



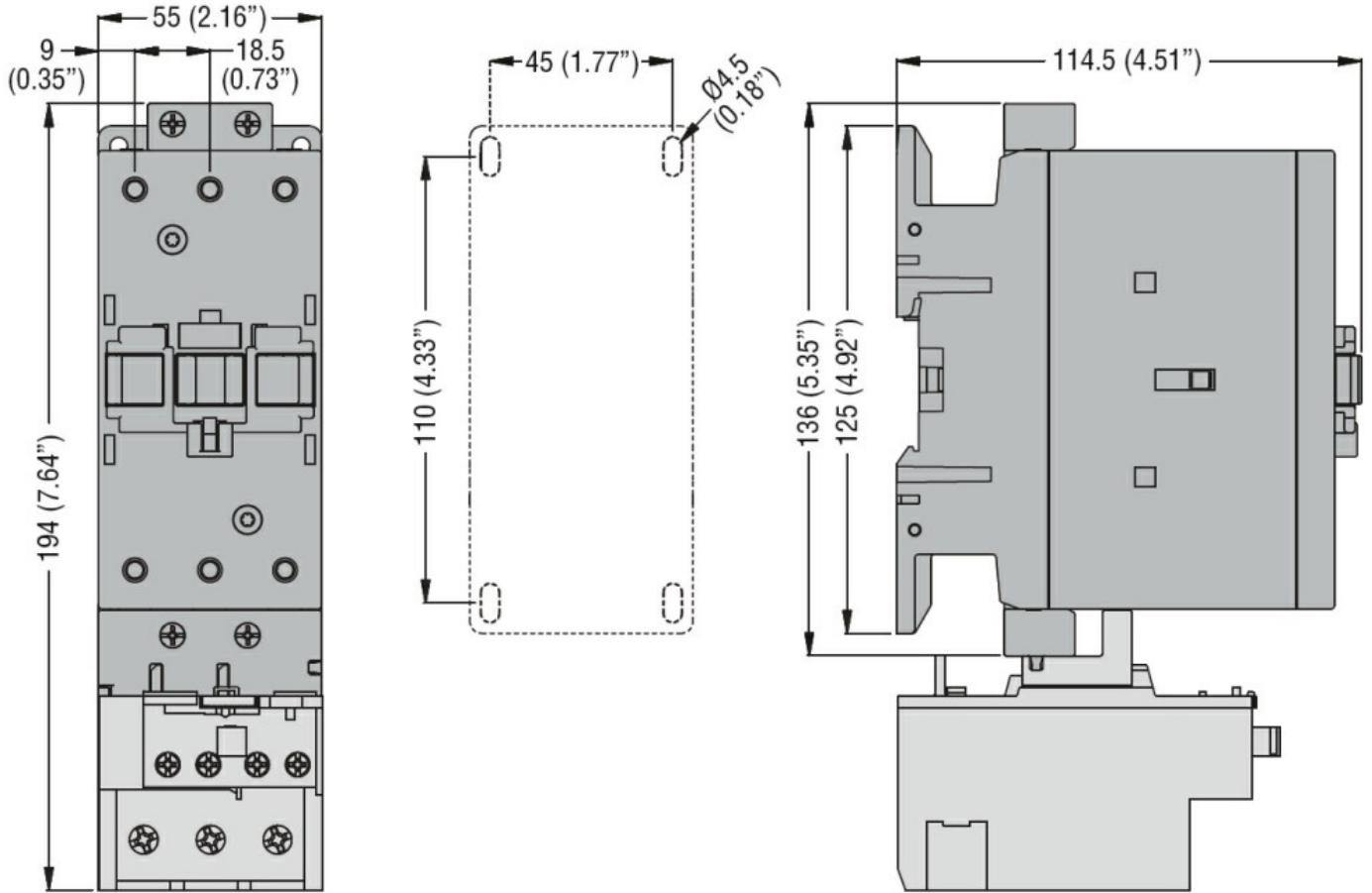
Product designation				Power contactor
Product type designation				BF50
Contact characteristics				
Number of poles	Nr.			3
Rated insulation voltage U_i IEC/EN	V			1000
Rated impulse withstand voltage U_{imp}	kV			8
Operational frequency	min	Hz	25	
	max	Hz	400	
IEC Conventional free air thermal current I_{th}	A			90
Operational current I_e	AC-1 ($\leq 40^\circ\text{C}$)	A	90	
	AC-1 ($\leq 55^\circ\text{C}$)	A	75	
	AC-1 ($\leq 70^\circ\text{C}$)	A	65	
	AC-3 ($\leq 440\text{V} \leq 55^\circ\text{C}$)	A	50	
	AC-4 (400V)	A	28	
Rated operational power AC-3 ($T \leq 55^\circ\text{C}$)	230V	kW	11	
	400V	kW	22	
	415V	kW	22	
	440V	kW	22	
	500V	kW	22	
	690V	kW	30	
	1000V	kW	30	
Rated operational current AC-3 ($T \leq 55^\circ\text{C}$)	230V	A	50	
	400V	A	50	
	415V	A	50	
	440V	A	50	
	500V	A	44	
	690V	A	39	
	1000V	A	23	
Rated operational power AC-1 ($T \leq 40^\circ\text{C}$)	230V	kW	34	
	400V	kW	59	
	500V	kW	74	
	690V	kW	102	
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A	45	
	48V	A	40	
	75V	A	40	
	110V	A	8	
	220V	A	—	
	—	A	—	
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 2 poles in series	$\leq 24\text{V}$	A	60	
	—	A	—	

	48V	A	60
	75V	A	60
	110V	A	50
	220V	A	7
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IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series			
	$\leq 24\text{V}$	A	60
	48V	A	60
	75V	A	60
	110V	A	55
	220V	A	75
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IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series			
	$\leq 24\text{V}$	A	60
	48V	A	60
	75V	A	60
	110V	A	60
	220V	A	90
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IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 1 poles in series			
	$\leq 24\text{V}$	A	30
	48V	A	25
	75V	A	22
	110V	A	3
	220V	A	–
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IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 2 poles in series			
	$\leq 24\text{V}$	A	35
	48V	A	35
	75V	A	30
	110V	A	25
	220V	A	5
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IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 3 poles in series			
	$\leq 24\text{V}$	A	50
	48V	A	50
	75V	A	45
	110V	A	30
	220V	A	40
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IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 4 poles in series			
	$\leq 24\text{V}$	A	55
	48V	A	55
	75V	A	55
	110V	A	45
	220V	A	50
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Short-time allowable current for 10s (IEC/EN60947-1)		A	400
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Protection fuse			
	gG (IEC)	A	100
	aM (IEC)	A	50
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Making capacity (RMS value)		A	500
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Breaking capacity at voltage			
	440V	A	400
	500V	A	352
	690V	A	312
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Resistance per pole (average value)		m Ω	0.8
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Power dissipation per pole (average value)			
	I_{th}	W	6.5
	AC-3	W	2
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Tightening torque for terminals			

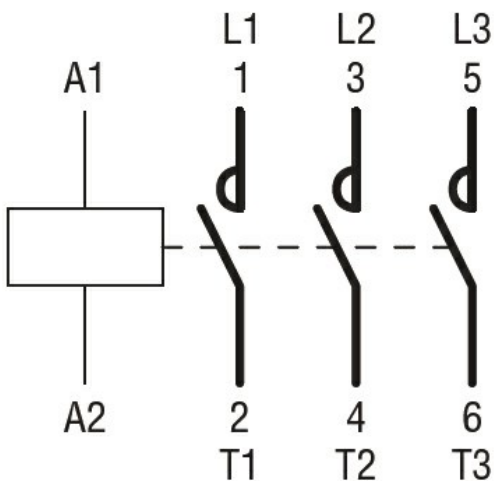
		min	Nm	4
		max	Nm	5
		min	lbin	2.95
		max	lbin	3.69
Tightening torque for coil terminal				
		min	Nm	0.8
		max	Nm	1
		min	lbin	0.8
		max	lbin	0.74
Max number of wires simultaneously connectable				Nr. 2
Conductor section				
	AWG/Kcmil			
		max		2
Flexible w/o lug conductor section				
		min	mm ²	1.5
		max	mm ²	35
Flexible c/w lug conductor section				
		min	mm ²	1.5
		max	mm ²	35
Power terminal protection according to IEC/EN 60529				IP20 front
Mechanical features				
Operating position				
		normal allowable		Vertical plan ±30°
Fixing				Screw / DIN rail 35mm
Weight			g	1020
Operations				
Mechanical life			cycles	15000000
Electrical life			cycles	1400000
Safety related data				
Performance level B10d according to EN/ISO 13489-1				
		rated load mechanical load	cycles	1400000
			cycles	15000000
EMC compatibility				yes
AC coil operating				
Rated AC voltage at 50/60Hz			V	230
AC operating voltage				
	of 50/60Hz coil powered at 50Hz			
	pick-up		min %Us	80
			max %Us	110
	drop-out		min %Us	20
			max %Us	55
	of 50/60Hz coil powered at 60Hz			
	pick-up		min %Us	85
			max %Us	110
	drop-out		min %Us	40
			max %Us	55
AC average coil consumption at 20°C				
	of 50/60Hz coil powered at 50Hz			

	in-rush	VA	210	
	holding	VA	15	
of 50/60Hz coil powered at 60Hz				
	in-rush	VA	195	
	holding	VA	13	
of 60Hz coil powered at 60Hz				
	in-rush	VA	210	
	holding	VA	15	
Dissipation at holding $\leq 20^{\circ}\text{C}$ 50Hz			W	5
Max cycles frequency				
Mechanical operation			cycles/h	3600
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	
UL technical data				
Rated operational voltage AC (UL)			V	600
Full-load current (FLA) for three-phase AC motor				
	at 480V	A	52	
	at 600V	A	41	
Yielded mechanical 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	
	575/600V	HP	40	
General USE				
Contactor				
	AC current	A	90	
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	$^{\circ}\text{C}$	-50	
	max	$^{\circ}\text{C}$	70	
Storage temperature				
	min	$^{\circ}\text{C}$	-60	
	max	$^{\circ}\text{C}$	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