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Lovato electric
ENERGY AND AUTOMATION

BF5000A400

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 50A, AC COIL 50/60HZ, 400VAC



Contact characteristics			
Number of poles		Nr.	3
Rated insulation voltage Ui IEC/EN		V	1000
Rated impulse withstand voltage Uimp		kV	8
Operational frequency			
	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith ≤ 40°C		A	90
Operational current Ie			
	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	22
	415V	kW	22
	440V	kW	22
	500V	kW	22
	690V	kW	30
	1000V	kW	30
Rated operational current AC-3 (T≤55°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≤40°C)			
	230V	kW	34
	400V	kW	59
	500V	kW	74
	690V	kW	102
IEC max current Ie 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 Ie in DC1 with L/R ≤ 1ms with 2 poles in series			
	≤24V	A	60
	48V	A	60
	75V	A	60

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	110V	A	50
	220V	A	7
IEC max current Ie 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 Ie 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
Protection fuse			
	gG (IEC)	A	100
	aM (IEC)	A	50
Making capacity (RMS value)		A	500
Breaking capacity at voltage			
	440V	A	400
	500V	A	352
	690V	A	312
Resistance per pole (average value)		mΩ	0.8
Power dissipation per pole (average value)			
	Ith	W	6.5
	AC-3	W	2
Tightening torque for terminals			
	min	Nm	4

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		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	0.8
		max	Ibin	0.74
Max number of wires simultaneously connectable			Nr.	2
Conductor section				
	AWG/Kcmil			
		max		2
	Flexible w/o lug conductor section			
		min	mm²	1.5
		max	mm²	35
	Flexible c/w lug conductor section			
		min	mm²	1.5
		max	mm²	35
Power terminal protection according to IEC/EN 60529				IP20 front
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail 35mm
Weight			g	1020
Operations				
Mechanical life			cycles	15000000
Electrical life			cycles	1400000 (Ie AC-3 400V)
Safety related data				
Performance level B10d according to EN/ISO 13489-1				
		rated load	cycles	1400000
		mechanical load	cycles	15000000
EMC compatibility				yes
AC coil operating				
Rated AC voltage at 50/60Hz			V	400
AC operating voltage				
	of 50/60Hz coil powered at 50Hz			
		pick-up		
			min	%Us 80
			max	%Us 110
		drop-out		
			min	%Us 20
			max	%Us 55
	of 50/60Hz coil powered at 60Hz			
		pick-up		
			min	%Us 85
			max	%Us 110
		drop-out		
			min	%Us 40
			max	%Us 55
AC average coil consumption at 20°C				
	of 50/60Hz coil powered at 50Hz			

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			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					
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					

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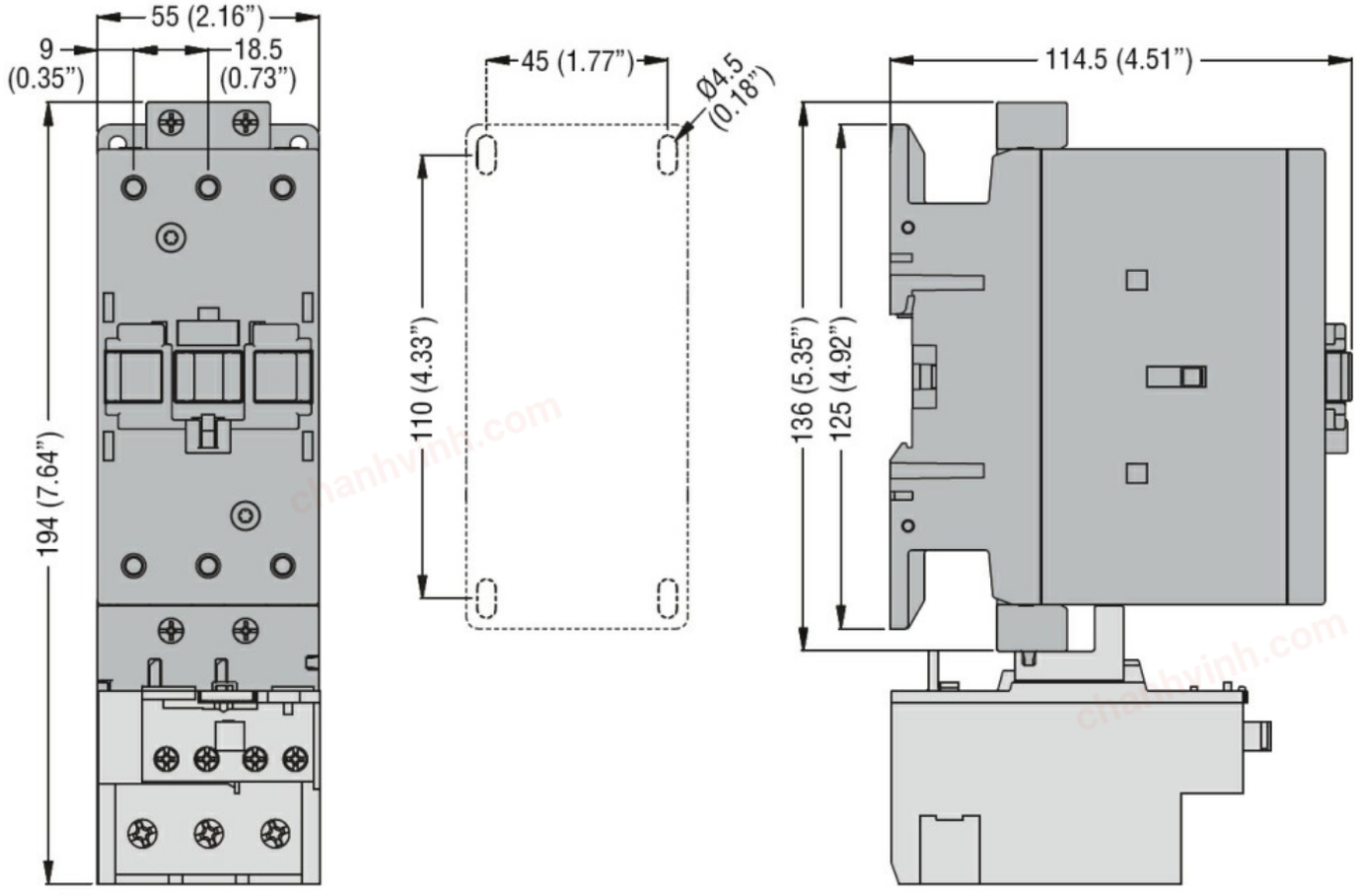
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Temperature				
	Operating temperature			
		min	°C	-50
		max	°C	70
	Storage temperature			
		min	°C	-60
		max	°C	80
Max altitude			m	3000

Resistance & Protection

Pollution degree				3

Dimensions



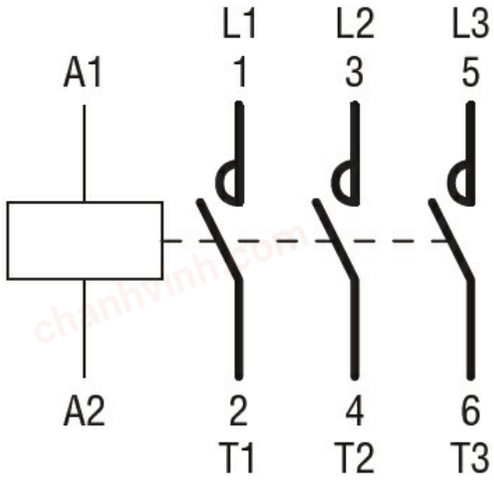
Wiring diagrams

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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

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