



### 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 $I_{th} \leq 40^\circ\text{C}$	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 current AC-3 ( $T \leq 55^\circ\text{C}$ )	230V	A 50
	400V	A 50
	415V	A 50
	440V	A 50
	500V	A 44
	690V	A 39
	1000V	A 23
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<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 I<sub>e</sub> 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 I<sub>e</sub> 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 I<sub>e</sub> 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 I<sub>e</sub> 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)

I <sub>th</sub>	W	6.5
AC-3	W	2

Tightening torque for terminals

min	Nm	4
max	Nm	5
min	I <sub>bin</sub>	2.95
max	I <sub>bin</sub>	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	1240	
<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
EMC compatibility		yes	
<b>AC coil operating</b>			
Rated AC voltage at 60Hz	V	230	
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 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
	max	ms	85
Opening NO	min	ms	20
	max	ms	55

**UL technical data**

Rated operational voltage AC (UL)	V	600
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
	220/240V	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**

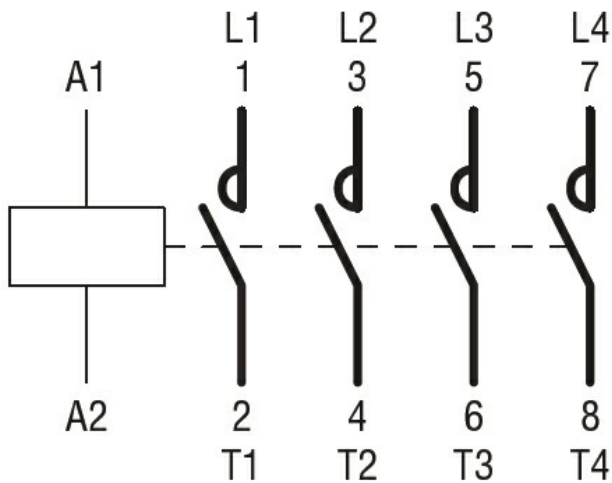
Pollution degree	3
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**Dimensions**



① BF80T2 82mm/3.23"

### Wiring diagrams



### Certifications and compliance

#### Compliance

CSA C22.2 n° 60947-1

CSA C22.2 n° 60947-4-1

IEC/EN 60335-2-89

IEC/EN/BS 60947-1

IEC/EN/BS 60947-4-1

UL 60947-1

UL 60947-4-1

#### Certificates

CCC

CSA C22.2 n. 60335-2-40:22 LZGH A2L

CSA C22.2 No. 60335-2-89:21 LZGH A2L

cULus

UL 60335-2-40 LZGH A2L

UL 60335-2-89 LZGH A2L

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching