

Product designation				Power contactor
Product type designation				BF50
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			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-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 I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A	30	
	48V	A	25	
	75V	A	22	
	110V	A	3	
	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	35	

	48V	A	35
	75V	A	30
	110V	A	25
	220V	A	5
<hr/>			
IEC max current I _e 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
<hr/>			
IEC max current I _e 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
<hr/>			
Short-time allowable current for 10s (IEC/EN60947-1)		A	400
<hr/>			
Protection fuse	gG (IEC)	A	100
	aM (IEC)	A	50
<hr/>			
Making capacity (RMS value)		A	500
<hr/>			
Breaking capacity at voltage	440V	A	400
	500V	A	352
	690V	A	312
<hr/>			
Resistance per pole (average value)		mΩ	0.8
<hr/>			
Power dissipation per pole (average value)	I _{th}	W	6.5
	AC3	W	2
<hr/>			
Tightening torque for terminals	min	Nm	4
	max	Nm	5
	min	I _{bin}	2.95
	max	I _{bin}	3.69
<hr/>			
Tightening torque for coil terminal	min	Nm	0.8
	max	Nm	1
	min	I _{bin}	Prodotti finiti
	max	I _{bin}	Prodotti finiti
<hr/>			
Max number of wires simultaneously connectable		Nr.	2
<hr/>			
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
<hr/>			
Power terminal protection according to IEC/EN 60529			IP20 front
<hr/>			
Mechanical features			
Operating position	normal allowable		Vertical plan ±30°

Fixing				Screw / DIN rail 35mm
Weight	g			1240
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
Rated AC voltage at 60Hz	V			460
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	VA	210	
	holding	VA	15	
	of 50/60Hz coil powered at 60Hz			
	in-rush	VA	195	
	holding	VA	13	
	of 60Hz coil powered at 60Hz			
	in-rush	VA	210	
	holding	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	
	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	-50
		max	°C	70
	Storage temperature			
		min	°C	-60
		max	°C	80

Max altitude			m	3000
--------------	--	--	---	------

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
----------	--