



Product designation				Power contactor
Product type designation				BF330
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			500
Operational current I_e	AC-1 ($\leq 40^\circ\text{C}$)	A	500	
	AC-1 ($\leq 55^\circ\text{C}$)	A	415	
	AC-1 ($\leq 70^\circ\text{C}$)	A	360	
	AC-3 ($\leq 440\text{V} \leq 55^\circ\text{C}$)	A	330	
	AC-4 (400V)	A	160	
Rated operational power AC-3 ($T \leq 55^\circ\text{C}$)	230V	kW	90	
	400V	kW	160	
	415V	kW	160	
	440V	kW	160	
	500V	kW	200	
	690V	kW	250	
	1000V	kW	185	
Rated operational current AC-3 ($T \leq 55^\circ\text{C}$)	230V	A	330	
	400V	A	330	
	415V	A	330	
	440V	A	330	
	500V	A	300	
	690V	A	300	
	1000V	A	140	
Rated operational power AC-1 ($T \leq 40^\circ\text{C}$)	230V	kW	189	
	400V	kW	329	
	500V	kW	362	
	690V	kW	568	
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	75V	A	375	
	110V	A	195	
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 2 poles in series	75V	A	375	
	110V	A	350	
	220V	A	300	
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series				

	75V	A	375
	110V	A	350
	220V	A	350
	330V	A	300
IEC max current I _e in DC1 with L/R ≤ 1ms with 4 poles in series			
	75V	A	375
	110V	A	350
	220V	A	350
IEC max current I _e in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	75V	A	310
	110V	A	170
IEC max current I _e in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	75V	A	310
	110V	A	290
	220V	A	230
IEC max current I _e in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	75V	A	310
	110V	A	310
	220V	A	290
	330V	A	230
IEC max current I _e in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	75V	A	310
	110V	A	310
	220V	A	310
	330V	A	310
	460V	A	230
Short-time allowable current for 10s (IEC/EN60947-1)		A	2640
Protection fuse			
	gG (IEC)	A	630
	aM (IEC)	A	500
Making capacity (RMS value)		A	3300
Breaking capacity at voltage			
	440V	A	2640
	500V	A	2240
	690V	A	2000
Resistance per pole (average value)		mΩ	0.12
Power dissipation per pole (average value)			
	I _{th}	W	30
	AC-3	W	13
Tightening torque for terminals			
	min	Nm	35
	max	Nm	35
	min	I _{bin}	310
	max	I _{bin}	310
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 allowable	Vertical plan ±30°
Fixing			Screw

Operations

Mechanical life	cycles	5000000
Electrical life	cycles	700000

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
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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
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AC average coil consumption at 20°C

of 50/60Hz coil powered at 50Hz

in-rush	VA	160...320
holding	VA	3.5...8.0

of 50/60Hz coil powered at 60Hz

in-rush	VA	160...320
holding	VA	3.5...8.0

of 60Hz coil powered at 60Hz

in-rush	VA	160...320
holding	VA	3.5...8.0

Dissipation at holding ≤20°C 50Hz

W	3.5...8.0
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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
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Average coil consumption ≤20°C

in-rush	W	160...230
holding	W	3.5...8.0

Max cycles frequency

Mechanical operation cycles/h 1000

Operating times

Average time for Us control
in AC

Closing NO	min	ms	80
	max	ms	120
Opening NO	min	ms	30
	max	ms	75

UL technical data

Yielded mechanical performance

for three-phase AC motor

200/208V	HP	100
220/230V	HP	125
460/480V	HP	250
575/600V	HP	300

General USE

Contactor

AC current	A	500
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Short-circuit protection fuse, 600V
High fault

Short circuit current	kA	100
Fuse rating	A	600
Fuse class		J

Standard fault

Short circuit current	kA	18
Fuse rating	A	600
Fuse class		RK5

Ambient conditions

Temperature

Operating temperature

min	°C	-40
max	°C	70

Storage temperature

min	°C	-50
max	°C	80

Max altitude

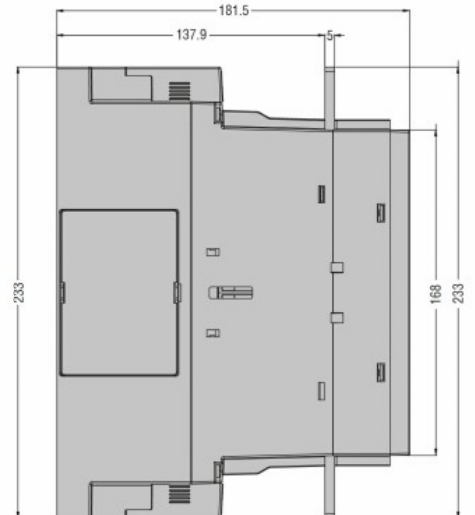
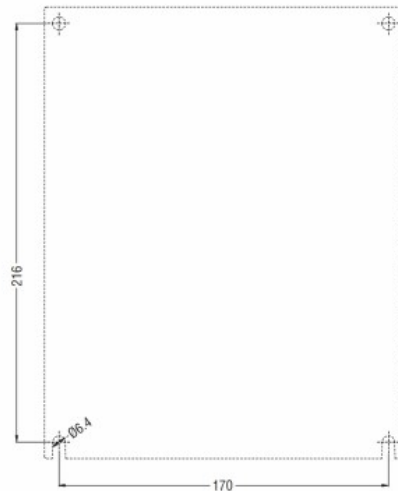
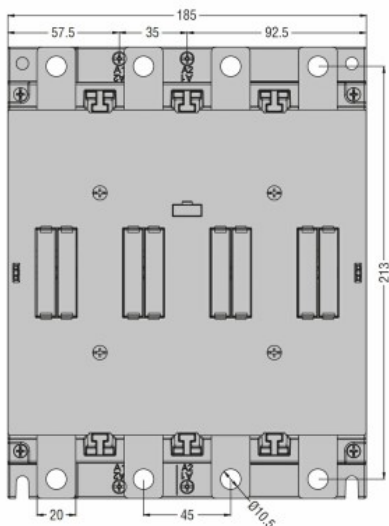
m	3000
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Resistance & Protection

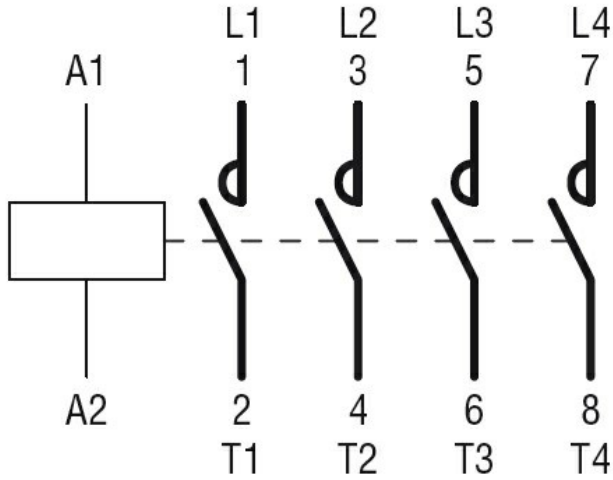
Pollution degree

3

Dimensions



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