



Product designation Power contactor  
Product type designation BF38

**Contact characteristics**

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
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
	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

	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	30
<hr/>			
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
<hr/>			
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	–
<hr/>			
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
<hr/>			
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
<hr/>			
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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
<hr/>			
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
<hr/>			
Making capacity (RMS value)		A	380
<hr/>			
Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
<hr/>			
Resistance per pole (average value)		mΩ	2
<hr/>			
Power dissipation per pole (average value)			
	I <sub>th</sub>	W	6
	AC3	W	2.9
<hr/>			
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
<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		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	429
Conductor section			
AWG/kcmil conductor section			
	max		6
<b>Operations</b>			
Mechanical life		cycles	20000000
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>			
Rated AC voltage at 50/60Hz		V	24
AC operating voltage			
of 50/60Hz coil powered at 50Hz			
pick-up	min	%Us	80
	max	%Us	110
drop-out	min	%Us	20
	max	%Us	55
of 50/60Hz coil powered at 60Hz			
pick-up	min	%Us	85
	max	%Us	110
drop-out	min	%Us	20

	max	%Us	55
AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz	in-rush holding	VA VA	75 9
of 50/60Hz coil powered at 60Hz	in-rush holding	VA VA	70 6.5
of 60Hz coil powered at 60Hz	in-rush holding	VA VA	75 9

Dissipation at holding ≤20°C 50Hz W 2.5

**Max cycles frequency**

Mechanical operation cycles/h 3600

**Operating times**

Average time for Us control 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

**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			
Contactor			
	AC current	A	55

Short-circuit protection fuse, 600V			
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

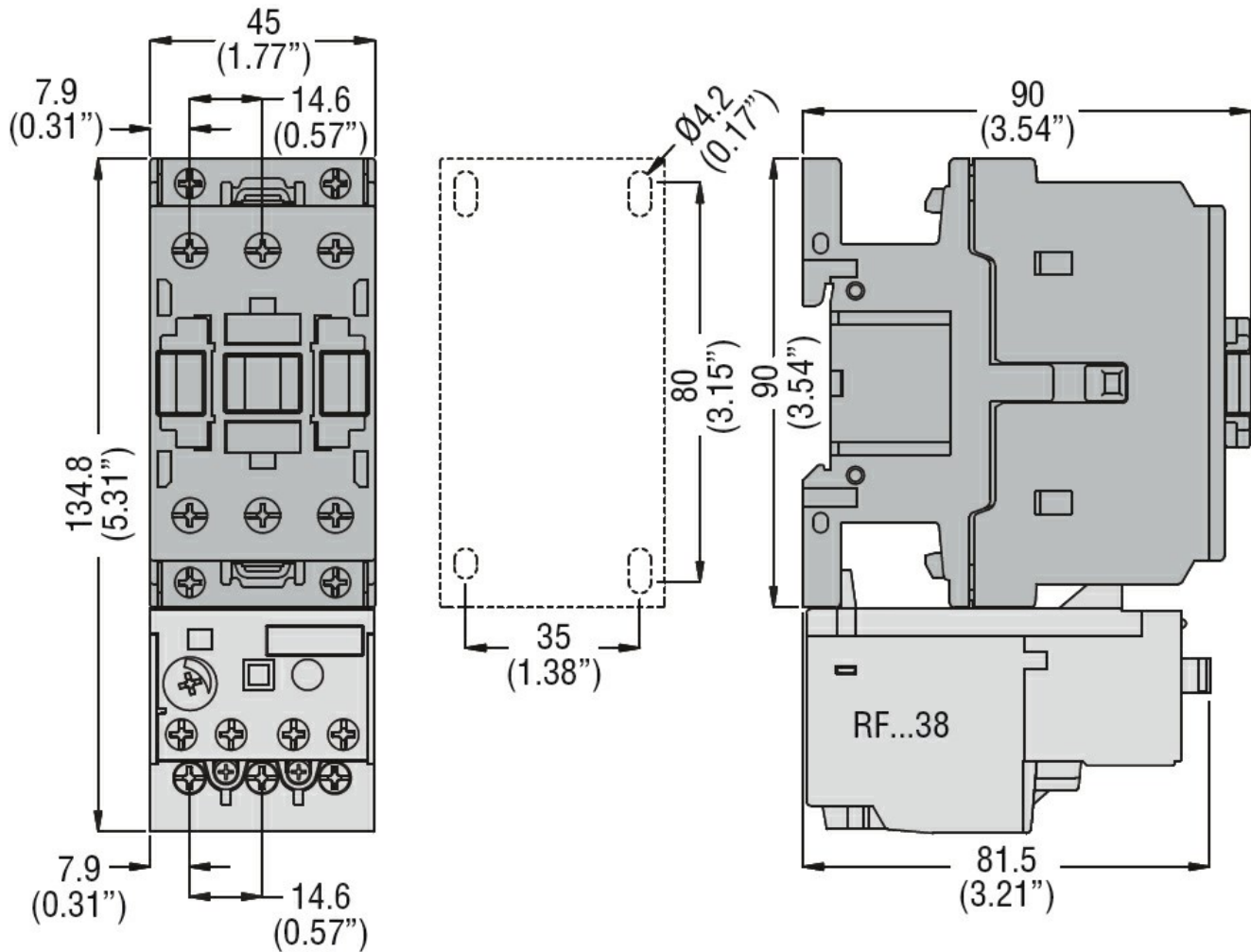
m	3000
---	------

Resistance & Protection

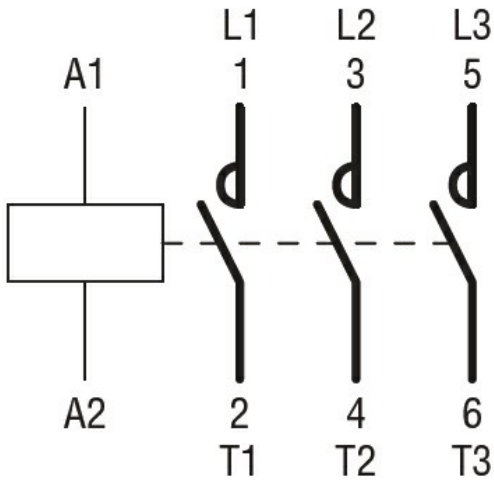
Pollution degree

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



Product designation				Power contactor
Product type designation				BF38
<b>Contact characteristics</b>				
Number of poles	Nr.			3
Rated insulation voltage $U_i$ IEC/EN	V			690
Rated impulse withstand voltage $U_{imp}$	kV			6
Operational frequency	min	Hz	25	
	max	Hz	400	
IEC Conventional free air thermal current $I_{th}$	A			56
Operational current $I_e$	AC-1 ( $\leq 40^\circ\text{C}$ )	A	56	
	AC-1 ( $\leq 40^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A	60	
	AC-1 ( $\leq 55^\circ\text{C}$ )	A	45	
	AC-1 ( $\leq 55^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A	48	
	AC-1 ( $\leq 70^\circ\text{C}$ )	A	40	
	AC-1 ( $\leq 70^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A	42	
	AC-3 ( $\leq 440\text{V } \leq 55^\circ\text{C}$ )	A	38	
	AC-4 (400V)	A	15.5	
Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )	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 ( $T \leq 40^\circ\text{C}$ )	230V	kW	21	
	400V	kW	36	
	500V	kW	45	
	690V	kW	62	
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A	35	
	48V	A	30	
	75V	A	23	
	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	36
48V		A	34	
75V		A	29	
110V		A	32	
220V		A	4	
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series		$\leq 24\text{V}$	A	36

	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	30
<hr/>			
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
<hr/>			
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	–
<hr/>			
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
<hr/>			
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
<hr/>			
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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
<hr/>			
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
<hr/>			
Making capacity (RMS value)		A	380
<hr/>			
Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
<hr/>			
Resistance per pole (average value)		mΩ	2
<hr/>			
Power dissipation per pole (average value)			
	I <sub>th</sub>	W	6
	AC3	W	2.9
<hr/>			
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
<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		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	430
Conductor section			
AWG/kcmil conductor section			
	max		6
<b>Operations</b>			
Mechanical life		cycles	20000000
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>			
Rated AC voltage at 50/60Hz		V	48
AC operating voltage			
of 50/60Hz coil powered at 50Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out			
	min	%Us	20
	max	%Us	55
of 50/60Hz coil powered at 60Hz			
pick-up			
	min	%Us	85
	max	%Us	110
drop-out			
	min	%Us	20

	max	%Us	55
AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz	in-rush holding	VA VA	75 9
of 50/60Hz coil powered at 60Hz	in-rush holding	VA VA	70 6.5
of 60Hz coil powered at 60Hz	in-rush holding	VA VA	75 9

Dissipation at holding ≤20°C 50Hz W 2.5

**Max cycles frequency**

Mechanical operation cycles/h 3600

**Operating times**

Average time for Us control 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

**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			
Contactor			
	AC current	A	55

Short-circuit protection fuse, 600V			
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

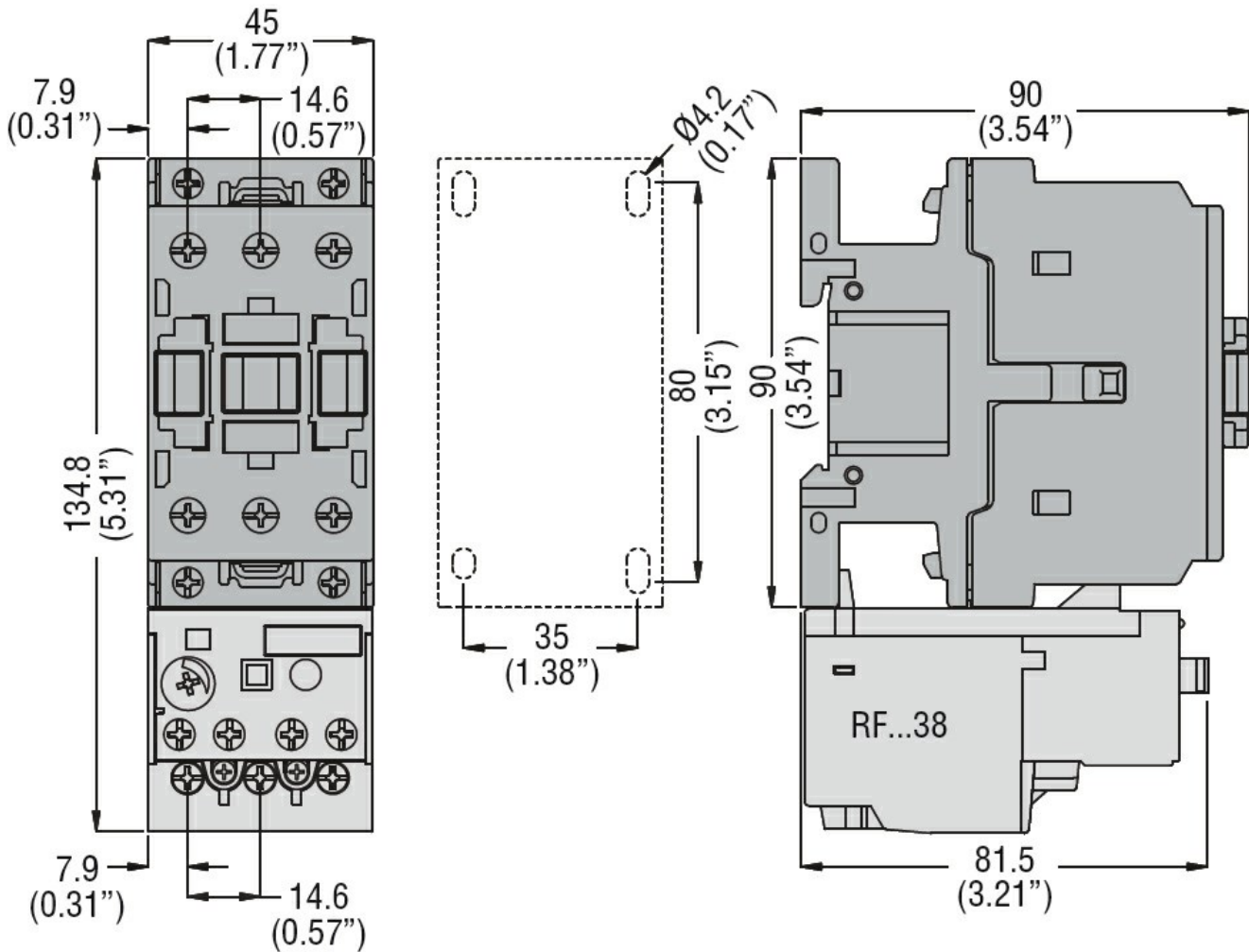
m	3000
---	------

Resistance & Protection

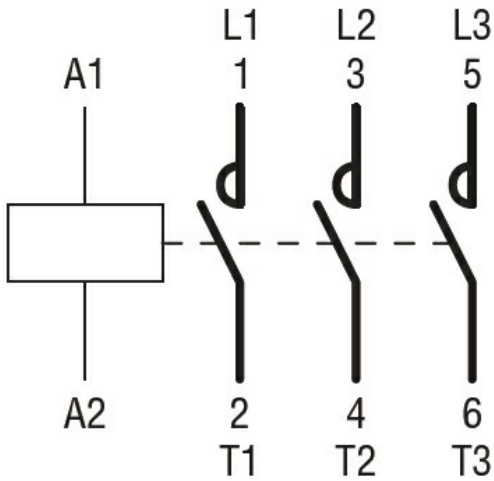
Pollution degree

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



Product designation				Power contactor
Product type designation				BF38
<b>Contact characteristics</b>				
Number of poles	Nr.			3
Rated insulation voltage $U_i$ IEC/EN	V			690
Rated impulse withstand voltage $U_{imp}$	kV			6
Operational frequency	min	Hz		25
	max	Hz		400
IEC Conventional free air thermal current $I_{th}$	A			56
Operational current $I_e$	AC-1 ( $\leq 40^\circ\text{C}$ )	A		56
	AC-1 ( $\leq 40^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A		60
	AC-1 ( $\leq 55^\circ\text{C}$ )	A		45
	AC-1 ( $\leq 55^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A		48
	AC-1 ( $\leq 70^\circ\text{C}$ )	A		40
	AC-1 ( $\leq 70^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A		42
	AC-3 ( $\leq 440\text{V } \leq 55^\circ\text{C}$ )	A		38
Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )	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 ( $T \leq 40^\circ\text{C}$ )	230V	kW		21
	400V	kW		36
	500V	kW		45
	690V	kW		62
	IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A	
48V		A		30
75V		A		23
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	
	48V	A		34
	75V	A		29
	110V	A		32
	220V	A		4
	IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series	$\leq 24\text{V}$	A	

	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	30
<hr/>			
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
<hr/>			
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	–
<hr/>			
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
<hr/>			
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
<hr/>			
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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
<hr/>			
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
<hr/>			
Making capacity (RMS value)		A	380
<hr/>			
Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
<hr/>			
Resistance per pole (average value)		mΩ	2
<hr/>			
Power dissipation per pole (average value)			
	I <sub>th</sub>	W	6
	AC3	W	2.9
<hr/>			
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
<hr/>			
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	423
Conductor section			
AWG/kcmil conductor section			
	max		6
<b>Operations</b>			
Mechanical life		cycles	20000000
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>			
Rated AC voltage at 50/60Hz		V	110
AC operating voltage			
of 50/60Hz coil powered at 50Hz			
pick-up	min	%Us	80
	max	%Us	110
drop-out	min	%Us	20
	max	%Us	55
of 50/60Hz coil powered at 60Hz			
pick-up	min	%Us	85
	max	%Us	110
drop-out	min	%Us	20

	max	%Us	55
AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz			
	in-rush	VA	75
	holding	VA	9
of 50/60Hz coil powered at 60Hz			
	in-rush	VA	70
	holding	VA	6.5
of 60Hz coil powered at 60Hz			
	in-rush	VA	75
	holding	VA	9
Dissipation at holding ≤20°C 50Hz		W	2.5

**Max cycles frequency**

Mechanical operation	cycles/h	3600
----------------------	----------	------

**Operating times**

Average time for Us control

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

**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

Contactor

AC current	A	55
------------	---	----

Short-circuit protection fuse, 600V

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

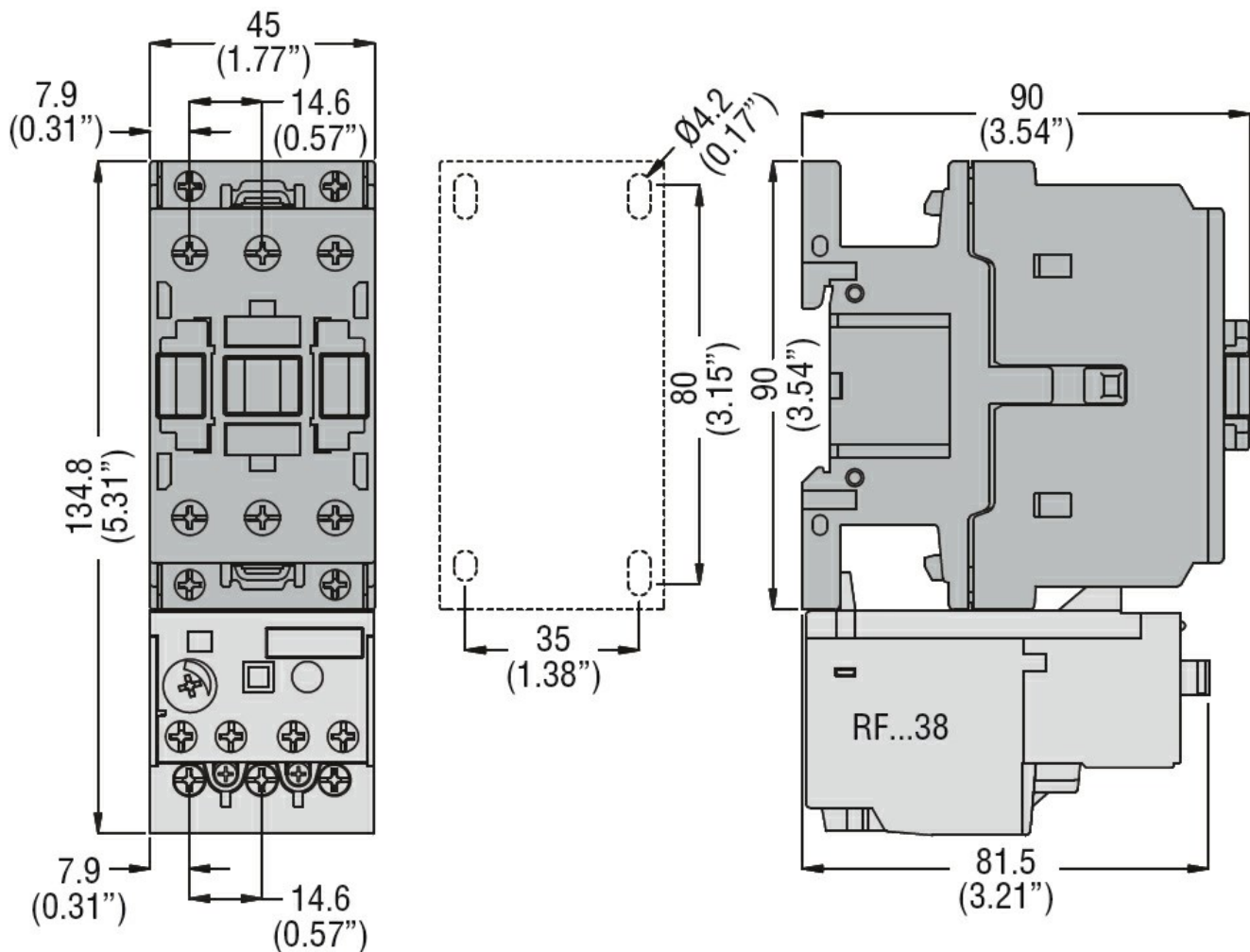
m	3000
---	------

Resistance & Protection

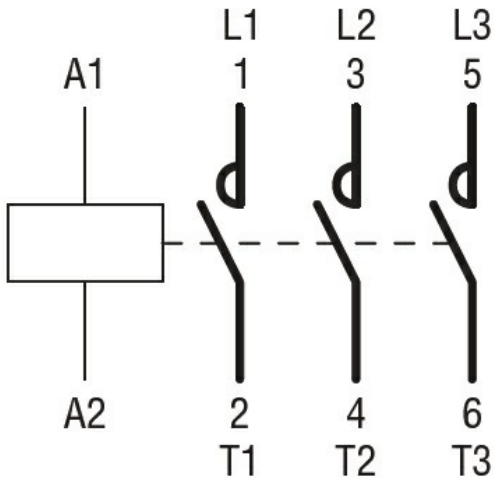
Pollution degree

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



Product designation				Power contactor
Product type designation				BF38
<b>Contact characteristics</b>				
Number of poles	Nr.			3
Rated insulation voltage $U_i$ IEC/EN	V			690
Rated impulse withstand voltage $U_{imp}$	kV			6
Operational frequency	min	Hz	25	
	max	Hz	400	
IEC Conventional free air thermal current $I_{th}$	A			56
Operational current $I_e$	AC-1 ( $\leq 40^\circ\text{C}$ )	A	56	
	AC-1 ( $\leq 40^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A	60	
	AC-1 ( $\leq 55^\circ\text{C}$ )	A	45	
	AC-1 ( $\leq 55^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A	48	
	AC-1 ( $\leq 70^\circ\text{C}$ )	A	40	
	AC-1 ( $\leq 70^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A	42	
	AC-3 ( $\leq 440\text{V } \leq 55^\circ\text{C}$ )	A	38	
Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )	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 ( $T \leq 40^\circ\text{C}$ )	230V	kW	21	
	400V	kW	36	
	500V	kW	45	
	690V	kW	62	
	IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A	35
48V		A	30	
75V		A	23	
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	36
	48V	A	34	
	75V	A	29	
	110V	A	32	
	220V	A	4	
	IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series	$\leq 24\text{V}$	A	36

	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	30
<hr/>			
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
<hr/>			
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	–
<hr/>			
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
<hr/>			
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
<hr/>			
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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
<hr/>			
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
<hr/>			
Making capacity (RMS value)		A	380
<hr/>			
Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
<hr/>			
Resistance per pole (average value)		mΩ	2
<hr/>			
Power dissipation per pole (average value)			
	I <sub>th</sub>	W	6
	AC3	W	2.9
<hr/>			
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
<hr/>			
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	426
Conductor section			
AWG/kcmil conductor section			
	max		6
<b>Operations</b>			
Mechanical life		cycles	20000000
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>			
Rated AC voltage at 50/60Hz		V	230
AC operating voltage			
of 50/60Hz coil powered at 50Hz			
pick-up	min	%Us	80
	max	%Us	110
drop-out	min	%Us	20
	max	%Us	55
of 50/60Hz coil powered at 60Hz			
pick-up	min	%Us	85
	max	%Us	110
drop-out	min	%Us	20

		max	%Us	55
AC average coil consumption at 20°C				
of 50/60Hz coil powered at 50Hz				
	in-rush	VA		75
	holding	VA		9
of 50/60Hz coil powered at 60Hz				
	in-rush	VA		70
	holding	VA		6.5
of 60Hz coil powered at 60Hz				
	in-rush	VA		75
	holding	VA		9
Dissipation at holding ≤20°C 50Hz			W	2.5
<b>Max cycles frequency</b>				
Mechanical operation			cycles/h	3600
<b>Operating times</b>				
Average time for Us control				
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
<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	55
Short-circuit protection fuse, 600V				
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
<b>Ambient conditions</b>				

Temperature

Operating temperature

min	°C	-50
max	°C	70

Storage temperature

min	°C	-60
max	°C	80

Max altitude

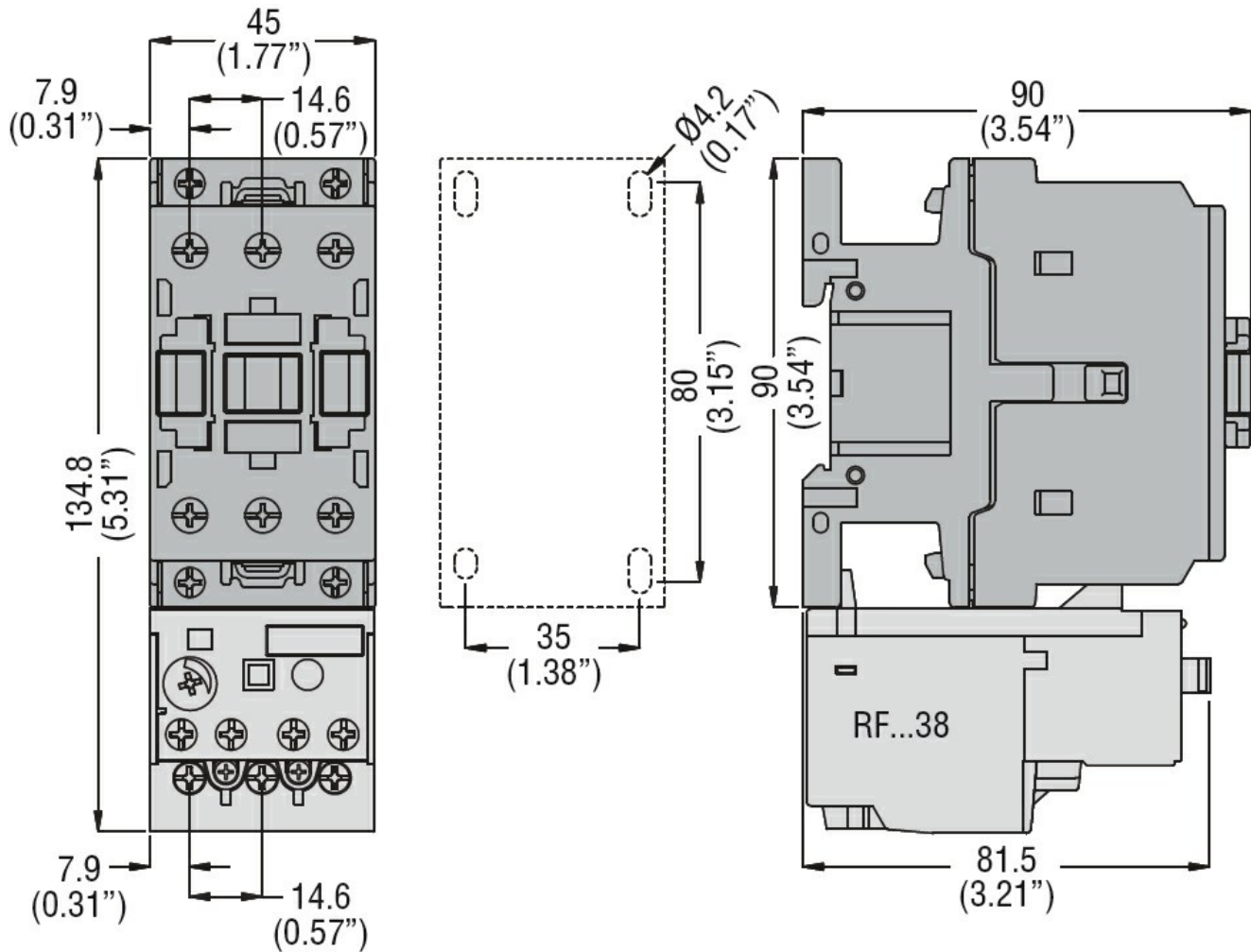
m	3000
---	------

Resistance & Protection

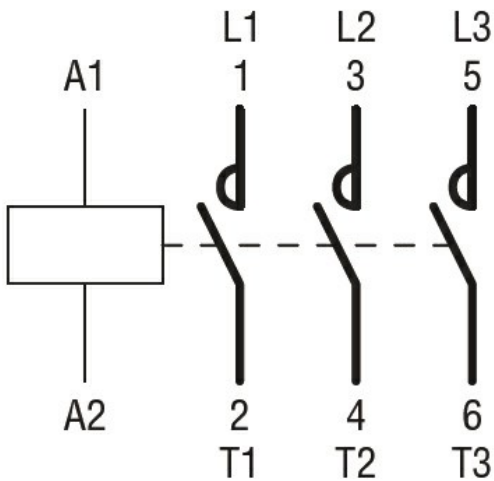
Pollution degree

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

EAC

### ETIM classification

ETIM 8.0

EC000066 -  
 Power contactor,  
 AC switching





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
<hr/>			
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
<hr/>			
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	–
<hr/>			
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
<hr/>			
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
<hr/>			
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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
<hr/>			
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
<hr/>			
Making capacity (RMS value)		A	380
<hr/>			
Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
<hr/>			
Resistance per pole (average value)		mΩ	2
<hr/>			
Power dissipation per pole (average value)			
	I <sub>th</sub>	W	6
	AC3	W	2.9
<hr/>			
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
<hr/>			
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	426
Conductor section			
AWG/kcmil conductor section			
	max		6
<b>Operations</b>			
Mechanical life		cycles	20000000
Electrical life		cycles	1400000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	1400000
	mechanical load	cycles	20000000
Mirror contacts according to IEC/EN 60947-4-1			yes
EMC compatibility			yes
<b>AC coil operating</b>			
Rated AC voltage at 60Hz		V	230
AC operating voltage			
of 60Hz coil powered at 60Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out			
	min	%Us	20
	max	%Us	55
AC average coil consumption at 20°C			
of 60Hz coil powered at 60Hz			
	in-rush	VA	75
	holding	VA	9
Dissipation at holding ≤20°C 50Hz		W	2.5
<b>Max cycles frequency</b>			

Mechanical operation cycles/h 3600

**Operating times**

Average time for Us control  
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

**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

Contactor

AC current	A	55
------------	---	----

Short-circuit protection fuse, 600V

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

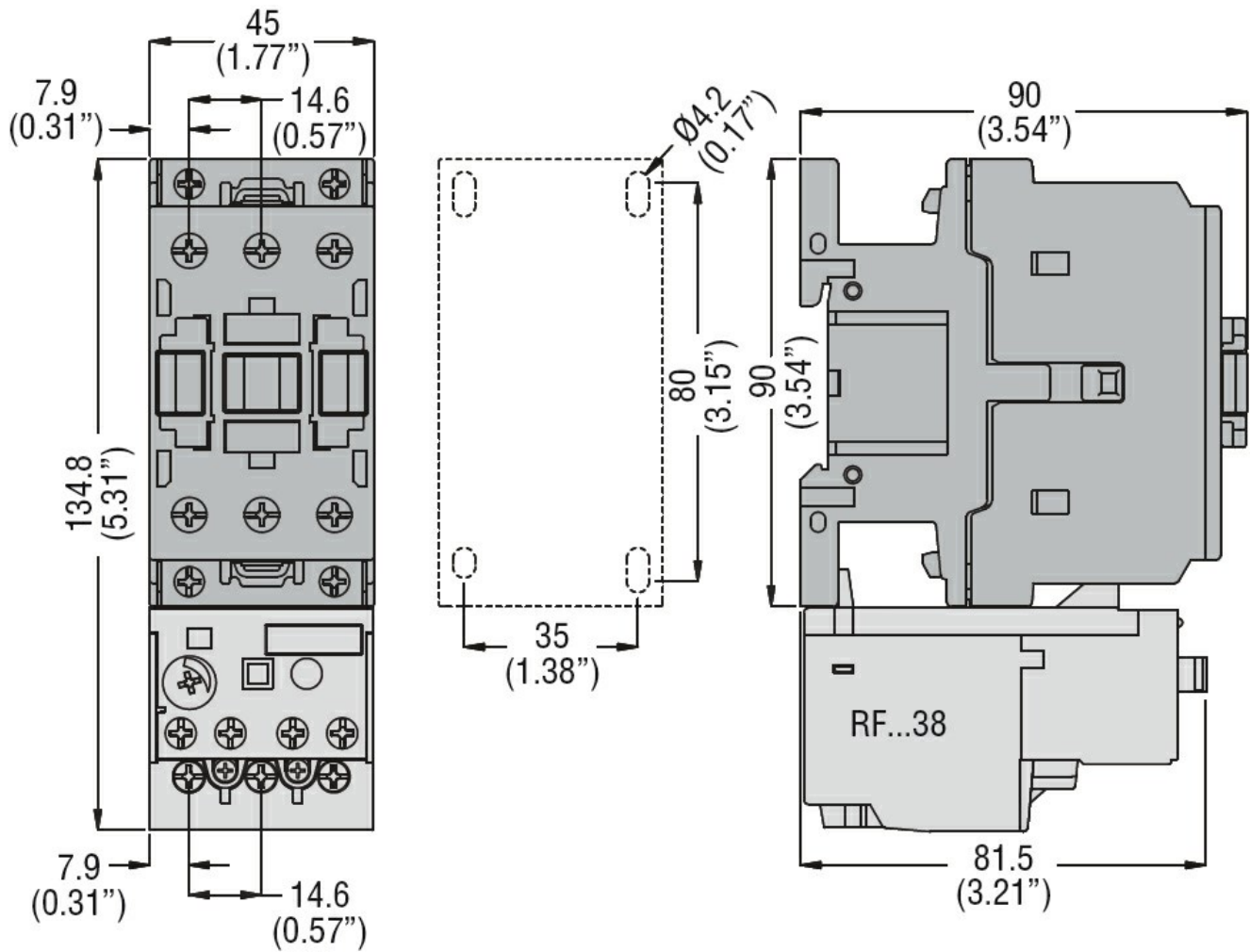
m	3000
---	------

**Resistance & Protection**

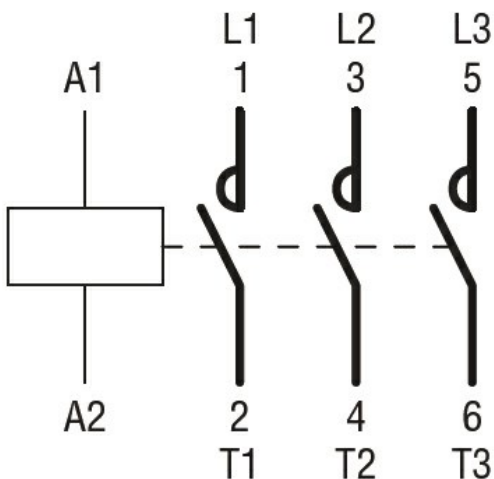
Pollution degree

3

**Dimensions**



### Wiring diagrams



### Certifications and compliance

#### Compliance

CSA C22.2 n° 60947-1

CSA C22.2 n° 60947-4-1

IEC/EN/BS 60335-1

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



Product designation				Power contactor
Product type designation				BF38
<b>Contact characteristics</b>				
Number of poles	Nr.			3
Rated insulation voltage $U_i$ IEC/EN	V			690
Rated impulse withstand voltage $U_{imp}$	kV			6
Operational frequency	min	Hz		25
	max	Hz		400
IEC Conventional free air thermal current $I_{th}$	A			56
Operational current $I_e$	AC-1 ( $\leq 40^\circ\text{C}$ )	A		56
	AC-1 ( $\leq 40^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A		60
	AC-1 ( $\leq 55^\circ\text{C}$ )	A		45
	AC-1 ( $\leq 55^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A		48
	AC-1 ( $\leq 70^\circ\text{C}$ )	A		40
	AC-1 ( $\leq 70^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A		42
	AC-3 ( $\leq 440\text{V } \leq 55^\circ\text{C}$ )	A		38
Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )	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 ( $T \leq 40^\circ\text{C}$ )	230V	kW		21
	400V	kW		36
	500V	kW		45
	690V	kW		62
	IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A	
48V		A		30
75V		A		23
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	
	48V	A		34
	75V	A		29
	110V	A		32
	220V	A		4
	IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series	$\leq 24\text{V}$	A	

	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	30
<hr/>			
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
<hr/>			
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	–
<hr/>			
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
<hr/>			
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
<hr/>			
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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
<hr/>			
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
<hr/>			
Making capacity (RMS value)		A	380
<hr/>			
Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
<hr/>			
Resistance per pole (average value)		mΩ	2
<hr/>			
Power dissipation per pole (average value)			
	I <sub>th</sub>	W	6
	AC3	W	2.9
<hr/>			
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
<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		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	433
Conductor section			
AWG/kcmil conductor section			
	max		6
<b>Operations</b>			
Mechanical life		cycles	20000000
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>			
Rated AC voltage at 50/60Hz		V	400
AC operating voltage			
of 50/60Hz coil powered at 50Hz			
pick-up	min	%Us	80
	max	%Us	110
drop-out	min	%Us	20
	max	%Us	55
of 50/60Hz coil powered at 60Hz			
pick-up	min	%Us	85
	max	%Us	110
drop-out	min	%Us	20

		max	%Us	55
AC average coil consumption at 20°C				
of 50/60Hz coil powered at 50Hz				
	in-rush	VA		75
	holding	VA		9
of 50/60Hz coil powered at 60Hz				
	in-rush	VA		70
	holding	VA		6.5
of 60Hz coil powered at 60Hz				
	in-rush	VA		75
	holding	VA		9
Dissipation at holding ≤20°C 50Hz			W	2.5
<b>Max cycles frequency</b>				
Mechanical operation			cycles/h	3600
<b>Operating times</b>				
Average time for Us control 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
<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		55
Short-circuit protection fuse, 600V				
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
<b>Ambient conditions</b>				

Temperature

Operating temperature

min	°C	-50
max	°C	70

Storage temperature

min	°C	-60
max	°C	80

Max altitude

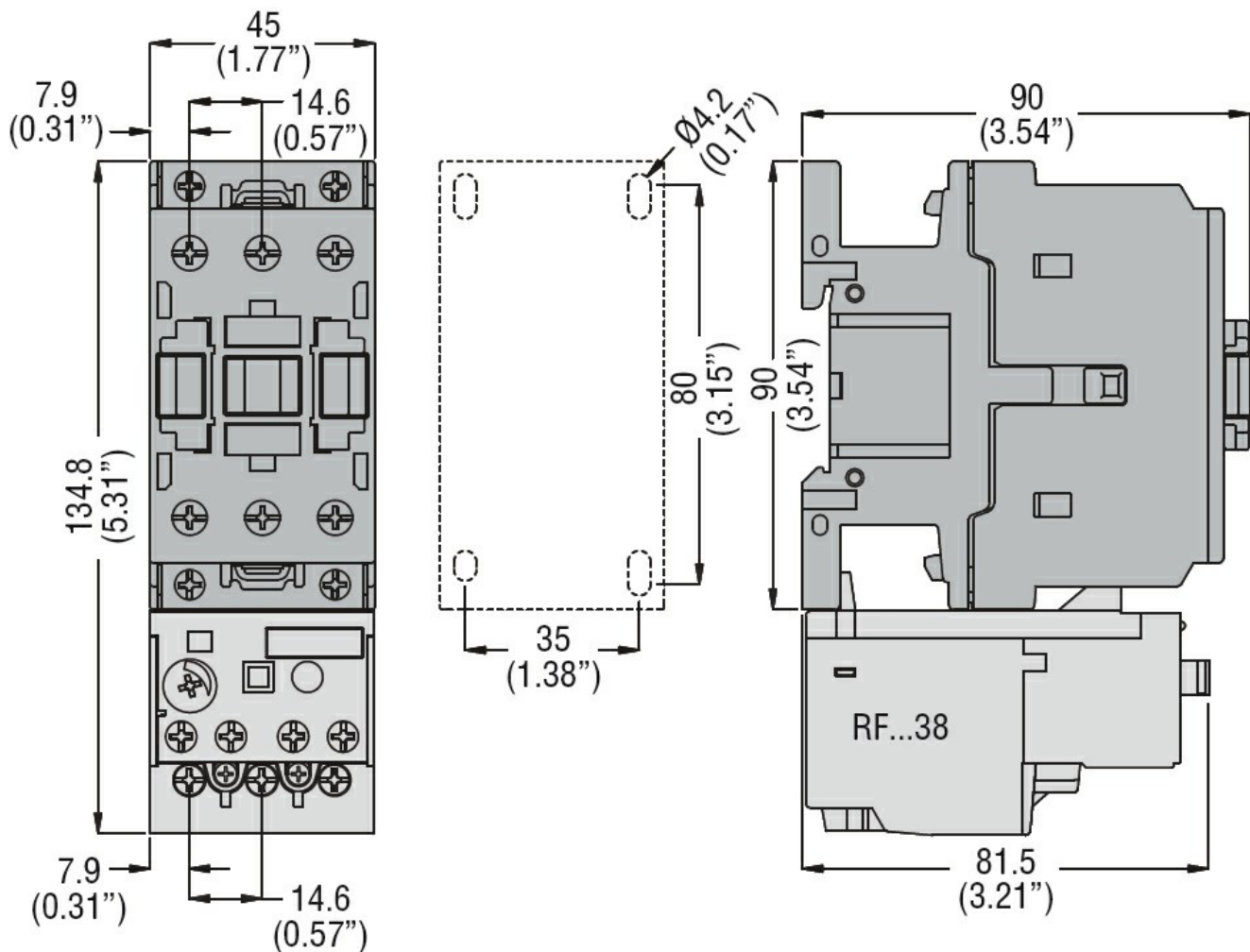
m	3000
---	------

Resistance & Protection

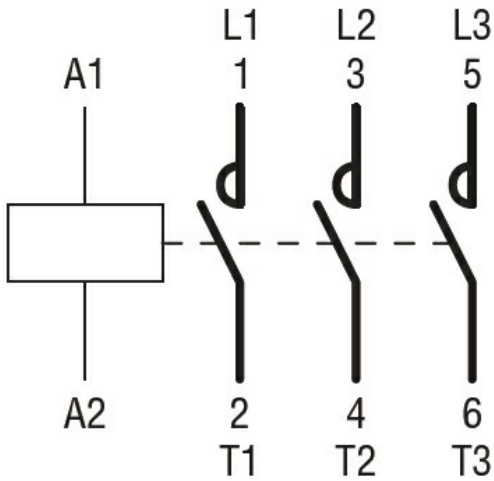
Pollution degree

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

EAC

### ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching



Product designation Power contactor  
Product type designation BF38

**Contact characteristics**

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
Rated operational power AC-1 (T≤40°C)	690V	kW 22
	230V	kW 21
	400V	kW 36
	500V	kW 45
IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 1 poles in series	690V	kW 62
	≤24V	A 35
	48V	A 30
	75V	A 23
	110V	A 8
IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 2 poles in series	220V	A –
	≤24V	A 36
	48V	A 34
	75V	A 29
	110V	A 32
IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 3 poles in series	220V	A 4
	≤24V	A 36

	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	30
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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	–
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
<hr/>			
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
<hr/>			
Making capacity (RMS value)		A	380
<hr/>			
Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
<hr/>			
Resistance per pole (average value)		mΩ	2
<hr/>			
Power dissipation per pole (average value)			
	Ith	W	6
	AC3	W	2.9
<hr/>			
Tightening torque for terminals			
	min	Nm	2.5
	max	Nm	3
	min	Ibin	1.8
	max	Ibin	2.2
<hr/>			
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	424
Conductor section			
AWG/kcmil conductor section			
	max		6
<b>Operations</b>			
Mechanical life		cycles	20000000
Electrical life		cycles	1400000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	1400000
	mechanical load	cycles	20000000
Mirror contacts according to IEC/EN 60947-4-1			yes
EMC compatibility			yes
<b>AC coil operating</b>			
Rated AC voltage at 60Hz		V	24
AC operating voltage			
of 60Hz coil powered at 60Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out			
	min	%Us	20
	max	%Us	55
AC average coil consumption at 20°C			
of 60Hz coil powered at 60Hz			
	in-rush	VA	75
	holding	VA	9
Dissipation at holding ≤20°C 50Hz		W	2.5
<b>Max cycles frequency</b>			

Mechanical operation cycles/h 3600

**Operating times**

Average time for Us control  
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

**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

Contactor

AC current	A	55
------------	---	----

Short-circuit protection fuse, 600V

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
---	------

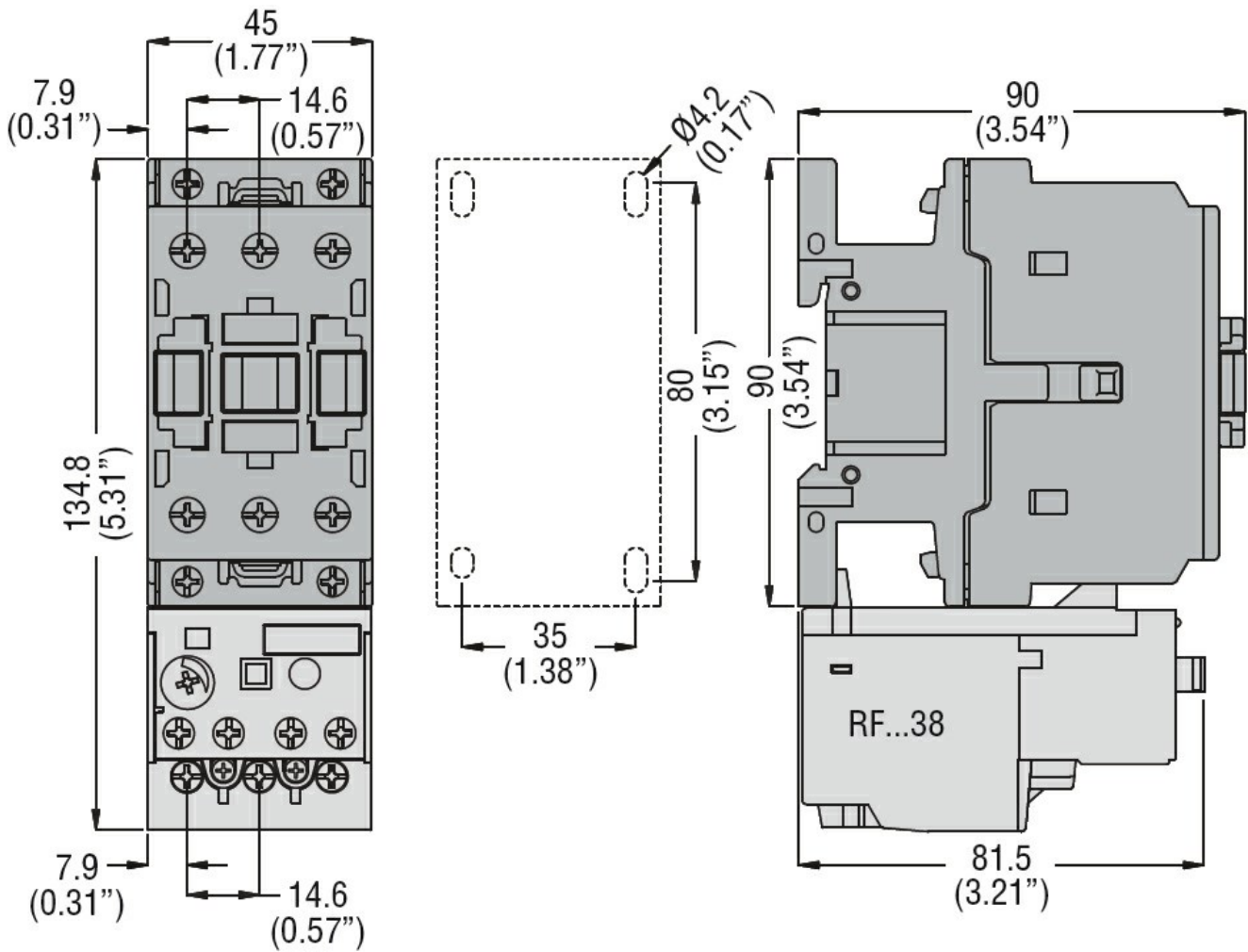
**Resistance & Protection**

Pollution degree

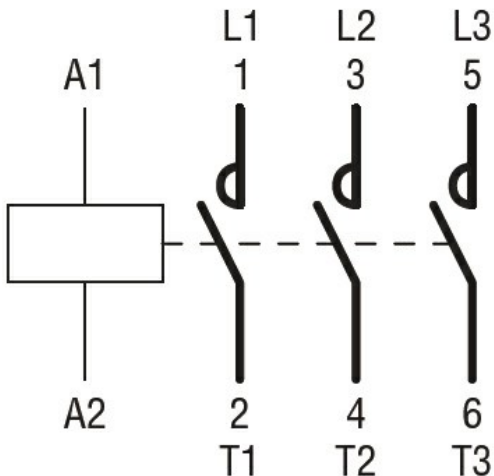
3

**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



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	35
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	36
	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	36

	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	30
<hr/>			
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
<hr/>			
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	–
<hr/>			
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
<hr/>			
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
<hr/>			
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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
<hr/>			
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
<hr/>			
Making capacity (RMS value)		A	380
<hr/>			
Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
<hr/>			
Resistance per pole (average value)		mΩ	2
<hr/>			
Power dissipation per pole (average value)			
	I <sub>th</sub>	W	6
	AC3	W	2.9
<hr/>			
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
<hr/>			
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	430
Conductor section			
AWG/kcmil conductor section			
	max		6
<b>Operations</b>			
Mechanical life		cycles	20000000
Electrical life		cycles	1400000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	1400000
	mechanical load	cycles	20000000
Mirror contacts according to IEC/EN 60947-4-1			yes
EMC compatibility			yes
<b>AC coil operating</b>			
Rated AC voltage at 60Hz		V	48
AC operating voltage			
of 60Hz coil powered at 60Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out			
	min	%Us	20
	max	%Us	55
AC average coil consumption at 20°C			
of 60Hz coil powered at 60Hz			
	in-rush	VA	75
	holding	VA	9
Dissipation at holding ≤20°C 50Hz		W	2.5
<b>Max cycles frequency</b>			

Mechanical operation cycles/h 3600

**Operating times**

Average time for Us control  
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

**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

Contactor

AC current	A	55
------------	---	----

Short-circuit protection fuse, 600V

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

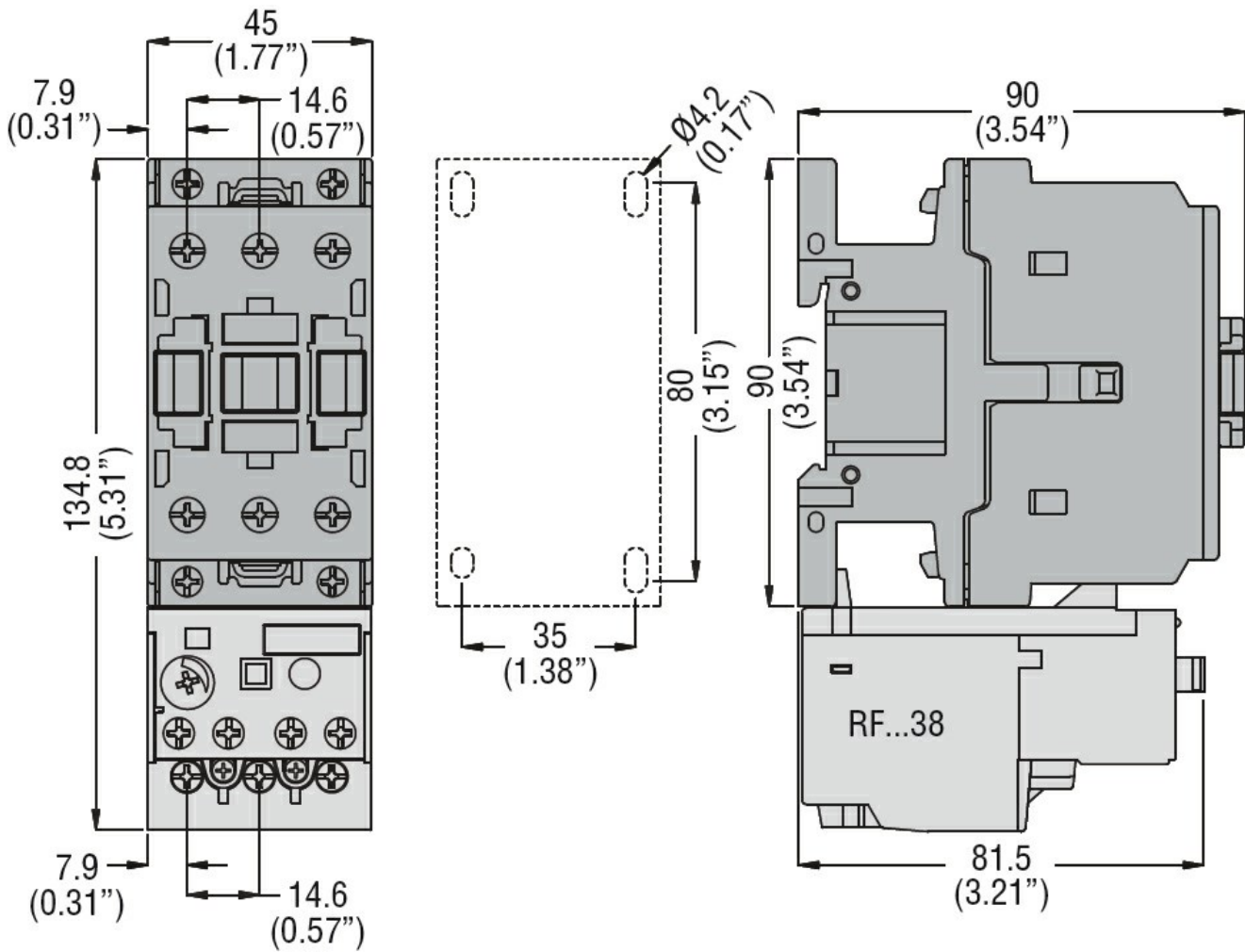
m	3000
---	------

**Resistance & Protection**

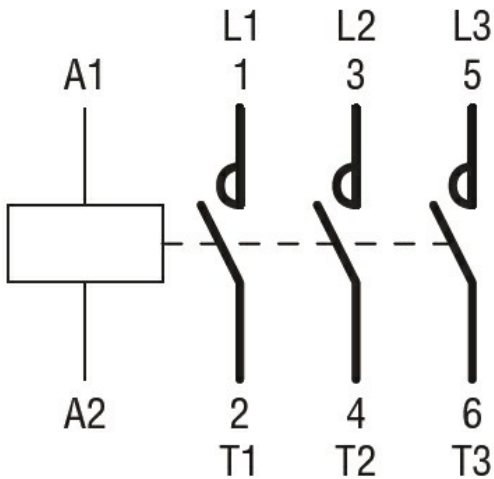
Pollution degree

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





Product designation Power contactor  
Product type designation BF38

**Contact characteristics**

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
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
	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

	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	30
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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	–
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
<hr/>			
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
<hr/>			
Making capacity (RMS value)		A	380
<hr/>			
Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
<hr/>			
Resistance per pole (average value)		mΩ	2
<hr/>			
Power dissipation per pole (average value)			
	Ith	W	6
	AC3	W	2.9
<hr/>			
Tightening torque for terminals			
	min	Nm	2.5
	max	Nm	3
	min	Ibin	1.8
	max	Ibin	2.2
<hr/>			
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	423
Conductor section			
AWG/kcmil conductor section			
	max		6
<b>Operations</b>			
Mechanical life		cycles	20000000
Electrical life		cycles	1400000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	1400000
	mechanical load	cycles	20000000
Mirror contacts according to IEC/EN 60947-4-1			yes
EMC compatibility			yes
<b>AC coil operating</b>			
Rated AC voltage at 60Hz		V	120
AC operating voltage			
of 60Hz coil powered at 60Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out			
	min	%Us	20
	max	%Us	55
AC average coil consumption at 20°C			
of 60Hz coil powered at 60Hz			
	in-rush	VA	75
	holding	VA	9
Dissipation at holding ≤20°C 50Hz		W	2.5
<b>Max cycles frequency</b>			

Mechanical operation cycles/h 3600

**Operating times**

Average time for Us control  
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

**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

Contactor

AC current	A	55
------------	---	----

Short-circuit protection fuse, 600V

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

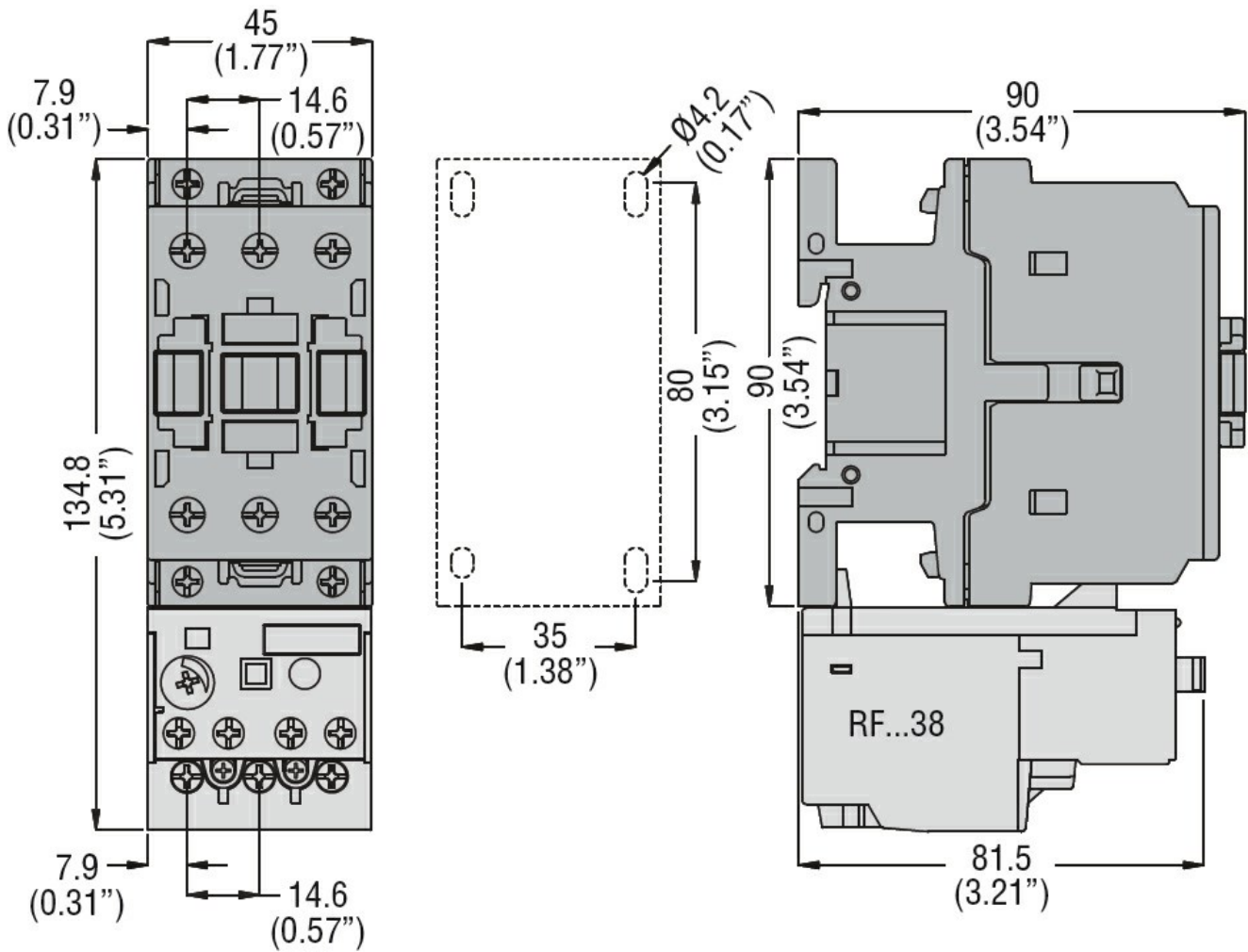
m	3000
---	------

**Resistance & Protection**

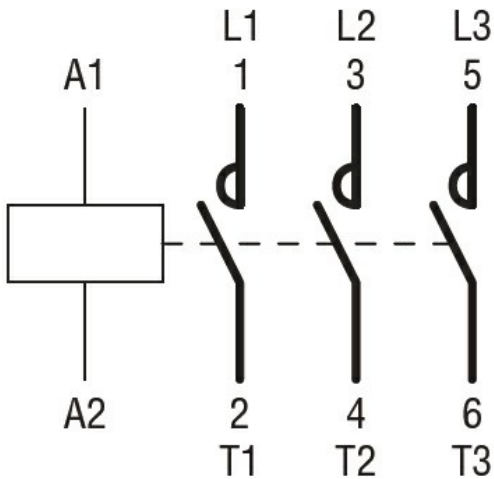
Pollution degree

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



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	35
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	36
	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	36

	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	30
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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	–
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
<hr/>			
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
<hr/>			
Making capacity (RMS value)		A	380
<hr/>			
Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
<hr/>			
Resistance per pole (average value)		mΩ	2
<hr/>			
Power dissipation per pole (average value)			
	Ith	W	6
	AC3	W	2.9
<hr/>			
Tightening torque for terminals			
	min	Nm	2.5
	max	Nm	3
	min	Ibin	1.8
	max	Ibin	2.2
<hr/>			
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	415
Conductor section			
AWG/kcmil conductor section			
	max		6
<b>Operations</b>			
Mechanical life		cycles	20000000
Electrical life		cycles	1400000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	1400000
	mechanical load	cycles	20000000
Mirror contacts according to IEC/EN 60947-4-1			yes
EMC compatibility			yes
<b>AC coil operating</b>			
Rated AC voltage at 60Hz		V	220
AC operating voltage			
of 60Hz coil powered at 60Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out			
	min	%Us	20
	max	%Us	55
AC average coil consumption at 20°C			
of 60Hz coil powered at 60Hz			
	in-rush	VA	75
	holding	VA	9
Dissipation at holding ≤20°C 50Hz		W	2.5
<b>Max cycles frequency</b>			

Mechanical operation cycles/h 3600

**Operating times**

Average time for Us control 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

**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	Contactor	AC current	A	55
-------------	-----------	------------	---	----

Short-circuit protection fuse, 600V			
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**

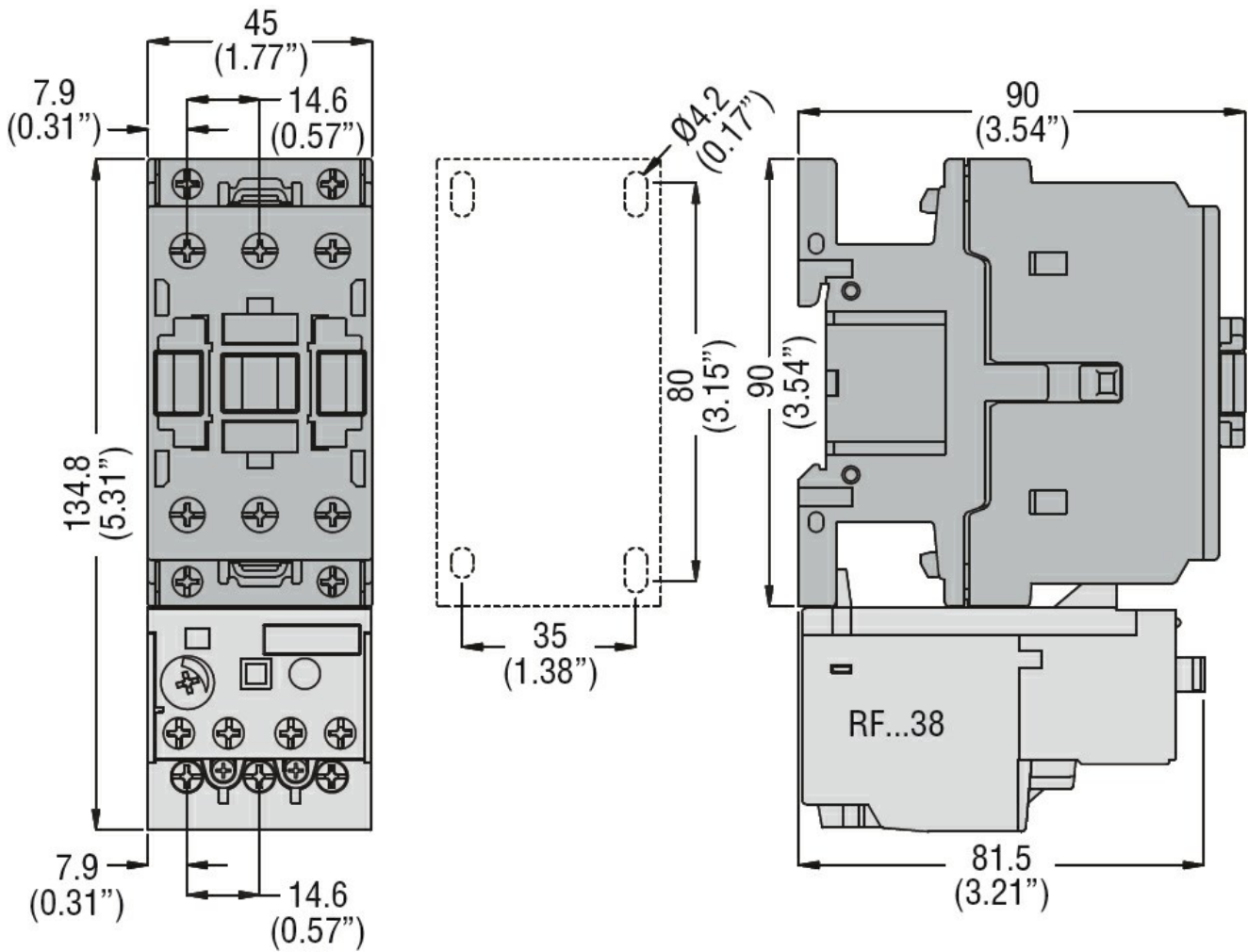
Temperature	Operating temperature	min	°C	-50
		max	°C	70
	Storage temperature	min	°C	-60
		max	°C	80

Max altitude		m	3000
--------------	--	---	------

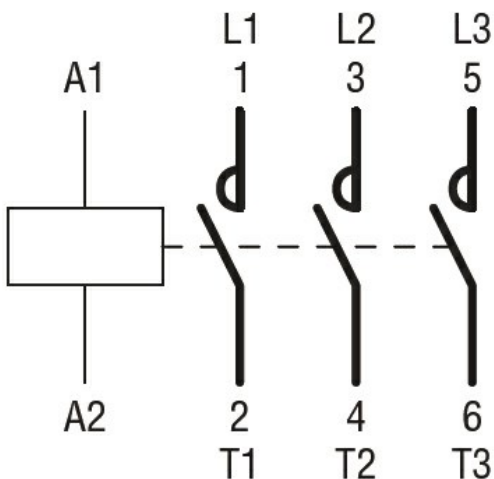
**Resistance & Protection**

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



Product designation Power contactor  
Product type designation BF38

**Contact characteristics**

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
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
	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

	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	30
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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	–
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
<hr/>			
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
<hr/>			
Making capacity (RMS value)		A	380
<hr/>			
Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
<hr/>			
Resistance per pole (average value)		mΩ	2
<hr/>			
Power dissipation per pole (average value)			
	Ith	W	6
	AC3	W	2.9
<hr/>			
Tightening torque for terminals			
	min	Nm	2.5
	max	Nm	3
	min	Ibin	1.8
	max	Ibin	2.2
<hr/>			
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	418
Conductor section			
AWG/kcmil conductor section			
	max		6
<b>Operations</b>			
Mechanical life		cycles	20000000
Electrical life		cycles	1400000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	1400000
	mechanical load	cycles	20000000
Mirror contacts according to IEC/EN 60947-4-1			yes
EMC compatibility			yes
<b>AC coil operating</b>			
Rated AC voltage at 60Hz		V	230
AC operating voltage			
of 60Hz coil powered at 60Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out			
	min	%Us	20
	max	%Us	55
AC average coil consumption at 20°C			
of 60Hz coil powered at 60Hz			
	in-rush	VA	75
	holding	VA	9
Dissipation at holding ≤20°C 50Hz		W	2.5
<b>Max cycles frequency</b>			

Mechanical operation cycles/h 3600

**Operating times**

Average time for Us control  
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

**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

Contactor

AC current	A	55
------------	---	----

Short-circuit protection fuse, 600V

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
---	------

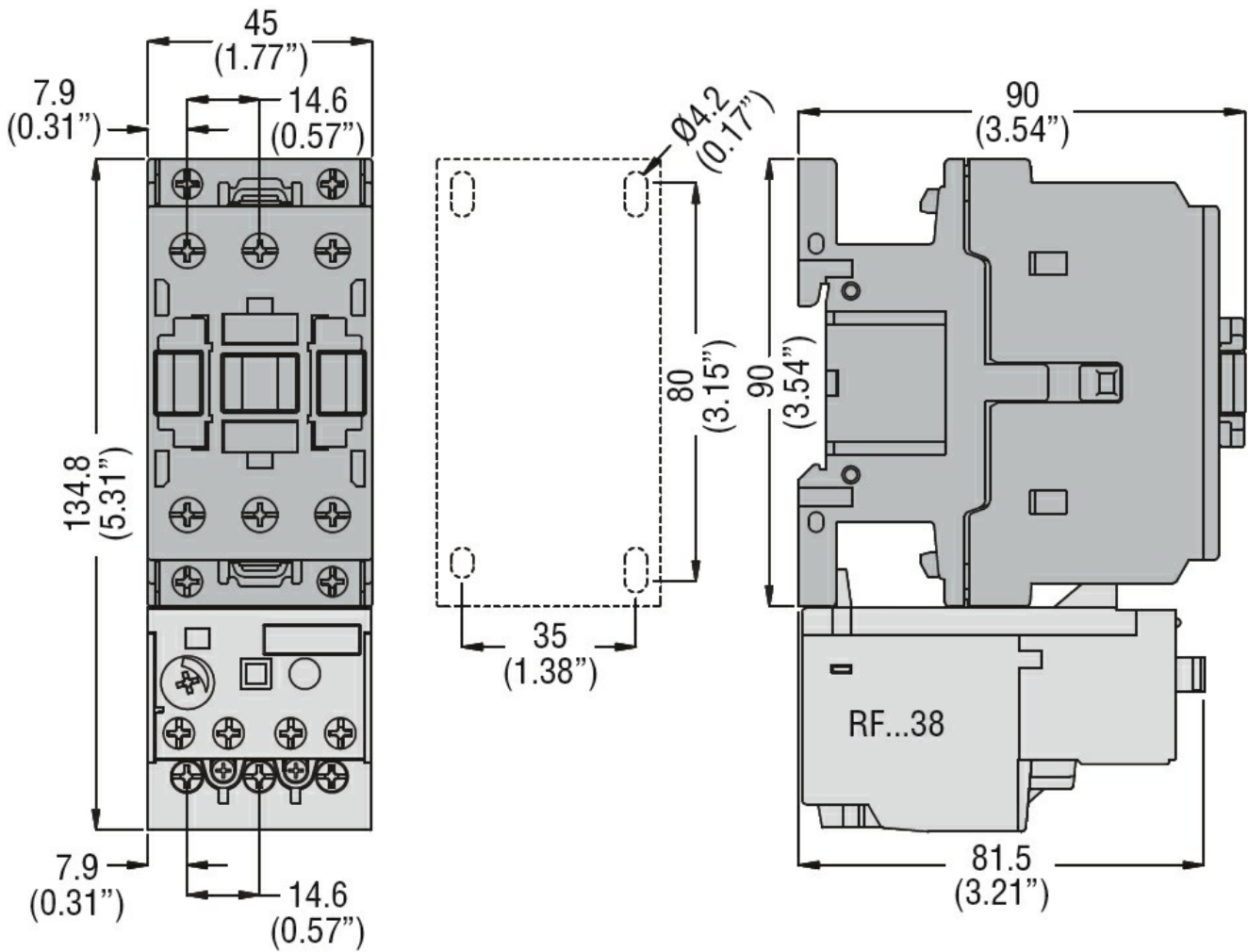
**Resistance & Protection**

Pollution degree

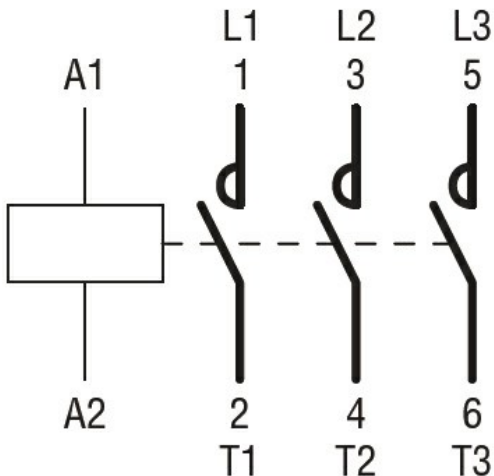
3

**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



Product designation				Power contactor
Product type designation				BF38
<b>Contact characteristics</b>				
Number of poles	Nr.			3
Rated insulation voltage $U_i$ IEC/EN	V			690
Rated impulse withstand voltage $U_{imp}$	kV			6
Operational frequency	min	Hz		25
	max	Hz		400
IEC Conventional free air thermal current $I_{th}$	A			56
Operational current $I_e$	AC-1 ( $\leq 40^\circ\text{C}$ )	A		56
	AC-1 ( $\leq 40^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A		60
	AC-1 ( $\leq 55^\circ\text{C}$ )	A		45
	AC-1 ( $\leq 55^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A		48
	AC-1 ( $\leq 70^\circ\text{C}$ )	A		40
	AC-1 ( $\leq 70^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A		42
	AC-3 ( $\leq 440\text{V } \leq 55^\circ\text{C}$ )	A		38
Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )	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 ( $T \leq 40^\circ\text{C}$ )	230V	kW		21
	400V	kW		36
	500V	kW		45
	690V	kW		62
	IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A	
48V		A		30
75V		A		23
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	
	48V	A		34
	75V	A		29
	110V	A		32
	220V	A		4
	IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series	$\leq 24\text{V}$	A	

	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	30
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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	–
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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
<hr/>			
IEC max current Ie 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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
<hr/>			
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
<hr/>			
Making capacity (RMS value)		A	380
<hr/>			
Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
<hr/>			
Resistance per pole (average value)		mΩ	2
<hr/>			
Power dissipation per pole (average value)			
	Ith	W	6
	AC3	W	2.9
<hr/>			
Tightening torque for terminals			
	min	Nm	2.5
	max	Nm	3
	min	Ibin	1.8
	max	Ibin	2.2
<hr/>			
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	422
Conductor section			
AWG/kcmil conductor section			
	max		6
<b>Operations</b>			
Mechanical life		cycles	20000000
Electrical life		cycles	1400000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	1400000
	mechanical load	cycles	20000000
Mirror contacts according to IEC/EN 60947-4-1			yes
EMC compatibility			yes
<b>AC coil operating</b>			
Rated AC voltage at 60Hz		V	460
AC operating voltage			
of 60Hz coil powered at 60Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out			
	min	%Us	20
	max	%Us	55
AC average coil consumption at 20°C			
of 60Hz coil powered at 60Hz			
	in-rush	VA	75
	holding	VA	9
Dissipation at holding ≤20°C 50Hz		W	2.5
<b>Max cycles frequency</b>			

Mechanical operation cycles/h 3600

**Operating times**

Average time for Us control  
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

**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

Contactor

AC current	A	55
------------	---	----

Short-circuit protection fuse, 600V

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

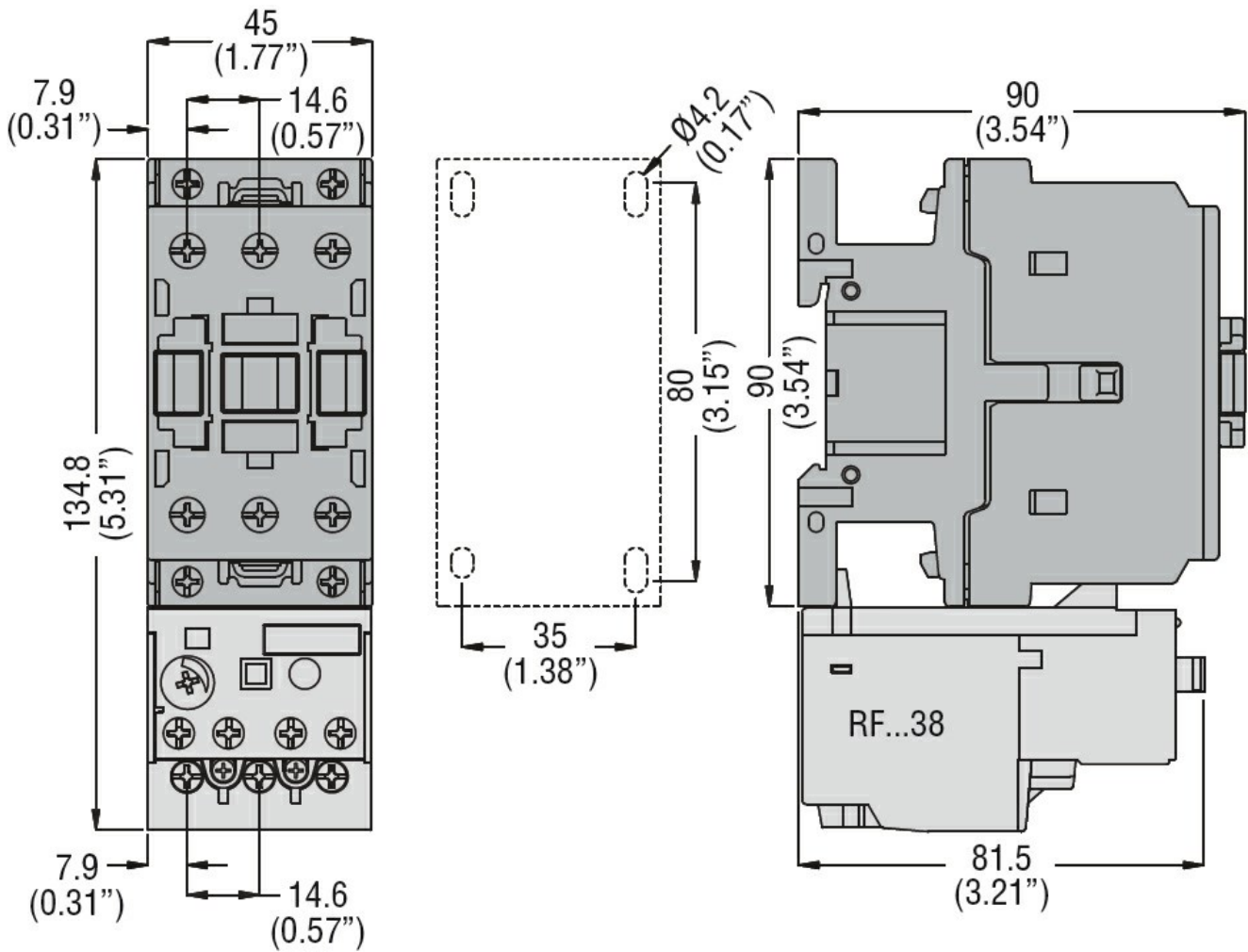
m	3000
---	------

**Resistance & Protection**

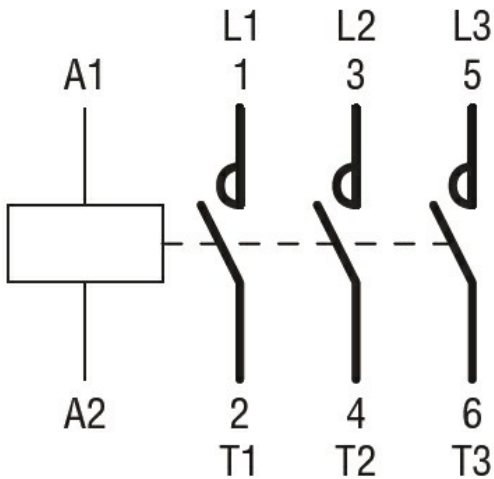
Pollution degree

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





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	35	
	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	36
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	36

	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	30
<hr/>			
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
<hr/>			
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	–
<hr/>			
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
<hr/>			
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
<hr/>			
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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
<hr/>			
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
<hr/>			
Making capacity (RMS value)		A	380
<hr/>			
Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
<hr/>			
Resistance per pole (average value)		mΩ	2
<hr/>			
Power dissipation per pole (average value)			
	I <sub>th</sub>	W	6
	AC3	W	2.9
<hr/>			
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
<hr/>			
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	416
Conductor section			
AWG/kcmil conductor section			
	max		6
<b>Operations</b>			
Mechanical life		cycles	20000000
Electrical life		cycles	1400000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	1400000
	mechanical load	cycles	20000000
Mirror contacts according to IEC/EN 60947-4-1			yes
EMC compatibility			yes
<b>AC coil operating</b>			
Rated AC voltage at 60Hz		V	575
AC operating voltage			
of 60Hz coil powered at 60Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out			
	min	%Us	20
	max	%Us	55
AC average coil consumption at 20°C			
of 60Hz coil powered at 60Hz			
	in-rush	VA	75
	holding	VA	9
Dissipation at holding ≤20°C 50Hz		W	2.5
<b>Max cycles frequency</b>			

Mechanical operation cycles/h 3600

**Operating times**

Average time for Us control  
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

**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

Contactor

AC current	A	55
------------	---	----

Short-circuit protection fuse, 600V

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

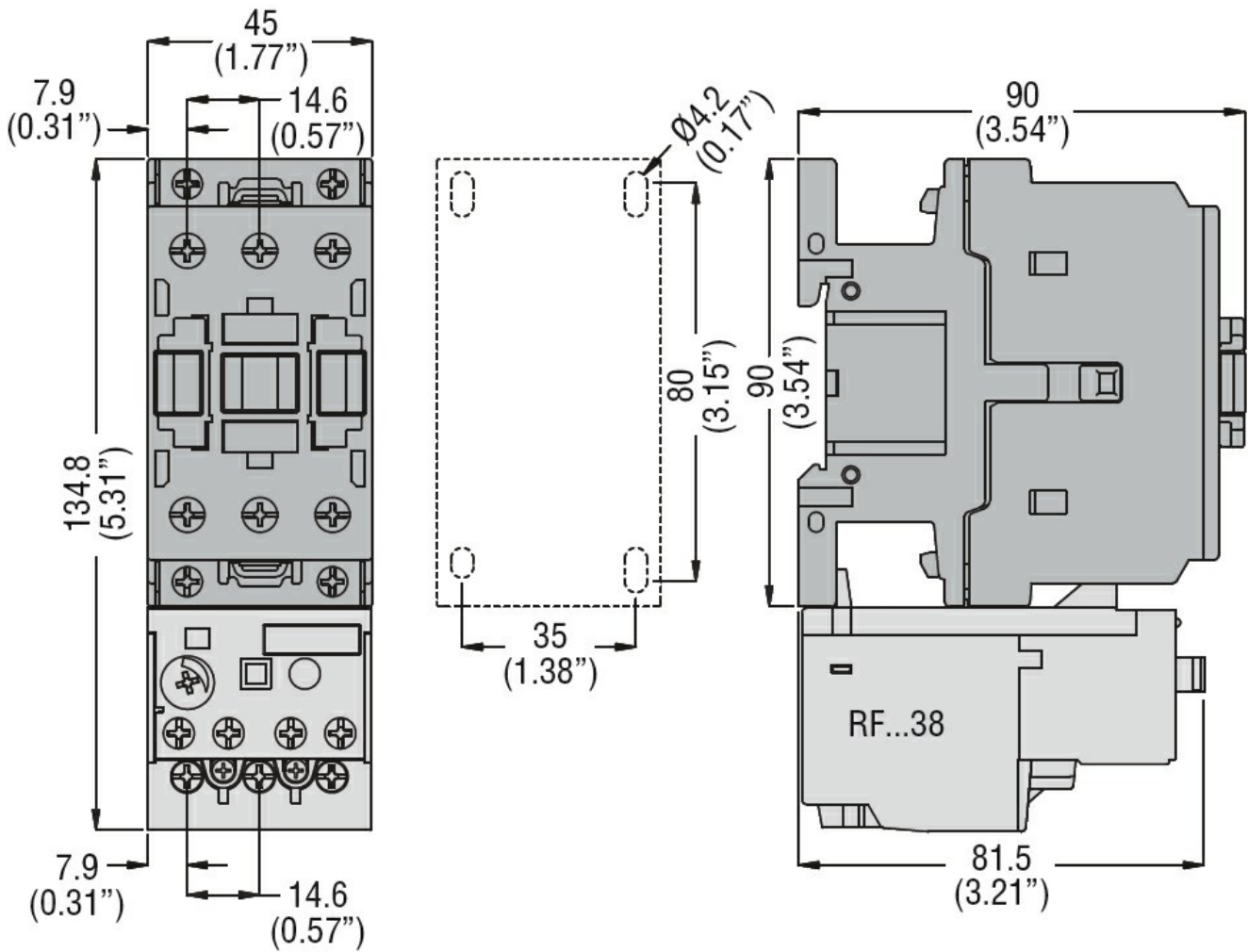
m	3000
---	------

**Resistance & Protection**

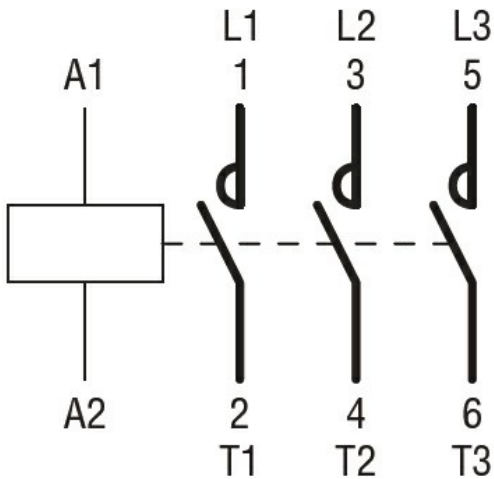
Pollution degree

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