



Product designation				Power contactor
Product type designation				BF40
<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			70
Operational current I <sub>e</sub>	AC-1 (=40°C)	A	70	
	AC-1 (=55°C)	A	60	
	AC-1 (=70°C)	A	50	
	AC-3 (=440V =55°C)	A	40	
	AC-4 (400V)	A	24	
Rated operational power AC-3 (T=55°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 power AC-1 (T=40°C)	230V	kW	26	
	400V	kW	46	
	500V	kW	58	
	690V	kW	79	
IEC max current I <sub>e</sub> in DC1 with L/R = 1ms with 1 poles in series	=24V	A	40	
	48V	A	35	
	75V	A	30	
	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	48	
	48V	A	48	
	75V	A	45	
	110V	A	42	
	220V	A	5	
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
<hr/>			
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
<hr/>			
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	–
<hr/>			
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
<hr/>			
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
<hr/>			
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
<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	400
<hr/>			
Breaking capacity at voltage			
	440V	A	320
	500V	A	265
	690V	A	256
<hr/>			
Resistance per pole (average value)		m?	0.8
<hr/>			
Power dissipation per pole (average value)			
	I <sub>th</sub>	W	3.9
	AC3	W	1.3
<hr/>			
Tightening torque for terminals			
	min	Nm	4
	max	Nm	5
	min	I <sub>bin</sub>	2.95
	max	I <sub>bin</sub>	3.69
<hr/>			
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1

	min	I <sub>bin</sub>	0.8
	max	I <sub>bin</sub>	0.74
Max number of wires simultaneously connectable		Nr.	2
Conductor section			
AWG/Kcmil			
	max		2
Flexible w/o lug conductor section			
	min	mm <sup>2</sup>	1.5
	max	mm <sup>2</sup>	35
Flexible c/w 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 front
<b>Mechanical features</b>			
Operating position			
	normal allowable		Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight		g	1060
Conductor section			
AWG/kcmil conductor section			
	max		2
<b>Operations</b>			
Mechanical life		cycles	15000000
Electrical life		cycles	1500000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	1500000
	mechanical load	cycles	15000000
Mirror contacts according to IEC/EN 60947-4-1			yes
EMC compatibility			yes
<b>AC coil operating</b>			
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			
	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
<b>DC coil operating</b>			
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
<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
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

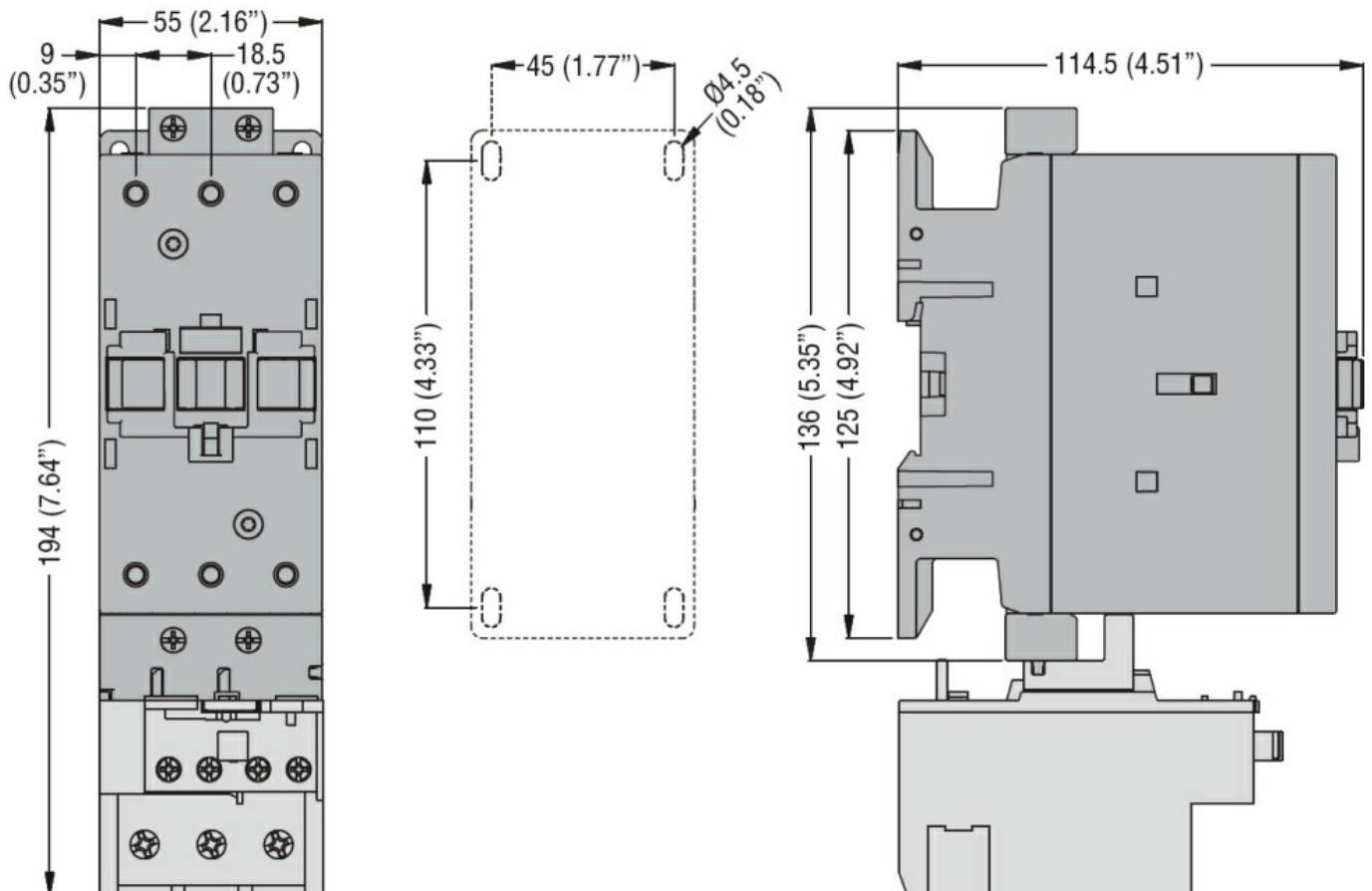
m 3000

Resistance & Protection

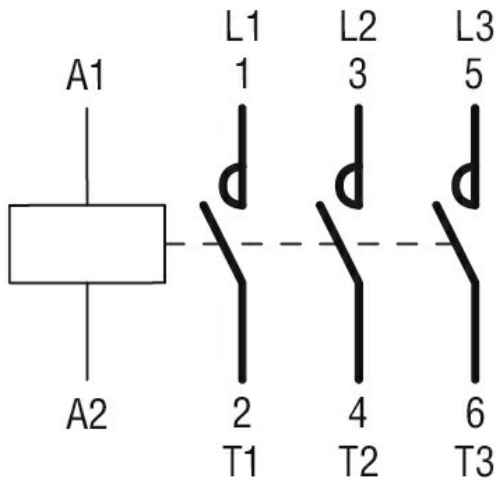
Pollution degree

3

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