



Product designation

Power contactor

Product type designation

BF65

**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	100
Operational current $I_e$	AC-1 ( $\leq 40^\circ\text{C}$ )	A 100
	AC-1 ( $\leq 55^\circ\text{C}$ )	A 80
	AC-1 ( $\leq 70^\circ\text{C}$ )	A 70
	AC-3 ( $\leq 440\text{V } \leq 55^\circ\text{C}$ )	A 65
	AC-4 (400V)	A 31
Rated operational current AC-3 ( $T \leq 55^\circ\text{C}$ )	230V	A 65
	400V	A 65
	415V	A 65
	440V	A 65
	500V	A 53
	690V	A 47
	1000V	A 25
Rated operational power AC-1 ( $T \leq 40^\circ\text{C}$ )	230V	kW 38
	400V	kW 65
	500V	kW 82
	690V	kW 114
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A 50
	48V	A 50
	75V	A 50
	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 70
	48V	A 70
	75V	A 70
	110V	A 60
	220V	A 9
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series	$\leq 24\text{V}$	A 70
	48V	A 70
	75V	A 70

	110V	A	60
	220V	A	90
IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	A	70
	48V	A	70
	75V	A	70
	110V	A	70
	220V	A	110
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	A	35
	48V	A	25
	75V	A	25
	110V	A	3
	220V	A	–
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	A	45
	48V	A	40
	75V	A	40
	110V	A	30
	220V	A	5
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	≤24V	A	55
	48V	A	50
	75V	A	50
	110V	A	35
	220V	A	52
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	≤24V	A	60
	48V	A	60
	75V	A	60
	110V	A	50
	220V	A	65
Short-time allowable current for 10s (IEC/EN60947-1)		A	640
Protection fuse			
	gG (IEC)	A	125
	aM (IEC)	A	80
Making capacity (RMS value)		A	650
Breaking capacity at voltage			
	440V	A	520
	500V	A	425
	690V	A	376
Resistance per pole (average value)		mΩ	0.8
Power dissipation per pole (average value)			
	Ith	W	8
	AC-3	W	3.4
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	I <sub>bin</sub>	0.8
		max	I <sub>bin</sub>	0.74
Max number of wires simultaneously connectable			Nr.	2
Conductor section	AWG/Kcmil			
		max		2
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	1280
Conductor section	AWG/kcmil conductor section			
		max		2
<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 cycles	1400000 15000000
Mirror contacts according to IEC/EN 60947-4-1				yes
EMC compatibility				yes
<b>AC coil operating</b>				
Rated AC voltage at 50/60Hz, 60Hz		min	V	20
		max	V	48
AC operating voltage	of 50/60Hz coil powered at 50Hz pick-up	min	%U <sub>s</sub>	85 U <sub>s</sub> min
		max	%U <sub>s</sub>	110 U <sub>s</sub> max
	drop-out	max	%U <sub>s</sub>	≤70 U <sub>s</sub> min
	of 50/60Hz coil powered at 60Hz pick-up	min	%U <sub>s</sub>	85 U <sub>s</sub> min
		max	%U <sub>s</sub>	110 U <sub>s</sub> max
	drop-out	max	%U <sub>s</sub>	≤70 U <sub>s</sub> min
AC average coil consumption at 20°C	of 50/60Hz coil powered at 50Hz	in-rush holding	VA VA	35...120 1.5...3.7

of 50/60Hz coil powered at 60Hz

	in-rush	VA	35...120
	holding	VA	1.5...3.7
Dissipation at holding ≤20°C 50Hz		W	1...2.5

#### DC coil operating

DC rated control voltage

	min	V	20
	max	V	48

DC operating voltage

pick-up

	min	%Us	80 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	23...68
	holding	W	1.2...1,9

#### Max cycles frequency

Mechanical operation

cycles/h 1500

#### 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	65
	at 600V	A	62

Yielded mechanical performance

for three-phase AC motor

	200/208V	HP	20
	220/230V	HP	25
	460/480V	HP	50
	575/600V	HP	60

General USE

Contactor

	AC current	A	100
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Short-circuit protection fuse, 600V

High fault

	Short circuit current	kA	100
	Fuse rating	A	200
	Fuse class	J	

Standard fault

Short circuit current	kA	10
Fuse rating	A	200
Fuse class		RK5

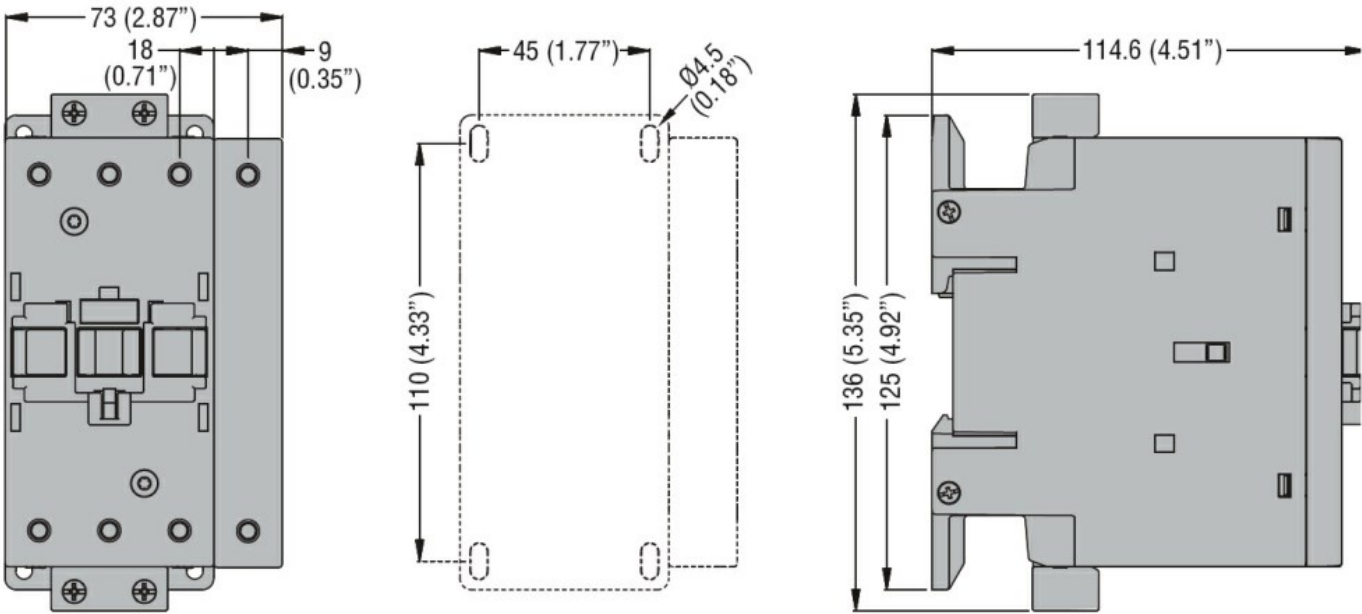
Ambient conditions

Temperature	Operating temperature	min	°C	-40
		max	°C	70
	Storage temperature	min	°C	-50
		max	°C	80
Max altitude		m		3000

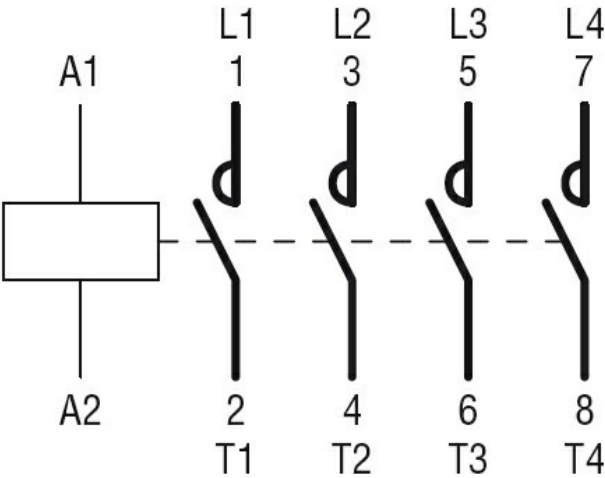
Resistance & Protection

Pollution degree	3
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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

CCC
cULus

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching