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TeSys™ IEC Contactors and Starters

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For additional assistance selecting the proper products for your application, see the electronic IEC Motor Data Calculator, available on www.SquareD.com under Free Software and Online Tools.

LC1D09

LC1D093

LC1D115

LC1DT20

3-Pole Contactors with AC and DC Operating Coils

Maximum Horsepower Ratings						Maximum Current		Auxiliary Contacts Built In		Catalog Number ▲■	AC Control Price	DC Control Price
Single Phase		Three Phase				Inductive AC3 Amperes	Resistive AC1 Amperes	N.O.	N.C.			
115 V hp	230 V hp	200 V hp	230 V hp	460 V hp	575 V hp							
0.5	1	2	2	5	7.5	9	20	1	1	LC1D09	**$ 94.**	**$119.**
1	2	3	3	7.5	10	12	25	1	1	LC1D12	**119.**	**149.**
1	3	5	5	10	15	18	32	1	1	LC1D18	**136.**	**160.**
2	3 5	7.5 10	7.5 10	15 20	20 30	25 32	40 50	1 1	1 1	LC1D25 LC1D32	**151.** **172.**	**181.** **213.**
3	5 7.5	10 15	10 15	30 40	30 40	40 50	60 70	1 1	1 1	LC1D40 LC1D50	**218.** **234.**	**275.** **291.**
5	10	20	20	50	50	65	80	1	1	LC1D65	**322.**	**379.**
7.5	15	25	30	60	60	80	110	1	1	LC1D80	**363.**	**420.**
. . .	. . .	30	40	75	100	115	175	1	1	LC1D115	**479.**	**479.**
. . .	. . .	40	50	100	125	150	200	1	1	LC1D150	**696.**	**696.**

4-pole Contactors with AC and DC Operating Coils

Maximum Current Utilization Categories	Number of Poles		Instantaneous Auxiliary Contacts		Catalog Number ▲■	AC Control Price	DC Control Price
AC-1	N.O.	N.C.	N.O.	N.C.			
20	4	0	1	1	LC1DT20	**$ 94.**	**$119.**
	2	2	1	1	LC1D098	**94.**	**119.**
25	4	0	1	1	LC1DT25	**119.**	**149.**
	2	2	1	1	LC1D128	**119.**	**149.**
32	4	0	1	1	LC1DT32	**149.**	**183.**
	2	2	1	1	LC1D188	**149.**	**183.**
40	4	0	1	1	LC1DT40	**193.**	**240.**
	2	2	1	1	LC1D258	**193.**	**240.**
60	4	0	1	1	LC1D40004	**296.**	**. . .**
	4	0	1	1	LP1D40004	**. . .**	**353.**
	2	2	1	1	LC1D40008	**296.**	**. . .**
	2	2	1	1	LP1D40008	**. . .**	**353.**
80	4	0	0	0	LC1D65004	**446.**	**. . .**
	4	0	0	0	LP1D65004	**. . .**	**503.**
	2	2	0	0	LC1D65008	**446.**	**. . .**
	2	2	0	0	LP1D65008	**. . .**	**503.**
125	4	0	0	0	LC1D80004	**489.**	**. . .**
	4	0	0	0	LP1D80004	**. . .**	**524.**
	2	2	0	0	LC1D80008	**489.**	**. . .**
	2	2	0	0	LP1D80008	**. . .**	**524.**
200	4	0	0	0	LC1D115004	**630.**	**630.**

▲ Use voltage codes from the "Voltage Codes" table below to complete the catalog number.
■ Contactor supplied with touch safe cable clamps. For ring terminal configuration on LC.D09–D32 and LC.DT20–DT40 contactors only, add "6" before coil voltage suffix. For spring terminal configuration add "3" before coil voltage suffix. No price adder for these modifications.

Voltage Codes (D-Line Only)▼

Contactor	Hz	24 V	48 V	110 V	120 V	125 V	208 V	220 V	240 V	250 V	440 V	480 V	600 V
AC													
LC1D40–LC1D150 only (see notes)	50	B5	E5	F5	. . .	. . .	. . .	M5★	U5	. . .	. . .	. . .	. . .
	60	B6	E6	F6	G6	. . .	L6	M6	U6	. . .	. . .	T6	X6♦
All (see notes)	50/60	B7	E7	F7	G7	. . .	LE7	M7	U7	. . .	. . .	T7★	X7★
DC (D09–D32, D115 and D150 coils with integral suppression device are fitted as standard)													
D09–D32 Low Consumption	. . .	BL	EL	FL	. . .	. . .	. . .	ML	. . .	UL	. . .	. . .	. . .
All	. . .	BD	ED	FD	. . .	GD	. . .	MD	. . .	UD	RD	. . .	. . .

♦ Not available for LC1D115 and LC1D150.
★ Not available for LC1D40–LC1D150.
▼ Other voltages available. See page 16-17.

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For additional information on D-Line contactors, reference Catalog #8502CT9901R5/03.

TeSys™ F-Line Contactors (IEC Rated)
Non-Reversing, AC or DC Operating Coil

LC1F115

3-Pole Contactors with AC and DC Operating Coils

Maximum Horsepower Ratings						Maximum Current		Auxiliary Contacts Built In		Catalog Number ▲	AC Control Price	DC Control Price
Single Phase		Three Phase				Inductive AC3 Amperes	Resistive AC1 Amperes	N.O.	N.C.			
115 V hp	230 V hp	200 V hp	230 V hp	460 V hp	575 V hp							
		30	40	75	100	115	200	1♦	0	LC1F115	$ 479.	$ 479.
		40	50	100	125	150	250	1♦	0	LC1F150	696.	696.
		50	60	125	150	185	275	1♦	0	LC1F185	938.	938.
		60	75	150	175	265	350	1♦	0	LC1F265	1179.	1179.
		75	100	200	250	330	400	1♦	0	LC1F330	1621.	1621.
		100	125	250	300	400	500	1♦	0	LC1F400	1874.	1874.
...	...	150	200	400	500	500	700	1♦	0	LC1F500	4970.	4970.
		250	300	600	800	630	1000	1♦	0	LC1F630	6872.	6872.
		Current rated				780	1600	0	0	LC1F780	7788.	7788.
		...	450	800	900	800	1000	0	0	LC1F800	6676.	6676.

2- and 4-Pole Contactors with AC and DC Coils

Maximum Current		Power Poles		Auxiliary Contacts Built In		Catalog Number ▲	AC Control Price	DC Control Price
Inductive AC3 Amperes	Resistive AC1 Amperes	N.O.	N.C.	N.O.	N.C.			
115	200	4	0	1♦	0	LC1F1154	$ 630.	$ 630.
150	250	4	0	1♦	0	LC1F1504	825.	825.
185	275	4	0	1♦	0	LC1F1854	1439.	1439.
265	350	4	0	1♦	0	LC1F2654	1646.	1646.
330	400	4	0	1♦	0	LC1F3304	1846.	1846.
400	520	2 4	0 0	1♦ 1♦	0 0	LC1F4002 LC1F4004	1521. 2133.	1521. 2133.
500	700	2 4	0 0	1♦ 1♦	0 0	LC1F5002 LC1F5004	4324. 5617.	4324. 5617.
630	1000	2 4	0 0	1♦ 1♦	0 0	LC1F6302 LC1F6304	5917. 7582.	5917. 7582.
780	1600	4	0	0	0	LC1F7804	9940.	9940.

▲ Use voltage codes from the "Voltage Codes" table below to complete the catalog number.
♦ This one normally open circuit contact is incorporated in the design of the standard coil.

Voltage Codes (F-Line Only)

Contactor	Hz	24 V	48 V	110 V	120 V	125 V	208 V	220 V	240 V	250 V	380 V	415 V	440 V	480 V	600 V
AC															
F115, F150 F185	50 Hz	B5	E5	F5	...	...	...	M5	U5	...	Q5	...	...	...	...
	60 Hz	B6	E6	F6	G6	...	L6	M6	U6	...	Q6	N5	...	Q5	SC
F265, F330	40–400 Hz	B7	E7	F7	G7	...	L7	M7	U7	...	Q7	Q7	...	S7	X7
F400–F780	40–400 Hz	...	E7	F7	F7	...	L7	M7	U7	...	Q7	N7	...	N7	X7★
DC															
F115–F330	...	BD	ED	FD	...	GD	-	MD	...	UD	...	...	RD	...	...
F400–F780	...	...	ED	FD	...	GD	-	MD	...	UD	...	...	RD	...	...

★ 600 volt coil not available for F780. The 600 V coils for the F400, F500 and F630 do not include an auxiliary contact for holding circuits.

AC and DC Coil Voltages for F800 (includes built-in surge suppressor)

Volts AC/DC	24	48	110	120	127	208	220	240	277	380	415	440	480	575	600	660
50/60 Hz	...	...	FW	FW	FW	...	MW	MW	...	QW	QW	QW	...	...	...	...

For Lugs see page 16-11.

For additional information, reference Catalog #8502CT9901R5/03.

LC2D09

3-Pole Mechanically Interlocked Contactors

Each device is pre-wired with line and load side power wiring for reversing applications

Maximum Horsepower Ratings						Maximum Current		Built In Auxiliary Contacts (per contactor)		Catalog Number ▲■	Price	
Single Phase		Three Phase				Inductive AC3 Amperes	Resistive AC1 Amperes	N.O.	N.C.		AC Control	DC Control
115 V hp	230 V hp	200 V hp	230 V hp	460 V hp	575 V hp							
0.5	1	2	2	5	7.5	9	20	1	1	LC2D09	**$ 234.**	**$317.**
1	2	3	3	7.5	10	12	25	1	1	LC2D12	**317.**	**368.**
1	3	5	5	10	15	18	35	1	1	LC2D18	**344.**	**400.**
2	3	7.5	7.5	15	20	25	40	1	1	LC2D25	**374.**	**436.**
2	5	10	10	20	30	32	50	1	1	LC2D32	**415.**	**503.**
3	5	10	10	30	30	40	60	1	1	LC2D40	**565.**	**...★**
3	7.5	15	15	40	40	50	70	1	1	LC2D50	**596.**	**...★**
5	10	20	20	50	50	65	80	1	1	LC2D65	**778.**	**...★**
7.5	15	30	30	60	60	80	110	1	1	LC2D80	**1152.**	**...★**
...	...	30	40	75	100	115	175	1	1	LC2D115	**1165.**	**1165.**
...	...	40	50	100	125	150	200	1	1	LC2D150	**1598.**	**1598.**

4-Pole Mechanically Interlocked Contactors

Each device is pre-wired with load side power wiring

Utilization category AC-1 Non-inductive loads Maximum rated operational current (θ < 55°C [131°F])	Instantaneous Auxiliary Contacts		Catalog Number ▲	Price	
A	N.O.	N.C.		AC Control	DC Control
20	1	1	LC2DT20 ♦	**$ 234.**	**$ 317.**
25	1	1	LC2DT25 ♦	**317.**	**368.**
32	1	1	LC2DT32 ♦	**419.**	**443.**
40	1	1	LC2DT40 ♦	**456.**	**477.**
60	...	...	LC2D4004 ♦	**720.**	**...★**
80	...	...	LC2D65004 ♦	**1361.**	**...★**
125	...	...	LC2D80004 ♦	**1406.**	**...★**
200	...	...	LC2D115004 ▼	**1391.**	**1391.**

▲ Use voltage codes from the "Voltage Codes" table on page 16-2 to complete the catalog number.
■ For LC2D09–LC2D32, electrical interlock can be included by adding a "V" to the end of the catalog number (ex: LC2DO9B7**V**). List price adder: **$5.00**.
♦ Includes mechanical interlock without electrical contacts. Installer to complete wiring for electronically interlocking contactor operating coils by utilizing a N.C. auxiliary contact integrated in the contactor or optional **LA1DN** or **LA8DN** type auxiliary contact block.
★ For these items, order two non-reversing contactors and one mechanical interlock separately. See page 16-9 for selection.
▼ Includes mechanical interlock (Type LA9D11502) with pre-wired electrical contacts for interlocking contactor operating coils.

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Overload Relays. . . . . pages 16-19–16-20
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Replacement Coils. . . . . pages 16-15–16-18

For additional information, reference Catalog #8502CT9901R5/03.

TeSys™ Contactors (IEC Rated)
3-Pole Reversing, AC or DC Operating Coil

LC1F265

HOW TO ORDER:

Components are available for customer assembly of F-line reversing contactors. For example, the following components must be ordered to build a 75 hp @ 460 V reversing contactor with a 120 V/60 Hz coil:

Quantity

2	LC1F115G6	Contactors	2 x	**$463.00**
6	DZ2FF1	Lugs (page 16-11)	6 x	**6.30**
2	LADN11	Auxiliary contacts	2 x	**20.00**
1	LA9FF976	Power connections	1 x	**102.00**
1	LA9FF970	Mechanical interlock	1 x	**50.80**

3-Pole Contactors

Maximum Horsepower Ratings				Maximum Current		Holding Circuit Contact Built Into Coil		Catalog Number▲	Price
Three Phase				Inductive AC3 Amperes	Resistive AC1 Amperes	N.O.	N.C.		
200 V hp	230 V hp	460 V hp	575 V hp						
30	40	75	100	115	200	1	0	LC1F115	**$ 479.**
40	50	100	125	150	250	1	0	LC1F150	**696.**
50	60	125	150	185	275	1	0	LC1F185	**938.**
60	75	150	200	265	350	1	0	LC1F265	**1179.**
75	100	200	250	330	400	1	0	LC1F330	**1621.**
100	125	250	300	400	500	1	0	LC1F400	**1874.**
150	200	400	500	500	700	1	0	LC1F500	**4970.**
250	300	600	800	630	1000	1	0	LC1F630	**6872.**
Current rated				780	1600	0	0	LC1F780	**7788.**
. . .	450	800	900	800	1000	0	0	LC1F800	**6676.**

▲ Use coil voltage codes from the "Voltage Codes" table on page 16-3 to complete the contactor catalog number.

Auxiliary contact (electrical interlocking) - 2 must be purchased

For use with	Number of Contacts	Maximum Number of Blocks Per Contactor	Contact Arrangement		Catalog Number	Price
LC1F to be ordered separately	1	1	1	-	LADN10	**$13.10**
			-	1	LADN01	**13.10**
	2	2	1	1	LADN11	**20.70**
			2	-	LADN20	**20.70**
	4	2	2	2	LADN22	**41.50**
			1	3	LADN13	**41.50**
			4	-	LADN40	**41.50**
			-	4	LADN04	**41.50**
			3	1	LADN31	**41.50**
(2) including 1 N.O. + 1 N.C. make-before-break			2	2 (2)	LADC22	**41.50**

Accessories

For the assembly of three-pole reversing contactors

With 2 Identical Contactors ■	Set Of Power Connections Catalog Number	Price	Horizontal Mounting Mechanical Interlock Kit Catalog Number	Price
LC1F115	LA9FF976	**$ 93.00**	LA9FF970	**$53.00**
LC1F150	LA9F15076	**93.00**	LA9FF970	**53.00**
LC1F185	LA9FG976	**99.00**	LA9FG970	**53.00**
LC1F265	LA9FH976	**146.00**	LA9FJ970	**76.00**
LC1F330	LA9FJ976	**198.00**	LA9FJ970	**76.00**
LC1F400	LA9FJ976	**198.00**	LA9FJ970	**76.00**
LC1F500	LA9FK976	**270.00**	LA9FJ970	**76.00**
LC1F630, F800	LA9FL976	**501.00**	LA9FL970	**76.00**

■ For two different size contactors, refer to pages 16-12 and 16-13.

16 IEC STYLE CONTACTORS AND STARTERS

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For additional information, reference Catalog #8502CT9901R5/03.

Front Mounted Auxiliary Blocks (shown on D-LIne contactor)

Standard, instantaneous auxiliary contact blocks

Snap-On Mounting	Number of Contacts	Composition N.O.	Composition N.C.	Catalog Number	Price
To front of LP●D40–D80, LC●DT20–DT40 (4P), LC●D09–D150▲ or **To right side of** LC●F	4	2	2	LADN22■	**$41.50**
		1	3	LADN13■	**41.50**
		4	0	LADN40■	**41.50**
		0	4	LADN04■	**41.50**
		3	1	LADN31■	**41.50**
		2	2	LADC22 ■♦	**41.50**
	2	1	1	LADN11■	**20.70**
		2	0	LADN20■	**20.70**
		0	2	LADN02■	**20.70**
To front of LP●D40–D80, LC●DT20–DT40 (4P), LC●D25 to D150 or **To left side of** LC●F	1	1	0	LADN10★	**13.10**
		0	1	LADN01 ★	**13.10**
To side of LC●D09 to D150 only (not for use on F-LIne)	2	1	1	LAD8N11▼	**20.70**
		2	0	LAD8N20▼	**20.70**

▲ For low consumption coils, only one front-mounted two-contact block allowed. No side-mounted contact blocks allowed.
■ For spring terminal versions of these blocks, add a "3" to the end of the catalog number. For example, LADN223.
♦ Including 1 N.O. + 1 N.C. make before break contacts.
★ This block cannot be added to the LC1D 09 to D32 contactors; a maximum of 2 blocks can be mounted on the LC1/LP1 D40 to D80 contactors only.
▼ 1 block may be added to the left side of the LC1D 09 to D32, AC coils only; 1 block may be added to each side of the LC1D 40 to D80 contactors, AC coils only. Cannot be installed on D-Line contactors with DC coils.

Instantaneous blocks with dust-tight auxiliary contacts (IP54) NEMA 12

Snap-On Mounting	Standard Contacts N.O.	Standard Contacts N.C.	Dusttight Contacts N.O.	Dusttight Contacts N.C.	Catalog Number	Price
To front of LP●D40–D80, LC●DT20–DT40 (4P), LC●D09 to D80 or **To right side of** LC●F	. . .	. . .	2	. . .	LA1DX20	**$65.**
	2	. . .	2	. . .	LA1DZ40	**82.**
	1	1	2	. . .	LA1DZ31	**82.**
	. . .	. . .	2	. . .	LA1DY20△	**77.**

△ Device supplied with 4 grounding terminal points.

Pneumatic time delay contact blocks

Snap-On Mounting	Time Delay Contacts N.O.	Time Delay Contacts N.C.	Type	Range of Time Delay	Catalog Number	Price
To front of LP●D40–D80, LC●DT20–DT40 (4P), LC●D09 to D150 or **To right side of** LC●F	1	1	On energization (on delay)	0.1 to 3 s□	LADT0	**$131.**
				0.1 to 30 s	LADT2	**131.**
				10 to 180 s	LADT4	**131.**
				1 to 30 s☆	LADS2	**131.**
	1	1	On de-energization (off-delay)	0.1 to 3 s□	LADR0	**131.**
				0.1 to 30 s	LADR2	**131.**
				10 to 180 s	LADR4	**131.**

□ Scale range is expanded between 0.1 and 0.6 seconds on the dial for more accurate settings at the lower end of the range.
◊ For spring terminal versions of these blocks, add a "3" to the end of the catalog number. For example, LADN223.
☆ With switching time of 40 ms ± 15 ms between the opening of the N.C. contact to the closing of the N.O. contact.

Mechanical latch blocks with manual or electrical unlatch (D-Line only)

Front snap-on mounting onto	Application	Catalog number to be completed by the code corresponding to the coil voltage	Price
LC●/LP●D09 to D65	For silent operation and energy conservation	LA6DK10▽◒	**$77.**
LC1 D80 to D150 LP1 D80	For silent operation and energy conservation	LA6DK20▽◒	**77.**

▽ Does not include internal coil clearing contact.
◒ See table below for coil voltages.

Coil Voltages for LA6DK mechanical latch blocks

Volts	12	24	32/36	42/48	60/72	100	110/127	200/208	220/240	380/415	440/480	500/600
AC or DC	J	B	C	E	EN	K	F	L	M	Q	R	S

Dimensions . . . . . pages 16-24–16-26

For additional information, reference Catalog #8502CT9901R5/03.

LA4DA1U

Resistor/capacitor circuit (RC) for reduction of "electrical noise" in AC contactor coils

Effective protection of circuits sensitive to high frequency interference.

- Limitation of transient voltage to 300% of nominal voltage maximum
- Oscillating frequency limited to 400 Hz maximum
- Slight increase in drop-out time (1.2 to 2 times normal)

Installed by:	Mounting on	Operating voltage 50/60 Hz	Catalog Number	Price
Snapping into cavity on right side without tools■	LC1D09 to LC1D32 (3P) LC●DT20 to DT40 (4P),	24–28 V	LAD4RCE	**$26.20**
		50–127 V	LAD4RCG	**26.20**
		110–240 V	LAD4RCU	**26.20**
Snap-on mounting and connection without tools to the contactor coil terminals	LC●D12 and D25 (4P) Pre-TeSys Contactors	24–48 V	LA4DA1E	**26.20**
		50–127 V	LA4DA1G	**26.20**
		110–240 V	LA4DA1U	**26.20**
Screw connection to the contactor coil terminals	LC●D40 to D150 (3 or 4P) LC●D40 to D115 (4P)	24–48 V	LA4DA2E	**26.20**
		50–127 V	LA4DA2G	**26.20**
		110–240 V	LA4DA2U	**26.20**
		380–415 V	LA4DA2N	**26.20**

LA4DA2U

Varistor (peak limiting) for reduction of "electrical noise" in AC or DC contactor coils

Simple component operating in AC and DC

- Limitation of transient voltage value to 200% of nominal voltage maximum
- Maximum reduction of transient voltage peaks
- Slight increase in drop-out time (1.1 to 1.5 times normal)

Installed by:	Mounting on	Operating voltage 50/60 Hz and DC	Catalog Number	Price
Snapping into cavity on right side without tools■	LC●D09 to D32▲ TeSys contactors	24–48 V	LAD4VE	**$26.20**
		50–127 V	LAD4VG	**26.20**
		110–250 V	LAD4VU	**26.20**
Snap-on mounting and connection without tools to the contactor coil terminals	LC●D09 to D32 Pre-TeSys contactors	24– 48 V	LA4DE1E	**26.20**
		50–127 V	LA4DE1G	**26.20**
		110–250 V	LA4DE1U	**26.20**
Screw connection to the contactor coil terminals	LC●D40 to D115 (3P or 4P) LC●D12, D25 (4P)	24–48 Vac	LA4DE2E	**26.20**
		50–127 Vac	LA4DE2G	**26.20**
		110–250 Vac	LA4DE2U	**26.20**
Screw connection to the contactor coil terminals	LC●D40 to D115 (3P or 4P)	24–48 Vdc	LA4DE3E	**26.20**
		50–127 Vdc	LA4DE3G	**26.20**
		110–250 Vdc	LA4DE3U	**26.20**

▲ For DC coils 3-pole contactors are fitted with built-in surge suppression as standard .

LA4DC3U

Diode for reduction of "electrical noise" in DC contactor coils

Efficient protection for DC circuits:

- No overvoltage or oscillating frequency
- Polarized component
- Increased drop-out time (6 to 10 times normal)

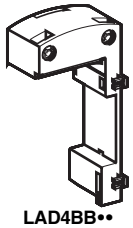
Installed on the upper part by:	Mounting on	Operating voltage DC	Catalog Number	Price
Snap-on mounting and connection without tools to the contactor coil terminals	LC●D12, D25 (4P)	24–250 V	LA4DC1U	**$26.20**
Screw connection of wire to the contactor coil terminals	LC●D40 to D80 (3P) LC●D40 to D80 (4P)	24–250 V	LA4DC3U	**26.20**

Bidirectional peak limiting diode

- Protection provided by limiting the transient voltage to 2 Uc max.
- Maximum reduction of transient voltage peaks

Installed by:	Mounting on:	Operating Voltage 50/60 Hz and DC	Catalog Number	Price
Snapping into cavity on right side of contactor ■	LC●D09 to LC●D32 (3P)♦	24 (AC only)	LAD4TB	**$26.20**
		72 (AC only)	LAD4TS	**26.20**
Screw Mounting ★	LC●D40 to LC●D80	24 (AC only)	LA4DB2B	**26.20**
		72 (AC only)	LA4DB2S	**26.20**
		24 (DC only)	LA4DB3B	**26.20**
		72 (DC only)	LA4DB3S	**26.20**

■ Installing suppressor into the cavity makes the electrical connection. Overall width of contactor remains the same.
♦ For LC●D09 through LC●D32 with DC or low consumption DC coils 3-pole contactors fitted with built-in bidirectional diode suppression as standard.
★ Mounting at the top of the contactor on coil terminals A1 and A2.



LAD4BB••

Cabling Accessories

Usage	Mounting on	Operating voltage 50/60 Hz		Catalog Number	Price
For adapting existing wiring to a new product or for use with top mount accessory.	LC1D09 to D38 LC1DT20 to DT60 AC only	Without coil suppression		LAD4BB	**$23.00**
		With coil suppression (varistor)	24-48 V	LAD4BBVE	**23.00**
			50-127 V	LAD4BBVG	**23.00**
			110-250 V	LAD4BBVU	**23.00**

For additional information, reference Catalog #8502CT9901R5/03.

The following accessories require use of cabling accessories (LAD4BB●●) for proper mounting. See page 16-7.

Electronic Serial Timer Modules

These solid state modules delay the energizing and de-energizing of the contactor coil.

Type	Operational Voltage▲			Time Delay	Catalog Number	Price
	24–250 Vac	100–250 Vac	24–250 Vac-dc			
On-delay	LC1D09–D32	LC1D40–D150	LP1D09–D32	0.1–2 s	LA4DT0U	**$82.00**
				1.5–30 s	LA4DT2U	**82.00**
				25–500 s	LA4DT4U	**82.00**

▲ For 24 V operation, the contactor must be fitted with a 21 V coil: code Z5 for 50 Hz, Z6 for 60 Hz, ZD for DC.

LA4DFB

Interface Modules

These modules allow the contactor coils to be energized from low voltage and low current level signals. They come in mechanical relay and solid state versions. The relay plus manual operation versions include a lever for manually turning the contactor on and off. When a module receives a low level signal, it allows the separate sourced control voltage to flow to the contactor coil. It saves space and wiring time compared to conventional interposing relays.

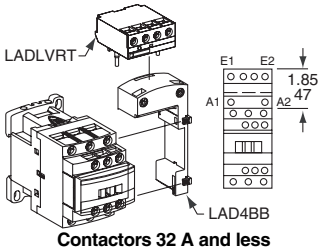
Interface Type	Operational Voltage			Input Voltage	Catalog Number	Price
	24–250 Vac	100–250 Vac	24–250 Vdc			
Relay	LC1D09–D150		LP1D09–D32	24 V	LA4DFB	**$55.00**
	LC1D09–D150		LP1D09–D32	48 V	LA4DFE	**55.00**
Relay Plus Manual Operation	LC1D09–D150		LP1D09–D32	24 V	LA4DLB	**71.00**
	LC1D09–D150		LP1D09–D32	48 V	LA4DLE	**71.00**
Solid State	LC1D09–D32	LC1D40–D115		24 V	LA4DWB	**71.00**

LA4DMU

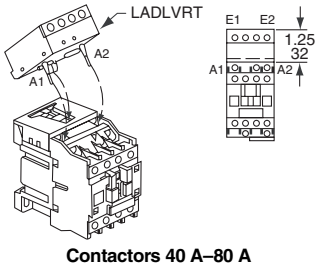
Automatic-Manual-Stop Control Modules

These modules allow for local and/or remote operation of the contactor coil. Each module includes a lever to switch from automatic to manual operation and a dial to turn the contactor on and off.

Operational Voltage				Catalog Number	Price
24–100 Vac	100–250 Vac	24–100 Vdc	100–250 Vdc		
LC1D09–D150	. . .	LP1D09–D32	. . .	LA4DMK	**$35.00**
. . .	LC1D09–D150	. . .	LP1D09–D32	LA4DMU	**35.00**



Contactors 32 A and less



Contactors 40 A–80 A

SEMI F47 Low Voltage Ride Through Module

By ensuring SEMI F47 compliance of AC powered IEC contactors and relays, the low voltage ride through modules can be used to increase the voltage sag immunity of semiconductor processing equipment. These modules make it possible for AC powered TELEMECANIQUE contactors and relays to exceed the requirements of SEMI F47, both in the magnitude and duration of a voltage sag event—even with accessories such as auxiliary contact blocks and pneumatic timers.

The low voltage ride through modules can be used with TELEMECANIQUE contactors from 9 A through 80 A, as well as the CAD series of control relays.

For use on:	Catalog Number	Price
LC1D●●B7, CAD●●B7	LADLVRT24V■	**$124.00**
LC1D●●G7, CAD●●G7	LADLVRT120V■	**124.00**
LC1D●●LE7, CAD●●LE7	LADLVRT208V■	**124.00**
Top mount bracket (required when using above modules)	LAD4BB♦	**23.00**
Fuse	LA9D941	**60.00**

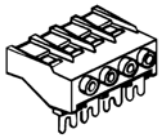
■ The low voltage ride through module can be used with all TeSys control relays with 24 Vac, 120 Vac or 208 Vac dual frequency coils.
♦ LAD4BB must be used when the low voltage ride through module is being used with contactors 32 A and less, and TeSys CAD Series of Control Relays.

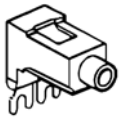
For additional information, reference Catalog #8502CT9901R5/03.

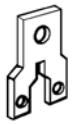
Contactors	Mechanical interlock				Set of power connections			
Reversing contactors comprising two identical, horizontally mounted contactors:	**Without electrical interlock**		**With incorporated electrical interlock (2 N.C. contacts)**		**Reversing contactors for motor control**		**Four pole contactors**	
	Catalog Number	**Price**	**Catalog Number**	**Price**	**Catalog Number**	**Price**	**Catalog Number**	**Price**
LC1D09, LC1D12, LC1D18, LC1D25, LC1D32	LAD9R1	**$32.10**	LAD9R1V	**$45.50**	Included with kit		Not Available	
LC1DT20, LC1DT25, LC1DT32, LC1DT40	LADT9R1	**$36.90**	LADT9R1V	**$50.30**	Not Available		Included with kit	
LC1D40 LC1D50 LC1D/LP1D65	LA9D50978	**$31.70**	LA9D4002	**$45.90**	LA9D6569	**$53.00**	LA9D6570	**$63.00**
LC1D80 AC	LA9D50978	**$31.70**	LA9D4002	**45.90**	LA9D8069	**$65.00**	LA9D8070	**$79.00**
LC1D80 DC	LA9D80978	**$31.70**	LA9D8002	**65.00**	LA9D8069	**$65.00**	LA9D8070	**$79.00**
LC1D115 and LC1D150	Not Available		LA9D11502	**78.00**	LA9D11569	**129.00**	LA9D11571 (3P) LA9D11570 (4P) (D115 only)	**53.00** **53.00**

Dimensions . . . . . page 16-27

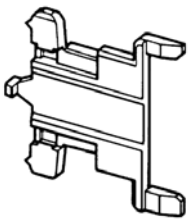
For additional information, reference Catalog #8502CT9901R5/03.


LA9D1260


LA9D2561


LA9D40961


LA9D6567


LA9D511

For Power Pole or Control Connection

Description			For use with contactors LC1/LP1	Sold in lots of	Catalog Number	Price
Connectors for larger cable sizes	4 poles	#8 AWG (10 mm²)	D09, D12	1	LA9D1260	$ 8.70
	3 poles	#4 AWG (25 mm²)	D09–D32	1	LA9D3260	12.00
Links for the parallel connection of	2 poles		D09–D32	10	LA9D2561	26.20
			D40, D50, D65	2	LA9D40961	5.50
			D80	2	LA9D80961	6.50
			F115	4	LA9FF602	55.00
			F150, F185	4	LA9FG602	65.00
			F265, F330, F400	4	LA9FH602	169.00
			F500	4	LA9FK602	228.00
			F630, F800	4	LA9FL602	278.00
	3 poles (Wye-Delta Shorting Strap)		D09–D32	10	LAD9P3	2.20
			D80	1	LA9D80962	6.50
			F115	1	LA9FF601	6.80
			F150, F185	1	LA9FG601	8.20
			F265, F330, F400	1	LA9FH601	12.00
			F500	1	LA9FK601	21.80
			F630, F800	1	LA9FL601	38.20
	4 poles		D40, D50, D65	2	LA9D40963	15.30
			D80	2	LA9D80963	17.50
Second coil connection			LP1D40–D80	10	LA9D09966	2.20
Control circuit take-off from main pole			LP1D40–D65	10	LA9D6567	4.30
			LPD80	10	LA9D8067	5.50
Spreaders for increasing pole pitch to 45 mm			D115, D150	3	GV7AC03	31.10

For Marking

Reference label holder snap-on 8 x 22 mm	4-pole contactors LC1D65 & D80	100	LA9D92	$ .06 each
Sheet of 300 labels self adhesive 7 x 21 mm	For holder LA9D92	1	LA9D93	4.30

For Mounting

Set of shims for mounting LA8DN	LC1D40 to D80	1	LA9D511	9.80
35 mm DIN Rail – 2 meters long	LC1D09 to D80	10	AM1DP200	21.00

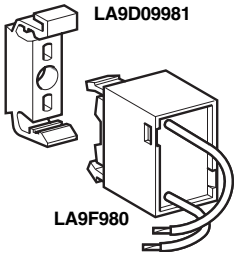
Replacement contacts

	For use with contactors		Catalog Number	Price
Three-pole	LC1D115	3 poles	LA5D1158031	$239.00
	LC1D150	3 poles	LA5D1158031	239.00
Four-pole	LC1D115	4 poles	LA5D115804	318.00

Arc chambers

Three-pole	LC1D115	3 poles	LA5D11550	$ 90.00
	LC1D150	3 poles	LA5D15050	90.00
Four-pole	LC1D115	4 poles	LA5D115480	119.00

For additional information, reference Catalog #8502CT9901R5/03.



LA9D09981

LA9F980

Suppressor Blocks

Operating limit: up to 220 V, 50/60 Hz coils				
Description	**For Use**		**Catalog Number**	**Price**
Suppressor block (clip-on mounting to coil)	With coils	LX1FF, FG, FH, F115, F185, F265, F330	LA9F980	**$21.80**
	With coils	LX1FJ, FK, FL, FX, F400, F500, F630, F780 LX9FF, FG, FH, F115, F185, F265, F330	LA9D09980	**20.70**
Mounting bracket (for 35 mm DIN rail or panel mounting) for suppressor block			LA9D09981	**5.50**

Lugs—3-Pole

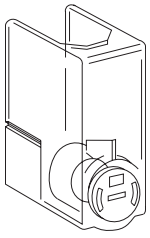
Contactor Type LC1	Lug Kit Catalog Number	Cable Size AL/CU	Price
F115	DZ2FF6	14 to 2/0	**$ 39.30**
F150, F185	DZ2FG6	6 to 3/0	**65.00**
F265, F330	DZ2FH6	6 to 300 MCM	**65.00**
F400	DZ2FJ6	4 to 500 MCM	**65.00**
F500	DZ2FK6	2 X 2 to 600 MCM	**131.00**
F630, F800	DZ2FL6	3 X 2 to 600 MCM	**164.00**
F780	DZ2FX6	4 X 1/0 to 750 MCM	**164.00**

Lugs for LC1F must be ordered separately. Each kit consists of six (6) lugs. Mounting hardware (screws, washers, nuts) are provided with the contactor, not the lugs.

Lugs—2 and 4-Pole

Contactor Type LC1	Lug Kit Catalog Number	Qty. Required		AL/CU Cable Size	Price
		2-Pole	4-Pole		
F115	DZ2FF1	4	8	14 to 2/0	**$ 6.50**
F150, F185	DZ2FG1	4	8	6 to 3/0	**11.00**
F265, F330	DZ2FH1	4	8	6 to 300 MCM	**11.00**
F400	DZ2FJ1	4	8	4 to 500 MCM	**11.00**
F500	DZ2FK1	4	8	2 X 2 to 600 MCM	**21.80**
F630	DZ2FL▲	▲	N/A	3 X 2 to 600 MCM	▲
F780	DZ2FX1	4	8	4 X 1/0 to 750 MCM	**28.30**

Lugs for LC1F contactors and overload relays must be ordered separately. Each kit consists of one (1) lug. Mounting hardware (screws, washers, nuts) are provided with the contactors, not the lugs.
▲ For 2-pole F630 contactors, order 2 DZ2FL1 (L1 and T2), and 2 DZ2FL3 (L2 and T1). For 4-pole F6304, order 2 DZ2FL1 (L1 and T4), 4 DZ2FL2 (L2, T2, L3, T3) and 2 DZ2FL3 (L4 and T1). All three are priced at **$27.30** each.



LA9F70●

Power Terminal Protection Shrouds

These clear plastic protective shrouds are an effective means to meet international touch-safe requirements for power terminals. They are designed to be used with power cables that have been bolted to the terminal.

Note: The protection shrouds do not attach to contactors or overloads utilizing **DZ2F** lug kits.

For Use With 2-, 3-, And 4-pole Contactors	Number of Shrouds Per Set	Set Catalog Number	Price
LC1F115	6	LA9F701	**$ 42.40**
LC1F150, F185 CR1F150, F185	6	LA9F702	**61.00**
LC1F225, F265, F330, F400 and F4002, F500 and F5002 CR1F265, F400 and F500	6	LA9F703	**82.00**
LC1F630, F6302 and F800 CR1F630	6	LA9F704	**93.00**
LC1F1154	8	LA9F706	**58.00**
LC1F1504 and F1854	8	LA9F707	**80.00**
LC1F2254, F2654, F3304, F4004, F5004	8	LA9F708	**111.00**
LC1F6304	8	LA9F709	**120.00**

Dimensions . . . . . pages 16-28–16-29

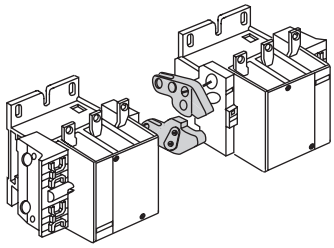
For additional information, reference Catalog #8502CT9901R5/03.

Horizontal mounting — Mechanical interlocks — Set of power connections

Reversers assembled with two contactors of identical ratings:

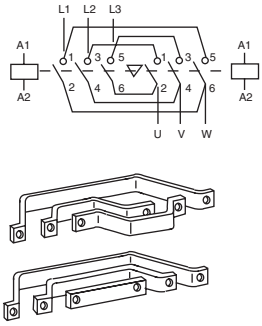
LC1F115 or F1154
LC1F150 or F1504
LC1F185 or F1854
LC1F265 or F2654
LC1F330 or F3304
LC1F400 or F4004
LC1F500 or F5004
LC1F630 or F6304
LC1F800

LA9F●970



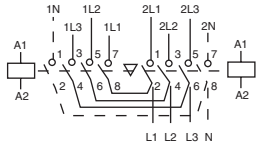
Reversing contactors

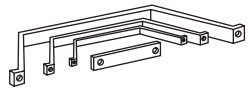
3-pole
LA9F●976



Changeover

3-pole LA9F●982 4-pole LA9F●977





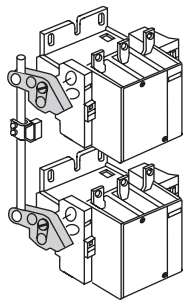
LA9F●982

Vertical mounting — Mechanical interlocks

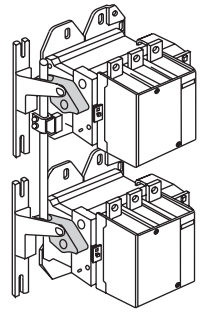
Reversers assembled with two contactors of identical ratings:

LC1F115 or F1154
LC1F150 or F1504
LC1F185 or F1854
LC1F265 or F2654
LC1F330 or F3304
LC1F400 or F4004
LC1F500 or F5004
LC1F630 or F6304
LC1F800

LA9FF4F
LA9FG4G

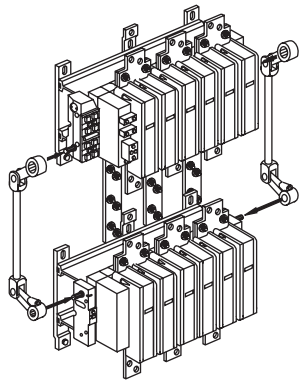


LA9FH4H
LA9FJ4J
LA9FK4K
LA9FL4L

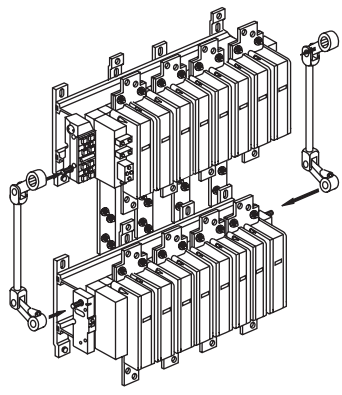


LC1F780
LC1F7804

LA9FX970 (3-pole reverser)

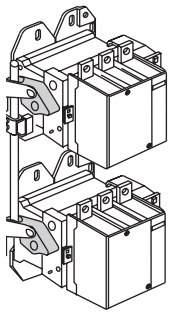


LA9FX971 (4-pole transfer)

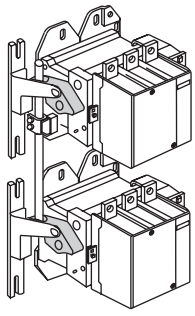


Reversers assembled with two contactors of different ratings:

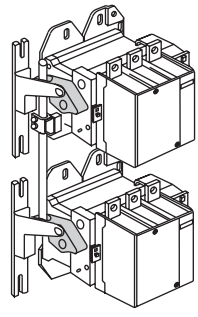
LC1F115 or F1154
LC1F150 or F1504
LC1F185 or F1854
LC1F265 or F2654
LC1F330 or F3304
LC1F400 or F4004
LC1F500 or F5004
LC1F630 or F6304



LA9FH4H
LA9FJ4F
LA9FK4F
LA9FL4F
LA9FH4G
LA9FJ4G
LA9FL4G
LA9FL4G



LA9FJ4H
LA9FK4H
LA9FL4H
LA9FK4J
LA9FL4J
LA9FL4K



NOTE: Lower contactor must have equal or lower current rating.

For additional information, reference Catalog #8502CT9901R5/03.

Component parts for the assembly of F-Line 3-pole reversing contactors

With 2 Identical Contactors ▲	Set of Power Connections Catalog Number	Price	Mechanical Interlock Kit Catalog Number	Price
Horizontal Mounting				
LC1F115	LA9FF976	**$106.00**	LA9FF970	**$ 53.00**
LC1F150	LA9F15076	**96.00**	LA9FF970	**53.00**
LC1F185	LA9FG976	**113.00**	LA9FG970	**53.00**
LC1F265	LA9FH976	**151.00**	LA9FJ970	**76.00**
LC1F330	LA9FJ976	**225.00**	LA9FJ970	**76.00**
LC1F400	LA9FJ976	**225.00**	LA9FJ970	**76.00**
LC1F500	LA9FK976	**306.00**	LA9FJ970	**76.00**
LC1F630 or F800	LA9FL976	**568.00**	LA9FL970	**76.00**
Vertical Mounting				
LC1F115 or F150	★	...	LA9FF4F	**$ 97.00**
LC1F185	★	...	LA9FG4G	**113.00**
LC1F265	★	...	LA9FH4H	**126.00**
LC1F330	★	...	LA9FJ4J	**149.00**
LC1F400	★	...	LA9FJ4J	**149.00**
LC1F500	★	...	LA9FK4K	**149.00**
LC1F630 or F800	★	...	LA9FL4L	**149.00**
LC1F780	■	...	LA9FX970 ■	**508.00**

Component parts for the assembly of F-Line 3-pole or 4-pole transfer contactors

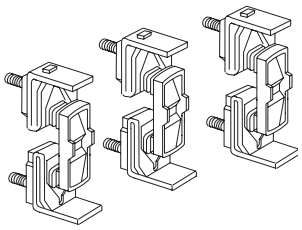
Horizontal Mounting	Three-Pole	Four-Pole	Price		Price
LC1F115/4	LA9FF982	LA9FF977	**$ 53.00**	LA9FF970	**$ 53.00**
LC1F150/4	LA9F15082	LA9F15077	**53.00**	LA9FF970	**53.00**
LC1F185/4	LA9FG982	LA9FG977	**53.00**	LA9FG970	**53.00**
LC1F265/4	LA9FH982	LA9FH977	**83.00**	LA9FJ970	**76.00**
LC1F330/4	LA9FJ982	LA9FJ977	**113.00**	LA9FJ970	**76.00**
LC1F400/4	LA9FJ982	LA9FJ977	**113.00**	LA9FJ970	**76.00**
LC1F500/4	LA9FK982	LA9FK977	**154.00**	LA9FJ970	**76.00**
LC1F630/4	LA9FL982	LA9FL977	**233.00**	LA9FL970	**76.00**
Vertical Mounting					
LC1F115/4	★	...	...	LA9FF4F	**$ 97.00**
LC1F185/4	★	...	...	LA9FG4G	**113.00**
LC1F265/4	★	...	...	LA9FH4H	**149.00**
LC1F330/4	★	...	...	LA9FJ4J	**149.00**
LC1F400/4	★	...	...	LA9FJ4J	**149.00**
LC1F500/4	★	...	...	LA9FK4K	**149.00**
LC1F630/4	★	...	...	LA9FL4L	**149.00**
LC1F780/4	♦	...	...	LA9FX970 ♦	**508.00**

Vertical mounting of 2 contactors of different ratings ▲

Upper Contactor	Lower Contactor	Mechanical Interlock Kit Catalog Number	Price
LC1F185 or 1854	LC1F115/150 or 1154/1504	LA9FG4F	**$113.00**
LC1F265 or 2654	LC1F115/150 or 1154/1504	LA9FH4F	**126.00**
LC1F330 or 3304	LC1F185/1854 or 265/265A	LA9FH4G	**126.00**
LC1F400 or 4004	LC1F115/150 or 1154/1504	LA9FJ4F	**126.00**
	LC1F185 or 1854	LA9FJ4G	**126.00**
	LC1F265/2654 or 330/330A	LA9FJ4H	**149.00**
LC1F500 or 5004	LC1F115/150 or 1154/1504	LA9FK4F	**149.00**
	LC1F185 or 1854	LA9FK4G	**126.00**
	LC1F265/2654 or 330/330A	LA9FK4H	**149.00**
	LC1F400 or 4004	LA9FK4J	**149.00**
LC1F630, 6304 or LC1F800	LC1F115/150 or 1154/1504	LA9FL4F	**116.00**
	LC1F185 or 1854	LA9FL4G	**126.00**
	LC1F265/2654 or 330/330A	LA9FL4H	**149.00**
	LC1F400 or 4004	LA9FL4J	**149.00**
	LC1F500 or 5004	LA9FL4K	**149.00**

▲ With identical or different numbers of poles.
■ Double mechanical interlock with 2 mechanical links and 3 power connection bars.
♦ Double mechanical interlock with 2 mechanical links and 4 power connection bars.
★ Power connection to be assembled by the customer, except for contactors LC1F780 and F7804.

For additional information, reference Catalog #8502CT9901R5/03.



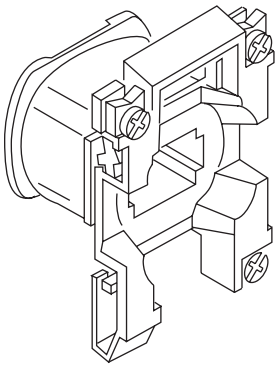
LA5FG431

LA5F11550

	For use on contactors		Catalog Number	Price
Replacement contact sets ▲				
Two-pole	LC1F4002	2 poles	LA5F400802	**$ 717.00**
	LC1F5002	2 poles	LA5F500802	**1111.00**
	LC1F6302	2 poles	LA5F630802	**1651.00**
Three-pole	LC1F115, F150	3 poles	LA5FF431	**239.00**
	LC1F185	3 poles	LA5FG431	**418.00**
	LC1F265	3 poles	LA5FH431	**793.00**
	LC1F330, F400	3 poles	LA5F400803	**1076.00**
	LC1F500	3 poles	LA5F500803	**1589.00**
	LC1F630	3 poles	LA5F630803	**2488.00**
	LC1F780	1 pole	LA5F780801★	**1651.00**
	LC1F800	3 poles	LA5F800803	**2488.00**
Four-pole	LC1F1504, F1154	4 poles	LA5FF441	**318.00**
	LC1F1854	4 poles	LA5FG441	**549.00**
	LC1F2654	4 poles	LA5FH441	**966.00**
	LC1F3304, F400, F4004	4 poles	LA5F400804	**1435.00**
	LC1F5004	4 poles	LA5F500804	**2461.00**
	LC1F6304	4 poles	LA5F630804	**3304.00**
	LC1F7804	1 pole	LA5F780801★	**1651.00**
Arc chambers				
Two-pole	LC1F4002	2 poles	LA5F400250	**$ 280.00**
	LC1F5002	2 poles	LA5F500250	**305.00**
	LC1F6302	2 poles	LA5F630250	**431.00**
Three-pole	LC1F115	3 poles	LA5F11550	**90.00**
	LC1F150	3 poles	LA5F15050	**101.00**
	LC1F185	3 poles	LA5F18550	**179.00**
	LC1F265	3 poles	LA5F26550	**269.00**
	LC1F330	3 poles	LA5F33050	**287.00**
	LC1F400	3 poles	LA5F40050	**305.00**
	LC1F500	3 poles	LA5F50050	**341.00**
	LC1F630	3 poles	LA5F63050	**646.00**
	LC1F780	1 pole	LA5F780150★	**431.00**
	LC1F800	3 poles	LA5F80050	**750.00**
Four-pole	LC1F1154	4 poles	LA5F115450	**119.00**
	LC1F1504	4 poles	LA5F150450	**131.00**
	LC1F1854	4 poles	LA5F185450	**209.00**
	LC1F2654	4 poles	LA5F265450	**299.00**
	LC1F3304	4 poles	LA5F330450	**508.00**
	LC1F4004	4 poles	LA5F400450♦	**573.00**
	LC1F5004	4 poles	LA5F500450♦	**610.00**
	LC1F6304	4 poles	LA5F630450■	**861.00**
	LC1F7804	1 pole	LA5F780150★	**431.00**

▲ Supplied per pole are: 2 fixed contacts, 1 moving contact, 2 deflectors, 1 backplate, mounting screws and washers.
■ Comprises single-pole components.
♦ Comprises 2-pole components.
★ 2 identical components per pole are supplied.

For additional information, reference Catalog #8502CT9901R5/03.



LX1D2

For LC1D09–D32, LC1DT20–40 (TeSys™) Contactors and CAD Relays

Rated Nominal Voltage	Catalog Number 50/60 Hz	Price
12 21▲ 24 32 36	LXD1J7 LXD1Z7 LXD1B7 LXD1C7 LXD1CC7	**$26.20**
42 48 60 100 110	LXD1D7 LXD1E7 LXD1EE7 LXD1K7 LXD1F7	**26.20**
115 120 127 200 208	LXD1FE7 LXD1G7 LXD1FC7 LXD1L7 LXD1LE7	**26.20**
220/230 230 230/240 277 380/400	LXD1M7 LXD1P7 LXD1U7 LXD1W7 LXD1Q7	**26.20**
400 415 440 480 575	LXD1V7 LXD1N7 LXD1R7 LXD1T7 LXD1SC7	**26.20**
600 690	LXD1X7 LXD1Y7	**26.20**

Specifications

Average consumption: Inrush (inductance .75)	70 VA
Sealed (inductance .3)	7 VA
Operating range @ 60° C	80–110% of nominal @ 50 Hz 85–110% of nominal @ 60 Hz

▲ Voltage for special coils fitted in contactors with serial timer modules, with 24 V supply.

For LC1D09, D12, D18 Contactors

For old style contactors where the catalog number includes the auxilary contact arrangement (ex. LC1D0901F7)

Rated Nominal Voltage V	Catalog Number 50 Hz	Catalog Number 60 Hz	Catalog Number 50/60 Hz	Price
21 ■ 24 32 42 48	LX1D2Z5 LX1D2B5 LX1D2C5 LX1D2D5 LX1D2E5	LX1D2Z6 LX1D2B6 . . . . . . LX1D2E6	LX1D2Z7 LX1D2B7 . . . LX1D2D7 LX1D2E7	**$26.20**
110 120 127 208 220	LX1D2F5 . . . LX1D2G5 . . . LX1D2M5	LX1D2F6 LX1D2G6 . . . LX1D2L6 LX1D2M6	LX1D2F7 LX1D2G7 . . . . . . LX1D2M7	**26.20**
230 240 256 277 380	LX1D2P5 LX1D2U5 LX1D2W5 . . . LX1D2Q5	. . . LX1D2U6 . . . LX1D2W6 LX1D2Q6	LX1D2P7 LX1D2U7 . . . . . . LX1D2Q7	**26.20**
400 415 440 480 500	LX1D2V5 LX1D2N5 LX1D2R5 . . . LX1D2S5	. . . . . . LX1D2R6 LX1D2T6 . . .	LX1D2V7 LX1D2N7 LX1D2R7	**26.20**
575 600 660	. . . . . . LX1D2Y5	LX1D2S6 LX1D2X6 . . .	. . . .	**26.20**

Specifications

	50 Hz	60 Hz	50/60 Hz
Average consumption Inrush (inductance .75)	60 VA	70 VA	70 VA at 50 or 60 Hz
Sealed (inductance .3)	7 VA	7.5 VA	8 VA at 50 or 60 Hz
Operating range at θ ≤ 55°C / 131°F	80–110 % of nominal voltage	80–110% of nominal voltage	85–110% of nominal voltage

For LC1D25, D32—For old style contactors where the catalog number includes the auxiliary contact arrangement (ex: LC1D2510F7)

Rated Nominal Voltage (V)	Catalog Number 50 Hz	Catalog Number 60 Hz	Catalog Number 50/60 Hz	Price
21■ 24 32 42 48	LX1D4Z5 LX1D4B5 LX1D4C5 LX1D4D5 LX1D4E5	LX1D4Z6 LX1D4B6 . . . . . . LX1D4E6	LX1D4Z7 LX1D4B7 . . . LX1D4D7 LX1D4E7	**$36.00**
110 120 127 208 220	LX1D4F5 . . . LX1D4G5 . . . LX1D4M5	LX1D4F6 LX1D4G6 . . . LX1D4L6 LX1D4M6	LX1D4F7 LX1D4G7 . . . . . . LX1D4M7	**36.00**
230 240 256 277 380	LX1D4P5 LX1D4U5 LX1D4W5 . . . LX1D4Q5	. . . LX1D4U6 . . . LX1D4W6 LX1D4Q6	LX1D4P7 LX1D4U7 . . . . . . LX1D4Q7	**36.00**
400 415 440 480 500	LX1D4V5 LX1D4N5 LX1D4R5 . . . LX1D4S5	. . . . . . LX1D4R6 LX1D4T6 . . .	LX1D4V7 LX1D4N7 LX1D4R7	**36.00**
575 600 660	. . . . . . LX1D4Y5	LX1D4S6 LX1D4X6 . . .	. . . .	**36.00**

Specifications

	50 Hz	60 Hz	50/60 Hz
Average consumption - Inrush (inductance .75) - Sealed (inductance .3)	90 VA 7.5 VA	100 VA 8.5 VA	100 VA at 50 or 60 Hz 8.5 VA at 50 or 60 Hz
Operating range at θ ≤ 55°C / 131°F	80–110% of nominal voltage	80–110% of nominal voltage	85–110% of nominal voltage

■ For use in 24 volt applications involving serial timer modules. Refer to page 16-8.

For additional information, reference Catalog #8502CT9901R5/03.

For LC1D40, D50, D65, D80▲

Rated Nominal Voltage V	Catalog Number 50 Hz	Catalog Number 60 Hz	Catalog Number 50/60 Hz	Price
24	LX1D6B5	LX1D6B6	LX1D6B7	**$41.50**
32	LX1D6C5	. . .	. . .	**41.50**
42	LX1D6D5	. . .	LX1D6D7	**41.50**
48	LX1D6E5	LX1D6E6	LX1D6E7	**41.50**
110	LX1D6F5	LX1D6F6	LX1D6F7	**41.50**
120	. . .	LX1D6G6	LX1D6G7	**41.50**
127	LX1D6G5	. . .	. . .	**41.50**
208	. . .	LX1D6L6	LX1D6LE7	**41.50**
220	LX1D6M5	LX1D6M6	LX1D6M7	**41.50**
230	LX1D6P5	. . .	LX1D6P7	**41.50**
240	LX1D6U5	LX1D6U6	LX1D6U7	**41.50**
256	LX1D6W5	. . .	. . .	**41.50**
277	. . .	LX1D6W6	. . .	**41.50**
380	LX1D6Q5	LX1D6Q6	LX1D6Q7	**41.50**
400	LX1D6V5	. . .	LX1D6V7	**41.50**
415	LX1D6N5	. . .	LX1D6N7	**41.50**
440	LX1D6R5	LX1D6R6	LX1D6R7	**41.50**
480	. . .	LX1D6T6	. . .	**41.50**
500	LX1D6S5	. . .	. . .	**41.50**
575	. . .	LX1D6S6	. . .	**41.50**
600	. . .	LX1D6X6	. . .	**41.50**
660	LX1D6Y5	. . .	. . .	**41.50**
Specification	50 Hz	60 Hz	50/60 Hz	
Average consumption - inrush (inductance .75) - sealed (inductance .3)	200 VA 20 VA	220 VA 22 VA	245 VA at 50 or 60 Hz 26 VA at 50 or 60 Hz	
Operating range at θ ≤ 55°C / 131°F	80–110% of nominal voltage	80–110% of nominal voltage	85–110% of nominal voltage	

For LC1D115, D150■

Rated Nominal Voltage V	Catalog Number 50 Hz	Catalog Number 60 Hz	Catalog Number 50/60 Hz	Price
24	LX1D8B5	LX1D8B6	LX1D8B7	**$78.00**
32	LX1D8C5	. . .	LX1D8C7	**78.00**
42	LX1D8D5	. . .	LX1D8D7	**78.00**
48	LX1D8E5	LX1D8E6	LX1D8E7	**78.00**
110	LX1D8F5	LX1D8F6	LX1D8F7	**78.00**
115	LX1D8FE5	. . .	LX1D8FE7	**78.00**
120	. . .	LX1D8G6	LX1D8G7	**78.00**
127	LX1D8FC5	. . .	LX1D8FC7	**78.00**
208	. . .	LX1D8LG	LX1D8L7	**78.00**
220/230	LX1D8M5	LX1D8M6	LX1D8M7	**78.00**
230	LX1D8P5	. . .	LX1D8P7	**78.00**
240	LX1D8U5	LX1D8U6	LX1D8U7	**78.00**
277	. . .	LX1D8W6	LX1D8W7	**78.00**
380/400	LX1D8Q5	LX1D8Q6	LX1D8Q7	**78.00**
400	LX1D8V5	. . .	LX1D8V7	**78.00**
415	LX1D8N5	. . .	LX1D8N7	**78.00**
440	LX1D8R5	LX1D8R6	LX1D8R7	**78.00**
480	. . .	LX1D8T6	LX1D8T7	**78.00**
500	LX1D8S5	. . .	LX1D8S6	**78.00**
Specification	50 Hz	60 Hz	50/60 Hz	
Average consumption - inrush (inductance .3) - sealed (inductance .3)	300 VA 22 VA	300 VA 22 VA	350 Va 18 Va	- inrush (.9) - sealed (.9)
Operating range A7 θ ≤ 55°C / 131°F	85–110% of nominal voltage	85–110% of nominal voltage	80–115% of nominal voltage	

▲ For old style and new TeSys style contactors where the catalog number may or may not include the auxiliary contact arrangement. (ex: LC1D4010F7 or LC1D40F7).
■ For old style and new TeSys style contactors where the catalog number may or may not include the auxiliary contact arrangement; (ex: LC1D11500F7 or LC1D115F7).

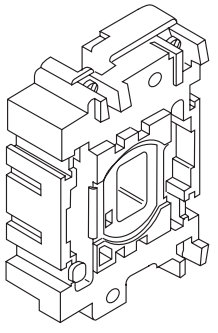
For LC1F115, F150, F185, F265, F330, F400, F500, F630, F780, F800

LX1 coils are the standard coils that are included when a voltage code is added to the contactor part number. The LX9 coils may be ordered separately for special applications. LX9 coils do not include a built-in normally open holding circuit contact; a separate auxiliary contact block with a N.O. contact should be added to the contactor. Both the LX1 and LX9 coils can be used on the previous F-line contactors.

Device Type	Hz	Catalog Number	● Catalog Number Suffix													
			24 V	48 V	110 V	120 V	208 V	220 V	240 V	277 V	380 V	415 V	440 V	480 V	600 V	Price
F115–F150	50	LX1FF●	024	048	110	127	200	220	240	264	380	415	415	500	600	**$ 78.00**
	60	LX1FF●	020	040	092	095	162	184	187	220	316	340	360	380	475	**78.00**
	40–400	LX9FF●	. . .	048	110	127	200	220	220	260	380	415	415	500	. . .	**78.00**
F185	50	LX1FG●	024	048	110	127	200	220	240	264	380	415	415	450	600	**108.00**
	60	LX1FG●	020	040	092	095	162	184	187	220	316	340	360	380	475	**108.00**
	40–400	LX9FG●	. . .	048	110	127	200	220	220	260	380	415	415	500	. . .	**108.00**
F265–F330	40–400	LX1FH●	0242	0482	1102	1272	2002	2202	2402	2772	3802	3802	4402	5002	6002	**138.00**
	40–400	LX9FH●	. . .	0482	1102	1272	2002	2202	2402	2772	3802	3802	. . .	5002	. . .	**138.00**
F400★	40–400	LX1FJ●	. . .	048	110	110	200	220	240	280	380	415	415	415	600	**287.00**
	40–400	LX9FJ● △	910	917	925	925	930	931	932	932	936	936	937	937	. . .	**287.00**
F500★	40–400	LX1FK●	. . .	048	110	110	200	220	240	280	380	415	415	415	600	**360.00**
	40–400	LX9FK● △	910	917	925	925	930	931	932	932	936	936	937	937	. . .	**360.00**
F630★	40–400	LX1FL●	. . .	048	110	110	200	220	240	260	380	415	415	415	600	**398.00**
	40–400	LX9FL● △	910	917	924	925	930	930	931	932	935	936	936	937	. . .	**483.00**
F780, FX ♦	40–400	LX1FX●	. . .	. . .	110	110	200	220	220	280	380	415	415	415	. . .	**795.00**
F800	50/60	LX4F8●▼	. . .	. . .	FW	FW	. . .	MW	MW	. . .	QW	QW	QW	. . .	. . .	**725.00**

♦ LClF780 contactors operate on 2 coils as a set. The LX1FX part number includes both coils.
★ The 600 V coils for the F400, F500 and F630 do not include an auxiliary contact for holding circuits.
▼ Also requires rectifier DR5TE4U for 110 V–240 V coils, DR5TE4S for 380 V–440 V coils. See table below for pricing.
△ Coil circuit requires a separately mounted rectifier. Order from table below.

Coil	Rectifier Catalog Number	Price
LX9F●910	DR5TF4V	**$75.00**
LX9F●917	DR5TF4V	**75.00**
LX9F●925	DR5TE4U	**75.00**
LX9F●926	DR5TE4U	**75.00**
LX9F●931	DR5TE4U	**75.00**
LX9F●936	DR5TE4S	**75.00**
LX9F●937	DR5TE4S	**75.00**
LX9F●938	DR5TE4S	**75.00**



LX1D6

Application Note on Contactor Drop-out Times:

Contactors using LX1, FH, FJ, FK, FL, and FX coils have longer drop-out times.

For critical applications such as emergency stop functions:

- Select a fast drop-out coil (LX9), or
- Use a maintained contact Stop button, or
- Use an interposing relay.

For additional information, reference Catalog #8502CT9901R5/03.

F-Line DC Coils

For LC1F115, F150, F185, F265, F400, F500, F630, F780, F800

LX4 coils are the standard coils when a voltage code is added to the part number. The LX9 coils may be ordered separately for special applications. LX9 coils do not include a built-in normally open holding circuit contact; a separate auxiliary contact block with a N.O. contact should be added to the contactor. Both the LX4 and LX9 coils can be used on previous F-line devices.

Device Type	Catalog Number	● Catalog Number Suffix										
		24 V	36V	48 V	60 V	72 V	110 V	125 V	220 V	250 V	440 V	Price
F115, F150	LX4FF●	024	035	048	060	070	110	125	220	250	440	**$ 71.00**
F185	LX4FG●	024	035	048	060	070	110	125	220	250	440	**78.00**
F265, F330	LX4FH●	024	035	048	060	070	110	125	220	250	440	**127.00**
F400	LX4FJ●	. . .	. . .	048	060	070	110	125	220	250	440	**280.00**
	LX9FJ●♦	. . .	. . .	918	. . .	. . .	926	927	932	. . .	938	**280.00**
F500	LX4FK●	. . .	. . .	048	060	070	110	125	220	250	440	**394.00**
	LX9FK● ♦	. . .	. . .	918	. . .	. . .	926	927	932	. . .	938	**394.00**
F630	LX4FL●	. . .	. . .	048	060	070	110	125	220	250	440	**554.00**
	LX9FK● ♦	. . .	. . .	918	. . .	. . .	926	927	932	. . .	938	**554.00**
F780	LX4FX●▲	. . .	. . .	. . .	. . .	. . .	110	125	220	250	440	**1105.00**
F800	LX4F8●■	. . .	. . .	. . .	. . .	. . .	FW	FW	MW	. . .	QW	**725.00**

▲ LC1F780 contactors operate on 2 coils as a set. The LX4FX part number includes both coils.
■ Also requires rectifier DR5TE4U, **$72.00** list price.
♦ Coil Circuit requires a separately mounted resistor. Order from table below.

Coil	Resistor Catalog Number	Qty. Required	Price	Coil	Resistor Catalog Number	Qty. Required	Price	Coil	Resistor Catalog Number	Qty. Required	Price
LX9FJ918	DR2SC0047	1	**$13.80**	LX9FK918	DR2SC0039	1	**$13.80**	LX9FL918	DR2SC0047	2	**$13.80**
LX9FJ926	DR2SC0030	1	**13.80**	LX9FK926	DR2SC0220	1	**13.80**	LX9FL925	DR2SC0270	2	**13.80**
LX9FJ927	DR2SC0390	1	**13.80**	LX9FK927	DR2SC0330	1	**13.80**	LX9FL926	DR2SC0330	2	**13.80**
LX9FJ932	DR2SC1200	1	**13.80**	LX9FK932	DR2SC1000	1	**13.80**	LX9FL931	DR2SC1000	2	**13.80**
LX9FJ938	DR2SC4700	1	**13.80**	LX9FK938	DR2SC3300	1	**13.80**	LX9FL937	DR2SC3900	2	**13.80**

D-Line AC and DC Voltage Codes

AC Coils

	24 V	42 V	48 V	110 V	115 V	120 V	127 V	208 V	220 V	230 V	240 V	277 V	380 V	400 V	415 V	440 V	480 V	500 V	575 V	600 V	660 V
LC1D09 . . . D38																					
50/60 Hz	**B7**	D7	E7	F7	FE7	**G7**	FC7	LE7	M7	P7	**U7**	W7	Q7	V7	N7	R7	**T7**	. . .	SC7	**X7**	. . .
LC1D12 & D25, 4-Pole																					
50/60 Hz	**B7**	D7	E7	F7	FE7	**G7**	. . .	LE7	M7	P7	**U7**	. . .	Q7	V7	N7	R7	. . .	. . .	SC7	. . .	. . .
50 Hz	B5	D5	E5	F5	FE5	. . .	G5	. . .	M5	P5	U5	. . .	Q5	V5	N5	R5	. . .	S5	. . .	. . .	Y5
60 Hz	B6	. . .	E6	F6	. . .	G6	. . .	L6	M6	. . .	U6	W6	Q6	. . .	N6★	R6	T6	. . .	S6	X6	. . .
LC1D40 . . . D95, 3 or 4-Pole																					
50/60 Hz	**B7**	D7	E7	F7	FE7	**G7**	. . .	LE7	M7	P7	**U7**	. . .	Q7	V7	N7	R7	. . .	. . .	. . .	. . .	. . .
50 Hz	B5	D5	E5	F5	FE5	. . .	G5	. . .	M5	P5	U5	. . .	Q5	V5	N5	R5	. . .	S5	. . .	. . .	Y5
60 Hz	B6	. . .	E6	F6	. . .	G6	. . .	L6	. . .	. . .	U6	W6	. . .	. . .	. . .	R6	T6	. . .	S6	X6	. . .
LC1D115 & D150 Coils with integral suppression device fitted as standard																					
50/60 Hz	**B7**	D7	E7	F7	FE7	**G7**	FC7	LE7	M7	P7	**U7**	UE7	Q7	V7	N7	R7	T7	S7	. . .	. . .	. . .
50 Hz	B5	D5	E5	F5	FE5	. . .	FC5	. . .	M5	P5	U5	. . .	Q5	V5	N5	R5	. . .	S5	. . .	. . .	. . .
60 Hz	B6	. . .	E6	F6	. . .	G6	. . .	L6	M6	. . .	U6	W6	Q6	. . .	. . .	R6	T6	. . .	. . .	. . .	. . .

DC Coils

	5 V	12 V	20 V	24 V	36 V	48 V	60 V	72 V	96 V	110 V	125 V	220 V	250 V	440 V
LC1D09 . . .D38 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
LC1D09 . . . D38 LOW CONSUMPTION Coils with integral suppression device fitted as standard														
U 0.7 . . . 1.25 Uc	AL	JL	ZL	**BL**	CD	**EL**	. . .	SL	DL	FL	. . .	ML	UL	. . .
LC1D40 . . . D95, 3-Pole														
U 0.85 . . . 1.1 Uc (standard)	. . .	JD	. . .	**BD**	CD	**ED**	ND	**SD**	. . .	FD	**GD**	MD	UD	RD
U 0.75 . . . 1.2 Uc (wide range)	. . .	JW	. . .	BW	CW	EW	. . .	SW	. . .	FW	. . .	MW	. . .	. . .
LC1D115 & D150 Coils with integral suppression device fitted as standard														
U 0.75 . . . 1.2 Uc	. . .	. . .	. . .	**BD**	. . .	**ED**	ND	**SD**	. . .	FD	**GD**	MD	UD	RD

Note: Voltage codes in bold face are typical control voltages.
★ N6 voltage code not availabel for LC1D25 4-pole contactor.

For additional information, reference Catalog #8502CT9901R5/03.

For LP1D09, D12, D18 Contactors▲

Rated Nominal Voltage V	Catalog Number	Catalog Number Wide range	Price
12	LX4D2JD	LX4D2JW	**$39.30**
21♦	LX4D2ZD	. . .	**39.30**
24	LX4D2BD	LX4D2BW	**39.30**
36	LX4D2CD	LX4D2CW	**39.30**
48	LX4D2ED	LX4D2EW	**39.30**
60	LX4D2ND	. . .	**39.30**
72	LX4D2SD	LX4D2SW	**39.30**
110	LX4D2FD	LX4D2FW	**39.30**
125	LX4D2GD	. . .	**39.30**
220	LX4D2MD	LX4D2MW	**39.30**
250	LX4D2UD	. . .	**39.30**
440	LX4D2RD	. . .	**39.30**
600	LX4D2XD	. . .	**39.30**

▲ For old style contactors where the catalog number includes the auxiliary contact arrangement. (ex. LP1D0910). Replacement coils for the new style Tesys DC controlled contactors (ex. LC1D09BD) do not have replaceable coils.

Specifications

Average consumption	9 W	11 W
Operating range at θ–55°C / 131°F	80–110% of nominal voltage	70–125% of nominal voltage

For LP1D25, D32■

Rated Nominal Voltage V	Catalog Number	Catalog Number Wide range	Price
12	LX4D4JD	LX4D4JW	**$55.00**
21♦	LX4D4ZD	. . .	**55.00**
24	LX4D4BD	LX4D4BW	**55.00**
36	LX4D4CD	LX4D4CW	**55.00**
48	LX4D4ED	LX4D4EW	**55.00**
60	LX4D4ND	. . .	**55.00**
72	LX4D4SD	LX4D4SW	**55.00**
110	LX4D4FD	LX4D4FW	**55.00**
125	LX4D4GD	. . .	**55.00**
220	LX4D4MD	LX4D4MW	**55.00**
250	LX4D4UD	. . .	**55.00**
440	LX4D4RD	. . .	**55.00**
600	LX4D4XD	. . .	**55.00**

Specifications

Average consumption	11 W	13 W
Operating range at θ ≤ 55°C / 131°F	80–110% of nominal voltage	70–125% of nominal voltage

■ For old style contactors where the catalog number includes the auxiliary contact arrangement. (ex. LP1D2510). Replacement coils for the new style Tesys DC controlled contactors (ex. LC1D25BD) do not have replaceable coils.
♦ For use in 24 volt applications involving serial timer modules. Refer to page 16-8.

For LP1D40, D50, D65★ and LC1D40, D50, D65

For LC1D115, 150

Rated Nominal Voltage V	Catalog Number	Catalog Number Wide range △	Price	Rated Nominal Voltage V	Catalog Number	Price
12 24 36 48 60	LX4D6JD LX4D6BD LX4D6CD LX4D6ED LX4D6ND	LX4D6JW LX4D6BW LX4D6CW LX4D6EW . . .	**$62.00**	24 48 60 72 110	LX4D8BD LX4D8ED LX4D8ND LX4D8SD LX4D8FD	**$ 78.00**
72 110 125 220	LX4D6SD LX4D6FD LX4D6GD LX4D6MD	LX4D6SW LX4D6FW . . . LX4D6MW	**62.00**	125 220 250 440	LX4D8GD LX4D8MD LX4D8UD LX4D8RD	**78.00**
250 440 600	LX4D6UD LX4D6RD LX4D6XD	. . . .	**62.00**			

★ For old style and new Tesys style contactors where the catalog number may or may not include the auxiliary contact arrangement. (ex. LP1D4011BD or LC1D40BD).

Specifications

Average consumption	22 W	23 W	Average consumption	Inrush 365 W, Sealed 5 W
Operating range at θ ≤ 55°C / 131°F	80–110% nominal voltage	75–120% nominal voltage	Operating range A7 θ ≤ 55°C / 131°F	10%–1.20% of nominal voltage

For LP1D80 and LC1D80▼

Rated Nominal Voltage V	Catalog Number	Catalog Number Wide Range △	Price
12 24 36 48 60	LX4D7JD LX4D7BD LX4D7CD LX4D7ED LX4D7ND	LX4D7JW LX4D7BW LX4D7CW LX4D7EW . . .	**$67.00**
72 110 125 220 250	LX4D7SD LX4D7FD LX4D7GD LX4D7MD LX4D7UD	LX4D7SW LX4D7FW . . . LX4D7MW . . .	**67.00**
440 600	LX4D7RD LX4D7XD	. . . . . .	**67.00**

▼ For old style and new Tesys style contactors where the catalog number may or may not include the auxiliary contact arrangement (ex. LP1D8011BD or LC1D80BD).
△ Wide range coils cannot be used with contactors utilizing both front and side mount auxiliaries.

Specifications

Average consumption	22 W	23 W
Operating range at θ ≤ 55°C / 131°F	80–110% nominal voltage	70–120% nominal voltage

For additional information, reference Catalog #8502CT9901R5/03.

LRD22

Ambient Compensated bi-metallic overload relays

LRD overload relays are designed for direct mounting to D-line contactors. To mount these overloads separately, select separate mount kits from the table below.

D-Line overload relays

Current Setting Range Amperes	For direct mounting to LC1●●●	Class 10 with Single Phase Sensitivity	Class 10 without Single Phase Sensitivity	Class 20 with Single Phase Sensitivity	Class 20 without Single Phase Sensitivity	Price
.10–.16	D09–D32	LRD01	LR3D01	. . .	. . .	
.16–.25	D09–D32	LRD02	LR3D02	. . .	. . .	
.25–.40	D09–D32	LRD03	LR3D03	. . .	. . .	
.40–.63	D09–D32	LRD04	LR3D04	. . .	. . .	
.63–1	D09–D32	LRD05	LR3D05	. . .	. . .	$ 60.00
1–1.6	D09–D32	LRD06	LR3D06	. . .	. . .	
1.6–2.5	D09–D32	LRD07	LR3D07	. . .	. . .	
2.5–4	D09–D32	LRD08	LR3D08	LRD1508	LR3D1508A1	
4–6	D09–D32	LRD10	LR3D10	LRD1510	LR3D1510A1	
5.5–8	D09–D32	LRD12	LR3D12	LRD1512	LR3D1512A1	
7–10	D09–D32	LRD14	LR3D14	LRD1514	LR3D1514A1	
9–13	D12–D32	LRD16	LR3D16	LRD1516	LR3D1516A1	62.00
12–18	D18–D32	LRD21	LR3D21	LRD1521	LR3D1521A1	
16–24	D25–D32	LRD22	LR3D22	. . .	. . .	
17–25	D25–D32	. . .	. . .	LRD1522	LR3D1522A1	
23–32	D25–D32	LRD32	LR3D32	. . .	. . .	
23–28	D25–D32	. . .	. . .	LRD1530	LR3D1530A1	73.00
25–32	D25–D32	. . .	. . .	LRD1532	LR3D1532A1	
30–38	D32	LRD35	LR3D35	. . .	. . .	
17–25	D40–D80	LRD3322	LR3D3322	LR2D3522	LR3D3522	
23–32	D40–D80	LRD3353	LR3D3353	LR2D3553	LR3D3553	
30–40	D40–D80	LRD3355	LR3D3355	LR2D3555	LR3D3555	107.00
37–50	D50–D80	LRD3357	LR3D3357	LR2D3557	LR3D3557	
48–65	D50–D80	LRD3359	LR3D3359	LR2D3559	LR3D3559	
55–70	D65–D80	LRD3361	LR3D3361	LR2D3561	LR3D3561	
63–80	D65–D80	LRD3363	LR3D3363	LR2D3563	LR3D3563	127.00
80–104	D80	LRD3365	. . .	. . .	. . .	
80–104	D115–D150	LRD4365	. . .	. . .	. . .	
95–120	D115–D150	LRD4367	. . .	. . .	. . .	362.00
110–140	D150	LRD4369	. . .	. . .	. . .	

Mounting Kits and Plates▲

Description	For use with overload relays:	Catalog Number	Price
Separate mounting kits for mounting to 35 mm omega rail or for panel mounting with screws	LRD01–35 and LR3D01–35	LAD7B10	$ 8.70
	LRD15●●	LAD7B105	10.40
	LR2D15●●	LA7D1064	8.70
	LR2D25●●	LA7D2064	13.10
	LRD3●●●, LR3D3●●●, LR2D35●●	LA7D3064	17.50
Mounting plates for screw mounting at 110 mm (4.3") centers	LRD01–35, LR3D01–35, LR2D15●●	DX1AP25	11.00
	LR2D25●●	DX1AP26	12.00
	LRD3●●●, LR3D3●●●, LR2D35●●	LA7D902	16.40

▲ When using mounting plates, separate mounting kits are also required.

LA7D901

Accessories

Description	For use with	Standard Packaging	Catalog Number	Price
Pre wiring kit allows direct connection of the N.C. contact of relay LRD01–D32 or LR3D01–D32 to the contactor	LC1D09 through D18	10	LAD7C1	$ 8.70
	LC1D25, D32	10	LAD7C2	8.70
Stop button locking device	All relays except LRD01–D32, LR3D01–D32 and LR9D	10	LA7D901	2.20
Remote stop/tripping or electrical reset♦	LRD01–D32, LR3D01–32	1	LAD703■	43.70
	All relays except LRD01–D32, LR3D01–D31	1	LA7D03■	43.70
Reset by flexible cable 500 mm (19.6 in.)	LRD01–D32	1	LAD7305	100.00

■ Part number to be completed by adding coil voltage code.

LA7D03

Control Circuit Voltages for LA7D03 and LAD703

Volts	12	24	48	110	220/230	380/400	415/440
AC 50/60 Hz	J★	B	E	F	M	Q	N
DC	J	B	E	F	M	. . .	. . .

♦ The time that the LA7D03 can remain energized depends on its rest time; 1 s pulse wth 9 s rest time; 5 s pulse with 30 s rest time; 10 s pulse with 90 s rest time; maximum pulse duration of 20 s with rest time of 300 s. Consumption on inrush and sealed : < 100 VA
★ Not available for LRD01-D32, LR3D01-D32.

Dimensions . . . . . page 16-30

For additional information, reference Catalog #8502CT9901R5/03.

LR9F53●●

Solid state overload relays

LRDD and LR9F solid state overload relays provide accurate, repeatable protection of a solid state device, while still maintaining the traditional ease of a traditional overload relay. They are designed to mount directly to an LC1F contactor (as shown). Available in either Class 10 or 20 trip models, each unit incorporates both a normally open and normally closed auxiliary contact.

D-Line overload relays

Current Setting Range Amperes	For direct mounting beneath contactor LC1	Class 10 ▲	Class 20 ▲	Price
60–100	D115–D150	LR9D5367	LR9D5567	**$298.00**
90–150	D115–D150	LR9D5369	LR9D5569	**298.00**

LR9F73●●

F-Line overload relays■

Current Setting Range Amperes	For direct mounting beneath contactor LC1	Class 10 ▲	Class 20 ▲	Price
30–50	F115–F185	LR9F5357	LR9F5557	**$298.00**
48–80	F115–F185	LR9F5363	LR9F5563	**298.00**
60–100	F115–F185	LR9F5367	LR9F5567	**298.00**
90–150	F115–F185	LR9F5369	LR9F5569	**298.00**
132–220	F185■–F265	LR9F5371	LR9F5571	**298.00**
200–330	F265–F500	LR9F7375	LR9F7575	**333.00**
300–500	F265–F500	LR9F7379	LR9F7579	**737.00**
380–630	F400–F630	LR9F7381	LR9F7581	**905.00**

Lug Kits

Lugs can be ordered either individually or in sets of 6. In some cases the LR9F overload relay mounted directly on the load side of an LC1F contactor will require a different size lug for your choice of contactor and overload. If all 6 lugs (three for line side of contactor, three for load side of overload relay) are the same, Square D offers a prepackaged set of six lugs. If the two sizes are different, order 3 of each size lug. Mounting hardware (screws, washers, and nuts) are provided with the contactors and overload relays, not with the lugs.

Overload Relay	Directly mounted to contactor	Cable size AWG range		Lug Catalog Number		Lug Catalog Number	Price
	LC1●	Line side of contactor	Load side of overload	Line side of contactor	Load side of overload	DZ2FF1	**$ 6.50**
LR9F5●57 to F5●69	F115	14 to 2/0	6–3/0	3 each DZ2FF1	3 each DZ2FG1	DZ2FG1	**11.00**
LR9F5●57 to F5●71	F150 to F185	6 to 3/0		1 each DZ2FG6		DZ2FG6	**65.00**
LR9F5●71	F265	6 to 300 MCM		1 each DZ2FH6		DZ2FH1	**11.00**
LR9F7●75 to F7●79	F265 or F330	6 to 300 MCM	4 to 500 MCM	3 each DZ2FH1	3 each DZ2FR1	DZ2FJ1	**11.00**
LR9F7●75 to F7●81	F400	4 to 500 MCM	4 to 500 MCM	3 each DZ2FJ1	3 each DZ2FR1	DZ2FK1	**21.80**
LR9F7●75 to F7●81	F500	2x2 to 600 MCM	4 to 500 MCM	3 each DZ2FK1	3 each DZ2FR1	DZ2FL1	**27.30**
LR9F7●81	F630	3x2 to 600 MCM	4 to 500 MCM	1 each DZ2FL1 DZ2FL2 DZ2FL3	3 each DZ2FR1	DZ2FL2	**27.30**
						DZ2FL3	**27.30**
						DZ2FR1	**27.30**

LA9F103

Insulated Terminal Blocks

For contactors LC1F115, LC1F150, and LC1F185, an available touch-safe terminal block may be used in place of lugs for power connections.

For contactor type LC1	For overload relay LR9	Maximum Cable Size	Catalog Number	Price
F115, F150, F185	F5●57, F5●63, F5●67, F5●69	300 MCM	LA9F103	**$55.00**

▲ IEC standard 60947-4 specifies the following trip times when the overload relay senses 7.2 times the setting current:
Class 10—between 4 and 10 seconds
Class 20— between 6 and 20 seconds

■ When mounting overload relays LR9F5●57 to LR9F5●71 directly beneath the contactor it is recommended that the relays be additionally supported by a mounting plate. For sizes LR9F5●5 to LR9F7●81 use of the supporting mounting plate is mandatory. See page 16-21 for selection table. Interconnection Kit LA7F407 is required to mount an LR9F●71 to an LC1F185.

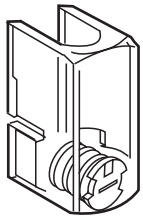
Dimensions . . . . . pages 16-22
Accessories. . . . . pages 16-6–16-13

For additional information, reference Catalog #8502CT9901R5/03.

LA7F90●

Mounting plate for overload relay

For use with relays	Catalog Number	List Price
LR9F5●57, F5●63, F5●67, F5●69 and F5●71	LA7F901	**$27.30**
LR9F7●75, F7●79 and F7●81	LA7F902	**38.20**



LA9F70●

Power terminal protection shrouds, single-pole

These clear plastic protective shrouds are an effective means to meet international finger-safe requirements for power terminals. They are designed to be used with power cables that have been bolted to the terminal.

Note: The protection shrouds do not attach to contactors or overloads utilizing DZ2F lug kits.

For use with relays	Catalog Number	List Price
LR9F5●57	LA9F701	**$42.40**
LR9F5●63, F5●67, F5●69	LA9F702	**61.00**
LR9F5●71	LA9F705	**86.00**
LR9F7●75, F7●79, F7●81	LA9F703	**82.00**

LA7F701

Power terminal protection shrouds, 3-pole

For use with relays	Catalog Number	List Price
LR9F5●57, F5●63, F5●67, F5●69	LA7F701	**$27.30**
LR9F5●71	LA7F702	**38.20**
LR9F7●75, F7●79, F7●81	LA7F703	**49.20**

Connection accessories (for mounting overload relays beneath reversing contactors)

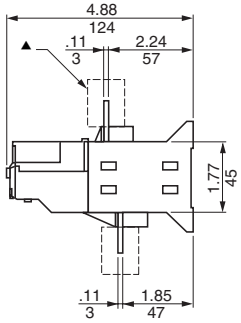
Application		Set of 3 bars Catalog Number	List Price
For relays	For contactor		
LR9F5●57, F5●63, F5●67, F5●69	LC1F115	LA7F401	**$19.70**
LR9F5●57, F5●63	LC1F150 and F185	LA7F402	**21.80**
LR9F5●71	LC1F265	LA7F403	**27.30**
LR9F7●75, F7● ●79	LC1F265...F400	LA7F404	**30.50**
LR9F7●81	LC1F400	LA7F404	**30.50**
LR9F7●75, F7●79, F7●81	LC1F500	LA7F405	**38.20**
LR9F7●81	LC1F630	LA7F406	**43.70**

Marking accessories

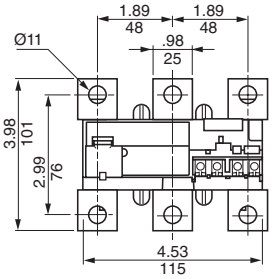
Description	Sold in units of:	Catalog Number	List Price
Marker holder, snap-in	100	LA7D903	**$ .03 each**

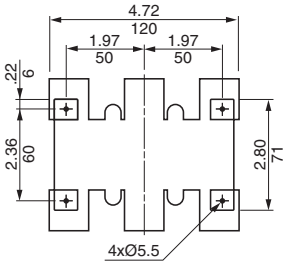
For additional information, reference Catalog #8502CT9901R5/03.

Common side view

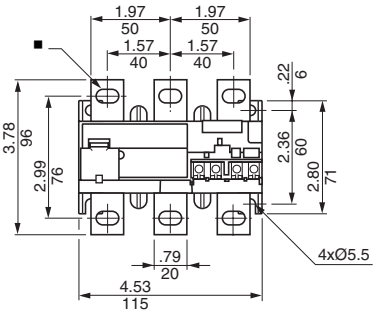


LR9F5●71





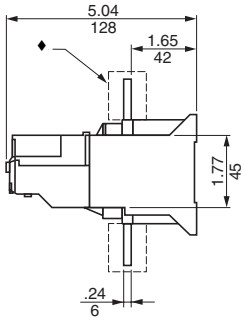
LR9F5●57, F5●63, F5●67, F5●69



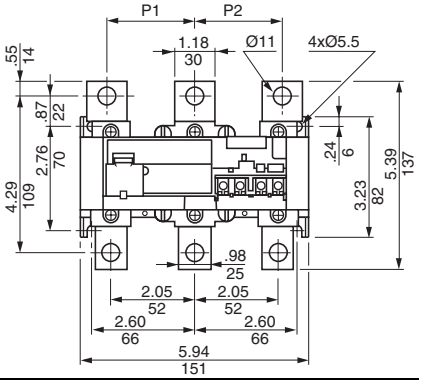
▲ Terminal shroud LA9F70●

■ 6.5 x 13.5 for LR9F5●57 and 8.5 x 13.5 for LR9F5●63, F5●67, F5●69

Common side view



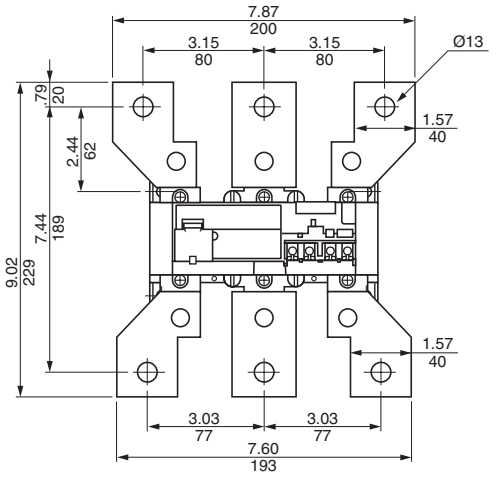
LR9F7●75, F7●79, F7●81



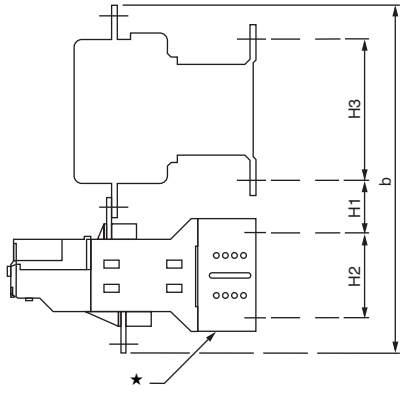
	P1	P2
LR9F7●75	48	48
LR9F7●79, F7●81	55	55

♦ Terminal shroud LA9-F70●

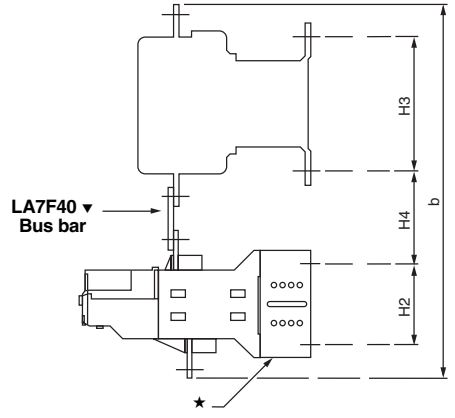
LR9F7●81 (for mounting beneath LC1F630)



Direct mounting beneath contactor LC1-F



Direct mounting beneath reversing contactors or star-delta contactors



LC1 contactors	With LR9 relays	b	H1	H2	H3	LC1 contactors	With LR9 relays	b	H4	H2	H3
F115	F5●57, F5●63, F5●67, F5●69	240	30	76	120	F115	F5●57, F5● ●63, F5●67, F5●69	279	60	76	120
F150	F5●57, F5●63, F5●67, F5●69	246	30	76	120	F150	F5●57, F5●63, F5●67, F5●69	283	60	76	120
F185	F5●57, F5●63, F5●67, F5●69	250	30	76	120	F185	F5●57, F5●63, F5●67, F5●69	285	60	76	120
F225	F5●71	273	40	76	120	F225	F5●71	319	80	76	120
	F7●75, F7●79	308	50	108.8	120		F7●75, F7●79	360	100	108.8	120
F265	F5●71	279	40	76	120	F265	F5●71	332	90	76	120
	F7●75, F7●79	314	60	108.8	120		F7●75, F7●79	363	100	108.8	120
F330	F7●75, F7●79	317	60	108.8	120	F330	F7●75, F7●79	364	100	108.8	120
F400	F7●75, F7●79, F7●81	317	60	108.8	180	F400	F7●75, F7●79, F7●81	364	100	108.8	180
F500	F7●75, F7●79, F7●81	346	70	108.8	180	F500	F7●75, F7●79, F7●81	390	110	108.8	180
F630	F7●81	510	110	108.8	180	F630	F7●81	509	120	108.8	180

★ Relay mounting plate, see page 16-21.
▼ Connection Accessories, see page 16-21.

For additional information, reference Catalog #8502CT9901R5/03.

LT3SE00M

LT3SA00M

LT3 thermistor protection units continuously monitor the temperature of the machines to be protected (motors, generators, etc.) by means of PTC thermistors embedded in the machine windings.

If the nominal operating temperature of the probes is reached, the probes convert the rapid increase in resistance into a switching function which can be used to open the control circuit or signal a fault. **Thermistor protection relays provide additional motor protection and should be used to supplement a conventional current sensing overload relay.**

The choice of PTC thermistor probe to be incorporated in the motor winding depends on the insulation class, the type of motor and the most suitable location for the probe. This choice is usually made by the motor manufacturer or the motor rewinder, who have all the necessary information.

Protection relays (without fault memory)

Units with automatic reset without thermistor short circuit detection

Voltage/Frequency	Output Contact	Catalog Number	Price
115 Vac–50/60 Hz	1 N.C.	LT3SE00F	**$124.**
230 Vac–50/60 Hz	1 N.C.	LT3SE00M	**124.**
24 Vdc	1 N.C.	LT3SE00BD	**124.**

Units with automatic reset with thermistor short circuit detection fault signalling indicator

Voltage/Frequency	Output Contact	Catalog Number	Price
230/115 Vac–50/60 Hz	1 N.O. –1 N.C.	LT3SA00M	**$161.**
24–48 Vdc	1 N.O. –1 N.C.	LT3SA00ED	**161.**
24–230 Vac–50/60 Hz or 24–230 Vdc	2 SPDT	LT3SA00MW	**161.**

Protection relays (with fault memory)

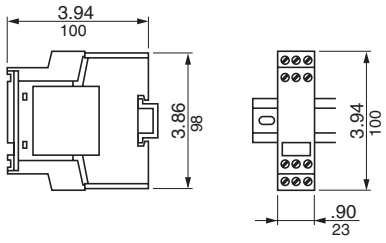
Units with automatic reset without thermistor short circuit detection

Voltage/Frequency	Output contact	Catalog Number	Price
24–48 Vac–50/60 Hz	1 N.O.–1 N.C.	LT3SM00E	**$227.**
115/230 Vac–50/60 Hz	1 N.O.–1 N.C.	LT3SM00M	**227.**
400 Vac–50/60 Hz	1 N.O.–1 N.C.	LT3SM00V	**227.**
24–48 Vdc	1 N.O.–1 N.C.	LT3SM00ED	**227.**
24–230 Vac–50/60 Hz or 24–230 Vdc	2 SPDT	LT3SM00MW	**227.**

PTC thermistor probes

Description	Nominal operating temperature (°C)	Sold in lots of	Catalog Number	Price
Integrated triple probe	90	10	DA1TT090	**$3.30**
	110	10	DA1TT110	**3.30**
	120	10	DA1TT120	**3.30**
	130	10	DA1TT130	**3.30**
	140	10	DA1TT140	**3.30**
	150	10	DA1TT150	**3.30**
	160	10	DA1TT160	**3.30**
	170	10	DA1TT170	**3.30**
Surface probes	60	10	DA1TS060	**3.30**
	70	10	DA1TS070	**3.30**
	80	10	DA1TS080	**3.30**
	90	10	DA1TS090	**3.30**
	100	10	DA1TS100	**3.30**

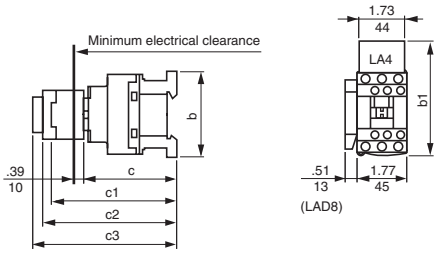
Dimensions



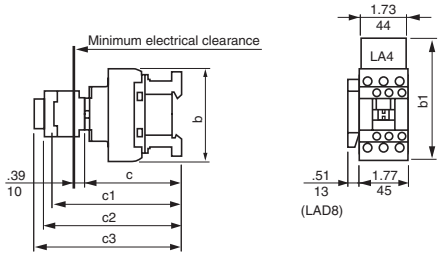
For additional information, reference Catalog #9110CT9701.

D-Line Contactors AC Control Circuits

LC1D09 to D18 (3-pole)



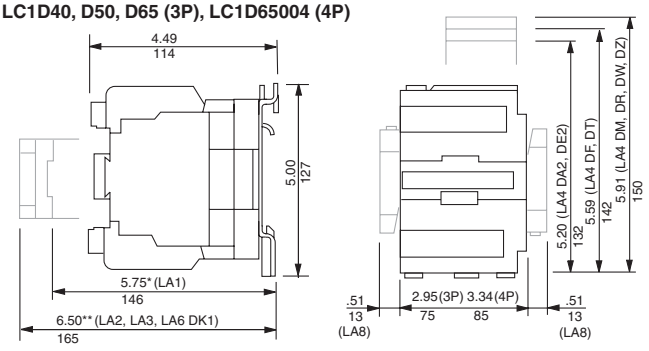
LC1D25 to D38 (3-pole)
LC1DT20 to DT40 (4-pole)



LC1		D09 to D18	D093 to D18	D099 to D189	D25 to D38	D253 and D323	DT20 and DT25	DT203 and DT253	DT32 to DT40	DT323 and DT403
		IN (mm)	IN (mm)	IN (mm)	IN (mm)	IN (mm)	IN (mm)	IN (mm)	IN (mm)	IN (mm)
b	without add-on blocks	3.03 (77)	3.89 (99)	3.14 (80)	3.36 (85)	3.89 (99)	3.34 (85)	3.89 (99)	3.58 (91)	4.13 (105)
b1	with LAD4BB	3.70 (94)	4.21 (107)	3.75 (95.5)	3.85 (98)	4.21 (107)	3.85 (98)	...	...	...
	with LA4D●2	4.33 (110)▲	4.84 (123)▲	4.30 (111.5)▲	4.48 (114)▲	4.84 (123)▲	4.48 (114)	...	...	...
	with LA4DF, DT	4.68 (119)▲	5.19 (132)▲	4.76 (120.5)▲	4.84 (123)▲	5.19 (132)▲	5.02 (129)	...	...	...
	with LA4DR, DW, DL	4.96 (126)▲	5.67 (139)▲	5.0 (127.5)▲	5.11 (130)▲	5.47 (139)▲	7.48 (190)	...	...	...
c	without cover or add-on blocks	3.30 (84)	3.30 (84)	3.30 (84)	3.54 (90)	3.54 (90)	3.54 (90)	3.54 (90)	3.85 (98)	3.85 (98)
	with cover, without add-on blocks	3.38 (86)	3.38 (86)	3.38 (86)	3.62 (92)	3.62 (92)	3.62 (92)	3.62 (92)	3.93 (100)	3.93 (100)
c1	with LADN or C (two or four contacts)	4.60 (117)	4.60 (117)	4.60 (117)	4.84 (123)	4.84 (123)	4.84 (123)	4.84 (123)	5.15 (131)	5.15 (131)
c2	with LA6DK10, (LAD6K10)	5.07 (129)	5.07 (129)	5.07 (129)	5.31 (135)	5.31 (135)	5.31 (135)	5.31 (135)	5.62 (143)	5.62 (143)
c3	with LADT, R, S	5.39 (137)	5.39 (137)	5.39 (137)	5.62 (143)	5.62 (143)	5.62 (143)	5.62 (143)	5.94 (151)	5.94 (151)
	with LADT, R, S and sealing cover	5.55 (141)	5.59 (141)	5.55 (141)	5.78 (147)	5.78 (147)	5.78 (147)	5.78 (147)	6.10 (155)	6.10 (155)

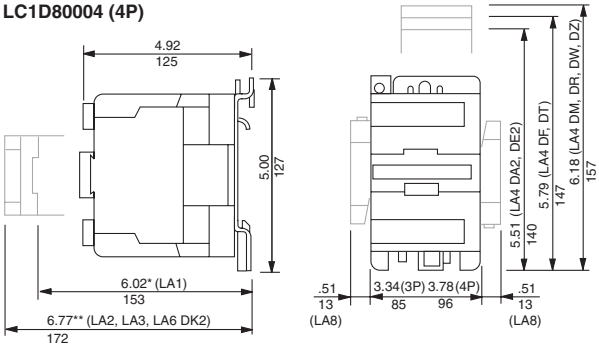
▲ Including LAD4BB

LC1D40, D50, D65 (3P), LC1D65004 (4P)



*except LA1DN10, DN01 = 136
** +4 mm with lead sealing device

LC1D80004 (4P)

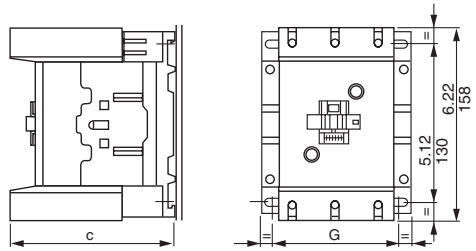


*except LA1DN10, DN01 = 136
** +4 mm with lead sealing device

For additional information, reference Catalog #8502CT9901R5/03.

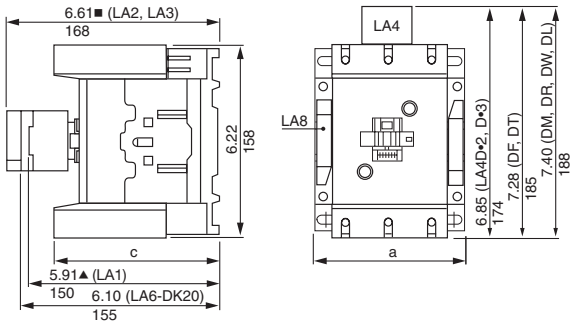
Approximate Dimensions
TeSys™ D-Line Contactors, DC Coil

LC1D115, D150
Panel mounted with 1/4" screws



LC1	D115	D1156	D150	D1506
c	5.12 (132)	4.53 (115)	5.12 (132)	4.53 (115)
G (3-poles)	3.78/4.33 (96/110)	3.78/4.33 (96/110)	3.78/4.33 (96/110)	3.78/4.33 (96/110)
G (4-poles)	5.12/5.67 (130/144)	5.12/5.67 (130/144)	. . .	. . .

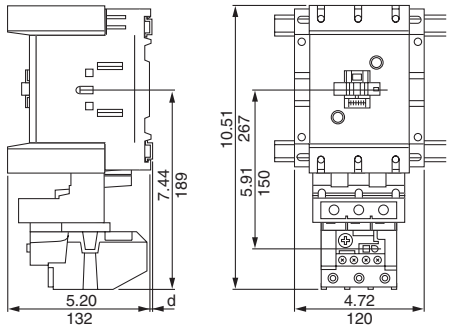
LC1D115, D150



LC1	C	A
D115, D150	5.12 (132)	4.72 (120)
D115004	5.12 (132)	6.10 (155)
D1156, D1506	4.53 (115)	4.72 (120)
D1150046	4.53 (115)	6.10 (155)

▲ With 2 or 4 contacts.
■ + 4 mm with sealing cover.

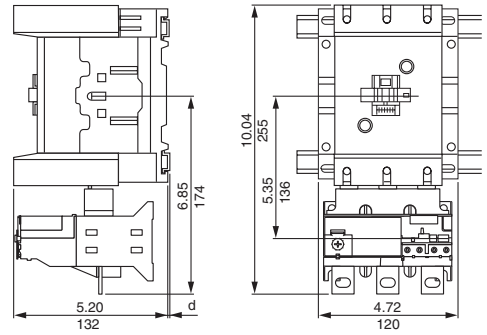
LR2D4 bimetallic overload relay
Direct mounting beneath contactors
LC1D115 and **D150**



35 mm DIN rail dimensions

	AM1DP200 and DR200	AM1DE●●● and ED●●●
d	0.10 (2.5)	.41 (10.5)

LR9D solid-state overload relay
Direct mounting beneath contactors
LC1D115 and **D150**



35 mm DIN rail dimensions

	AM1DP200 and DR200	AM1DE●●● and ED●●●
d	0.10 (2.5)	.41 (10.5)

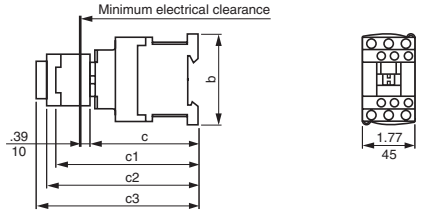
All dimensions are in Inches (mm).

Dual Dimensions: **INCHES**
Millimeters

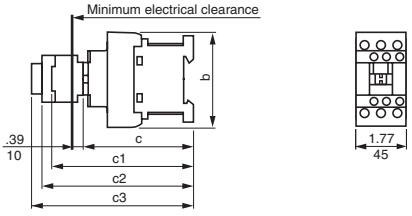
For additional information, reference Catalog #8502CT9901R5/03.

D-Line Contactors DC Control Circuit or Low Consumption

LC1D09 to D18 (3-pole)

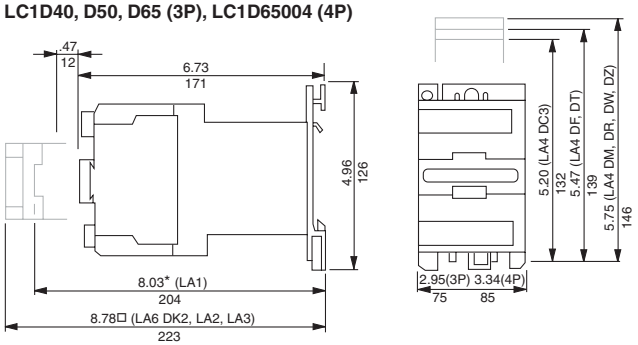


LC1D25 to D38 (3-pole)



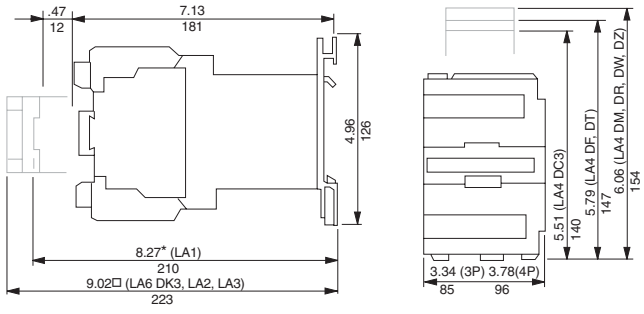
LC1		D09 to D18	D093 to D183	D099 to D189	D25 to D38	D253 and D383
		IN (mm)	IN (mm)	IN (mm)	IN (mm)	IN (mm)
b		3.03 (77)	3.89 (99)	3.30 (80)	3.34 (85)	3.89 (99)
c	without cover or add-on blocks	3.66 (93)	3.66 (93)	3.66 (93)	3.89 (99)	3.89 (99)
	with cover, without add-on blocks	3.76 (95)	3.76 (95)	3.76 (95)	3.97 (101)	3.97 (101)
c1	with LADN or C (two or four contacts)	4.96 (126)	4.96 (126)	4.96 (126)	5.19 (132)	5.19 (132)
c2	with LA6DK10	5.43 (138)	5.43 (138)	5.43 (138)	5.66 (144)	5.66 (144)
c3	with LADT, R, S	5.76 (146)	5.76 (146)	5.76 (146)	5.98 (152)	5.98 (152)
	with LADT, R, S and sealing cover	5.90 (150)	5.76 (146)	5.76 (146)	6.14 (156)	6.14 (156)

LC1D40, D50, D65 (3P), LC1D65004 (4P)



*except LA1DN10, DN01 = 136
□ + 4 mm with lead sealing device

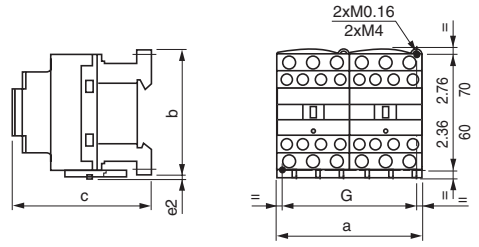
LC1D80 (3P), LC1D80004 (4P)



*except LA1DN10, DN01 = 143
□ + 4 mm with lead sealing device

For additional information, reference Catalog #8502CT9901R5/03.

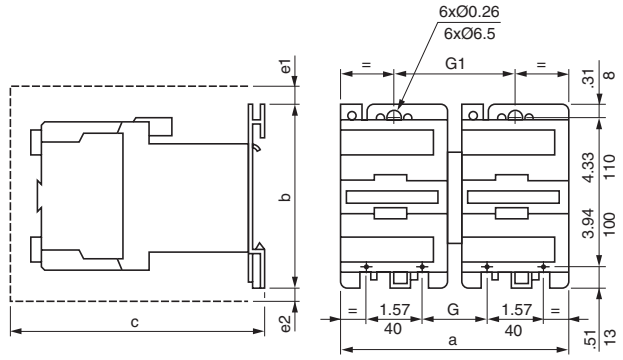
LC2D09 to D32
LC2DT20 to DT60
2 x LC1DT20 to DT60



LC2 or 2 x LC1	a	b	c	G
	IN (mm)	IN (mm)	IN (mm)	IN (mm)
DT20 and DT25	3.54 (90)	3.34 (85)	3.54 (90)	3.14 (80)
DT32 to DT60	3.54 (90)	3.58 (91)	3.85 (98)	3.14 (80)

c, e2: includes cabling.

2 x LP1D40 and D65

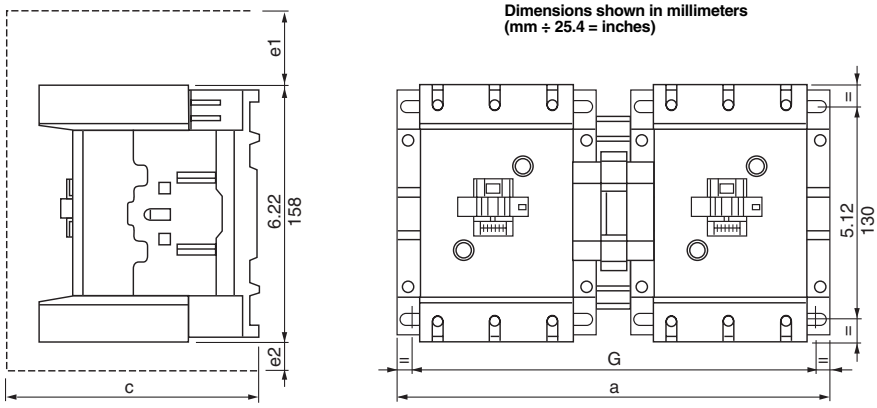


LC2 or 2 x LC1	a	b	c	e1	e2	G	G1
	IN (mm)	IN (mm)	IN (mm)	IN (mm)	IN (mm)	IN (mm)	IN (mm)
D40 to D65	7.16 (182)	5.0 (127)	7.4 (190)	1.19 (5)	0.43 (11)	2.2 (57)	3.8 (97)
D80 and D95	8.14 (207)	5.0 (127)	8.4 (215)	0.51 (13)	0.78 (20)	3.7 (96)	4.3 (111)

c, e1 and e2: includes cabling.

LC2D115 and **D150**
2 x **LC1D115** and **D150**
Panel mounted with 1/4" screw

Dimensions shown in millimeters
(mm ÷ 25.4 = inches)



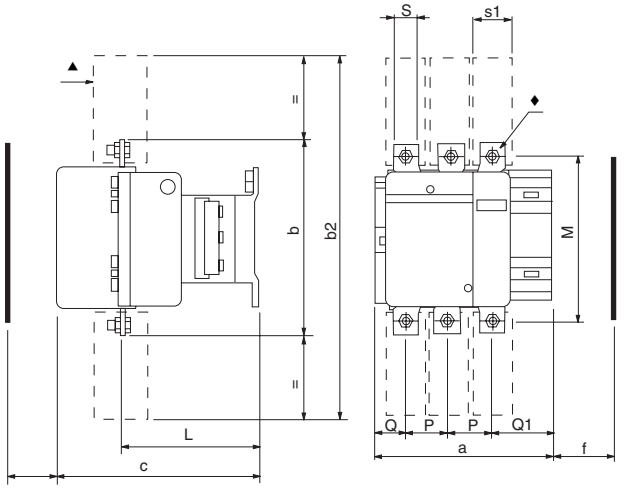
LC2 or 2 x LC1 (3-pole)	a	c	e1	e2	G
D115, D150	266	148	56	18	242/256
LC2 or 2 x LC1 (4-pole)	a	c	e1	e2	G
D115	334	148	. . .	60	310/324

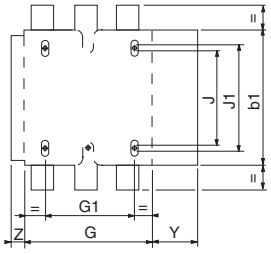
c, e1 and e2 includes cabling

16 IEC STYLE CONTACTORS AND STARTERS

For additional information, reference Catalog #8502CT9901R5/03.

LC1F11 to F330





Dual Dimensions: **INCHES**
Millimeters

All dimensions shown in mm. To convert to inches divide by 25.4.

