



Product designation

Power contactor

Product type designation

BF38

Contact characteristics

Number of poles	Nr.	4
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-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 I_e in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series		
	$\leq 24\text{V}$	A 36
	48V	A 34

	75V	A	33
	110V	A	34
	220V	A	38
IEC max current I _e 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 I _e 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 I _e 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 I _e 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)			
	I _{th}	W	6
	AC3	W	2.9
Tightening torque for terminals			
	min	Nm	2.5
	max	Nm	3
	min	lbin	1.8
	max	lbin	2.2
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	lbin	0.8
	max	lbin	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 wired
Mechanical features			
Operating position		normal allowable	Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight		g	664
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
DC coil operating			
DC rated control voltage		V	48
DC operating voltage			
pick-up		min	%Us 80
		max	%Us 125
drop-out		min	%Us 10
		max	%Us 40
Average coil consumption ≤20°C		in-rush	W 5.4
		holding	W 5.4
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

in DC	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

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
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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

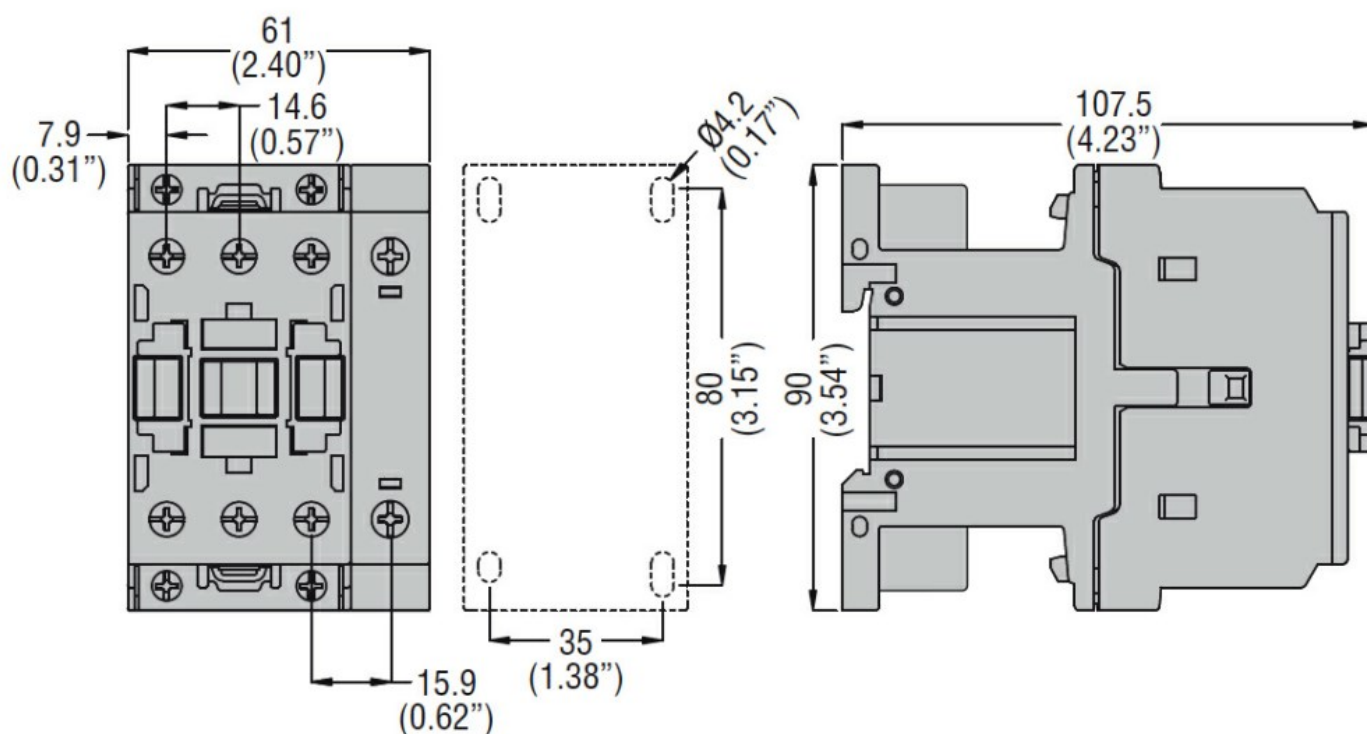
m	3000
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Resistance & Protection

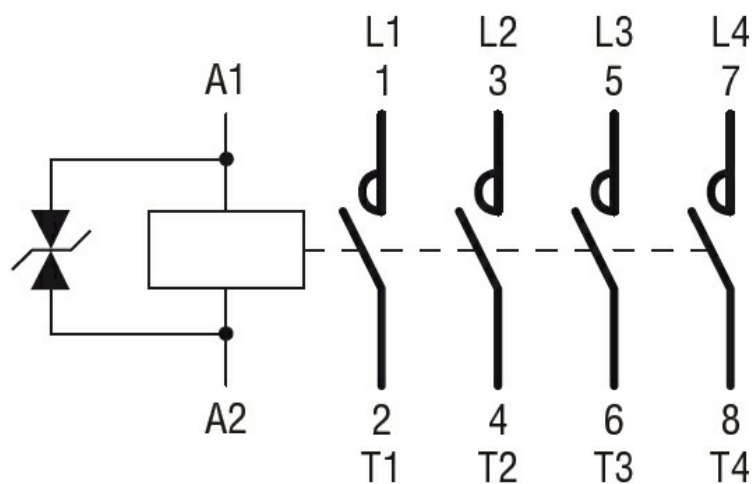
Pollution degree

3

Dimensions



Wiring diagrams



Certifications and compliance

Compliance

CSA C22.2 n° 60947-1
CSA C22.2 n° 60947-4-1
IEC/EN 60947-1
IEC/EN 60947-4-1
UL 60947-1
UL 60947-4-1

Certificates

CCC
cULus
EAC

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching