



Product designation Power contactor **BF40** Product type designation Contact characteristics Number of poles Nr. 3 Rated insulation voltage Ui IEC/EN ٧ 1000 k√ Rated impulse withstand voltage Uimp 8 Operational frequency min Η 25 max Hz 400 IEC Conventional free air thermal current Ith 70 Α Operational current le AC-1 (≤40°C) Α 70 AC-1 (≤55°C) Α 60 AC-1 (≤70°C) Α 50 AC-3 (≤440V ≤55°C) Α 40 AC-4 (400V) 24 Rated operational power AC-3 (T≤55°C) 230V kW 11 400V kW 18.5 415V kW 22 440V kW 22 500V kW 22 690V kW 30 1000V kW 18.5 Rated operational power AC-1 (T≤40°C) 230V kW 26 400V kW 46 500V kW 58 690V kW 79 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V Α 40 48V Α 35 75V 30 Α 110V Α 8 220V Α IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V 48 Α 48V Α 48 45 75V Α 110V Α 42 220V 5 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V 48 Α 48V Α 48

75V

Α

48



	110V	Α	44
	220V	Α	56
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	Α	_
	48V	A	
			-
	75V	Α	_
	110V	Α	_
	220V	Α	70
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	Α	27
	48V	Α	23
	75V	Α	19
	110V	Α	3
	220V	A	
150	2201	A	
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	Α	32
	48V	Α	30
	75V	Α	27
	110V	Α	22
	220V	Α	5
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	220 V		
TEC max current le in DC3-DC3 with L/K \(\) 13ms with 3 poles in series	-04 1/	^	40
	≤24V	Α	40
	48V	Α	40
	75V	Α	38
	110V	Α	27
	220V	Α	32
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	≤24V	Α	_
	48V	A	
			_
	75V	Α	_
	110V	Α	_
	220V	Α	40
Short-time allowable current for 10s (IEC/EN60947-1)		Α	400
Protection fuse			
	gG (IEC)	Α	100
	aM (IEC)	Α	50
Making capacity (RMS value)	aivi (ILO)	A	400
		Α	400
Breaking capacity at voltage			
	440V	Α	320
	500V	Α	265
	690V	Α	256
Resistance per pole (average value)		mΩ	0.8
Power dissipation per pole (average value)			_
	Ith	W	3.9
	AC3	W	1.3
Tightoning torque for torminals	AUS	V V	1.0
Tightening torque for terminals	_		
	min	Nm	4
	max	Nm	5
	min	lbin	2.95
	max	Ibin	3.69
Tightening torque for coil terminal			
Tighterming torque for contentinui	min	Nlm	0.8
	min	Nm	
	max	Nm	1



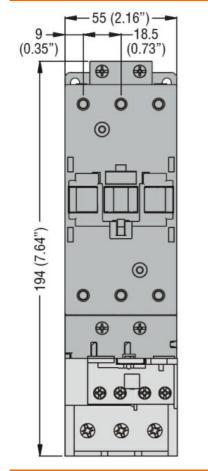
		min	lbin	0.8
		max	Ibin	0.74
	simultaneously connectable		Nr.	2
Conductor section	ANA/O/I/C 'I			
	AWG/Kcmil			2
	Flovible w/e lug conductor coetion	max		2
	Flexible w/o lug conductor section	min	mm²	1.5
		max	mm²	35
	Flexible c/w lug conductor section	max		00
	r lexible 6, wing conductor content	min	mm²	1.5
		max	mm²	35
Power terminal protect	ction according to IEC/EN 60529			IP20 front
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail 35mm
Weight			g	1060
Conductor section				
	AWG/kcmil conductor section			
		max		2
Operations				
Mechanical life			cycles	15000000
Electrical life			cycles	1500000
Safety related data	Ind appording to EN/ISO 12490 1			
renormance level b	l 0d according to EN/ISO 13489-1	rated load	cycles	1500000
		mechanical load	cycles	1500000
Mirror contats accord	ing to IEC/EN 609474-4-1	mediamear load	Oyoloo	yes
EMC compatibility	g to 120, 211 000 11 1 1			yes
AC coil operating				yee
Rated AC voltage at 5	50/60Hz, 60Hz			
J	,	min	V	20
		max	V	48
Rated AC voltage at 5	50/60Hz		V	24
AC operating voltage				
	of 50/60Hz coil powered at 50Hz			
	pick-up			
		min	%Us	85 Us min
	drop-out			
	(70/001)	max	%Us	≤70 Us min
	of 50/60Hz coil powered at 60Hz			
	pick-up	حائمه	0/11-	OE I la maina
		min	%Us %Us	85 Us min 110 Us max
	drop-out	max	%US	110 OS IIIax
	αιορ-οαι	max	%Us	≤70 Us min
AC average coil cons	umption at 20°C	IIIdA	/003	=10 03 Hilli
5 a. 5. ago 5011 00115	of 50/60Hz coil powered at 50Hz			
	5. 55,551 12 5511 portotod dt 601 12	in-rush	VA	35120
		holding	VA	1.53.7
		9	-	-

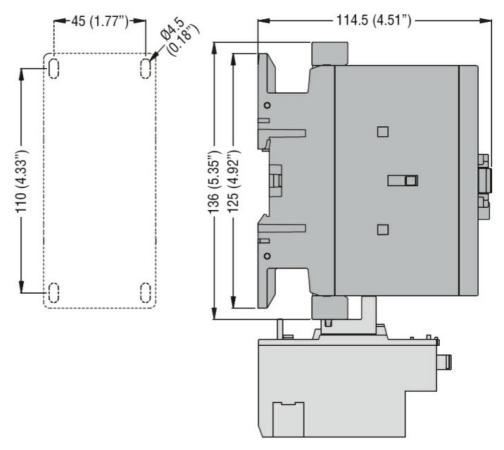


	of 50/60Hz coil	powered at 60Hz			
	31 30/001 12 COII	poworca at our iz	in-rush	VA	35120
			holding	VA	1.53.7
Dissipation at holding :	≤20°C 50Hz			W	12.5
C coil operating	-20 0 00112			**	12.0
C rated control voltage	ne				
o rated control veltas	90		min	V	20
			max	V	48
DC rated control voltage	ne		Пах	V	24
OC operating voltage	3 0			· ·	<u> </u>
o operating voltage	pick-up				
	pick up		min	%Us	80 Us min
			max	%Us	110 Us max
	drop-out		παλ	7003	110 03 max
	drop-out		max	%Us	≤70 Us min
verage coil consump	tion <20°C		IIIax	/003	370 03 11111
werage con consump	11011 220 C		in-rush	14/	22 60
				W W	2368
lov ovolco froguesov			holding	VV	1.21,9
Max cycles frequency				o ol /l	4500
Mechanical operation				cycles/h	1500
perating times					
verage time for Us co					
	in AC	OL : NO			
		Closing NO			4.0
			min	ms	12
		0	max	ms	28
		Opening NO			•
			min	ms	8
			max	ms	22
	in DC	aa			
		Closing NO			
			min	ms	40
			max	ms	85
		Opening NO			
			min	ms	20
			max	ms	55
JL technical data					
full-load current (FLA)	tor three-phase	AC motor		_	
			at 480V	Α	40
			at 600V	A	32
ielded mechanical pe					
	for single-phase	e AC motor			
			110/120V	HP	3
			230V	HP	7.5
	for three-phase	AC motor			
			200/208V	HP	10
			220/230V	HP	15
			460/480V	HP	30
			575/600V	HP	30
Seneral USE					
	Contactor				
			AC current	Α	70
	Auxiliary contact	ts			
	-		AC voltage	V	600

		AC current	Α	10
		DC voltage	V	250
		DC current	Α	1
Short-circuit protection	on fuse, 600V			
	High fault			
		Short circuit current	kA	100
		Fuse rating	Α	150
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	Α	150
		Fuse class		RK5
Contact rating of auxi	liary contacts according to UL			SI - A600
Ambient conditions				
Temperature				
	Operating temperature			
		min	°C	-40
		max	°C	70
	Storage temperature			
		min	°C	-50
		max	°C	80
Max altitude	·		m	3000
Resistance & Protect	ion			
Pollution degree				3
Dimensions [mm /in)]				

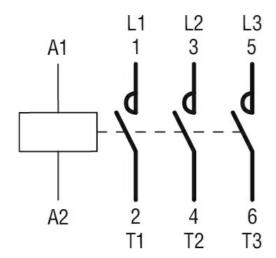
Dimensions [mm (in)]





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





Product designation Power contactor **BF40** Product type designation Contact characteristics Number of poles Nr. 3 Rated insulation voltage Ui IEC/EN ٧ 1000 k√ Rated impulse withstand voltage Uimp 8 Operational frequency min Ηъ 25 max Hz 400 IEC Conventional free air thermal current Ith 70 Α Operational current le AC-1 (≤40°C) Α 70 AC-1 (≤55°C) Α 60 AC-1 (≤70°C) Α 50 AC-3 (≤440V ≤55°C) Α 40 AC-4 (400V) 24 Rated operational power AC-3 (T≤55°C) 230V kW 11 400V kW 18.5 415V kW 22 440V kW 22 500V kW 22 690V kW 30 1000V kW 18.5 Rated operational power AC-1 (T≤40°C) 230V kW 26 400V kW 46 500V kW 58 690V kW 79 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V Α 40 48V Α 35 75V 30 Α 110V Α 8 220V Α IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V 48 Α 48V Α 48 45 75V Α 110V Α 42 220V 5 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V 48 Α 48V Α 48 75V Α 48



