



Product designation				Power contactor
Product type designation				BFD80
<b>Contact characteristics</b>				
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			115
Operational current $I_e$	AC-1 ( $\leq 40^\circ\text{C}$ )		A	160
	400V	A	115	
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series	600V	A	100	
	800V	A	90	
	1000V	A	80	
			A	640
Short-time allowable current for 10s (IEC/EN60947-1)			A	640
Protection fuse	gG (IEC)		A	125
	aM (IEC)		A	80
Resistance per pole (average value)			m $\Omega$	0.6
Power dissipation per pole (average value)	lth		W	7.9
Tightening torque for terminals	min	Nm	4	
	max	Nm	5	
	min	lbin	2.95	
	max	lbin	3.69	
Tightening torque for coil terminal	min	Nm	0.8	
	max	Nm	1	
	min	lbin	0.59	
	max	lbin	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

### Mechanical features

Operating position	normal allowable	Vertical plan $\pm 30^\circ$
Fixing		Screw / DIN rail 35mm
Weight		g 1280
Conductor section	AWG/kcmil conductor section	
	max	2

### Operations

Mechanical life	cycles	15000000
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### Safety related data

Performance level B10d according to EN/ISO 13489-1	mechanical load	cycles	15000000
EMC compatibility			yes

### AC coil operating

Rated AC voltage at 50/60Hz, 60Hz	min	V	100
	max	V	250
AC operating voltage			
of 50/60Hz coil powered at 50Hz			
pick-up	min	%Us	80 Us min
	max	%Us	110 Us max
drop-out	max	%Us	$\leq 70$ Us min
of 50/60Hz coil powered at 60Hz			
pick-up	min	%Us	80 Us min
	max	%Us	110 Us max
drop-out	max	%Us	$\leq 70$ Us min

### AC average coil consumption at 20°C

of 50/60Hz coil powered at 50Hz	in-rush	VA	35...120
	holding	VA	1.5...3.7
of 50/60Hz coil powered at 60Hz	in-rush	VA	35...120
	holding	VA	1.5...3.7
of 60Hz coil powered at 60Hz	in-rush	VA	210
	holding	VA	15

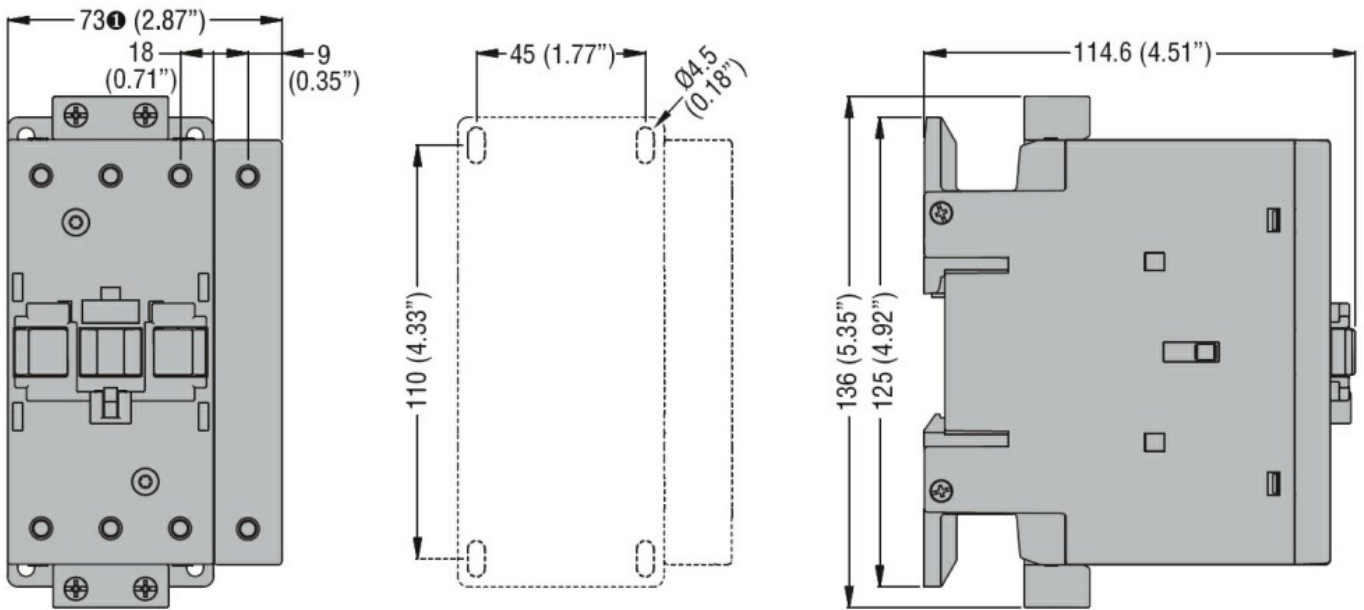
### Dissipation at holding $\leq 20^\circ\text{C}$ 50Hz

	W	1...2.5
DC rated control voltage	min	V 100
	max	V 250

### DC operating voltage

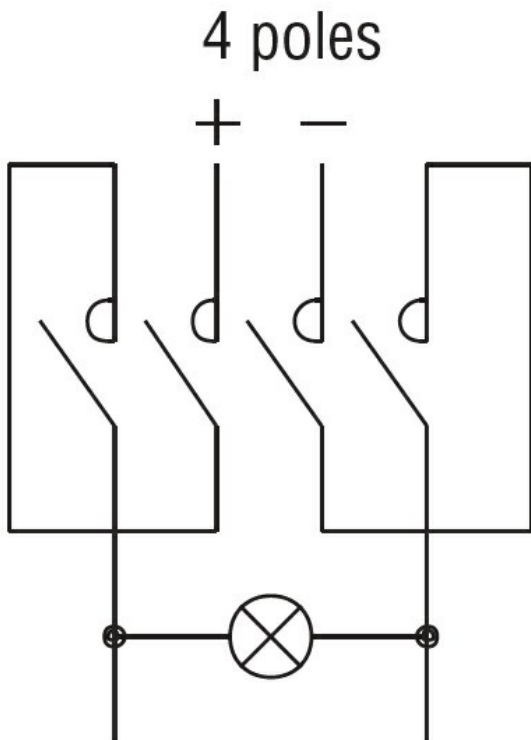
pick-up	min	%Us	$\leq 80$ Us min
	max	%Us	$\leq 110$ Us max
drop-out			

	max	%Us	≤70 Us min
Average coil consumption ≤20°C	in-rush	W	23...68
	holding	W	1.2...1.9
<b>Max cycles frequency</b>			
Mechanical operation		cycles/h	1500
<b>Operating times</b>			
Average time for Us control			
in AC			
Closing NO	min	ms	40
	max	ms	85
Opening NO	min	ms	20
	max	ms	55
in DC			
Closing NO	min	ms	40
	max	ms	85
Opening NO	min	ms	20
	max	ms	55
<b>UL technical data</b>			
General USE			
Contactor			
	AC current	A	115
4 poles in series DC1			
	600V	A	100
<b>Ambient conditions</b>			
Temperature			
Operating temperature	min	°C	-40
	max	°C	70
Storage temperature	min	°C	-50
	max	°C	80
Max altitude		m	3000
<b>Resistance &amp; Protection</b>			
Pollution degree			3
<b>Dimensions [mm (in)]</b>			



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/BS 60947-1

IEC/EN/BS 60947-4-1

UL 60947-1

UL 60947-4-1

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Certificates

cULus

ETIM classification

ETIM 8.0

EC002552 -  
Power contactor,  
DC switching