Lovato electric
ENERGY AND AUTOMATION

11B31040048

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 450A, AC/DC COIL, 48VAC/DC

Product designation			Power contactor
Product type designation			B310
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	450
Operational current Ie			
	AC-1 (≤40°C)	A	450
	AC-1 (≤55°C)	A	370
	AC-1 (≤70°C)	A	300
	AC-3 (≤440V ≤55°C)	A	320
	AC-4 (400V)	A	150
Rated operational power AC-1 (T≤40°C)			
	230V	kW	158
	400V	kW	270
	500V	kW	350
	690V	kW	488
IEC max current Ie in DC1 with L/R ≤ 1ms with 1 poles in series			
	75V	A	375
	110V	A	195
	220V	A	--
	330V	A	--
	460V	A	--
IEC max current Ie in DC1 with L/R ≤ 1ms with 2 poles in series			
	75V	A	375
	110V	A	350
	220V	A	300
	330V	A	--
	460V	A	--
IEC max current Ie in DC1 with L/R ≤ 1ms with 3 poles in series			
	75V	A	375
	110V	A	350
	220V	A	350
	330V	A	300
	460V	A	--
IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series			
	75V	A	375
	110V	A	350
	220V	A	350
	330V	A	350
	460V	A	300

IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	75V	A	310
	110V	A	170
	220V	A	--
	330V	A	--
	460V	A	--
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	75V	A	310
	110V	A	290
	220V	A	230
	330V	A	--
	460V	A	--
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	75V	A	310
	110V	A	310
	220V	A	290
	330V	A	230
	460V	A	--
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	75V	A	310
	110V	A	310
	220V	A	310
	330V	A	230
	460V	A	230
Short-time allowable current for 10s (IEC/EN60947-1)		A	2900
Protection fuse			
	gG (IEC)	A	500
	aM (IEC)	A	400
Making capacity (RMS value)		A	3150
Breaking capacity at voltage			
	440V	A	3000
	500V	A	2700
	690V	A	2520
Resistance per pole (average value)		m?	0.2
Power dissipation per pole (average value)			
	Ith	W	40.5
	AC3	W	20
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 3/0
Power terminal protection according to IEC/EN 60529			IP00

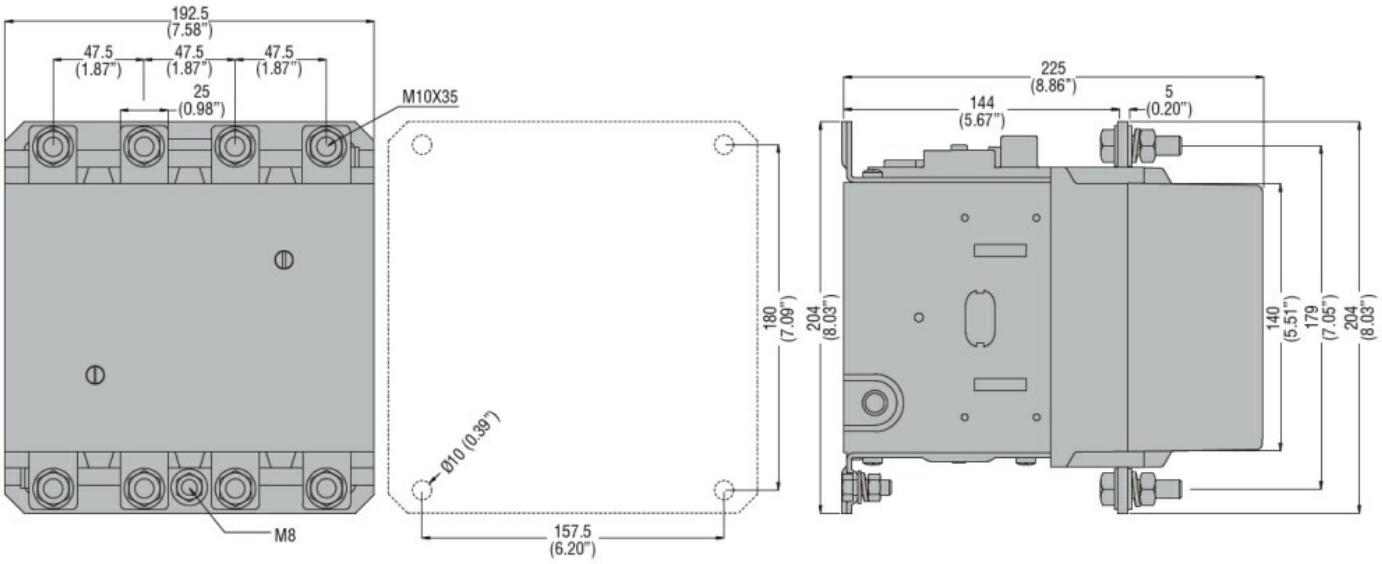
Mechanical features

Operating position			
	normal		Vertical plan
	allowable		±30°
Fixing			Screw
Weight		g	1110
Conductor section			
AWG/kcmil conductor section			
	max		2x 3/0
Operations			
Mechanical life		cycles	10000000
Electrical life		cycles	700000
Safety related data			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	700000
	mechanical load	cycles	10000000
Mirror contats according to IEC/EN 609474-4-1			yes
EMC compatibility			yes
AC coil operating			
Rated AC voltage at 50/60Hz		V	48
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	300
	holding	VA	10
of 50/60Hz coil powered at 60Hz			
	in-rush	VA	300
	holding	VA	10
Dissipation at holding ≤20°C 50Hz		W	10
DC coil operating			
DC rated control voltage		V	48
DC operating voltage			
pick-up			

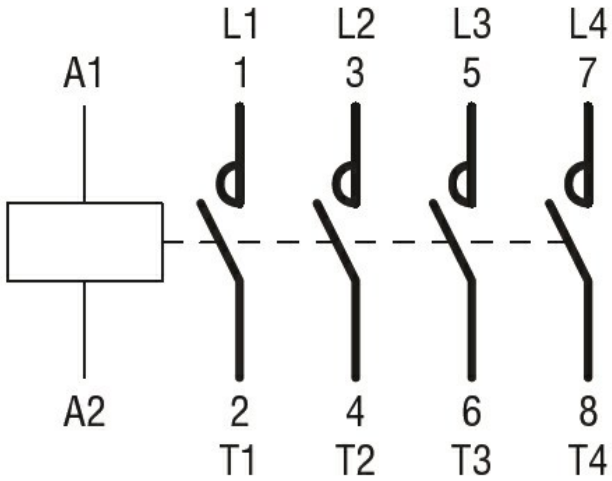
		min	%Us	80
		max	%Us	110
	drop-out			
		min	%Us	20
		max	%Us	60
Average coil consumption ≤20°C				
		in-rush	W	300
		holding	W	10
Max cycles frequency				
Mechanical operation			cycles/h	2400
Operating times				
Average time for Us control				
	in AC			
		Closing NO		
		min	ms	80
		max	ms	120
		Opening NO		
		min	ms	30
		max	ms	75
	in DC			
		Closing NO		
		min	ms	80
		max	ms	120
		Opening NO		
		min	ms	30
		max	ms	75
UL technical data				
Full-load current (FLA) for three-phase AC motor				
		at 480V	A	301
		at 600V	A	289
Yielded mechanical performance				
	for three-phase AC motor			
		200/208V	HP	100
		220/230V	HP	125
		460/480V	HP	250
		575/600V	HP	300
General USE				
	Contactor			
		AC current	A	450
Short-circuit protection fuse, 600V				
	Standard fault			
		Short circuit current	kA	18
		Fuse rating	A	800
		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



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