



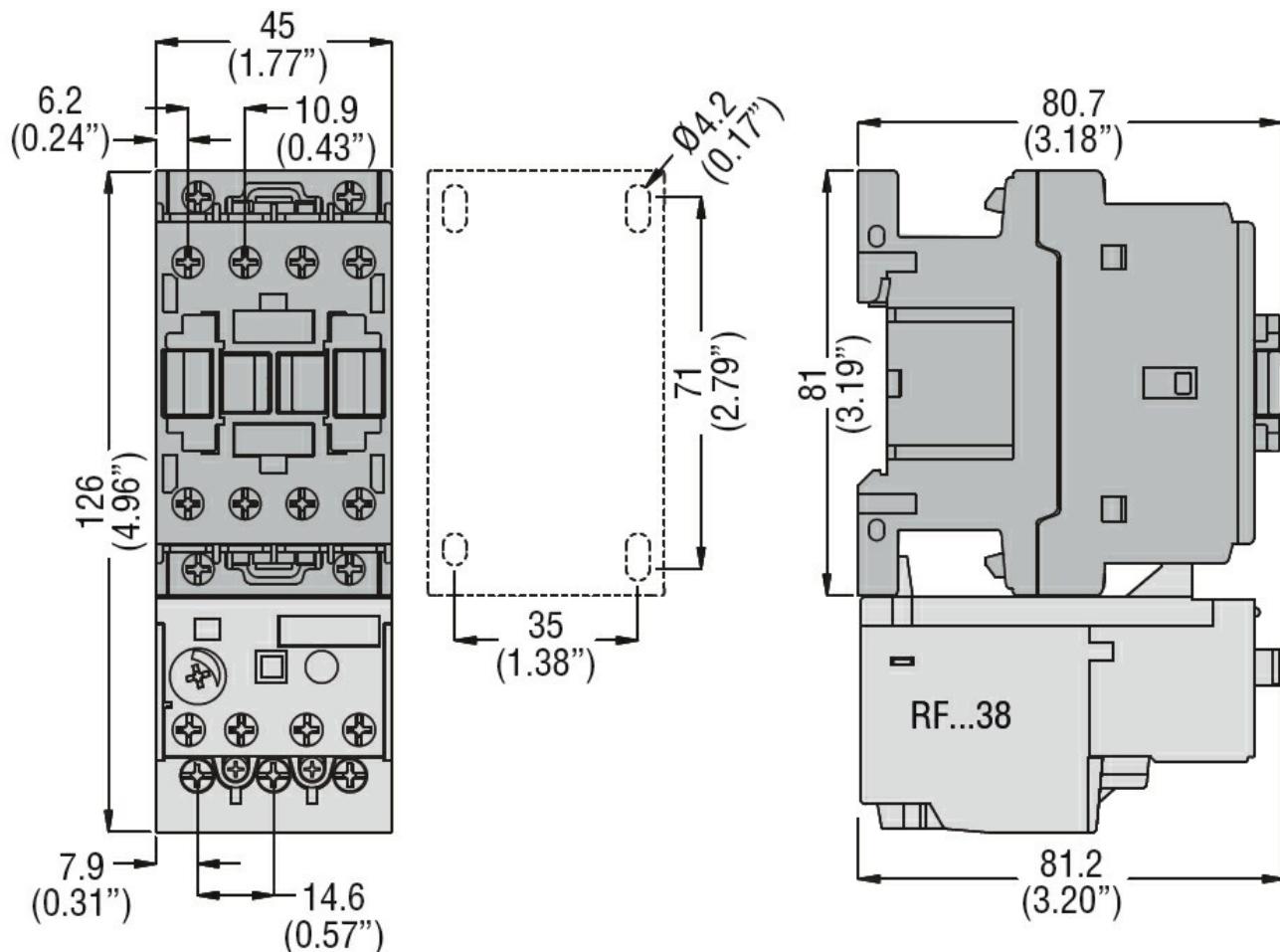
Product designation	Power contactor		
Product type designation	BF12		
Contact characteristics			
Number of poles	Nr.	3	
Rated insulation voltage U_i IEC/EN	V	690	
Rated impulse withstand voltage U_{imp}	kV	6	
Operational frequency	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current I_{th}	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	5.5
	500V	kW	5
	690V	kW	5
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			
	$\leq 24\text{V}$	A	20
	48V	A	20
	75V	A	20
	110V	A	16
	220V	A	12
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 1 poles in series			
	$\leq 24\text{V}$	A	12
	48V	A	11
	75V	A	10
	110V	A	2
	220V	A	—
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 2 poles in series			
	$\leq 24\text{V}$	A	15
	48V	A	13
	75V	A	12
	110V	A	8
	220V	A	2
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 3 poles in series			
	$\leq 24\text{V}$	A	18
	48V	A	18
	75V	A	15
	110V	A	12
	220V	A	6
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 4 poles in series			
	$\leq 24\text{V}$	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)			$\text{m}\Omega$ 2.5
Power dissipation per pole (average value)			
	I _{th}	W	2
	AC-3	W	0.4
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

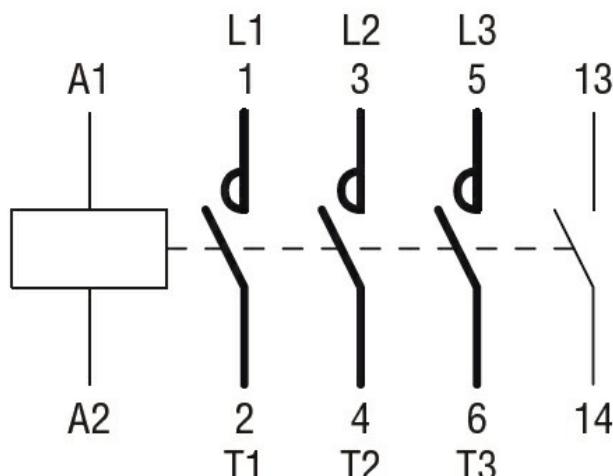
Max number of wires simultaneously connectable	max	Ibin	0.74
Conductor section	Nr.	2	
AWG/Kcmil	max		10
Flexible w/o lug conductor section	min	mm ²	1
	max	mm ²	6
Flexible c/w lug conductor section	min	mm ²	1
	max	mm ²	4
Flexible with insulated spade lug conductor section	min	mm ²	1
	max	mm ²	4
Power 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	354	
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
EMC compatibility			yes
AC coil operating			
Rated AC voltage at 60Hz	V	48	
AC operating voltage			
of 60Hz coil powered at 60Hz			
	pick-up		

	drop-out	min	%Us	80
		max	%Us	110
		min	%Us	20
		max	%Us	55
AC average coil consumption at 20°C of 60Hz coil powered at 60Hz				
Dissipation at holding ≤20°C 50Hz	in-rush	VA	75	
	holding	VA	9	
		W	2.5	
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
UL technical data				
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	
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/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