IEC)	А	12
Making capacity (RMS value)		А	120
Breaking capacity at voltage			-
<u> </u>	440V	А	96
	500V	A	96
	690V	A	94
Resistance per pole (average value)	030 v	 mΩ	2.5
		11122	2.0
Power dissipation per pole (average value)	1.1	1.4.7	0
	Ith	W	2
	AC3	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
	111111		0.0

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THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 24VDC, 1NO AUXILIARY CONTACT

Max number of wires	simultaneously connectable	max	Ibin Nr.	0.74
Conductor section	Simulaneously connectable		INI.	2
	AWG/Kcmil			
	AWO/Kemii	max		10
	Flexible w/o lug conductor section	max		10
		min	mm²	1
		max	mm²	6
	Flexible c/w lug conductor section			
	-	min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section			
		min	mm²	1
		max	mm²	4
Power terminal prote	ection according to IEC/EN 60529			IP20 when
	stion according to IEC/EN 00323			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rai
				35mm
Weight			g	487
Conductor section				
	AWG/kcmil conductor section			10
		max		10
Auxiliany contact char				
Auxiliary contact chai	racteristics		Δ	10
Thermal current Ith			A	10 4600 - P600
Thermal current Ith IEC/EN 60947-5-1 de	esignation		A	10 A600 - P600
Thermal current Ith	esignation	230\/		A600 - P600
Thermal current Ith IEC/EN 60947-5-1 de	esignation	230V 400V	A	A600 - P600 3
Thermal current Ith IEC/EN 60947-5-1 de	esignation	400V	A A	A600 - P600 3 1.9
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation C15		A	A600 - P600 3
Thermal current Ith IEC/EN 60947-5-1 de	esignation C15	400V 500V	A A A	A600 - P600 3 1.9 1.4
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation C15 C12	400V	A A	A600 - P600 3 1.9
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation C15 C12	400V 500V 110V	A A A A	A600 - P600 3 1.9 1.4 5.7
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation C15 C12	400V 500V	A A A	A600 - P600 3 1.9 1.4 5.7 5.7
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation C15 C12	400V 500V 110V 24V	A A A A	A600 - P600 3 1.9 1.4 5.7
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation C15 C12	400V 500V 110V 24V 48V	A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation C15 C12	400V 500V 110V 24V 48V 60V	A A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation C15 C12	400V 500V 110V 24V 48V 60V 110V	A A A A A A A A A	A600 - P600 3 1.9 1.4 5.7 5.7 2.9 2.3 1.25
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation C15 C12	400V 500V 110V 24V 48V 60V 110V 125V	A A 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
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC	esignation C15 C12	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A 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
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC	esignation C15 C12	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A 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
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC	esignation C15 C12	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A A 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
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operations Mechanical life	esignation C15 C12	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A 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 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data	esignation C15 C12	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A 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 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data	esignation C15 C12 C13	400V 500V 110V 24V 48V 60V 110V 125V 220V	A A A A A 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 20000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data	esignation C15 C12 C13 10d according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A 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 2000000
Thermal current Ith IEC/EN 60947-5-1 de Operating current AC Operating current DC Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B	esignation C15 C12 C13 10d according to EN/ISO 13489-1	400V 500V 110V 24V 48V 60V 110V 125V 220V 600V	A A A 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 2000000 2000000



BF1210D024 THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 24VDC,

1NO AUXILIARY CONTACT

DC roted control voltage				V	24
DC rated control voltage	je			V	24
DC operating voltage	pick-up				
	pick-up		min	%Us	70
			max	%Us	125
	drop-out		тал	/000	120
			min	%Us	10
			max	%Us	40
Average coil consumpt	tion ≤20°C				
. .			in-rush	W	5.4
			holding	W	5.4
Max cycles frequency					
Mechanical operation				cycles/h	3600
Operating times					
Average time for Us co	ontrol				
	in AC				
		Closing NO			
			min	ms	8
			max	ms	24
		Opening NO			
			min	ms	10
		ee	max	ms	20
		Closing NC			
			min	ms	14
			max	ms	28
		Opening NC	min		7
			min max	ms ms	7 18
	in DC		IIIdX	1115	10
	III DC	Closing NO			
			min	ms	54
			max	ms	66
		Opening NO			
		- p	min	ms	14
			max	ms	17
UL technical data					
Full-load current (FLA)	for three-phase AC m	notor			
			at 480V	А	11
			at 600V	А	11
Yielded mechanical pe	rformance				
	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
<u> </u>			575/600V	HP	10
General USE	0				
	Contactor		10		22
	Annillant and to the		AC current	A	28
	Auxiliary contacts				600
			AC voltage	V	600
			AC current	A	10

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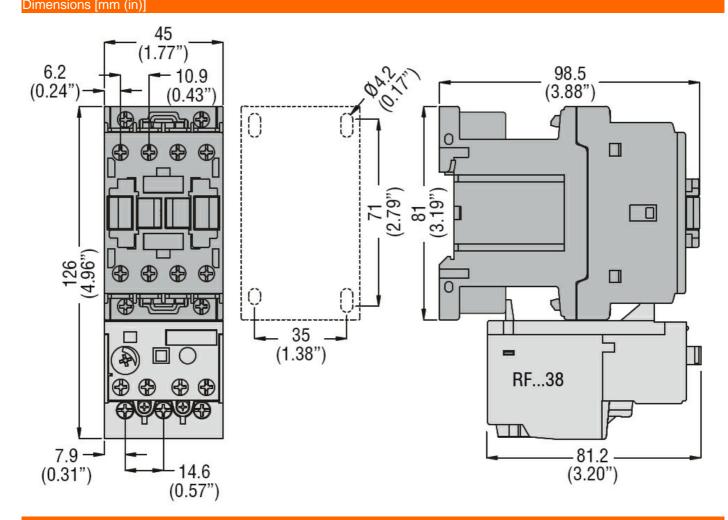
The characteristics described in this document are subject to updates or modifications at any time. The descriptions, technical and functional information, illustrations and instructions in this brochure are purely illustrative, and are consequently not contractually binding



