



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
Rated operational power AC-1 ($T \leq 40^\circ\text{C}$)	AC-4 (400V)	A		15.5
	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	
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
	IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series	$\leq 24\text{V}$	A	
48V		A		34

	75V	A	33
	110V	A	34
	220V	A	38
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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	–
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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
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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
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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
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Short-time allowable current for 10s (IEC/EN60947-1)		A	320
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Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	40
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Making capacity (RMS value)		A	380
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Breaking capacity at voltage			
	440V	A	304
	500V	A	240
	690V	A	192
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Resistance per pole (average value)		mΩ	2
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Power dissipation per pole (average value)			
	I _{th}	W	6
	AC-3	W	2.9
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Tightening torque for terminals			
	min	Nm	2.5
	max	Nm	3
	min	lbin	1.8
	max	lbin	2.2
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Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	lbin	0.8
	max	lbin	0.74
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Max number of wires simultaneously connectable		Nr.	2
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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	513
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 mechanical load	cycles	1400000
		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	%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	75
		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
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Max cycles frequency

Mechanical operation	cycles/h	3600
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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

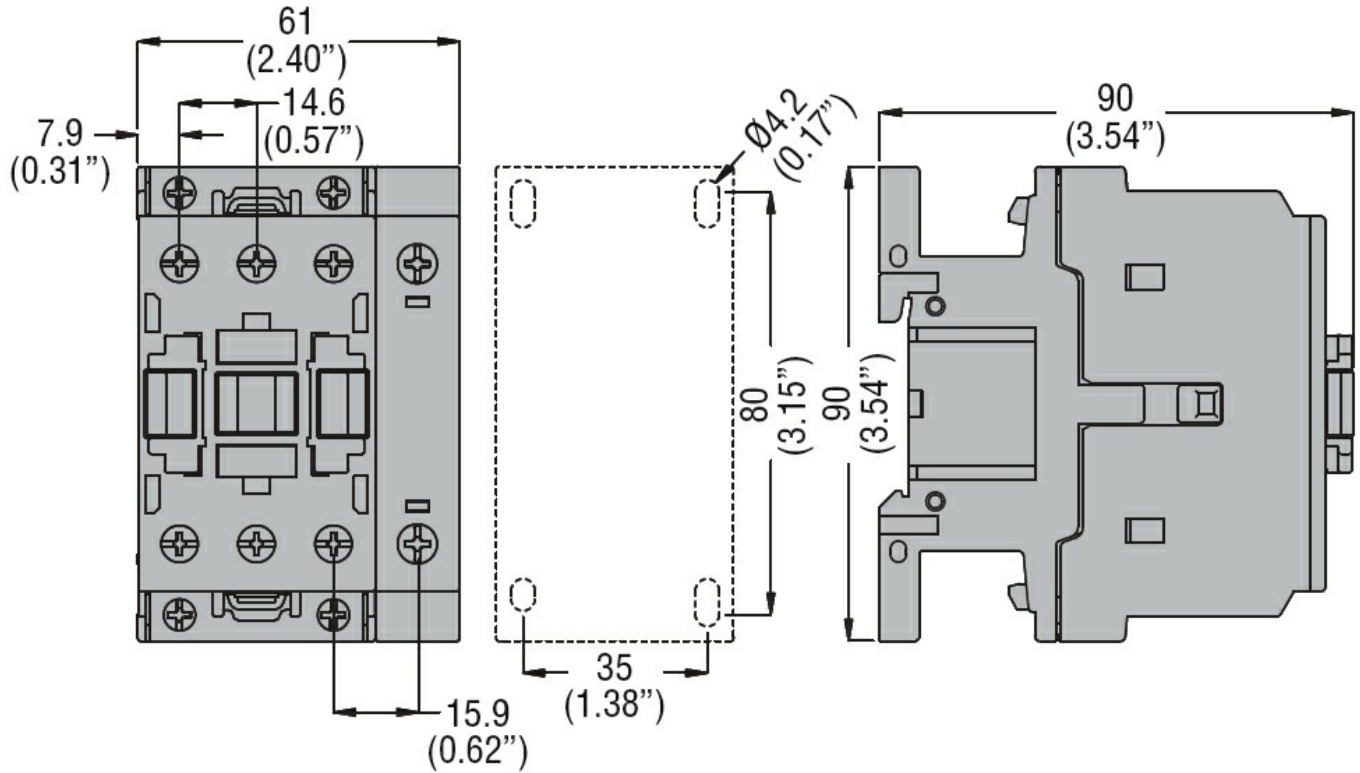
General USE			
Contactor			
	AC current	A	55

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

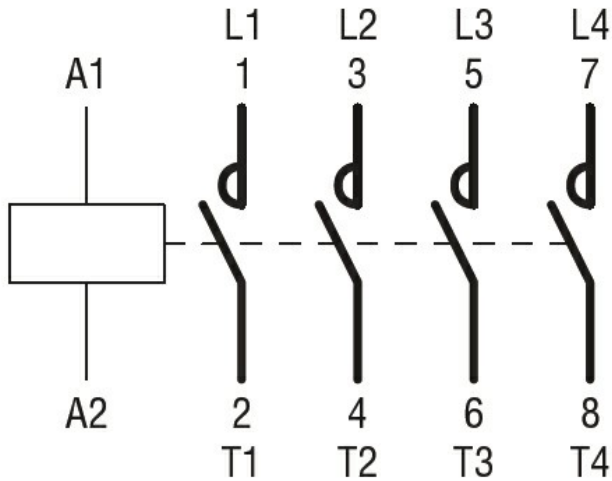
Ambient conditions

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
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cULus

EAC

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching