

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 ($\leq 40^\circ\text{C}$)	A	90	
	AC-1 ($\leq 55^\circ\text{C}$)	A	75	
	AC-1 ($\leq 70^\circ\text{C}$)	A	65	
	AC-3 ($\leq 440\text{V} \leq 55^\circ\text{C}$)	A	50	
	AC-4 (400V)	A	28	
Rated operational power AC-3 ($T \leq 55^\circ\text{C}$)	230V	kW	11	
	400V	kW	18.5	
	415V	kW	22	
	440V	kW	22	
	500V	kW	22	
	690V	kW	30	
	1000V	kW	18.5	
Rated operational power AC-1 ($T \leq 40^\circ\text{C}$)	230V	kW	34	
	400V	kW	59	
	500V	kW	74	
	690V	kW	102	
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A	45	
	48V	A	40	
	75V	A	40	
	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	60	
	48V	A	60	
	75V	A	60	
	110V	A	50	
	220V	A	7	
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series	$\leq 24\text{V}$	A	60	
	48V	A	60	
	75V	A	60	
	110V	A	55	
	220V	A	75	
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series	$\leq 24\text{V}$	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
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
	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
48V		A	55
75V		A	55
110V		A	45
220V		A	50
Short-time allowable current for 10s (IEC/EN60947-1)			A
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)		mΩ	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	Ibin	Prodotti finiti
	max	Ibin	Prodotti finiti
Max number of wires simultaneously connectable		Nr.	2
Conductor section	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	1400000
Safety related data			
Performance level B10d according to EN/ISO 13489-1	rated load mechanical load	cycles	1400000
		cycles	15000000
Mirror contacts according to IEC/EN 60947-4-1			Yes
EMC compatibility			Yes
Rated AC voltage at 60Hz		V	24
AC coil operating			
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 50/60Hz coil powered at 50Hz	in-rush holding	VA 210 VA 15
	of 50/60Hz coil powered at 60Hz	in-rush holding	VA 195 VA 13
	of 60Hz coil powered at 60Hz	in-rush holding	VA 210 VA 15
Dissipation at holding ≤20°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

Opening NO	max	ms	85
	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
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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	-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 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