



Power contactor
BF160

Product designation

Product type designation

Contact characteristics

Number of poles	Nr.	4
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	250
Operational current I_e	AC-1 ($\leq 40^\circ\text{C}$)	A 250
	AC-1 ($\leq 55^\circ\text{C}$)	A 210
	AC-1 ($\leq 70^\circ\text{C}$)	A 180
	AC-3 ($\leq 440\text{V} \leq 55^\circ\text{C}$)	A 160
	AC-4 (400V)	A 75
Rated operational power AC-1 ($T \leq 40^\circ\text{C}$)	230V	kW 95
	400V	kW 165
	500V	kW 181
	690V	kW 284
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A 250
	48V	A 250
	75V	A 250
	110V	A 110
	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 250
	48V	A 250
	75V	A 250
	110V	A 150
	220V	A 130
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series	$\leq 24\text{V}$	A 250
	48V	A 250
	75V	A 250
	110V	A 160
	220V	A 150
	330V	A 130
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series	$\leq 24\text{V}$	A 250
	48V	A 250
	75V	A 250
	110V	A 250

	220V	A	250
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	250
	48V	A	250
	75V	A	160
	110V	A	80
	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	250
	48V	A	250
	75V	A	160
	110V	A	120
	220V	A	90
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	250
	48V	A	250
	75V	A	160
	110V	A	140
	220V	A	120
	330V	A	90
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	250
	48V	A	250
	75V	A	160
	110V	A	140
	220V	A	140
	330V	A	140
	460V	A	90
Short-time allowable current for 10s (IEC/EN60947-1)		A	1280
Protection fuse			
	gG (IEC)	A	315
	aM (IEC)	A	200
Making capacity (RMS value)		A	1360
Breaking capacity at voltage			
	440V	A	1360
	500V	A	1326
	690V	A	1139
Resistance per pole (average value)		m Ω	0.18
Power dissipation per pole (average value)			
	I _{th}	W	11
	AC3	W	4.5
Tightening torque for terminals			
	min	Nm	18
	max	Nm	18
	min	lbin	159
	max	lbin	159
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
Power terminal protection according to IEC/EN 60529			IP00
Mechanical features			
Operating position			
	normal		Vertical plan

	allowable		±30°
Fixing			Screw
Weight		g	4000
Operations			
Mechanical life		cycles	10000000
Electrical life		cycles	1000000
Safety related data			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	1000000
EMC compatibility			yes
AC coil operating			
Rated AC voltage at 50/60Hz, 60Hz			
	min	V	100
	max	V	250
AC operating voltage			
	of 50/60Hz coil powered at 50Hz pick-up		
	min	%Us	80 Us min
	max	%Us	110 Us max
	drop-out		
	max	%Us	≤70 Us min
	of 50/60Hz coil powered at 60Hz pick-up		
	min	%Us	80 Us min
	max	%Us	110 Us max
	drop-out		
	max	%Us	≤70 Us min
AC average coil consumption at 20°C			
	of 50/60Hz coil powered at 50Hz		
	in-rush	VA	160...230
	holding	VA	1.5...3.0
	of 50/60Hz coil powered at 60Hz		
	in-rush	VA	160...230
	holding	VA	1.5...3.0
	of 60Hz coil powered at 60Hz		
	in-rush	VA	160...230
	holding	VA	1.5...3.0
Dissipation at holding ≤20°C 50Hz		W	1.5...3.0
DC coil operating			
DC rated control voltage			
	min	V	100
	max	V	250
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	160...230
	holding	W	1.5...3.0
Max cycles frequency			
Mechanical operation		cycles/h	1000

Operating times

Average time for Us control
in AC

Closing NO	min	ms	50
	max	ms	100
Opening NO	min	ms	35
	max	ms	75

UL technical data

Yielded mechanical performance

for three-phase AC motor

200/208V	HP	50
220/230V	HP	60
460/480V	HP	125
575/600V	HP	150

General USE

Contactor

AC current	A	250
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Short-circuit protection fuse, 600V

High fault

Short circuit current	kA	100
Fuse rating	A	400
Fuse class		J

Standard fault

Short circuit current	kA	10
Fuse rating	A	400
Fuse class		RK5

Ambient conditions

Temperature

Operating temperature

min	°C	-40
max	°C	70

Storage temperature

min	°C	-50
max	°C	80

Max altitude

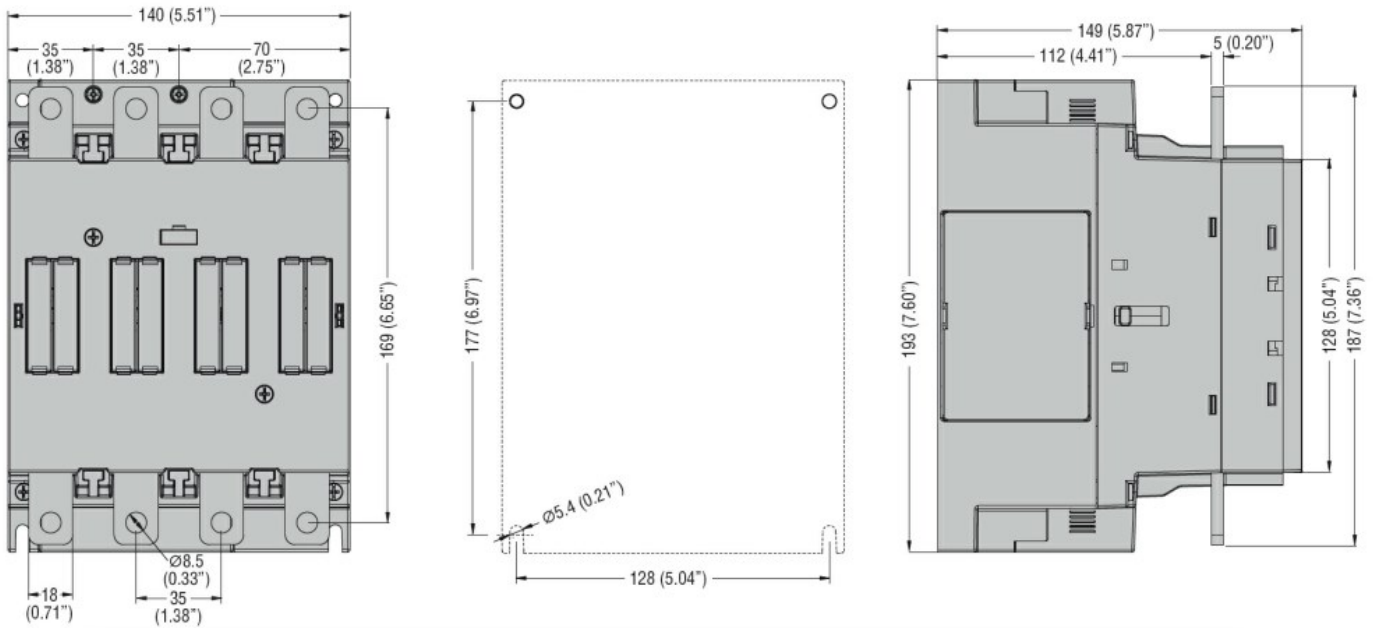
m	3000
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Resistance & Protection

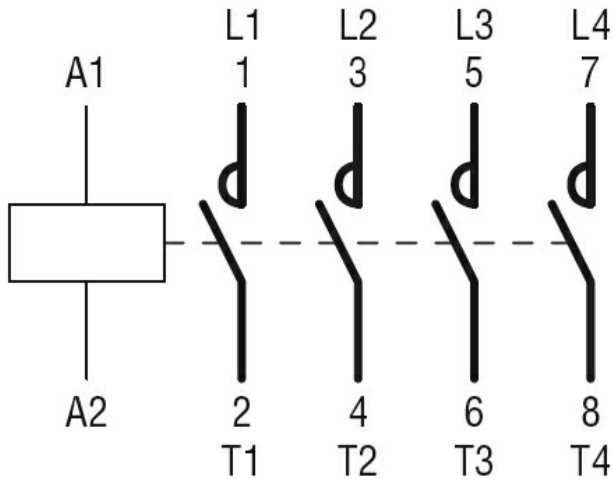
Pollution degree

3

Dimensions [mm (in)]



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

cULus

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching