



Product designation

Power contactor

Product type designation

BF38

**Contact characteristics**

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
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
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	–
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
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
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
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
Making capacity (RMS value)		A	380
Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
Resistance per pole (average value)		mΩ	2
Power dissipation per pole (average value)			
	Ith	W	6
	AC-3	W	2.9
Tightening torque for terminals			
	min	Nm	2.5
	max	Nm	3
	min	Ibin	1.8
	max	Ibin	2.2
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	554
<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
EMC compatibility			yes
<b>DC coil operating</b>			
DC rated control voltage		V	24
DC operating voltage			
pick-up			
	min	%U <sub>s</sub>	70
	max	%U <sub>s</sub>	125
drop-out			
	min	%U <sub>s</sub>	10
	max	%U <sub>s</sub>	40
Average coil consumption ≤20°C			
	in-rush	W	5.4
	holding	W	5.4
<b>Max cycles frequency</b>			
Mechanical operation		cycles/h	3600
<b>Operating times</b>			
Average time for U <sub>s</sub> control			
in AC			
Closing NO			
	min	ms	8
	max	ms	24

in DC	Opening NO	min	ms	5
		max	ms	15
	Closing NC	min	ms	9
		max	ms	20
	Opening NC	min	ms	9
		max	ms	17
	Closing NO	min	ms	54
		max	ms	66
	Opening NO	min	ms	14
		max	ms	17

#### UL technical data

Rated operational voltage AC (UL)		V	600
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

Short-circuit protection fuse, 600V	Contactor	AC current	A	55
	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

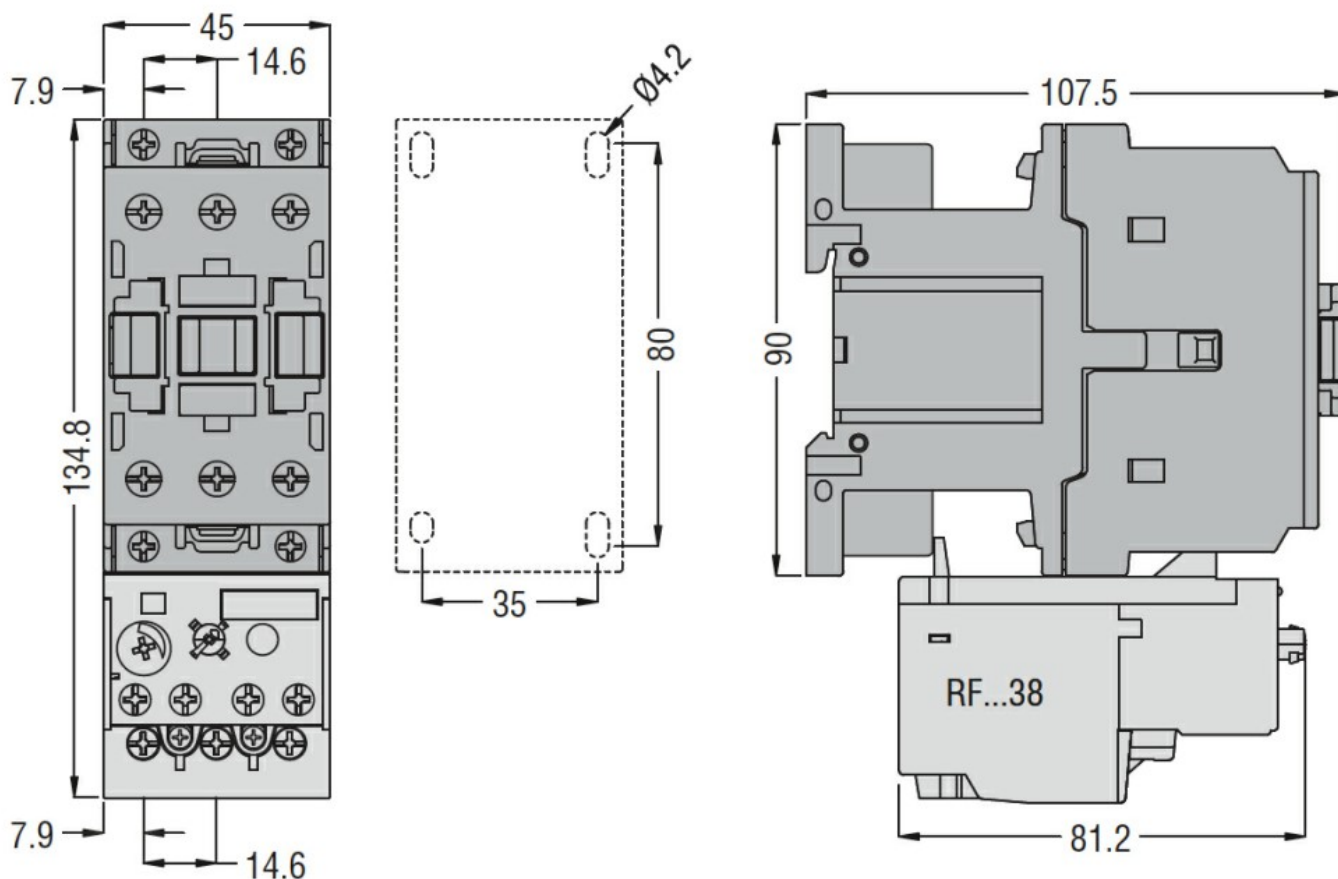
#### Ambient conditions

Temperature			
Operating temperature			
	min	°C	-50
	max	°C	70
Storage temperature			
	min	°C	-60
	max	°C	80
Max altitude		m	3000

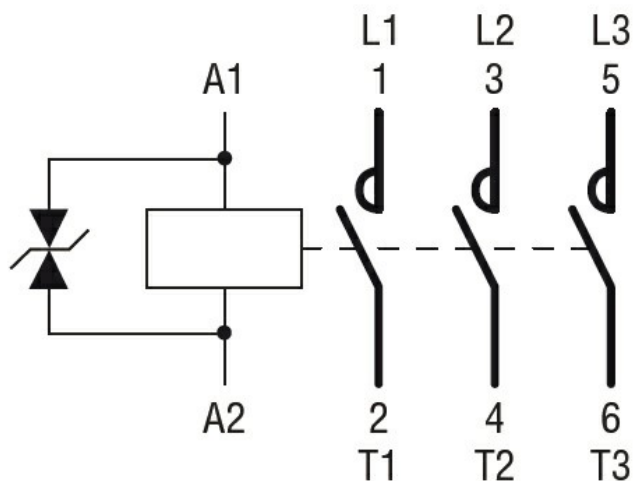
#### Resistance & Protection

Pollution degree	3
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#### 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

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cULus

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EAC

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching