



Product designation				Power contactor
Product type designation				BFS38
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
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
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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
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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	–
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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
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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
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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
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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	I _{bin}	1.8
	max	I _{bin}	2.2
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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		
Cable stripping length	main circuit	mm	0
	command circuit	mm	0
	auxiliary circuit	mm	0
Mechanical features			
Operating position	normal allowable	Vertical plan ±30°	
Fixing	Screw / DIN rail 35mm		
Weight	g	423	
Auxiliary contact characteristics			
Type of contact	0		
Thermal current I _{th}	A	0	
IEC/EN 60947-5-1 designation	A600 - Q600		
Operating current AC15	230V	A	3
	400V	A	1.9
	500V	A	1.4
Operating current DC12	24V	A	0
	48V	A	0
	60V	A	0
	125V	A	0
	220V	A	0
	600V	A	0
Operating current DC13	125V	A	0.55
	600V	A	0.1
Operations			
Mechanical life	cycles	2000000	
Electrical life	cycles	1400000	
Safety related data			
Performance level B10d according to EN/ISO 13489-1			

	rated load	cycles	1400000
	mechanical load	cycles	20000000
EMC compatibility			yes
Electrical characteristics			
Operating current DC13	250V	A	0.27
	440V	A	0.15
	500V	A	0.13
AC coil operating			
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
DC coil operating			
DC operating voltage			
pick-up	min	%Us	0
	max	%Us	0
drop-out	min	%Us	0
	max	%Us	0
Average coil consumption ≤20°C	in-rush	W	0
	holding	W	0
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
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in DC				
Closing NO		min	ms	0
		max	ms	0
Opening NO		min	ms	0
		max	ms	0
Closing NC		min	ms	0
		max	ms	0
Opening NC		min	ms	0
		max	ms	0

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

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

Contact rating of auxiliary contacts according to UL A600 - Q600

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

Impact resistance

0

Vibration resistance

0

Special thermic treatments

0

Pollution degree

3

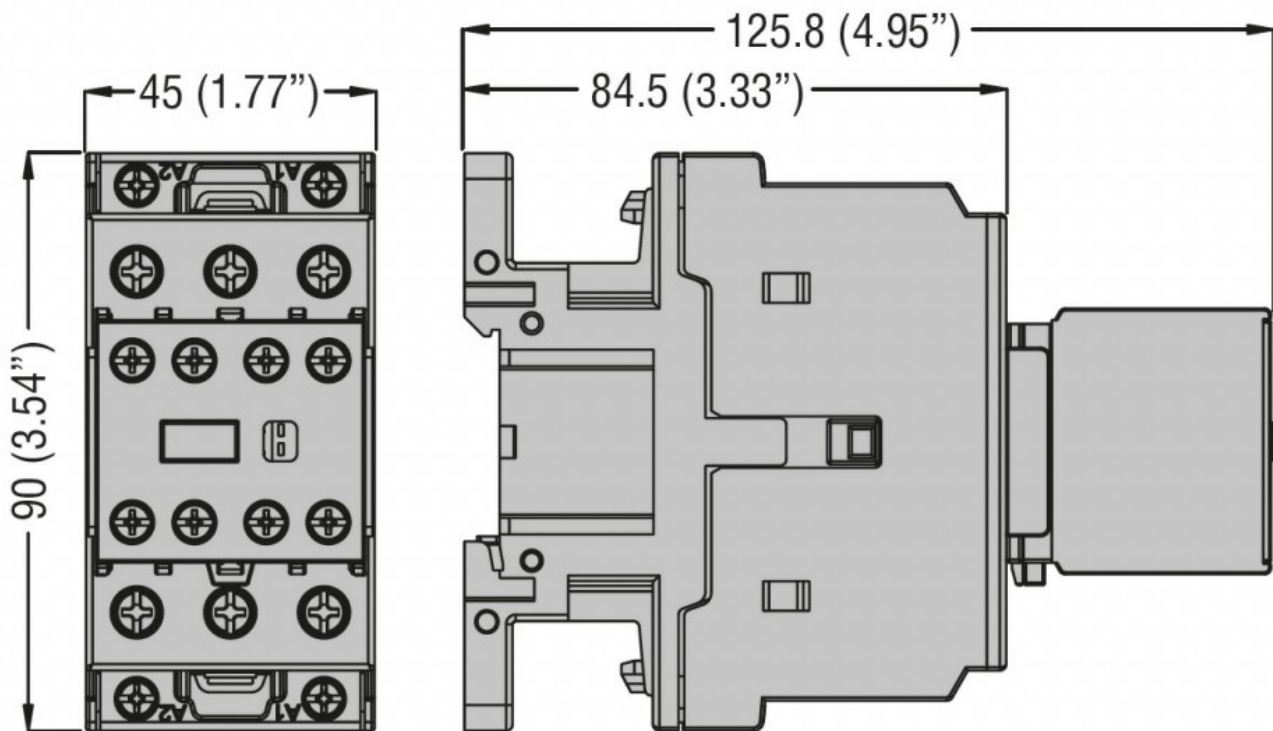
Resistance to flame (GWT)

0

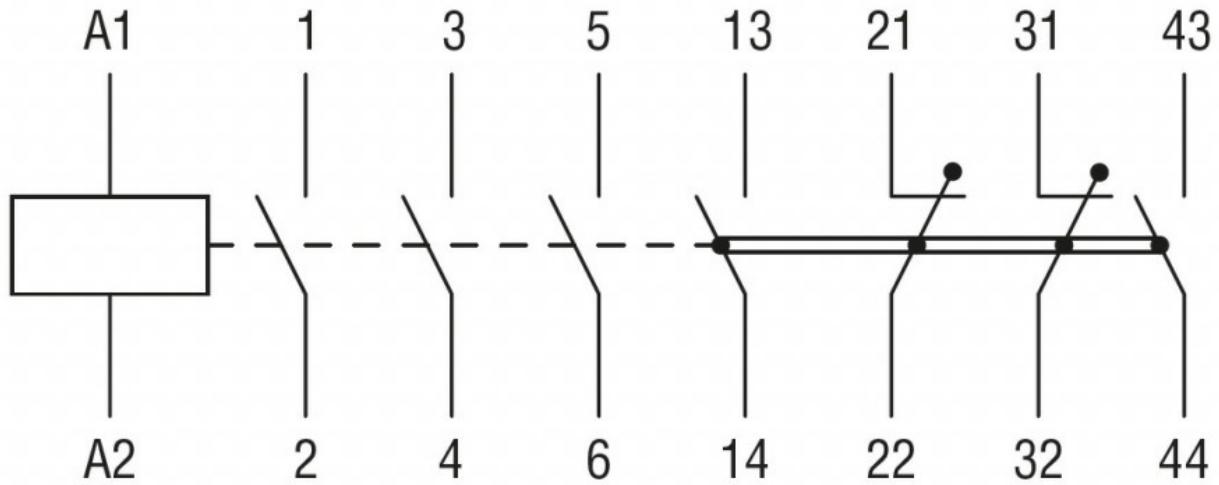
Flame retardant according to UL94

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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

- IEC/EN/BS 60947-5-1

- UL 60947-1

- UL 60947-4-1

Certificates

- cULus

- UL listed for USA and Canada

ETIM classification

ETIM 8.0

EC000066 -
 Power contactor,
 AC switching