



Product designation
Product type designation

Power contactor
BF80

Contact characteristics

Number of poles	Nr.	3
Rated insulation voltage U_i IEC/EN	V	1000
Rated impulse withstand voltage U_{imp}	kV	8
Operational frequency	min	Hz 25
	max	Hz 400
IEC Conventional free air thermal current I_{th}	A	115
Operational current I_e	AC-1 ($\leq 40^\circ\text{C}$)	A 115
	AC-1 ($\leq 55^\circ\text{C}$)	A 95
	AC-1 ($\leq 70^\circ\text{C}$)	A 80
	AC-3 ($\leq 440\text{V} \leq 55^\circ\text{C}$)	A 80
	AC-4 (400V)	A 38
Rated operational power AC-3 ($T \leq 55^\circ\text{C}$)	230V	kW 22
	400V	kW 45
	415V	kW 45
	440V	kW 45
	500V	kW 55
	690V	kW 55
	1000V	kW 37
Rated operational current AC-3 ($T \leq 55^\circ\text{C}$)	230V	A 80
	400V	A 80
	415V	A 80
	440V	A 80
	500V	A 78
	690V	A 57
	1000V	A 28
Rated operational power AC-1 ($T \leq 40^\circ\text{C}$)	230V	kW 43
	400V	kW 76
	500V	kW 95
	690V	kW 120
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A 70
	48V	A 60
	75V	A 60
	110V	A 8
	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 100

	48V	A	100
	75V	A	100
	110V	A	80
	220V	A	9
IEC max current Ie in DC1 with L/R ≤ 1ms with 3 poles in series			
	≤24V	A	100
	48V	A	100
	75V	A	100
	110V	A	85
	220V	A	95
IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	A	100
	48V	A	100
	75V	A	100
	110V	A	100
	220V	A	115
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	A	40
	48V	A	30
	75V	A	30
	110V	A	3
	220V	A	–
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	A	60
	48V	A	50
	75V	A	50
	110V	A	40
	220V	A	5
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	≤24V	A	80
	48V	A	70
	75V	A	70
	110V	A	60
	220V	A	64
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	≤24V	A	90
	48V	A	90
	75V	A	90
	110V	A	75
	220V	A	80
Short-time allowable current for 10s (IEC/EN60947-1)		A	640
Protection fuse			
	gG (IEC)	A	125
	aM (IEC)	A	80
Making capacity (RMS value)		A	800
Breaking capacity at voltage			
	440V	A	640
	500V	A	625
	690V	A	456
Resistance per pole (average value)		mΩ	0.6
Power dissipation per pole (average value)			
	Ith	W	7.9
	AC-3	W	3.8
Tightening torque for terminals			

		min	Nm	4
		max	Nm	5
		min	Ibin	2.95
		max	Ibin	3.69
Tightening torque for coil terminal				
		min	Nm	0.8
		max	Nm	1
		min	Ibin	0.8
		max	Ibin	0.74
Max number of wires simultaneously connectable			Nr.	2
Conductor section				
	AWG/Kcmil			
		max		2
Flexible w/o lug conductor section				
		min	mm ²	1.5
		max	mm ²	35
Flexible c/w lug conductor section				
		min	mm ²	1.5
		max	mm ²	35
Power terminal protection according to IEC/EN 60529				IP20 front
Mechanical features				
Operating position				
		normal allowable		Vertical plan ±30°
Fixing				Screw / DIN rail 35mm
Weight			g	1020
Operations				
Mechanical life			cycles	15000000
Electrical life			cycles	1300000
Safety related data				
Performance level B10d according to EN/ISO 13489-1				
		rated load mechanical load	cycles cycles	1300000 15000000
EMC compatibility				yes
AC coil operating				
Rated AC voltage at 50/60Hz			V	48
AC operating voltage				
	of 50/60Hz coil powered at 50Hz			
	pick-up	min	%Us	80
		max	%Us	110
	drop-out	min	%Us	20
		max	%Us	55
	of 50/60Hz coil powered at 60Hz			
	pick-up	min	%Us	85
		max	%Us	110
	drop-out	min	%Us	40
		max	%Us	55
AC average coil consumption at 20°C				
	of 50/60Hz coil powered at 50Hz			

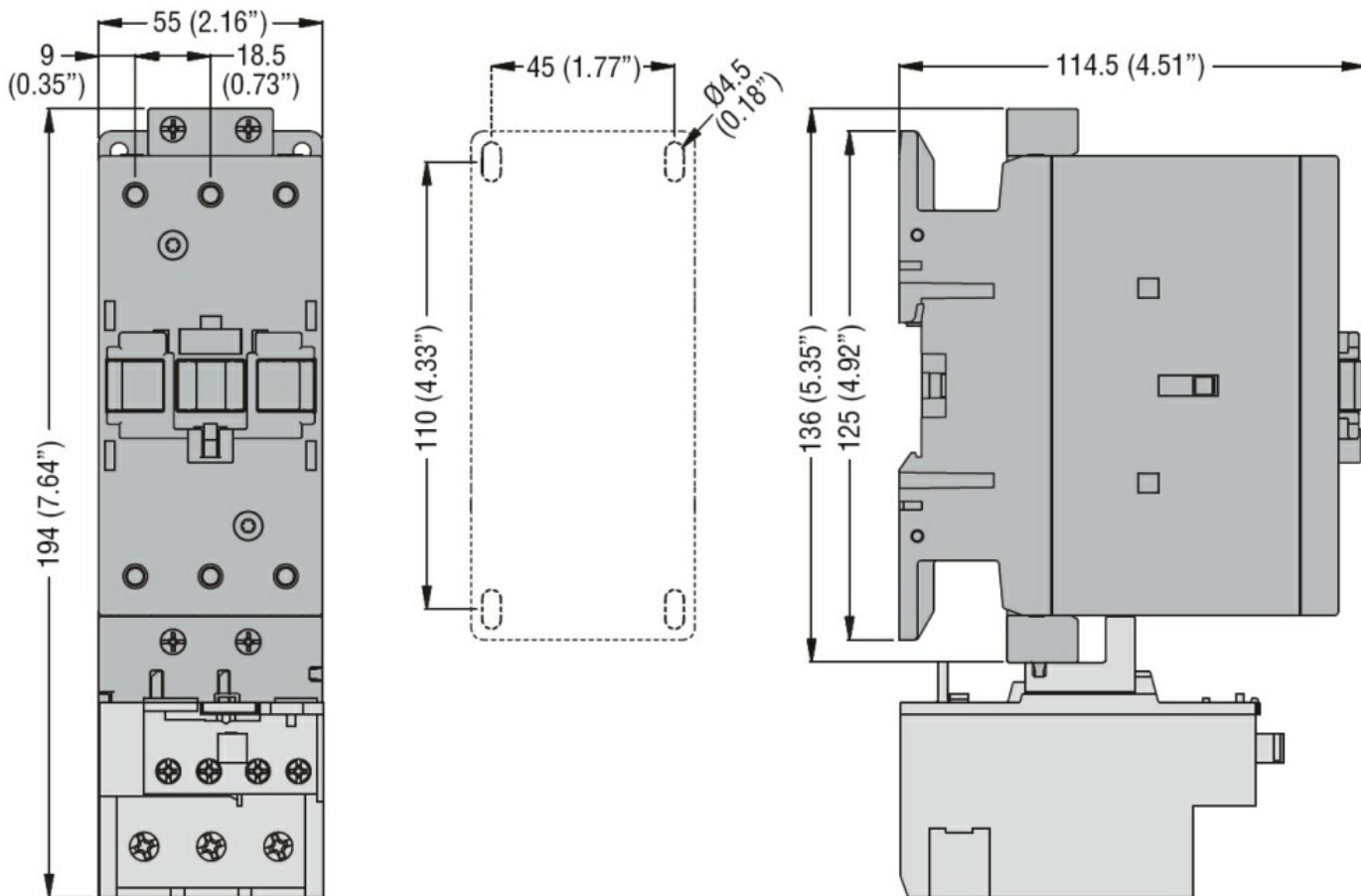
		in-rush	VA	210
		holding	VA	15
of 50/60Hz coil powered at 60Hz				
		in-rush	VA	195
		holding	VA	13
of 60Hz coil powered at 60Hz				
		in-rush	VA	210
		holding	VA	15
Dissipation at holding $\leq 20^{\circ}\text{C}$ 50Hz			W	5
Max cycles frequency				
Mechanical operation			cycles/h	3600
Operating times				
Average time for Us control				
in AC				
Closing NO				
		min	ms	12
		max	ms	28
Opening NO				
		min	ms	8
		max	ms	22
in DC				
Closing NO				
		min	ms	40
		max	ms	85
Opening NO				
		min	ms	20
		max	ms	55
UL technical data				
Rated operational voltage AC (UL)			V	600
Full-load current (FLA) for three-phase AC motor				
		at 480V	A	77
		at 600V	A	77
Yielded mechanical performance				
for three-phase AC motor				
		200/208V	HP	25
		220/230V	HP	30
		460/480V	HP	60
		575/600V	HP	75
General USE				
Contactor				
		AC current	A	115
Short-circuit protection fuse, 600V				
High fault				
		Short circuit current	kA	100
		Fuse rating	A	200
		Fuse class		J
Standard fault				
		Short circuit current	kA	10
		Fuse rating	A	200
		Fuse class		RK5
Ambient conditions				
Temperature				
Operating temperature				
		min	$^{\circ}\text{C}$	-50

Storage temperature	max	°C	70
	min	°C	-60
	max	°C	80
Max altitude	m		3000

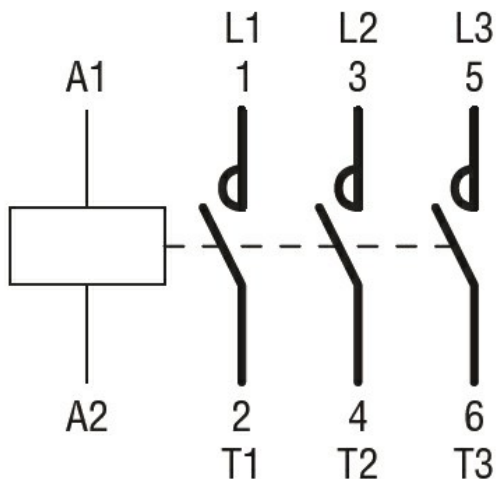
Resistance & Protection

Pollution degree	3
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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

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching