



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 (=40°C)	A	28	
	AC-1 (=55°C)	A	23	
	AC-1 (=70°C)	A	20	
	AC-3 (=440V =55°C)	A	12	
	AC-4 (400V)	A	7.9	
Rated operational power AC-3 (T=55°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=40°C)	230V	kW	10	
	400V	kW	18	
	500V	kW	23	
	690V	kW	32	
IEC max current I_e in DC1 with L/R = 1ms with 1 poles in series	=24V	A	17	
	48V	A	15	
	75V	A	13	
	110V	A	6	
	220V	A	-	
IEC max current I_e in DC1 with L/R = 1ms with 2 poles in series	=24V	A	20	
	48V	A	20	
	75V	A	18	
	110V	A	13	
	220V	A	1	
IEC max current I_e in DC1 with L/R = 1ms with 3 poles in series	=24V	A	22	
	48V	A	22	
	75V	A	20	
	110V	A	16	

	220V	A	11
<hr/>			
IEC max current I _e 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
<hr/>			
IEC max current I _e 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	–
<hr/>			
IEC max current I _e 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
<hr/>			
IEC max current I _e 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
<hr/>			
IEC max current I _e 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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	150
<hr/>			
Protection fuse			
	gG (IEC)	A	32
	aM (IEC)	A	12
<hr/>			
Making capacity (RMS value)		A	120
<hr/>			
Breaking capacity at voltage			
	440V	A	96
	500V	A	96
	690V	A	94
<hr/>			
Resistance per pole (average value)		m?	2.5
<hr/>			
Power dissipation per pole (average value)			
	I _{th}	W	2
	AC3	W	0.4
<hr/>			
Tightening torque for terminals			
	min	Nm	1.5
	max	Nm	1.8
	min	I _{bin}	1.1
	max	I _{bin}	1.5
<hr/>			
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 wired
Mechanical features			
Operating position	normal allowable		Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight		g	496
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	48

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

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	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

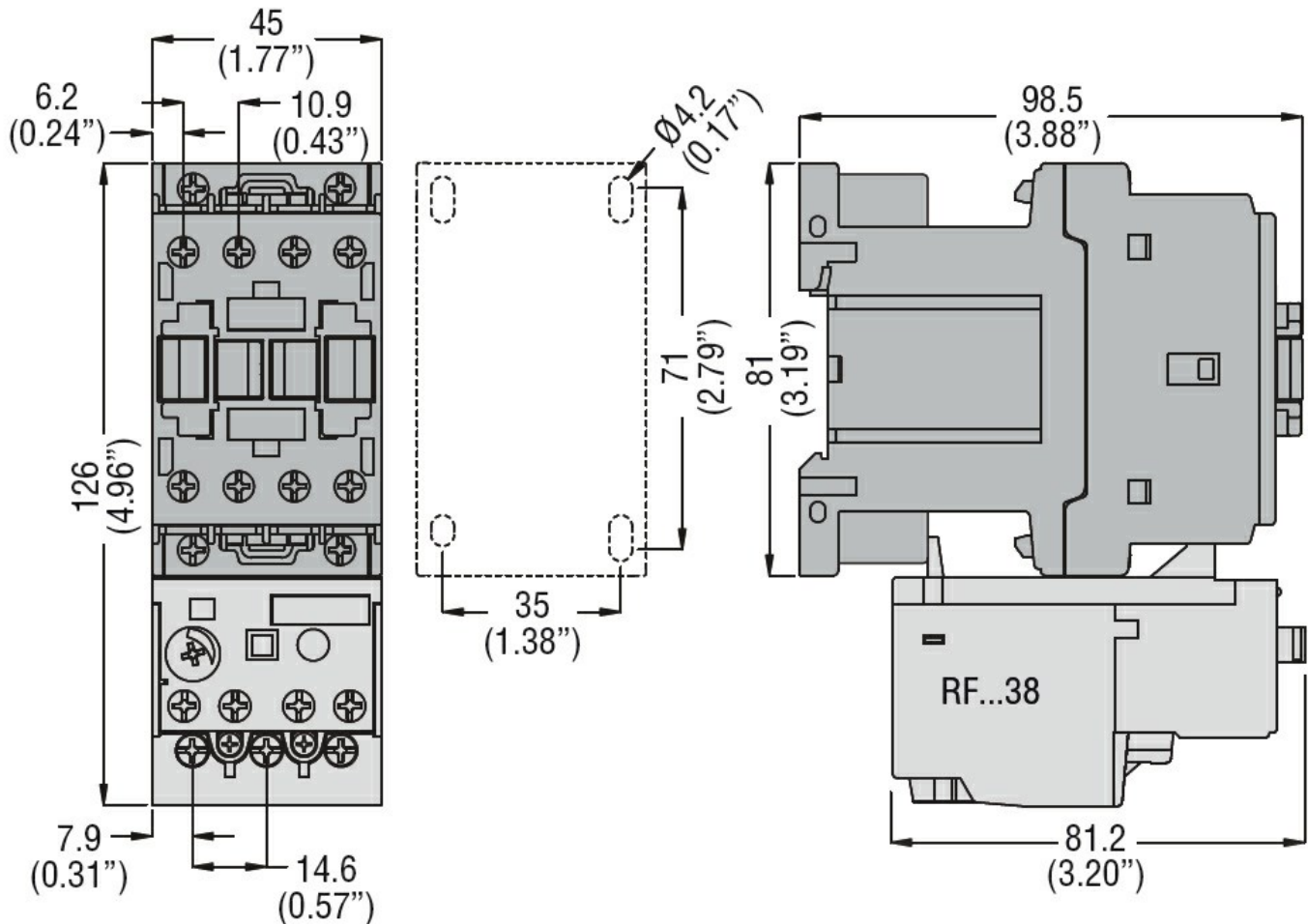
m 3000

Resistance & Protection

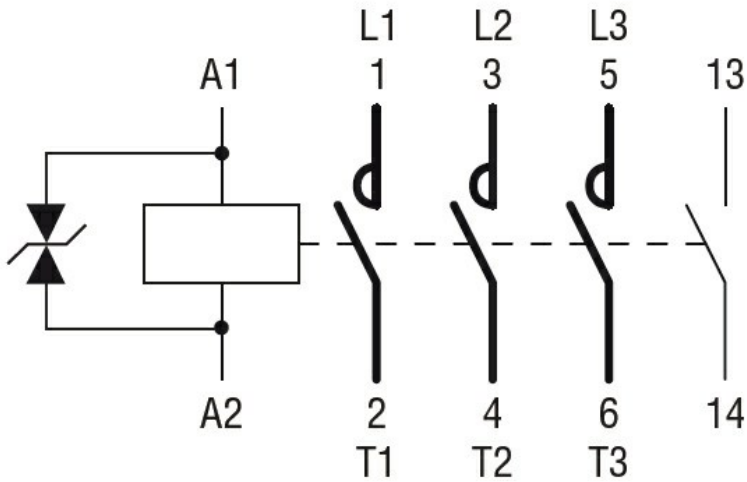
Pollution degree

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