



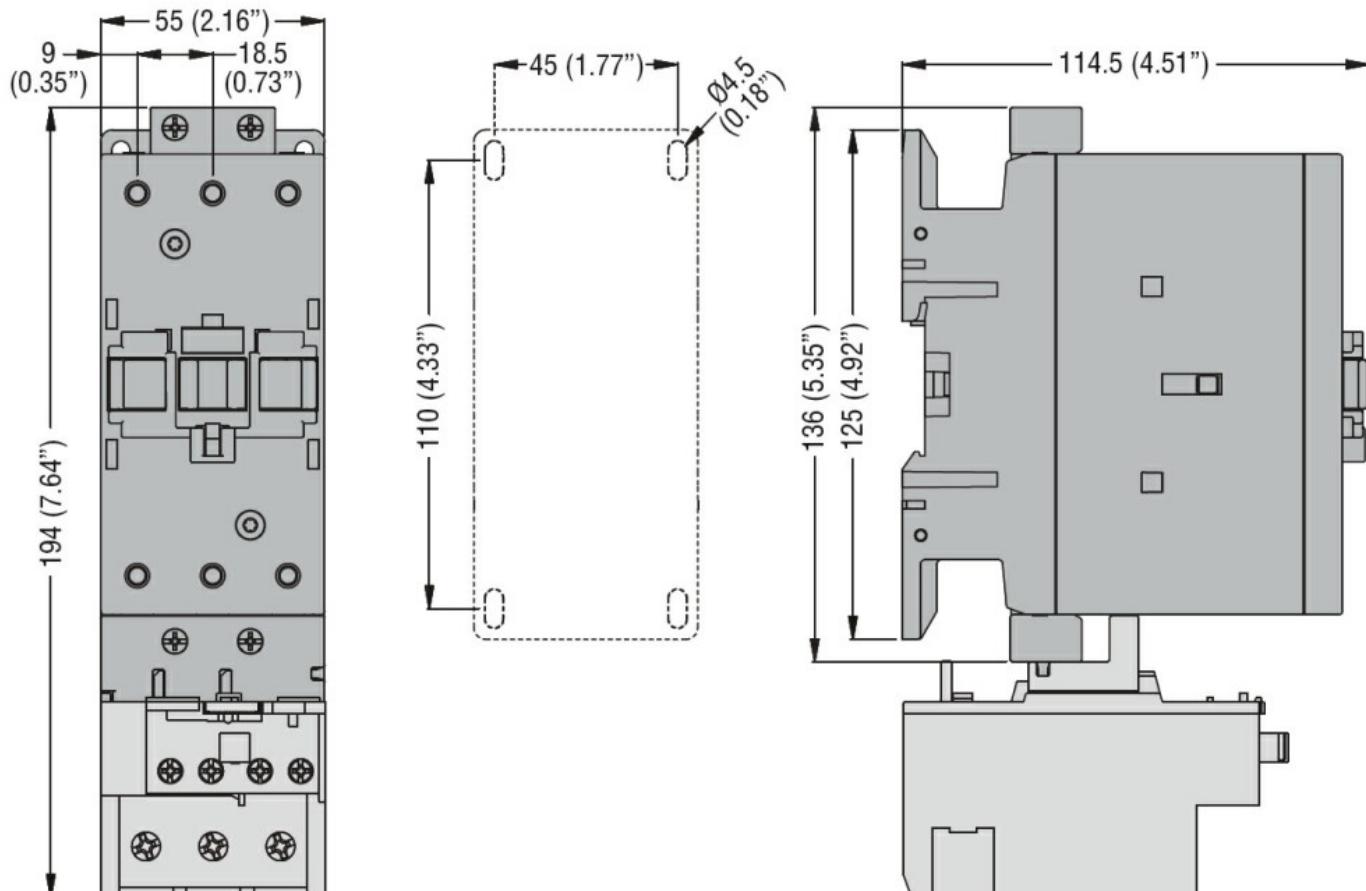
Product designation	Power contactor		
Product type designation	BF50		
Contact characteristics			
Number of poles	Nr.	3	
Rated insulation voltage U_i IEC/EN	V	1000	
Rated impulse withstand voltage U_{imp}	kV	8	
Operational frequency	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current I_{th}	A	90	
Operational current I_e			
	AC-1 ($\leq 40^\circ C$)	A	90
	AC-1 ($\leq 55^\circ C$)	A	75
	AC-1 ($\leq 70^\circ C$)	A	65
	AC-3 ($\leq 440V \leq 55^\circ C$)	A	50
	AC-4 (400V)	A	28
Rated operational power AC-3 ($T \leq 55^\circ C$)			
	230V	kW	15
	400V	kW	22
	415V	kW	30
	440V	kW	30
	500V	kW	30
	690V	kW	37
	1000V	kW	22
Rated operational power AC-1 ($T \leq 40^\circ C$)			
	230V	kW	34
	400V	kW	59
	500V	kW	74
	690V	kW	102
IEC max current I_e in DC1 with $L/R \leq 1ms$ with 1 poles in series			
	$\leq 24V$	A	45
	48V	A	40
	75V	A	40
	110V	A	8
	220V	A	—
IEC max current I_e in DC1 with $L/R \leq 1ms$ with 2 poles in series			
	$\leq 24V$	A	60
	48V	A	60
	75V	A	60
	110V	A	50
	220V	A	7
IEC max current I_e in DC1 with $L/R \leq 1ms$ with 3 poles in series			
	$\leq 24V$	A	60
	48V	A	60
	75V	A	60

	110V	A	55
	220V	A	75
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
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	—
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
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
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
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 500
Breaking capacity at voltage			
	440V	A	400
	500V	A	352
	690V	A	312
Resistance per pole (average value)			m? 0.8
Power dissipation per pole (average value)			
	I _{th}	W	6.5
	AC3	W	2
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

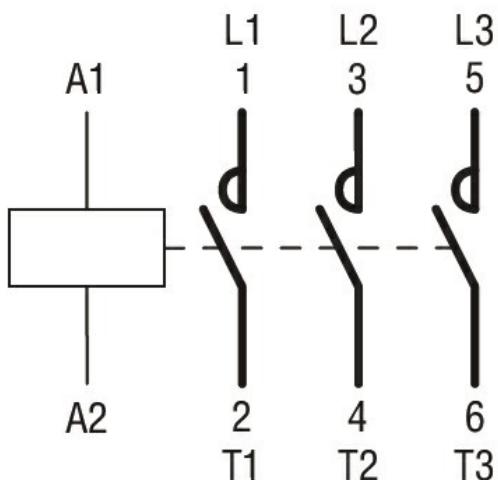
	min	Ibin	0.8
	max	Ibin	0.74
Max number of wires simultaneously connectable	Nr. 2		
Conductor section			
AWG/Kcmil	max		2
Flexible w/o lug conductor section	min	mm ²	1.5
	max	mm ²	35
Flexible c/w lug conductor section	min	mm ²	1.5
	max	mm ²	35
Power terminal protection according to IEC/EN 60529	IP20 front		
Mechanical features			
Operating position	normal allowable	Vertical plan ±30°	
Fixing	Screw / DIN rail 35mm		
Weight	g	1060	
Conductor section			
AWG/kcmil conductor section	max		2
Operations			
Mechanical life	cycles	15000000	
Electrical life	cycles	1400000	
Safety related data			
Performance level B10d according to EN/ISO 13489-1	rated load	cycles	1400000
	mechanical load	cycles	15000000
Mirror contacts 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
Rated AC voltage at 50/60Hz		V	230
AC operating voltage			
of 50/60Hz coil powered at 50Hz	max	%Us	≤70 Us min
drop-out			
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	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 $\leq 20^{\circ}\text{C}$ 50Hz		W	1...2.5
DC coil operating			
DC rated control voltage		min V	100
		max V	250
DC rated control voltage		V	230
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 $\leq 20^{\circ}\text{C}$			
	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	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 max	°C °C
		-40 70
Storage temperature	min max	°C °C
		-50 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 60947-1

IEC/EN 60947-4-1

UL 60947-1

UL 60947-4-1

Certificates

CCC

cULus

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching