



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
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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
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	48V	A	34
	75V	A	33
	110V	A	34
	220V	A	30
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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
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IEC max current $I_e$ in DC3-DC5 with $L/R \leq 15\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	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 $L/R \leq 15\text{ms}$ with 2 poles in series	$\leq 24\text{V}$	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 $L/R \leq 15\text{ms}$ with 3 poles in series	$\leq 24\text{V}$	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 $L/R \leq 15\text{ms}$ with 4 poles in series	$\leq 24\text{V}$	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)		m $\Omega$	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	Ibin	0.8
	max	Ibin	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	426
<b>Auxiliary contact characteristics</b>			
Type of contact			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
<b>Operations</b>			
Mechanical life		cycles	2000000
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>Electrical characteristics</b>			
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	230
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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
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**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
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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
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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
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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

Contact rating of auxiliary contacts according to UL A600 - Q600

#### Ambient conditions

Temperature

Operating temperature

	min	°C	-50
	max	°C	70

Storage temperature

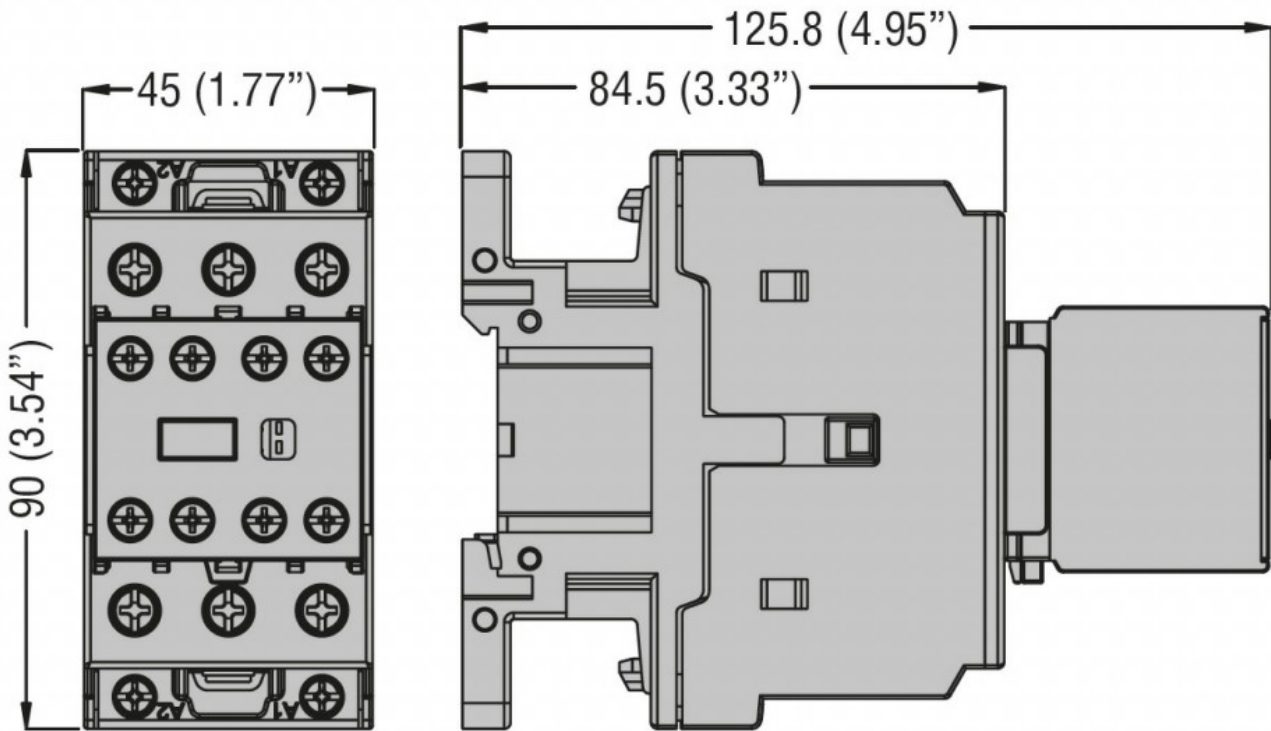
	min	°C	-60
	max	°C	80

Max altitude m 3000

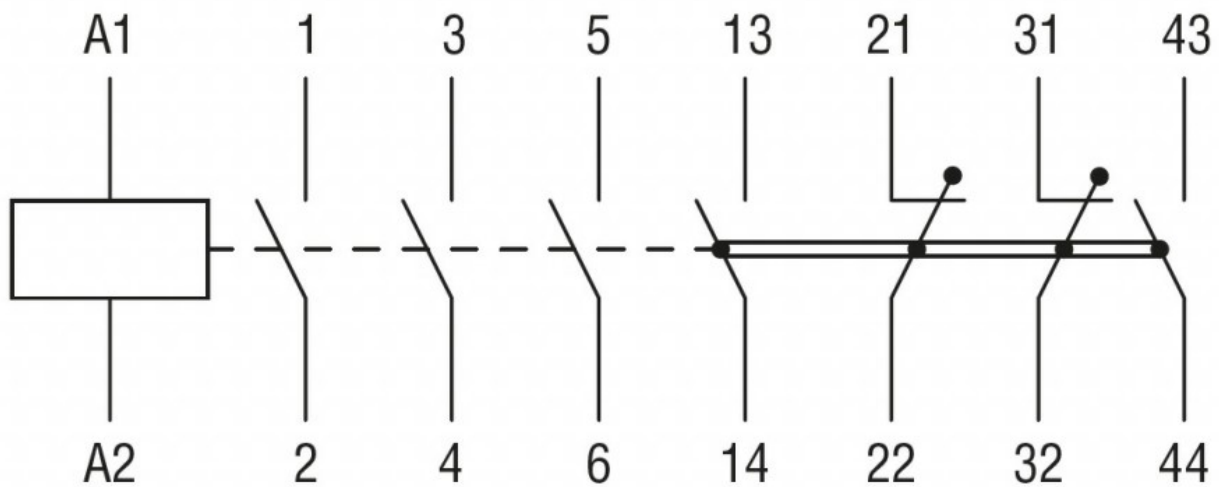
#### Resistance & Protection

Impact resistance	0
Vibration resistance	0
Special thermic treatments	0
Pollution degree	3
Resistance to flame (GWT)	0
Flame retardant according to UL94	0

**Dimensions**



**Wiring diagrams**



**Certifications and compliance**

Compliance

CSA C22.2 n° 60947-1

THREE-POLE SAFETY CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 38A, AC COIL  
50/60HZ, 230VAC, 2NO+2NC AUXILIARY CONTACT

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CSA C22.2 n° 60947-4-1

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IEC/EN/BS 60947-1

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IEC/EN/BS 60947-4-1

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IEC/EN/BS 60947-5-1

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UL 60947-1

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UL 60947-4-1

Certificates

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cULus

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UL listed for USA and Canada

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching