BF4000E230

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

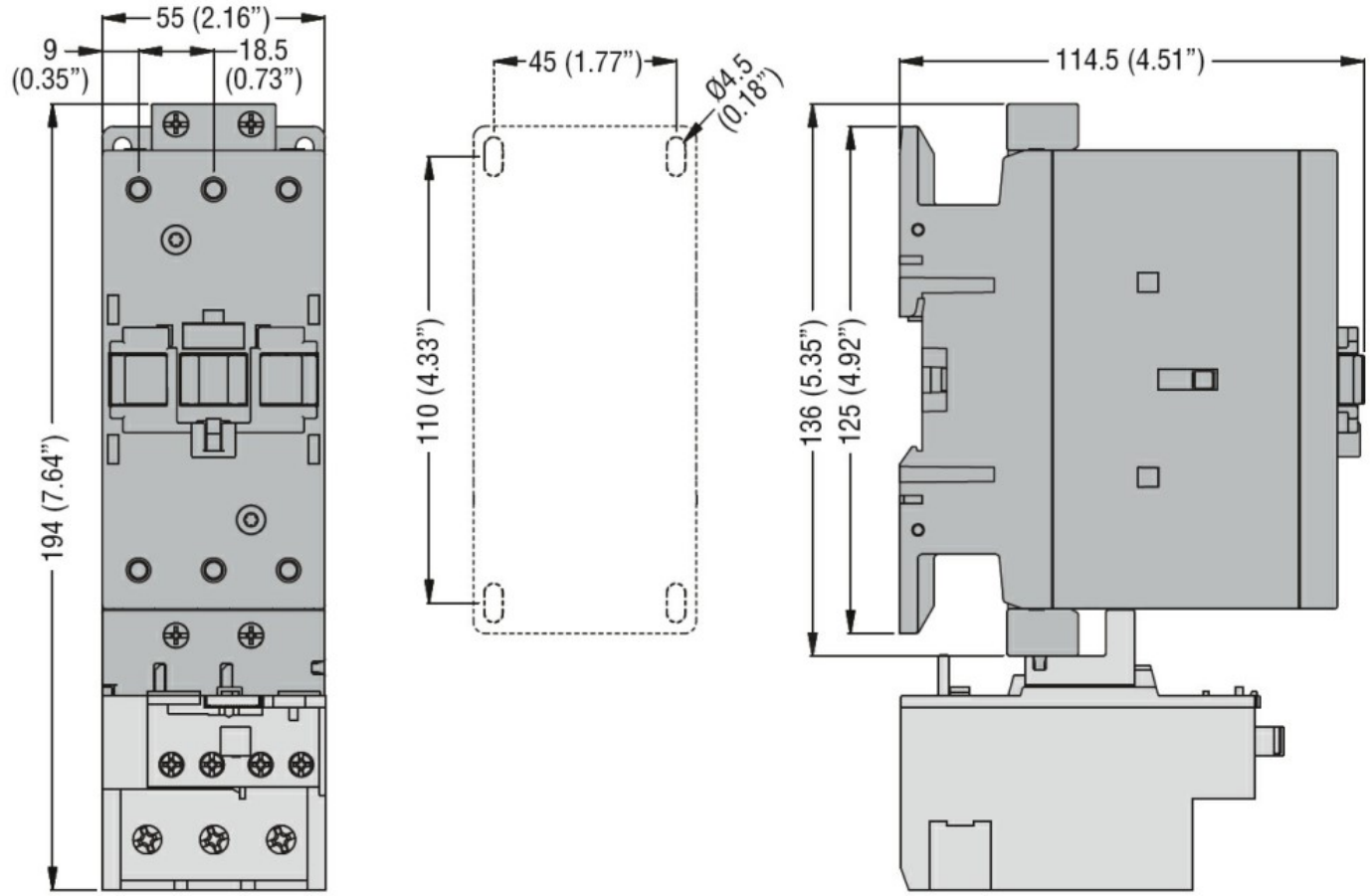
Product designation			Power contactor
Product type designation			BF40
Contact characteristics			
Number of poles		Nr.	3
Rated insulation voltage Ui IEC/EN		V	1000
Rated impulse withstand voltage Uimp		kV	8
Operational frequency			
	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith		A	70
Operational current Ie			
	AC-1 (≤40°C)	A	70
	AC-1 (≤55°C)	A	60
	AC-1 (≤70°C)	A	50
	AC-3 (≤440V ≤55°C)	A	40
	AC-4 (400V)	A	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 current AC-3 (T≤55°C)			
	230V	A	40
	400V	A	40
	415V	A	40
	440V	A	40
	500V	A	33
	690V	A	32
	1000V	A	21
Rated operational power AC-1 (T≤40°C)			
	230V	kW	26
	400V	kW	46
	500V	kW	58
	690V	kW	79
IEC max current Ie in DC1 with L/R ≤ 1ms with 1 poles in series			
	≤24V	A	40
	48V	A	35
	75V	A	30
	110V	A	8
	220V	A	–
IEC max current Ie in DC1 with L/R ≤ 1ms with 2 poles in series			
	≤24V	A	48

	48V	A	48
	75V	A	45
	110V	A	42
	220V	A	5
IEC max current Ie in DC1 with L/R ≤ 1ms with 3 poles in series			
	≤24V	A	48
	48V	A	48
	75V	A	48
	110V	A	44
	220V	A	56
IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	A	–
	48V	A	–
	75V	A	–
	110V	A	–
	220V	A	70
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	A	27
	48V	A	23
	75V	A	19
	110V	A	3
	220V	A	–
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	A	32
	48V	A	30
	75V	A	27
	110V	A	22
	220V	A	5
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	≤24V	A	40
	48V	A	40
	75V	A	38
	110V	A	27
	220V	A	32
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	≤24V	A	–
	48V	A	–
	75V	A	–
	110V	A	–
	220V	A	40
Short-time allowable current for 10s (IEC/EN60947-1)		A	400
Protection fuse			
	gG (IEC)	A	100
	aM (IEC)	A	50
Making capacity (RMS value)		A	400
Breaking capacity at voltage			
	440V	A	320
	500V	A	265
	690V	A	256
Resistance per pole (average value)		mΩ	0.8
Power dissipation per pole (average value)			
	Ith	W	3.9
	AC-3	W	1.3
Tightening torque for terminals			

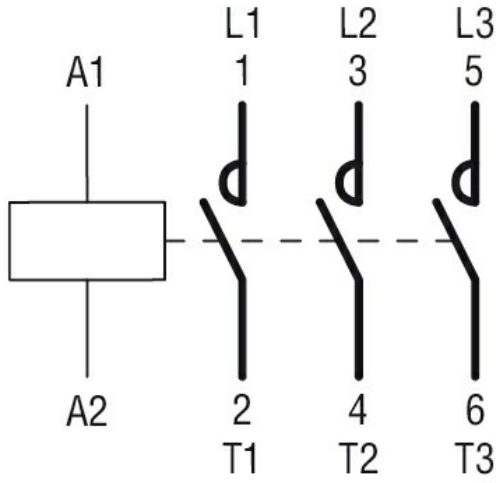
		min	Nm	4
		max	Nm	5
		min	lbin	2.95
		max	lbin	3.69
Tightening torque for coil terminal				
		min	Nm	0.8
		max	Nm	1
		min	lbin	0.8
		max	lbin	0.74
Max number of wires simultaneously connectable			Nr.	2
Conductor section				
	AWG/Kcmil			
		max		2
	Flexible w/o lug conductor section			
		min	mm²	1.5
		max	mm²	35
	Flexible c/w lug conductor section			
		min	mm²	1.5
		max	mm²	35
Power terminal protection 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				
Performance level B10d according to EN/ISO 13489-1				
		rated load	cycles	1500000
		mechanical load	cycles	15000000
Mirror contats according to IEC/EN 609474-4-1				yes
EMC compatibility				yes
AC coil operating				
Rated AC voltage at 50/60Hz, 60Hz				
		min	V	100
		max	V	250
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			
			max	%Us	≤70 Us min
AC average coil consumption at 20°C					
	of 50/60Hz coil powered at 50Hz				
			in-rush	VA	35…120
			holding	VA	1.5…3.7
	of 50/60Hz coil powered at 60Hz				
			in-rush	VA	35…120
			holding	VA	1.5…3.7
Dissipation at holding ≤20°C 50Hz				W	1…2.5
DC coil operating					
DC rated control voltage					
			min	V	100
			max	V	250
DC operating voltage					
	pick-up				
			min	%Us	80 Us min
			max	%Us	110 Us max
	drop-out				
			max	%Us	≤70 Us min
Average coil consumption ≤20°C					
			in-rush	W	23…68
			holding	W	1.2…1,9
Max cycles frequency					
Mechanical operation				cycles/h	1500
Operating times					
Average time for Us control					
	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	10
			220/230V	HP	15
			460/480V	HP	30

		575/600V	HP	30
General USE				
	Contactor			
		AC current	A	70
Short-circuit protection fuse, 600V				
	High fault			
		Short circuit current	kA	100
		Fuse rating	A	150
		Fuse class		J
	Standard fault			
		Short circuit current	kA	5
		Fuse rating	A	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				
Pollution degree				3
Dimensions				



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