



Product designation				Power contactor
Product type designation				BF50
<b>Contact characteristics</b>				
Number of poles	Nr.			3
Rated insulation voltage U <sub>i</sub> IEC/EN	V			1000
Rated impulse withstand voltage U <sub>imp</sub>	kV			8
Operational frequency	min	Hz	25	
	max	Hz	400	
IEC Conventional free air thermal current I <sub>th</sub>	A			90
Operational current I <sub>e</sub>	AC-1 (≤40°C)	A	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)	230V	kW	11	
	400V	kW	22	
	415V	kW	22	
	440V	kW	22	
	500V	kW	22	
	690V	kW	30	
	1000V	kW	22	
Rated operational current AC-3 (T≤55°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≤40°C)	230V	kW	34	
	400V	kW	59	
	500V	kW	74	
	690V	kW	102	
IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 1 poles in series	≤24V	A	45	
	48V	A	40	
	75V	A	40	
	110V	A	8	
	220V	A	—	
IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 2 poles in series	≤24V	A	60	

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

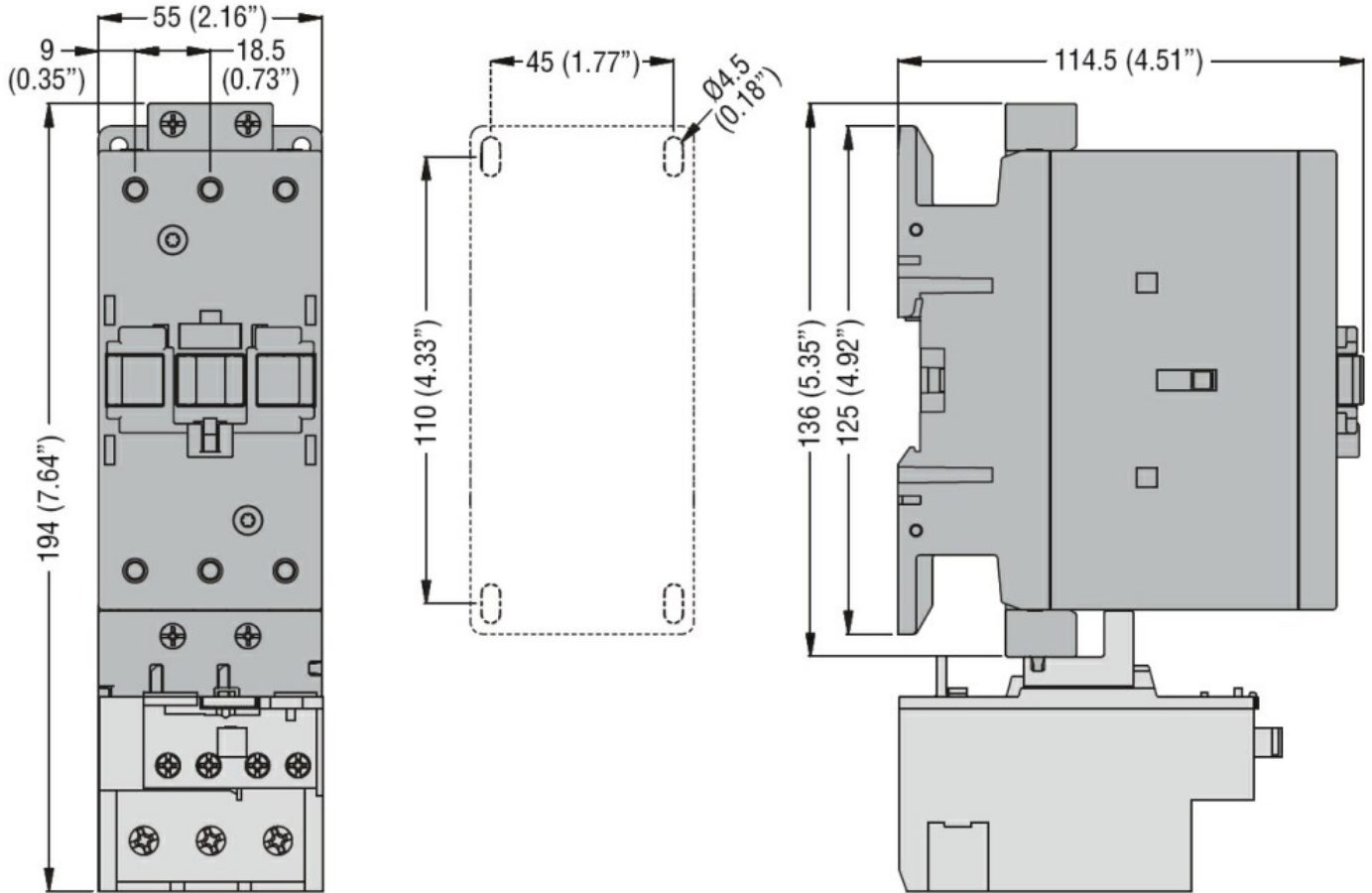
	min	Nm	4
	max	Nm	5
	min	Ibin	2.95
	max	Ibin	3.69
<b>Tightening torque for coil terminal</b>			
	min	Nm	0.8
	max	Nm	1
	min	Ibin	0.8
	max	Ibin	0.74
<b>Max number of wires simultaneously connectable</b>			Nr. 2
<b>Conductor section</b>			
AWG/Kcmil			
	max		2
<b>Flexible w/o lug conductor section</b>			
	min	mm <sup>2</sup>	1.5
	max	mm <sup>2</sup>	35
<b>Flexible c/w lug conductor section</b>			
	min	mm <sup>2</sup>	1.5
	max	mm <sup>2</sup>	35
<b>Power terminal protection according to IEC/EN 60529</b>			IP20 front
<b>Mechanical features</b>			
<b>Operating position</b>			
	normal allowable		Vertical plan ±30°
<b>Fixing</b>			Screw / DIN rail 35mm
<b>Weight</b>			g 1020
<b>Conductor section</b>			
AWG/kcmil conductor section			
	max		2
<b>Operations</b>			
<b>Mechanical life</b>		cycles	15000000
<b>Electrical life</b>		cycles	1400000
<b>Safety related data</b>			
<b>Performance level B10d according to EN/ISO 13489-1</b>			
	rated load	cycles	1400000
	mechanical load	cycles	15000000
<b>Mirror contacts according to IEC/EN 60947-4-1</b>			yes
<b>EMC compatibility</b>			yes
<b>AC coil operating</b>			
<b>Rated AC voltage at 60Hz</b>		V	48
<b>AC operating voltage</b>			
of 60Hz coil powered at 60Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out			
	min	%Us	20
	max	%Us	55
<b>AC average coil consumption at 20°C</b>			
of 60Hz coil powered at 60Hz			
	in-rush	VA	210
	holding	VA	15

Dissipation at holding ≤20°C 50Hz		W	5
<b>Max cycles frequency</b>			
Mechanical operation		cycles/h	3600
<b>Operating times</b>			
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
<b>UL technical data</b>			
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
<b>Ambient conditions</b>			
Temperature			
Operating temperature		min	°C -50
		max	°C 70
Storage temperature		min	°C -60
		max	°C 80
Max altitude		m	3000
<b>Resistance &amp; Protection</b>			

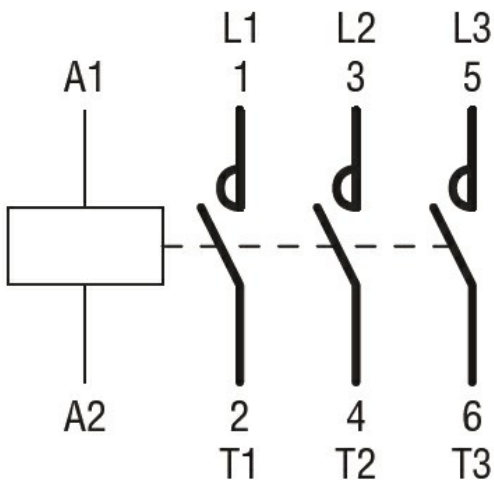
Pollution degree

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