Lovato electric
ENERGY AND AUTOMATION

11B500400440

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 700A, AC/DC COIL, 440...480VAC/DC



Product designation			Power contactor
Product type designation			B500
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	700
Operational current Ie			
	AC-1 (≤40°C)	A	700
	AC-1 (≤55°C)	A	550
	AC-1 (≤70°C)	A	500
	AC-3 (≤440V ≤55°C)	A	520
	AC-4 (400V)	A	240
Rated operational power AC-1 (T≤40°C)			
	230V	kW	252
	400V	kW	438
	500V	kW	575
	690V	kW	755
IEC max current Ie in DC1 with L/R ≤ 1ms with 1 poles in series			
	75V	A	650
	110V	A	320
	220V	A	--
	330V	A	--
	460V	A	--
IEC max current Ie in DC1 with L/R ≤ 1ms with 2 poles in series			
	75V	A	650
	110V	A	550
	220V	A	450
	330V	A	--
	460V	A	--
IEC max current Ie in DC1 with L/R ≤ 1ms with 3 poles in series			
	75V	A	650
	110V	A	600
	220V	A	600
	330V	A	450
	460V	A	--
IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series			
	75V	A	650
	110V	A	600
	220V	A	600
	330V	A	600
	460V	A	450

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IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	75V	A	550
	110V	A	320
	220V	A	--
	330V	A	--
	460V	A	--
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	75V	A	550
	110V	A	550
	220V	A	450
	330V	A	--
	460V	A	--
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	75V	A	550
	110V	A	550
	220V	A	550
	330V	A	450
	460V	A	--
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	75V	A	550
	110V	A	550
	220V	A	550
	330V	A	450
	460V	A	450
Short-time allowable current for 10s (IEC/EN60947-1)		A	4050
Protection fuse			
	gG (IEC)	A	800
	aM (IEC)	A	500
Making capacity (RMS value)		A	5000
Breaking capacity at voltage			
	440V	A	5000
	500V	A	4500
	690V	A	4000
Resistance per pole (average value)		mΩ	0.14
Power dissipation per pole (average value)			
	Ith	W	68.6
	AC3	W	35
Tightening torque for terminals			
	min	Nm	35
	max	Nm	35
	min	lbin	25.8
	max	lbin	25.8
Tightening torque for coil terminal			
	min	Nm	1
	max	Nm	1
	min	lbin	0.74
	max	lbin	0.74
Max number of wires simultaneously connectable		Nr.	2
Conductor section			
AWG/Kcmil			
	max		2x 500 kcmil
Power terminal protection according to IEC/EN 60529			IP00

Mechanical features

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Operating position			
	normal		Vertical plan
	allowable		±30°
Fixing			Screw
Weight		g	2163
Conductor section			
AWG/kcmil conductor section			
	max		2x 500 kcmil
Operations			
Mechanical life		cycles	5000000
Electrical life		cycles	700000
Safety related data			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	700000
	mechanical load	cycles	5000000
Mirror contats according to IEC/EN 609474-4-1			yes
EMC compatibility			yes
AC coil operating			
Rated AC voltage at 50/60Hz, 60Hz			
	min	V	440
	max	V	415
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	60
of 50/60Hz coil powered at 60Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out			
	min	%Us	20
	max	%Us	60
of 60Hz coil powered at 60Hz			
pick-up			
	min	%Us	80
	max	%Us	110
drop-out			
	min	%Us	20
	max	%Us	60
AC average coil consumption at 20°C			
of 50/60Hz coil powered at 50Hz			
	in-rush	VA	400
	holding	VA	18
of 50/60Hz coil powered at 60Hz			
	in-rush	VA	400
	holding	VA	18
Dissipation at holding ≤20°C 50Hz		W	18
DC coil operating			
DC rated control voltage			

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			min	V	440
			max	V	415
DC operating voltage					
	pick-up				
			min	%Us	80
			max	%Us	110
	drop-out				
			min	%Us	20
			max	%Us	60
Average coil consumption ≤20°C					
			in-rush	W	400
			holding	W	18
Max cycles frequency					
Mechanical operation				cycles/h	1200
Operating times					
Average time for Us control					
	in AC				
		Closing NO			
			min	ms	110
			max	ms	180
		Opening NO			
			min	ms	60
			max	ms	100
	in DC				
		Closing NO			
			min	ms	110
			max	ms	180
		Opening NO			
			min	ms	60
			max	ms	100
UL technical data					
General USE					
	Contactor				
			AC current	A	700
Short-circuit protection fuse, 600V					
	Standard fault				
			Short circuit current	kA	18
			Fuse rating	A	1200
			Fuse class		L
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
Dimensions					

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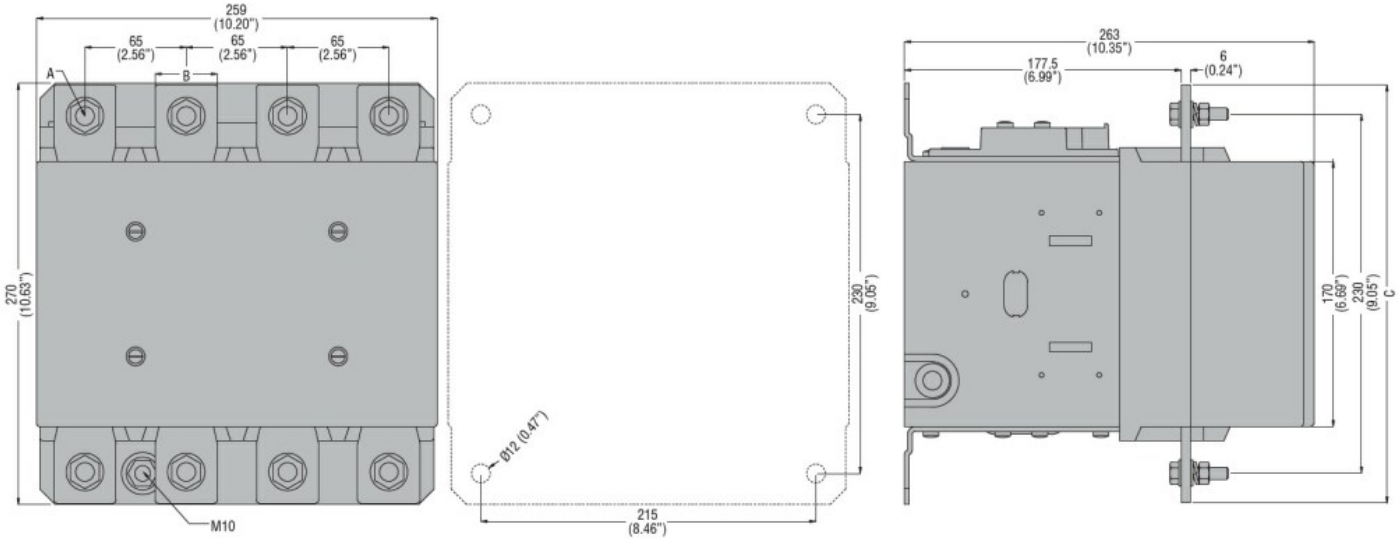
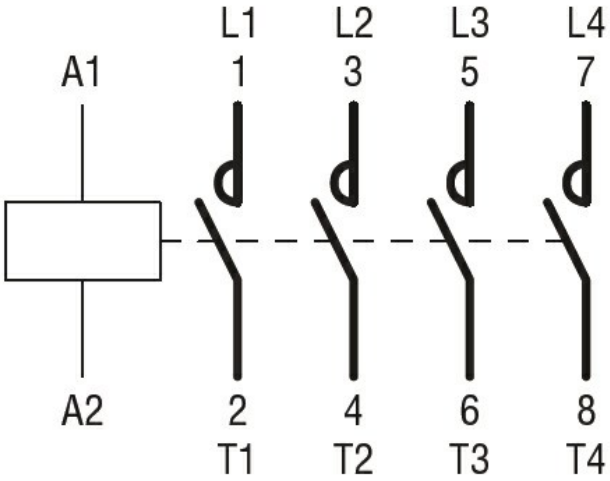


CONTACTOR TYPE	A	B	C
B500	M10	35 (1.38")	265 (10.43")
B630	M12	40 (1.57")	270 (10.63")

Wiring diagrams



Certifications and compliance

Compliance

CSA C22.2 n° 60947-1
CSA C22.2 n° 60947-4-1
IEC/EN 60947-1
IEC/EN 60947-4-1
UL 60947-1
UL 60947-4-1

Certificates

CCC
cULus
EAC

ETIM classification

ETIM 8.0	EC000066 - Power contactor, AC switching

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