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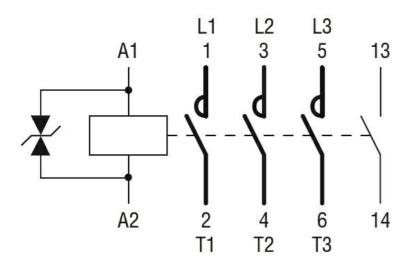
IE (AC3) = 12A	, DC COIL	24VDC,
1NO AU	XILIARY C	ONTACT

		DC voltage	V	250
		DC current	А	1
Short-circuit protectio	n fuse, 600V			
	High fault			
	-	Short circuit current	kA	100
		Fuse rating	А	30
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	А	70
Contact rating of auxil	liary 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	ion			
Pollution degree				3
Dimensions [mm (in)]				



Wiring diagrams





Certifications and compliance

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
	cULus
	EAC
ETIM classification	

ETIM 8.0

EC000066 -Power contactor, AC switching





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	6.2
	500V	kW	7.5
	690V	kW	10
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	А	17
	48V	А	15
	75V	А	13
	110V	А	6
	220V	А	-
IEC max current le in DC1 with $L/R \le 1$ ms with 2 poles in series			
	≤24V	А	20
	48V	А	20
	75V	А	18
	110V	А	13
	220V	А	1
IEC max current le in DC1 with $L/R \le 1$ ms with 3 poles in series			
	≤24V	А	22
	48V	А	22
	75V	А	20
	110V	А	16



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 48VDC, 1NO 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	А	16	
	220V	А	12	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series				
	≤24V	А	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	А	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	
	75V	A	15	
	110V	A	12	
	220V	A	6	
IEC max current le in DC3-DC5 with L/R \leq 15ms with 4 poles in series	2201	Λ	0	
	≤24V	А	15	
	48V	A	15	
	48V 75V	A	15	
	110V	A	16	
	220V	A	7	
Short-time allowable current for 10s (IEC/EN60947-1)	2201	A	150	
Protection fuse		A	150	
FIGLECHOLLUSE	gG (IEC)	۸	32	
		A		
Making consoity (DMS value)	aM (IEC)	A A	12	
Making capacity (RMS value)		A	120	
Breaking capacity at voltage	44014	۸	06	
	440V	A	96 06	
	500V	A	96 04	
	690V	<u>A</u>	94	
Resistance per pole (average value)		mΩ	2.5	
Power dissipation per pole (average value)			•	
	Ith	W	2	
	AC3	W	0.4	
Tightening torque for terminals			. –	
	min	Nm	1.5	
	max	Nm	1.8	
	min	Ibin	1.1	
	max	Ibin	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, DC COIL, 48VDC, 1NO AUXILIARY CONTACT

Max number of wires	simultaneously connectable	max	Ibin Nr.	0.74
Conductor section			INI.	2
	AWG/Kcmil			
		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 with insulated spade lug conductor section			
		min	mm²	1
		max	mm²	4
Power terminal prote	ction according to IEC/EN 60529			IP20 when
				properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rai
			~	35mm
Weight Conductor section			g	496
Conductor section	ANAC (kernil conductor contian			
	AWG/kcmil conductor section	mov		10
Auxiliary contact char	ractoristics	max		10
Thermal current Ith			А	10
IEC/EN 60947-5-1 de	esignation		Λ	A600 - P600
Operating current AC	-			7,000 1.000
operating ourrent / te		230V	А	3
		400V	A	1.9
		500V	A	1.4
		500V		
Operating current DC	:12	5007		
Operating current DC	212		А	5.7
		110V	А	5.7
Operating current DC Operating current DC		110V	A	
				5.7
		110V 24V	А	
		110V 24V 48V	A A	5.7 2.9
		110V 24V 48V 60V	A A A	5.7 2.9 2.3
		110V 24V 48V 60V 110V	A A A A	5.7 2.9 2.3 1.25
		110V 24V 48V 60V 110V 125V	A A A A	5.7 2.9 2.3 1.25 1.1
Operating current DC		110V 24V 48V 60V 110V 125V 220V	A A A A A	5.7 2.9 2.3 1.25 1.1 0.55
Operating current DC		110V 24V 48V 60V 110V 125V 220V	A A A A A	5.7 2.9 2.3 1.25 1.1 0.55
Operating current DC Operations Mechanical life		110V 24V 48V 60V 110V 125V 220V	A A A A A A	5.7 2.9 2.3 1.25 1.1 0.55 0.2
Operating current DC Operations Mechanical life Electrical life		110V 24V 48V 60V 110V 125V 220V	A A A A A A cycles	5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000
Operating current DC Operations Mechanical life Electrical life Safety related data		110V 24V 48V 60V 110V 125V 220V	A A A A A A cycles	5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000
Operating current DC Operations Mechanical life Electrical life Safety related data	213	110V 24V 48V 60V 110V 125V 220V	A A A A A A cycles	5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000
Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B	213 10d according to EN/ISO 13489-1 me	110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A cycles cycles	5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 2000000
Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B	213 10d according to EN/ISO 13489-1	110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A cycles cycles	5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 2000000

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BF1210D048 THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 48VDC,

1NO AUXILIARY CONTACT

DC rotad control volta				V	4.0
DC rated control voltage	je			V	48
DC operating voltage	pick-up				
	pick-up		min	%Us	70
			max	%Us	125
	drop-out		Παλ	/003	120
			min	%Us	10
			max	%Us	40
Average coil consump	tion ≤20°C		max	/000	
······································			in-rush	W	5.4
			holding	W	5.4
Max cycles frequency					
Mechanical operation				cycles/h	3600
Operating times				-,	
Average time for Us co	ontrol				
0	in AC				
		Closing NO			
		0 -	min	ms	8
			max	ms	24
		Opening NO			
			min	ms	10
			max	ms	20
		Closing NC			
		Ū.	min	ms	14
			max	ms	28
		Opening NC			
			min	ms	7
			max	ms	18
	in DC				
		Closing NO			
			min	ms	54
			max	ms	66
		Opening NO			
			min	ms	14
			max	ms	17
UL technical data					
Full-load current (FLA)	for three-phase A	C motor			
			at 480V	А	11
			at 600V	Α	11
Yielded mechanical pe					
	for single-phase	AC motor			
			110/120V	HP	1
			230V	HP	2
	for three-phase A	AC motor			
			200/208V	HP	5
			220/230V	HP	5
			460/480V	HP	7.5
			575/600V	HP	10
General USE					
	Contactor				
			AC current	Α	28
	Auxiliary contacts	S			
			AC voltage	V	600
			AC current	А	10

BF1210D048

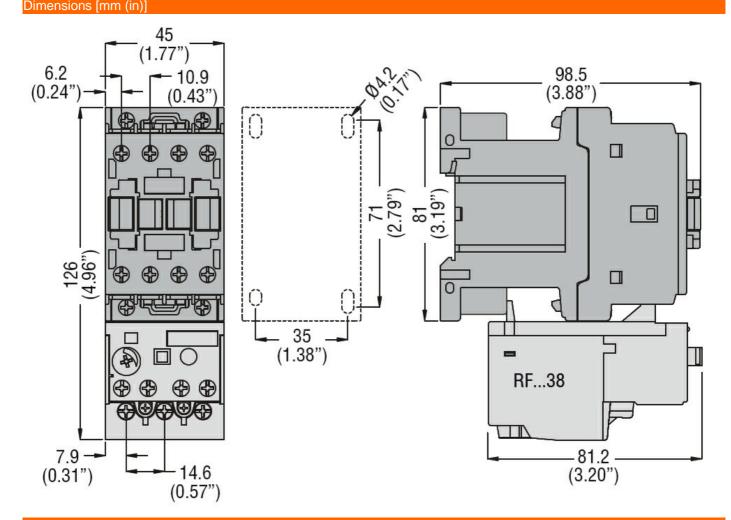
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BF1210D048 THREE-POLE CONTACTOR, IEC OPERATING CURRENT ',

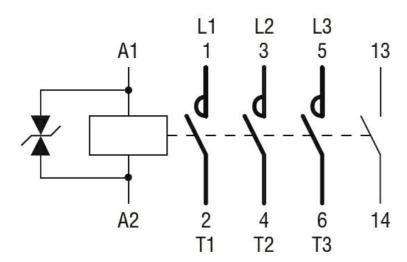
IE (AC3) =	12A,	DC	COII	_, 48	VDC
1NO	AUX	ILIA	RY (CON	ТАСТ

		DC voltage	V	250
		DC current	А	1
Short-circuit protectio	n fuse, 600V			
	High fault			
	-	Short circuit current	kA	100
		Fuse rating	А	30
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	А	70
Contact rating of auxil	liary 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	ion			
Pollution degree				3
Dimensions [mm (in)]				



Wiring diagrams





Certifications and compliance

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
	cULus
	EAC
ETIM classification	

ETIM 8.0

EC000066 -Power contactor, AC switching





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	6.2
	500V	kW	7.5
	690V	kW	10
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	А	17
	48V	А	15
	75V	А	13
	110V	А	6
	220V	А	-
IEC max current le in DC1 with $L/R \le 1$ ms with 2 poles in series			
	≤24V	А	20
	48V	А	20
	75V	А	18
	110V	А	13
	220V	А	1
IEC max current le in DC1 with $L/R \le 1$ ms with 3 poles in series			
	≤24V	А	22
	48V	А	22
	75V	А	20
	110V	А	16



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 60VDC, 1NO 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	А	16	
	220V	А	12	
IEC max current le in DC3-DC5 with $L/R \le 15$ ms with 1 poles in series				
	≤24V	А	12	
	48V	А	11	
	75V	А	10	
	110V	А	2	
	220V	A	-	
IEC max current le in DC3-DC5 with L/R \leq 15ms with 2 poles in series				
	≤24V	А	15	
	48V	А	13	
	75V	А	12	
	110V	А	8	
	220V	Α	2	
IEC max current le in DC3-DC5 with $L/R \le 15$ ms with 3 poles in series				
	≤24V	А	18	
	48V	А	18	
	75V	А	15	
	110V	А	12	
	220V	А	6	
IEC max current le in DC3-DC5 with $L/R \le 15$ ms with 4 poles in series				
	≤24V	А	15	
	48V	А	15	
	75V	А	15	
	110V	А	16	
	220V	А	7	
Short-time allowable current for 10s (IEC/EN60947-1)		А	150	
Protection fuse				
	gG (IEC)	А	32	
	aM (IEC)	А	12	
Making capacity (RMS value)		А	120	
Breaking capacity at voltage				
	440V	А	96	
	500V	А	96	
	690V	А	94	
Resistance per pole (average value)		mΩ	2.5	
Power dissipation per pole (average value)				
	lth	W	2	
	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	lbin	0.8	



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 60VDC, 1NO AUXILIARY CONTACT

Max number of wires	simultaneously connectable	max	Ibin Nr.	0.74
Conductor section			INI.	2
	AWG/Kcmil			
		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 with insulated spade lug conductor section			
		min	mm²	1
		max	mm²	4
Power terminal prote	ction according to IEC/EN 60529			IP20 when
				properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rai
			~	35mm
Weight Conductor section			g	496
Conductor section	ANAC (kernil conductor contian			
	AWG/kcmil conductor section	mov		10
Auxiliary contact char	ractoristics	max		10
Thermal current Ith			А	10
IEC/EN 60947-5-1 de	esignation		Λ	A600 - P600
Operating current AC	-			7,000 1.000
operating ourrent / te		230V	А	3
		400V	A	1.9
		500V	A	1.4
		500V		
Operating current DC	:12	5007		
Operating current DC	212		А	5.7
		110V	А	5.7
Operating current DC Operating current DC		110V	A	
				5.7
		110V 24V	А	
		110V 24V 48V	A A	5.7 2.9
		110V 24V 48V 60V	A A A	5.7 2.9 2.3
		110V 24V 48V 60V 110V	A A A A	5.7 2.9 2.3 1.25
		110V 24V 48V 60V 110V 125V	A A A A	5.7 2.9 2.3 1.25 1.1
Operating current DC		110V 24V 48V 60V 110V 125V 220V	A A A A A	5.7 2.9 2.3 1.25 1.1 0.55
Operating current DC		110V 24V 48V 60V 110V 125V 220V	A A A A A	5.7 2.9 2.3 1.25 1.1 0.55
Operating current DC Operations Mechanical life		110V 24V 48V 60V 110V 125V 220V	A A A A A A	5.7 2.9 2.3 1.25 1.1 0.55 0.2
Operating current DC Operations Mechanical life Electrical life		110V 24V 48V 60V 110V 125V 220V	A A A A A A cycles	5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000
Operating current DC Operations Mechanical life Electrical life Safety related data		110V 24V 48V 60V 110V 125V 220V	A A A A A A cycles	5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000
Operating current DC Operations Mechanical life Electrical life Safety related data	213	110V 24V 48V 60V 110V 125V 220V	A A A A A A cycles	5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000
Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B	213 10d according to EN/ISO 13489-1 me	110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A cycles cycles	5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 2000000
Operating current DC Operations Mechanical life Electrical life Safety related data Performance level B	213 10d according to EN/ISO 13489-1	110V 24V 48V 60V 110V 125V 220V 600V	A A A A A A cycles cycles	5.7 2.9 2.3 1.25 1.1 0.55 0.2 20000000 2000000

BF1210D060



BF1210D060 THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 60VDC,

1NO AUXILIARY CONTACT

				.,	
DC rated control voltage	je			V	60
DC operating voltage					
	pick-up			0/11-	70
			min	%Us	70
			max	%Us	125
	drop-out			o (1 1	
			min	%Us	10
			max	%Us	40
Average coil consump	tion ≤20°C				- /
			in-rush	W	5.4
			holding	W	5.4
Max cycles frequency					
Mechanical operation				cycles/h	3600
Operating times					
Average time for Us co					
	in AC				
		Closing NO			
			min	ms	8
		_	max	ms	24
		Opening NO			
			min	ms	10
			max	ms	20
		Closing NC			
			min	ms	14
			max	ms	28
		Opening NC			
			min	ms	7
			max	ms	18
	in DC				
		Closing NO			
			min	ms	54
			max	ms	66
		Opening NO			
			min	ms	14
			max	ms	17
UL technical data					
Full-load current (FLA)	tor three-phase AC	motor		-	
			at 480V	A	11
			at 600V	Α	11
Yielded mechanical pe		_			
	for single-phase A	C 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
			575/600V	HP	10
General USE					
	Contactor				
			AC current	Α	28
	Auxiliary contacts				
			AC voltage	V	600
			AC current	А	10

BF1210D060

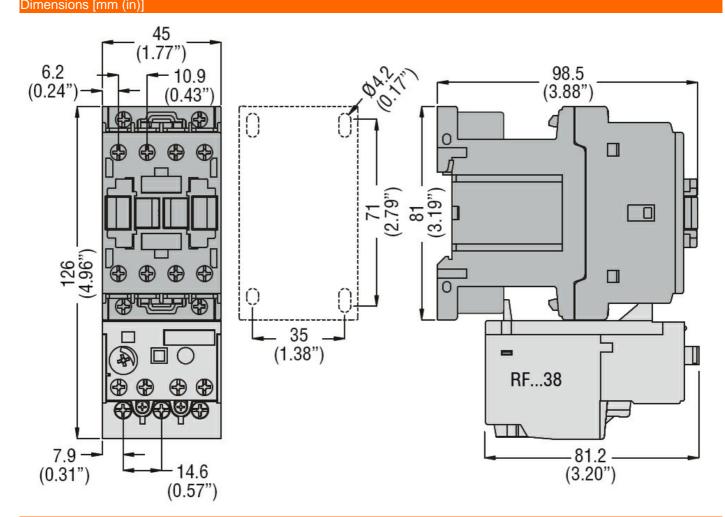
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BF1210D060 THREE-POLE CONTACTOR, IEC OPERATING CURRENT

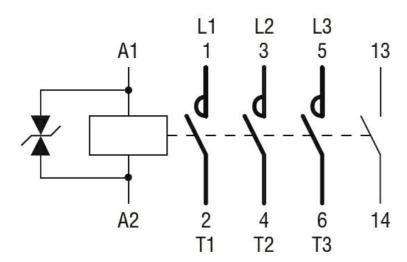
Г IE (AC3) = 12А, DC CC	IL, 60VDC,
1NO AUXILIARY	CONTACT

		DC voltage	V	250
		DC current	А	1
Short-circuit protectio	n fuse, 600V			
	High fault			
	-	Short circuit current	kA	100
		Fuse rating	А	30
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	А	70
Contact rating of auxil	iary 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	ion			
Pollution degree				3
Dimensions [mm (in)]				



Wiring diagrams





Certifications and compliance

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
	cULus
	EAC
ETIM classification	

ETIM 8.0

EC000066 -Power contactor, AC switching





Product designation			Power contactor
Product type designation			BF12
Contact characteristics		N I	2
Number of poles		Nr.	3
Rated insulation voltage Ui IEC/EN		V	690
Rated impulse withstand voltage Uimp		kV	6
Operational frequency			0.5
	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith		A	28
Operational current le			
	AC-1 (≤40°C)	A	28
	AC-1 (≤55°C)	A	23
	AC-1 (≤70°C)	A	20
	AC-3 (≤440V ≤55°C)	А	12
	AC-4 (400V)	A	7.9
Rated operational power AC-3 (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
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	А	17
	48V	А	15
	75V	A	13
	110V	А	6
	220V	A	_
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
	≤24V	А	20
	48V	A	20
	46V 75V	A	18
	110V	A	13
	220V	A	1
IEC max current le in DC1 with L/R \leq 1ms with 3 poles in series	2200	A	I
$1 \ge 0$ max current le in DOT with $2/7 \ge 1005$ with 3 poles in selles	~0 AV /	٨	22
	≤24V	A	22
	48V	A	22
	75V	A	20
	110V	А	16



THREE-POLE CONTACTOR, IEC OPERAT 0VDC, **1NO AUXILIARY CONTACT**

	BF12	10D110
TING CURRENT IE (AC3) = 12A, DC	COIL,	110VDC,

	220V	А	11
IEC max current le in DC1 with $L/R \le 1$ ms with 4 poles in series			
	≤24V	Α	20
	48V	А	20
	75V	А	20
	110V	А	16
	220V	Α	12
IEC max current le in DC3-DC5 with $L/R \le 15$ ms with 1 poles in series			
	≤24V	А	12
	48V	А	11
	75V	А	10
	110V	А	2
	220V	Α	_
IEC max current le in DC3-DC5 with $L/R \le 15$ ms with 2 poles in series			
	≤24V	А	15
	48V	А	13
	75V	А	12
	110V	А	8
	220V	Α	2
IEC max current le in DC3-DC5 with L/R \leq 15ms with 3 poles in series			
	≤24V	А	18
	48V	А	18
	75V	А	15
	110V	А	12
	220V	Α	6
IEC max current le in DC3-DC5 with $L/R \le 15$ ms with 4 poles in series			
	≤24V	А	15
	48V	А	15
	75V	Α	15
	110V	А	16
	220V	Α	7
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150
Protection fuse			
	gG (IEC)	А	32
	aM (IEC)	А	12
Making capacity (RMS value)		Α	120
Breaking capacity at voltage			
	440V	А	96
	500V	А	96
	690V	А	94
Resistance per pole (average value)		mΩ	2.5
Power dissipation per pole (average value)			
	Ith	W	2
	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		Ibin	
Tightening torque for coil terminal		lbin Nm	0.8
Tightening torque for coil terminal	max		



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 110VDC, 1NO AUXILIARY CONTACT

BF1210D110

lbin 0.74 max Max number of wires simultaneously connectable Nr. 2 Conductor section AWG/Kcmil max 10 Flexible w/o lug conductor section min mm² 1 mm² 6 max Flexible c/w lug conductor section 1 min mm² max mm² 4 Flexible with insulated spade lug conductor section mm² 1 min 4 max mm² IP20 when Power terminal protection according to IEC/EN 60529 properly wired Mechanical features Operating position Vertical plan normal ±30° allowable Screw / DIN rail Fixing 35mm Weight 494 g Conductor section AWG/kcmil conductor section 10 max Auxiliary contact characteristics Thermal current Ith А 10 IEC/EN 60947-5-1 designation A600 - P600 Operating current AC15 230V А 3 400V 1.9 А 500V А 1.4 Operating current DC12 110V А 5.7 **Operating current DC13** 24V А 5.7 48V А 2.9 60V А 2.3 110V А 1.25 125V А 1.1 220V А 0.55 600V 0.2 А Operations Mechanical life 20000000 cycles Electrical life 2000000 cycles Safety related data Performance level B10d according to EN/ISO 13489-1 2000000 rated load cycles mechanical load 20000000 cycles Mirror contats according to IEC/EN 609474-4-1 yes EMC compatibility yes DC coil operating

BF1210D110



BF1210D110 THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 110VDC,

1NO AUXILIARY CONTACT

DC rated control voltag	10			V	110
DC operating voltage	je			v	110
Do operating voltage	pick-up				
	pick-up		min	%Us	70
			max	%Us	125
	drop-out		Παλ	/003	125
	ulop-out		min	%Us	10
			max	%Us	40
Average coil consumption	tion <20°C		Παλ	/003	40
Average con consump			in-rush	W	5.4
			holding	W	5.4 5.4
Max cycles frequency			noiding	VV	5.4
				ovelee/b	2600
Mechanical operation				cycles/h	3600
Operating times	untere l				
Average time for Us co					
	in AC				
		Closing NO			•
			min	ms	8
			max	ms	24
		Opening NO			
			min	ms	10
		a .	max	ms	20
		Closing NC			
			min	ms	14
			max	ms	28
		Opening NC			
			min	ms	7
			max	ms	18
	in DC				
		Closing NO			
			min	ms	54
			max	ms	66
		Opening NO			
			min	ms	14
			max	ms	17
UL technical data					
Full-load current (FLA)	for three-phase AC	notor			
			at 480V	A	11
			at 600V	А	11
Yielded mechanical pe					
	for single-phase AC	C 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
			575/600V	HP	10
General USE					
	Contactor				
			AC current	А	28
	Auxiliary contacts		• • • •		
	, <u>,</u>		AC voltage	V	600
			AC current	Â	10
					-

BF1210D110

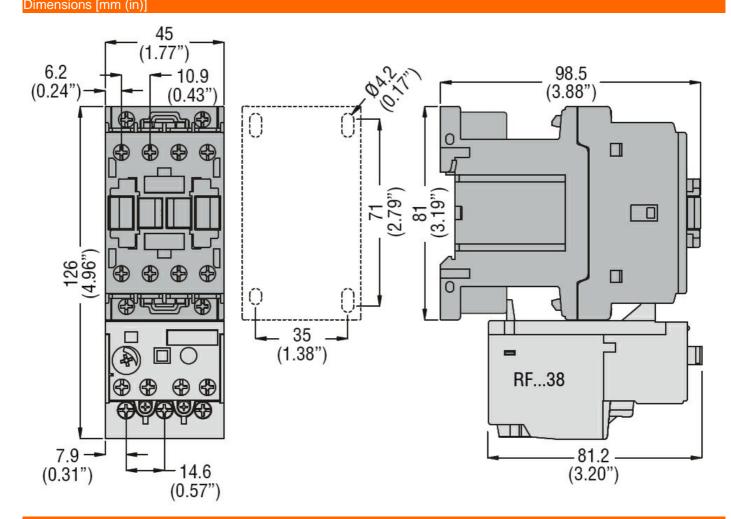
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BF1210D110 THREE-POLE CONTACTOR, IEC OPERATING CURRENT I

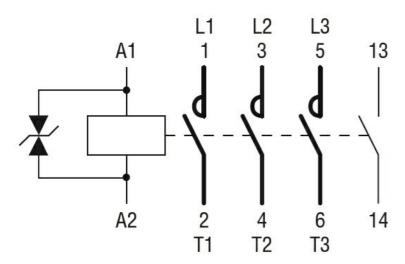
IE (AC3) = 12A, DC COIL, 110VDC,
1NO AUXILIARY CONTACT

		DC voltage	V	250
		DC current	А	1
Short-circuit protection	n fuse, 600V			
	High fault			
	-	Short circuit current	kA	100
		Fuse rating	А	30
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	А	70
Contact rating of auxil	iary 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 & Protecti	on			
Pollution degree				3
Dimensions [mm (in)]				



Wiring diagrams





Certifications and compliance

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
	cULus
	EAC
ETIM classification	

ETIM 8.0

EC000066 -Power contactor, AC switching





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)	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	6.2
	500V	kW	7.5
	690V	kW	10
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	А	17
	48V	А	15
	75V	А	13
	110V	А	6
	220V	А	-
EC max current le in DC1 with $L/R \le 1$ ms with 2 poles in series			
	≤24V	А	20
	48V	А	20
	75V	А	18
	110V	А	13
	220V	А	1
IEC max current le in DC1 with $L/R \le 1$ ms with 3 poles in series			
	≤24V	А	22
	48V	А	22
	75V	А	20
	110V	А	16



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 125VDC, 1NO AUXILIARY CONTACT

	BF1210D125
OPERATING CURRENT IE (AC3) = 12A	, DC COIL, 125VDC,

	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	А	16	
	220V	А	12	
IEC max current le in DC3-DC5 with L/R \leq 15ms with 1 poles in series				
	≤24V	А	12	
	48V	А	11	
	75V	А	10	
	110V	А	2	
	220V	А	_	
IEC max current le in DC3-DC5 with L/R \leq 15ms with 2 poles in series				
	≤24V	А	15	
	48V	А	13	
	75V	А	12	
	110V	А	8	
	220V	А	2	
IEC max current le in DC3-DC5 with L/R \leq 15ms with 3 poles in series				
	≤24V	А	18	
	48V	А	18	
	75V	А	15	
	110V	А	12	
	220V	А	6	
IEC max current le in DC3-DC5 with L/R \leq 15ms with 4 poles in series				
	≤24V	А	15	
	48V	А	15	
	75V	А	15	
	110V	А	16	
	220V	Α	7	
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150	
Protection fuse				
	gG (IEC)	А	32	
	aM (IEC)	А	12	
Making capacity (RMS value)		A	120	
Breaking capacity at voltage				
	440V	A	96	
	500V	А	96	
	690V	A	94	
Resistance per pole (average value)		mΩ	2.5	
Power dissipation per pole (average value)				
	Ith	W	2	
	AC3	W	0.4	
Tightening torque for terminals			4 5	
	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	lbin	0.8	



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 125VDC, 1NO AUXILIARY CONTACT

BF1210D125

		max	lbin	0.74
	simultaneously connectable		Nr.	2
Conductor section	AWG/Kcmil			
	AWG/KCIIII	may		10
	Flexible w/o lug conductor section	max		10
	Flexible w/o lug conductor section	min	mm²	1
		max	mm²	6
	Flexible c/w lug conductor section	Шах		0
		min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section			•
	· · · · · · · · · · · · · · · · · · ·	min	mm²	1
		max	mm²	4
Device a termeria el aracte				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 rai
				35mm
Weight			g	500
Conductor section				
	AWG/kcmil conductor section			
		max		10
Auxiliary contact chai	racteristics		•	4.0
Thermal current Ith			A	10
IEC/EN 60947-5-1 de	-			A600 - P600
Operating current AC	/15	0001		0
		230V	A	3
		400V 500V	A	1.9
Operating ourrest DC	10	5000	A	1.4
Operating current DC		110V	۸	5.7
		1100	A	5.7
Operating ourrest DC	N10			
Operating current DC	213	2417	٨	57
Operating current DC	213	24V	A	5.7
Operating current DC	213	48V	А	2.9
Operating current DC	213	48V 60V	A A	2.9 2.3
Operating current DC	213	48V 60V 110V	A A A	2.9 2.3 1.25
Operating current DC	213	48V 60V 110V 125V	A A A A	2.9 2.3 1.25 1.1
Operating current DC	213	48V 60V 110V 125V 220V	A A A A	2.9 2.3 1.25 1.1 0.55
	213	48V 60V 110V 125V	A A A A	2.9 2.3 1.25 1.1
Operations	213	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	213	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	213	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 cycles	2.9 2.3 1.25 1.1 0.55 0.2 20000000 2000000
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 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	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



BF1210D125 THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 125VDC,

1NO AUXILIARY CONTACT

DC rated control voltag	1e			V	125
DC operating voltage	,			•	120
p =	pick-up				
	hh		min	%Us	70
			max	%Us	125
	drop-out			,	
			min	%Us	10
			max	%Us	40
Average coil consump	tion ≤20°C				-
······································			in-rush	W	5.4
			holding	W	5.4
Max cycles frequency					
Mechanical operation				cycles/h	3600
Operating times				eyelee/11	0000
Average time for Us co	ontrol				
/werage and for 05 oc	in AC				
	III AO	Closing NO			
			min	ms	8
			max	ms	24
		Opening NO	Παλ	1113	<u>~</u> 7
			min	ms	10
			max	ms	20
		Closing NC	Παλ	1113	20
			min	ms	14
					28
		Opening NC	max	ms	20
		Opening NC	min	m 0	7
			min	ms	7 18
	in DC		max	ms	10
	IN DC				
		Closing NO	min	m 0	54
			min	ms	54 66
			max	ms	00
		Opening NO	min		4.4
			min	ms	14
			max	ms	17
UL technical data	for the combined A	· motor			
Full-load current (FLA)	for three-phase AC		- (400) /		44
			at 480V	A	11
Vialdad market structure!			at 600V	Α	11
Yielded mechanical pe		O motor			
	for single-phase A	ac motor			4
			110/120V	HP	1
	<u> </u>	2	230V	HP	2
	for three-phase A	C motor			_
			200/208V	HP	5
			220/230V	HP	5
			460/480V	HP	7.5
			575/600V	HP	10
General USE					
	Contactor				
			AC current	А	28
	Auxiliary contacts				
			AC voltage	V	600
			AC current	Α	10

BF1210D125

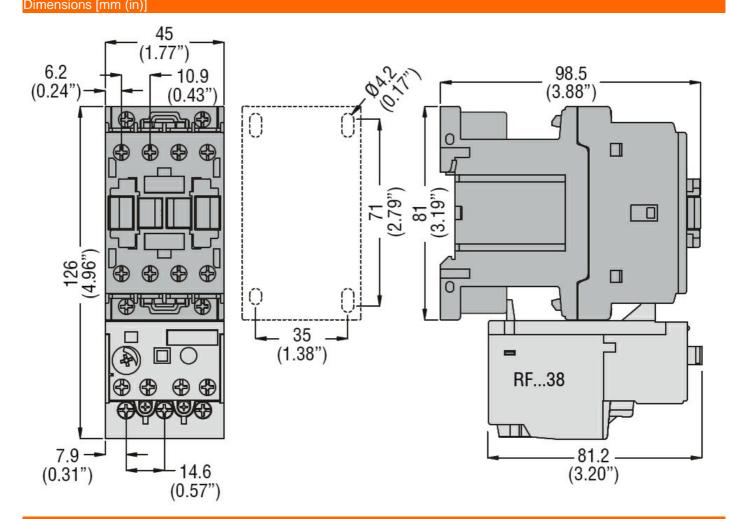
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BF1210D125 THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 125VDC,

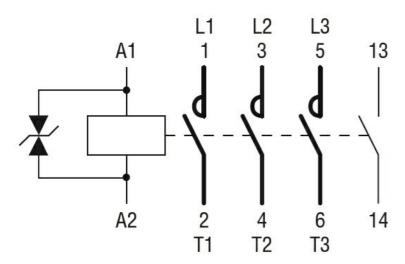
1NO AUXILIARY CONTACT

		DC voltage	V	250
		DC current	А	1
Short-circuit protectio	n fuse, 600V			
	High fault			
	-	Short circuit current	kA	100
		Fuse rating	А	30
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	А	70
Contact rating of auxil	liary 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	ion			
Pollution degree				3
Dimensions (mm (in))				



Wiring diagrams





Certifications and compliance

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
	cULus
	EAC
ETIM classification	

ETIM 8.0

EC000066 -Power contactor, AC switching





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)	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	6.2
	500V	kW	7.5
	690V	kW	10
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	А	17
	48V	А	15
	75V	А	13
	110V	А	6
	220V	А	-
EC max current le in DC1 with $L/R \le 1$ ms with 2 poles in series			
	≤24V	А	20
	48V	А	20
	75V	А	18
	110V	А	13
	220V	А	1
IEC max current le in DC1 with $L/R \le 1$ ms with 3 poles in series			
	≤24V	А	22
	48V	А	22
	75V	А	20
	110V	А	16



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 220VDC, 1NO AUXILIARY CONTACT

	BF1210D220
OPERATING CURRENT IE (AC3) = 12A,	DC COIL, 220VDC,

	220V	А	11
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	А	20
	48V	А	20
	75V	А	20
	110V	А	16
	220V	А	12
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
· ·	≤24V	А	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	A	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	~	2
	≤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	A	0
TEC max current le in DC3-DC3 with E/K = 15ms with 4 poles in series	≤24V	А	15
	≤24V 48V		
	40V 75V	A	15
		A	15
	110V	A	16
Chart time allowable surrout for 40s (IEC/ENC0047.4)	220V	<u>A</u>	7
Short-time allowable current for 10s (IEC/EN60947-1)		A	150
Protection fuse		•	
	gG (IEC)	A	32
	aM (IEC)	<u>A</u>	12
Making capacity (RMS value)		Α	120
Breaking capacity at voltage		•	
	440V	A	96
	500V	A	96
	690V	A	94
Resistance per pole (average value)		mΩ	2.5
Power dissipation per pole (average value)			
	Ith	W	2
	AC3	W	0.4
Tightening torque for terminals			
	min	Nm	1.5
	max	Nm	1.8
	min	Ibin	1.1
	max	Ibin	1.5
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	Ibin	0.8

BF1210D220



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 220VDC, 1NO AUXILIARY CONTACT

BF1210D220

		max	lbin	0.74
	simultaneously connectable		Nr.	2
Conductor section	AWG/Kcmil			
	AWG/KCIIII	may		10
	Flexible w/o lug conductor section	max		10
	Flexible w/o lug conductor section	min	mm²	1
		max	mm²	6
	Flexible c/w lug conductor section	Шах		0
		min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conductor section			•
	· · · · · · · · · · · · · · · · · · ·	min	mm²	1
		max	mm²	4
Device a termeria el aracte				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 rai
				35mm
Weight			g	500
Conductor section				
	AWG/kcmil conductor section			
		max		10
Auxiliary contact chai	racteristics		•	4.0
Thermal current Ith			A	10
IEC/EN 60947-5-1 de	-			A600 - P600
Operating current AC	/15	0001		0
		230V	A	3
		400V 500V	A	1.9
Operating ourrest DC	10	5000	A	1.4
Operating current DC		110V	۸	5.7
		1100	A	5.7
Operating ourrest DC	N10			
Operating current DC	213	2417	٨	57
Operating current DC	213	24V	A	5.7
Operating current DC	213	48V	А	2.9
Operating current DC	213	48V 60V	A A	2.9 2.3
Operating current DC	213	48V 60V 110V	A A A	2.9 2.3 1.25
Operating current DC	213	48V 60V 110V 125V	A A A A	2.9 2.3 1.25 1.1
Operating current DC	213	48V 60V 110V 125V 220V	A A A A	2.9 2.3 1.25 1.1 0.55
	213	48V 60V 110V 125V	A A A A	2.9 2.3 1.25 1.1
Operations	213	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	213	48V 60V 110V 125V 220V	A A A A A A cycles	2.9 2.3 1.25 1.1 0.55 0.2 20000000
Operations Mechanical life Electrical life	213	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 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 cycles	2.9 2.3 1.25 1.1 0.55 0.2 20000000 2000000
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 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	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



BF1210D220 THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 220VDC,

1NO AUXILIARY CONTACT

DC rated control voltage				V	220
DC operating voltage	Je			v	220
De operating voltage	pick-up				
	pick up		min	%Us	70
			max	%Us	125
	drop-out			/000	120
			min	%Us	10
			max	%Us	40
Average coil consump	tion ≤20°C				
			in-rush	W	5.4
			holding	W	5.4
Max cycles frequency					
Mechanical operation				cycles/h	3600
Operating times					
Average time for Us co	ontrol				
	in AC				
		Closing NO			
			min	ms	8
			max	ms	24
		Opening NO			
			min	ms	10
			max	ms	20
		Closing NC			
			min	ms	14
			max	ms	28
		Opening NC			_
			min	ms	7
			max	ms	18
	in DC				
		Closing NO	min	ma	54
			max	ms	54 66
		Opening NO	max	ms	00
		Opening NO	min	ms	14
			max	ms	17
UL technical data			Шах	1113	17
Full-load current (FLA)	for three-phase 4	AC motor			
			at 480V	А	11
			at 600V	A	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
			575/600V	HP	10
General USE					
	Contactor				
			AC current	А	28
	Auxiliary contact	ts			
	-		AC voltage	V	600
			AC current	А	10

BF1210D220

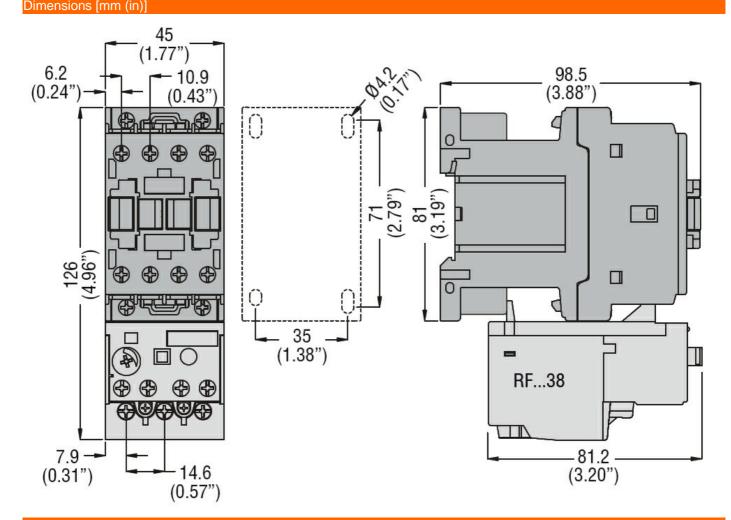
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BF1210D220 THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL, 220VDC,

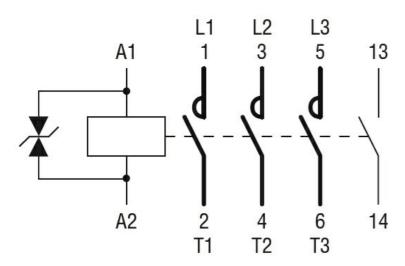
1NO AUXILIARY CONTACT

		DC voltage	V	250
		DC current	А	1
Short-circuit protectic	on fuse, 600V			
-	High fault			
	0	Short circuit current	kA	100
		Fuse rating	А	30
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	А	70
Contact rating of auxi	liary 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

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
	cULus
	EAC
ETIM classification	

ETIM 8.0

EC000066 -Power contactor, AC switching