



Product designation			Power contactor
Product type designation			BF50
Contact characteristics			
Number of poles		Nr.	3
Rated insulation voltage Ui IEC/EN		V	1000
Rated impulse withstand voltage Uimp		kV	8
Operational frequency			
	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith	max	A	90
Operational current le			
	AC-1 (≤40°C)	А	90
	AC-1 (≤55°C)	A	75
	AC-1 (≤70°C)	A	65
	AC-3 (≤440V ≤55°C)	A	50
	AC-4 (400V)	A	28
Rated operational power AC-3 (T≤55°C)	70-4 (4007)	~	20
	230V	kW	15
	230V 400V	kW	22
	400V 415V	kW	30
	413V 440V	kW	30
	440V 500V		
	690V	kW kW	30 37
	1000V	kW	22
Rated operational current AC-3 (T≤55°C)	1000 v	K V V	22
Rated operational current AC-5 (1255 C)	230V	۸	50
		A	
	400V 415V	A	50
		A	50
	440V	A	50
	500V	A	44
	690V	A	39
	1000V	A	23
Rated operational power AC-1 (T≤40°C)	0001/		<b>.</b>
	230V	kW	34
	400V	kW	59
	500V	kW	74
	690V	kW	102
IEC max current le in DC1 with $L/R \le 1$ ms with 1 poles in series			
	≤24V	A	45
	48V	A	40
	75V	A	40
	110V	A	8
	220V	A	_
IEC max current le in DC1 with $L/R \le 1$ ms with 2 poles in series			
	≤24V	А	60



BF5000E110 THREE-P ., C

POLE	CONTACTOR, IEC	<b>OPERATING CUI</b>	RRENT IE (A	4C3) =	= 50A, AC/D	C COIL,
					60110	VAC/DC
			48V	Δ	60	
			40 V	~	00	

	48V	А	60
	75V	А	60
	110V	А	50
	220V	А	7
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			
	≤24V	А	60
	48V	А	60
	75V	A	60
	110V	A	55
	220V	A	75
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series	2201		10
	≤24V	А	60
	48V	A	60
	46V 75V	A	60
	110V	A	60
	220V	A	90
IEC max current le in DC3-DC5 with $L/R \le 15$ ms with 1 poles in series	-0.0.4		
	≤24V	A	30
	48V	A	25
	75V	А	22
	110V	А	3
	220V	А	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	А	35
	48V	А	35
	75V	А	30
	110V	А	25
	220V	А	5
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
· ·	≤24V	А	50
	48V	A	50
	75V	A	45
	110V	A	30
	220V	A	40
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series	2200	Λ	40
TEC max current le in DC5-DC5 with E/IC3 Toms with 4 poles in series	<241/	۸	<b>FF</b>
	≤24V	A	55 55
	48V	A	55
	75V	A	55
	110V	A	45
	220V	A	50
Short-time allowable current for 10s (IEC/EN60947-1)		A	400
Protection fuse			
	gG (IEC)	А	100
	aM (IEC)	А	50
Making capacity (RMS value)		А	500
Breaking capacity at voltage			
	440V	А	400
	500V	А	352
	690V	A	312
Resistance per pole (average value)		mΩ	0.8
Power dissipation per pole (average value)			
	lth	W	6.5
	AC-3	W	2
Tightening torque for terminals	AC-3	V V	<u>د</u>

## Tightening torque for terminals



BF5000E110 THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 50A, AC/DC COIL, 60...110VAC/DC

		min	Nm	4
		max	Nm	5
		min	Ibin	2.95
		max	Ibin	3.69
Tightening torque for a	coil terminal			
		min	Nm	0.8
		max	Nm	1
		min	Ibin	0.8
		max	Ibin	0.74
Max number of wires	simultaneously connectable	Шал	Nr.	2
			INI.	2
Conductor section				
	AWG/Kcmil			_
		max		2
	Flexible w/o lug conductor section			
		min	mm²	1.5
		max	mm²	35
	Flexible c/w lug conductor section			
	č	min	mm²	1.5
		max	mm²	35
Power terminal protec	ction according to IEC/EN 60529	max		IP20 front
Mechanical features				11 20 11011
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail
Maight			~	35mm
Weight			g	1060
Weight Conductor section			g	
-	AWG/kcmil conductor section		g	1060
Conductor section	AWG/kcmil conductor section	max	g	
-	AWG/kcmil conductor section	max	g	1060
Conductor section	AWG/kcmil conductor section	max	g	1060
Conductor section Operations	AWG/kcmil conductor section	max	cycles	2
Conductor section Operations Mechanical life Electrical life	AWG/kcmil conductor section	max		1060 2 15000000
Conductor section Operations Mechanical life Electrical life Safety related data		max	cycles	1060 2 15000000
Conductor section Operations Mechanical life Electrical life Safety related data	AWG/kcmil conductor section 0d according to EN/ISO 13489-1		cycles cycles	1060 2 15000000 1400000
Conductor section Operations Mechanical life Electrical life Safety related data		rated load	cycles cycles cycles	1060 2 15000000 1400000 1400000
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1	0d according to EN/ISO 13489-1		cycles cycles	1060 2 15000000 1400000 1400000 15000000
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi		rated load	cycles cycles cycles	1060 2 15000000 1400000 1400000 15000000 yes
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility	0d according to EN/ISO 13489-1	rated load	cycles cycles cycles	1060 2 15000000 1400000 1400000 15000000
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi	0d according to EN/ISO 13489-1	rated load	cycles cycles cycles	1060 2 15000000 1400000 1400000 15000000 yes
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility	0d according to EN/ISO 13489-1 ing to IEC/EN 609474-4-1	rated load	cycles cycles cycles	1060 2 15000000 1400000 1400000 15000000 yes
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility AC coil operating	0d according to EN/ISO 13489-1 ing to IEC/EN 609474-4-1	rated load	cycles cycles cycles	1060 2 15000000 1400000 1400000 15000000 yes
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility AC coil operating	0d according to EN/ISO 13489-1 ing to IEC/EN 609474-4-1	rated load mechanical load	cycles cycles cycles cycles	1060 2 15000000 1400000 1400000 15000000 yes yes
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility AC coil operating Rated AC voltage at 5	0d according to EN/ISO 13489-1 ing to IEC/EN 609474-4-1	rated load mechanical load min	cycles cycles cycles cycles	1060 2 15000000 1400000 1400000 15000000 yes yes yes
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility AC coil operating	0d according to EN/ISO 13489-1 ing to IEC/EN 609474-4-1 50/60Hz, 60Hz	rated load mechanical load min	cycles cycles cycles cycles V	1060 2 15000000 1400000 1400000 15000000 yes yes yes
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility AC coil operating Rated AC voltage at 5	0d according to EN/ISO 13489-1 ing to IEC/EN 609474-4-1 50/60Hz, 60Hz of 50/60Hz coil powered at 50Hz	rated load mechanical load min	cycles cycles cycles cycles V	1060 2 15000000 1400000 1400000 15000000 yes yes yes
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility AC coil operating Rated AC voltage at 5	0d according to EN/ISO 13489-1 ing to IEC/EN 609474-4-1 50/60Hz, 60Hz	rated load mechanical load min max	cycles cycles cycles cycles V V	1060 2 15000000 1400000 1400000 15000000 yes yes yes 60 110
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility AC coil operating Rated AC voltage at 5	0d according to EN/ISO 13489-1 ing to IEC/EN 609474-4-1 50/60Hz, 60Hz of 50/60Hz coil powered at 50Hz	rated load mechanical load min max	cycles cycles cycles cycles V V V	1060 2 15000000 1400000 1400000 15000000 yes yes yes 60 110 80 Us min
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility AC coil operating Rated AC voltage at 5	0d according to EN/ISO 13489-1 ing to IEC/EN 609474-4-1 50/60Hz, 60Hz of 50/60Hz coil powered at 50Hz pick-up	rated load mechanical load min max	cycles cycles cycles cycles V V	1060 2 15000000 1400000 1400000 15000000 yes yes yes 60 110
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility AC coil operating Rated AC voltage at 5	0d according to EN/ISO 13489-1 ing to IEC/EN 609474-4-1 50/60Hz, 60Hz of 50/60Hz coil powered at 50Hz	rated load mechanical load min max	cycles cycles cycles cycles V V V	1060 2 15000000 1400000 1400000 15000000 yes yes yes 60 110 80 Us min 110 Us max
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility AC coil operating Rated AC voltage at 5	0d according to EN/ISO 13489-1 ing to IEC/EN 609474-4-1 50/60Hz, 60Hz of 50/60Hz coil powered at 50Hz pick-up	rated load mechanical load min max	cycles cycles cycles cycles V V V	1060 2 15000000 1400000 1400000 15000000 yes yes yes 60 110 80 Us min
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility AC coil operating Rated AC voltage at 5	0d according to EN/ISO 13489-1 ing to IEC/EN 609474-4-1 50/60Hz, 60Hz of 50/60Hz coil powered at 50Hz pick-up	rated load mechanical load min max	cycles cycles cycles cycles V V V	1060 2 15000000 1400000 1400000 15000000 yes yes yes 60 110 80 Us min 110 Us max
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility AC coil operating Rated AC voltage at 5	0d according to EN/ISO 13489-1 ing to IEC/EN 609474-4-1 50/60Hz, 60Hz of 50/60Hz coil powered at 50Hz pick-up drop-out of 50/60Hz coil powered at 60Hz	rated load mechanical load min max	cycles cycles cycles cycles V V V	1060 2 15000000 1400000 1400000 15000000 yes yes yes 60 110 80 Us min 110 Us max
Conductor section Operations Mechanical life Electrical life Safety related data Performance level B1 Mirror contats accordi EMC compatibility AC coil operating Rated AC voltage at 5	0d according to EN/ISO 13489-1 ing to IEC/EN 609474-4-1 50/60Hz, 60Hz of 50/60Hz coil powered at 50Hz pick-up drop-out	rated load mechanical load min max	cycles cycles cycles cycles V V V	1060 2 15000000 1400000 1400000 15000000 yes yes yes 60 110 80 Us min 110 Us max

BF5000E110

**BF5000E110** 



THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 50A, AC/DC COIL, 60...110VAC/DC

			max	%Us	110 Us max
		drop-out	max	%Us	≤70 Us min
AC average coil consu	mption at 20°C		Пах	/000	
	of 50/60Hz coil power	red at 50Hz			
			in-rush	VA	35120
			holding	VA	1.53.7
	of 50/60Hz coil power	red at 60Hz			
			in-rush	VA	35120
			holding	VA	1.53.7
Dissipation at holding ≤	≤20°C 50Hz			W	12.5
DC coil operating					
DC rated control voltag	je				
			min	V	60
			max	V	110
DC operating voltage					
	pick-up				
			min	%Us	80 Us min
			max	%Us	110 Us max
	drop-out			0/110	
Average coil consumpt	tion <20°C		max	%Us	≤70 Us min
Average con consumpt			in-rush	W	2368
			holding	W	2308 1.21,9
Max cycles frequency			Totaling	vv	1.21,3
Mechanical operation				cycles/h	1500
Operating times				0,000,11	1000
Average time for Us co	ontrol				
	in AC				
		Closing NO			
		0	min	ms	12
			max	ms	28
		Opening NO			
			min	ms	8
			max	ms	22
	in DC				
		Closing NO			
		Closing NO	min	ms	40
			min max	ms ms	40 85
		Closing NO Opening NO	max	ms	85
			max min	ms ms	85 20
			max	ms	85
UL technical data	for three phase AC ma	Opening NO	max min	ms ms	85 20
UL technical data Full-load current (FLA)	for three-phase AC mo	Opening NO	max min	ms ms	85 20

Yielded

l mechanica	l performance				
	for single-phase AC motor				
		110/120V	HP	5	
		230V	HP	10	
	for three-phase AC motor				
		200/208V	HP	15	
		220/230V	HP	20	
		460/480V	HP	40	

at 600V

А

41

BF5000E110

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

BF5000E110



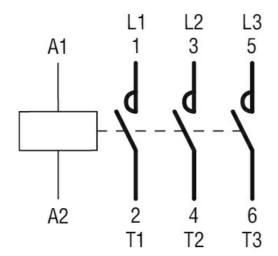
THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 50A, AC/DC COIL,

60...110VAC/DC

		575/600V	HP	40	
General USE					
Ĺ	Contactor	AC current	А	90	
Short-circuit protection fu	150 6001/	AC current	A	90	
-	High fault				
	ignicati	Short circuit current	kA	100	
		Fuse rating	А	150	
		Fuse class		J	
S	Standard fault				
		Short circuit current	kA	5	
		Fuse rating	А	150 DK5	
Ambient conditions		Fuse class		RK5	
Temperature					
	Operating temperature				
	operating temperature	min	°C	-40	
		max	°Č	70	
5	Storage temperature				
		min	°C	-50	
		max	°C	80	
Max altitude			m	3000	
Resistance & Protection					
Pollution degree Dimensions				3	
	5 45 (1 77")-				
Wiring diagrams					

## Wiring diagrams





## Certifications and compliance

Compliance	
	CSA C22.2 n° 60947-1
	CSA C22.2 n° 60947-4-1
	IEC/EN/BS 60947-1
	IEC/EN/BS 60947-4-1
	UL 60947-1
	UL 60947-4-1
Certificates	
	CCC
	cULus
ETIM classification	

**ETIM 8.0** 

EC000066 -Power contactor, AC switching

BF5000E110