



Product designation				Power contactor
Product type designation				BF12
Contact characteristics				
Number of poles	Nr.			4
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-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	
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	

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	–
	IEC max current I _e in DC3-DC5 with L/R ≤ 15ms with 2 poles in series	≤24V	A
48V		A	13
75V		A	12
110V		A	8
220V		A	2
IEC max current I _e in DC3-DC5 with L/R ≤ 15ms with 3 poles in series		≤24V	A
	48V	A	18
	75V	A	15
	110V	A	12
	220V	A	6
	IEC max current I _e in DC3-DC5 with L/R ≤ 15ms with 4 poles in series	≤24V	A
48V		A	15
75V		A	15
110V		A	16
220V		A	7
Short-time allowable current for 10s (IEC/EN60947-1)			A
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
			mΩ
Resistance per pole (average value)			
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	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	350
Conductor section				
	AWG/kcmil conductor section			
		max		10
Operations				
Mechanical life			cycles	20000000
Electrical life			cycles	2000000
Safety related data				
Performance level B10d according to EN/ISO 13489-1		rated load mechanical load	cycles	2000000
			cycles	20000000
Mirror contacts according to IEC/EN 60947-4-1				yes
EMC compatibility				yes
AC coil operating				
Rated AC voltage at 60Hz			V	460
AC operating voltage				
	of 60Hz coil powered at 60Hz			
	pick-up	min	%Us	80
		max	%Us	110
	drop-out	min	%Us	20
		max	%Us	55
AC average coil consumption at 20°C				
	of 60Hz coil powered at 60Hz			
		in-rush holding	VA	75
			VA	9
Dissipation at holding ≤20°C 50Hz			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

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
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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

Ambient conditions

Temperature

Operating temperature

min	°C	-50
max	°C	70

Storage temperature

min	°C	-60
max	°C	80

Max altitude

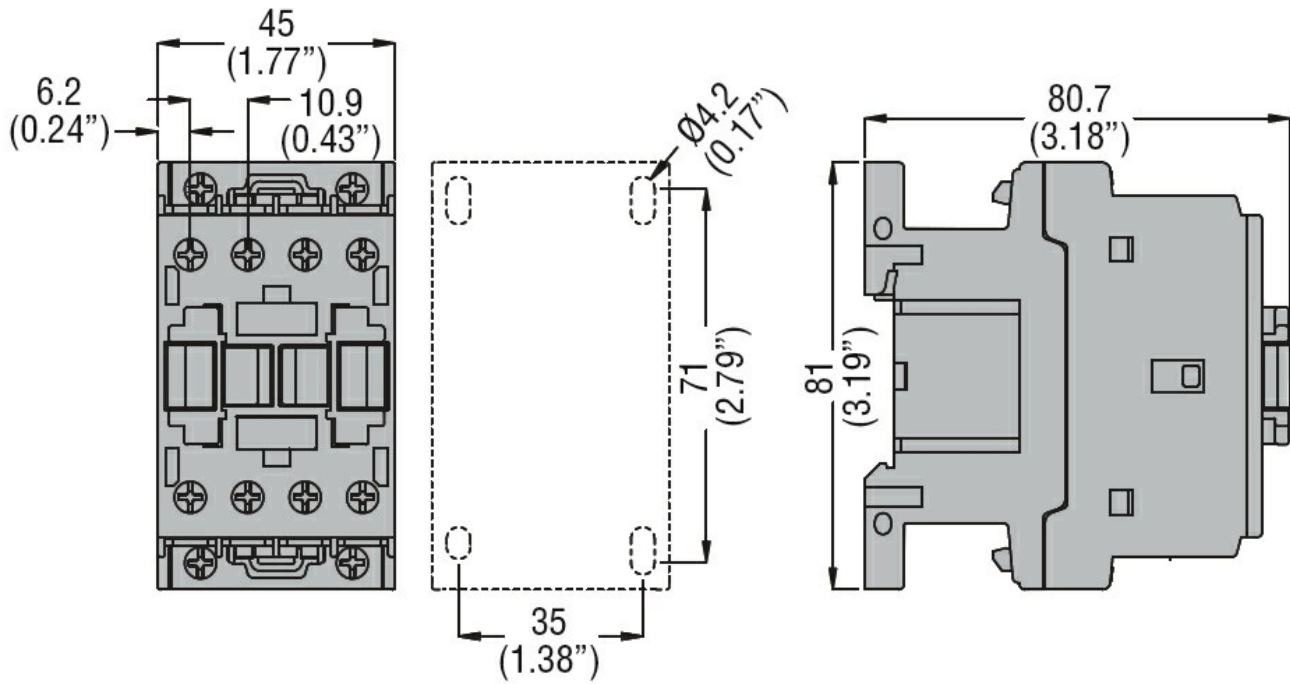
m	3000
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Resistance & Protection

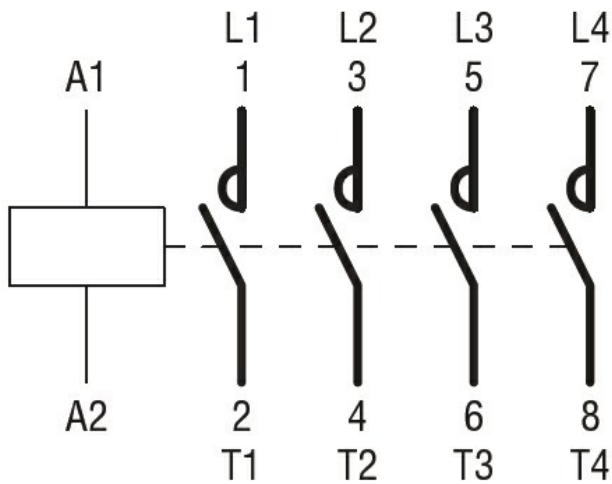
Pollution degree

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