	110V	Α	44
	220V	Α	56
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	Α	_
	48V	Α	_
	75V	Α	_
	110V	Α	-
	220V	Α	70
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	Α	27
	48V	Α	23
	75V	Α	19
	110V	Α	3
150	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series	.0.4)./		
	≤24V	A	32
	48V	A	30
	75V	A	27
	110V	A	22
IEC many assument to in DC2 DC5 with L/D < 15 may with 2 males in series	220V	Α	5
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	<04)/	۸	40
	≤24V 48V	A	40
	46 V 75 V	A A	40 38
	110V	A	27
	220V	A	32
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series	220 V		32
TEO Max current le in 600-600 with E/N 3 Toms with 4 poles in series	≤24V	Α	_
	48V	A	_
	75V	Α	_
	110V	Α	_
	220V	Α	40
Short-time allowable current for 10s (IEC/EN60947-1)		Α	400
Protection fuse			
	gG (IEC)	Α	100
	aM (IEC)	Α	50
Making capacity (RMS value)	, ,	Α	400
Breaking capacity at voltage			
	440V	Α	320
	500V	Α	265
	690V	Α	256
Resistance per pole (average value)		mΩ	0.8
Power dissipation per pole (average value)			
	Ith	W	3.9
	AC3	W	1.3
Tightening torque for terminals			
	min	Nm	4
	max	Nm	5
	min	Ibin	2.95
	max	Ibin	3.69
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1



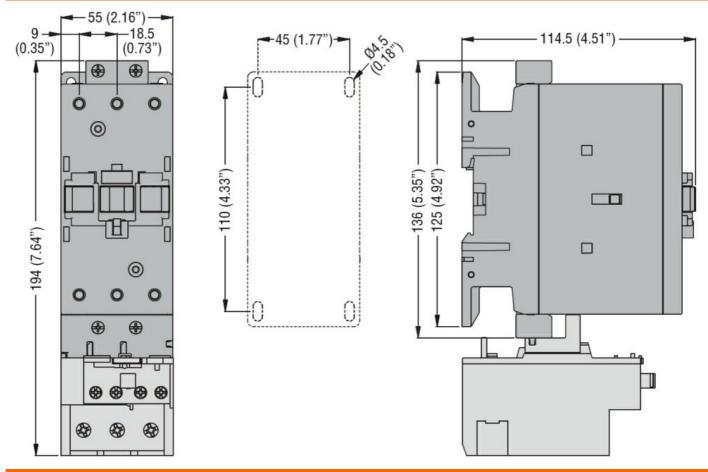
Max number of wires simultaneously connectable Nr. 2 Conductor section AWG/Kcmil max 2 Flexible w/o lug conductor section min mm² 1.5 Flexible c/w lug conductor section min mm² 35 Flexible c/w lug conductor section min mm² 1.5 Flexible c/w lug conductor section min mm² 35 Power terminal protection according to IEC/EN 60529 IP20 front Mechanical features IP20 front Operating position normal allowable ±30° Fixing Screw / DIN rail 35mm Weight g 1060 Conductor section AWG/kcmil conductor section max 2					
Max number of wires simultaneously connectable Nr. 2 Conductor section AWG/Kcmil max 2 Flexible w/o lug conductor section min mm² 1.5 Flexible c/w lug conductor section min mm² 1.5 Flexible c/w lug conductor section min mm² 1.5 max m² 1.5 mm² 3.5 Power terminal protection according to IEC/EN 60529 mm² 1.5 mm² 3.5 Power terminal protection according to IEC/EN 60529 Vertical plan ±30° \$35 \$35 \$35 \$35 \$35 \$36			min		8.0
AWG/Kcmil			max		
AWG/Kcmil Plexible w/o lug conductor section min mm² 1.5		simultaneously connectable		Nr.	2
Plexible w/o lug conductor section	Conductor section	AMC/Komil			
Flexible w/o lug conductor section min max mm² 1.5 max mm² 35 Flexible c/w lug conductor section min mm² 1.5 max mm² 35 Flexible c/w lug conductor section min mm² 1.5 max mm² 35 Flexible c/w lug conductor section min mm² 1.5 max mm² 35 Power terminal protection according to IEC/EN 60529 IP20 front Machanical features Macha		AVVG/RCIIII	may		2
Mini		Flexible w/o lug conductor section	IIIdA		
Max		rickible w/o lag corladotor section	min	mm²	1.5
Min					
Max		Flexible c/w lug conductor section			
Power terminal protection according to IEC/EN 60529 IP20 front		-	min	mm²	1.5
Mechanical features Operating position normal allowable 30° Vertical plan ±30° Screw / DIN rail 30° 35mm			max	mm²	35
Operating position Normal allowable Vertical plan ±30° Fixing Screw / DIN rail 35 mm Weight grow / DIN rail 35 mm Weight grow / DIN rail 35 mm Conductor section max z Operations max z Mechanical life cycles 1500000 Electrical life cycles 1500000 Safety related data Performance level B10d according to EN/ISO 13489-1 rated load cycles 1500000 Mirror contats according to IEC/EN 609474-4-1 yes EMC compatibility yes AC coloperating Y 1500000 Mirror contats according to IEC/EN 609474-4-1 yes AC coloperating Y 100000 Mirror contats according to IEC/EN 609474-4-1 yes AC coloperating <th< td=""><td></td><td>ction according to IEC/EN 60529</td><td></td><td></td><td>IP20 front</td></th<>		ction according to IEC/EN 60529			IP20 front
Normal allowable Seriew Din rail allowable Seriew Din rail allowable Seriew Din rail 35mm					
Fixing Screw / DIN rail S	Operating position				
Screw / DIN rail 35mm 35m					
FIXING g 1060			allowable		
Weight	Fixing				
Conductor section AWG/kcmil conductor section max Z Operations Mechanical life cycles 15000000 Electrical life cycles 15000000 Safety related data Performance level B10d according to EN/ISO 13489-1 rated load cycles 15000000 mechanical load cycles 15000000 Minror contats according to IEC/EN 609474-4-1 yes EMC compatibility yes AC coll poperating Rated AC voltage at 50/60Hz, 60Hz min V 60 Mmx V 110 Rated AC voltage at 50/60Hz coil powered at 50Hz yes with a colspan="3">yes AC operating voltage min V 60 max V 110 AC operating voltage min Wus 80 Us min max Wus \$70 Us min drop-out min Wus 80 Us min max Wus \$70 Us min max Wus \$70 Us min Mus Mus \$70 Us min m	Weight			a	
Operations Mechanical life cycles 15000000 Electrical life cycles 15000000 Safety related data Performance level B10d according to EN/ISO 13489-1 rated load rate of load cycles 1500000 Mirror contats according to IEC/EN 609474-4-1 yes 1500000 Mirror contats according to IEC/EN 609474-4-1 yes Yes EMC compatibility yes Rated AC voltage at 50/60Hz, 60Hz min V 60 Miror contats according to IEC/EN 609474-4-1 yes AC Rated AC voltage at 50/60Hz, 60Hz min V 60 Miror contats according to IEC/EN 609474-4-1 yes AC Miror contats according to IEC/EN 609474-4-1 min V 60 Miror contats according to IEC/EN 609474-4-1 min V 60 Miror contats according to IEC/EN 609474-4-1 min V 60 Miror contats according to IEC/EN 609474-4-1 min V 110					
Operations Mechanical life cycles 15000000 Electrical life cycles 15000000 Safety related data Performance level B10d according to EN/ISO 13489-1 rated load cycles 15000000 mechanical load cycles 15000000		AWG/kcmil conductor section			
Mechanical life			max		2
Electrical life cycles 1500000 Safety related data Performance level B10d according to EN/ISO 13489-1 rated load cycles 1500000 mechanical load cycles 15000000 mechanical load cycles 150000000 mechanical load cycles 15000000000000000000000000000000000000	Operations				
Performance level B10d according to EN/ISO 13489-1 rated load cycles 1500000 mechanical load cycles 15000000 mechanical load cycles 150000000 mechanical load cycles 150000000 mechanical load cycles 150000000 mechanical load cycles 150000000 cycles 1500000000 cycles 1500000000000 cycles 15000000000000 cycles 1500000000000000 cycles 1500000000000000000000000000000000000				cycles	
Performance level B10d according to EN/ISO 13489-1 rated load mechanical load cycles 1500000 ycles 15000000 Mirror contats according to IEC/EN 609474-4-1 EMC compatibility AC coil operating Rated AC voltage at 50/60Hz, 60Hz Rated AC voltage at 50/60Hz AC operating voltage of 50/60Hz coil powered at 50Hz pick-up drop-out max wus 110 Us max drop-out min max wus 80 Us min max drop-out min max wus 110 Us max drop-out min max wus 570 Us min max wus 110 Us max drop-out max wus 570 Us min max wus 110 Us max drop-out max wus 570 Us min				cycles	1500000
rated load ra	•	10.1 51//20.404004			
Mirror contats according to IEC/EN 609474-4-1 yes	Performance level B1	10d according to EN/ISO 13489-1	ادمما ادماد		4500000
Mirror contats according to IEC/EN 609474-4-1 EMC compatibility AC coil operating Rated AC voltage at 50/60Hz, 60Hz Rated AC voltage at 50/60Hz Rated AC voltage at 50/60Hz Of 50/60Hz coil powered at 50Hz pick-up min %Us 80 Us min max %Us 110 Us max drop-out max %Us ≤70 Us min AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz pick-up min %Us 80 Us min max %Us 110 Us max 40 Us min max %Us 110 Us max				-	
EMC compatibility AC coil operating Rated AC voltage at 50/60Hz, 60Hz Rated AC voltage at 50/60Hz Rated AC voltage at 50/60Hz Rated AC voltage at 50/60Hz Of 50/60Hz coil powered at 50Hz pick-up min %Us 80 Us min max %Us 110 Us max drop-out max %Us ≤70 Us min of 50/60Hz coil powered at 60Hz pick-up AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz	Mirror contats accord	ling to IEC/EN 609474-4-1	mechanical load	Cycles	
Rated AC voltage at 50/60Hz, 60Hz min V 60 max V 110		ing to 120/211 0004/4 4 1			
Rated AC voltage at 50/60Hz, 60Hz min V 60 max V 110 Rated AC voltage at 50/60Hz AC operating voltage					you
min		50/60Hz, 60Hz			
Rated AC voltage at 50/60Hz V 110	· ·	·	min	V	60
AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min %Us 80 Us min max %Us 110 Us max drop-out max %Us ≤70 Us min of 50/60Hz coil powered at 60Hz pick-up min %Us 80 Us min max %Us 110 Us max drop-out min %Us 80 Us min max %Us 110 Us max drop-out AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz			max	V	110
of 50/60Hz coil powered at 50Hz	Rated AC voltage at \$	50/60Hz		V	110
pick-up min %Us 80 Us min max %Us 110 Us max drop-out max %Us ≤70 Us min of 50/60Hz coil powered at 60Hz pick-up min %Us 80 Us min max %Us ≤70 Us min max %Us 110 Us max drop-out max %Us ≤70 Us min max %Us 110 Us max drop-out AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz	AC operating voltage				
min %Us 80 Us min max %Us 110 Us max					
Max %Us 110 Us max		pick-up		0/11-	00 11
drop-out max %Us ≤70 Us min					
max %Us ≤70 Us min of 50/60Hz coil powered at 60Hz min %Us 80 Us min pick-up max %Us 110 Us max drop-out max %Us ≤70 Us min AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz		dron-out	IIIdX	70US	110 OS IIIax
of 50/60Hz coil powered at 60Hz pick-up min %Us 80 Us min max %Us 110 Us max drop-out AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz		αιορ-ουι	max	%Us	≤70 Us min
pick-up min %Us 80 Us min max %Us 110 Us max drop-out max %Us ≤70 Us min AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz		of 50/60Hz coil powered at 60Hz	HUX	,,,,,	0 00 111111
min %Us 80 Us min max %Us 110 Us max drop-out max %Us ≤70 Us min AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz		•			
drop-out max %Us ≤70 Us min AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz		•	min	%Us	80 Us min
max %Us ≤70 Us min AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz			max	%Us	110 Us max
AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz		drop-out			
of 50/60Hz coil powered at 50Hz			max	%Us	≤70 Us min
·	AC average coil cons				
in-rush VA 35120		of 50/60Hz coil powered at 50Hz		1/4	05 400
			ın-rush	VA	35120



					4.5.0.5
	-f 50/00Ll=:L=		holding	VA	1.53.7
	of 50/60Hz coil pow	vered at 60HZ	in-rush	VA	35120
			holding	VA	1.53.7
Dissipation at holding :	≤20°C 50Hz		nolaling	W	12.5
DC coil operating	-20 0 00112			• • • • • • • • • • • • • • • • • • • •	12.0
DC rated control voltage	ge				
·			min	V	60
			max	V	110
DC rated control voltage	ge			V	110
DC operating voltage					
	pick-up				
			min	%Us	80 Us min
			max	%Us	110 Us max
	drop-out				
			max	%Us	≤70 Us min
Average coil consump	tion ≤20°C				
			in-rush	W	2368
			holding	W	1.21,9
Max cycles frequency					4500
Mechanical operation				cycles/h	1500
Operating times Average time for Us co	ontrol				
Average time for US Co	in AC				
	III AC	Closing NO			
		Closing NO	min	ms	12
			max	ms	28
		Opening NO			
		-1- 5	min	ms	8
			max	ms	22
	in DC				
		Closing NO			
			min	ms	40
			max	ms	85
		Opening NO			
			min	ms	20
III to obvioul data			max	ms	55
UL technical data	for three phase AC	motor			
Full-load current (FLA)	nor unee-phase AC I	HUIUI	at 480V	Α	40
			at 600V	A	32
Yielded mechanical pe	erformance		at 000 V	А	<u> </u>
. Islada Moonamoa pe	for single-phase A0	C motor			
	.o. ogio pridoo A		110/120V	HP	3
			230V	HP	7.5
	for three-phase AC	motor			
	•		200/208V	HP	10
			220/230V	HP	15
			460/480V	HP	30
			575/600V	HP	30
General USE					_
	Contactor				
			AC current	Α	70
Short-circuit protection	n tuse, 600V				



	High fault			
	· ·	Short circuit current	kA	100
		Fuse rating	Α	150
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	Α	150
		Fuse class		RK5
Ambient conditions				
Temperature				
	Operating temperature			
		min	°C	-40
		max	°C	70
	Storage temperature			
		min	°C	-50
		max	°C	80
Max altitude			m	3000
Resistance & Protection	on			
Pollution degree				3
Dimensions [mm (in)]				

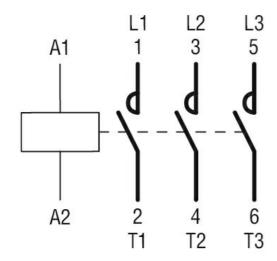


Wiring diagrams

BF4000E110

ENERGY AND AUTOMATION

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 40A, AC/DC COIL, 60...110VAC/DC



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





Product designation			Power contactor
Product type designation			BF40
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		Α	70
Operational current le			
	AC-1 (≤40°C)	Α	70
	AC-1 (≤55°C)	Α	60
	AC-1 (≤70°C)	Α	50
	AC-3 (≤440V ≤55°C)	Α	40
	AC-4 (400V)	Α	24
Rated operational power AC-3 (T≤55°C)			
	230V	kW	11
	400V	kW	18.5
	415V	kW	22
	440V	kW	22
	500V	kW	22
	690V	kW	30
	1000V	kW	18.5
Rated operational power AC-1 (T≤40°C)			
	230V	kW	26
	400V	kW	46
	500V	kW	58
	690V	kW	79
IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			
	≤24V	Α	40
	48V	Α	35
	75V	Α	30
	110V	Α	8
	220V	Α	
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
	≤24V	Α	48
	48V	Α	48
	75V	Α	45
	110V	Α	42
	220V	Α	5
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series		_	4.0
	≤24V	Α	48
	48V	A	48
	75V	Α	48



	110V	Α	44
	220V	Α	56
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	Α	_
	48V	Α	_
	75V	Α	_
	110V	Α	-
	220V	Α	70
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	Α	27
	48V	Α	23
	75V	Α	19
	110V	Α	3
150	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series	.0.4)./		
	≤24V	A	32
	48V	A	30
	75V	A	27
	110V	A	22
IEC many assument to in DC2 DC5 with L/D < 15 may with 2 males in series	220V	Α	5
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	<04)/	۸	40
	≤24V 48V	A	40
	46 V 75 V	A A	40 38
	110V	A	27
	220V	A	32
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series	220 V		32
TEO Max current le in 600-600 with E/N 3 Toms with 4 poles in series	≤24V	Α	_
	48V	A	_
	75V	Α	_
	110V	Α	_
	220V	Α	40
Short-time allowable current for 10s (IEC/EN60947-1)		Α	400
Protection fuse			
	gG (IEC)	Α	100
	aM (IEC)	Α	50
Making capacity (RMS value)	, ,	Α	400
Breaking capacity at voltage			
	440V	Α	320
	500V	Α	265
	690V	Α	256
Resistance per pole (average value)		mΩ	0.8
Power dissipation per pole (average value)			
	Ith	W	3.9
	AC3	W	1.3
Tightening torque for terminals			
	min	Nm	4
	max	Nm	5
	min	Ibin	2.95
	max	Ibin	3.69
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1



BF4000E230

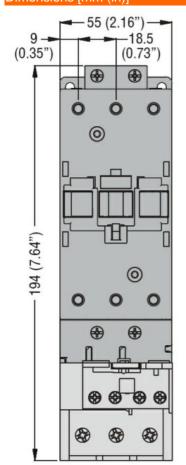
		min	lbin	0.8
		max	lbin	0.74
	simultaneously connectable		Nr.	2
Conductor section	AMO #4			
	AWG/Kcmil	may		0
	Flexible w/o lug conductor section	max		2
	Flexible w/o lug colludctor section	min	mm²	1.5
		max	mm²	35
	Flexible c/w lug conductor section			
	· ·	min	mm²	1.5
		max	mm²	35
	ction according to IEC/EN 60529			IP20 front
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30° Screw / DIN rail
Fixing				35mm
Weight			g	1060
Conductor section				
	AWG/kcmil conductor section			
		max		2
Operations				
Mechanical life			cycles	15000000
Electrical life			cycles	1500000
Safety related data	0d according to EN/ISO 12490 1			
renormance level bi	0d according to EN/ISO 13489-1	rated load	cycles	1500000
		mechanical load	cycles	1500000
Mirror contats accordi	ing to IEC/EN 609474-4-1		0,0.00	yes
EMC compatibility				yes
AC coil operating				
Rated AC voltage at 5	50/60Hz, 60Hz			
		min	V	100
		max	V	250
Rated AC voltage at 5	50/60Hz		V	230
AC operating voltage	(50 /00 L			
	of 50/60Hz coil powered at 50Hz			
	pick-up	min	%Us	80 Us min
		max	%Us	110 Us max
	drop-out	max	,000	Jo max
	•	max	%Us	≤70 Us min
	of 50/60Hz coil powered at 60Hz			
	pick-up			
		min	%Us	80 Us min
		max	%Us	110 Us max
	drop-out	·	0/11-	<70 Ho ==:=
AC average coil cons	umption at 20°C	max	%Us	≤70 Us min
AC average con cons	of 50/60Hz coil powered at 50Hz			
	or 30/00112 coll powered at 30112	in-rush	VA	35120
		iii iddii	٧/١	JJ 120

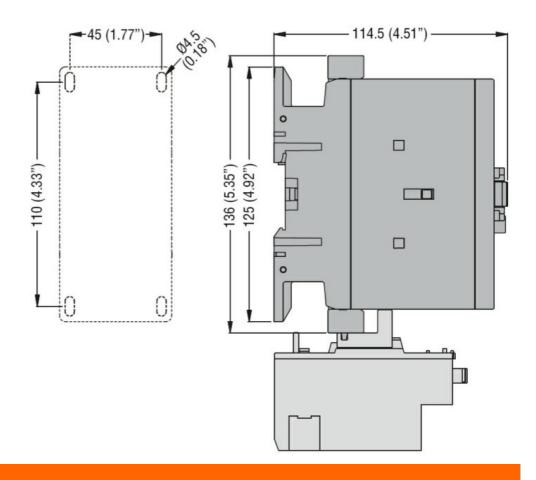


Moderation Mod							
in-ush NA 35120 holding NA 153.7 Dissipation at holding ≤20°C 50Hz W 12.5 Dissipation at holding ≤20°C 50Hz W 12.5 Dissipation at holding ≤20°C 50Hz W 12.5 Dissipation at holding ≤20°C Min NA NA NA NA NA NA NA N				holding	VA	1.53.7	
Dissipation at holding ≤20°C 50Hz W 12.5 DC coli operating W 12.5 DC coli operating W 12.5 DC rated control voltage min V 100 max V 250 DC rated control voltage W V 250 DC operating voltage W W V 110 DC operating voltage W W V V V DC operating voltage Pick-up min max W W V V V V V Morpo-out max W W V V V V V V V V		of 50/60Hz coil pow	ered at 60Hz	2 1) /A	05 400	
Dissipation at holding \$20°C 50Hz W 12.5							
DC rated control voltage min V 100 max V 250 DC rated control voltage min v 250 230 DC operating voltage min max wUs 80 Us min max wUs 110 Us max drop-out max mus 12 max drop-out min mus 12 max drop-out mus mus mus 12 max drop-out mus mus mus mus drop-out mus mus mus	Dissipation at holding	<20°C 50∐-z		nolaing			
DC rated control voltage		\$20 C 30HZ			VV	12.5	
Mark V 100 mark V 250 mar		ne					
DC rated control voltage DC rated volt	Do ratou control romag	,0		min	V	100	
DC rated control voltage Pick-up Pick-u							
DC operating voltage pick-up min wus 80 Us min max wus 110 Us max 110 Us max wus 11	DC rated control voltage	je					
Pick-up		,				-	
Min	, ,	pick-up					
Average coil consumption ≤20°C in-rush w 2368 holding w 121,9				min	%Us	80 Us min	
Average coil consumption ≤20°C in-rush W 2368 holding W 1.21,9				max	%Us	110 Us max	
Average coil consumption ≤20°C in-rush W 2368 holding W 1.21,9		drop-out					
In-rush holding W 2368 holding W 121,9				max	%Us	≤70 Us min	
Max cycles frequency	Average coil consump	tion ≤20°C					
Mack cycles frequency Cycles/h 1500 Operating times Average time for Us control in AC Closing NO min ms 12 max ms 12 max ms 12 max ms 12 min ms 8 max ms 40 min ms <th colspan<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td></th>	<td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
Mechanical operation				holding	W	1.21,9	
Closing NO							
Average time for Us control in AC Closing NO min ms 12 max ms 28					cycles/h	1500	
in AC Closing NO min ms 12 max ms 28 Opening NO min ms 8 max ms 22 In DC Closing NO min ms 40 max ms 85 Opening NO min ms 20 max ms 55 UL technical data Full-load current (FLA) for three-phase AC motor at 480V A 40 at 600V A 32 Yielded mechanical performance for single-phase AC motor 110/120V HP 3 230V HP 7.5 for three-phase AC motor 200/208V HP 7.5 for three-phase AC motor General USE Contactor General USE Contactor							
Closing NO	Average time for Us co						
Opening NO		in AC	Olaska NO				
Opening NO			Closing NO			40	
Opening NO							
Min ms 8 8 max ms 22 min DC			Opening NO	IIIax	1115	20	
Closing NO			Opening NO	min	me	8	
In DC							
Closing NO		in DC		THOX:			
Min max ms		0	Closina NO				
Opening NO min ms 20 max ms 55			3	min	ms	40	
min ms 20 max ms 55				max	ms	85	
Max			Opening NO				
Selection Contactor Cont				min	ms	20	
Full-load current (FLA) for three-phase AC motor at 480V A 40 at 600V A 32 Yielded mechanical performance for single-phase AC motor 110/120V HP 3 230V HP 7.5 for three-phase AC motor 200/208V HP 10 220/230V HP 15 460/480V HP 30 575/600V HP 30 General USE Contactor AC current A 70				max	ms	55	
At 480V A 40 at 600V A 32							
at 600V A 32 Yielded mechanical performance for single-phase AC motor 110/120V HP 3 230V HP 7.5 for three-phase AC motor 200/208V HP 10 220/230V HP 15 460/480V HP 30 575/600V HP 30 General USE Contactor AC current A 70	Full-load current (FLA)	for three-phase AC n	notor				
Yielded mechanical performance for single-phase AC motor 110/120V HP 3 230V HP 7.5 for three-phase AC motor 200/208V HP 10 220/230V HP 15 460/480V HP 30 575/600V HP 30 General USE Contactor AC current A 70							
for single-phase AC motor 110/120V HP 3 230V HP 7.5 for three-phase AC motor 200/208V HP 10 220/230V HP 15 460/480V HP 30 575/600V HP 30 General USE Contactor AC current A 70	Vialdad over 1 2 2			at 600V	А	32	
110/120V HP 3 230V HP 7.5 7.5	r leided mechanical pe		·				
230V HP 7.5		tor single-phase AC	motor	440/4001	UD	2	
Contactor Cont							
200/208V		for three phase AC	motor	2307	ПР	1.0	
220/230V		ioi iiiiee-piiase AC	IIIOIOI	200/208\/	HP	10	
460/480V HP 30 575/600V HP 30							
S75/600V HP 30 General USE Contactor AC current A 70							
General USE Contactor AC current A 70							
Contactor AC current A 70	General USE			- 2,222			
AC current A 70		Contactor					
Short-circuit protection fuse, 600V				AC current	Α	70	
	Short-circuit protection	fuse, 600V					



	High fault			
	r iigir radit	Short circuit current	kA	100
		Fuse rating	Α	150
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	Α	150
		Fuse class		RK5
Ambient conditions				
Temperature				
	Operating temperature			
		min	°C	-40
		max	°C	70
	Storage temperature			_
		min	°C	-50
		max	°C	80
Max altitude			m	3000
Resistance & Protection	on			
Pollution degree				3
Dimensions [mm (in)]				

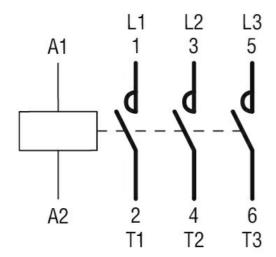




Wiring diagrams

ENERGY AND AUTOMATION

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 40A, AC/DC COIL, 100...250VAC/DC



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