



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)	I _{th}	W	2.6
	AC-3	W	0.8
Tightening torque for terminals	min	Nm	1.5
	max	Nm	1.8
	min	I _{bin}	1.1
	max	I _{bin}	1.5
Tightening torque for coil terminal	min	Nm	0.8
	max	Nm	1
	min	I _{bin}	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 properly wired

Mechanical features

Operating position	normal allowable		Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight		g	500
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	220
DC operating voltage			
pick-up	min	%Us	70
	max	%Us	125
drop-out	min	%Us	10
	max	%Us	40
Average coil consumption $\leq 20^{\circ}\text{C}$	in-rush	W	5.4
	holding	W	5.4

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	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	

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

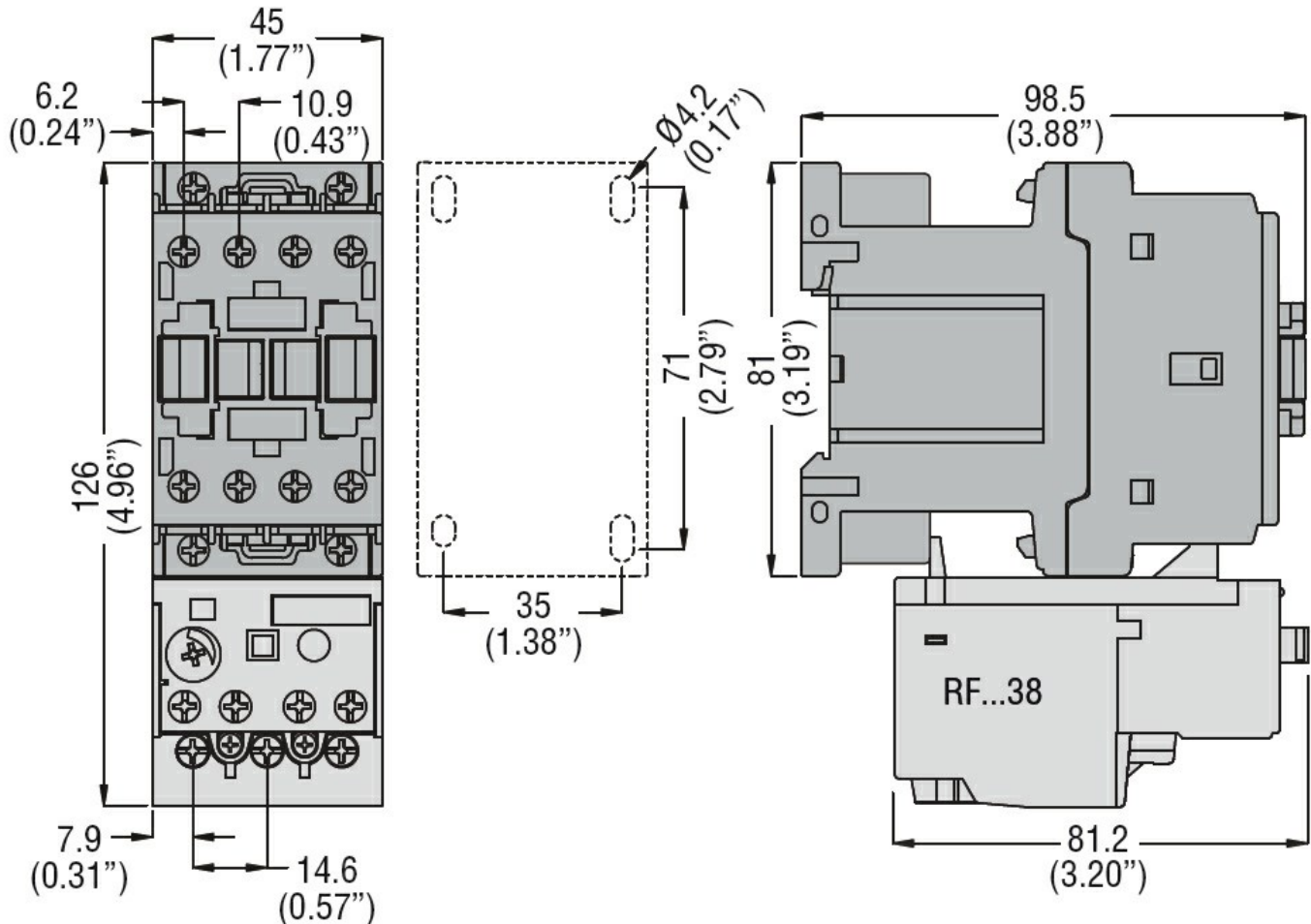
m 3000

Resistance & Protection

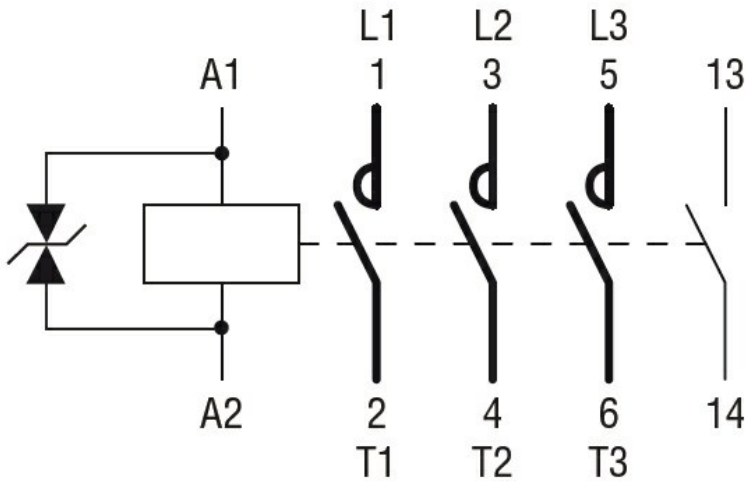
Pollution degree

3

Dimensions



Wiring diagrams



Certifications and compliance

Compliance

CSA C22.2 n° 60947-1

CSA C22.2 n° 60947-4-1

IEC/EN/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