



Product designation				Power contactor
Product type designation				BF38
<b>Contact characteristics</b>				
Number of poles	Nr.			3
Rated insulation voltage U <sub>i</sub> IEC/EN	V			690
Rated impulse withstand voltage U <sub>imp</sub>	kV			6
Operational frequency	min	Hz		25
	max	Hz		400
IEC Conventional free air thermal current I <sub>th</sub>	A			56
Operational current I <sub>e</sub>	AC-1 (≤40°C)	A		56
	AC-1 (≤40°C) with 16mm <sup>2</sup> wire and fork end lug	A		60
	AC-1 (≤55°C)	A		45
	AC-1 (≤55°C) with 16mm <sup>2</sup> wire and fork end lug	A		48
	AC-1 (≤70°C)	A		40
	AC-1 (≤70°C) with 16mm <sup>2</sup> wire and fork end lug	A		42
	AC-3 (≤440V ≤55°C)	A		38
Rated operational power AC-3 (T≤55°C)	AC-4 (400V)	A		15.5
	230V	kW		11
	400V	kW		18.5
	415V	kW		18.5
	440V	kW		18.5
	500V	kW		20
	690V	kW		22
Rated operational power AC-1 (T≤40°C)	230V	kW		21
	400V	kW		36
	500V	kW		45
	690V	kW		62
	IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 1 poles in series	≤24V	A	
48V		A		30
75V		A		23
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	
	48V	A		34
	75V	A		29
	110V	A		32
	220V	A		4
	IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 3 poles in series	≤24V	A	

	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	30
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IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	A	36
	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	38
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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	24
	48V	A	20
	75V	A	17
	110V	A	2,5
	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	28
	48V	A	25
	75V	A	22
	110V	A	18
	220V	A	3
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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	32
	48V	A	28
	75V	A	28
	110V	A	23
	220V	A	25
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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	32
	48V	A	28
	75V	A	28
	110V	A	23
	220V	A	15
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Short-time allowable current for 10s (IEC/EN60947-1)		A	320
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Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
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Making capacity (RMS value)		A	380
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Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
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Resistance per pole (average value)		mΩ	2
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Power dissipation per pole (average value)			
	I <sub>th</sub>	W	6
	AC-3	W	2.9
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Tightening torque for terminals			
	min	Nm	2.5
	max	Nm	3
	min	I <sub>bin</sub>	1.8
	max	I <sub>bin</sub>	2.2
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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		6
Flexible w/o lug conductor section	min	mm <sup>2</sup>	2.5
	max	mm <sup>2</sup>	16
Flexible c/w lug conductor section	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	10
Flexible with insulated spade lug conductor section	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	10
Power terminal protection according to IEC/EN 60529	IP20 when properly wired		
<b>Mechanical features</b>			
Operating position	normal allowable	Vertical plan ±30°	
Fixing	Screw / DIN rail 35mm		
Weight		g	560
Conductor section	AWG/kcmil conductor section		
	max		6
<b>Operations</b>			
Mechanical life		cycles	2000000
Electrical life		cycles	1400000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1	rated load mechanical load	cycles	1400000
		cycles	20000000
Mirror contacts according to IEC/EN 60947-4-1	yes		
EMC compatibility	yes		
<b>AC coil operating</b>			
AC operating voltage	of 60Hz coil powered at 60Hz drop-out		
	min	%Us	2.E1
AC average coil consumption at 20°C	of 50/60Hz coil powered at 50Hz		
	in-rush holding	VA	75
		VA	9
	of 50/60Hz coil powered at 60Hz		
	in-rush holding	VA	70
		VA	7
	of 60Hz coil powered at 60Hz		
	in-rush holding	VA	75
		VA	9

Dissipation at holding ≤20°C 50Hz	W	2.5
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**DC coil operating**

DC rated control voltage	V	110
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DC operating voltage		
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pick-up	min	%Us	70
	max	%Us	125

drop-out	min	%Us	10
	max	%Us	40

Average coil consumption ≤20°C			
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in-rush	W	5.4
holding	W	5.4

**Max cycles frequency**

Mechanical operation	cycles/h	3600
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**Operating times**

Average time for Us control			
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in AC	Closing NO	min	ms	8
		max	ms	24
	Opening NO	min	ms	5
		max	ms	15
	Closing NC	min	ms	9
		max	ms	20
	Opening NC	min	ms	9
		max	ms	17

in DC	Closing NO	min	ms	54
		max	ms	66
	Opening NO	min	ms	14
		max	ms	17

**UL technical data**

Full-load current (FLA) for three-phase AC motor	at 480V	A	40
	at 600V	A	32

Yielded mechanical performance			
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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			
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Contactor	AC current	A	55
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Short-circuit protection fuse, 600V			
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High fault

Short circuit current	kA	100
Fuse rating	A	100
Fuse class		J

Standard fault

Short circuit current	kA	5
Fuse rating	A	150

**Ambient conditions**

Temperature

Operating temperature

min	°C	-50
max	°C	70

Storage temperature

min	°C	-60
max	°C	80

Max altitude

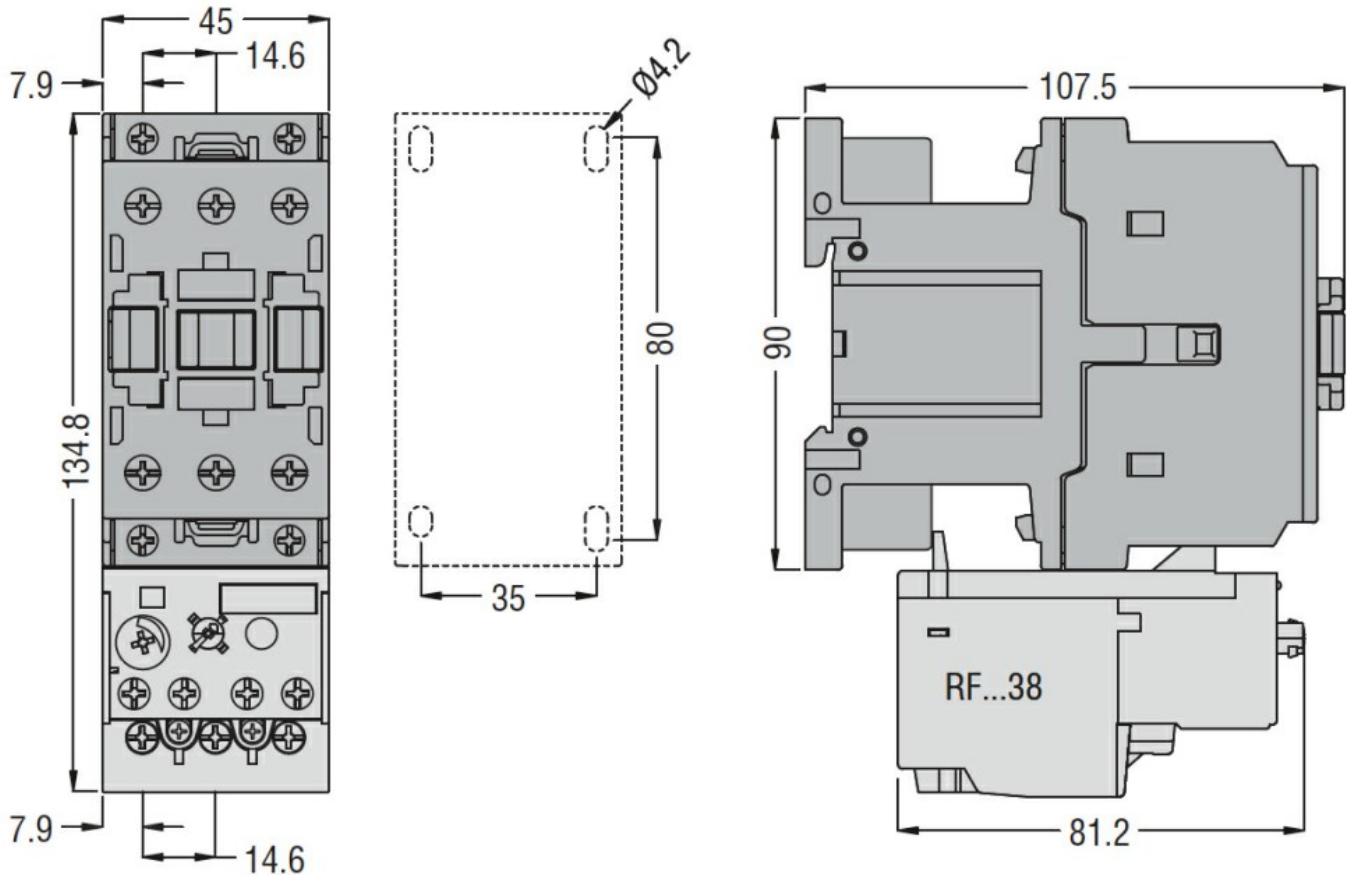
m	3000
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**Resistance & Protection**

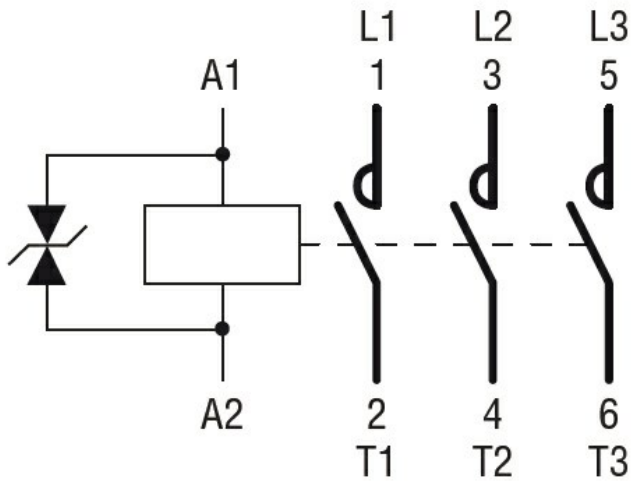
Pollution degree

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

EAC

**ETIM classification**

ETIM 8.0

EC000066 -  
 Power contactor,  
 AC switching