



Product designation				Power contactor
Product type designation				BF94
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			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	
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	$\leq 24\text{V}$	A	110	
	48V	A	110	
	75V	A	110	
	110V	A	93	
	220V	A	95	
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series	$\leq 24\text{V}$	A	115	
	48V	A	115	

	75V	A	115
	110V	A	110
	220V	A	115
<hr/>			
IEC max current I _e 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	–
<hr/>			
IEC max current I _e 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
<hr/>			
IEC max current I _e 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
<hr/>			
IEC max current I _e 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
<hr/>			
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
<hr/>			
Making capacity (RMS value)		A	950
<hr/>			
Breaking capacity at voltage	440V	A	640
	500V	A	625
	690V	A	456
<hr/>			
Resistance per pole (average value)		mΩ	0.6
<hr/>			
Power dissipation per pole (average value)	I _{th}	W	7.9
	AC3	W	5.4
<hr/>			
Tightening torque for terminals	min	Nm	4
	max	Nm	5
	min	I _{bin}	3
	max	I _{bin}	3.7
<hr/>			
Tightening torque for coil terminal	min	Nm	0.8
	max	Nm	1
	min	I _{bin}	0.59
	max	I _{bin}	0.74
<hr/>			
Max number of wires simultaneously connectable		Nr.	2
<hr/>			
Conductor section	Flexible w/o lug conductor section		

	min	mm ²	1.5
	max	mm ²	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	20
	max	V	48
Rated AC voltage at 50/60Hz		V	24
AC operating voltage			
of 50/60Hz coil powered at 50Hz			
pick-up	min	%Us	85 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	85 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	20
	max	V	48
DC rated control voltage		V	24
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	3600
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Operating times

Average time for U_s 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
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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	$^{\circ}\text{C}$	-50
max	$^{\circ}\text{C}$	70

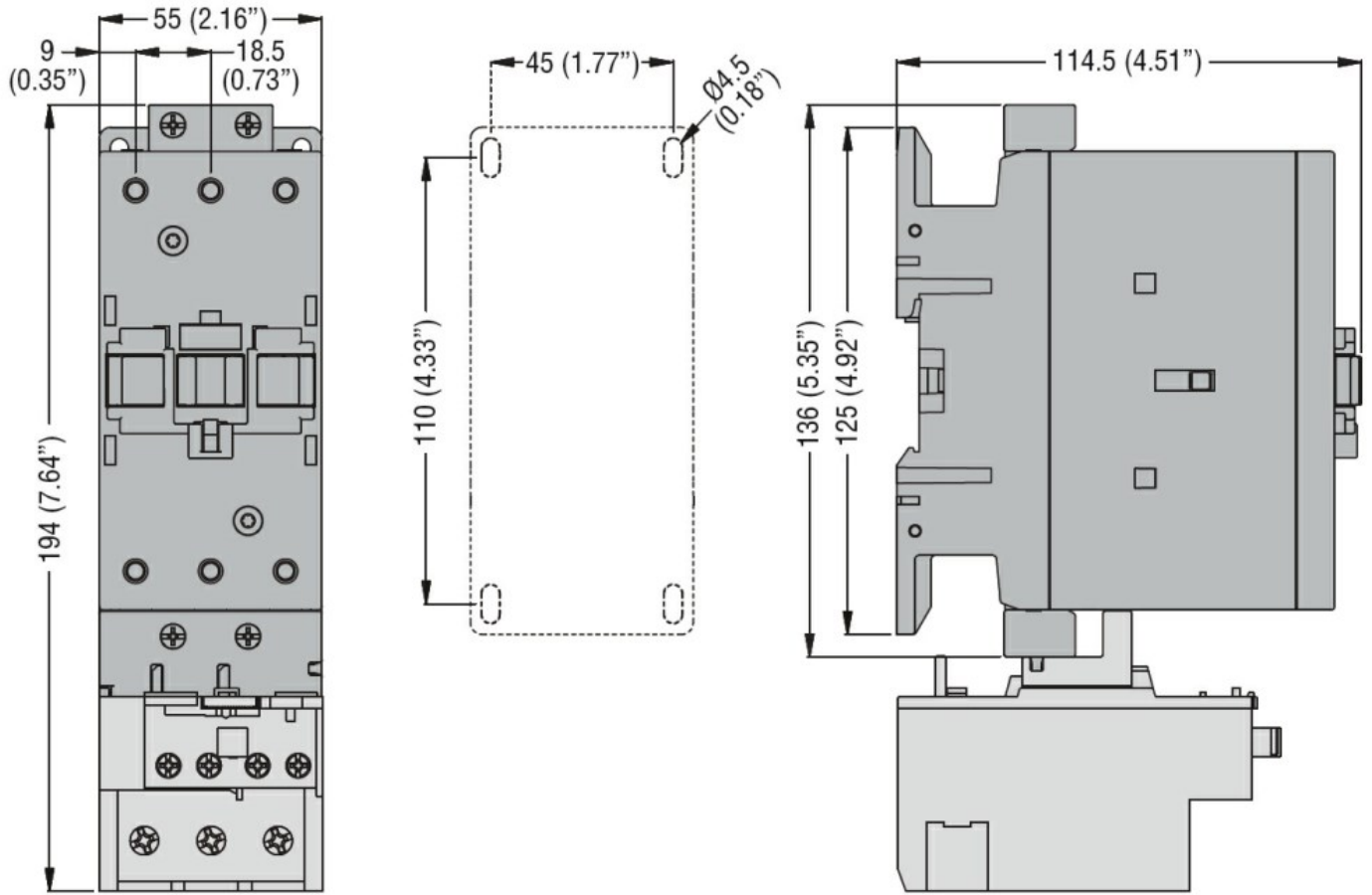
Storage temperature

min	$^{\circ}\text{C}$	-60
max	$^{\circ}\text{C}$	80

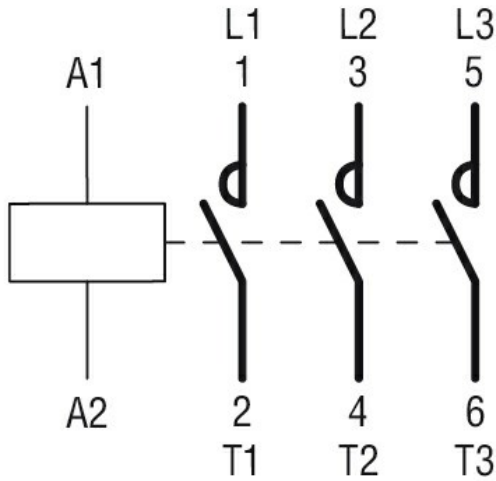
Max altitude

m	3000
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Dimensions [mm (in)]



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

EAC

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching



Product designation				Power contactor
Product type designation				BF94
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	
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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	
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		$\leq 24\text{V}$	A	110
	48V	A	110	
	75V	A	110	
	110V	A	93	
	220V	A	95	
	IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series	$\leq 24\text{V}$	A	115
48V		A	115	

	75V	A	115
	110V	A	110
	220V	A	115
<hr/>			
IEC max current I _e 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	–
<hr/>			
IEC max current I _e 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
<hr/>			
IEC max current I _e 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
<hr/>			
IEC max current I _e 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
<hr/>			
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
<hr/>			
Making capacity (RMS value)		A	950
<hr/>			
Breaking capacity at voltage	440V	A	640
	500V	A	625
	690V	A	456
<hr/>			
Resistance per pole (average value)		mΩ	0.6
<hr/>			
Power dissipation per pole (average value)	I _{th}	W	7.9
	AC3	W	5.4
<hr/>			
Tightening torque for terminals	min	Nm	4
	max	Nm	5
	min	lbin	3
	max	lbin	3.7
<hr/>			
Tightening torque for coil terminal	min	Nm	0.8
	max	Nm	1
	min	lbin	0.59
	max	lbin	0.74
<hr/>			
Max number of wires simultaneously connectable		Nr.	2
<hr/>			
Conductor section	Flexible w/o lug conductor section		

	min	mm ²	1.5
	max	mm ²	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	60
	max	V	110
Rated AC voltage at 50/60Hz		V	110
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	60
	max	V	110
DC rated control voltage		V	110
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 3600

Operating times

Average time for U_s 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
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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	$^{\circ}\text{C}$	-50
max	$^{\circ}\text{C}$	70

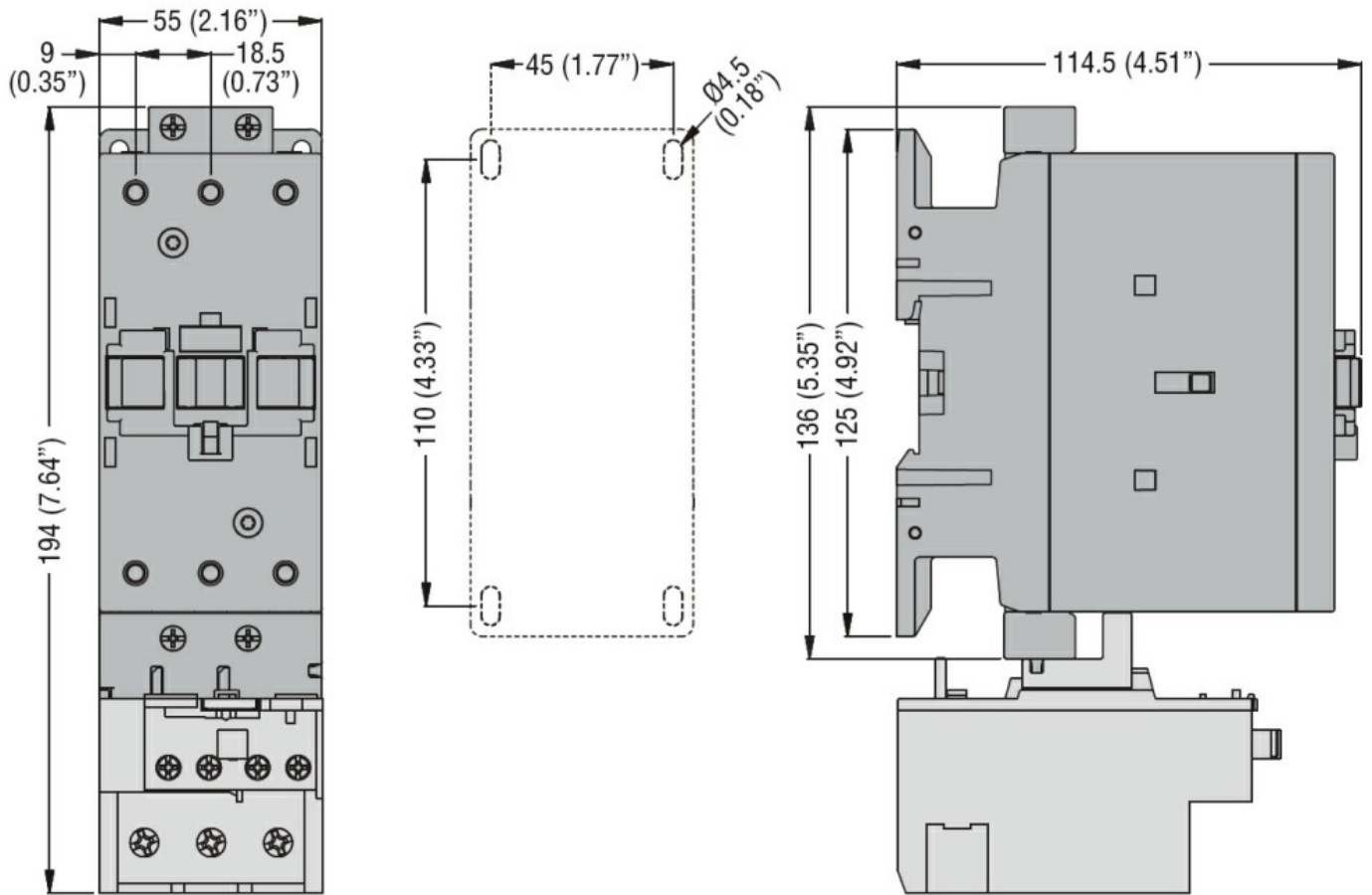
Storage temperature

min	$^{\circ}\text{C}$	-60
max	$^{\circ}\text{C}$	80

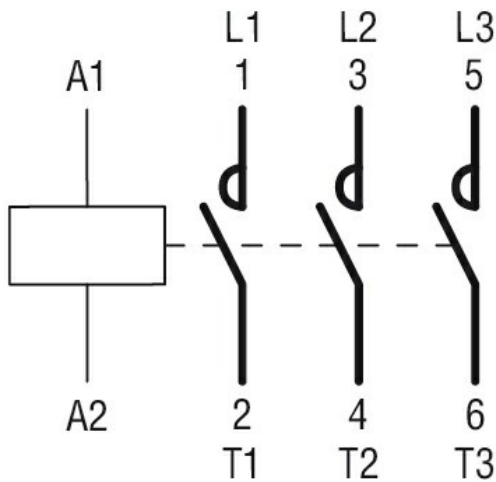
Max altitude

m	3000
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Dimensions [mm (in)]



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

EAC

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching



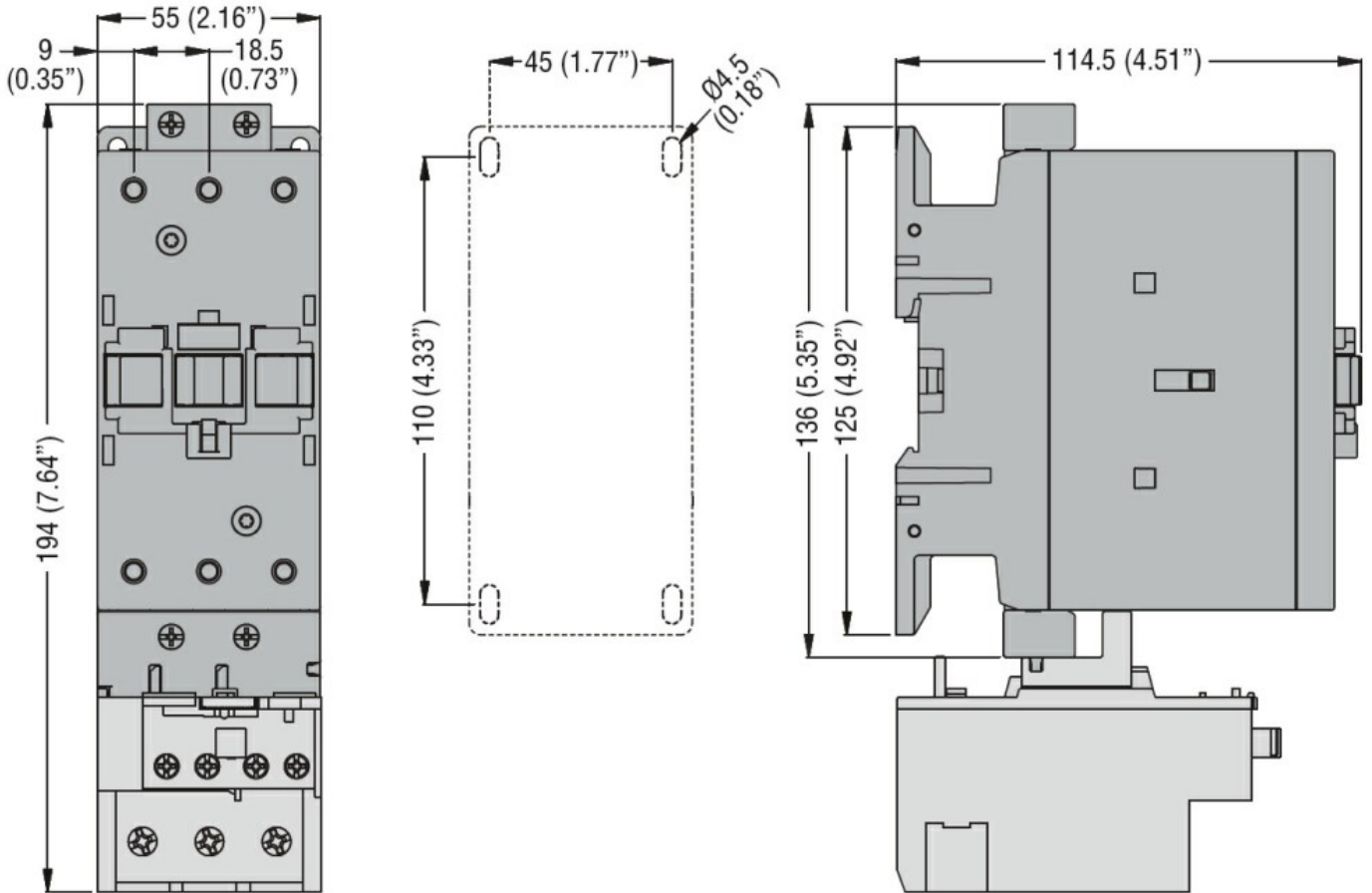
Product designation				Power contactor
Product type designation				BF94
Contact characteristics				
Number of poles	Nr.			3
Rated insulation voltage U_i IEC/EN	V			1000
Rated impulse withstand voltage U_{imp}	kV			8
Operational frequency	min	Hz	25	
	max	Hz	400	
IEC Conventional free air thermal current I_{th}	A			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	
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		$\leq 24\text{V}$	A	110
	48V	A	110	
	75V	A	110	
	110V	A	93	
	220V	A	95	
	IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series	$\leq 24\text{V}$	A	115
48V		A	115	

	75V	A	115
	110V	A	110
	220V	A	115
<hr/>			
IEC max current I _e 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	–
<hr/>			
IEC max current I _e 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
<hr/>			
IEC max current I _e 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
<hr/>			
IEC max current I _e 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
<hr/>			
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
<hr/>			
Making capacity (RMS value)		A	950
<hr/>			
Breaking capacity at voltage	440V	A	640
	500V	A	625
	690V	A	456
<hr/>			
Resistance per pole (average value)		mΩ	0.6
<hr/>			
Power dissipation per pole (average value)	I _{th}	W	7.9
	AC3	W	5.4
<hr/>			
Tightening torque for terminals	min	Nm	4
	max	Nm	5
	min	I _{bin}	3
	max	I _{bin}	3.7
<hr/>			
Tightening torque for coil terminal	min	Nm	0.8
	max	Nm	1
	min	I _{bin}	0.59
	max	I _{bin}	0.74
<hr/>			
Max number of wires simultaneously connectable		Nr.	2
<hr/>			
Conductor section	Flexible w/o lug conductor section		

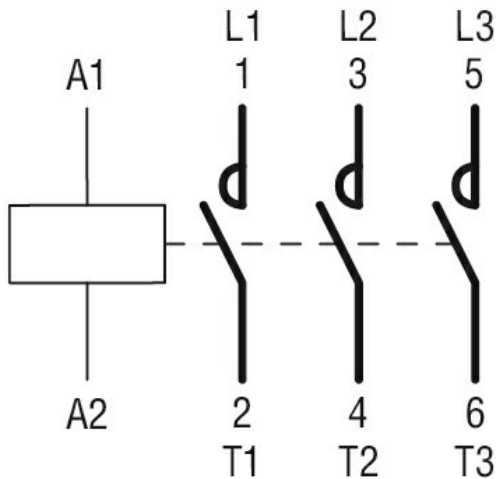
	min	mm ²	1.5
	max	mm ²	35
Power terminal protection according to IEC/EN 60529			IP20
Mechanical features			
Operating position	normal allowable		Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight		g	1
Operations			
Mechanical life		cycles	15000000
Electrical life		cycles	1100000
Safety related 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
Rated AC voltage at 50/60Hz		V	230
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 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 ≤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
Max altitude				
			m	3000

Dimensions [mm (in)]



Wiring diagrams



Certifications and compliance

Compliance

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- CSA C22.2 n° 60947-4-1
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Certificates

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