Lovato

**ENERGY AND AUTOMATION** 

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 110A, AC/DC COIL, electric ALREADY FITTED WITH MECHANICAL LATCH (G495), 220...240VAC/DC, MECHANICAL LATCH

380...415VAC



Product type designation   State   Contact characteristics	Product designation			Power contactor
Number of poles         Nr. 3           Rated insulation voltage Ui IEC/EN         V 1000           Rated insulation voltage Uimp         kV 8           Operational frequency         min Hz 255           max Hz 400         HEC Conventional free air thermal current lth         A 160           Operational current le         AC-1 (≤40°C) A 160           AC-1 (≤55°C) A 110         A 150           AC-1 (≤55°C) A 1110         AC-3 (≤440°V ≤55°C) A 1110           AC-3 (≤440°V ≤55°C) A 1110         AC-4 (4000V) A 47           Rated operational power AC-3 (T≤55°C)         400V kW 61           Rated operational power AC-3 (T≤40°C)         230V kW 57           400V kW 98         500V kW 129           690V kW 173         690V kW 173           IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series         75V A 160           110V A 130         110V A 130           220V A 100         330V A - 4           460V A - 100         330V A - 4           1EC max current le in DC1 with L/R ≤ 1ms with 3 poles in series         75V A 160           110V A 130         160	Product type designation			B115
Rated insulation voltage Uil EC/EN         V         1000           Rated impulse withstand voltage Uimp         kV         8           Operational frequency         min         Hz         25           imax         Hz         400           IEC Conventional free air thermal current Ith         A         160           Operational current le         AC-1 (≤40°C)         A         150           AC-1 (≤55°C)         A         150         AC-1 (≤70°C)         A         110           AC-3 (≤440°S5°C)         A         110         AC-3 (≤400°S5°C)         A         110           Rated operational power AC-3 (T≤55°C)         230V         kW         61           Rated operational power AC-1 (T≤40°C)         230V         kW         57           400V         kW         98         500V         kW         129           690V         kW         173         180         110V         A         100           1EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series         75V         A         160         110V         A         100           1EC max current le in DC1 with L/R ≤ 1ms with 3 poles in series         75V         A         160         110V         A         130         220V				
Rated impulse withstand voltage Uimp	Number of poles		Nr.	3
The propertional frequency   The properties   The prop			V	1000
Min	Rated impulse withstand voltage Uimp		kV	8
IEC Conventional free air thermal current Ith	Operational frequency			
EC Conventional free air thermal current lth		min	Hz	25
Operational current le         AC-1 (s40°C)       A       160         AC-1 (s55°C)       A       150         AC-1 (s70°C)       A       110         AC-3 (s4400 s55°C)       A       110         AC-4 (400V)       A       47         Rated operational power AC-3 (T≤40°C)         230V kW 57         400V kW 98       500V kW 129         690V kW 173       173         IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series         75V A 160       A 100         220V A -       -         330V A -       -         460V A -       -         IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series         75V A 160       110V A 130         220V A -       -         460V A -       -         110V A 130       -         220V A 100       -         460V A -       -         110V A 130       -         220V A 100       -         460V A -       -         110V A 130       -         220V A 100       -         460V A -       -         110V A 130       - <td></td> <td>max</td> <td>Hz</td> <td>400</td>		max	Hz	400
AC-1 (≤40°C)	IEC Conventional free air thermal current Ith		Α	160
AC-1 (≤55°C)	Operational current le			
AC-1 (≤70°C) A 110 AC-3 (≤440V ≤55°C) A 110 AC-4 (400V) A 47  Rated operational power AC-3 (T≤55°C)  ### 400V KW 61  Rated operational power AC-1 (T≤40°C)  ### 230V KW 57 ### 400V KW 98 ### 500V KW 129 ### 690V KW 173  ### 160 ### 110V A 100 ### 220V A - ### 330V A - ### 460V A -  ### 1EC max current le in DC1 with L/R ≤ 1ms with 2 poles in series  ### 75V A 160 ### 110V A 130 ### 220V A 150 ### 130 ### 220V A 100 ### 330V A - ### 460V A -  ### 15V A 160 ### 110V A 130 ### 220V A 100 ### 330V A - ### 460V A - ### 15V A 160 ### 110V A 130 ### 220V A 100 ### 330V A - ### 460V A - ### 15V A 160 ### 110V A 130 ### 220V A 150 ### 330V A - ### 15V A 160 ### 110V A 130 ### 220V A 150 ### 330V A - ### 15V A 160 ### 110V A 130 ### 220V A 150 ### 330V A - ### 15V A 160 ### 110V A 130 ### 220V A 150 ### 330V A - ### 15V A 160		•	Α	160
AC-3 (≤440V ≤55°C) A 110 AC-4 (400V) A 47  Rated operational power AC-3 (T≤55°C)  400V kW 61  Rated operational power AC-1 (T≤40°C)  230V kW 57 400V kW 98 500V kW 129 690V kW 173  IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series  75V A 160 110V A 100 220V A - 330V A - 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series  75V A 160 110V A 130 220V A 100 330V A - 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series  75V A 160 110V A 130 220V A 100 330V A - 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series  75V A 160 110V A 130 220V A 100 330V A - 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series  75V A 160 110V A 130 220V A 130 330V A - 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series  75V A 160 110V A 130 220V A 130 330V A 100 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series		•	Α	150
AC-4 (400V)		` ,	Α	110
Rated operational power AC-3 (T≤55°C)         Rated operational power AC-1 (T≤40°C)       230V kW 57 400V kW 98 500V kW 129 690V kW 173         IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series       75V A 160 110V A 100 220V A - 330V A - 460V A - 500 110V A 130 220V A 130 220V A 100 330V A - 460V A - 500 110V A 130 220V A 100 330V A - 460V A - 500 110V A 130 220V A 100 330V A - 460V A - 500 110V A 130 220V A 100 330V A - 600V A - 500 110V A 130 220V A 100 330V A - 600V A - 500 110V A 130 220V A 130 220V A 130 330V A 100 330V		AC-3 (≤440V ≤55°C)	Α	110
Rated operational power AC-1 (T≤40°C)   230V kW 57   400V kW 98   500V kW 129   690V kW 173   129   690		AC-4 (400V)	Α	47
Rated operational power AC-1 (T≤40°C)  230V kW 57 400V kW 98 500V kW 129 690V kW 173  IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series  75V A 160 110V A 100 220V A - 330V A - 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series  75V A 160 110V A 130 220V A 100 330V A - 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series  75V A 160 110V A 130 220V A - 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series  75V A 160 110V A 130 220V A 100 330V A - 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series  75V A 160 110V A 130 220V A 130 330V A 100 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series  75V A 160 110V A 130 330V A 100 460V A -	Rated operational power AC-3 (T≤55°C)			
		400V	kW	61
A00V   kW   98   500V   kW   129   690V   kW   173	Rated operational power AC-1 (T≤40°C)			
S00V   kW   129   690V   kW   173   173   180   173   180		230V	kW	57
EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series   75V		400V	kW	98
IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series  75V A 160 110V A 100 220V A - 330V A - 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series  75V A 160 110V A 130 220V A 100 330V A - 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series  75V A 160 110V A 130 220V A 130 330V A - 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series  75V A 160 110V A 130 330V A 100 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series  75V A 160 110V A 130 330V A - 330V A 100 460V A -		500V	kW	129
T5V		690V	kW	173
110V	IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			
			Α	160
BEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series   T5V   A   160   110V   A   130   220V   A   100   330V   A   −   460V   A   −   460V   A   −   100   330V   A   −   100   460V   A   −   110V   A   130   220V   A   130   330V   A   100   460V   A   −       EC max current le in DC1 with L/R ≤ 1ms with 4 poles in series   T5V   A   160   110V   A   130   110V   A   130V   A			Α	100
EC max current le in DC1 with L/R ≤ 1ms with 2 poles in series   75V			Α	_
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			Α	_
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		460V	Α	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
			Α	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				
IEC max current le in DC1 with L/R $\leq$ 1ms with 3 poles in series   75V   A   160   110V   A   130   220V   A   130   330V   A   100   460V   A   -			Α	100
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series  75V A 160 110V A 130 220V A 130 330V A 100 460V A -  IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series  75V A 160 110V A 130				_
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		460V	Α	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			
330V   A   100   460V   A   −				
EC max current le in DC1 with L/R $\leq$ 1ms with 4 poles in series   75V   A   160   110V   A   130				
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series  75V A 160 110V A 130				100
75V A 160 110V A 130		460V	Α	<del>-</del>
110V A 130	IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series		_	
220V A 130				
		220V	Α	130

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	330V	Α	130
	460V	Α	100
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
·	75V	Α	140
	110V	Α	70
	220V	Α	_
	330V	Α	_
	460V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
μ	75V	Α	140
	110V	Α	100
	220V	Α	80
	330V	Α	_
	460V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	400 V		
TEC max current le in DC3-DC3 with E/N 3 13ms with 3 poles in series	75V	Α	140
	110V	A	120
	220V	A	100
	330V	A	80
150 DOS DOS 111 L/D 4.45 111 4 1 1 1 1	460V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series		_	
	75V	Α	140
	110V	Α	120
	220V	Α	120
	330V	Α	120
	460V	A	80
Short-time allowable current for 10s (IEC/EN60947-1)		Α	1100
Protection fuse			
	gG (IEC)	Α	200
	aM (IEC)	Α	125
Making capacity (RMS value)		Α	1300
Breaking capacity at voltage			
	440V	Α	1300
	500V	Α	1100
	690V	Α	880
Resistance per pole (average value)		mΩ	0.3
Power dissipation per pole (average value)			
,	Ith	W	7.7
	AC-3	W	4
Tightening torque for terminals	7.00		•
Tighterming terique for terminate	min	Nm	10
	max	Nm	10
	min	Ibin	7.4
	max	Ibin	7.4
Max number of wires simultaneously connectable	Пах	Nr.	2
Conductor section		INI.	
AWG/Kcmil			2/0
De contracte de contracte de la CONTRACTE DE	max		2/0
Power terminal protection according to IEC/EN 60529			IP00
Mechanical features			
Operating position			
	normal		Vertical plan
	allowable		±30°

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**ENERGY AND AUTOMATION** 

Fixing Screw Weight 6 g

# Conductor section

Conductor section	ANAC /kamail and durator an ation			
	AWG/kcmil conductor section	max		2/0
Operations		THE A		2, 0
Mechanical life			cycles	10000000
Electrical life			cycles	1100000
Safety related data				
Performance level B1	0d according to EN/ISO 13489-1			
		rated load	cycles	1100000
		mechanical load	cycles	10000000
	ng to IEC/EN 609474-4-1			yes
MC compatibility				yes
AC coil operating	20/00/1			
Rated AC voltage at 5	0/60Hz, 60Hz			000
		min	V	220
C aparating valtage		max	V	240
AC operating voltage	of 50/60Hz coil powered at 50Hz			
	of 50/60Hz coil powered at 50Hz pick-up			
	ριοκ-αρ	min	%Us	80
		max	%Us	110
	drop-out	max	7000	
		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		0/11-	00
		min	%Us	80
	drop out	max	%Us	110
	drop-out	min	%Us	20
		max	%Us	60
AC average coil cons	umption at 20°C	max	,,,,,	
.5 a.5.ago 5011 001130	of 50/60Hz coil powered at 50Hz			
	2. 22, 222 22 pa	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				
OC rated control volta	ge			
		min	V	220
		max	V	240

DC operating voltage

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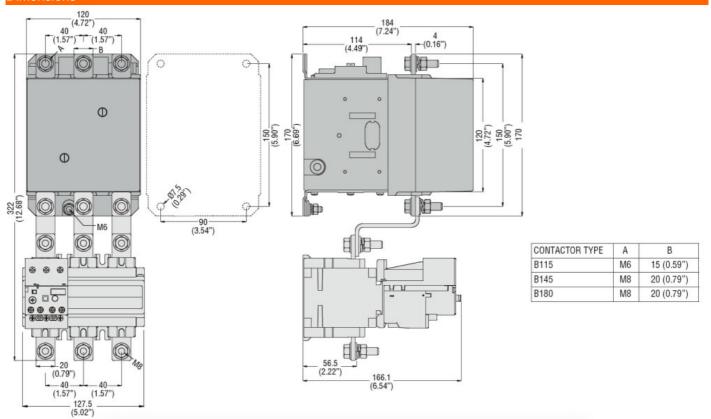
	pick-up				
	pick up		min	%Us	80
			max	%Us	110
	drop-out				
	·		min	%Us	20
			max	%Us	60
Average coil consumpt	ion ≤20°C				
			in-rush	W	300
			holding	W	10
Max cycles frequency					0.100
Mechanical operation				cycles/h	2400
Operating times	ntrol				
Average time for Us co	in AC				
	III AO	Closing NO			
		Closing NO	min	ms	60
			max	ms	100
		Opening NO			
		. •	min	ms	25
			max	ms	60
	in DC				
		Closing NO			
			min	ms	60
			max	ms	100
		Opening NO			
			min	ms	25
III. ta alanda al alata			max	ms	60
UL technical data Full-load current (FLA)	for three phase AC ma	otor			
ruii-ioad current (FLA)	ioi tillee-phase AC ilit	סוטו	at 480V	Α	96
			at 600V	A	99
Yielded mechanical per	rformance		ut 000 v	,,	
riolada modriamdar por	for three-phase AC m	notor			
	ioi ando pridocitio ii	.0.0.	200/208V	HP	30
			220/230V	HP	40
			575/600V	HP	100
General USE					
	Contactor				
			AC current	Α	160
Short-circuit protection					
	Standard fault				_
			Short circuit current	kA	5
			Fuse rating	Α	500
A malaismat as malitisms			Fuse class		RK5
Ambient conditions Temperature					
remperature	Operating temperatur	·0			
	Operating temperatur	<del>C</del>	min	°C	-50
			max	°C	70
	Storage temperature		παλ		. •
	C.Grago tomporaturo		min	°C	-60
			max	°C	80
Max altitude				m	3000
Resistance & Protectio	n				

**ENERGY AND AUTOMATION** 

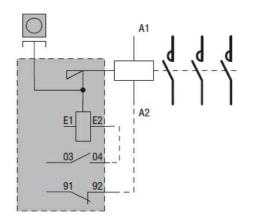
THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 110A, AC/DC COIL, electric already fitted with Mechanical Latch (G495), 220...240VAC/DC, Mechanical Latch 380...415VAC

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** 

# TIM classification

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ETIM 8.0

EC000066 -Power contactor, AC switching