



Product designation  
Product type designation

Power contactor  
BF40

**Contact characteristics**

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 22
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
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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
	AC3	W	1.3
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Tightening torque for terminals			
	min	Nm	4
	max	Nm	5
	min	I <sub>bin</sub>	2.95
	max	I <sub>bin</sub>	3.69
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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	1020
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		V	400
AC operating voltage			
of 50/60Hz coil powered at 50Hz			
pick-up	min	%U <sub>s</sub>	80
	max	%U <sub>s</sub>	110
drop-out	min	%U <sub>s</sub>	20
	max	%U <sub>s</sub>	55
of 50/60Hz coil powered at 60Hz			
pick-up	min	%U <sub>s</sub>	85
	max	%U <sub>s</sub>	110
drop-out	min	%U <sub>s</sub>	40
	max	%U <sub>s</sub>	55
AC average coil consumption at 20°C			
of 50/60Hz coil powered at 50Hz			
	in-rush	VA	210
	holding	VA	15

of 50/60Hz coil powered at 60Hz

in-rush	VA	195
holding	VA	13

of 60Hz coil powered at 60Hz

in-rush	VA	210
holding	VA	15

Dissipation at holding  $\leq 20^{\circ}\text{C}$  50Hz

W	5
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**Max cycles frequency**

Mechanical operation

cycles/h	3600
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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**

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

Contactors

AC current	A	70
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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

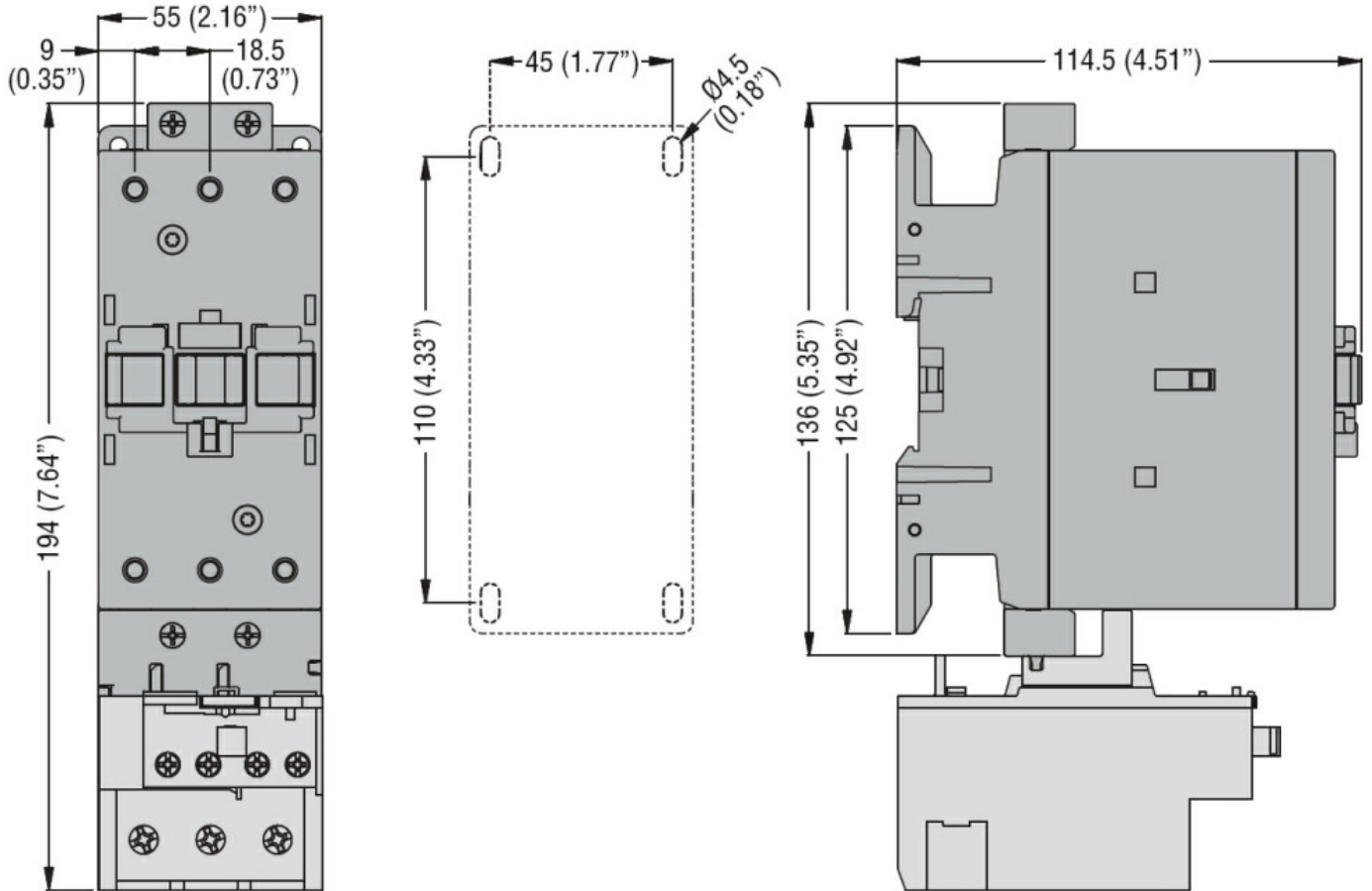
min	$^{\circ}\text{C}$	-50
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Storage temperature	max	°C	70
	min	°C	-60
Max altitude	max	°C	80
		m	3000

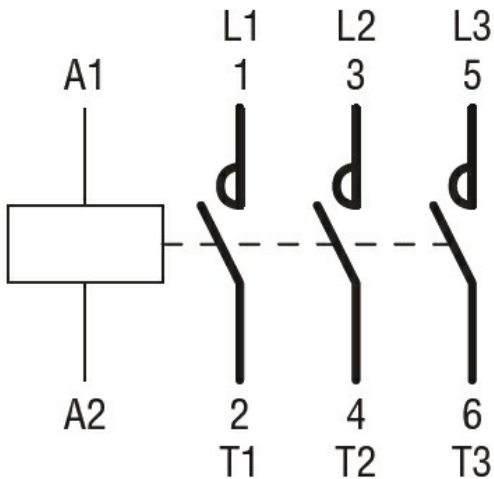
**Resistance & Protection**

Pollution degree 3

**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

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching