



Product designation				Power contactor
Product type designation				BFS09
<b>Contact characteristics</b>				
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			25
Operational current $I_e$	AC-1 ( $\leq 40^\circ\text{C}$ )	A	25	
	AC-1 ( $\leq 40^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A	0	
	AC-1 ( $\leq 55^\circ\text{C}$ )	A	20	
	AC-1 ( $\leq 55^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A	0	
	AC-1 ( $\leq 70^\circ\text{C}$ )	A	18	
	AC-1 ( $\leq 70^\circ\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug	A	0	
	AC-3 ( $\leq 440\text{V } \leq 55^\circ\text{C}$ )	A	9	
Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )	AC-4 (400V)	A	4.9	
	230V	kW	2.2	
	400V	kW	4.2	
	415V	kW	4.5	
	440V	kW	4.8	
	500V	kW	5.5	
Rated operational power AC-1 ( $T \leq 40^\circ\text{C}$ )	690V	kW	7.5	
	230V	kW	9.5	
	400V	kW	16	
	500V	kW	21	
	690V	kW	27	
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A	15	
	48V	A	13	
	75V	A	12	
	110V	A	6	
	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	18
48V		A	18	
75V		A	17	
110V		A	12	
220V		A	1	
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series		$\leq 24\text{V}$	A	20

	48V	A	20
	75V	A	20
	110V	A	15
	220V	A	10
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IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	A	20
	48V	A	20
	75V	A	20
	110V	A	16
	220V	A	12
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IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	A	10
	48V	A	9
	75V	A	8
	110V	A	2
	220V	A	–
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IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	A	13
	48V	A	11
	75V	A	10
	110V	A	7
	220V	A	2
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IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	≤24V	A	15
	48V	A	15
	75V	A	13
	110V	A	11
	220V	A	6
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IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	≤24V	A	15
	48V	A	15
	75V	A	15
	110V	A	12
	220V	A	7
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Short-time allowable current for 10s (IEC/EN60947-1)		A	150
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Protection fuse			
	gG (IEC)	A	25
	aM (IEC)	A	10
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Making capacity (RMS value)		A	90
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Breaking capacity at voltage			
	440V	A	72
	500V	A	72
	690V	A	71
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Resistance per pole (average value)		mΩ	2.5
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Power dissipation per pole (average value)			
	Ith	W	1.6
	AC-3	W	0.2
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Tightening torque for terminals			
	min	Nm	1.5
	max	Nm	1.8
	min	Ibin	1.1
	max	Ibin	1.5
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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		10
Flexible w/o lug conductor section			
	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	6
Flexible c/w lug conductor section			
	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	4
Flexible with insulated spade lug conductor section			
	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	4
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	490
<b>Auxiliary contact characteristics</b>			
Thermal current I <sub>th</sub>		A	10
IEC/EN 60947-5-1 designation			A600 - Q600
Operating current AC15			
	230V	A	3
	400V	A	1.9
	500V	A	1.4
Operating current DC13			
	110V	A	1.25
	125V	A	0.55
	600V	A	0.1
<b>Operations</b>			
Mechanical life		cycles	2000000
Electrical life		cycles	200000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1			
	rated load mechanical load	cycles	2000000
		cycles	2000000
Mirror contacts according to IEC/EN 60947-4-1			Yes
EMC compatibility			yes
<b>Electrical characteristics</b>			
Operating current DC13			
	250V	A	0.27
	440V	A	0.15
	500V	A	0.13
<b>AC coil operating</b>			
AC operating voltage			

of 50/60Hz coil powered at 50Hz  
drop-out

		max	%Us	0
<b>DC coil operating</b>				
DC rated control voltage			V	24
<b>DC operating voltage</b>				
pick-up		min	%Us	70
		max	%Us	125
drop-out		min	%Us	10
		max	%Us	40
<b>Average coil consumption ≤20°C</b>				
		in-rush	W	5.4
		holding	W	5.4

**Max cycles frequency**

Mechanical operation			cycles/h	3600
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**Operating times**

<b>Average time for Us control</b>				
in AC				
Closing NO		min	ms	8
		max	ms	24
Opening NO		min	ms	10
		max	ms	20
Closing NC		min	ms	14
		max	ms	28
Opening NC		min	ms	7
		max	ms	18
in DC				
Closing NO		min	ms	54
		max	ms	66
Opening NO		min	ms	14
		max	ms	17
Closing NC		min	ms	24
		max	ms	30
Opening NC		min	ms	47
		max	ms	57

**UL technical data**

Rated operational voltage AC (UL)			V	600
<b>Full-load current (FLA) for three-phase AC motor</b>				
		at 480V	A	7.6
		at 600V	A	0.375

<b>Yielded mechanical performance</b>				
for single-phase AC motor				
		110/120V	HP	0.75
		230V	HP	2

for three-phase AC motor

200/208V	HP	3
220/230V	HP	3
460/480V	HP	5
575/600V	HP	7.5

General USE

Contactor

AC current	A	25
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Auxiliary contacts

AC voltage	V	600
AC current	A	10
DC voltage	V	250
DC current	A	1

Short-circuit protection fuse, 600V

High fault

Short circuit current	kA	100
Fuse rating	A	30
Fuse class		J

Standard fault

Short circuit current	kA	5
Fuse rating	A	60

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

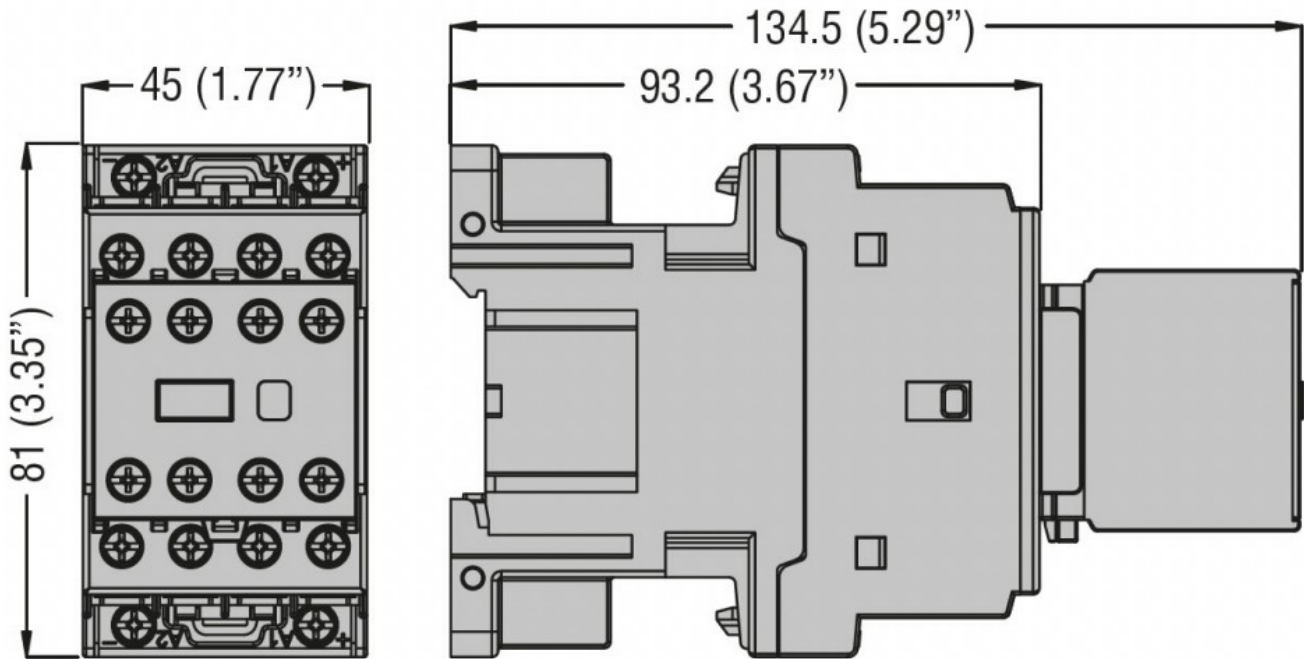
Impact resistance

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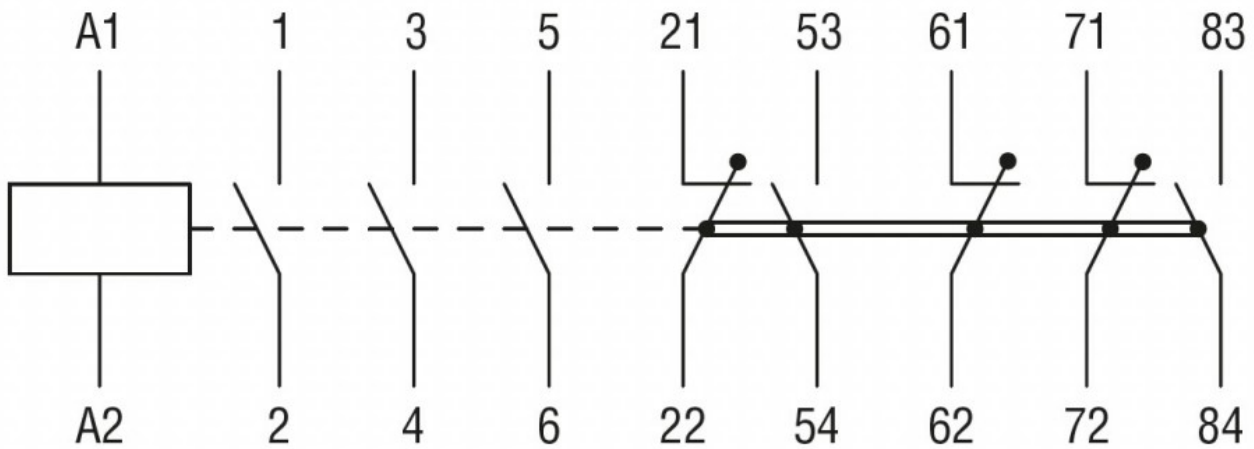
Pollution degree

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  
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