



Product designation				Power contactor
Product type designation				BF18
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			32
Operational current I_e	AC-1 ($\leq 40^\circ\text{C}$)	A	32	
	AC-1 ($\leq 55^\circ\text{C}$)	A	26	
	AC-1 ($\leq 70^\circ\text{C}$)	A	23	
	AC-3 ($\leq 440\text{V} \leq 55^\circ\text{C}$)	A	18	
	AC-4 (400V)	A	8.5	
Rated operational power AC-3 ($T \leq 55^\circ\text{C}$)	230V	kW	4	
	400V	kW	7.5	
	415V	kW	9	
	440V	kW	9	
	500V	kW	10	
	690V	kW	10	
Rated operational power AC-1 ($T \leq 40^\circ\text{C}$)	230V	kW	12	
	400V	kW	21	
	500V	kW	26	
	690V	kW	36	
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A	17	
	48V	A	15	
	75V	A	15	
	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	20	
	48V	A	20	
	75V	A	20	
	110V	A	13	
	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	22	
	48V	A	22	
	75V	A	20	
	110V	A	16	

	220V	A	11
IEC max current I_e in DC1 with $L/R \leq 1$ ms with 4 poles in series	≤ 24 V	A	22
	48V	A	22
	75V	A	20
	110V	A	18
	220V	A	13
IEC max current I_e in DC3-DC5 with $L/R \leq 15$ ms with 1 poles in series	≤ 24 V	A	12
	48V	A	11
	75V	A	11
	110V	A	2
	220V	A	–
IEC max current I_e in DC3-DC5 with $L/R \leq 15$ ms with 2 poles in series	≤ 24 V	A	15
	48V	A	13
	75V	A	13
	110V	A	8
	220V	A	2
IEC max current I_e in DC3-DC5 with $L/R \leq 15$ ms with 3 poles in series	≤ 24 V	A	18
	48V	A	18
	75V	A	16
	110V	A	12
	220V	A	6
IEC max current I_e in DC3-DC5 with $L/R \leq 15$ ms with 4 poles in series	≤ 24 V	A	18
	48V	A	18
	75V	A	16
	110V	A	13
	220V	A	8
Short-time allowable current for 10s (IEC/EN60947-1)		A	200
Protection fuse	gG (IEC)	A	32
	aM (IEC)	A	20
Making capacity (RMS value)		A	180
Breaking capacity at voltage	440V	A	144
	500V	A	120
	690V	A	94
Resistance per pole (average value)		m Ω	2.5
Power dissipation per pole (average value)	Ith	W	2.6
	AC3	W	0.8
Tightening torque for terminals	min	Nm	1.5
	max	Nm	1.8
	min	lbin	1.1
	max	lbin	1.5
Tightening torque for coil terminal	min	Nm	0.8
	max	Nm	1
	min	lbin	0.8

	max	I _{bin}	0.74
Max number of wires simultaneously connectable		Nr.	2
Conductor section			
AWG/Kcmil	max		10
Flexible w/o lug conductor section	min	mm ²	1
	max	mm ²	6
Flexible c/w lug conductor section	min	mm ²	1
	max	mm ²	4
Flexible with insulated spade lug conductor section	min	mm ²	1
	max	mm ²	4
Power terminal protection according to IEC/EN 60529			IP20 when wired
Mechanical features			
Operating position	normal allowable		Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight		g	502
Conductor section			
AWG/kcmil conductor section	max		10
Auxiliary contact characteristics			
Thermal current I _{th}		A	10
IEC/EN 60947-5-1 designation			A600 - P600
Operating current AC15	230V	A	3
	400V	A	1.9
	500V	A	1.4
Operating current DC12	110V	A	5.7
Operating current DC13	24V	A	5.7
	48V	A	2.9
	60V	A	2.3
	110V	A	1.25
	125V	A	1.1
	220V	A	0.55
	600V	A	0.2
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
Mirror contacts according to IEC/EN 60947-4-1			yes
EMC compatibility			yes
DC coil operating			
DC rated control voltage		V	24

DC operating voltage

pick-up	min	%Us	80
	max	%Us	110
drop-out	min	%Us	10
	max	%Us	40

Average coil consumption $\leq 20^\circ\text{C}$

in-rush	W	2.4
holding	W	2.4

Max cycles frequency

Mechanical operation	cycles/h	3600
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Operating times

Average time for U_s control

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	75
	max	ms	91
Opening NO	min	ms	15
	max	ms	19
Closing NC	min	ms	24
	max	ms	30
Opening NC	min	ms	67
	max	ms	81

UL technical data

Full-load current (FLA) for three-phase AC motor

at 480V	A	14
at 600V	A	17

Yielded mechanical performance

for single-phase AC motor

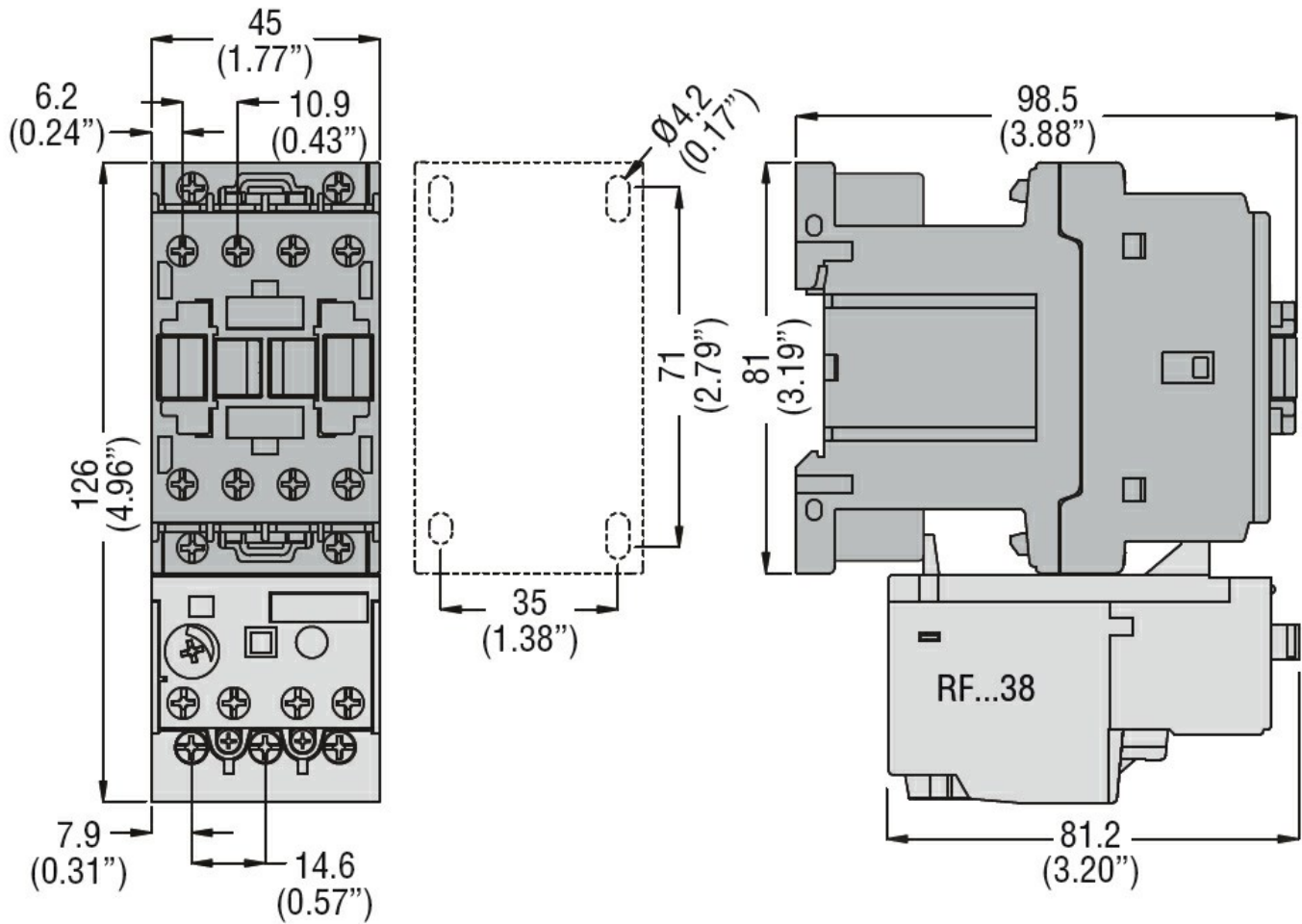
110/120V	HP	1
230V	HP	3

for three-phase AC motor

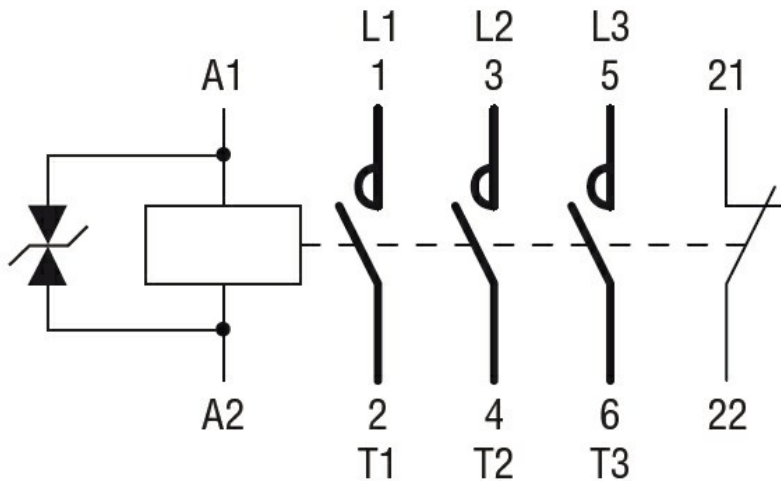
200/208V	HP	5
220/230V	HP	5
460/480V	HP	10
575/600V	HP	15

General USE

Contactor		AC current	A	32
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	60
		Fuse class		J
Standard fault		Short circuit current	kA	5
		Fuse rating	A	80
Contact rating of auxiliary contacts according to UL				A600 - P600
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				
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 60947-1
- IEC/EN 60947-4-1
- UL 60947-1
- UL 60947-4-1

Certificates

CCC

cULus

EAC

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching