



Product designation				Power contactor
Product type designation				BF94
<b>Contact characteristics</b>				
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			115
Operational current $I_e$	AC-1 ( $\leq 40^\circ\text{C}$ )	A	115	
	AC-1 ( $\leq 55^\circ\text{C}$ )	A	95	
	AC-1 ( $\leq 70^\circ\text{C}$ )	A	80	
	AC-3 ( $\leq 440\text{V} \leq 55^\circ\text{C}$ )	A	95	
	AC-4 (400V)	A	45	
Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )	230V	kW	30	
	400V	kW	55	
	415V	kW	55	
	440V	kW	55	
	500V	kW	55	
	690V	kW	55	
	1000V	kW	37	
Rated operational current AC-3 ( $T \leq 55^\circ\text{C}$ )	230V	A	94	
	400V	A	94	
	415V	A	94	
	440V	A	94	
	500V	A	78	
	690V	A	57	
	1000V	A	28	
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A	77	
	48V	A	66	
	75V	A	66	
	110V	A	8	
	220V	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	110
48V		A	110	
75V		A	110	
110V		A	90	
220V		A	9	
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series				

	≤24V	A	110
	48V	A	110
	75V	A	110
	110V	A	93
	220V	A	95
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IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 4 poles in series	≤24V	A	115
	48V	A	115
	75V	A	115
	110V	A	110
	220V	A	115
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IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 1 poles in series	≤24V	A	45
	48V	A	33
	75V	A	33
	110V	A	3
	220V	A	–
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IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 2 poles in series	≤24V	A	65
	48V	A	55
	75V	A	55
	110V	A	43
	220V	A	5
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IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	≤24V	A	86
	48V	A	75
	75V	A	75
	110V	A	64
	220V	A	64
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IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 4 poles in series	≤24V	A	96
	48V	A	95
	75V	A	95
	110V	A	80
	220V	A	80
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Short-time allowable current for 10s (IEC/EN60947-1)		A	640
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Protection fuse	gG (IEC)	A	125
	aM (IEC)	A	100
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Making capacity (RMS value)		A	950
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Breaking capacity at voltage	440V	A	640
	500V	A	625
	690V	A	456
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Resistance per pole (average value)		mΩ	0.6
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Power dissipation per pole (average value)	I <sub>th</sub>	W	7.9
	AC-3	W	5.4
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Tightening torque for terminals	min	Nm	4
	max	Nm	5
	min	I <sub>bin</sub>	3
	max	I <sub>bin</sub>	3.7

Tightening torque for coil terminal

min	Nm	0.8
max	Nm	1
min	Ibin	0.59
max	Ibin	0.74

Max number of wires simultaneously connectable

Nr. 2

Conductor section

Flexible w/o lug conductor section

min	mm <sup>2</sup>	1.5
max	mm <sup>2</sup>	35

Power terminal protection according to IEC/EN 60529

IP20

**Mechanical features**

Operating position

normal allowable      Vertical plan  
±30°

Fixing

Screw / DIN rail  
35mm

Weight

g 1

**Operations**

Mechanical life

cycles 15000000

Electrical life

cycles 1100000

**Safety related data**

Mirror contacts according to IEC/EN 60947-4-1

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

min	%Us	20
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	40
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 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

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 77

at 600V A 77

Yielded mechanical performance

for three-phase AC motor

200/208V HP 25

220/230V HP 30

460/480V HP 60

575/600V HP 75

General USE

Contactor

AC current A 115

Short-circuit protection fuse, 600V

High fault

Short circuit current kA 100

Fuse rating A 200

Fuse class J

Standard fault

Short circuit current kA 10

Fuse rating A 200

Fuse class RK5

**Ambient conditions**

Temperature

Operating temperature

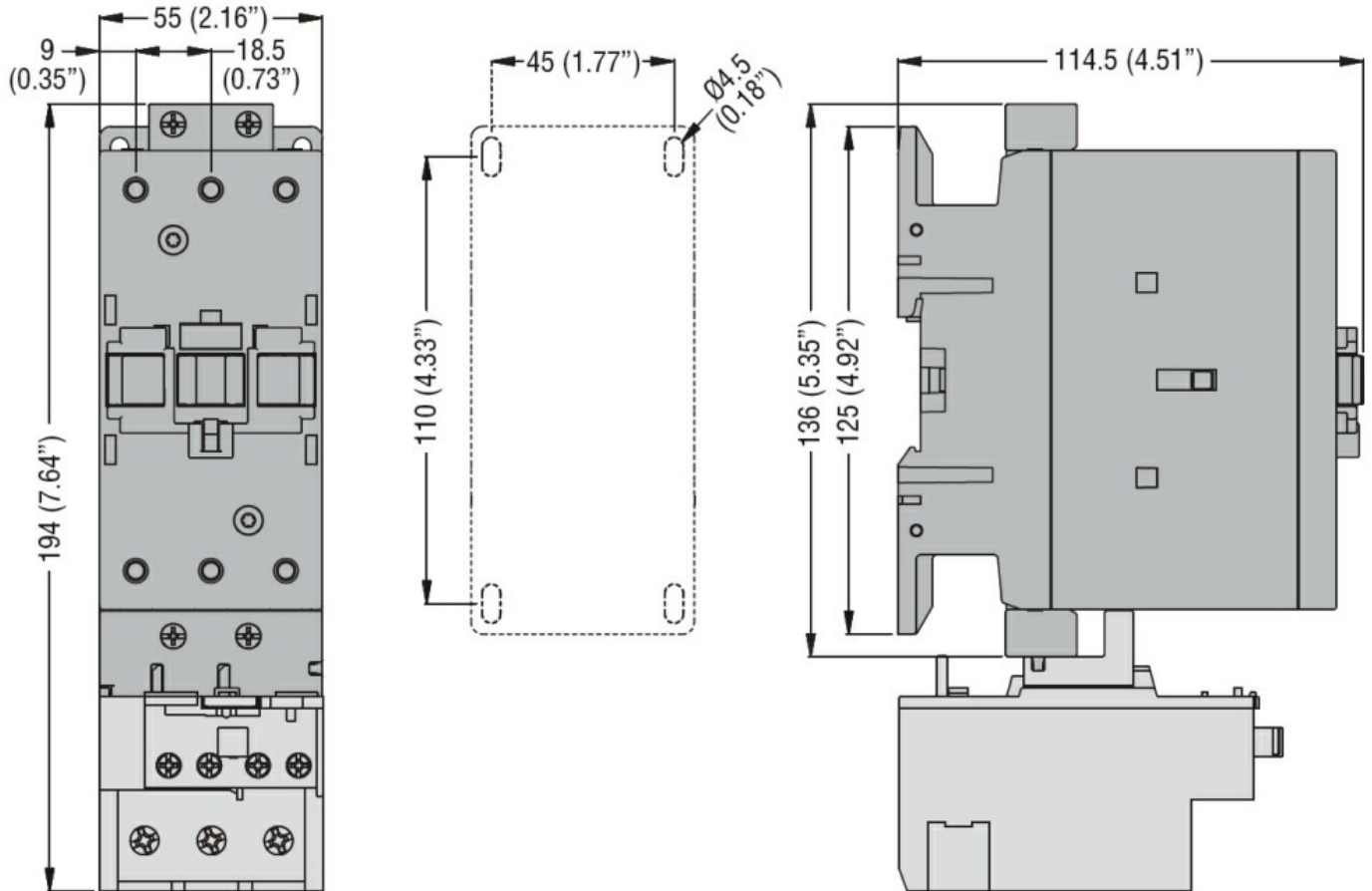
min	°C	-50
max	°C	70

Storage temperature

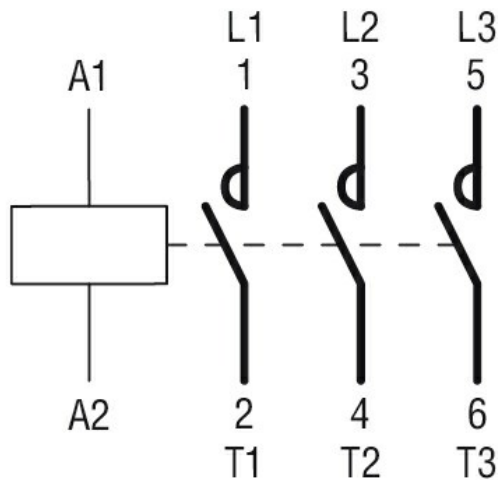
min	°C	-60
max	°C	80
	m	3000

Max altitude

**Dimensions**



**Wiring diagrams**



**Certifications and compliance**

Compliance

CSA C22.2 n° 60947-1  
CSA C22.2 n° 60947-4-1

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IEC/EN/BS 60947-1

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IEC/EN/BS 60947-4-1

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UL 60947-1

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UL 60947-4-1

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Certificates

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CCC

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cULus

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EAC

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ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching