

Control and protection components

Catalogue

2010/2011



Applications

All types of control system



Rated operational current I_e max AC-3 ($U_e \leq 440$ V)
 I_e AC-1 ($\theta \leq 60$ °C)

9 A	12 A	18 A	25 A	32 A	38 A
20/25 A		25/32 A	25/40 A	50 A	

Rated operational voltage

690 V on ~ and ---

Number of poles

3 or 4	3 or 4	3 or 4	3 or 4	3
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Rated operational power in AC-3

220/240 V
380/400 V
415/440 V
500 V
660/690 V
1000 V

2.2 kW	3 kW	4 kW	5.5 kW	7.5 kW	9 kW
4 kW	5.5 kW	7.5 kW	11 kW	15 kW	18.5 kW
4 kW	5.5 kW	9 kW	11 kW	15 kW	18.5 kW
5.5 kW	7.5 kW	10 kW	15 kW	18.5 kW	18.5 kW
5.5 kW	7.5 kW	10 kW	15 kW	18.5 kW	18.5 kW
—	—	—	—	—	—

Auxiliary contacts

1 N/C and 1 N/O instantaneous incorporated in the contactors, with add-on blocks common to the whole range comprising up to 4 N/C or N/O instantaneous, up to 1 N/O + 1 N/C time delay and up to 2 N/O or 2 N/C protected contacts and 2 screen continuity terminals.

Thermal overload relays manual-auto compatible

Class 10 A
 Class 20

0.10...10 A	0.10...13 A	0.10...18 A	0.10...32 A	0.10...38 A	0.10...38 A
2.5...10 A	2.5...13 A	2.5...18 A	2.5...32 A		

Suppressor modules
 (--- and low consumption contactors are fitted with a built-in bidirectional peak limiting diode suppressor as standard)

Varistor
 Diode
 RC circuit
 Bidirectional peak limiting diode

•	•	•	•	•	•
—	—	—	—	—	—
•	•	•	•	•	•
•	•	•	•	•	•

Interfaces

Relay output
 Relay interface with manual override switch
 Solid state

•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•

Contactor type references

~ or --- 3 pole
~ 4 pole
--- 4 pole

LC1 D09	LC1 D12	LC1 D18	LC1 D25	LC1 D32	LC1 D38
LC1 DT20/	LC1 DT25/	LC1 DT32/	LC1 DT40/	—	—
LC1 D098	LC1 D128	LC1 D188	LC1 D258	—	—

Reversing contactor type references

~ 3 pole
--- 3 pole
~ 4 pole
--- 4 pole

LC2 D09	LC2 D12	LC2 D18	LC2 D25	LC2 D32	LC2 D38
LC2 D09	LC2 D12	LC2 D18	LC2 D25	LC2 D32	LC2 D38
LC2 DT20	LC2 DT25	LC2 DT32	LC2 DT40	—	—
LC2 DT20	LC2 DT25	LC2 DT32	LC2 DT40	—	—

Pages

Contactors
 Reversing contactors

5/62 to 5/67
 5/72 to 5/75



40 A	50 A	65 A	80 A	95 A	115 A	150 A
60 A	80 A		125 A		200 A	

690 V ~ or ---	1000 V on ~ supply, 690 V on --- supply
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3	4	3	3	4	3	4	3	3	4	3
11 kW	15 kW	18.5 kW	22 kW	25 kW	30 kW	40 kW	11 kW	15 kW	18.5 kW	22 kW
18.5 kW	22 kW	30 kW	37 kW	45 kW	55 kW	75 kW	18.5 kW	22 kW	30 kW	37 kW
22 kW	25/30 kW	37 kW	45 kW	45 kW	59 kW	80 kW	22 kW	25/30 kW	37 kW	45 kW
22 kW	30 kW	37 kW	55 kW	55 kW	75 kW	90 kW	22 kW	30 kW	37 kW	45 kW
30 kW	33 kW	37 kW	45 kW	45 kW	80 kW	100 kW	30 kW	33 kW	37 kW	45 kW
—	—	—	45 kW	45 kW	75 kW	90 kW	—	—	—	—

1 N/C and 1 N/O instantaneous incorporated in the contactors, with add-on blocks common to the whole range comprising up to 4 N/C or N/O instantaneous, up to 1 N/O + 1 N/C time delay and up to 2 N/O or 2 N/C protected contacts and 2 screen continuity terminals.

13...40 A	13...50 A	13...65 A	17...104 A	17...104 A	60...150 A	60...150 A
13...40 A	13...50 A	13...65 A	17...80 A		60...150 A	60...150 A

•	•	•	•	•	•	•
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•	•	•	•	•	•	•

LC1 D40A	LC1 D50A	LC1 D65A	LC1 D80	LC1 D95	LC1 D115	LC1 D150
LC1 DT60A	—	LC1 DT80A	LC1 D80	—	LC1 D115	—
LC1 DT60A	—	LC1 DT80A	LC1 D80	—	LC1 D115	—

LC2 D40A	LC2 D50A	LC2 D65A	LC2 D80	LC2 D95	LC2 D115	LC2 D150
LC2 D40A	LC2 D50A	LC2 D65A	—	—	—	—
—	—	—	LC2 D80	—	LC2 D115	—
—	—	—	—	—	—	—

5/62 to 5/67
5/72 to 5/75

TeSys contactors

TeSys D contactors for motor control
up to 75 kW at 400 V, in category AC-3
For connection by screw clamp terminals and lugs



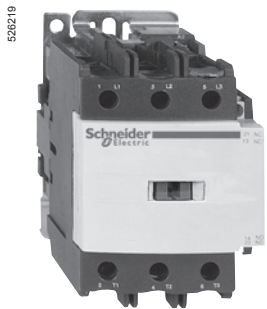
LC1 D09●●



LC1 D25●●



LC1 D65A●●



LC1 D95●●



LC1 D115●●

3-pole contactors

Standard power ratings of 3-phase motors
50-60 Hz in category AC-3
($\theta \leq 60^\circ\text{C}$)

Rated oper-
ational
current
in AC-3
440 V
up to

Instan-
taneous
auxiliary
contacts

Basic reference,
to be completed by adding
the control voltage code (2)

Weight
(3)

220 V 380 V 415 V 440 V 500 V 660 V 1000 V
230 V 400 V 690 V

Fixing (1)

kW kW kW kW kW kW A kg

Connection by screw clamp terminals

2.2	4	4	4	5.5	5.5	—	9	1	1	LC1 D09●●	0.320
3	5.5	5.5	5.5	7.5	7.5	—	12	1	1	LC1 D12●●	0.325
4	7.5	9	9	10	10	—	18	1	1	LC1 D18●●	0.330
5.5	11	11	11	15	15	—	25	1	1	LC1 D25●●	0.370
7.5	15	15	15	18.5	18.5	—	32	1	1	LC1 D32●●	0.375
9	18.5	18.5	18.5	18.5	18.5	—	38	1	1	LC1 D38●●	0.380

Power connections by EverLink® BTR screw connectors (4) and control by spring terminals

11	18.5	22	22	22	30	—	40	1	1	LC1 D40A●● (5)	0.850
15	22	25	30	30	33	—	50	1	1	LC1 D50A●● (5)	0.855
18.5	30	37	37	37	37	—	65	1	1	LC1 D65A●● (5)	0.860

Connection by screw clamp terminals or connectors

22	37	45	45	55	45	45	80	1	1	LC1 D80●●	1.590
25	45	45	45	55	45	45	95	1	1	LC1 D95●●	1.610
30	55	59	59	75	80	65	115	1	1	LC1 D115●●	2.500
40	75	80	80	90	100	75	150	1	1	LC1 D150●●	2.500

Connection by lugs or bars

In the references selected above, insert a figure 6 before the voltage code.

Example: LC1 D09●● becomes LC1 D096●●.

Separate components

Auxiliary contact blocks and add-on modules: see pages 5/78 to 5/85

- (1) LC1 D09 to D65A: clip-on mounting on 35 mm rail AM1 DP or screw fixing.
LC1 D80 to D95: clip-on mounting on 35 mm rail AM1 DP or 75 mm rail AM1 DL or screw fixing.
LC1 D80 to D95: clip-on mounting on 75 mm rail AM1 DL or screw fixing.
LC1 D115 and D150: clip-on mounting on 2 x 35 mm rails AM1 DP or screw fixing.

- (2) Standard control circuit voltages (for other voltages, please consult your Regional Sales Office):

a.c. supply

Volts	24	42	48	110	115	220	230	240	380	400	415	440	500
LC1 D09...D150 (D115 and D150 coils with built-in suppression as standard, by bi-directional peak limiting diode).													
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	S7
LC1 D80...D115													
50 Hz	B5	D5	E5	F5	FE5	M5	P5	U5	Q5	V5	N5	R5	S5
60 Hz	B6	—	E6	F6	—	M6	—	U6	Q6	—	—	R6	—

d.c. supply

Volts	12	24	36	48	60	72	110	125	220	250	440
LC1 D09...D65A (coils with integral suppression device fitted as standard)											
U 0.75...1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD
LC1 D80...D95											
U 0.85...1.1 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD
U 0.75...1.2 Uc	JW	BW	CW	EW	—	SW	FW	—	MW	—	—
LC1 D115 and D150 (coils with integral suppression device fitted as standard)											
U 0.75...1.2 Uc	—	BD	—	ED	ND	SD	FD	GD	MD	UD	RD

Low consumption

Volts	5	12	20	24	48	110	220	250
LC1 D09...D38 (coils with integral suppression device fitted as standard)								
U 0.8...1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL

For other voltages between 5 and 690 V, see pages 5/86 to 5/91.

- (3) The weights indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.160 kg from LC1 D09 to D38, 0.075 kg from LC1 D40A to D65A and 1 kg for LC1 D80 and D95.

- (4) BTR screws: hexagon socket head. In accordance with local electrical wiring regulations, a size 4 insulated Allen key must be used (reference LAD ALLEN4, see page 5/85).

- (5) For low consumption kit LA4 DBL (see page 5/83).

528168



LC1 D09●●

528169



LC1 D25●●

528170



LC1 D65A●●

528171



LC1 D95●●

Contactors

Standard power ratings of motors 50/60 Hz						Size	Associated cable type 75 °C-Cu	Continuous current	Type of contactor required Basic reference, to be completed ⁽¹⁾ Fixing, connection ⁽²⁾
Single-phase 1 Ø		3-phase 3 Ø							
115 V	230 V 240 V	200 V 208 V	230 V 240 V	460 V 480 V	575 V 600 V				
HP	HP	HP	HP	HP	HP			A	
Connection by screw clamp terminals									

Connection by screw clamp terminals

0.5	1	2	2	5	7.5	00	AWG10	20	LC1 D09●●
1	2	3	3	7.5	10	0	AWG10	25	LC1 D12●●
1	3	5	5	10	15	0	AWG8	32	LC1 D18●●
2	3	5	7.5	15	20	1	AWG6	40	LC1 D25●●
2	5	7.5	10	20	30	1	AWG6	50	LC1 D32●●

Power connections by EverLink® BTR screw connectors (4) and control by spring terminals

3	5	10	10	30	30	2	AWG3	60	LC1 D40A●●
3	7.5	15	15	40	40	2	AWG3	70	LC1 D50A●●
5	10	20	20	40	50	2	AWG3	80	LC1 D65A●●

Connection by screw clamp terminals or connectors

7.5	15	20	25	60	60	2	AWG2	110	LC1 D80●●
7.5	15	20	25	60	60	2	AWG2	110	LC1 D95●●
–	–	30	40	75	100	3	AWG2/0	175	LC1 D115●●
–	–	40	50	100	125	4	AWG3/0	200	LC1 D150●●

Applications with High-Fault Short-Circuit ratings

For contactors **LC1 D40A** to **LC1 D65A**, the High-Fault Short-Circuit ratings are 50 kA at 480 V and 25 kA at 600 V. If these contactors are used, stick the **LAD UL1** warning sticker on the enclosure door..

Description	Language	Sold in lots of	Reference
Warning sticker	English, Spanish, French	10	LAD UL1

Application example

For a 15 HP-230 V motor

Select a contactor type **LC1 D50A**.

Information: the contactor rating selected corresponds to "size 2", the associated cable is type AWG3 75 °C-Cu.

(1) Standard control circuit voltages (for other voltages, please consult your Regional Sales Office):

a.c. supply

Volts	24	42	48	110	115	220	230	240	380	400	415	440	500
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LC1 D09...D150 (D115 and D150 coils with integral suppression device fitted as standard)

50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	S7
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LC1 D80...D115

50 Hz	B5	D5	E5	F5	FE5	M5	P5	U5	Q5	V5	N5	R5	S5
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60 Hz	B6	–	E6	F6	–	M6	–	U6	Q6	–	–	R6	–
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d.c. supply

Volts	12	24	36	48	60	72	110	125	220	250	440
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LC1 D09...D65A (coils with integral suppression device fitted as standard)

U 0.7...1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD
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LC1 D80 and D95

U 0.85...1.1 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD
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U 0.75...1.2 Uc	JW	BW	CW	EW	–	SW	FW	–	MW	–	–
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LC1 D115 and D150 (coils with integral suppression device fitted as standard)

U 0.75...1.2 Uc	–	BD	–	ED	ND	SD	FD	GD	MD	UD	RD
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Low consumption

Volts ---	5	12	20	24	48	110	220	250
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LC1 D09...D38 (coils with integral suppression device fitted as standard)

U 0.7...1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL
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(2) **LC1 D09** to **D65A**: clip-on mounting on 35 mm L rail **AM1 DP** or screw fixing.

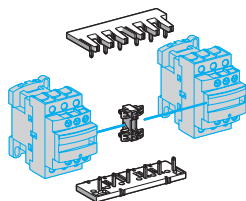
LC1 D80 and **LC1 D95**: clip-on mounting on 35 mm L rail **AM1 DP** or 75 mm L rail **AM1 DL** or screw fixing.

LC1 D115 and **D150**: clip-on mounting on 2 x 35 mm L rails **AM1 DP** or screw fixing.

TeSys contactors

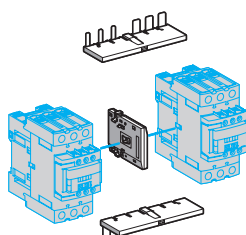
Component parts for assembling
reversing contactors for motor control,
low-speed/high-speed starters and star-delta starters

537729



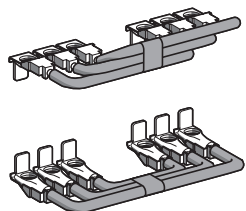
LAD 9R1

537730



LAD 9R3

537731



LA9 D8069

For 3-pole reversing contactors for motor control

Contactors with screw clamp terminals or connectors. Horizontally mounted, assembled by customer

Description	For contactors (1) (2 identical contactors)	Reference	Weight kg
Kits for assembly of reversing contactors			
Kit comprising: ■ a mechanical interlock LAD 9V2 with electrical interlocking LAD 9V1 . ■ a set of power connections LAD 9V5 (parallel) and LAD 9V6 (reversing)	LC1 D09 to D38	LAD 9R1V	0.045
Kit comprising: ■ a mechanical interlock LAD 9V2 without electrical interlocking ■ a set of power connections LAD 9V5 (parallel) and LAD 9V6 (reversing)	LC1 D09 to D38	LAD 9R1	0.045
Kit comprising: ■ a mechanical interlock LAD 4CM , ■ a set of power connections LA9 D65A69 .	LC1 D40A to D65A	LAD 9R3	0.170
Mechanical interlocks			
Mechanical interlock with integral electrical interlocking	LC1 D80 and D95 (∼)	LA9 D4002	0.170
	LC1 D80 and D95 (---)	LA9 D8002	0.170
	LC1 D115 and D150	LA9 D11502	0.290
Mechanical interlock without integral electrical interlocking	LC1 D09 to D38	LAD 9V2	0.040
	LC1 D40A to D65A	LAD 4CM	0.040
	LC1 D80 and D95 (∼)	LA9 D50978	0.170
	LC1 D80 and D95 (---)	LA9 D80978	0.170
Sets of power connections			
Comprising: ■ a set of parallel bars, ■ a set of reverser bars.	LC1 D09 to D38 with screw clamp terminals or connectors	LAD 9V5 + LAD 9V6	—
	LC1 D09...D32 with spring terminal connections	LAD 9V12 + LAD 9V13 (2)	—
	LC1 D40A to D65A	LA9 D65A69	0.130
	LC1 D80 and D95 (∼)	LA9 D8069	0.490
	LC1 D80 and D95 (---)	LA9 D8069	0.490
	LC1 D115 and D150	LA9 D11569	1.450

For low-speed/high-speed starter

Description	For contactors with connection type	Reference	Weight kg
Connection kit enabling reversing of low and high speed directions using a reversing contactor and a 2N/O + 2N/C main pole contactor	Screw clamps or connectors	LAD 9PVG	0.016
	Power connection module with spring terminal connections	LAD 3PVG	0.034
	Outgoing terminal block with spring terminal connections	LAD 3PVG10	0.034

For star-delta starter

Description	For contactors	Reference	Weight kg
Mounting kit comprising: ■ 1 time delay contact block LAD S2 (LC1 D09...D80), ■ power circuit connections (LC1 D09...D80), ■ hardware required for fixing the contactors onto the mounting plate (LC1 D80).	LC1 D09 and D12	LAD 91217	0.180
	LC1 D18 to D32	LAD 93217	0.310
	LC1 D40A and D50A	LAD 9SD3	0.380
	LC1 D80	LA9 D8017	0.680
Equipment mounting plates	LC1 D09, D12 and D18	LA9 D12974	0.150
	LC1 D32	LA9 D32974	0.180
	LC1 D40A and D50A	—	—
	LC1 D80	LA9 D80973	0.300

(1) To order the 2 contactors: see pages 5/65 and 5/72.

(2) To assemble a reversing contactor with spring terminal connections, the following components must be ordered:

- 1 mechanical interlock **LAD 9V2**,

- 1 upstream power connection kit and 1 downstream power connection kit.

Upstream power connection kit **LAD 9V10**: installed in the Quickfit system with power connection module **LAD 34**.

(If module **LAD 34** is not used, replace **LAD 9V10** with **LAD 9V12**).

Downstream power connection kit **LAD 9V11**: installed in the Quickfit system with outgoing terminal block **LAD 331**.

(If **LAD 331** is not used, replace **LAD 9V11** with **LAD 9V13**).

TeSys contactors


TeSys D contactors and reversing contactors

Instantaneous auxiliary contact blocks

Instantaneous auxiliary contact blocks for connection by screw clamp terminals

For use in normal operating environments

In order to mount an LAD 8N on an LC1 D80 to D95, a set of shims must be ordered separately, see page 5/85

Clip-on mounting (1)	Number of contacts per block	Composition	Reference	Weight kg
Front	1	 – – – 1 –	LAD N10	0.020
		– – – – 1	LAD N01	0.020
	2	– – – 1 1	LAD N11	0.030
		– – – 2 –	LAD N20	0.030
		– – – – 2	LAD N02	0.030
	4	– – – 2 2	LAD N22	0.050
		– – – 1 3	LAD N13	0.050
		– – – 4 –	LAD N40	0.050
		– – – – 4	LAD N04	0.050
		– – – 3 1	LAD N31	0.050
		4 incl. 1 N/O & 1 N/C make before break	LAD C22	0.050
Side	2	– – – 1 1	LAD 8N11	0.030
		– – – 2 –	LAD 8N20	0.030
		– – – – 2	LAD 8N02	0.030

For terminal referencing conforming to EN 50012

Front on 3P contactors and 4P contactors 20 to 80 A	2	– – – 1 1	LAD N11G	0.030
	4	– – – 2 2	LAD N22G	0.050
Front on 4P contactors 125 to 200 A	2	– – – 1 1	LAD N11P	0.030
	4	– – – 2 2	LAD N22P	0.050

With dust and damp protected contacts, for use in particularly harsh industrial environments

Front	2	– 2 – – –	LA1 DX20	0.040
		1 1 – – –	LA1 DX11	0.040
		2 – – – –	LA1 DX02	0.040
		– 2 2 – –	LA1 DY20 (2)	0.040
	4	– 2 – 2 –	LA1 DZ40	0.050
		– 2 – 1 1	LA1 DZ31	0.060

Instantaneous auxiliary contact blocks for connection by lugs

This type of connection is not possible for blocks with 1 contact or blocks with dust and damp protected contacts. For all other instantaneous auxiliary contact blocks, add the figure 6 to the end of the references selected above.

Example: LAD N11 becomes LAD N116.

Instantaneous auxiliary contact blocks for connection by spring terminals

This type of connection is not possible for LAD 8, LAD N with 1 contact or blocks with dust and damp protected contacts. For all other contact blocks, add the figure 3 to the end of the references selected above.

Example: LAD N11 becomes LAD N113.

Instantaneous auxiliary contact blocks for connection by Faston connectors

This type of connection is not possible for LAD 8, LAD N with 1 contact or blocks with dust and damp protected contacts. For all other contact blocks, add the figure 9 to the end of the references selected above.

Example: LAD N11 becomes LAD N119.

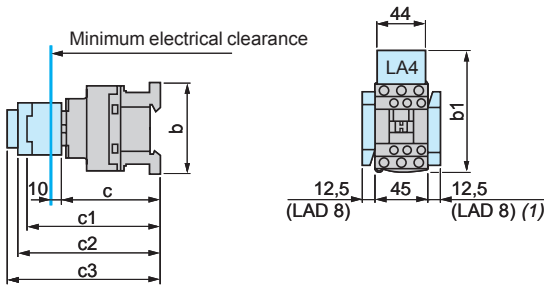
(1) Maximum number of auxiliary contacts that can be fitted:

Contactors			Instantaneous auxiliary contacts				Time delay Front mounted	
Type	Number of poles and size		Side mounted	Front mounted				
				1 contact	2 contacts	4 contacts		
~	3P	LC1 D09...D38	1 on LH side	and –	1	or 1	or 1	
		LC1 D40A...D65A	1 on LH or 1 on RH side	and –	1	or 1	or 1	
		LC1 D80 and D95 (50/60 Hz)	1 on each side	or 2	and 1	or 1	or 1	
		LC1 D80 and D95 (50 or 60 Hz)	1 on each side	and 2	and 1	or 1	or 1	
		LC1 D115 and D150	1 on LH side	and –	1	or 1	or 1	
	4P	LC1 DT20...DT40	1 on LH side	and –	1	or 1	or 1	
		LC1 DT60A and DT80A	1 on LH or 1 on RH side	and –	1	or 1	or 1	
		LC1 D40008, D65008 and D80	1 on each side	or 1	or 1	or 1	or 1	
		LC1 D115	1 on each side	and 1	or 1	or 1	or 1	
		---	3P	LC1 D09...D38	–	–	1	or 1
LC1 D40A...D65A	–			–	1	or 1	or 1	
LC1 D80 and D95	–			1	or 1	or 1	or 1	
LC1 D115 and D150	1 on LH side			and –	1	or 1	or 1	
4P	LC1 DT20...DT40			–	–	1	or 1	or 1
	LC1 DT60A and DT80A		–	–	1	or 1	or 1	
	LC1 D40008, D65008 and D80		–	2	and 1	or 1	or 1	
	LC1 D115		1 on each side	–	and 1	or 1	or 1	
	BC (3)		3P	LC1 D09...D38	–	–	1	–
4P			LC1 DT20...DT40	–	–	1	–	–

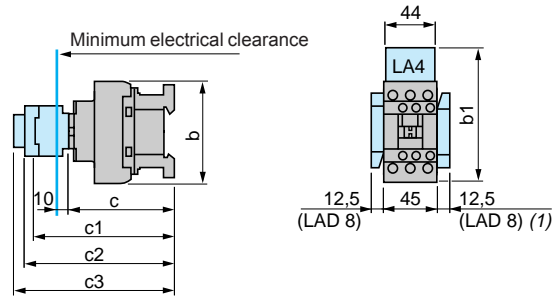
(2) Device fitted with 4 earth screen continuity terminals.

(3) LC: low consumption.

LC1 D09...D18 (3-pole)



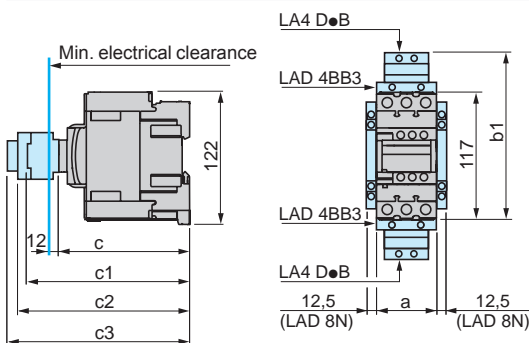
LC1 D25...D38 (3-pole), LC1 DT20...DT40 (4-pole)



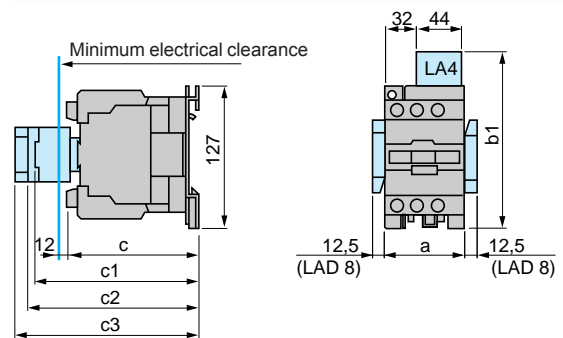
LC1	D09...D18	D093... D123	D099... D129	D25... D38	D183... D323	D098, D128, DT20 and DT25	DT203 and DT253	DT32 and DT40	D188, D258, DT323 and DT403
b without add-on blocks	77	99	80	85	99	85	99	91	105
b1 with LAD 4BB	94	107	95,5	98	107	98	—	—	—
with LA4 D●2	110 (1)	123 (1)	111,5 (1)	114 (1)	123 (1)	114	—	—	—
with LA4 DF, DT	119 (1)	132 (1)	120,5 (1)	123 (1)	132 (1)	129	—	—	—
with LA4 DW, DL	126 (1)	139 (1)	127,5 (1)	130 (1)	139 (1)	190	—	—	—
c without cover or add-on blocks	84	84	84	90	90	90	90	97	97
with cover, without add-on blocks	86	86	86	92	92	92	92	99	99
c1 with LAD N or C (2 or 4 contacts)	117	117	117	123	123	123	123	131	131
c2 with LA6 DK10, LAD 6K10	129	129	129	135	135	135	135	143	143
c3 with LAD T, R, S	137	137	137	143	143	143	143	151	151
with LAD T, R, S and sealing cover	141	141	141	147	147	147	147	155	155

(1) Including LAD 4BB.

LC1 D40A...D65A (3-pole), LC1 DT60A...DT80A (4-pole)



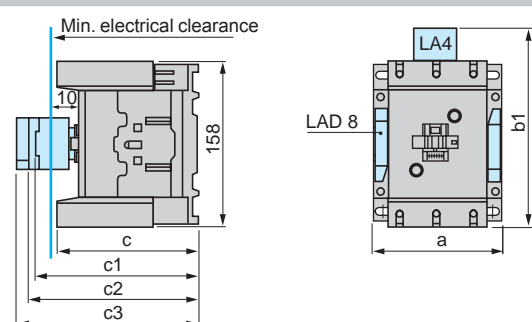
LC1 D80 and D95 (3-pole), LC1 D80004 and D80008 (4-pole), D40008 and D65008 (4-pole)



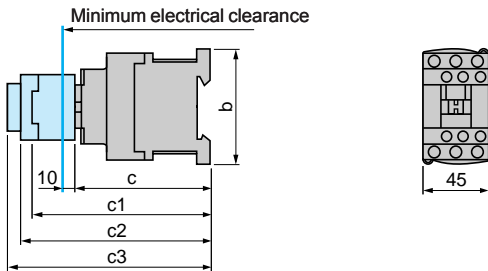
LC1	D40A...D65A	DT60A...DT80A	D40008	D80	D95, D65008	D80004	D80008
a	55	70	85	85	85	96	96
b1 with LA4 D●2	—	—	135	135	135	135	135
with LA4 DB3 or LAD 4BB3	136	—	—	135	—	—	—
with LA4 DF, DT	157	—	142	142	142	142	142
with LA4 DM, DW, DL	166	—	150	150	150	150	150
c without cover or add-on blocks	118	118	125	125	125	125	140
with cover, without add-on blocks	120	120	—	130	130	—	—
c1 with LAD N (1 contact)	—	—	139	150	150	150	150
with LAD N or C (2 or 4 contacts)	150	150	147	158	158	158	158
c2 with LAD 6K10 or LA6 DK	163	163	159	170	170	170	170
c3 with LAD T, R, S	171	171	167	178	178	178	178
with LAD T, R, S and sealing cover	175	175	171	182	182	182	182

LC1 D115 and D150 (3-pole), LC1 D115004 (4-pole)

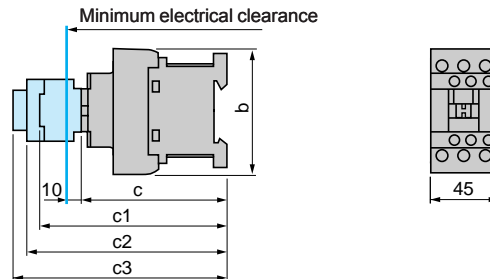
LC1	D115, D150	D115004	D1150046
a	120	150	155
b1 with LA4 DA2	174	174	174
with LA4 DF, DT	185	185	185
with LA4 DM, DL	188	188	188
with LA4 DW	188	188	188
c without cover or add-on blocks	132	132	115
with cover, without add-on blocks	136	—	—
c1 with LAD N or C (2 or 4 contacts)	150	150	150
c2 with LA6 DK20	155	155	155
c3 with LAD T, R, S	168	168	168
with LAD T, R, S and sealing cover	172	172	172



LC1 D09...D18 (3-pole)

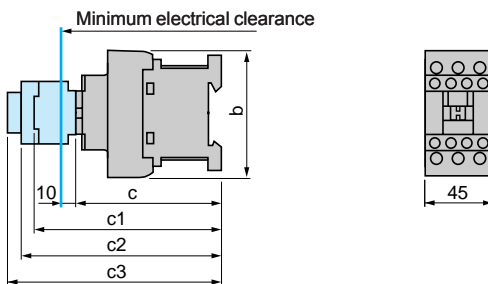


LC1 D25...D38 (3-pole)



