

Product designation				Power contactor
Product type designation				BF50
<b>Contact characteristics</b>				
Number of poles	Nr.			3
Rated insulation voltage U <sub>i</sub> IEC/EN	V			1000
Rated impulse withstand voltage U <sub>imp</sub>	kV			8
Operational frequency	min	Hz	25	
	max	Hz	400	
IEC Conventional free air thermal current I <sub>th</sub>	A			90
Operational current I <sub>e</sub>	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	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≤40°C)	230V	kW	34	
	400V	kW	59	
	500V	kW	74	
	690V	kW	102	
IEC max current I <sub>e</sub> 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 <sub>e</sub> 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 <sub>e</sub> 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 I <sub>e</sub> 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
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Protection fuse

gG (IEC)	A	100
aM (IEC)	A	50

Making capacity (RMS value)

A	500
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Breaking capacity at voltage

440V	A	400
500V	A	352
690V	A	312

Resistance per pole (average value)

mΩ	0.8
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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
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Conductor section

Flexible w/o lug conductor section

min	mm <sup>2</sup>	1.5
max	mm <sup>2</sup>	35

Flexible c/w lug conductor section

	min	mm <sup>2</sup>	1.5
	max	mm <sup>2</sup>	35
Power terminal protection according to IEC/EN 60529			IP20 front
<b>Mechanical features</b>			
Operating position	normal allowable		Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight		g	1020
<b>Operations</b>			
Mechanical life		cycles	15000000
Electrical life		cycles	1400000
<b>Safety related data</b>			
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	575
<b>AC coil operating</b>			
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
<b>Max cycles frequency</b>			
Mechanical operation		cycles/h	3600
<b>Operating times</b>			
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