



Product designation

Power contactor

Product type designation

BF12

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	28
Operational current I_e	AC-1 ($\leq 40^\circ\text{C}$)	A 28
	AC-1 ($\leq 55^\circ\text{C}$)	A 23
	AC-1 ($\leq 70^\circ\text{C}$)	A 20
	AC-3 ($\leq 440\text{V } \leq 55^\circ\text{C}$)	A 12
	AC-4 (400V)	A 7.9
Rated operational power AC-3 ($T \leq 55^\circ\text{C}$)	230V kW	3.2
	400V kW	5.7
	415V kW	6.2
	440V kW	6.2
	500V kW	7.5
	690V kW	10
Rated operational power AC-1 ($T \leq 40^\circ\text{C}$)	230V kW	10
	400V kW	18
	500V kW	23
	690V kW	32
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	13
	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	18
	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

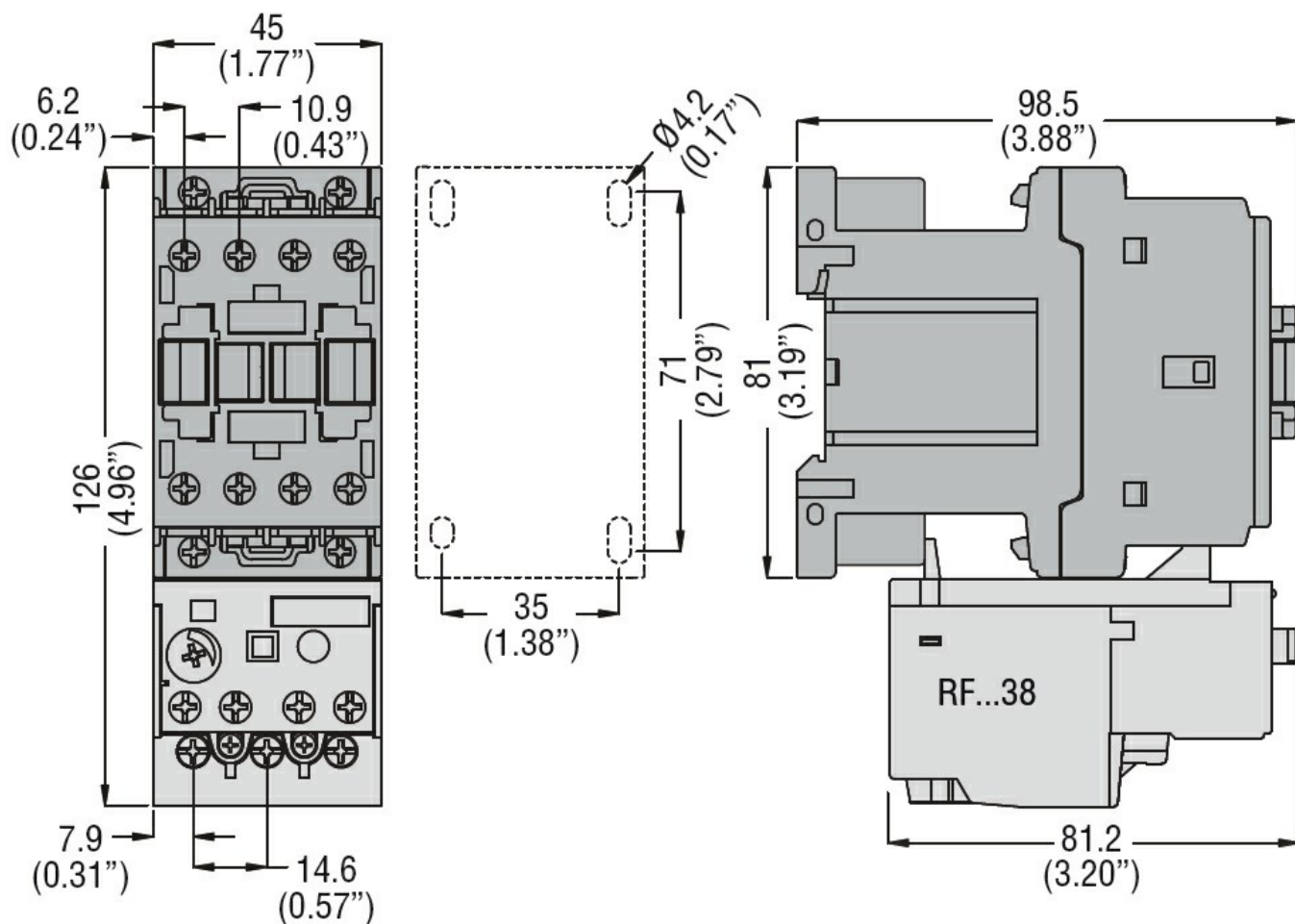
	220V	A	11
IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	A	20
	48V	A	20
	75V	A	20
	110V	A	16
	220V	A	12
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	A	12
	48V	A	11
	75V	A	10
	110V	A	2
	220V	A	–
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	A	15
	48V	A	13
	75V	A	12
	110V	A	8
	220V	A	2
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	≤24V	A	18
	48V	A	18
	75V	A	15
	110V	A	12
	220V	A	6
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	16
	220V	A	7
Short-time allowable current for 10s (IEC/EN60947-1)		A	150
Protection fuse			
	gG (IEC)	A	32
	aM (IEC)	A	12
Making capacity (RMS value)		A	120
Breaking capacity at voltage			
	440V	A	96
	500V	A	96
	690V	A	94
Resistance per pole (average value)		m?	2.5
Power dissipation per pole (average value)			
	Ith	W	2
	AC3	W	0.4
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	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	2000000
Safety related data			
Performance level B10d according to EN/ISO 13489-1	rated load	cycles	2000000
	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

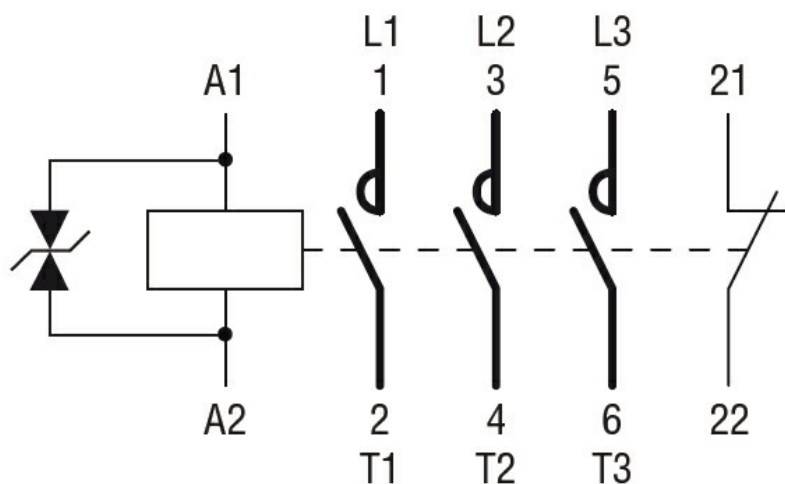
DC operating voltage					
pick-up	min	%Us	80		
	max	%Us	110		
drop-out	min	%Us	10		
	max	%Us	40		
Average coil consumption ≤20°C					
	in-rush	W	2.4		
	holding	W	2.4		
Max cycles frequency					
Mechanical operation		cycles/h	3600		
Operating times					
Average time for Us control					
in AC	Closing NO	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	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	11	
		at 600V	A	11	
Yielded mechanical performance					
for single-phase AC motor					
	110/120V	HP	1		
	230V	HP	2		
for three-phase AC motor					
	200/208V	HP	5		
	220/230V	HP	5		
	460/480V	HP	7.5		
	575/600V	HP	10		

General USE

Contactor		AC current	A	28
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	70
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

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 12A, DC COIL LOW
CONSUMPTION, 24VDC, 1NC AUXILIARY CONTACT

CCC

cULus

EAC

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching