



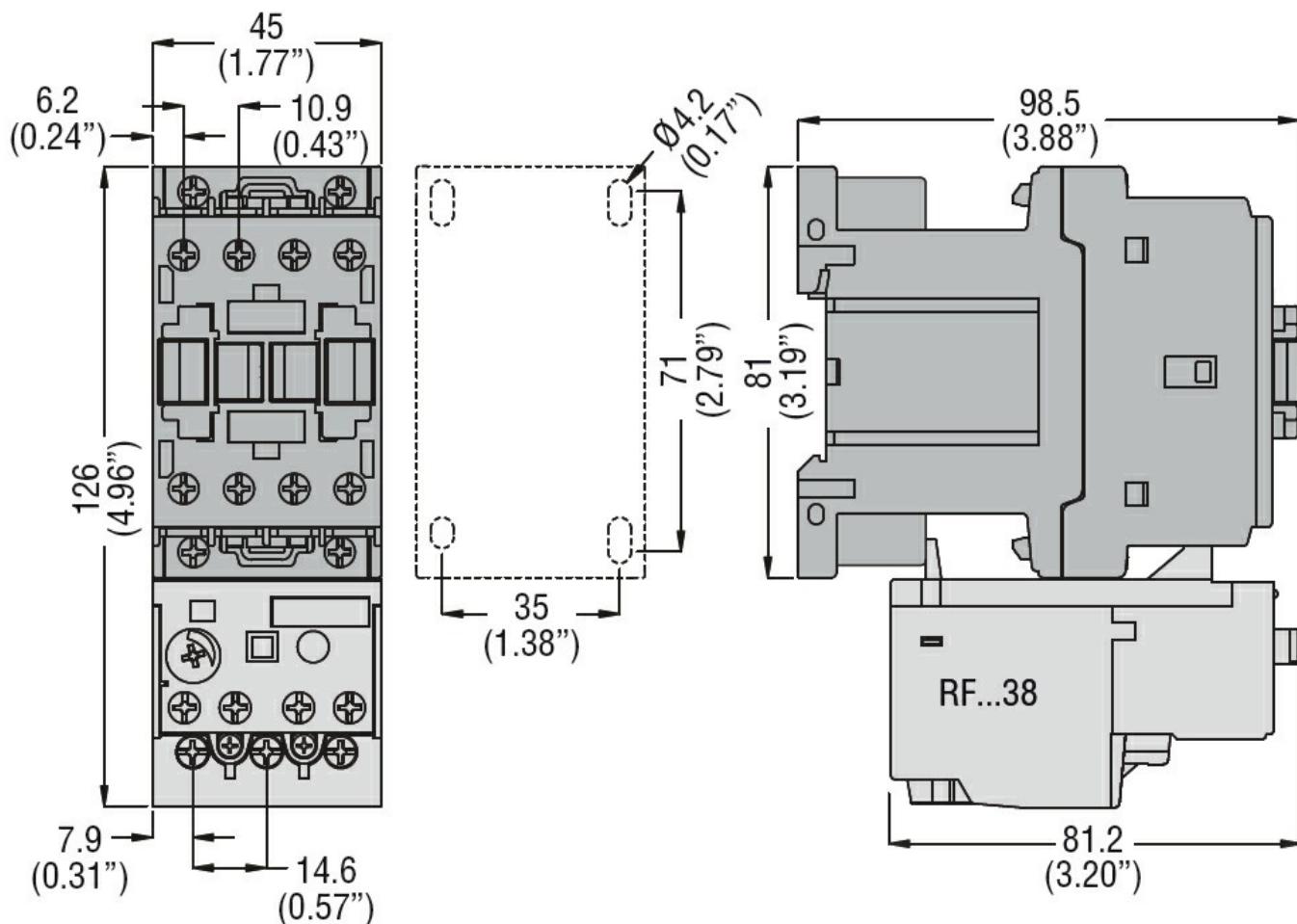
Product designation	Power contactor		
Product type designation	BF12		
<b>Contact characteristics</b>			
Number of poles	Nr.	3	
Rated insulation voltage $U_i$ IEC/EN	V	690	
Rated impulse withstand voltage $U_{imp}$	kV	6	
Operational frequency	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current $I_{th}$	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 $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series	$\leq 24V$ 48V 75V 110V 220V	A	20 20 20 16 12
IEC max current $I_e$ in DC3-DC5 with $L/R \leq 15\text{ms}$ with 1 poles in series	$\leq 24V$ 48V 75V 110V 220V	A	12 11 10 2 —
IEC max current $I_e$ in DC3-DC5 with $L/R \leq 15\text{ms}$ with 2 poles in series	$\leq 24V$ 48V 75V 110V 220V	A	15 13 12 8 2
IEC max current $I_e$ in DC3-DC5 with $L/R \leq 15\text{ms}$ with 3 poles in series	$\leq 24V$ 48V 75V 110V 220V	A	18 18 15 12 6
IEC max current $I_e$ in DC3-DC5 with $L/R \leq 15\text{ms}$ with 4 poles in series	$\leq 24V$ 48V 75V 110V 220V	A	15 15 15 16 7
Short-time allowable current for 10s (IEC/EN60947-1)		A	150
Protection fuse	gG (IEC) aM (IEC)	A	32 12
Making capacity (RMS value)		A	120
Breaking capacity at voltage	440V 500V 690V	A	96 96 94
Resistance per pole (average value)		$\text{m}\Omega$	2.5
Power dissipation per pole (average value)	I <sub>th</sub> AC-3	W	2 0.4
Tightening torque for terminals	min max min max	Nm Nm I <sub>bin</sub> I <sub>bin</sub>	1.5 1.8 1.1 1.5
Tightening torque for coil terminal	min max min	Nm Nm I <sub>bin</sub>	0.8 1 0.8

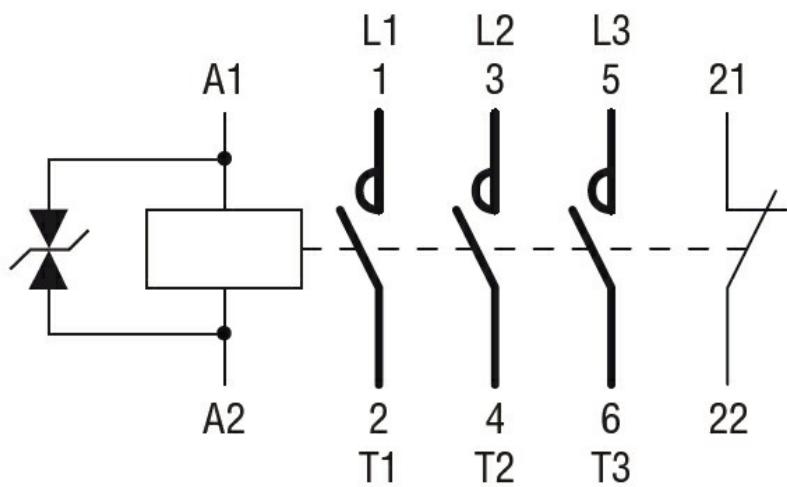
Max number of wires simultaneously connectable	max	Ibin	0.74
Conductor section	Nr.	2	
AWG/Kcmil	max		10
Flexible w/o lug conductor section	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	6
Flexible c/w lug conductor section	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	4
Flexible with insulated spade lug conductor section	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	4
Power terminal protection according to IEC/EN 60529			IP20 when properly wired
<b>Mechanical features</b>			
Operating position	normal allowable		Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight	g	496	
<b>Auxiliary contact characteristics</b>			
Thermal current I <sub>th</sub>	A	10	
IEC/EN 60947-5-1 designation			A600 - P600
Operating current AC15	230V 400V 500V	A	3 1.9 1.4
Operating current DC12	110V	A	5.7
Operating current DC13	24V 48V 60V 110V 125V 220V 600V	A	5.7 2.9 2.3 1.25 1.1 0.55 0.2
<b>Operations</b>			
Mechanical life	cycles	20000000	
Electrical life	cycles	2000000	
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1	rated load mechanical load	cycles	2000000 20000000
Mirror contacts according to IEC/EN 609474-4-1			Yes
EMC compatibility			yes
<b>DC coil operating</b>			
DC rated control voltage	V	12	
DC operating voltage	pick-up		

	min	%Us	70
	max	%Us	125
drop-out			
	min	%Us	10
	max	%Us	40
Average coil consumption ≤20°C			
	in-rush	W	5.4
	holding	W	5.4
<b>Max cycles frequency</b>			
Mechanical operation		cycles/h	3600
<b>Operating times</b>			
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
Closing NC		min	ms 24
		max	ms 30
Opening NC		min	ms 47
		max	ms 57
<b>UL technical data</b>			
Rated operational voltage AC (UL)		V	600
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
<b>General USE</b>			
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/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