



Product designation Product type designation			Power contactor BF18
Contact characteristics			-
Number of poles		Nr.	4
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		Α	32
Operational current le			
	AC-1 (≤40°C)	Α	32
	AC-1 (≤55°C)	Α	26
	AC-1 (≤70°C)	Α	23
	AC-3 (≤440V ≤55°C)	Α	18
	AC-4 (400V)	Α	8.5
Rated operational power AC-1 (T≤40°C)			
	230V	kW	12
	400V	kW	21
	500V	kW	26
	690V	kW	36
Short-time allowable current for 10s (IEC/EN60947-1)		A	200
Protection fuse			
	gG (IEC)	Α	32
	aM (IEC)	A	20
Making capacity (RMS value)		Α	180
Breaking capacity at voltage			
	440V	Α	144
	500V	Α	120
	690V	A	94
Resistance per pole (average value)		mΩ	2.5
Power dissipation per pole (average value)			
	Ith	W	2.6
	AC-3	W	0.8
Tightening torque for terminals			
	min	Nm	1.5
	max	Nm	1.8
	min	lbin	1.1
The first of the state of the s	max	lbin	1.5
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	lbin	0.8
Management of a finished about the second of the	max	Ibin	0.74
Max number of wires simultaneously connectable		Nr.	2

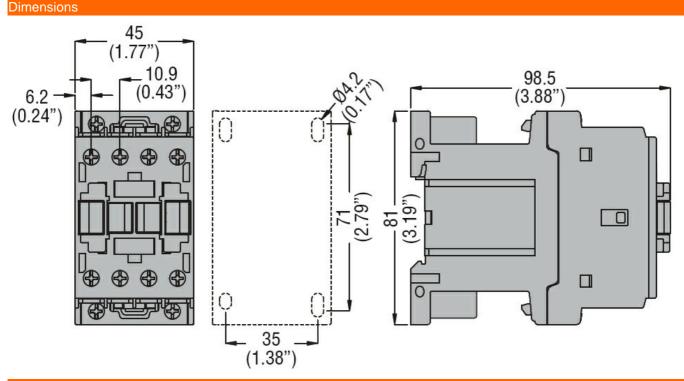


Flexible w/o lug conductor section				
Flexible w/o lug conductor section	Conductor section	ANAC // care il		
Flexible w/o lug conductor section   min max mm²   1   1   1   1   1   1   1   1   1				10
Flexible c/w lug conductor section				10
Flexible c/w lug conductor section		_	mm²	1
Flexible with insulated spade lug conductor section		max	mm²	6
Flexible with insulated spade lug conductor section   min max   mm²   1 max   1		Flexible c/w lug conductor section		
Flexible with insulated spade lug conductor section		min		1
Minimax			mm²	4
Power terminal protection according to IEC/EN 60529   IP20 when properly wired properly wired properly wired properly wired properly wired properly wired allowable   IP20 when properly wired properly wired properly wired allowable   IP20 when properly wired   I		·	2	4
Power terminal protection according to IEC/EN 60529				
Proper ferminal protection according to IEC/EN 60329			111111	
Mechanical features           Operating position         normal allowable         Vertical plan ±30°           Fixing         Screw / DIN rail 35mm           Weight         g         500           Conductor section           AWG/kcmil conductor section           Mechanical life         cycles         20000000           Electrical life         cycles         20000000           Electrical life         cycles         1600000           Safety related data           Performance level B10d according to EN/ISO 13489-1         rated load related load cycles         1600000           Mirror contats according to IEC/EN 609474-4-1         yes         2           EMC compatibility         yes         2           AC operating         max         %Us         55           DC coil operating         v         48           DC coil operating         v         48           DC coll operating voltage         v         48           DC coll operating voltage         v         48           DC coll operating voltage         v         48           DC coll operating	Power terminal protect	tion according to IEC/EN 60529		
Prixing   Pri	Mechanical features			, , ,
Fixing	Operating position			
Screw / DIN rail 35mm   35m				
Meight   g   500     Conductor section		allowable		
Conductor section  AWG/kcmil conductor section  max 10  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 200000000  Mirror contats according to IEC/EN 609474-4-1  Erated load cycles 200000000  Mirror contats according to IEC/EN 609474-4-1  EXES  EMC compatibility  AC operating Voltage  of 50/60Hz coil powered at 50Hz drop-out  max %Us 55  DC coil operating  DC rated control voltage  DC rated control voltage  pick-up  min %Us 80 max %Us 110  drop-out  min %Us 10 max %Us 10 max %Us 40  Average coil consumption ≤20°C  in-rush w W 2.4 holding W 2.4  Max cycles frequency  Mechanical operation  Cycles/h 3600	Fixing			35mm
AWG/kcmil conductor section    max   10	Weight		g	500
Operations           Mechanical life         cycles         20000000           Electrical life         cycles         1600000           Safety related data           Performance level B10d according to EN/ISO 13489-1         rated load rated load related load rela	Conductor section			
Operations           Mechanical life         cycles         20000000           Electrical life         cycles         1600000           Safety related data           Performance level B10d according to EN/ISO 13489-1           rated load mechanical load cycles         1600000 cycles         20000000           Mirror contats according to IEC/EN 609474-4-1         YES         YES           EMC compatibility         yes         Yes         Xes           AC operating voltage         of 50/60Hz coil powered at 50Hz drop-out         Yes         Xes				
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         1600000 mechanical load cycles         20000000           Mirror contats according to IEC/EN 609474-4-1         yes         YES           EMC compatibility         yes         AC coil operating           AC operating voltage         y         48           DC rated control voltage         y         48           DC operating voltage         y         48           DC	On anations	max		10
Electrical life cycles 1600000  Safety related data  Performance level B10d according to EN/ISO 13489-1  rated load cycles 1600000  mechanical load cycles 200000000  Mirror contats according to IEC/EN 609474-4-1  EMC compatibility yes  AC coil operating  AC operating voltage  of 50/60Hz coil powered at 50Hz drop-out  max %Us 55  DC coil operating  DC rated control voltage  DC operating voltage  pick-up  min %Us 80  max %Us 110  drop-out  min %Us 80  max %Us 110  Average coil consumption ≤20°C  in-rush w 2.4  holding W 2.4  Max cycles frequency  Mechanical operation  cycles/h 3600	•		ovoloo	20000000
Safety related data           rated load cycles 1600000 mechanical load cycles 20000000           Mirror contats according to IEC/EN 609474-4-1           Fig. 20000000           Mirror contats according to IEC/EN 609474-4-1           EMC compatibility           AC operating           Mac operating voltage           OC rated control voltage         V 48           DC operating voltage           pick-up         min %Us 80 max %Us 110           drop-out         min %Us 110           drop-out         min %Us 40           Average coil consumption ≤20°C           in-rush holding         W 2.4 holding           Mac yelse frequency           Mechanical operation         cycles/h 3600			-	
Performance level B10d according to EN/ISO 13489-1  rated load cycles 1600000 mechanical load cycles 20000000  Mirror contats according to IEC/EN 609474-4-1  EMC compatibility yes  AC coil operating  AC operating voltage  of 50/60Hz coil powered at 50Hz drop-out  max %Us 55   DC coil operating  DC rated control voltage   V 48  DC operating voltage   Pick-up   min %Us 80 max %Us 1100 max %Us 1100 max %Us 1100 max %Us 40 max %			Cycles	1000000
rated load   cycles   1600000   mechanical load   cycles   20000000   mechanical load   cycles   1600000   mechanical load   cycles   16000000   mechanical load   cycles   160000000   mechanical load   cycles   160000000   mechanical load   cycles   1600000000000000000000000000000000000		Od according to EN/ISO 13489-1		
Mirror contats according to IEC/EN 609474-4-1         mechanical load         cycles         20000000           Mirror contats according to IEC/EN 609474-4-1         yes           AC coil operating         yes           AC operating voltage         max         %Us         55           DC coil operating         y         48           DC operating voltage         y         48           DC operating voltage         min         %Us         80           max         %Us         110           drop-out         min         %Us         10           drop-out         min         %Us         40           Average coil consumption ≤20°C         in-rush holding         W         2.4 holding           Mechanical operation         cycles/h         3600		-	cycles	1600000
EMC compatibility  AC coil operating  AC operating voltage  of 50/60Hz coil powered at 50Hz drop-out  max %Us 55   DC coil operating  DC rated control voltage  DC operating voltage  pick-up  min %Us 80 max %Us 110  drop-out  min %Us 110  drop-out  min %Us 10 max %Us 40  Average coil consumption ≤20°C  in-rush W 2.4 holding W 2.4 Max cycles frequency  Mechanical operation		mechanical load	-	20000000
AC coil operating  AC operating voltage  of 50/60Hz coil powered at 50Hz drop-out  max %Us 55   DC coil operating  DC rated control voltage  DC operating voltage  pick-up  pick-up  min %Us 80 max %Us 110  drop-out  min %Us 110  drop-out  min %Us 40  Average coil consumption ≤20°C  in-rush W 2.4 holding W 2.4 Max cycles frequency  Mechanical operation  Cycles/h 3600	Mirror contats according	ng to IEC/EN 609474-4-1		YES
AC operating voltage  of 50/60Hz coil powered at 50Hz drop-out  max %Us 55   DC coil operating  DC rated control voltage  DC operating voltage  pick-up  pick-up  min %Us 80 max %Us 110  drop-out  min %Us 110  drop-out  min %Us 10 max %Us 40  Average coil consumption ≤20°C  in-rush W 2.4 holding W 2.4 Max cycles frequency  Mechanical operation	EMC compatibility			yes
of 50/60Hz coil powered at 50Hz drop-out    max   %Us   55	AC coil operating			
Max   Wus   55	AC operating voltage			
max   %Us   55		·		
DC coil operating         DC operating voltage       V       48         DC operating voltage       min %Us 80 max %Us 110         drop-out       min %Us 10 max %Us 40         Average coil consumption ≤20°C       in-rush W 2.4 holding W 2.4 holding W 2.4         Max cycles frequency       Mechanical operation       cycles/h 3600		·	0/116	F.F.
DC rated control voltage         DC operating voltage       min %Us 80 80 max %Us 110         drop-out       min %Us 10 max %Us 40         Average coil consumption ≤20°C       in-rush W 2.4 holding W 2.4         Max cycles frequency       cycles/h 3600	DC coil operating	max	%US	55
DC operating voltage    pick-up			V	48
pick-up  min %Us 80 max %Us 110  drop-out  min %Us 10 max %Us 40  Average coil consumption ≤20°C  in-rush W 2.4 holding W 2.4 Max cycles frequency  Mechanical operation cycles/h 3600		go	V	<del></del>
min max       %Us 80 max       %Us 110         drop-out       min %Us 10 max       %Us 40         Average coil consumption ≤20°C       in-rush W 2.4 holding W 2.4 holding W 2.4         Max cycles frequency       cycles/h 3600		pick-up		
max       %Us       110         drop-out       min       %Us       10         max       %Us       40         Average coil consumption ≤20°C       in-rush       W       2.4         holding       W       2.4         Max cycles frequency       w       2.4         Mechanical operation       cycles/h       3600			%Us	80
min min max       %Us 40         Average coil consumption ≤20°C       in-rush W 2.4 holding W 2.4         Max cycles frequency       cycles/h 3600				
max         %Us         40           Average coil consumption ≤20°C         in-rush         W         2.4           holding         W         2.4           Max cycles frequency         Experimental cycles/h         3600		drop-out drop-out		
Average coil consumption ≤20°C  in-rush W 2.4  holding W 2.4  Max cycles frequency  Mechanical operation cycles/h 3600		min		
in-rush W 2.4 holding W 2.4  Max cycles frequency Mechanical operation cycles/h 3600			%Us	40
Max cycles frequency Mechanical operation  holding W 2.4  cycles/h 3600	Average coil consump			0.4
Max cycles frequency Mechanical operation cycles/h 3600				
Mechanical operation cycles/h 3600	May cyclos fragueses	holding	VV	∠.4
•			cycles/h	3600
	Operating times		Cycles/II	3000

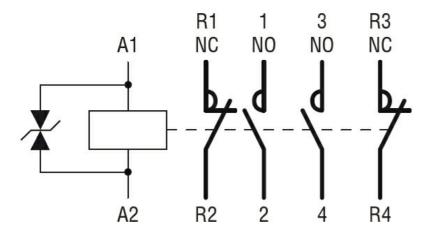


Average time for Lle	pontrol				
Average time for Us of	in AC				
		Closing NO			
		Ŭ	min	ms	8
			max	ms	24
		Opening NO			4.0
			min	ms	10
		Closing NC	max	ms	20
		Closing 140	min	ms	14
			max	ms	28
		Opening NC			
			min	ms	7
			max	ms	18
	in DC	Closing NO			
		Closing NO	min	ms	75
			max	ms	91
		Opening NO			• .
			min	ms	15
			max	ms	19
		Closing NC			
			min	ms	24
		Opening NC	max	ms	30
		Opening NC	min	ms	67
					•
			max	ms	81
UL technical data			max	ms	81
	a) for three-phase AC	motor			
	A) for three-phase AC	motor	at 480V	A	14
Full-load current (FLA		motor			
	erformance		at 480V	A	14
Full-load current (FLA			at 480V at 600V	A A	14 17
Full-load current (FLA	erformance		at 480V	A	14
Full-load current (FLA	erformance	C motor	at 480V at 600V 110/120V	A A	14 17
Full-load current (FLA	erformance for single-phase A0	C motor	at 480V at 600V 110/120V 230V 200/208V	A A HP HP	14 17 1 3
Full-load current (FLA	erformance for single-phase A0	C motor	at 480V at 600V 110/120V 230V 200/208V 220/230V	A A HP HP	14 17 1 3
Full-load current (FLA	erformance for single-phase A0	C motor	at 480V at 600V 110/120V 230V 200/208V 220/230V 460/480V	A A HP HP HP	14 17 1 3 5 5 10
Full-load current (FLA	erformance for single-phase A0	C motor	at 480V at 600V 110/120V 230V 200/208V 220/230V	A A HP HP	14 17 1 3
Full-load current (FLA	erformance for single-phase AC for three-phase AC	C motor	at 480V at 600V 110/120V 230V 200/208V 220/230V 460/480V	A A HP HP HP	14 17 1 3 5 5 10
Full-load current (FLA	erformance for single-phase A0	C motor	at 480V at 600V 110/120V 230V 200/208V 220/230V 460/480V	A A HP HP HP	14 17 1 3 5 5 10
Full-load current (FLA	erformance for single-phase AC for three-phase AC	C motor	at 480V at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V	A A HP HP HP HP HP	14 17 1 3 5 5 10 15
Full-load current (FLA	erformance for single-phase AC for three-phase AC  Contactor	C motor	at 480V at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V	A A HP HP HP HP HP	14 17 1 3 5 5 10 15
Full-load current (FLA Yielded mechanical p	erformance for single-phase AC for three-phase AC	C motor	at 480V at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V	A A HP HP HP HP HP	14 17 1 3 5 5 10 15
Full-load current (FLA Yielded mechanical p	erformance for single-phase AC for three-phase AC  Contactor	C motor	at 480V at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V AC current	A A HP HP HP HP HP	14 17 1 3 5 5 10 15
Full-load current (FLA Yielded mechanical p	for single-phase AC for three-phase AC  Contactor  Operating temperation	C motor  motor  ture	at 480V at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V	A A HP HP HP HP HP	14 17 1 3 5 5 10 15
Full-load current (FLA Yielded mechanical p	erformance for single-phase AC for three-phase AC  Contactor	C motor  motor  ture	at 480V at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V AC current	A A HP HP HP HP HP	14 17 1 3 5 5 10 15 32
Full-load current (FLA Yielded mechanical p	for single-phase AC for three-phase AC  Contactor  Operating temperation	C motor  motor  ture	at 480V at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V AC current	A A HP HP HP HP HP C °C °C	14 17 1 3 5 5 5 10 15 32 -50 70
Full-load current (FLA Yielded mechanical p	for single-phase AC for three-phase AC  Contactor  Operating temperation	C motor  motor  ture	at 480V at 600V  110/120V 230V  200/208V 220/230V 460/480V 575/600V  AC current  min max	A A HP HP HP HP HP	14 17 1 3 5 5 10 15 32
Yielded mechanical p  General USE  Ambient conditions Temperature	for single-phase AC for three-phase AC  Contactor  Operating temperature	C motor  motor  ture	at 480V at 600V  110/120V 230V  200/208V 220/230V 460/480V 575/600V  AC current  min max	A A  HP HP HP HP HP HP C ℃ C ℃	14 17 1 3 5 5 5 10 15 32 -50 70 -60 80

#### **ENERGY AND AUTOMATION**



### 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

cULus

EAC

## ETIM classification

**ETIM 8.0** 

EC000066 -Power contactor, AC switching