BF160T4E024

CONTACTEUR TÉTRAPOLAIRE, COURANT DE FONCTIONNEMENT IEC ITH (AC1) = 250A, AVEC BOBINE AC/DC, 24...60VAC - 20...60VDC

Lovato electric
ENERGY AND AUTOMATION

Product designation			Power contactor
Product type designation			BF160
Contact characteristics			
Number of poles		Nr.	4
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		A	250
Operational current Ie			
	AC-1 (≤40°C)	A	250
	AC-1 (≤55°C)	A	210
	AC-1 (≤70°C)	A	180
	AC-3 (≤440V ≤55°C)	A	160
	AC-4 (400V)	A	75
Rated operational current AC-3 (T≤55°C)			
	230V	A	160
	400V	A	160
	415V	A	160
	440V	A	160
	500V	A	150
	690V	A	135
	1000V	A	60
Rated operational power AC-1 (T≤40°C)			
	230V	kW	95
	400V	kW	165
	500V	kW	181
	690V	kW	284
IEC max current Ie in DC1 with L/R ≤ 1ms with 1 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	250
	110V	A	110
	220V	A	–
IEC max current Ie in DC1 with L/R ≤ 1ms with 2 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	250
	110V	A	150
	220V	A	130
IEC max current Ie in DC1 with L/R ≤ 1ms with 3 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	250

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	110V	A	160
	220V	A	150
	330V	A	130
IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	250
	110V	A	250
	220V	A	250
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	160
	110V	A	80
	220V	A	–
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	160
	110V	A	120
	220V	A	90
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	160
	110V	A	140
	220V	A	120
	330V	A	90
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	160
	110V	A	140
	220V	A	140
	330V	A	140
	460V	A	90
Short-time allowable current for 10s (IEC/EN60947-1)		A	1280
Protection fuse			
	gG (IEC)	A	315
	aM (IEC)	A	200
Making capacity (RMS value)		A	1360
Breaking capacity at voltage			
	440V	A	1360
	500V	A	1326
	690V	A	1139
Resistance per pole (average value)		mΩ	0.18
Power dissipation per pole (average value)			
	Ith	W	11
	AC-3	W	4.5
Tightening torque for terminals			
	min	Nm	18
	max	Nm	18
	min	Ibin	159
	max	Ibin	159

Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
Power terminal protection according to IEC/EN 60529			IP00

Mechanical features

Operating position			
	normal		Vertical plan
	allowable		±30°
Fixing			Screw
Weight		g	4000

Operations

Mechanical life		cycles	10000000
Electrical life		cycles	1000000

Safety related data

Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	1000000
EMC compatibility			yes

AC coil operating

Rated AC voltage at 50/60Hz, 60Hz			
	min	V	24
	max	V	60

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	≤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	≤70 Us min

AC average coil consumption at 20°C				
of 50/60Hz coil powered at 50Hz				
		in-rush	VA	160…230
		holding	VA	1.5...3.0
of 50/60Hz coil powered at 60Hz				
		in-rush	VA	160…230
		holding	VA	1.5...3.0
of 60Hz coil powered at 60Hz				
		in-rush	VA	160…230
		holding	VA	1.5...3.0

Dissipation at holding ≤20°C 50Hz		W	1.5...3.0

DC coil operating

DC rated control voltage			
	min	V	20
	max	V	60

DC operating voltage				
pick-up				
		min	%Us	85 Us min
		max	%Us	110 Us max

drop-out					
			max	%Us	≤70 Us min
Average coil consumption ≤20°C					
			in-rush	W	160…230
			holding	W	1.5...3.0

Max cycles frequency

Mechanical operation			cycles/h	1000

Operating times

Average time for Us control					
	in AC				
		Closing NO			
			min	ms	50
			max	ms	100
		Opening NO			
			min	ms	35
			max	ms	75

UL technical data

Yielded mechanical performance					
	for three-phase AC motor				
		200/208V		HP	50
		220/230V		HP	60
		460/480V		HP	125
		575/600V		HP	150
General USE					
	Contactor				
		AC current		A	250
Short-circuit protection fuse, 600V					
	High fault				
		Short circuit current		kA	100
		Fuse rating		A	400
		Fuse class			J
	Standard fault				
		Short circuit current		kA	10
		Fuse rating		A	400
		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

Dimensions

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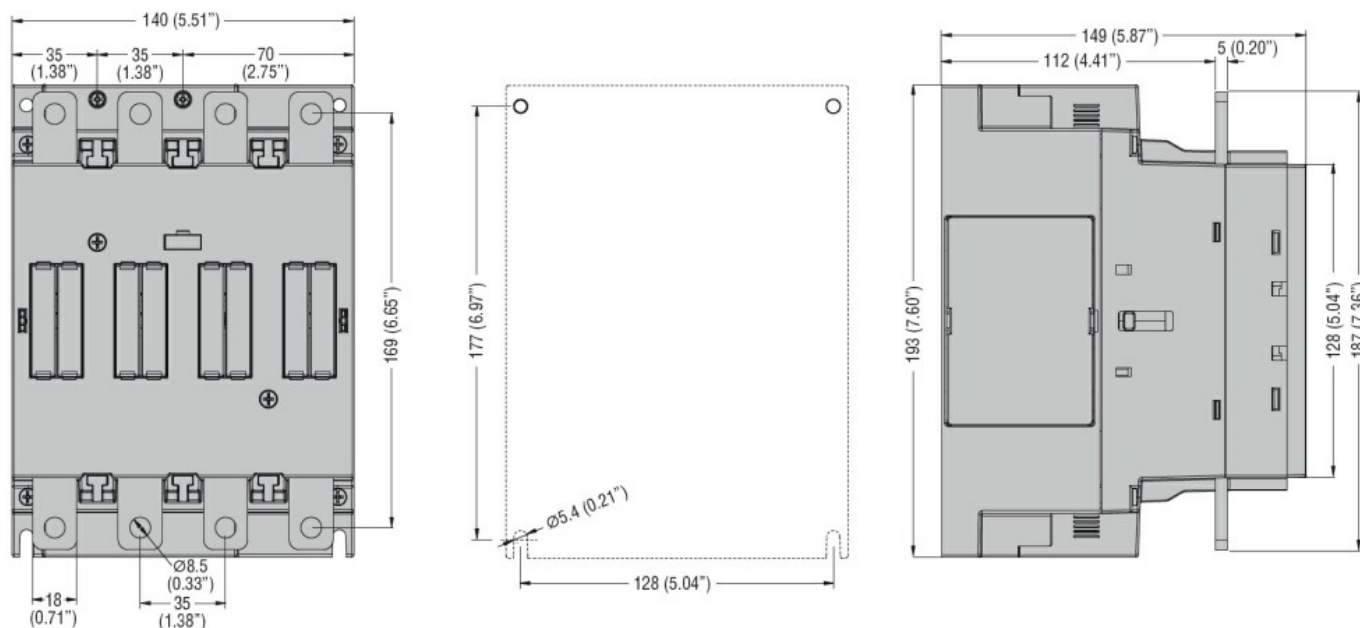
Wiring diagrams
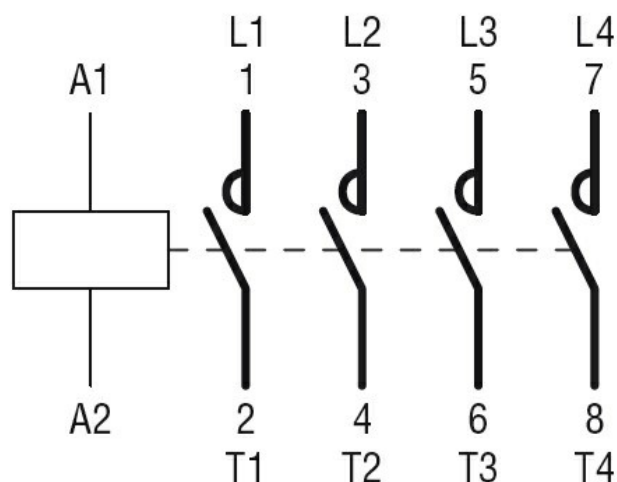
Certifications and compliance

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

cULus

ETIM classification

ETIM 8.0	EC000066 - Power contactor, AC switching