



Product designation

Power contactor

Product type designation

BF40

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	70
Operational current I_e	AC-1 ($\leq 40^\circ\text{C}$)	A 70
	AC-1 ($\leq 55^\circ\text{C}$)	A 60
	AC-1 ($\leq 70^\circ\text{C}$)	A 50
	AC-3 ($\leq 440\text{V} \leq 55^\circ\text{C}$)	A 40
	AC-4 (400V)	A 24
Rated operational power AC-3 ($T \leq 55^\circ\text{C}$)	230V	kW 11
	400V	kW 18.5
	415V	kW 22
	440V	kW 22
	500V	kW 22
	690V	kW 30
	1000V	kW 18.5
Rated operational current AC-3 ($T \leq 55^\circ\text{C}$)	230V	A 40
	400V	A 40
	415V	A 40
	440V	A 40
	500V	A 33
	690V	A 32
	1000V	A 21
Rated operational power AC-1 ($T \leq 40^\circ\text{C}$)	230V	kW 26
	400V	kW 46
	500V	kW 58
	690V	kW 79
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A 40
	48V	A 35
	75V	A 30
	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 48

	48V	A	48
	75V	A	45
	110V	A	42
	220V	A	5
IEC max current Ie in DC1 with L/R ≤ 1ms with 3 poles in series			
	≤24V	A	48
	48V	A	48
	75V	A	48
	110V	A	44
	220V	A	56
IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	A	—
	48V	A	—
	75V	A	—
	110V	A	—
	220V	A	70
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	A	27
	48V	A	23
	75V	A	19
	110V	A	3
	220V	A	—
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	A	32
	48V	A	30
	75V	A	27
	110V	A	22
	220V	A	5
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	≤24V	A	40
	48V	A	40
	75V	A	38
	110V	A	27
	220V	A	32
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	≤24V	A	—
	48V	A	—
	75V	A	—
	110V	A	—
	220V	A	40
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	400
Breaking capacity at voltage			
	440V	A	320
	500V	A	265
	690V	A	256
Resistance per pole (average value)		mΩ	0.8
Power dissipation per pole (average value)			
	Ith	W	3.9
	AC-3	W	1.3
Tightening torque for terminals			

		min	Nm	4
		max	Nm	5
		min	Ibin	2.95
		max	Ibin	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
Operations				
Mechanical life			cycles	15000000
Electrical life			cycles	1500000
Safety related data				
Performance level B10d according to EN/ISO 13489-1				
		rated load	cycles	1500000
		mechanical load	cycles	15000000
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	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 $\leq 20^{\circ}\text{C}$ 50Hz

W	1...2.5
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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
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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
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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

Rated operational voltage AC (UL)

V	600
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Full-load current (FLA) for three-phase AC motor

at 480V	A	40
at 600V	A	32

Yielded mechanical performance

for single-phase AC motor

110/120V	HP	3
230V	HP	7.5

for three-phase AC motor

200/208V	HP	10
220/230V	HP	15
460/480V	HP	30
575/600V	HP	30

General USE

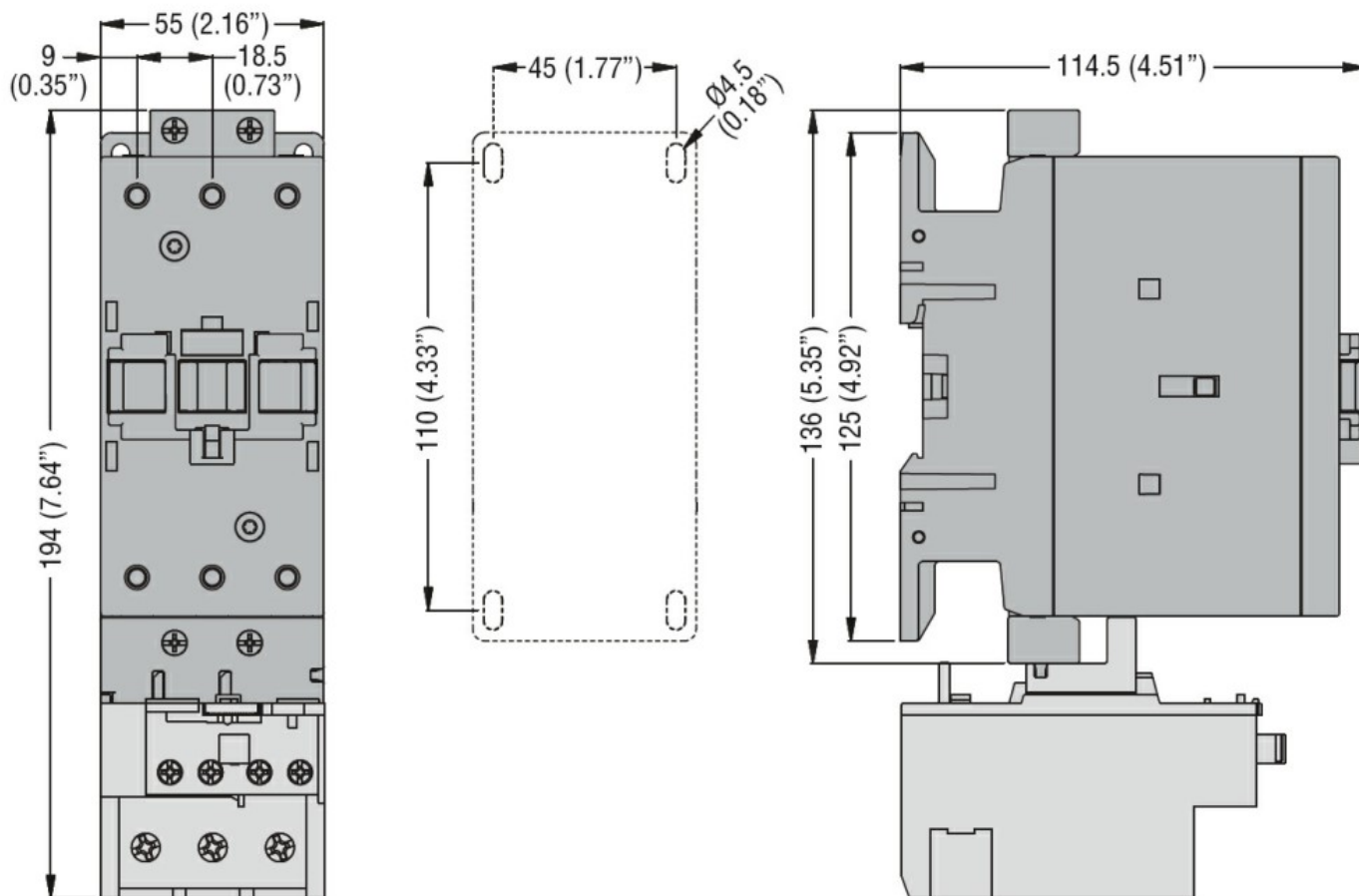
Contactor

		AC current	A	70
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	°C	-40
		max	°C	70
Storage temperature		min	°C	-50
		max	°C	80
Max altitude		m		3000

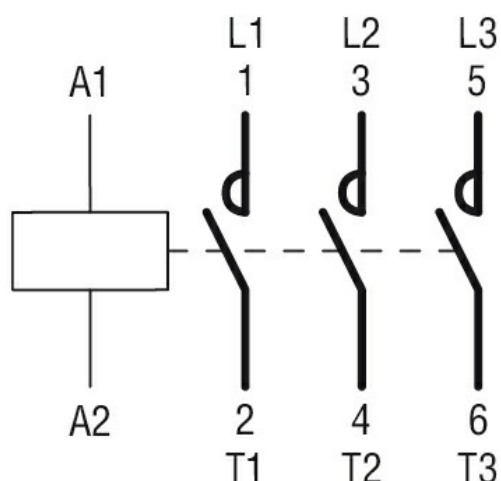
Resistance & Protection

Pollution degree	3
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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