



Product designation

Power contactor

Product type designation

BF50

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	90
Operational current I_e	AC-1 (=40°C)	A 90
	AC-1 (=55°C)	A 75
	AC-1 (=70°C)	A 65
	AC-3 (=440V =55°C)	A 50
	AC-4 (400V)	A 28
Rated operational power AC-3 (T=55°C)	230V kW	15
	400V kW	22
	415V kW	30
	440V kW	30
	500V kW	30
	690V kW	37
	1000V kW	22
Rated operational power AC-1 (T=40°C)	230V kW	34
	400V kW	59
	500V kW	74
	690V kW	102
IEC max current I_e in DC1 with L/R = 1ms with 1 poles in series	=24V A	45
	48V A	40
	75V A	40
	110V A	8
	220V A	–
IEC max current I_e in DC1 with L/R = 1ms with 2 poles in series	=24V A	60
	48V A	60
	75V A	60
	110V A	50
	220V A	7
IEC max current I_e in DC1 with L/R = 1ms with 3 poles in series	=24V A	60
	48V A	60
	75V A	60

	110V	A	55
	220V	A	75
IEC max current Ie in DC1 with L/R = 1ms with 4 poles in series			
	=24V	A	60
	48V	A	60
	75V	A	60
	110V	A	60
	220V	A	90
IEC max current Ie in DC3-DC5 with L/R = 15ms with 1 poles in series			
	=24V	A	30
	48V	A	25
	75V	A	22
	110V	A	3
	220V	A	–
IEC max current Ie in DC3-DC5 with L/R = 15ms with 2 poles in series			
	=24V	A	35
	48V	A	35
	75V	A	30
	110V	A	25
	220V	A	5
IEC max current Ie in DC3-DC5 with L/R = 15ms with 3 poles in series			
	=24V	A	50
	48V	A	50
	75V	A	45
	110V	A	30
	220V	A	40
IEC max current Ie in DC3-DC5 with L/R = 15ms with 4 poles in series			
	=24V	A	55
	48V	A	55
	75V	A	55
	110V	A	45
	220V	A	50
Short-time allowable current for 10s (IEC/EN60947-1)		A	400
Protection fuse			
	gG (IEC)	A	100
	aM (IEC)	A	50
Making capacity (RMS value)		A	500
Breaking capacity at voltage			
	440V	A	400
	500V	A	352
	690V	A	312
Resistance per pole (average value)		m?	0.8
Power dissipation per pole (average value)			
	Ith	W	6.5
	AC3	W	2
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	I _{bin}	0.8
	max	I _{bin}	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	1060
Conductor section			
AWG/kcmil conductor section			
	max		2
Operations			
Mechanical life		cycles	15000000
Electrical life		cycles	1400000
Safety related data			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	1400000
	mechanical load	cycles	15000000
Mirror contacts according to IEC/EN 60947-4-1			yes
EMC compatibility			yes
AC coil operating			
Rated AC voltage at 50/60Hz, 60Hz			
	min	V	20
	max	V	48
Rated AC voltage at 50/60Hz		V	24
AC operating voltage			
of 50/60Hz coil powered at 50Hz drop-out			
	max	%U _s	=70 U _s min
of 50/60Hz coil powered at 60Hz pick-up			
	min	%U _s	80 U _s min
	max	%U _s	110 U _s max
drop-out			
	max	%U _s	=70 U _s min
AC average coil consumption at 20°C			
of 50/60Hz coil powered at 50Hz			
	in-rush	VA	35...120
	holding	VA	1.5...3.7
of 50/60Hz coil powered at 60Hz			
	in-rush	VA	35...120

		holding	VA	1.5...3.7
Dissipation at holding =20°C 50Hz			W	1...2.5
DC coil operating				
DC rated control voltage		min	V	20
		max	V	48
DC rated control voltage			V	24
DC operating voltage				
pick-up		min	%Us	85 Us min
		max	%Us	110 Us max
drop-out		max	%Us	=70 Us min
Average coil consumption =20°C				
		in-rush	W	23...68
		holding	W	1.2...1,9
Max cycles frequency				
Mechanical operation			cycles/h	1500
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				
Full-load current (FLA) for three-phase AC motor				
		at 480V	A	52
		at 600V	A	41
Yielded mechanical performance				
for single-phase AC motor		110/120V	HP	5
		230V	HP	10
for three-phase AC motor		200/208V	HP	15
		220/230V	HP	20
		460/480V	HP	40
		575/600V	HP	40
General USE				
Contactor				
		AC current	A	90
Short-circuit protection fuse, 600V				
High fault		Short circuit current	kA	100
		Fuse rating	A	150

	Fuse class	J
Standard fault		
Short circuit current	kA	5
Fuse rating	A	150
Fuse class		RK5

Ambient conditions

Temperature

Operating temperature

min	°C	-40
max	°C	70

Storage temperature

min	°C	-50
max	°C	80

Max altitude

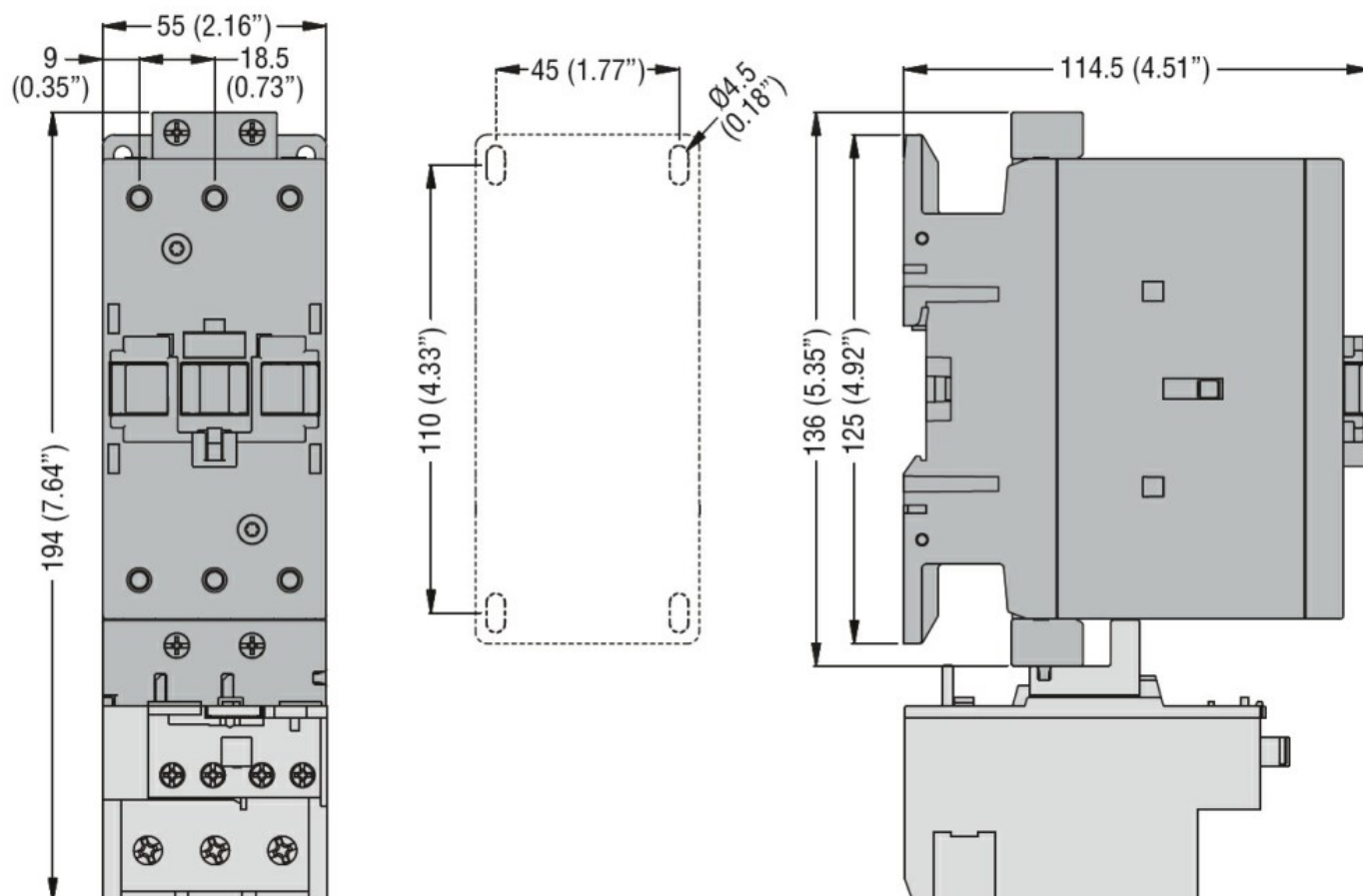
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Resistance & Protection

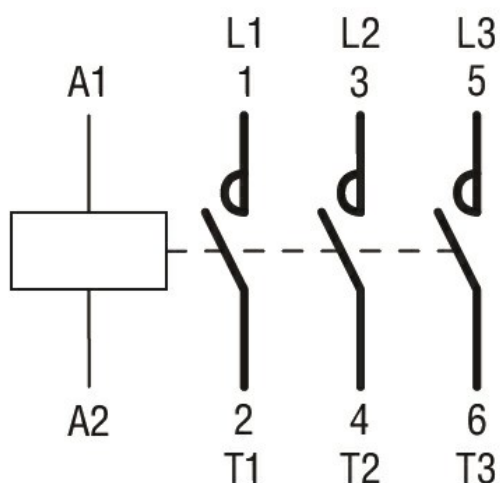
Pollution degree

3

Dimensions



Wiring diagrams



Certifications and compliance

Compliance

CSA C22.2 n° 60947-1
CSA C22.2 n° 60947-4-1
IEC/EN 60947-1
IEC/EN 60947-4-1
UL 60947-1
UL 60947-4-1

Certificates

CCC
cULus

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching