



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 ² 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 ² 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 ² 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 _{bin}	0.8
		max	I _{bin}	0.74
Max number of wires simultaneously connectable		Nr.		2
Conductor section				
	AWG/Kcmil			
		max		6
Flexible w/o lug conductor section				
		min	mm ²	2.5
		max	mm ²	16
Flexible c/w lug conductor section				
		min	mm ²	1
		max	mm ²	10
Flexible with insulated spade lug conductor section				
		min	mm ²	1
		max	mm ²	10
Power terminal protection according to IEC/EN 60529				IP20 when properly wired
Mechanical features				
Operating position				
		normal allowable		Vertical plan ±30°
Fixing				Screw / DIN rail 35mm
Weight				g 430
Conductor section				
	AWG/kcmil conductor section			
		max		6
Operations				
Mechanical life			cycles	20000000
Electrical life			cycles	1400000
Safety related data				
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
AC coil operating				
Rated AC voltage at 50/60Hz				V 48
AC operating voltage				
	of 50/60Hz coil powered at 50Hz			
	pick-up	min	%U _s	80
		max	%U _s	110
	drop-out	min	%U _s	20
		max	%U _s	55
	of 50/60Hz coil powered at 60Hz			
	pick-up	min	%U _s	85
		max	%U _s	110
	drop-out	min	%U _s	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

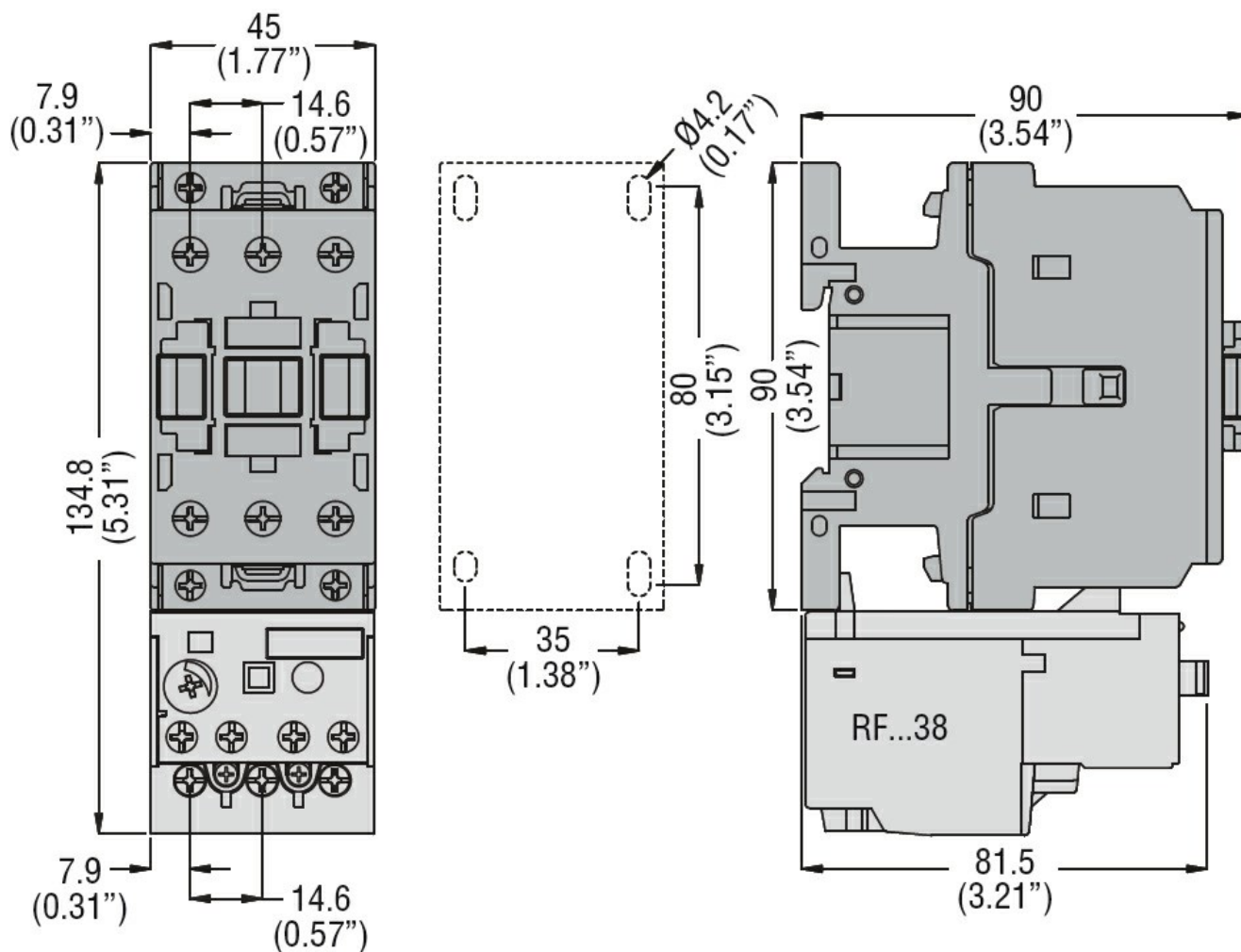
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Resistance & Protection

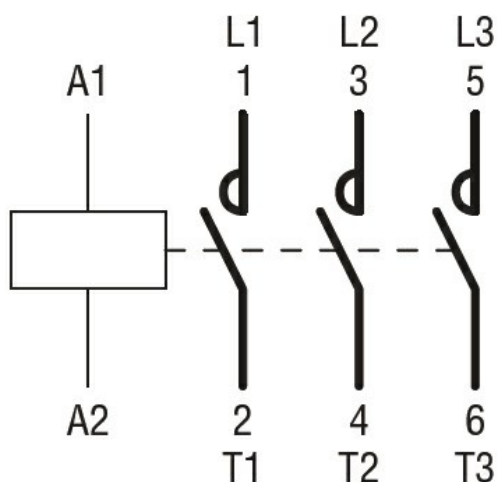
Pollution degree

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