



Product designation  
Product type designation

Power contactor  
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
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IEC max current I <sub>e</sub> 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
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IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 4 poles in series	≤24V	A	–
	48V	A	–
	75V	A	–
	110V	A	–
	220V	A	70
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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	27
	48V	A	23
	75V	A	19
	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	32
	48V	A	30
	75V	A	27
	110V	A	22
	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	40
	48V	A	40
	75V	A	38
	110V	A	27
	220V	A	32
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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	–
	48V	A	–
	75V	A	–
	110V	A	–
	220V	A	40
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Short-time allowable current for 10s (IEC/EN60947-1)		A	400
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Protection fuse			
	gG (IEC)	A	100
	aM (IEC)	A	50
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Making capacity (RMS value)		A	400
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Breaking capacity at voltage			
	440V	A	320
	500V	A	265
	690V	A	256
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Resistance per pole (average value)		mΩ	0.8
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Power dissipation per pole (average value)			
	I <sub>th</sub>	W	3.9
	AC-3	W	1.3
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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 1060
<b>Conductor section</b>			
AWG/kcmil conductor section	max		2
<b>Operations</b>			
<b>Mechanical life</b>		cycles	15000000
<b>Electrical life</b>		cycles	1500000
<b>Safety related data</b>			
<b>Performance level B10d according to EN/ISO 13489-1</b>			
	rated load	cycles	1500000
	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 50/60Hz, 60Hz</b>			
	min	V	20
	max	V	48
<b>AC operating voltage</b>			
of 50/60Hz coil powered at 50Hz pick-up		min	%Us 85 Us min
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
<b>DC coil operating</b>				
DC rated control voltage				
		min	V	20
		max	V	48
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
<b>Max cycles frequency</b>				
Mechanical operation			cycles/h	1500
<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	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
Auxiliary contacts	AC voltage	V	600
	AC current	A	10
	DC voltage	V	250
	DC current	A	1

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

Contact rating of auxiliary contacts according to UL

SI - A600

Ambient conditions

Temperature

Operating temperature	min	°C	-40
	max	°C	70
Storage temperature	min	°C	-50
	max	°C	80

Max altitude

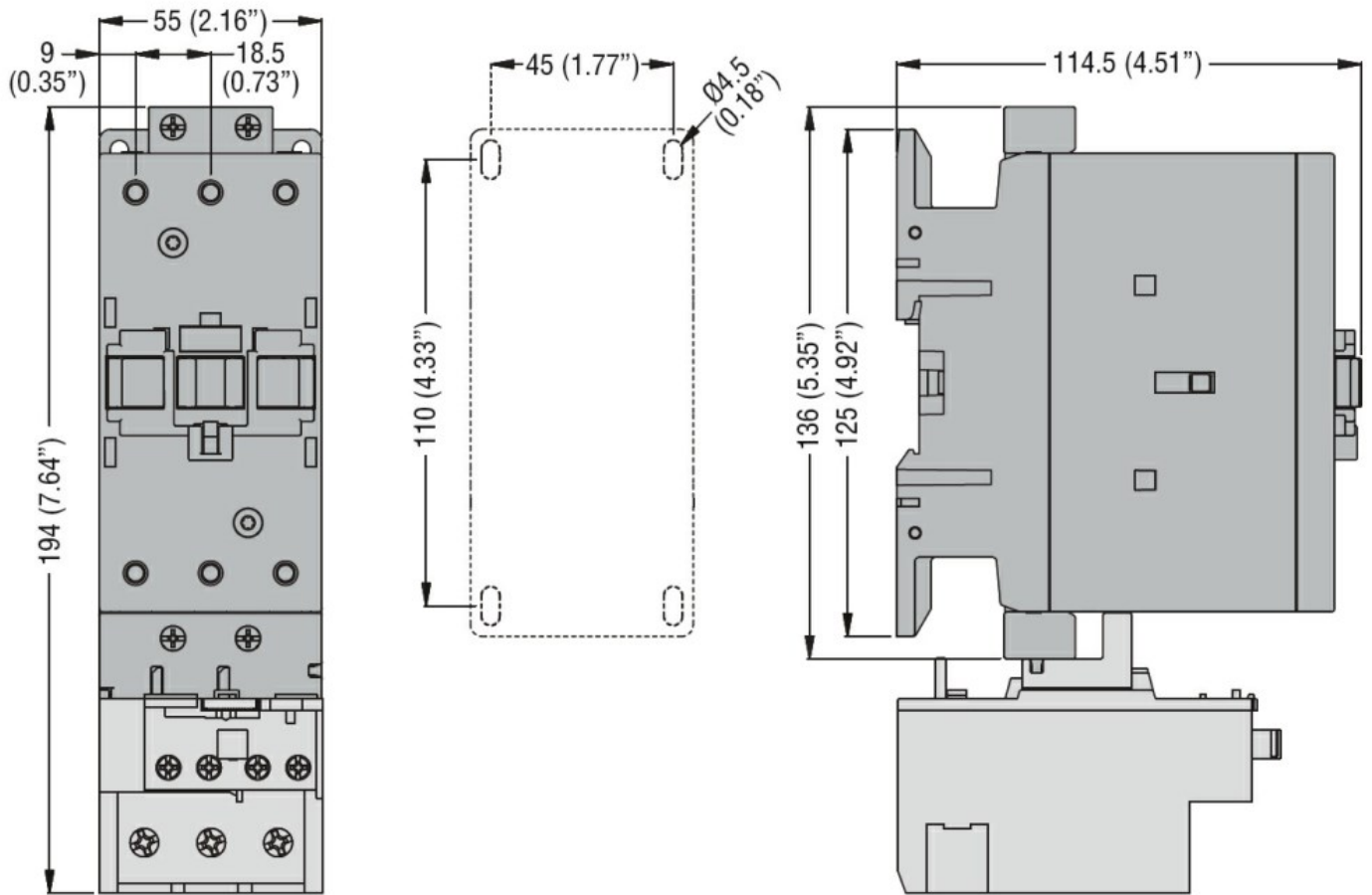
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Resistance & Protection

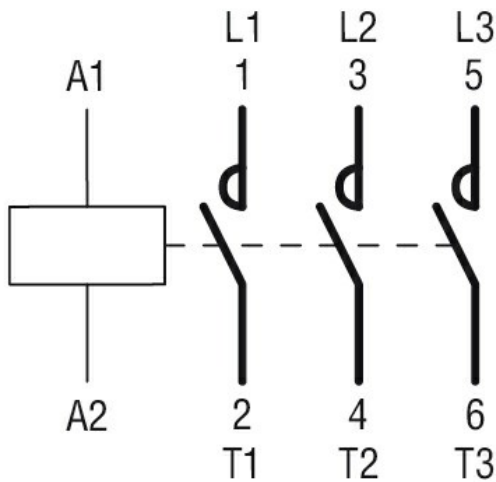
Pollution degree

3

Dimensions



### Wiring diagrams



### Certifications and compliance

#### Compliance

CSA C22.2 n° 60947-1  
 CSA C22.2 n° 60947-4-1  
 IEC/EN/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