BFS3222A230

THREE-POLE SAFETY CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 32A, AC COIL 50/60HZ, 230VAC, 2NO+2NC AUXILIARY CONTACT

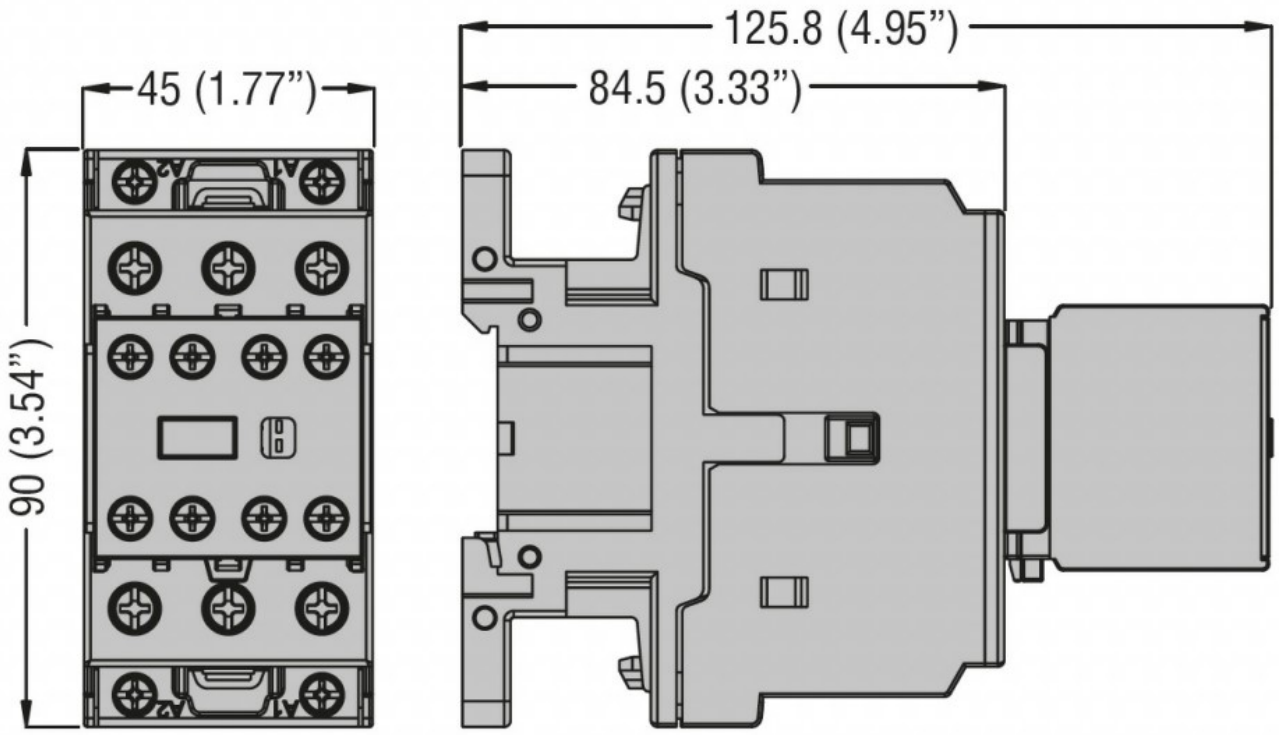
Contact characteristics			
Number of poles		Nr.	3
Rated insulation voltage Ui IEC/EN		V	690
Rated impulse withstand voltage Uimp		kV	6
Operational frequency			
	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith ≤ 40°C		A	56
Operational current Ie			
	AC-1 (≤40°C)	A	56
	AC-1 (≤40°C) with 16mm² wire and fork end lug	A	0
	AC-1 (≤55°C)	A	45
	AC-1 (≤55°C) with 16mm² wire and fork end lug	A	0
	AC-1 (≤70°C)	A	40
	AC-1 (≤70°C) with 16mm² wire and fork end lug	A	0
	AC-3 (≤440V ≤55°C)	A	32
	AC-4 (400V)	A	13.5
Rated operational power AC-3 (T≤55°C)			
	230V	kW	8.8
	400V	kW	16
	415V	kW	17
	440V	kW	17
	500V	kW	20
	690V	kW	22
Rated operational power AC-1 (T≤40°C)			
	230V	kW	21
	400V	kW	36
	500V	kW	45
	690V	kW	62
IEC max current Ie in DC1 with L/R ≤ 1ms with 1 poles in series			
	≤24V	A	30
	48V	A	26
	75V	A	22
	110V	A	8
	220V	A	–
IEC max current Ie in DC1 with L/R ≤ 1ms with 2 poles in series			
	≤24V	A	32
	48V	A	32
	75V	A	28
	110V	A	25
	220V	A	3
IEC max current Ie in DC1 with L/R ≤ 1ms with 3 poles in series			
	≤24V	A	32
	48V	A	32
	75V	A	32

	110V	A	27
	220V	A	23
IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	A	–
	48V	A	–
	75V	A	–
	110V	A	–
	220V	A	–
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	A	20
	48V	A	17
	75V	A	15
	110V	A	2,5
	220V	A	–
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	A	25
	48V	A	22
	75V	A	20
	110V	A	15
	220V	A	3
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	≤24V	A	30
	48V	A	28
	75V	A	28
	110V	A	20
	220V	A	23
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	≤24V	A	–
	48V	A	–
	75V	A	–
	110V	A	–
	220V	A	–
Short-time allowable current for 10s (IEC/EN60947-1)		A	320
Protection fuse			
	gG (IEC)	A	63
	aM (IEC)	A	32
Making capacity (RMS value)		A	320
Breaking capacity at voltage			
	440V	A	256
	500V	A	240
	690V	A	192
Resistance per pole (average value)		mΩ	2
Power dissipation per pole (average value)			
	Ith	W	6
	AC-3	W	2
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

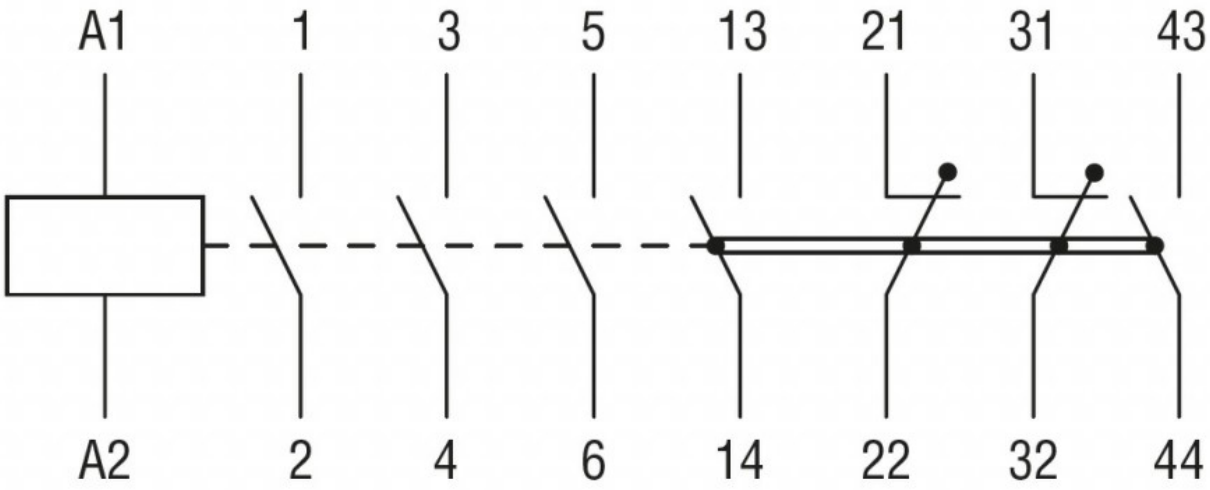
		min	Ibin	0.8
		max	Ibin	0.74
Max number of wires simultaneously connectable			Nr.	2
Conductor section				
	AWG/Kcmil			
		max		6
	Flexible w/o lug conductor section			
		min	mm²	2.5
		max	mm²	16
	Flexible c/w lug conductor section			
		min	mm²	1
		max	mm²	10
	Flexible with insulated spade lug conductor section			
		min	mm²	1
		max	mm²	10
Power terminal protection according to IEC/EN 60529				IP20 when properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail 35mm
Weight			g	424
Auxiliary contact characteristics				
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 DC13				
		110V	A	0.55
		125V	A	0.55
		220V	A	0.27
		600V	A	0.1
Operations				
Mechanical life			cycles	20000000
Electrical life			cycles	1600000
Safety related data				
Performance level B10d according to EN/ISO 13489-1				
		rated load	cycles	1600000
		mechanical load	cycles	20000000
EMC compatibility				yes
AC coil operating				
Rated AC voltage at 50/60Hz			V	230
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	
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	27
		at 600V	A	27
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
		220/240V	HP	10
		460/480V	HP	20
		575/600V	HP	25
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	125
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
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