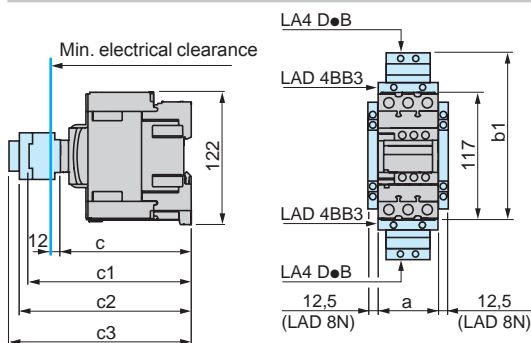
LC1	D09...D18	D093...D123	D099...D129	D25...D38	D183...D323
b	77	99	80	85	99
c without cover or add-on blocks	93	93	93	99	99
with cover, without add-on blocks	95	95	95	101	101
c1 with LAD N or C (2 or 4 contacts)	126	126	126	132	132
c2 with LA6 DK10	138	138	138	144	144
c3 with LAD T, R, S	146	146	146	152	152
with LAD T, R, S and sealing cover	150	150	150	156	156

LC1 DT20...DT40 (4-pole)

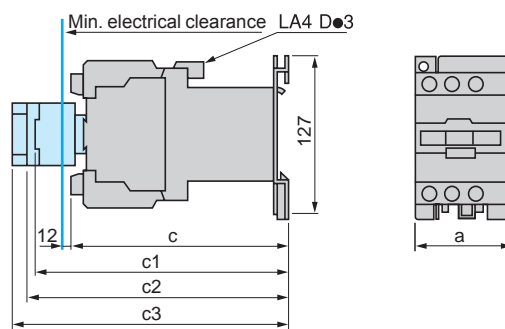


LC1	DT20 and DT25 D098 and D128	DT203 and DT253 D0983 and D1283	DT32 and DT40 D188...D258	DT323 and DT403 D1883 and D2583
b	85	99	91	105
c with cover	99	99	107	107
c1 with LAD N or C (2 or 4 contacts)	123	123	131	131
c2 with LA6 DK10	135	135	143	143
c3 with LAD T, R, S	143	143	151	151
with LAD T, R, S and sealing cover	147	147	155	155

LC1 D40A...D65A (3-pole), LC1 DT60A...DT80A (4-pole)



LC1 D80 and D95 (3-pole), LP1 D80004, LP1 D80008 (4-pole), LP1 D40008 and D65008 (4-pole)

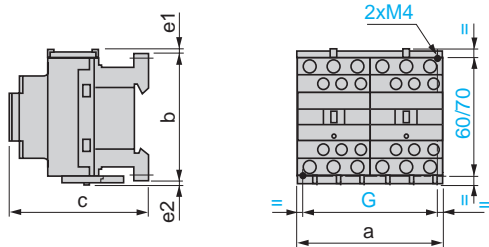


	LC1 D40A ... D65A	LC1 DT60A...DT80A	LP1 D40008 and D65008	LC1 D80 and D95	LP1 D80004	LP1 D80008
a	55	70	85	85	96	96
b1 with LAD 4BB3	136	136	—	—	—	—
with LA4 DF, DT	157	157	—	—	—	—
c without cover or add-on blocks	118	118	182	181	181	196
with cover, without add-on blocks	120	120	—	186	—	—
c1 with LAD N (1 contact)	—	—	196	204	204	204
with LAD N or C (2 or 4 contacts)	150	150	202	210	210	210
c2 with LA6 DK10	163	163	213	221	221	221
c3 with LAD T, R, S	171	171	221	229	229	229
with LAD T, R, S and sealing cover	175	175	225	233	233	233

LC1 D115... and LC1 D150... with ... coil: see page 5/92

LC2 D09 to D38

2 x LC1 D09 to D38



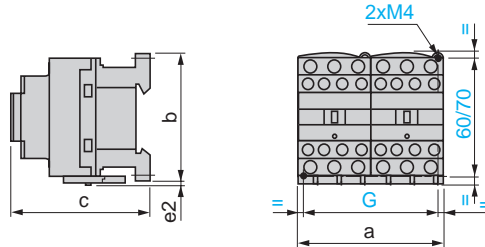
LC2 or 2 x LC1	a	b	c (1)	e1	e2	G
D09 to D18 ~	90	77	86	4	1.5	80
D093 to D123 ~	90	99	86	—	—	80
D09 to D18 ...	90	77	95	4	1.5	80
D093 to D123 ...	90	99	95	—	—	80
D25 to D38 ~	90	85	92	9	5	80
D183 to D383 ~	90	99	92	—	—	80
D25 to D32 ...	90	85	101	9	5	80
D183 to D383 ...	90	99	101	—	—	80

e1 and e2: including cabling.

(1) With safety cover, without add-on block.

LC2 DT20 to DT40

2 x LC1 DT20 to DT40

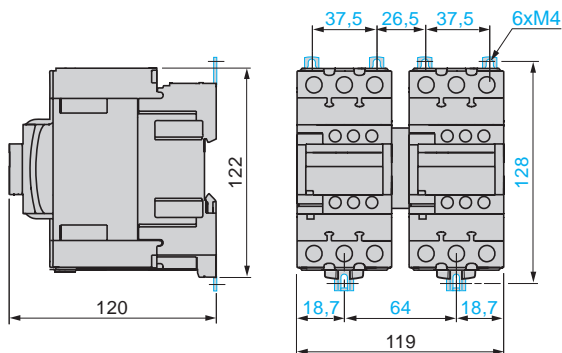


LC2 or 2 x LC1	a	b	c	G
DT20 and DT25	90	85	90	80
DT32 and DT40	90	91	98	80

c, e: including cabling.

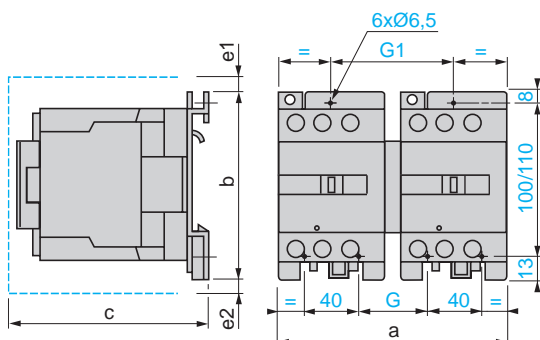
LC2 D40A to D65A

2 x LC1 D40A to D65A

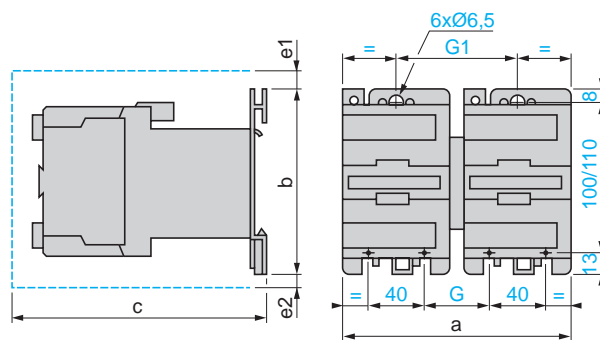


LC2 D80 and D95

2 x LC1 D80 and D95 ~



2 x LC1 D80 and D95 ~



LC2 or 2 x LC1	a	b	c	e1	e2	G	G1
D80 and D95 ~	182	127	158	13	—	57	96
D80004 ~	207	127	158	—	20	71	111

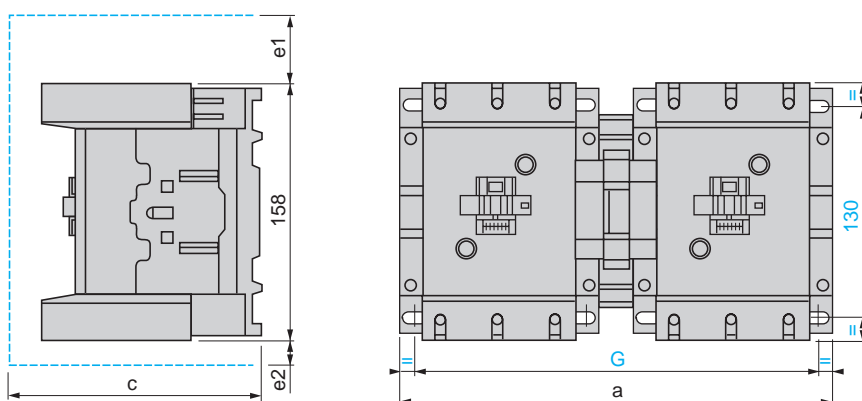
c, e1 and e2: including cabling.

2 x LC1	a	b	c	e1	e2	G	G1
D80 and D95	207	127	215	13	20	96	111

c, e1 and e2: including cabling.

LC2 D115 and D150

2 x LC1 D115 and D150

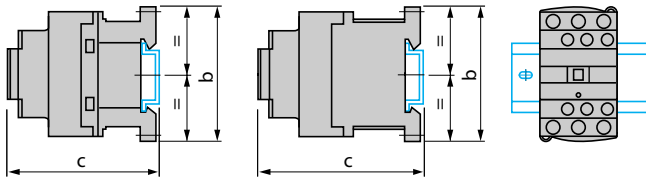


LC2 or 2 x LC1	a	c	e1	e2	G
D115 and D150	266	148	56	18	242/256
D115004	334	148	—	60	310/324

c, e1 and e2: including cabling.

LC1 D09...D38, DT20...DT40

On mounting rail AM1 DP200, DR200 or AM1 DE200 (width 35 mm)



Control circuit: a.c.

LC1	D09... D18	D25... D38	DT20 and DT25	DT32 and DT40
b	77	85	85	100
c (AM1 DP200 or DR200) (1)	88	94	94	109
c (AM1 DE200) (1)	96	102	102	117

Control circuit: d.c.

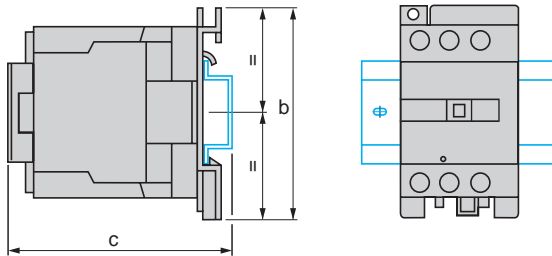
LC1	D09... D18	D25... D38	DT20 and DT25	DT32 and DT40
b	77	85	94	109
c (AM1 DP200 or DR200) (1)	97	103	103	118
c (AM1 DE200) (1)	105	110	111	1236

(1) with safety cover.

LC1 D40A...D65A, LC1 DT60A and DT80A, LC1 D80 and D95, LC1 D40008 and D65008

On mounting rail AM1 DL200 or DL201 (width 75 mm)

On mounting rail AM1 ED... or AM1 DE200 (width 35 mm)



Control circuit: a.c.

LC1	D40A...D65A DT60A...DT80A	D80 and D95	D40008 and D65008
b	122	127	127
c (AM1 DL200) (1)	—	147	143
c (AM1 DL201) (1)	—	137	133
c (AM1 ED... or DE200) (1)	128	137	133

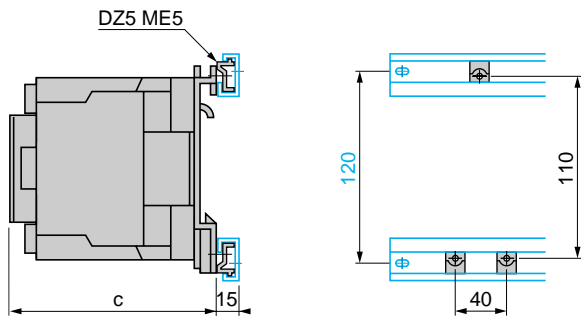
Control circuit: d.c.

LC1	D40A...D65A DT60A...DT80A	D80 and D95	D40008 and D65008
c (AM1 DL200) (1)	—	205	200
c (AM1 DL201) (1)	—	195	190
c (AM1 ED... or DE200) (1)	128	128	190

(1) with safety cover.

LC1 D80 and D95, LP1 D80

On 2 mounting rails DZ5 MB on 120 mm centres



Control circuit: a.c.

LC1	D80 and D95
c with cover	130

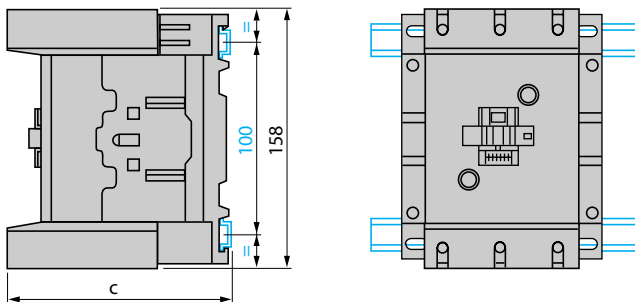
Control circuit: d.c.

LC1	D80 and D95
c with cover	186

LP1	D80
c	181

LC1 D115, D150

On 2 mounting rails DZ5 MB on 120 mm centres

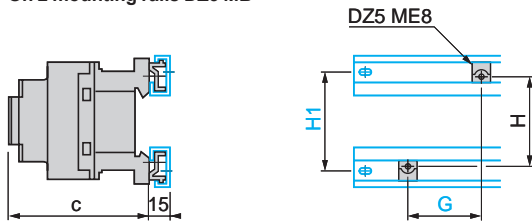


Control circuit: a.c. or d.c.

LC1	D115 and D150	D1156 and D1506
c (AM1 DP200 or DR200)	134,5	117,5
c (AM1 DE200 or ED...)	142,5	125,5

LC1 D09...D38 and LC1 DT20...DT40

On 2 mounting rails DZ5 MB



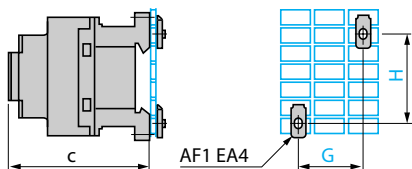
Control circuit:	a.c.		d.c.	
LC1	D09...D18	D25...D38	D09...D18	D25...D38
c with cover	86	92	95	101
G	35	35	35	35
H	60	60	70	70
H1	70	70	70	70

4-pole contactors

LC1	DT20 and DT25	DT32 and DT40	DT20 and DT25	DT32 and DT40
c	92	100	101	109
G	35	35	35	35
H	60	60	70	70
H1	70	70	70	70

LC1 D09...D38 and LC1 DT20...DT40

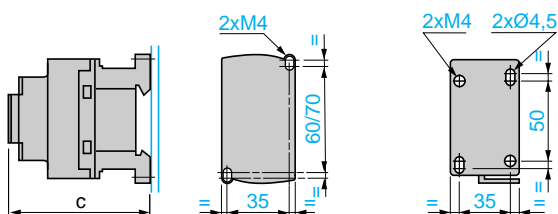
On pre-slotted mounting plate AM1 PA, PB, PC



Control circuit:	a.c.		d.c.	
LC1	D09...D18	D25...D38	D09...D18	D25...D38
c with cover	86	92	95	101
G	35	35	35	35
H	60/70	60/70	70	70
LC1	DT20 and DT25	DT32 and DT40	DT20 and DT25	DT32 and DT40
c with cover	80	93	118	132
G	35	35	35	35
H	60	60	70	70

LC1 D09...D38, LC1 DT20...DT40

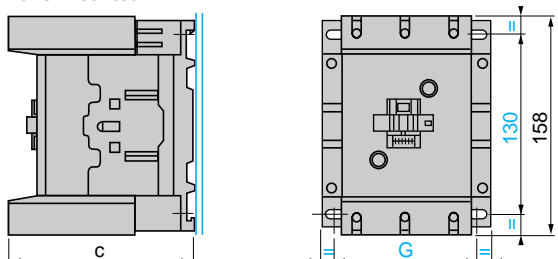
Panel mounted



Control circuit:	a.c.		d.c.	
LC1	D09...D18	D25...D38	D09...D18	D25...D38
c with cover	86	92	95	101
4-pole contactors				
LC1	DT20 and DT25	DT32 and DT40	DT20 and DT25	DT32 and DT40
c with cover	90	98	90	98

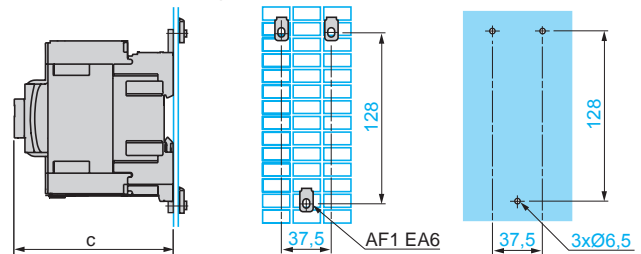
LC1 D115, D150

Panel mounted



LC1 D40A...D65A, LC1 DT60A...DT80A

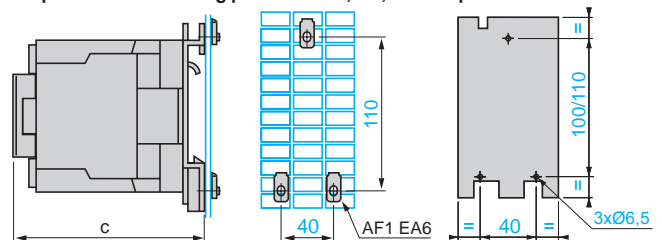
On pre-slotted mounting plate AM1 PA, PB, PC and panel mounted



Control circuit:	a.c.	d.c.
LC1	D40A...65A, DT60A...DT80A	D40A...65A, DT60A...DT80A
c with cover	120	120

LC1 D80 and D95, LC1 D40008 and D65008, LP1 D80

On pre-slotted mounting plate AM1 PA, PB, PC and panel mounted



Control circuit:	a.c.	d.c.
LC1	D80 and D95, D40008 and D65008	D80 and D95, D40008 and D65008
c with cover	130	186
LP1		D80
c without cover	—	181

LC1	D115	D1156	D150	D1506
c	132	115	132	115
G (3-pole)	96/110	96/110	96/110	96/110
G (4-pole)	130/144	130/144	—	—

Applications

Control of all types of motor for standard or severe duty applications
Control of resistive, inductive and capacitive circuits:
heating, lighting, cos ϕ rectification, transformers, normal-standby



Rated operational current	Ie max. AC-3 (Ue ≤ 440 V)
	Ie max. AC-1 (θ ≤ 40 °C)

115 A	150 A	185 A	225 A	265 A	330 A
200 A	250 A	275 A	315 A	350 A	400 A

Rated operational voltage

1000 V	1000 V	1000 V	1000 V	1000 V	1000 V
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Number of poles

3 or 4	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4
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Rated operational power in category AC-3

220/240 V

380/400 V

415 V

440 V

500 V

660/690 V

1000 V

30 kW	40 kW	55 kW	63 kW	75 kW	100 kW
55 kW	75 kW	90 kW	110 kW	132 kW	160 kW
59 kW	80 kW	100 kW	110 kW	140 kW	180 kW
59 kW	80 kW	100 kW	110 kW	140 kW	200 kW
75 kW	90 kW	110 kW	129 kW	160 kW	200 kW
80 kW	100 kW	110 kW	129 kW	160 kW	220 kW
65 kW	65 kW	100 kW	100 kW	147 kW	160 kW

Add-on auxiliary contact blocks

Front mounting, identical to those used on LC1 D contactors (contacts: instantaneous LA1 DN●●, time delay LA2 DT or LA3 DR, dust and damp protected LA1 DX or DY or DZ)

Associated thermal overload relays and controllers	Manual-auto
	Electronic

LR9 F

TeSys T

Interfaces	Specific
	Universal

LA4 FWB

With or without, depending on the control circuit

Contactor type

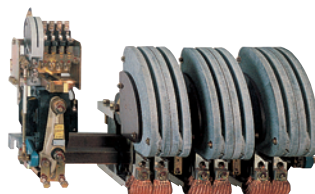
LC1 F115	LC1 F150	LC1 F185	LC1 F225	LC1 F265	LC1 F330
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Reversing contactor type

LC2 F115	LC2 F150	LC2 F185	LC2 F225	LC2 F265	For customer assembly
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Pages	Contactors
	Reversing contactors

5/114 and 5/115	5/114 and 5/115
5/116 and 5/117	5/118 to 5/121



400 A	500 A	630 A	780 A	800 A	–	–	750 A	1000 A	1500 A	1800 A
500 A	700 A	1000 A	1600 A	1000 A	1700 A	2100 A	800 A	1250 A	2000 A	2750 A
1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V
2, 3 or 4	2, 3 or 4	2, 3 or 4	3 or 4	3	3	3	1 to 4	1 to 4	1 to 4	1 to 4
110 kW	147 kW	200 kW	220 kW	250 kW	–	–	220 kW	280 kW	425 kW	500 kW
200 kW	250 kW	335 kW	400 kW	450 kW	–	–	400 kW	500 kW	750 kW	900 kW
220 kW	280 kW	375 kW	425 kW	450 kW	–	–	425 kW	530 kW	800 kW	900 kW
250 kW	295 kW	400 kW	425 kW	450 kW	–	–	450 kW	560 kW	800 kW	900 kW
257 kW	355 kW	400 kW	450 kW	450 kW	–	–	500 kW	600 kW	700 kW	900 kW
280 kW	335 kW	450 kW	475 kW	475 kW	–	–	560 kW	670 kW	750 kW	900 kW
185 kW	335 kW	450 kW	450 kW	450 kW	–	–	530 kW	530 kW	670 kW	750 kW

Front mounting, identical to those used on LC1 D contactors (contacts: instantaneous LA1 DN●●, time delay LA2 DT or LA3 DR, dust and damp protected LA1 DX or DY or DZ)

4 instantaneous contact compositions:
2 N/C + 2 N/O, 3 N/O + 1 N/C, 1 N/O + 3 N/C or 4 N/O

LR9 F	–	–	LR9 F
TeSys T	–	–	TeSys T
LA4 FWB	–	–	–
With or without, depending on the control circuit	–	–	–

LC1 F400	LC1 F500	LC1 F630	LC1 F780	LC1 F800	LC1 F1700	LC1 F2100	LC1 BL	LC1 BM	LC1 BP	LC1 BR
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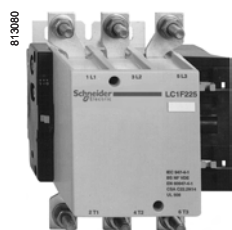
For customer assembly

5/114 and 5/115	5/184 and 5/185
5/118 to 5/117	5/186

TeSys contactors

TeSys F contactors for motor control in utilisation category AC-3 (115 to 800 A)

Control circuit: a.c. or d.c.



LC1 F225



LC1 F630

3-pole contactors

Standard power ratings
of 3-phase motors
50-60 Hz in category AC-3

Rated
opera-
tional
current
in AC-3

Basic reference,
to be completed by
adding the voltage code
(2)
Screw fixing,
cabling
(1)

Weight

220 V kW	380 V kW	415 V kW	440 V kW	500 V kW	660 V kW	690 V kW	1000 V kW	440 V up to A		kg
30	55	59	59	75	80	65		115	LC1 F115●●	3.430
40	75	80	80	90	100	65		150	LC1 F150●●	3.430
55	90	100	100	110	110	100		185	LC1 F185●●	4.650
63	110	110	110	129	129	100		225	LC1 F225●●	4.750
75	132	140	140	160	160	147		265	LC1 F265●●	7.440
100	160	180	200	200	220	160		330	LC1 F330●●	8.600
110	200	220	250	257	280	185		400	LC1 F400●●	9.100
147	250	280	295	355	335	335		500	LC1 F500●●	11.350
200	335	375	400	400	450	450		630	LC1 F630●●	18.600
220	400	425	425	450	475	450		780	LC1 F780●●	39.500
250	450	450	450	450	475	450		800	LC1 F800●●	18.750

Note: auxiliary contact blocks, modules and accessories: see pages 5/122 to 5/127.

(1) Power terminals can be protected against direct finger contact by the addition of shrouds, to be ordered separately, except on contactors LC1 F780 (see page 5/126).

(2) Standard control circuit voltages (for other voltages, please consult your Regional Sales Office).

Volts ~	24	48	110	115	120	208	220	230	240	380	400	415	440
LC1 F115...F225													
50 Hz (coil LX1)	B5	E5	F5	FE5	—	—	M5	P5	U5	Q5	V5	N5	—
60 Hz (coil LX1)	—	E6	F6	—	G6	L6	M6	—	U6	Q6	—	—	R6
40...400 Hz (coil LX9)	—	E7	F7	FE7	G7	L7	M7	P7	U7	Q7	V7	N7	R7
LC1 F265...F330													
40...400 Hz (coil LX1)	B7	E7	F7	FE7	G7	L7	M7	P7	U7	Q7	V7	N7	R7
LC1 F400...F630													
40...400 Hz (coil LX1)	—	E7	F7	FE7	G7 (3)	L7	M7	P7	U7	Q7	V7	N7	R7
LC1 F780													
40...400 Hz (coil LX1)	—	—	F7	FE7	F7	L7	M7	P7	U7	Q7	V7	N7	R7
LC1 F800													
40...400 Hz (coil LX4) (4)	—	—	FW	FW	FW	—	MW	MW	MW	QW	QW	QW	—

Volts ---	24	48	110	125	220	230	250	400	440
LC1 F115...F330									
(coil LX4 F)	BD	ED	FD	GD	MD	MD	UD	—	RD
LC1 F400...F630									
(coil LX4 F)	—	ED	FD	GD	MD	—	UD	—	RD
LC1 F780									
(coil LX4 F)	—	—	FD	GD	MD	—	UD	—	RD
LC1 F800									
(coil LX4 F)	—	—	FW	FW	MW	MW	—	QW	—

(3) F7 for LC1 F630.

(4) Coil LX4 F8●● + rectifier DR5TE●●.

TeSys contactors

TeSys F contactors for control in category AC-1,
(200 to 2100 A)

Control circuit: a.c. or d.c.



LC1 F1854



LC1 F4004



LC1 F6304



LC1 F1700



LC1 F2100

2, 3 or 4-pole contactors

Maximum current in AC-1 ($\theta \leq 40^\circ \text{C}$)	Number of poles	Basic reference, to be completed by adding the voltage code (2) Screw fixing, cabling (1)	Weight
A			kg
200	3	LC1 F115●●	3.430
	4	LC1 F1154●●	3.830
250	3	LC1 F150●●	3.430
	4	LC1 F1504●●	3.830
275	3	LC1 F185●●	4.650
	4	LC1 F1854●●	5.450
315	3	LC1 F225●●	4.750
	4	LC1 F2254●●	5.550
350	3	LC1 F265●●	7.440
	4	LC1 F2654●●	8.540
400	3	LC1 F330●●	8.600
	4	LC1 F3304●●	9.500
500	2	LC1 F4002●●	8.000
	3	LC1 F400●●	9.100
	4	LC1 F4004●●	10.200
700	2	LC1 F5002●●	9.750
	3	LC1 F500●●	11.350
	4	LC1 F5004●●	12.950
1000	2	LC1 F6302●●	15.500
	3	LC1 F630●●	18.600
	4	LC1 F6304●●	21.500
1250	2	LC1 F6302●●S011	15.500
	3	LC1 F630●●S011	18.600
	4	LC1 F6304●●S011	21.500
1600	3	LC1 F780●●	39.500
	4	LC1 F7804●●	48.000
1700	3	LC1 F1700	30.000
2100 (3)	3	LC1 F2100	31.000

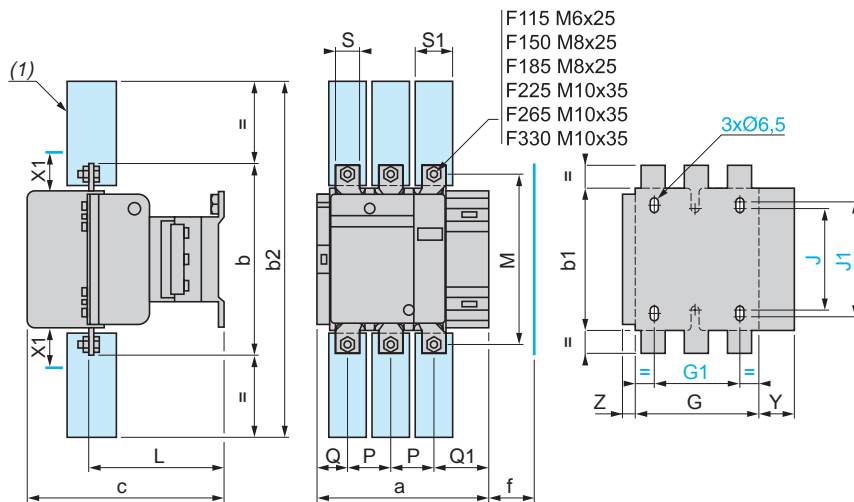
Note: auxiliary contact blocks, modules and accessories: see pages 5/122 to 5/127

(1) Power terminals can be protected against direct finger contact by the addition of shrouds, to be ordered separately (except LC1 F780, LC1 F1700 and LC1 F2100), see page 5/126.

(2) Standard control circuit voltages, see previous page.

(3) With set of right-angled connectors LA9 F2100 (see page 5/125).

LC1 F115 to F330



X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

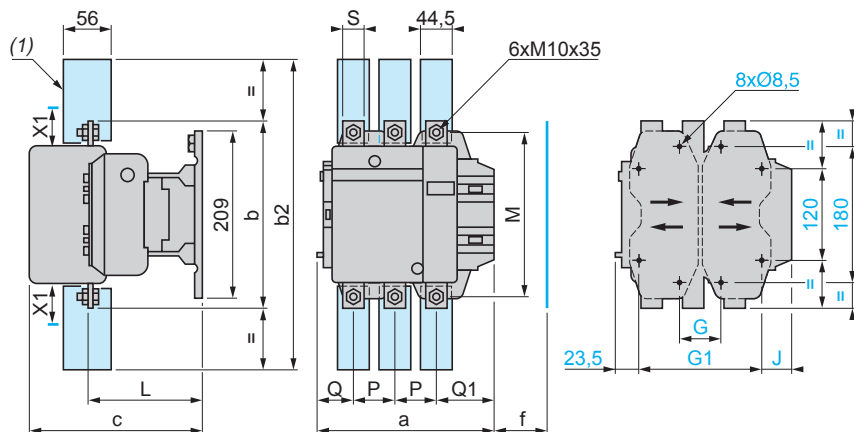
LC1	200...500 V	600...1000 V
F115, F150	10	15
F185	10	15
F225, F265	10	15
F330	10	15

(1) Power terminal protection shroud (see page 5/126).

LC1		a	b	b1	b2	c	f	G	G1	J	J1	L	M	P	Q	Q1	S	S1	Y	Z
F115	3P	163.5	162	137	265	171	131	106	80	106	120	107	147	37	29.5	60	20	26	44	13.5
	4P	200.5	162	137	265	171	131	143	80	106	120	107	147	37	29.5	60	20	26	44	13.5
F150	3P	163.5	170	137	301	171	131	106	80	106	120	107	150	40	26	57.5	20	34	44	13.5
	4P	200.5	170	137	301	171	131	143	80	106	120	107	150	40	26	55.5	20	34	44	13.5
F185	3P	168.5	174	137	305	181	130	111	80	106	120	113.5	154	40	29	59.5	20	34	44	13.5
	4P	208.5	174	137	305	181	130	151	80	106	120	113.5	154	40	29	59.5	20	34	44	13.5
F225	3P	168.5	197	137	364	181	130	111	80	106	120	113.5	172	48	21	51.5	25	44.5	44	13.5
	4P	208.5	197	137	364	181	130	151	80	106	120	113.5	172	48	17	47.5	25	44.5	44	13.5
F265	3P	201.5	203	145	375	213	147	142	96	106	120	141	178	48	39	66.5	25	44.5	38	21.5
	4P	244.5	203	145	375	213	147	190	96	106	120	141	178	48	34	66.5	25	44.5	38	21.5
F330	3P	213	206	145	375	219	147	154.5	96	106	120	145	181	48	43	74	25	44.5	38	20.5
	4P	261	206	145	375	219	147	202.5	96	106	120	145	181	48	43	74	25	44.5	38	20.5

f = minimum distance required for coil removal.

LC1 F400 and F500



X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

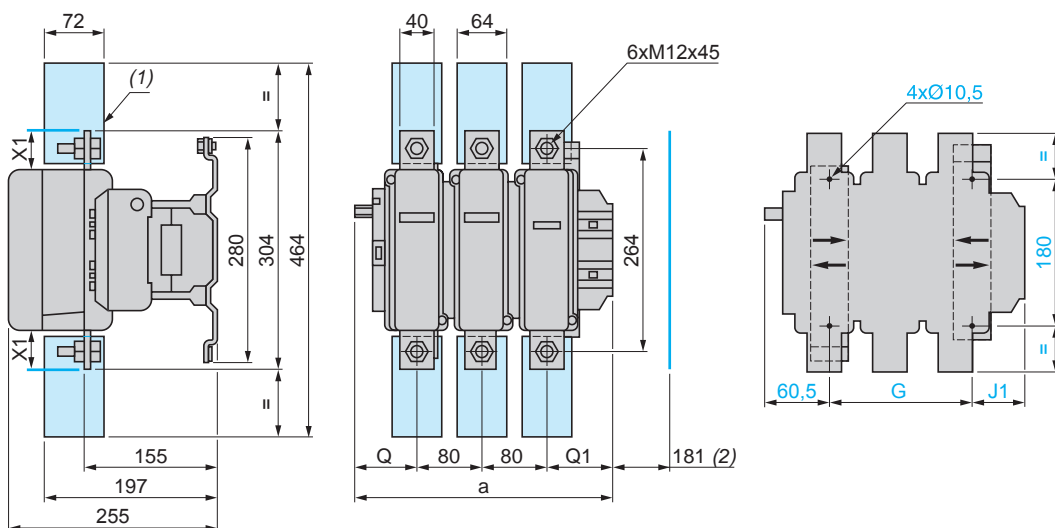
LC1	200...500 V	600...1000 V
F400	15	20
F500	15	20

(1) Power terminal protection shroud (see page 5/126).

LC1		a	b	b2	c	f	G	G	G	G1	G1	G1	J	L	M	P	Q	Q1	S
F400	2P	213	206	375	219	146	80	66	102	170	156	192	19.5	145	181	48	69	96	25
	3P	213	206	375	219	146	80	66	102	170	156	192	19.5	145	181	48	43	74	25
	4P	261	206	375	219	146	80	66	150	170	156	240	67.5	145	181	48	43	74	25
F500	2P	233	238	400	232	150	80	66	120	170	156	210	39.5	146	208	55	76	102	30
	3P	233	238	400	232	150	80	66	120	170	156	210	39.5	146	208	55	46	77	30
	4P	288	238	400	232	150	140	66	175	230	156	265	34.5	146	208	55	46	77	30

f = minimum distance required for coil removal.

LC1 F630 and F800



X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

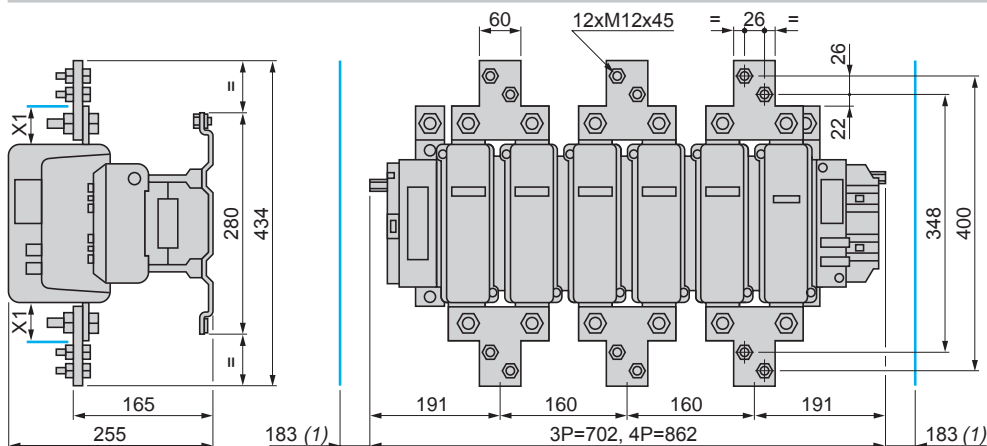
LC1		a	G supplied min.	G min.	G max.	J1	Q	Q1
F630	2P	309	180	100	195	68.5	102	127
F630, F800	3P	309	180	100	195	68.5	60	89
F630	4P	389	240	150	275	68.5	60	89

Voltage	200...500 V	690...1000 V	200...690 V	1000 V
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LC1 F630	20	30	—	—
LC1 F800	—	—	10	20

(1) Power terminal protection shroud (see page 5/126).
(2) Minimum distance required for coil removal.

LC1 F780



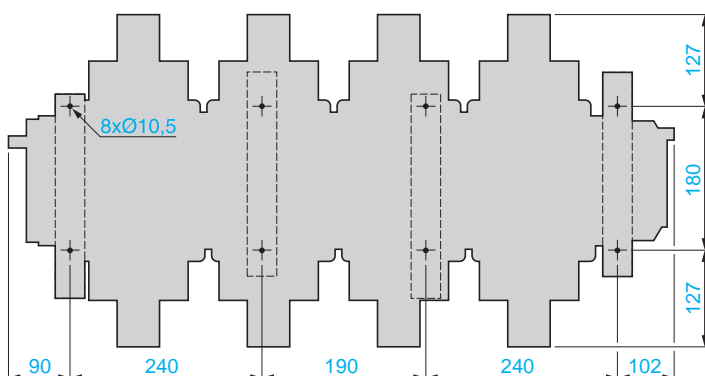
X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

Voltage	200...500 V	690...1000 V
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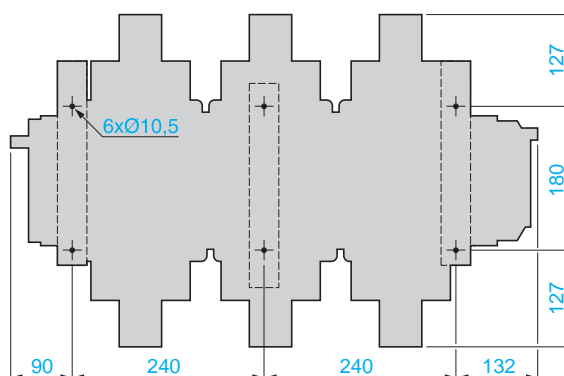
X1 (mm)	30	35
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(1) Minimum distance required for coil removal.

Fixing centres of LC1 F7804



Fixing centres of LC1 F780



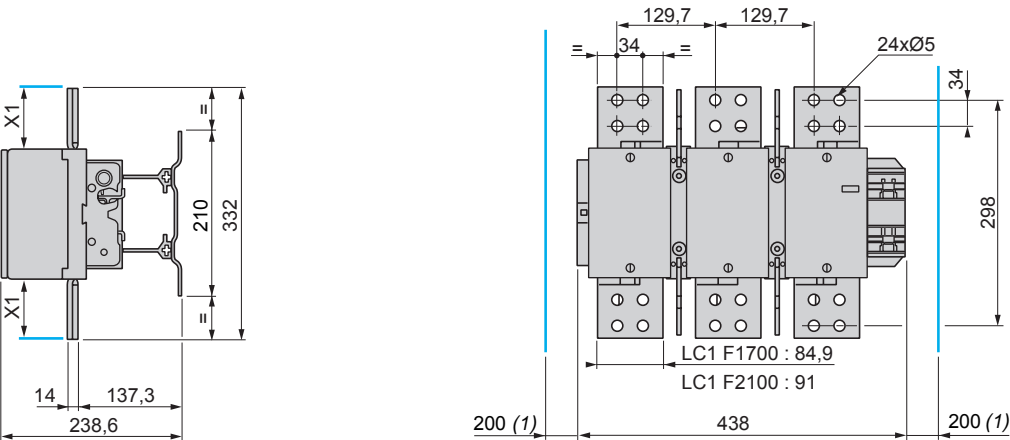
Selection :
pages 5/194 to 5/217

Characteristics :
pages 5/106 to 5/113

References :
pages 5/114 to 5/117

Schemes :
page 5/146

LC1 F1700 and LC1 F2100

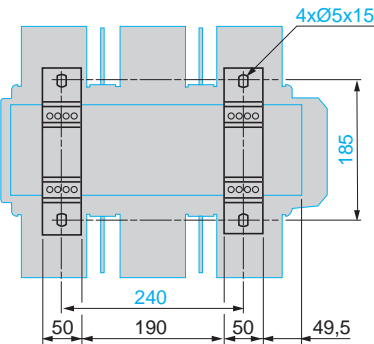


X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

Voltage	200...500 V	690...1000 V
X1 (mm)	90	100

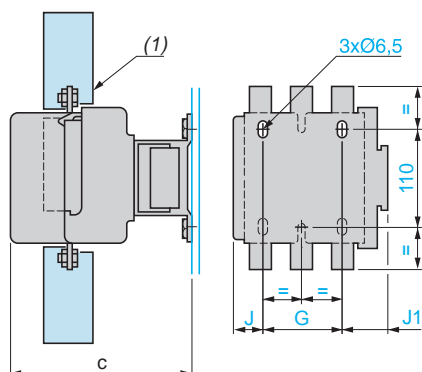
(1) Minimum distance required for coil removal.

Fixing centres of LC1 F1700 and 2100



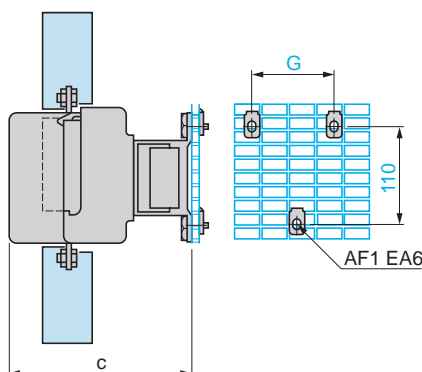
LC1 F115 to F330

On panel



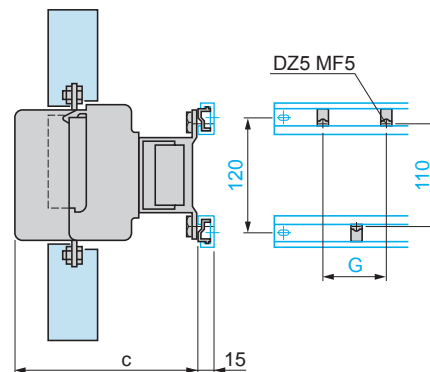
LC1		F115 F150	F185 F225	F265	F330
c (2)	3P	171	181	213	219
	4P	171	181	213	219
G	3P	80	80	96	96
	4P	80	80	96	96
J	3P	26.5	29	44.5	44.5
	4P	45	49	68.5	68.5
J1	3P	57	59.5	61.5	61.5
	4P	75.5	79.5	85.5	85.5

On pre-slotted mounting plate AM1 PA, PB, PC



LC1		F115 F150	F185 F225	F265	F330
c (2)	3P	171	181	213	219
	4P	171	181	213	219
G	3P	80	80	96	96
	4P	80	80	96	96

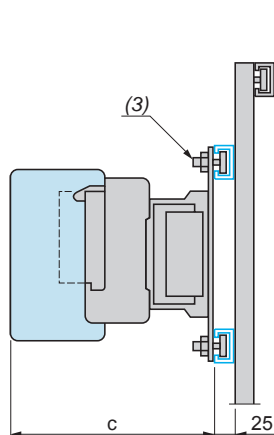
On rails DZ5 MB on 120 mm centres



LC1		F115 F150	F185 F225	F265	F330
c (2)	3P	171	181	213	219
	4P	171	181	213	219
G	3P	80	80	96	96
	4P	80	80	96	96

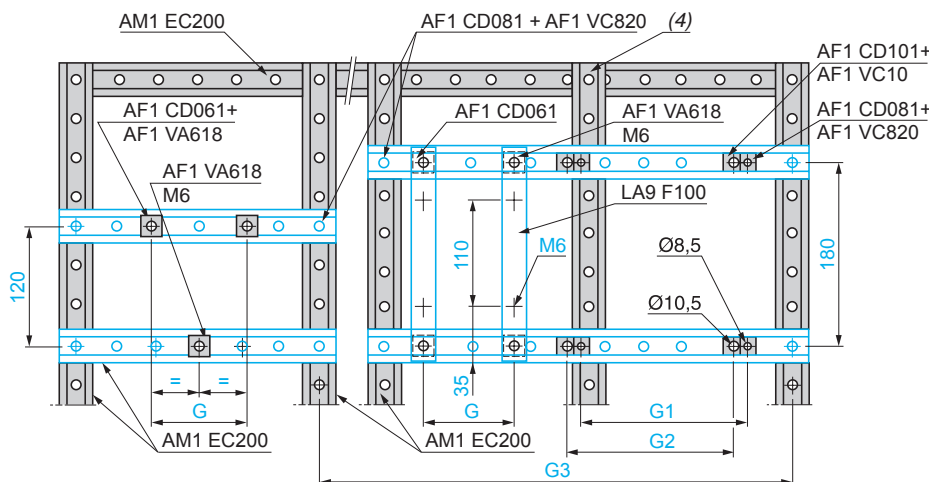
LC1 F

On 2 notched rails AM1 EC●●●



LC1 F115 to F330

LC1 F400 to F800



LC1	F115, F150	F185, F225	F265	F330	F400	F500	F630	F780	F800
c	3P 165 (5)	176	207	213	219	232	255	255	255
	4P 165 (5)	176	207	213	219	232	255	255	—
G (M6)	3P 80	80	96	96	—	—	—	—	—
	4P 80	80	96	96	—	—	—	—	—
G1 (Ø 8.5)	3P —	—	—	—	80	80	—	—	—
	4P —	—	—	—	80	140	—	—	—
G2 (Ø 10.5)	3P —	—	—	—	—	—	180	See page 5/141	180
	4P —	—	—	—	—	—	240		—

(1) Power terminal protection shroud (see page 5/126).

(2) See X1 (minimum electrical clearance) pages 5/140 and 5/141.

(3) AF1 CD●●● and AF1 VA●●●.

(4) This AM1 EC200 upright is required when G2 or G3 is greater than 700 mm (please consult your Regional Sales Office).

(5) + 6 mm with time-delay block on LC1 F.

Presentation



LRD 08



LRD 365



LRD 33●●

TeSys D thermal overload relays are designed to protect a.c. circuits and motors against:

- overloads,
- phase failure,
- excessively long starting times,
- prolonged stalled rotor condition.

Power connection

LRD 01 to LRD 35

LRD 01 to 35 relays are designed for connection by screw clamp terminals. They can be supplied for connection by spring terminals or by lugs (1).

LRD 313 to LRD 365

LRD 313 to 365 relays are for connection by BTR screw connectors (hexagon socket head).

The screws are tightened by means of a size 4, insulated Allen key.

This type of connection uses the **EverLink®** system with creep compensation (2) (Schneider Electric patent).

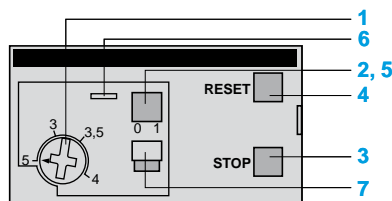
This technique makes it possible to achieve accurate and durable tightening torque.

These relays are also available for connection by lugs (1).

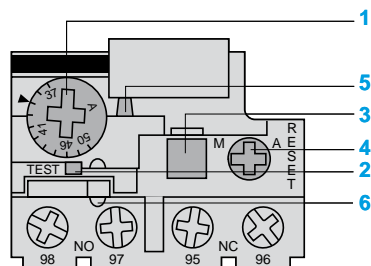
LRD 3361 to 4369, LR2 D3561 to D3563

LRD 3361 to 4369 and LR2 D3561 to D3563 relays are designed for connection by screw clamp terminals. They can be supplied for connection by lugs (1).

Description



LRD 01...35 and LRD 313...LRD 365



LRD 3361...4369, LR2 D3561...3563

TeSys D 3-pole thermal overload relays are designed to protect a.c. circuits and motors against overloads, phase failure, long starting times and prolonged stalling of the motor.

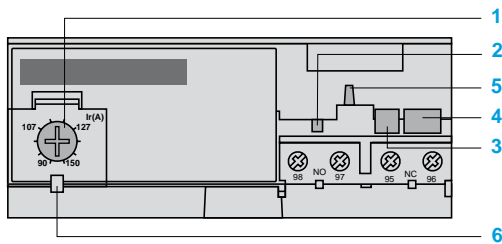
- 1 Adjustment dial I_r.
- 2 Test button.
Operation of the Test button allows:
 - checking of control circuit wiring,
 - simulation of relay tripping (actuates both the N/O and N/C contacts).
- 3 Stop button. Actuates the N/C contact; does not affect the N/O contact.
- 4 Reset button.
- 5 Trip indicator.
- 6 Setting locked by sealing the cover.
- 7 Selector for manual or automatic reset.

LRD 01 to 35 and LRD 313 to LRD 365 relays are supplied with the selector in the manual position, protected by a cover. Deliberate action is required to move it to the automatic position.

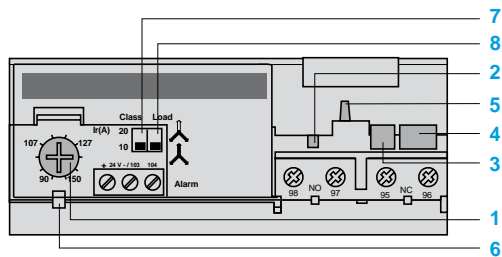
(1) Connection by lugs meets the requirements of certain Asian markets and is suitable for applications subject to strong vibration, such as railway transport.

(2) Creep: normal crushing phenomenon of copper conductors, that is accentuated over time.

Description



LR9 D5367...D5569





LR9 D67 and D69

LR9 D electronic thermal overload relays are designed for use with contactors LC1 D115 and D150.

In addition to the protection provided by TeSys D thermal overload relays (see page 6/14), they offer the following special features:

- protection against phase imbalance,
- choice of starting class,
- protection of unbalanced circuits,
- protection of single-phase circuits,
- alarm function to avoid tripping by load shedding.

- 1 Adjustment dial I_r .
- 2 Test button.
- 3 Stop button.
- 4 Reset button.
- 5 Trip indicator.
- 6 Setting locked by sealing the cover.
- 7 Class 10/class 20 selector switch.
- 8 Selector for balanced load  /unbalanced load 

Environment

Conforming to standards		IEC 60947-4-1, 255-8, 255-17, VDE 0660 and EN 60947-4-1	
Product certifications		UL 508, CSA 22-2	
Degree of protection	Conforming to IEC 60529 and VDE 0106		IP 20 on front panel with protective covers LA9 D11570● or D11560●
Protective treatment	Standard version		"TH"
Ambient air temperature around the device (Conforming to IEC 60255-8)	Storage	°C	- 40...+ 85
	Normal operation	°C	- 20...+ 55 (1)
Maximum operating altitude	Without derating	m	2000
Operating positions without derating	In relation to normal vertical mounting plane		Any position
Shock resistance	Permissible acceleration conforming to IEC 60068-2-7		13 gn - 11 ms
Vibration resistance	Permissible acceleration conforming to IEC 60068-2-6		2 gn - 5...300 Hz
Dielectric strength at 50 Hz	Conforming to IEC 60255-5	kV	6
Surge withstand	Conforming to IEC 61000-4-5	kV	6
Resistance to electrostatic discharge	Conforming to IEC 61000-4-2	kV	8
Immunity to radiated radio-frequency disturbances	Conforming to IEC 61000-4-3 and NF C 46-022	V/m	10
Immunity to fast transient currents	Conforming to IEC 61000-4-4	kV	2
Electromagnetic compatibility	Draft EN 50081-1 and 2, EN 50082-2		Meets requirements

Electrical characteristics of auxiliary contacts

Conventional thermal current		A	5						
Max. sealed consumption of the operating coils of controlled contactors (Occasional operating cycles of contact 95-96)	a.c. supply	V	24	48	110	220	380	600	
		VA	100	200	400	600	600	600	
	d.c. supply	V	24	48	110	220	440	—	
		W	100	100	50	45	25	—	
Protection against short-circuits	By gG or BS fuses or by circuit-breaker GB2	A	5						
Cabling	1 or 2 conductors	mm²	Minimum c.s.a.: 1 Maximum c.s.a.: 2.5						
Flexible cable without cable end									
	Tightening torque	Nm	1.2						

(1) For operating temperatures up to 70 °C, please consult your Regional Sales Office.

526200



LRD 01

526201



LRD 30

526202



LRD 33

526203



LRD 306

Differential thermal overload relays

for use with fuses or magnetic circuit-breakers GV2 L and GV3 L

- Compensated relays with manual or automatic reset,
- with relay trip indicator,
- for a.c. or d.c.

Relay setting range (A)	Fuses to be used with selected relay			For use with contactor LC1	Reference	Weight kg
	aM (A)	gG (A)	BS88 (A)			
Class 10 A (1) for connection by screw clamp terminals or connectors						
0.10...0.16	0.25	2	–	D09...D38	LRD 01	0.124
0.16...0.25	0.5	2	–	D09...D38	LRD 02	0.124
0.25...0.40	1	2	–	D09...D38	LRD 03	0.124
0.40...0.63	1	2	–	D09...D38	LRD 04	0.124
0.63...1	2	4	–	D09...D38	LRD 05	0.124
1...1.6	2	4	6	D09...D38	LRD 06	0.124
1.6...2.5	4	6	10	D09...D38	LRD 07	0.124
2.5...4	6	10	16	D09...D38	LRD 08	0.124
4...6	8	16	16	D09...D38	LRD 10	0.124
5.5...8	12	20	20	D09...D38	LRD 12	0.124
7...10	12	20	20	D09...D38	LRD 14	0.124
9...13	16	25	25	D12...D38	LRD 16	0.124
12...18	20	35	32	D18...D38	LRD 21	0.124
16...24	25	50	50	D25...D38	LRD 22	0.124
23...32	40	63	63	D25...D38	LRD 32	0.124
30...38	40	80	80	D32 and D38	LRD 35	0.124
Class 10 A (1) for connection by EverLink® BTR screw connectors (3)						
9...13	16	25	25	D40A...D65A	LRD 313	0.375
12...18	20	32	35	D40A...D65A	LRD 318	0.375
17...25	25	50	50	D40A...D65A	LRD 325	0.375
23...32	40	63	63	D40A...D65A	LRD 332	0.375
30...40	40	80	80	D40A...D65A	LRD 340	0.375
37...50	63	100	100	D40A...D65A	LRD 350	0.375
48...65	63	100	100	D50A and D65A	LRD 365	0.375
Class 10 A (1) for connection by screw clamp terminals or connectors						
17...25	25	50	50	D80 and D95	LRD 3322	0.510
23...32	40	63	63	D80 and D95	LRD 3353	0.510
30...40	40	100	80	D80 and D95	LRD 3355	0.510
37...50	63	100	100	D80 and D95	LRD 3357	0.510
48...65	63	100	100	D80 and D95	LRD 3359	0.510
55...70	80	125	125	D80 and D95	LRD 3361	0.510
63...80	80	125	125	D80 and D95	LRD 3363	0.510
80...104	100	160	160	D80 and D95	LRD 3365	0.510
80...104	125	200	160	D115 and D150	LRD 4365	0.900
95...120	125	200	200	D115 and D150	LRD 4367	0.900
110...140	160	250	200	D150	LRD 4369	0.900
80...104	100	160	160	(2)	LRD 33656	1.000
95...120	125	200	200	(2)	LRD 33676	1.000
110...140	160	250	200	(2)	LRD 33696	1.000

Class 10 A (1) for connection by lugs

Select the appropriate overload relay with screw clamp terminals or connectors from the table above and add one of the following suffixes:

- figure 6 for relays LRD 01 to LRD 35 and relays LRD 313 to LRD 365.
- A66 for relays LRD 3322 to LRD 3365.

Relays LRD 43 are suitable, as standard, for use with lug-clamps.

Thermal overload relays for use with unbalanced loads

Class 10 A (1) for connection by screw clamp terminals or lugs

In the references selected above, change the prefix LRD (except LRD 4000) to LR3 D.

Example: **LRD 01** becomes **LR3 D01**.

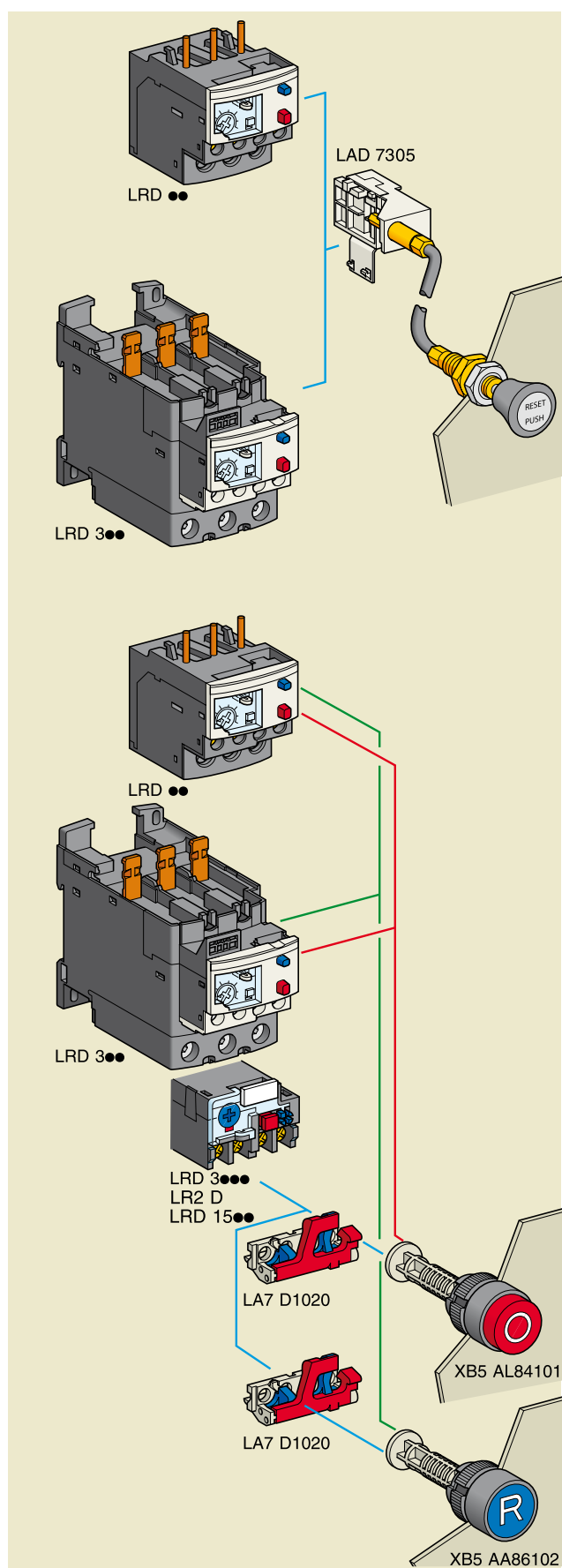
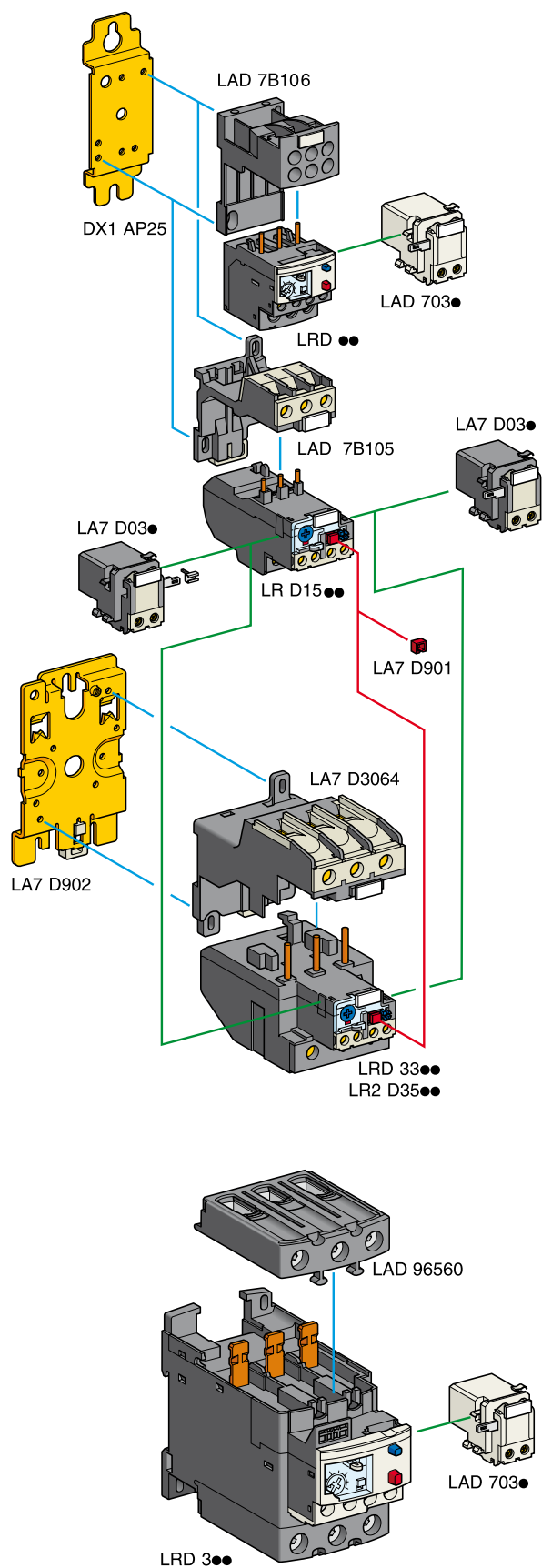
Example with EverLink® connectors: **LRD 340** becomes **LR3 D340**.

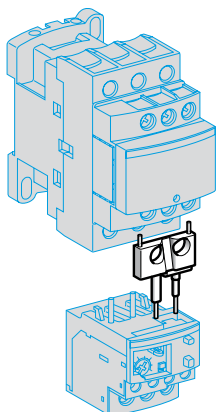
Example with lugs: **LRD 3406** becomes **LR3 D3406**.

(1) Standard IEC 60947-4-1 specifies a tripping time for 7.2 times the setting current I_R : class 10 A: between 2 and 10 seconds

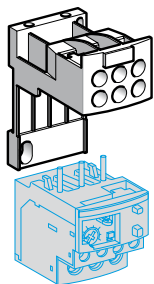
(2) Independent mounting of the contactor.

(3) BTR screws: hexagon socket head. In accordance with local electrical wiring regulations, a size 4 insulated Allen key must be used (reference **LAD ALLEN4**, see page 5/85).

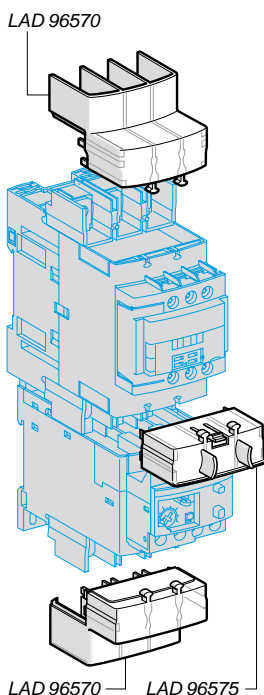




LAD 7C●



LAD 7B106



LAD 96570 — LAD 96575

Separate components for relays

Description	For use with	Sold in lots of	Unit reference	Weight kg
Pre-wiring kit allowing direct connection of the N/C contact of relay LRD 01...35 or LR3 D01...D35 to the contactor	LC1 D09...D18	10	LAD 7C1 (1)	0.002
	LC1 D25...D38	10	LAD 7C2 (1)	0.003
Terminal block (2) for clip-on mounting on 35 mm rail (AM1 DP200) or screw fixing; for fixing centres, see pages 6/26 to 6/28	LRD 01...35 and LR3 D01...D35	1	LAD 7B106	0.100
	LRD 1508...32	1	LAD 7B105	0.100
	LRD 33●●, LR3 D33●●, LR2 D35●●	1	LA7 D3064 (3)	0.370
EverLink® terminal block for independent mounting	LRD 3●●, LRD 3●●L and LR3 D3●●	1	LAD 96560	0.087
Size 4 Allen key, insulated, 1000 V	LRD 3●●, LRD 3●●L and LR3 D3●●	5	LAD ALLEN4	0.026
Terminal block adapter for mounting a relay beneath an LC1 D115 or D150 contactor	LRD 3●●, LR3 D33●●, LRD 35●●	1	LA7 D3058 (3)	0.080
Mounting plates (4) for screw fixing on 110 mm centres	LRD 01...35, LR3 D01...D35, LRD 1508...32	10	DX1 AP25	0.065
	LRD 33●●, LR3 D33●●, LR2 D35●●	1	LA7 D902	0.130
Marker holders, snap-in 8 x 18 mm	LRD 3●●	100	LAD 90	0.001
	All relays except LRD 01...35, LR3 D01...D35, LRD 3●●, LRD 3●●L and LR3 D3●●	100	LA7 D903	0.001
Bag of 400 blank legends (self-adhesive, 7 x 16 mm)	All relays	1	LA9 D91	0.001
Stop button locking device	All relays except LRD 01...35, LR3 D01...D35, LR9 D and LRD 313...LRD 365	10	LA7 D901	0.005
Remote Stop or electrical reset device (5)	LRD 01...35, LR3 D01...D35 and LRD 313...LRD 365	1	LAD 703● (6) (7)	0.090
Remote tripping or electrical reset device (5)	All relays except LRD 01...35, LR3 D01...D35, LRD 3●●, LRD 3●●L and LR3 D3●●	1	LA7 D03● (6)	0.090
Block of insulated terminals	LR9 D	2	LA9 F103	0.560
IP 20 cover for lug type terminals for independent mounting	LRD 3136...3656	1	LAD 96570	0.021
IP 20 cover for lug type terminals for mounting with contactor LC1 D40A6...D65A6	LRD 3136...3656	1	LAD 96575	0.010
Terminal block for lug type terminals for independent mounting	LRD 3136...3656	1	LAD 96566	0.010

Remote control

"Reset" function

Description	For use with	Sold in lots of	Unit reference	Weight kg
By flexible cable (length = 0.5 m)	LRD 01...35, LR3 D01...D35 and LRD 313...LRD 365	1	LAD 7305 (7)	0.075
	All relays except LRD 01...35, LR3 D01...D35, LRD 3●●, LRD 3●●L and LR3 D3●●	1	LA7 D305	0.075

"Stop" and/or "Reset" functions

The terminal protection shroud must be removed and the following 3 products must be ordered separately:

Adapter for door mounting	LRD 33●●, LR2 D and LRD 15●●.	1	LA7 D1020	0.005	
Operating heads for spring return pushbutton	Stop	All relays	1	XB5 AL84101	0.027
	Reset	All relays	1	XB5 AA86102	0.027

- (1) These pre-wiring kits cannot be used with reversing contactors.
- (2) Terminal blocks are supplied with terminals protected against direct finger contact and screws in the open, "ready-to-tighten" position.
- (3) To order a terminal block for connection by lugs, the reference becomes **LA7 D30646**.
- (4) Remember to order the terminal block corresponding to the type of relay.
- (5) The time for which the coil of remote tripping or electrical resetting device **LA7 D03** or **LAD 703** can remain energised depends on its rest time: 1 s pulse duration with 9 s rest time; 5 s pulse duration with 30 s rest time; 10 s pulse duration with 90 s rest time; maximum pulse duration 20 s with a rest time of 300 s. Minimum pulse time: 200 ms.
- (6) Reference to be completed by adding the code indicating the control circuit voltage.

Standard control circuit voltages (for other voltages, please consult your Regional Sales Office) :

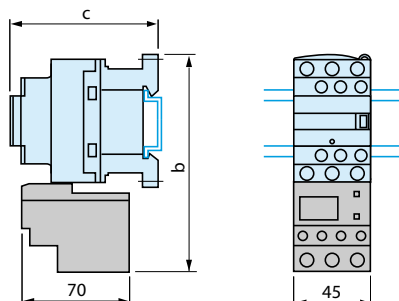
Volts	12	24	48	96	110	220/230	380/400	415/440
50/60 Hz	—	B	E	—	F	M	Q	N
Consumption, inrush and sealed: < 100 VA								
—	J	B	E	DD	F	M	—	—

Consumption, inrush and sealed: < 100 W.

(7) Not compatible with 3-pole relays fitted with spring terminals.

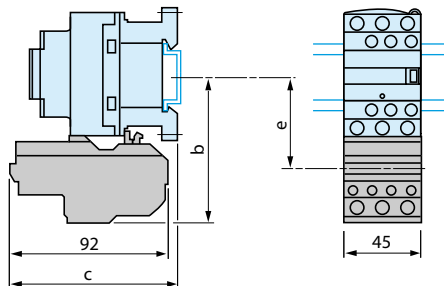
LRD 01...35

Direct mounting beneath contactors with screw clamp connections



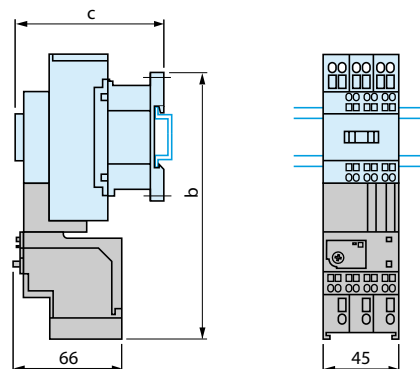
LRD 1508...32

Direct mounting beneath contactors with screw clamp connections



LRD 013...223

Direct mounting beneath contactors with spring terminal connections



LC1 D09...D18 D25...D38

b	123	137
c	See pages 5/92 and 5/93	

LC1 ~ D09... D18 ~ D25... D38 D09... D18 D25... D38

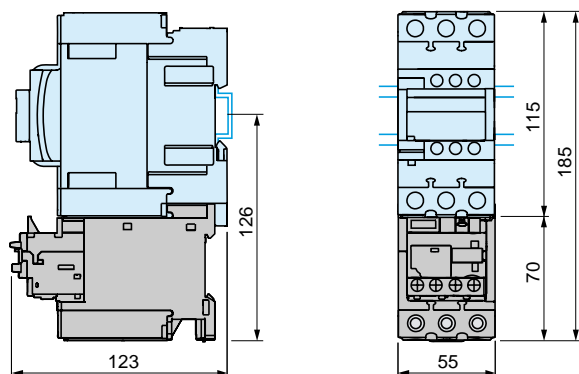
b	90	97	90	97
c	97	96	107	106
e	53	60	53	60

LC1 D093...D253

b	168
c	See pages 5/92 and 5/93

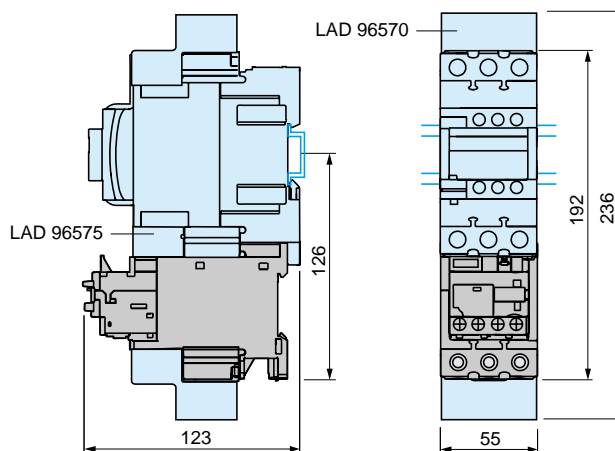
LRD 313 ...365

Direct mounting beneath contactors LC1 D40A...D65A with screw clamp connections or EverLink® connectors



LRD 3136 ...3656

Direct mounting beneath contactors LC1 D40A6...D65A6 with lugs



LRD 4●●●			LR9 D		
Direct mounting beneath contactors LC 1D115 and D150			Direct mounting beneath contactors LC 1D115 and D150		
AM1	DL200 and DR200	DE200 and ED●●●	AM1	DP200 and DR200	DE200 and ED●●●
d	2.5	10.5	d	2.5	10.5

LRD 01...35			LRD 01...35		
Independent mounting on 50 mm centres or on rail AM1 DP200 or DE200			Independent mounting on 110 mm centres		

LRD 313 ...365			LRD 313 ...365		
Mounting on rail AM1 D●200 or ED200			Panel mounting		
With terminal block LAD 96560			Mounted on plate AM1 P		
AM1	DP200	DE200	AM1	DP200	DE200
d	2	9.5	d	2	9.5

(1) 2 elongated holes Ø 4.2 x 6.

LRD 01...35 and LRD 313...365		
Remote tripping or electrical reset		

(1) Can only be mounted on RH side of relay LRD01...35 and LRD313...365

TeSys protection components

3-pole electronic thermal overload relays, TeSys LR9 F for motor protection

819555



LR9 F53●●

819556



LR9 F73●●

Compensated and differential overload relays

Thermal overload relays:

- compensated and differential,
- with relay trip indicator,
- for a.c.,
- for direct mounting on contactor or independent mounting (1).

Relay setting range	Fuses to be used with selected relay		For direct mounting beneath contactor LC1	Reference	Weight
	aM	gG			
A	A	A			kg
Class 10 (2)					
30...50	50	80	F115...F185	LR9 F5357	0.885
48...80	80	125	F115...F185	LR9 F5363	0.900
60...100	100	200	F115...F185	LR9 F5367	0.900
90...150	160	250	F115...F185	LR9 F5369	0.885
132...220	250	315	F185...F400	LR9 F5371	0.950
200...330	400	500	F225...F500	LR9 F7375	2.320
300...500	500	800	F225...F500	LR9 F7379	2.320
380...630	630	800	F400...F630 and F800	LR9 F7381	4.160
Class 20 (2)					
30...50	50	80	F115...F185	LR9 F5557	0.885
48...80	80	125	F115...F185	LR9 F5563	0.900
60...100	100	200	F115...F185	LR9 F5567	0.900
90...150	160	250	F115...F185	LR9 F5569	0.885
132...220	250	315	F185...F400	LR9 F5571	0.950
200...330	400	500	F225...F500	LR9 F7575	2.320
300...500	500	800	F225...F500	LR9 F7579	2.320
380...630	630	800	F400...F630 and F800	LR9 F7581	4.160

(1) When mounting overload relays up to size **LR9 F5371** directly beneath the contactor, they may be additionally supported by a mounting plate (see page 6/37). Above this size it is always necessary to use the mounting plate.
Power terminals can be protected against direct finger contact by the addition of shrouds and/or insulated terminal blocks, to be ordered separately (see page 6/37).

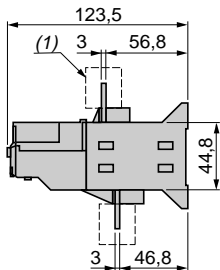
(2) Standard IEC 60947-4 specifies a tripping time for 7.2 times the setting current I_n :

- class 10: between 4 and 10 seconds,
- class 20: between 6 and 20 seconds.

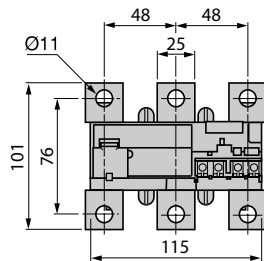
TeSys protection components

3-pole electronic thermal overload relays, TeSys LR9 F

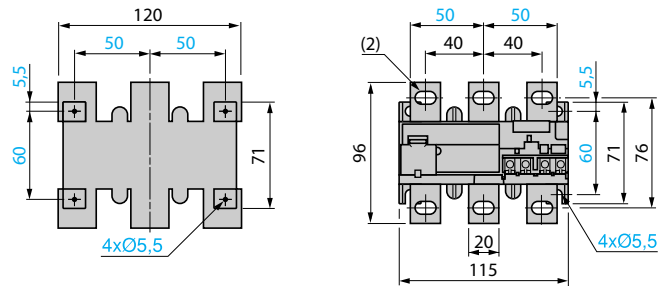
Common side view



LR9 F57, F71



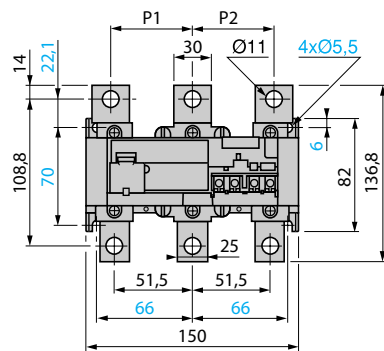
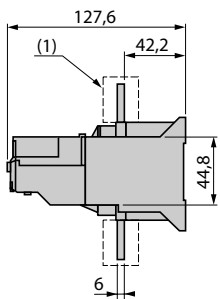
LR9 F57, F563, F567,
LR9 F569, F57, F63, F67, F69



(1) Terminal shroud LA9 F70

(2) 6.5 x 13.5 for LR9 F57 and F57. 8.5 x 13.5 for LR9 F563, F567, F569, F63, F67, F69

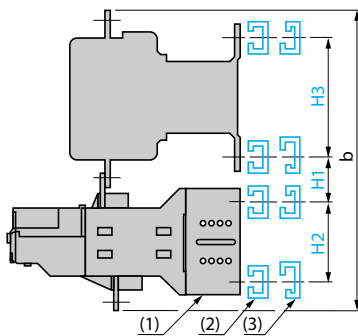
Common side view



(1) Terminal shroud
LA9 F70

	P1	P2
LR9 F775, F75	48	48
LR9 F779, F781, F79, F81	55	55

Direct mounting beneath contactor LC1 F

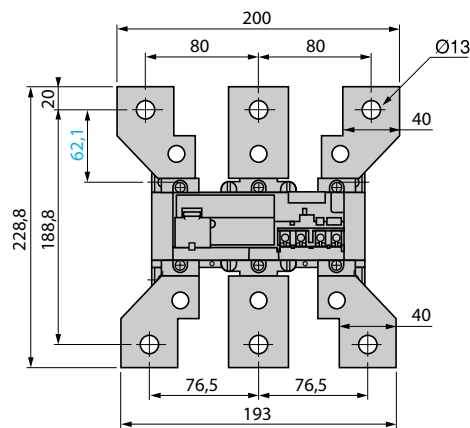


Contactors LC1	With LR9 relays	b	H1	H2	H3
F115	F57, F563, F567, F569, F57, F63, F67, F69	240	30	50	120
F150	F57, F563, F567, F569, F57, F63, F67, F69	246	30	50	120
F185	F57, F563, F567, F569, F57, F63, F67, F69	250	30	50	120
F225	F57, F71	273	40	50	120
F265	F775, F779, F75, F79	308	50	58	120
F330	F775, F779, F75, F79	317	60	58	120
F400	F775, F779, F781, F75, F79, F81	317	60	58	180
F500	F775, F779, F781, F75, F79, F81	346	70	58	180
F630, F800	F781, F81	510	110	58	180

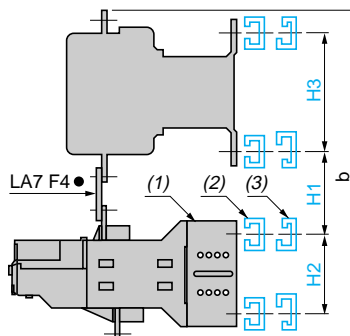
(1) Relay mounting plate LA7 F90, see page 6/37

(2) AM1 EC or AM1 DF for LC1 F115 to F630 and LC1 F800

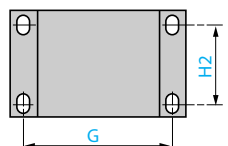
LR9 F781 (for mounting beneath LC1 F630 and F800),
LR9 F81



Mounting beneath contactors:
reversing LC2 F or star-delta LC3 F



Mounting plate
for LR9 F



LA7	G
F901	145
F902	190

Contactors LC1	With LR9 relays	b	H1	H2	H3
F115	F57, F563, F567, F569, F57, F63, F67, F69	279	60	50	120
F150	F57, F563, F567, F569, F57, F63, F67, F69	283	60	50	120
F185	F57, F563, F567, F569, F57, F63, F67, F69	285	60	50	120
F225	F57, F71	360	100	58	120
F265	F775, F779, F75, F79	332	90	50	120
F330	F775, F779, F75, F79	363	100	58	120
F400	F775, F779, F781, F75, F79, F81	364	100	58	180
F500	F775, F779, F781, F75, F79, F81	390	110	58	180
F630, F800	F781, F81	509	120	58	180

(3) DZ5 MB for LC1 F115 to F400

Presentation



LR97 D



LT47

LR97 D and LT47 electronic over current relays have been developed to satisfy machine protection requirements.
These relays have definite time characteristics: current threshold and time based function. They are particularly recommended for providing mechanical protection on machines with high resistive torque, high inertia and with strong probability of jamming under steady state conditions. They can be used for motor protection in the case of long starting times or frequent starting. The LR97 D relay also incorporates two fixed time protection functions, one of 0.5 seconds against locked rotor and one of 3 seconds against phase failure.
LR97 D and LT47 can be used to provide mechanical shock protection. In this case, setting the O-Time knob to minimum will ensure tripping in 0.3 seconds.

Applications

LR97 D and LT47 relays are particularly suitable for the following machines:

- Monitoring function for excessively long starting time on machines with a risk of difficult starting:
 - Machines with high resistive torque, high inertia machines.
- Monitoring of machines during steady state operation: overtorque detection function
 - Machines with strong risk of jamming, machines with torque build-up over time,
 - Mechanical failure monitoring,
 - Faster detection of malfunctioning on machines where the motor is oversized in relation to its thermal protection I²t.
- Motor protection for specific applications:
 - Machines with long starting times,
 - Machines with high on-load factor: more than 30 to 50 starts/hour,
 - Machine with fluctuating load from a steady state, where the thermal image of a thermal overload relay (thermal memory) is unsuitable in relation to actual overheating of the motor.

Examples of machines:

- Conveyors, crushers and mixers,
- Fans, pumps and compressors,
- Centrifuges and spin-dryers,
- Presses, shearing machines, saws, broaching machines, sanders and lifting hoists.

Operation

Because of their two separate time settings, LR97 D and LT47 relays can be combined with the motor-starter function:

D-Time: starting time, O-Time: trip time during steady state.

The D-Time function is only available during the motor starting phase. During this phase the overload detection function is inhibited in order to allow starting. Under steady state conditions, when the motor current is greater than the setting current due to an overload or single-phasing, the red LED lights up and the internal relay switches its contact after a time preset by the O-Time knob.

The red LED stays on, indicating that the relay has tripped.

The relays are simple to set, in 5 easy steps:

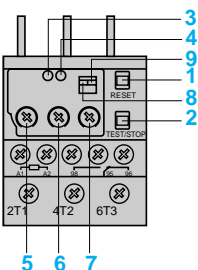
- Adjust the 3 knobs to maximum (Load, D-Time and O-Time),
- Adjust the D-Time knob to the value corresponding to the motor starting time.
- When the motor reaches steady state, adjust the Load knob (turn the knob counter-clockwise until the red LED starts to flicker).
- Slowly turn the Load knob clockwise until the LED goes out.
- Set the required tripping time, using the O-Time knob.

Description

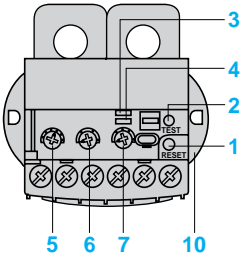
Description

LR97 D ●●●●●

LT47 ●●●●●



- 1 RESET knob
- 2 TEST/STOP knob
- 3 Ready/Run Indicator
- 4 Relay tripped indicator
- 5 Current setting
- 6 Adjustment of starting time



- 7 Adjustment of tripping time
- 8 Manual/Auto adjustment
- 9 Single-phase/3-phase adjustment
- 10 Retractable fixing lugs

Status signalling

LR97 D ●●●●●

LT47 ●●●●●

To assist fast diagnostics, two LEDs (one green and one red) allow signalling of the operating status:

Status	LED signal	
	Green LED	Red LED
Voltage	On	Off
Starting		
Steady state	On	Off
Overload	On	
Trip	Over-current	Off On
	Rotor locked	Off
	Phase failure	L1 Off
		L2 Off
		L3 Off

Condition	LED signal	
	Green LED	Red LED
Voltage	On	Off
Starting		
Steady state	On	Off
Overload	On	
Trip	Off On	



LR97 D07●●



LT47 30●●●

LR97 D electronic over current relays

Relay setting range	Usable range (1)	For use with contactor (2)	Relay supply voltage	Reference (3)	Weight
A	A				kg
0.3...1.5	0.3...1.3	LC1 D09...D38	~ 200...240 V	LR97 D015M7	0.172
			~ 100...120 V	LR97 D015F7	0.172
			~/~ 24 V	LR97 D015B	0.172
			~/~ 48 V	LR97 D015E	0.172
1.2...7	1.2...6	LC1 D09...D38	~ 200...240 V	LR97 D07M7	0.172
			~ 100...120 V	LR97 D07F7	0.172
			~/~ 24 V	LR97 D07B	0.172
			~/~ 48 V	LR97 D07E	0.172
5...25	5...21	LC1 D09...D38	~ 200...240 V	LR97 D25M7	0.172
			~ 100...120 V	LR97 D25F7	0.172
			~/~ 24 V	LR97 D25B	0.172
			~/~ 48 V	LR97 D25E	0.172
20...38	20...34	LC1 D25...D38	~ 200...240 V	LR97 D38M7	0.172
			~ 100...120 V	LR97 D38F7	0.172
			~/~ 24 V	LR97 D38B	0.172
			~/~ 48 V	LR97 D38E	0.172

LT47 electronic over current relays

Relay setting range	Usable range (1)	Relay supply voltage	Reference	Weight
A	A			kg
LT47 relay with manual/electric reset				
0.5...6	0.5...5	~ 200...240 V	LT47 06M7S	0.192
		~ 100...120 V	LT47 06F7S	0.192
		---/~ 24 V	LT47 06BS	0.192
		---/~ 48 V	LT47 06ES	0.192
3...30	3...25	~ 200...240 V	LT47 30M7S	0.192
		~ 100...120 V	LT47 30F7S	0.192
		---/~ 24 V	LT47 30BS	0.192
		---/~ 48 V	LT47 30ES	0.192
5...60	5...50	~ 200...240 V	LT47 60M7S	0.192
		~ 100...120 V	LT47 60F7S	0.192
		---/~ 24 V	LT47 60BS	0.192
		---/~ 48 V	LT47 60ES	0.192
LT47 relay with automatic reset				
0.5...6	0.5...5	~ 200...240 V	LT47 06M7A	0.192
		~ 100...120 V	LT47 06F7A	0.192
		---/~ 24 V	LT47 06BA	0.192
		---/~ 48 V	LT47 06EA	0.192
3...30	3...25	~ 200...240 V	LT47 30M7A	0.192
		~ 100...120 V	LT47 30F7A	0.192
		---/~ 24 V	LT47 30BA	0.192
		---/~ 48 V	LT47 30EA	0.192
5...60	5...50	~ 200...240 V	LT47 60M7A	0.192
		~ 100...120 V	LT47 60F7A	0.192
		---/~ 24 V	LT47 60BA	0.192
		---/~ 48 V	LT47 60EA	0.192

Accessories (to be ordered separately)

Description	For use with	Sold in lots of	Unit reference	Weight
				kg
Pre-wiring kits allowing connection of the LR97 D relay N/C contact directly to the contactor	LC1 D09...D18	10	LAD 7C1	0.002
	LC1 D25...D38	10	LAD 7C2	0.003
Terminal block for clip-on mounting on 35 mm rail (AM1 DP200)	LR97 D	1	LAD 7B106	0.100

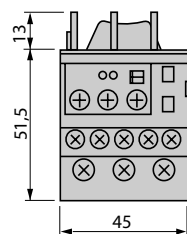
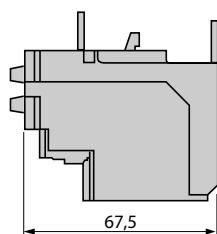
(1) To allow adjustment of the tripping sensitivity, see adjustment method (page 6/54).

(2) Please see pages 5/46 and 5/47.

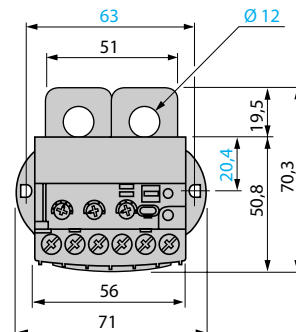
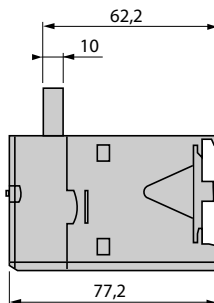
(3) If a pre-wiring kit is used, it is no longer possible to electrically wire signalling of tripped status.

Dimensions

LR97 D●●●●



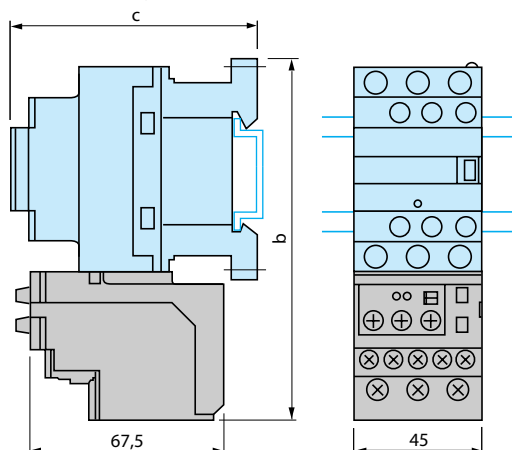
LT47 ●●●●



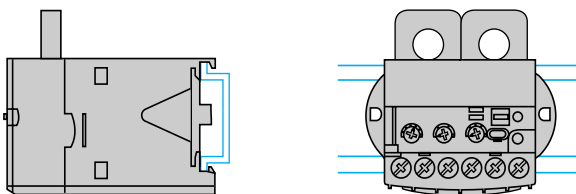
Mounting

LR97 D●●●●

Direct mounting beneath the contactor



LT47 ●●●●



LC1 D09...D18 D25...D38

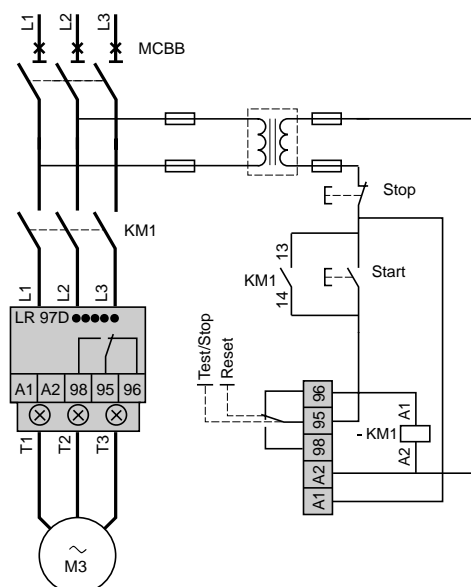
b 123 137

c See pages 5/92 and 5/93

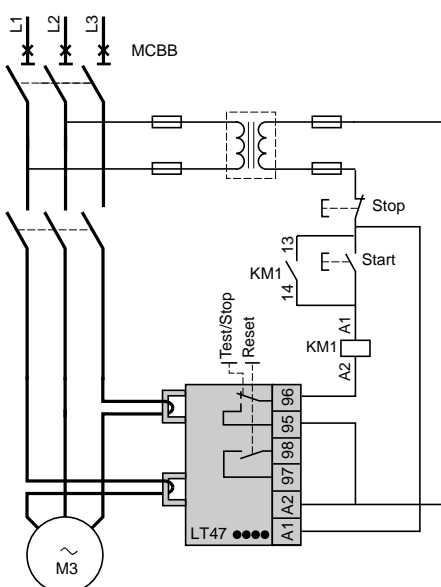
Note: Can be mounted on rail.

Schemes

LR97 D●●●●



LT47 ●●●●



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Electric

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