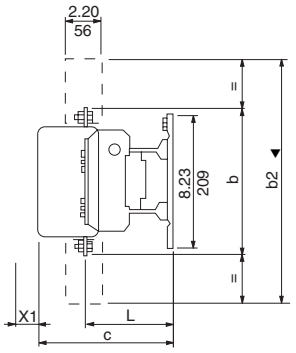
LC1	F115		F150		F185		F265		F330	
	3-Pole	4-Pole	3-Pole	4-Pole	3-Pole	4-Pole	3-Pole	4-Pole	3-Pole	4-Pole
a	163.5	200.5	163.5	200.5	168.5	208.5	201.5	243.5	213	261
b	162	162	170	170	174	174	203	203	206	206
b1	137	137	137	137	137	137	145	145	145	145
b2	265	265	301	301	305	305	370	370	375	375
c	165■	165■	165■	165■	176	176	207	207	219	219
f	131	131	131	131	130	130	147	147	147	147
G	106	143	106	143	111	151	142	190	154.5	202.5
G1	80	80	80	80	80	80	96	96	96	96
J	106	106	106	106	106	106	106	106	106	106
J1	120	120	120	120	120	120	120	120	120	120
L	107	107	107	107	113.5	113.5	141	141	145	145
M	147	147	150	150	154	154	178	178	181	181
P	37	37	40	40	40	40	48	48	48	48
Q	29.5	29.5	26.5	26	29	29	39	34	43	43
Q1	60	60	57.5	55.5	59.5	59.5	66.5	66.5	74	74
S	15	15	20	20	20	20	25	25	25	25
S1	27	27	34	34	34	34	38	38	44.5	44.5
Y	44	44	44	44	44	44	38	38	38	38
Z	13.5	13.5	13.5	13.5	13.5	13.5	21.5	21.5	20.5	20.5

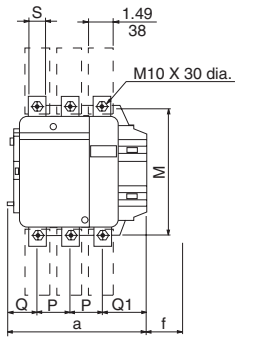
f = minimum distance required for coil removal.

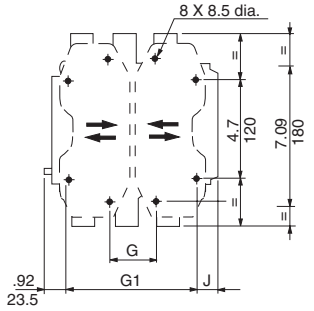
Voltage in V	220/380	415/440	500	660	1000
LC1F115, F150	20	25	30	40	20
LC1F185	20	25	30	40	30
LC1F265	20	25	40	50	40
LC1F330	25	35	40	50	50

▲ Protective cover Type LA9F70●.
■ + 6 mm with time delay block (for F115 and F150).
♦ Optimal terminal shroud

LC1F400 to F500







LC1	F400			F500		
	2-Pole	3-Pole	4-Pole	2-Pole	3-Pole	4-Pole
a	213	213	261	233	233	288
b	206	206	206	238	238	238
b2	375	375	375	400	400	400
c	213	213	213	226	226	226
f	119	119	119	141	141	141
G★	80	80	80	80	80	140
G min.	66	66	66	66	66	66
G max.	102	102	150	120	120	175
G1★	170	170	170	170	170	230
G1 min.	156	156	156	156	156	156
G1 max.	192	192	240	210	210	265
J	19.5	19.5	67.5	39.5	39.5	34.5
L	145	145	145	146	146	146
M	181	181	181	208	208	208
P	48	48	48	55	55	55
Q	69	43	43	76	46	46
Q1	96	74	74	102	77	77
S	25	25	25	30	30	30

★ Supplied

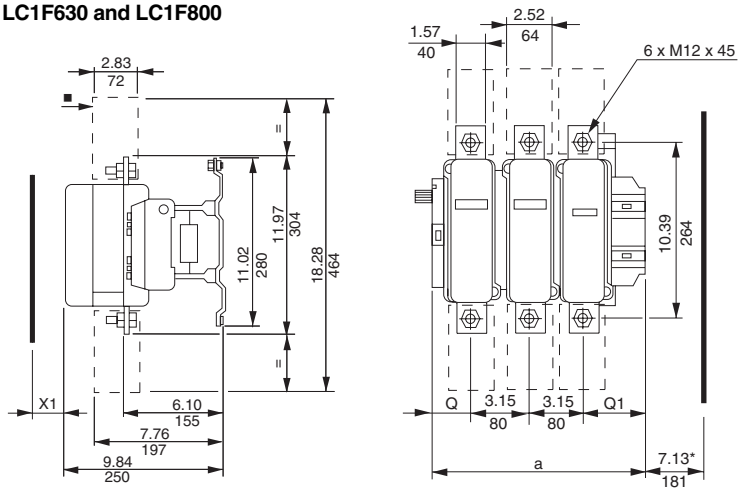
f = Minimum distance required for coil removal.
X1: Minimum clearance according to the operational voltage and the breaking capacity.

Voltage in V	220/230	415/440	500	660	1000
LC1F400	30	40	40	50	60
LC1F500	40	45	50	60	60

▼ Protective cover.

For additional information, reference Catalog #8502CT9901R5/03.

LC1F630 and LC1F800



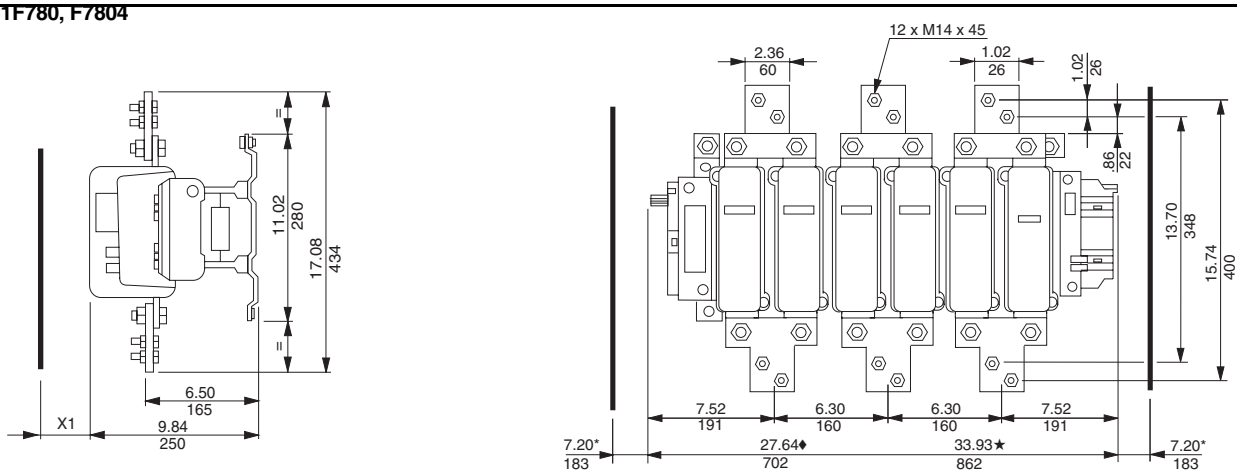
LC1F630	a		G supplied		G min.		G max.		J1		Q		Q1	
	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm
2 P	12.17	309	7.09	180	3.94	100	7.68	195	2.70	68.5	4.02	102	5.00	127
3 P	12.17	309	7.09	180	3.94	100	7.68	195	2.70	68.5	2.36	60	3.50	89
4 P	15.31	389	9.45	240	5.91	150	10.83	275	2.70	68.5	2.36	60	3.50	89

*** = minimum distance required for coil removal.**
■ Protective cover.

X1:Minimum clearance according to the operational voltage and the breaking capacity.

Voltage in V	380	415/440	500	660	1000
X1 in mm	60	60	60	70	80

LC1F780, F7804

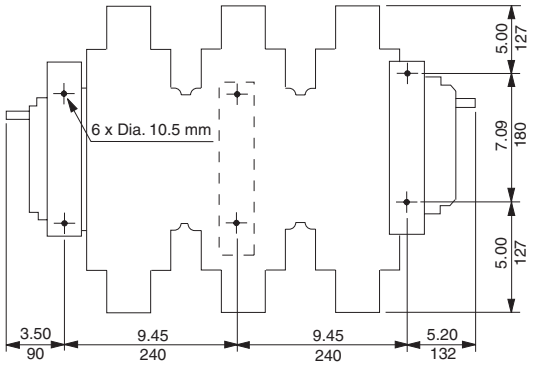


X1: Minimum clearance according to the operational voltage and the breaking capacity.

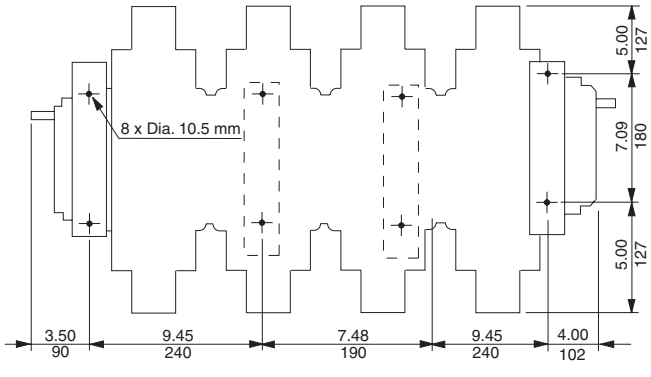
Voltage in V	380	415/440	660	1000
X1 in mm	90	100	120	120

♦ Overall length (3 poles)
★ Overall length (4 poles)
*minimum distance required for coil removal.

LC1F780 mounting



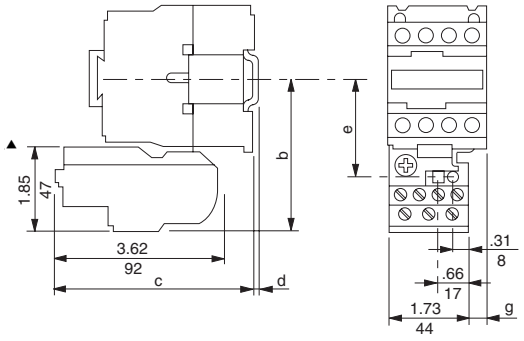
LC1F7804 mounting



For additional information, reference Catalog #8502CT9901R5/03.

Dimensions (in/mm), mounting

LR2D1, LR3D1
Direct mounting on the underside of contactors
LC1D09 to D32, LP1D09 to D32 and LP4D12

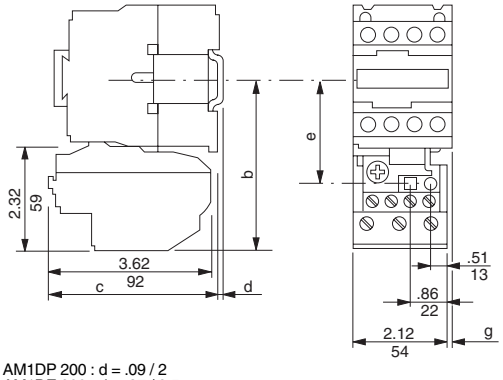


AM1DP 200 : d = .09 / 2
AM1DE 200 : d = .37 / 9.5

	b		c		e		g	
	IN	mm	IN	mm	IN	mm	IN	mm
LC1D09, 12, 18, LP4D12	3.0	81	3.8	98	1.9	50	0	0
LC1D25	3.3	86	4.2	108	2.1	55	.42	10.7
LC1D32	3.3	86	4.3	109	2.1	55	.31	8.1
LP1D09, 12, 18	3.0	81	5.2	133	1.9	50	0	0
LP1D25	3.3	86	5.9	152	2.1	55	.42	10.7
LP1D32	3.3	86	6.0	153	2.1	55	.31	8.1

▲ +5mm/.20in for LR2D15●●

LR2D2, LR3D2
Direct mounting on the underside of contactors
LC1D25 and D32, LP1D25 and D32

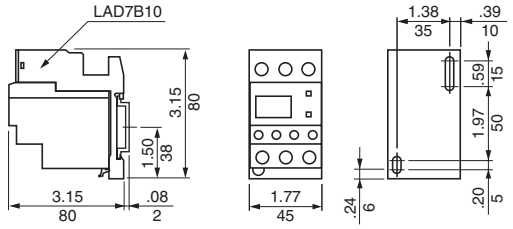


AM1DP 200 : d = .09 / 2
AM1DE 200 : d = .37 / 9.5

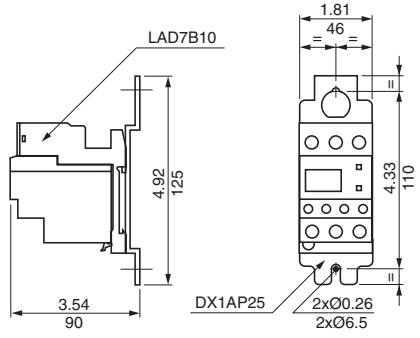
	b		c		e		g	
	IN	mm	IN	mm	IN	mm	IN	mm
LC1D25	3.8	97.50	3.8	98	2.3	60	.05	1.50
LC1D25	3.3	86.00	4.2	108	2.1	55	.42	10.70
LC1D32	3.8	97.50	3.8	98	2.3	60	.01	0.50
LC1D32	3.3	86.00	4.3	109	2.1	55	.31	8.10
LP1D25	3.8	97.50	6.1	155	2.3	60	.05	1.50
LP1D32	3.8	97.50	6.1	155	2.3	60	.01	0.50

D-Line Thermal Overload Relays

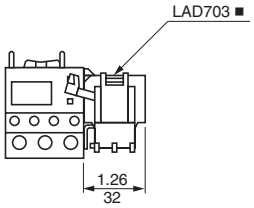
LRD-01-35
Independent mounting on 50 mm centers or on rail AM1DP200 or DE200



Independent mounting on 110 mm centers



Remote tripping or electrical reset

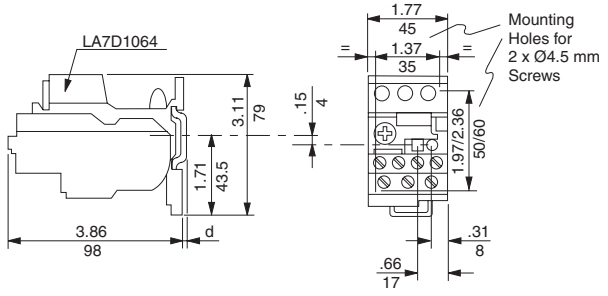


■ Can only be mounted on RH side of relay LRD01 to 35

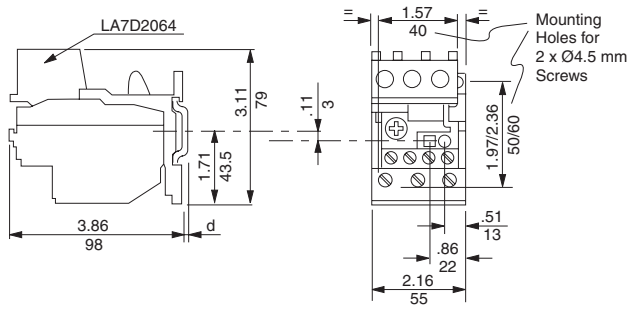
For additional information, reference Catalog #8502CT9901R5/03.

D-Line Thermal Overload Relays

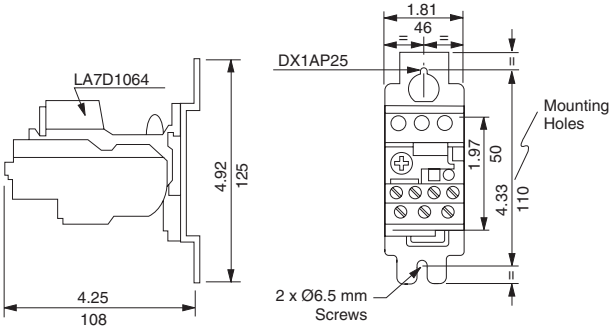
LR2D1, LR3D1
Separate mounting at 50 mm (1.97") centers or on AM1DP200 or DE200 rail



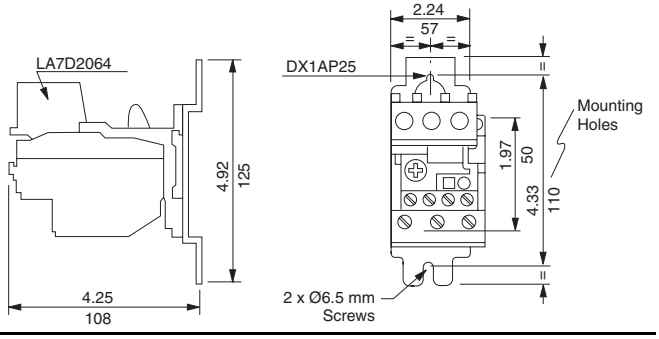
LR2D2, LR3D2
Separate mounting at 50 mm (1.97") centers or on AM1DP200 or DE200 rail



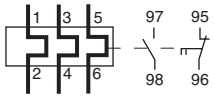
LR2D1, LR3D1
Separate mounting at 110 mm (4.33") centers



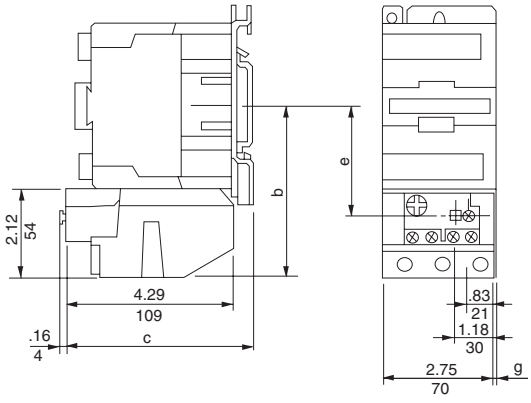
LR2D2, LR3D2
Separate mounting at 110 mm (4.33") centers



LR2D1, LR2D2



LR2D3, LR3D3
Direct mounting on underside of contactors
LC1D40 to D80 and LP1D40 to D80



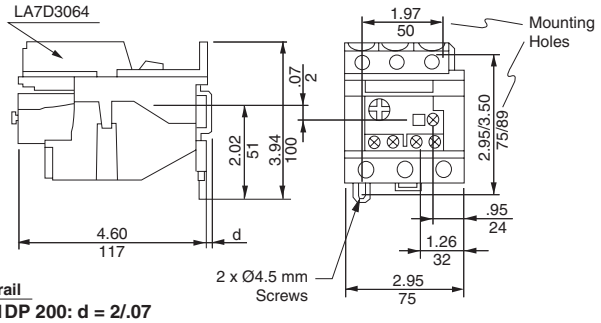
DIN rail
AM1DP 200: d = 2/.07
AM1DE 200: d = 9.5/.37

Dimensions

	b		c		e		g 3-pole		g 4-pole	
	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm
LC1D40	4.3	111	4.6	119	2.8	72.4	.17	4.5	.37	9.5
LC1D50	4.3	111	4.6	119	2.8	72 4	.17	4.5	. . .	. . .
LC1D65	4.3	111	4.6	119	2.8	72.4	.17	4.5	.37	9.5
LC1D80	4.5	115.5	4.8	123.4	3	76.9	.37	9.5	.59	15
LP1D40	4.3	111	6.9	176	2.8	72.4	.17	4.5	.37	9.5
LP1D50	4.3	111	6.9	176	2.8	72.4	.17	4.5	. . .	. . .
LP1D65	4.3	111	6.9	176	2.8	72.4	.17	4.5	.37	9.5
LP1D80	4.5	115.5	7	179.4	3	76.9	.37	9.5	.59	15

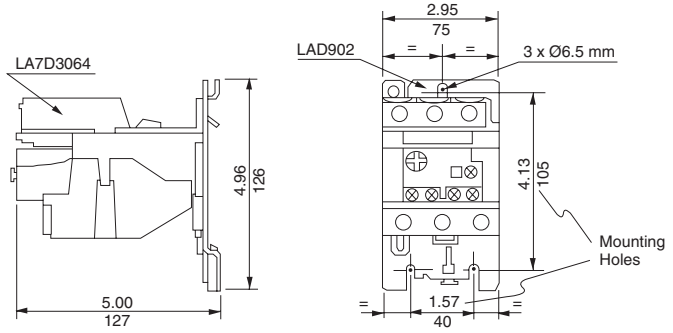
For additional information, reference Catalog #8502CT9901R5/03.

LR2D3, LR3D3
Separate mounting at 50 mm (1.97") centers or on AM1DP200 or DE200 rail

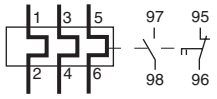


DIN rail
AM1DP 200: d = 2/.07
AM1DE 200: d = 9.5/.37

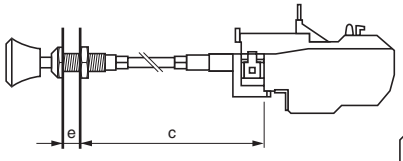
LR2D3, LE3D3
Separate mounting at 110 mm (4.33") centers



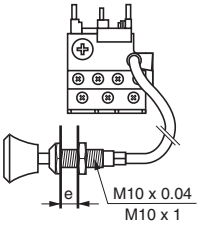
LR2D3



LRD, LR2D and LR9D
"Reset" by flexible cable LA7D305 and LAD7305
Mounting with cable straight

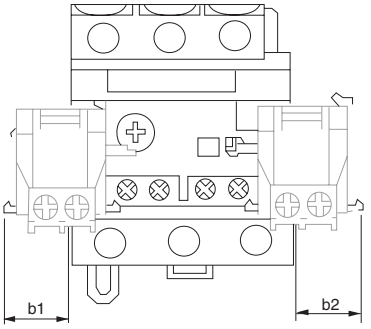


Mounting with cable bent



c: up to 21.6 in (550 mm)
e: up to 0.79 in (20 mm)

LA7D093 on LR2, LR3D
Viewed from the front



IN/mm	b1		b2	
	in	mm	in	mm
LR2, LR3D1	1.34	34	1.34	34
LR2, LR3D2	1.14	29	1.18	30
LR2, LR3D3	.83	21	.87	22

For additional information, reference Catalog #8502CT9901R5/03.

D-Line enclosed full voltage starters are available in Type 1 and Type 12/3R enclosures through 50 hp at 460 V. The enclosed D-line accepts standard D-Line accessories and all INSTA-KITS™ control units and control power transformer kits. Standard capacity control power transformers with built-in fuse block can be installed in the standard enclosure. For extra capacity, please refer to your local distributor or nearest Square D/Schneider Electric sales office.

Enclosed full voltage non-reversing starters

Max. Horsepower Ratings (AC3)						Auxiliary Contacts		Current Rating of Contactor	Catalog Number	Price	Catalog Number	Price
1 Phase		3 Phase										
115	230	200 V	230 V	460 V	575V	N.O.	N.C.		Type 1		Type 12/3R	
1/3	1	2	2	5	7 1/2	1	1	9	LE1D093A6(1)(2)(3)(4)(5)(6)	**$ 109.**	LE1D093A7(1)(2)(3)(4)(5)(6)	**$ 175.**
1/2	2	3	3	7 1/2	10	1	1	12	LE1D123A6(1)(2)(3)(4)(5)(6)	**137.**	LE1D123A7(1)(2)(3)(4)(5)(6)	**202.**
1	3	5	5	10	15	1	1	18	LE1D183A6(1)(2)(3)(4)(5)(6)	**153.**	LE1D183A7(1)(2)(3)(4)(5)(6)	**219.**
2	3	7 1/2	7 1/2	15	20	1	1	25	LE1D253A6(1)(2)(3)(4)(5)(6)	**170.**	LE1D253A7(1)(2)(3)(4)(5)(6)	**235.**
2	5	10	10	20	25	1	1	32	LE1D323A6(1)(2)(3)(4)(5)(6)	**191.**	LE1D323A7(1)(2)(3)(4)(5)(6)	**245.**
3	5	10	10	30	30	1	1	40	LE1D403A6(1)(2)(3)(4)(5)(6)	**273.**	LE1D403A7(1)(2)(3)(4)(5)(6)	**393.**
3	7 1/2	15	15	40	40	1	1	50	LE1D503A6(1)(2)(3)(4)(5)(6)	**300.**	LE1D503A7(1)(2)(3)(4)(5)(6)	**420.**
5	10	20	20	50	50	1	1	65	LE1D653A6(1)(2)(3)(4)(5)(6)	**393.**	LE1D653A7(1)(2)(3)(4)(5)(6)	**514.**
7 1/2	15	30	30	60	60	1	1	80	LE1D803A6(1)(2)(3)(4)(5)(6)	**473.**	LE1D803A7(1)(2)(3)(4)(5)(6)	**610.**

Enclosed full voltage reversing starters

Max. Horsepower Ratings (AC3) 3 Phase				Auxiliary Contacts On Each Contactor		Current Rating of Contactor	Catalog Number	Price	Catalog Number	Price
200V	230 V	460 V	575 V	N.O.	N.C.		Type 1		Type 12/3R	
2	2	5	7 1/2	1	1	9	LE2D093A6(1)(2)(3)(4)(5)(6)	**$ 305.**	LE2D093A7(1)(2)(3)(4)(5)(6)	**$ 382.**
3	3	7 1/2	10	1	1	12	LE2D123A6(1)(2)(3)(4)(5)(6)	**355.**	LE2D123A7(1)(2)(3)(4)(5)(6)	**453.**
5	5	10	15	1	1	18	LE2D183A6(1)(2)(3)(4)(5)(6)	**385.**	LE2D183A7(1)(2)(3)(4)(5)(6)	**483.**
7 1/2	7 1/2	15	20	1	1	25	LE2D253A6(1)(2)(3)(4)(5)(6)	**415.**	LE2D253A7(1)(2)(3)(4)(5)(6)	**513.**
10	10	20	25	1	1	32	LE2D323A6(1)(2)(3)(4)(5)(6)	**464.**	LE2D323A7(1)(2)(3)(4)(5)(6)	**573.**
10	10	30	30	1	1	40	LE2D403A6(1)(2)(3)(4)(5)(6)	**655.**	LE2D403A7(1)(2)(3)(4)(5)(6)	**819.**
15	15	40	40	1	1	50	LE2D503A6(1)(2)(3)(4)(5)(6)	**710.**	LE2D503A7(1)(2)(3)(4)(5)(6)	**874.**
20	20	50	50	1	1	65	LE2D653A6(1)(2)(3)(4)(5)(6)	**900.**	LE2D653A7(1)(2)(3)(4)(5)(6)	**1030.**
30	30	60	60	1	1	80	LE2D803A6(1)(2)(3)(4)(5)(6)	**1248.**	LE2D803A7(1)(2)(3)(4)(5)(6)	**1412.**

(1) Wiring method:
Select 2 = wired for use with Insta-kits

Note: Use of control circuit transformers requires Insta-kit wiring.

(2) Control Power Transformer—add price from page 16-35
Select letter from below for primary voltage of CPT.

Control Power Transformer Primary Voltage Code Table

Voltage	No Transformer used	208	240	480	600
Code	O	L	M	T	X

(3) Contactor/starter coil voltage
Select coil voltage from table below.

Note: If control transformer is used, the only options available are 24 or 120 volts as the secondary of the transformer. Also, DC voltages are not available when control power transformer is used.

Contactor Coil Voltage Table

Voltage	24	120	208	240	480	600
AC	B	G	L	U	T	X
DC	B	. . .	. . .	. . .	. . .	. . .

(4) Coil Frequency
Select: 7 = dual frequency coils (50/60 Hz.)
6 = 60 Hz.
D=DC

Notes: For 9 to 32 A contactors, only dual frequency coils are available. For 40 to 80 A contactors, the 24 V to 240 V coils are dual frequency only (50/60 Hz.). The 480 V to 600 V coils are 60 Hz. only. For other restrictions regarding available coil and frequency combinations refer to Catalog #8502CT9901

(5) Overload relay type
Select: 0 = No overload relay
1 = Class 10 Trip
2 = Class 20 Trip

(6) Overload relay range
Select code from below.

Note: If no overload relay is required, leave this portion of the catalog blank. Add appropriate Price Adder to the base price of the starter.

Enclosed starter overload relay selection table

Code	Range	For use on Contactors	Price Adder
01	0.1–0.16	D09–D32▲	**$ 60.**
02	0.16–0.25	D09–D32▲	**60.**
03	0.25–0.40	D09–D32▲	**60.**
04	0.40–0.63	D09–D32▲	**60.**
05	0.63–1.0	D09–D32▲	**60.**
06	1.0–1.6	D09–D32▲	**60.**
07	1.6–2.5	D09–D32▲	**60.**
08	2.5–4	D09–D32	**60.**
10	4–6	D09–D32	**60.**
12	5.5–8	D09–D32	**60.**
14	7–10	D09–D32	**62.**
16	9–13	D12–D32	**62.**
21	12–18	D18–D32	**62.**
22	16–24 17–25 17–25	D25–D32▲ D25–D32■ D40–D80	**62.** **62.** **107.**
30	23-28	D25–D32■	**73.**
32	23–32	D25–D32	**73.**
53	30–38	D40–D80	**107.**
55	30–40	D40–D80	**107.**
57	37–50	D40–D80	**107.**
59	48–65	D40–D80	**107.**
61	55–70	D40–D80	**107.**
63	63–80	D40–D80	**107.**

▲ Available for Class 10 only
■ Available for Class 20 only

For additional information, reference Catalog #8502CT9901R5/03.

Enclosed Combination Starters

With TeSys™ D-Line Fusible Disconnect Switch or Circuit Breaker

IEC combination starters combine the requirements of motor overload and short circuit protection in one convenient compact package. All devices provide Type 2 Coordination through 30 hp at 460 V. Devices are available in Type 1 and Type 12/3R enclosures. The IEC combination starter line accepts standard D-Line accessories and all INSTA-KITS™ pilot devices and control power transformer kits. Standard capacity control power transformers with built-in fuse block can be installed in the standard enclosure. For extra capacity, please refer to your local distributor or nearest Square D/Schneider Electric sales office.

Note: Use tables and notes from page 16-33 to complete the catalog numbers.

Enclosed full voltage non-reversing fusible combination starters

Max. Horsepower Ratings (AC3) 3 Phase				Fuse Clip Rating		Auxiliary Contacts		Current Rating of Contactor	Catalog Number	Price	Catalog Number	Price
200 V	230 V	460 V	575 V	Amperes	UL Class	N.O.	N.C.		Type 1		Type 12/3R	
2	2	5	7½	30 A	CC	1	1	9	LE1D096B6(1)(2)(3)(4)(5)(6)	**$ 426.**	LE1D096B7(1)(2)(3)(4)(5)(6)	**$ 551.**
3	3	7½	10	30 A	CC	1	1	12	LE1D126B6(1)(2)(3)(4)(5)(6)	**468.**	LE1D126B7(1)(2)(3)(4)(5)(6)	**592.**
5	5	10	15	30 A	J	1	1	18	LE1D186B6(1)(2)(3)(4)(5)(6)	**484.**	LE1D186B7(1)(2)(3)(4)(5)(6)	**607.**
7½	7½	15	20	30 A	J	1	1	25	LE1D256B6(1)(2)(3)(4)(5)(6)	**500.**	LE1D256B7(1)(2)(3)(4)(5)(6)	**623.**
10	10	20	25	60 A	J	1	1	32	LE1D326C6(1)(2)(3)(4)(5)(6)	**653.**	LE1D326C7(1)(2)(3)(4)(5)(6)	**829.**
10	10	30	30	60 A	J	1	1	40	LE1D406C6(1)(2)(3)(4)(5)(6)	**708.**	LE1D406C7(1)(2)(3)(4)(5)(6)	**877.**

Enclosed full voltage reversing fusible combination starters

Max. Horsepower Ratings (AC3) 3 Phase				Fuse Clip Rating		Aux. Contacts Each Contactor		Current Rating of Contactor	Catalog Number	Price	Catalog Number	Price
200 V	230 V	460 V	575 V	Amperes	UL Class	N.O.	N.C.		Type 1		Type 12/3R	
2	2	5	7½	30 A	CC	1	1	9	LE2D096B6(1)(2)(3)(4)(5)(6)	**$ 712.**	LE2D096B7(1)(2)(3)(4)(5)(6)	**$ 837.**
3	3	7½	10	30 A	CC	1	1	12	LE2D126B6(1)(2)(3)(4)(5)(6)	**778.**	LE2D126B7(1)(2)(3)(4)(5)(6)	**915.**
5	5	10	15	30 A	J	1	1	18	LE2D186B6(1)(2)(3)(4)(5)(6)	**808.**	LE2D186B7(1)(2)(3)(4)(5)(6)	**950.**
7½	7½	15	20	30 A	J	1	1	25	LE2D256B6(1)(2)(3)(4)(5)(6)	**833.**	LE2D256B7(1)(2)(3)(4)(5)(6)	**980.**
10	10	20	25	60 A	J	1	1	32	LE2D326C6(1)(2)(3)(4)(5)(6)	**1089.**	LE2D326C7(1)(2)(3)(4)(5)(6)	**1281.**
10	10	30	30	60 A	J	1	1	40	LE2D406C6(1)(2)(3)(4)(5)(6)	**1179.**	LE2D406C7(1)(2)(3)(4)(5)(6)	**1371.**

Enclosed full voltage non-reversing circuit breaker combination starters

Max. Horsepower Ratings (AC3) 3 Phase				Auxiliary Contacts		Circuit Breaker Maximum Current Rating	Current Rating of Contactor	Catalog Number	Price	Catalog Number	Price
200 V	230 V	460 V	575 V	N.O.	N.C.			Type 1		Type 12/3R	
2	2	5	7½	1	1	15 A	9	LE1D097D6(1)(2)(3)(4)(5)(6)	**$ 569.**	LE1D097D7(1)(2)(3)(4)(5)(6)	**$ 730.**
3	3	7½	10	1	1	15 A	12	LE1D127D6(1)(2)(3)(4)(5)(6)	**622.**	LE1D127D7(1)(2)(3)(4)(5)(6)	**789.**
5	5	10	15	1	1	30 A	18	LE1D187E6(1)(2)(3)(4)(5)(6)	**647.**	LE1D187E7(1)(2)(3)(4)(5)(6)	**808.**
7½	7½	15	20	1	1	30 A	25	LE1D257E6(1)(2)(3)(4)(5)(6)	**668.**	LE1D257E7(1)(2)(3)(4)(5)(6)	**834.**
10	10	20	25	1	1	50 A	32	LE1D327F6(1)(2)(3)(4)(5)(6)	**870.**	LE1D327F7(1)(2)(3)(4)(5)(6)	**1088.**
10	10	30	30	1	1	50 A	40	LE1D407F6(1)(2)(3)(4)(5)(6)	**944.**	LE1D407F7(1)(2)(3)(4)(5)(6)	**1179.**

Enclosed full voltage reversing circuit breaker combination starters

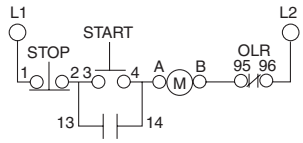
Max. Horsepower Ratings (AC3) 3 Phase				Auxiliary Contacts Each Contactor		Circuit Breaker Maximum Current Rating	Current Rating of Contactor	Catalog Number	Price	Catalog Number	Price
200 V	230 V	460 V	575 V	N.O.	N.C.			Type 1		Type 12/3R	
2	2	5	7½	1	1	15 A	9	LE2D097D6(1)(2)(3)(4)(5)(6)	**$ 836.**	LE2D097D7(1)(2)(3)(4)(5)(6)	**$ 972.**
3	3	7½	10	1	1	15 A	12	LE2D127D6(1)(2)(3)(4)(5)(6)	**944.**	LE2D127D7(1)(2)(3)(4)(5)(6)	**1096.**
5	5	10	15	1	1	30 A	18	LE2D187E6(1)(2)(3)(4)(5)(6)	**1010.**	LE2D187E7(1)(2)(3)(4)(5)(6)	**1174.**
7½	7½	15	20	1	1	30 A	25	LE2D257E6(1)(2)(3)(4)(5)(6)	**1075.**	LE2D257E7(1)(2)(3)(4)(5)(6)	**1251.**
10	10	20	25	1	1	50 A	32	LE2D327F6(1)(2)(3)(4)(5)(6)	**1403.**	LE2D327F7(1)(2)(3)(4)(5)(6)	**1631.**
10	10	30	30	1	1	50 A	40	LE2D407F6(1)(2)(3)(4)(5)(6)	**1522.**	LE2D407F7(1)(2)(3)(4)(5)(6)	**1770.**

Factory Modifications. . . . . page 16-35
Dimensions . . . . . page 16-36

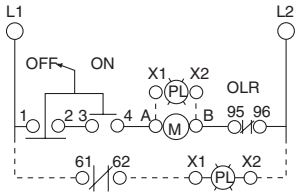
For additional information, reference Catalog #8502CT9901R5/03.

Enclosed Combination Starters
Enclosure Modifications/INSTA-KITS™/Overload Relay

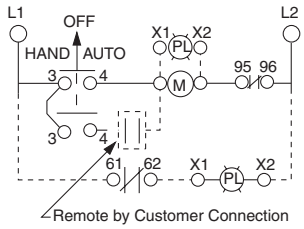
Start/Stop



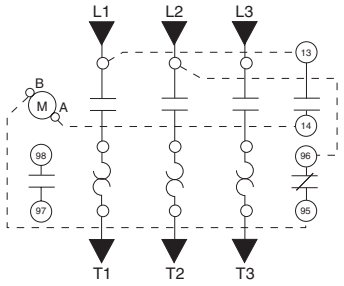
On-Off Selector Switch



HOA Selector Switch



D-Line AC Magnetic Starter
2-3 Pole



Factory Modifications and INSTA-KITS™ selection

Add the Factory Modification Code to the end of the catalog number created from pages 16-33 and 16-34. With the use of INSTA-KITS™, only one operator scheme is allowed. Only the combinations of operators and pilot lights shown below can be ordered.

Pilot lights will be at the coil voltage indicated in the catalog number for the starter.

Description	Factory Modification Code▲	Price	Insta-Kits (for field installation)	Price
Control Units Only				
For-rev-stop Push Button	A06L	**$ 131.00**	LA9CA06LT	**$ 71.00**
Start/Stop Push Button	A06G	**65.00**	LA9CA06GT	**32.80**
I/O (Start/Stop) Push Button	N/A	**. . .**	N/A	**. . .**
I/O Push Button (double touch)	A06I	**83.00**	LA9CA06IO	**41.50**
Emergency Stop	N/A	**. . .**	N/A	**. . .**
Hand-Off-Auto Selector Switch	A06E	**65.00**	LA9CA06ET	**32.80**
On/off Selector Switch	A06D	**65.00**	LA9CA06DT	**41.50**
Start/Mushroom Head Stop Push Button	A06X	**65.00**	LA9CA06XT	**32.80**
Pilot Lights only				
LED Pilot light, 24, 120 or 240 V	A16S	**134.00**	LA9CA16ST★	**66.00**
Green-Red Pilot light, Direct supply, 24 or 120 V ■	A06S	**112.00**	LA9CA06ST★	**62.00**
Green-Red Transformer Pilot Light, 120, 208/240, 480 or 600 V ■	A06F	**207.00**	LA9CA06FT★	**113.00**
Available combination of control units and pilot lights				
Hand-Off-Auto Selector Switch w/24, 120 or 240 V LED Pilot Light	A16U	**213.00**	LA9CA16UT★	**177.00**
Start/Stop Push Button w/ 24, 120 or 240 V LED Pilot Light	A16V	**213.00**	LA9CA16VT★	**177.00**
On/off Selector w/ 24, 120 or 240 V LED Pilot Light	A16W	**213.00**	LA9CA16WT★	**177.00**
Start/Stop Push Button w/ Green-Red Transformer Pilot Light	A06N	**177.00**	LA9CA06NT★	**95.00**
Start/Stop Push Button w/Green-Red Pilot Light	A06V	**177.00**	LA9CA06VT	**95.00**
Hand-Off-Auto Selector Switch w/Green-Red Pilot Light	A06U	**273.00**	LA9CA06UT	**97.00**
Hand-Off-Auto Selector Switch w/Green-Red Transformer Pilot Light	A06J	**273.00**	LA9CA06JT★	**147.00**
On/off Selector w/Green-Red Pilot Light	A06W	**177.00**	LA9CA06WT	**95.00**
On/off Selector w/Green-Red Transformer Pilot Light	A06H	**273.00**	LA9CA06HT★	**147.00**
Control Power Transformer				
Standard VA, 2 fuses in Primary, 1 Fuse in secondary	A206P	**260.00**	♦	**. . .**
50 VA extra, 2 fuses in Primary, 1 Fuse in secondary	A207P	**456.00**	♦	**. . .**
100 VA extra, 2 fuses in Primary, 1 Fuse in secondary	A208P	**634.00**	♦	**. . .**

▲ Add these forms to the catalog number selected on pages 16-33 or 16-34. The numbers as shown are for use in NEMA 1 Enclosures. For uses in NEMA 12/3R change the 6 to a 7 (ex A06U becomes A07U). Price remains the same. The change DOES NOT apply to control power transformer forms.
■ Pilot lights are wired such that the light is on when the contactor is energized. For non-LED type pilot lights, a green lens is installed on the unit when shipped. A red lens is included for use as applicable.
♦ Select INSTA-KITS™ from table below.

Total VA	INSTA-KITS™ Catalog Number	Price
50	LA9TFD32★	**$140.00**
100	LA9TFD80★	**246.00**

★ Complete the part number for the INSTA-KITS™ by selecting the voltage code from the appropriate tables below.

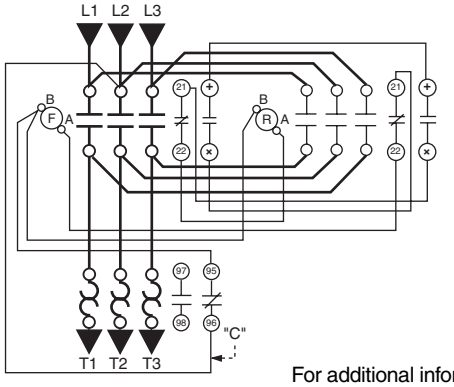
Voltage Codes for pilot lights

Voltage (Vac)	24	120	208/240	480	600
Code	B	G	M	T	X

Voltage Codes for control power transformers

Primary Voltage	120	208	240	480	600	208	240	480	600
Secondary Voltage	24					120			
Code	E	D	C	B	A	L	M	T	X

D-Line AC Magnetic Reversing Starter
3-Pole

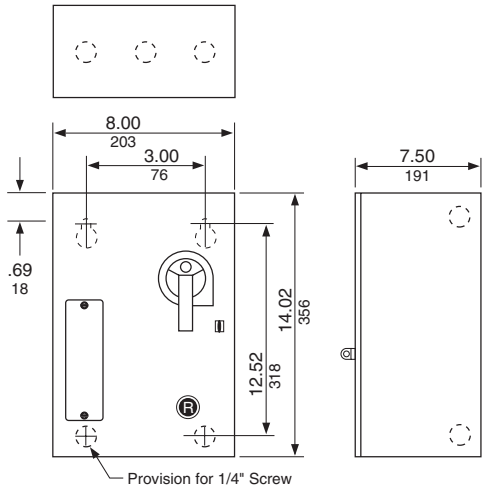


For additional information, reference Catalog #8502CT9901R5/03.

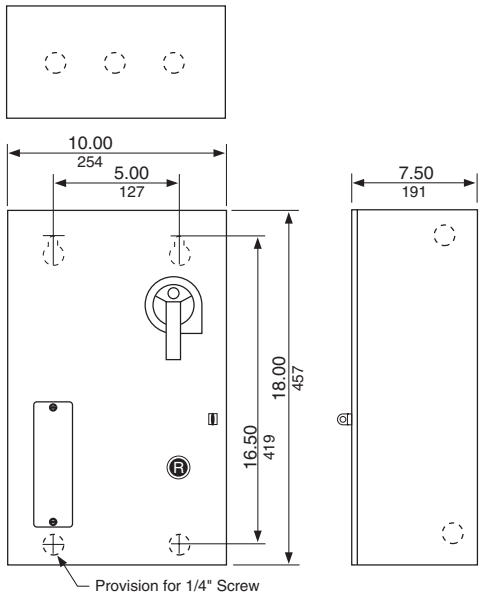
16 IEC STYLE CONTACTORS AND STARTERS

Combination Starter Dimensions

NEMA 1

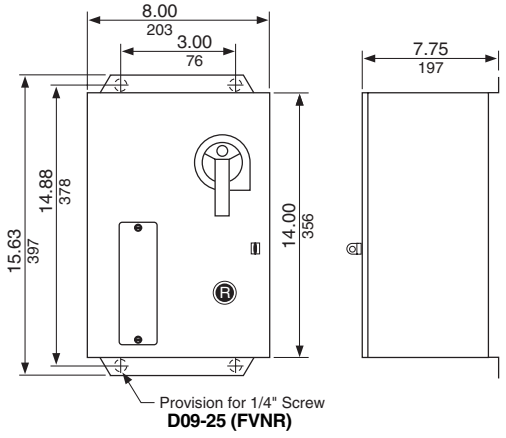


D09-25 (FVNR)

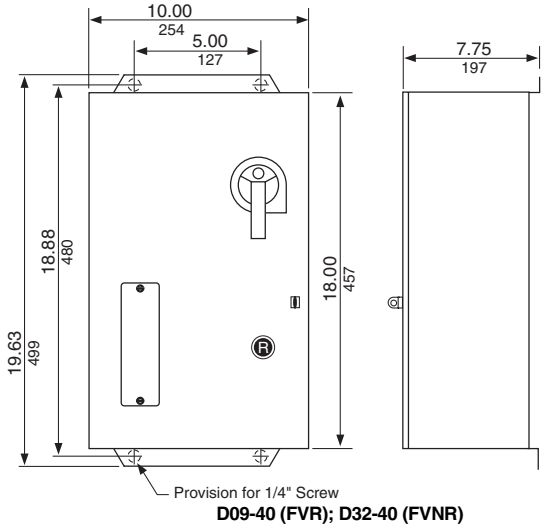


D09-40 (FVR); D32-40 (FVNR)

NEMA 12/3R

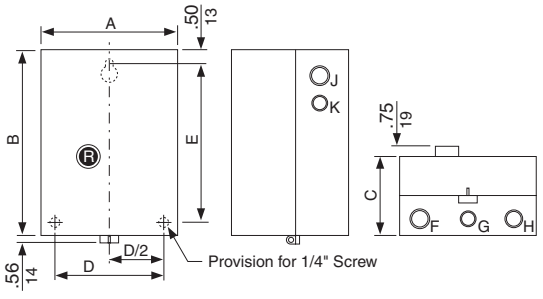


D09-25 (FVNR)



D09-40 (FVR); D32-40 (FVNR)

Non-combination Starter Dimensions



Non-combination Starter Dimensions

		TYPE 1										TYPE 12/ 3R	
Non-reversing	Reversing	A	B	C	D	E	F	G	H	J	K	D	E
D09-32	...	6.77	10.04	6.25	5.38	9.00	1-1 1/4	1/2-3/4	–	1-1/4	1/2 - 3/4	5.38	11.37
D40-65	D09-32	8.66	10.83	7.21	7.25	9.75	1 1/4-1 1/2	1/2-3/4	1-1 1/4	1-1/4	1/2 - 3/4	5.38	12.15
D80	D40-80	10.63	13.98	7.21	9.22	12.94	1 1/4-1 1/2	1/2-3/4	1-1 1/4	1-1 1/4	1/2 - 3/4	5.38	15.30

All dimensions in inches.

For additional information, reference Catalog #8502CT9901R5/03.

LC1K0910●

LP4K06105●

LP1K0610

LP4K0610

All K-line devices are now available with spring terminal clamps. Add a "3" before the coil voltage code.

The TELEMECANIQUE K-line non-reversing and reversing general purpose contactors for lighting and motor circuit applications are well suited for light load applications where small size and high reliability are key concerns. Both non-reversing and reversing contactors are UL and CSA approved for 600 Vac with saddle clamp terminals and slip-on terminals. Contactors are also available with solder pins for direct connection to printed circuit boards.

3-Pole Non-Reversing Mini-Contactors

Coil Voltage: AC

Maximum Horsepower Ratings						Maximum Current		Type of Connection	Auxiliary Contacts		Catalog Number	Price
1 Ø		3 Ø				Inductive AC3 Amperes	Resistive AC1 Amperes		N.O.	N.C.		
115 V hp	230 V hp	200 V hp	230 V hp	460 V hp	575 V hp							
0.5	1.5	1.5	1.5	3	3	6	15	Screw-clamp	1	1	LC1K0610 ▲ LC1K0601 ▲	**$57.00** **57.00**
								Slip-on 1 X .250" or 2 X .110"	1	1	LC1K06107 ▲ LC1K06017 ▲	**57.00** **57.00**
								Solder pins for PCB	1	1	LC1K06105 ▲ LC1K06015 ▲	**57.00** **57.00**
0.5	1.5	2	3	5	5	9	20	Screw-clamp	1	1	LC1K0910 ▲ LC1K0901 ▲	**75.00** **75.00**
								Slip-on 1 x .250" or 2 x .110"	1	1	LC1K09107 ▲ LC1K09017 ▲	**75.00** **75.00**
								Solder pins for PCB	1	1	LC1K09105 ▲ LC1K09015 ▲	**75.00** **75.00**
0.5	1.5	3	3	7.5	10	12	20	Screw-clamp	1	1	LC1K1210 ▲ LC1K1201 ▲	**86.00** **86.00**
								Slip-on 1 x .250" or 2 x .110"	1	1	LC1K12107 ▲ LC1K12017 ▲	**86.00** **86.00**
								Solder pins for PCB	1	1	LC1K12105 ▲ LC1K12015 ▲	**86.00** **86.00**

▲ Coil voltage codes for AC contactors

Volts AC 50/60 Hz	12	24	42	48	110	120	127	200/208	220/230	230	230/240	277	380/400	400/415	440	480	660/690
Code	J7	B7	D7	E7	F7	G7	FC7	L7	M7	P7	U7	UE7	Q7	N7	R7	T7	Y7

NOTE: Up to and including 240 V coil with integral suppression device available. Add 2 to the code required. Example J7**2**. Price adder **$10.00**.

Coil Voltage: DC

0.5	1.5	1.5	1.5	3	3	6	15	Screw-clamp	1	1	LP1K0610 ■ LP1K0601 ■	**$ 75.00** **75.00**
								Slip-on 1 x .250" or 2 x .110"	1	1	LP1K06107 ■ LP1K06017 ■	**75.00** **75.00**
								Solder pins for PCB	1	1	LP1K06105 ■ LP1K06015 ■	**75.00** **75.00**
0.5	1.5	2	3	5	5	9	20	Screw-clamp	1	1	LP1K0910 ■ LP1K0901 ■	**92.00** **92.00**
								Slip-on 1 x .250" or 2 x .110"	1	1	LP1K09107 ■ LP1K09017 ■	**92.00** **92.00**
								Solder pins for PCB	1	1	LP1K09105 ■ LP1K09015 ■	**92.00** **92.00**
0.5	1.5	3	3	7.5	10	12	20	Screw-clamp	1	1	LP1K1210 ■ LP1K1201 ■	**106.00** **106.00**
								Slip-on 1 x .250" or 2 x .110"	1	1	LP1K12107 ■ LP1K12017 ■	**106.00** **106.00**
								Solder pins for PCB	1	1	LP1K12105 ■ LP1K12015 ■	**106.00** **106.00**

■ Coil voltages for DC contactors

Volts DC	12	20	24	36	48	60	72	100	110	125	200	220	230	240	250
Code	JD	ZD	BD	CD	ED	ND	SD	KD	FD	GD	LD	MD	MPD	MUD	UD

NOTE: Coil with integral suppression device available. Add 3 to the code required. Example J7**3**. Price adder **$10.00**.

Coil Voltage: DC–Low Consumption (devices have built-in transient suppression)

0.5	1.5	1.5	1.5	3	3	6	15	Screw-clamp	1	1	LP4K0610 ♦ LP4K0601 ♦	**$ 92.00** **92.00**
								Slip-on 1 x .250" or 2 x .110"	1	1	LP4K06107 ♦ LP4K06017 ♦	**92.00** **92.00**
								Solder pins for PCB	1	1	LP4K06105 ♦ LP4K06015 ♦	**92.00** **92.00**
0.5	1.5	2	3	5	5	9	20	Screw-clamp	1	1	LP4K0910 ♦ LP4K0901 ♦	**110.00** **110.00**
								Slip-on 1 x .250" or 2 x .110"	1	1	LP4K09107 ♦ LP4K09017 ♦	**110.00** **110.00**
								Solder pins for PCB	1	1	LP4K09105 ♦ LP4K09015 ♦	**110.00** **110.00**
0.5	1.5	3	3	7.5	10	12	20	Screw-clamp	1	1	LP4K1210 ♦ LP4K1201 ♦	**126.00** **126.00**
								Slip-on 1 x .250" or 2 x .110"	1	1	LP4K12107 ♦ LP4K12017 ♦	**126.00** **126.00**
								Solder pins for PCB	1	1	LP4K12105 ♦ LP4K12015 ♦	**126.00** **126.00**

♦ Coil voltage codes for DC contactors—Low consumption

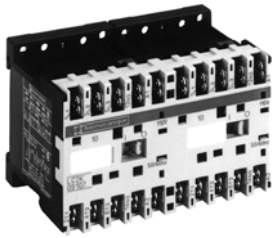
Volts DC	12	24	48	72
Code	JW3	BW3	EW3	SW3

Dimensions . . . . . page 16-41
Accessories . . . . . page 16-40
Overload Relays. . . . . page 16-40

For additional information, reference Catalog #8502CT9901R5/03.

3-Pole Reversing Mini-Contactors

Each device is mechanically interlocked. The screw-clamp versions are pre-wired with line and load side power wiring for reversing applications.



LC2K09107●●

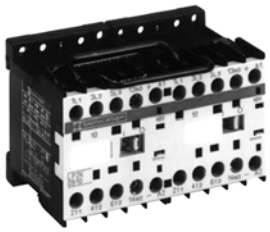
Coil Voltage: AC

Maximum Horsepower Ratings						Maximum Current		Type of Connection	Auxiliary Contacts		Catalog Number	Price
1Ø		3Ø				Inductive AC3 A	Resistive AC1 A		N.O.	N.C.		
115V hp	230V hp	200V hp	230V hp	460V hp	575V hp							
0.5	1.5	1.5	1.5	3	3	6	15	Screw-clamp	1 ...	... 1	LC2K0610▲ LC2K0601▲	**$130.00** **130.00**
								Slip-on 1 X .250" or 2 X .110"	1 ...	... 1	LC2K06107▲ LC2K06017▲	**130.00** **130.00**
								Solder pins for PCB	1 ...	... 1	LC2K06105▲ LC2K06015▲	**130.00** **130.00**
0.5	1.5	2	3	5	5	9	20	Screw-clamp	1 ...	... 1	LC2K0910▲ LC2K0901▲	**167.00** **167.00**
								Slip-on 1 x .250" or 2 x .110"	1 ...	... 1	LC2K09107▲ LC2K09017▲	**167.00** **167.00**
								Solder pins for PCB	1 ...	... 1	LC2K09105▲ LC2K09015▲	**167.00** **167.00**
0.5	1.5	3	3	7.5	10	12	20	Screw-clamp	1 ...	... 1	LC2K1210▲ LC2K1201▲	**191.00** **191.00**
								Slip-on 1 x .250" or 2 x .110"	1 ...	... 1	LC2K12107▲ LC2K12017▲	**191.00** **191.00**
								Solder pins for PCB	1 ...	... 1	LC2K12105▲ LC2K12015▲	**191.00** **191.00**

▲ Coil voltage codes for AC contactors

Volts AC 50/60 Hz	12	24	42	48	110	120	127	200/208	220/230	230	230/240	277	380/400	400/415	440	480	660/690
Code	J7	B7	D7	E7	F7	G7	FC7	L7	M7	P7	U7	UE7	Q7	N7	R7	T7	Y7

Note: Up to and including 240 V coil with integral suppression device available. Add 2 to the code required. Example J7**2**. Price adder **$20.00**.



LP2K0910●●

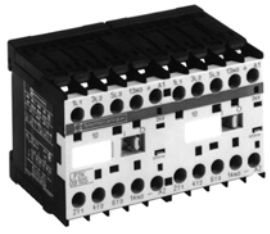
Coil Voltage: DC

0.5	1.5	1.5	1.5	3	3	6	15	Screw-clamp	1 ...	... 1	LP2K0610■ LP2K0601■	**$167.00** **167.00**
								Slip-on 1 x .250" or 2 x .110"	1 ...	... 1	LP2K06107■ LP2K06017■	**167.00** **167.00**
								Solder pins for PCB	1 ...	... 1	LP2K06105■ LP2K06015■	**167.00** **167.00**
0.5	1.5	2	3	5	5	9	20	Screw-clamp	1 ...	... 1	LP2K0910■ LP2K0901■	**202.00** **202.00**
								Slip-on 1 x .250" or 2 x .110"	1 ...	... 1	LP2K09107■ LP2K09017■	**202.00** **202.00**
								Solder pins for PCB	1 ...	... 1	LP2K09105■ LP2K09015■	**202.00** **202.00**
0.5	1.5	3	3	7.5	10	12	20	Screw-clamp	1 ...	... 1	LP2K1210■ LP2K1201■	**232.00** **232.00**
								Slip-on 1 x .250" or 2 x .110"	1 ...	... 1	LP2K12107■ LP2K12017■	**232.00** **232.00**
								Solder pins for PCB	1 ...	... 1	LP2K12105■ LP2K12015■	**232.00** **232.00**

■ Coil voltage codes for DC contactors

Volts DC	12	20	24	36	48	60	72	100	110	125	200	220	230	240	250
Code	JD	ZD	BD	CD	ED	ND	SD	KD	FD	GD	LD	MD	MPD	MUD	UD

NOTE: Coil with integral suppression device available. Add 3 to the code required. Example J7**3**. Price adder **$20.00**.



LP2K09105●●●

Coil Voltage: DC—Low Consumption (devices have built-in transient suppression)

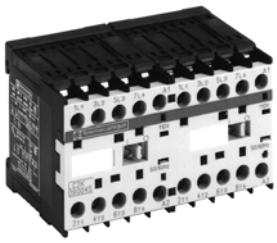
0.5	1.5	1.5	1.5	3	3	6	15	Screw-clamp	1 ...	... 1	LP5K0610♦ LP5K0601♦	**$202.00** **202.00**
								Slip-on 1 x .250" or 2 x .110"	1 ...	.. 1	LP5K06107♦ LP5K06017♦	**202.00** **202.00**
								Solder pins for PCB	1 ...	... 1	LP5K06105♦ LP5K06015♦	**202.00** **202.00**
0.5	1.5	2	3	5	5	9	20	Screw-clamp	1 ...	... 1	LP5K0910♦ LP5K0901♦	**238.00** **238.00**
								Slip-on 1 x .250" or 2 x .110"	1 ...	... 1	LP5K09107♦ LP5K09017♦	**238.00** **238.00**
								Solder pins for PCB	1 ...	 1	LP5K09105♦ LP5K09015♦	**238.00** **238.00**
0.5	1.5	3	3	7.5	10	12	20	Screw-clamp	1 ...	... 1	LP5K1210♦ LP5K1201♦	**274.00** **274.00**
								Slip-on 1 x .250" or 2 x .110"	1 ...	... 1	LP5K12107♦ LP5K12017♦	**274.00** **274.00**
								Solder pins for PCB	1 ...	... 1	LP5K12105♦ LP5K12015♦	**274.00** **274.00**

♦ Coil voltage codes for DC contactors—Low consumption

Volts DC	12	24	48	72
Code	JW3	BW3	EW3	SW3

Dimensions . . . . . page 16-41
Accessories . . . . . page 16-40
Overload Relays. . . . . page 16-40

For additional information, reference Catalog #8502CT9901R5/03.



LC2K090045

Coil Voltage: AC

Maximum Horsepower Ratings 1 PH 115 V hp	1 PH 230 V hp	3 PH 200 V hp	3 PH 230 V hp	3 PH 460 V hp	3 PH 575 V hp	Maximum Current Inductive AC3 A	Maximum Current Resistive AC1 A	Type of Connection	Power Poles N.O.	Power Poles N.C.	Catalog Number	Price
4-Pole Mini Contactor												
0.5	1.5	2	3	5	5	9	15	Screw-clamp	4 2	... 2	LC1K09004▲ LC1K09008▲	**$75.00** **81.00**
								Slip-on 1 X .250" or 2 X .110"	4 2	... 2	LC1K090047▲ LC1K090087▲	**75.00** **81.00**
								Solder pins for PCB	4 2	... 2	LC1K090045▲ LC1K090085▲	**75.00** **81.00**
0.5	1.5	3	3	7.5	10	12	20	Screw-clamp	4 2	... 2	LC1K12004▲ LC1K12008▲	**86.00** **93.00**
								Slip-on 1 X .250" or 2 X .110"	4 2	... 2	LC1K120047▲ LC1K120087▲	**86.00** **93.00**
								Solder pins for PCB	4 2	... 2	LC1K120045▲ LC1K120085▲	**86.00** **93.00**
4-Pole Mechanically Interlocked Contactors												
0.5	1.5	2	3	5	5	9	20	Screw-clamp	4	-	LC2K09004▲	**$167.00**
								Slip-on 1 x .250" or 2 x .110"	4	-	LC2K090047▲	**167.00**
								Solder pins for PCB	4	-	LC2K090045▲	**167.00**
0.5	1.5	3	3	7.5	10	12	20	Screw-clamp	4	-	LC2K12004▲	**191.00**
								Slip-on 1 x .250" or 2 x .110"	4	-	LC2K120047▲	**191.00**
								Solder pins for PCB	4	-	LC2K120045▲	**191.00**

▲ Coil voltages for AC contactors

Volts AC 50/60 Hz	12	24	42	48	110	120	127	200/208	220/230	230	230/240	277	380/400	400/415	440	480	660/690
Code	J7	B7	D7	E7	F7	G7	FC7	L7	M7	P7	U7	UE7	Q7	N7	R7	T7	Y7

NOTE: Up to and including 240 V coil with integral suppression device available. Add 2 to the code required. Example J7**2**.
Price adder **$10.00** (**$20.00** for mechanically interlocked contactors)

Coil Voltage: DC

4-Pole Mini Contactor												
0.5	1.5	2	3	5	5	9	15	Screw-clamp	4 2	- 2	LP1K09004■ LP1K09008■	**$ 92.00** **98.00**
								Slip-on 1 x .250" or 2 x .110"	4 2	- 2	LP1K090047■ LP1K090087■	**92.00** **98.00**
								Solder pins for PCB	4 2	- 2	LP1K090045■ LP1K090085■	**92.00** **98.00**
0.5	1.5	3	3	7.5	10	12	20	Screw-clamp	4 2	... 2	LP1K12004■ LP1K12008■	**106.00** **113.00**
								Slip-on 1 x .250" or 2 x .110"	4 2	... 2	LP1K120047■ LP1K120087■	**106.00** **113.00**
								Solder pins for PCB	4 2	... 2	LP1K0120045■ LP1K120085■	**106.00** **113.00**
4-Pole Mechanically Interlocked Contactors												
0.5	1.5	2	3	5	5	9	20	Screw-clamp	4	...	LP2K09004■	**$202.00**
								Slip-on 1 x .250" or 2 x .110"	4	...	LP2K090047■	**202.00**
								Solder pins for PCB	4	...	LP2K090045■	**202.00**
0.5	1.5	3	3	7.5	10	12	20	Screw-clamp	4	...	LP2K12004■	**232.00**
								Slip-on 1 x .250" or 2 x .110"	4	...	LP2K120047■	**232.00**
								Solder pins for PCB	4	...	LP2K120045■	**232.00**

■ Coil voltages for DC contactors

Volts DC	12	20	24	36	48	60	72	100	110	125	200	220	230	240	250
Code	JD	ZD	BD	CD	ED	ND	SD	KD	FD	GD	LD	MD	MPD	MUD	UD

NOTE: Coil with integral suppression device available. Add 3 to the code required. Example J7**3**. Price adder **$10.00** (**$20.00** for mechanically interlocked contactors)

Coil Voltage: DC–Low consumption (devices have built-in transient suppression)

4-Pole Mini Contactor												
0.5	1.5	2	3	5	5	9	15	Screw-clamp	4 2	... 2	LP4K09004♦ LP4K09008♦	**$110.00** **116.00**
								Slip-on 1 x .250" or 2 x .110"	4 2	... 2	LP4K090047♦ LP4K090087♦	**110.00** **116.00**
								Solder pins for PCB	4 2	... 2	LP4K090045♦ LP4K090085♦	**110.00** **116.00**
0.5	1.5	3	3	7.5	10	12	20	Screw-clamp	4 2	... 2	LP4K12004♦ LP4K12008♦	**126.00** **134.00**
								Slip-on 1 x .250" or 2 x .110"	4 2	... 2	LP4K120047♦ LP4K120087♦	**126.00** **134.00**
								Solder pins for PCB	4 2	... 2	LP4K120045♦ LP4K120085♦	**126.00** **134.00**
4-Pole Mechanically Interlocked Contactors												
0.5	1.5	2	3	5	5	9	20	Screw-clamp	4	...	LP5K09004♦	**$238.00**
								Slip-on 1 x .250" or 2 x .110"	4	...	LP5K090047♦	**238.00**
								Solder pins for PCB	4	...	LP5K090045♦	**238.00**
0.5	1.5	3	3	7.5	10	12	20	Screw-clamp	4	...	LP5K12004♦	**274.00**
								Slip-on 1 x .250" or 2 x .110"	4	...	LP5K120047♦	**274.00**
								Solder pins for PCB	4	...	LP5K120045♦	**274.00**

♦ Coil voltages for DC contactors—Low consumption

Volts DC	12	24	48	72
Code	JW3	BW3	EW3	SW3

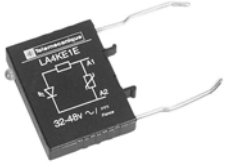
Dimensions . . . . . page 16-41
Accessories . . . . . page 16-40
Overload Relays . . . . . page 16-40

For additional information, reference Catalog #8502CT9901R5/03.

LA1KN11

LA1KN22

LA2KT2U



LA4KE1U

LR2K0316

Instantaneous auxiliary contact blocks

Clip-on front mounting, 1 block per contactor and 2 blocks per pair of mechanically interlocked contactors.

Type of connection	Auxiliary Contacts N.O.	Auxiliary Contacts N.C.	Catalog Number	Price
Screw clamp	2	. . .	LA1KN20	**$14.20**
	. . .	2	LA1KN02	**14.20**
	1	1	LA1KN11	**14.20**
	4	. . .	LA1KN40 ▲	**27.30**
	3	1	LA1KN31 ▲	**27.30**
	2	2	LA1KN22 ▲	**27.30**
	1	3	LA1KN13 ▲	**27.30**
	. . .	4	LA1KN04 ▲	**27.30**
Slip-on 1 x .250" or 2 x .110"	2	. . .	LA1KN207	**14.20**
	. . .	2	LA1KN027	**14.20**
	1	1	LA1KN117	**14.20**
	4	. . .	LA1KN407 ▲	**27.30**
	3	1	LA1KN317 ▲	**27.30**
	2	2	LA1KN227 ▲	**27.30**
	1	3	LA1KN137▲	**27.30**
	. . .	4	LA1KN047 ▲	**27.30**

▲ Block of 4 contacts cannot be used with LP4K or LP5K contactors.

Electronic time delay auxiliary contact blocks

Clip-on front mounting, 1 block per contactor and 2 blocks per pair of mechanically interlocked contactors.

Voltage (V)	Type	Timing Range (S)	Contacts	Catalog Number	Price
24 to 48 Vac or Vdc	On-delay	1 to 30	SPDT	LA2KT2E	**$32.80**
110 to 240 Vac	On-delay	1 to 30	SPDT	LA2KT2U	**32.80**

Relay outputs, with single pole double throw, 240 Vac/dc, 2 Ampere maximum
Control voltage, from 0.85 to 1.1 Uc.
Maximum switching capacity 250 VA / 150 W
Operating temperature: -10 to + 60°C (14 to 140°F)
Reset time: 1.5 s during time delay, 0.5 after time delay

Suppressor Module with incorporated LED indicator

Clip-on front mounting				
Voltage range	**Type**	**Sold in lots of**	**Catalog Number**	**Price each**
12 to 24 Vac and dc	Varistor	5	LA4KE1B ■	**$9.80**
32 to 48 Vac and dc	Varistor	5	LA4KE1E ■	**9.80**
50 to 129 Vac and dc	Varistor	5	LA4KE1FC ■	**9.80**
130 to 250 Vac and dc	Varistor	5	LA4KE1UG ■	**9.80**
12 to 24 Vdc	Diode + Zener	5	LA4KC1B ♦	**9.80**
32 to 48 Vdc	Diode + Zener	5	LA4KC1E ♦	**9.80**
220 to 250 Vac	RC	5	LA4KA1U ★	**9.80**

■ Protection by limitation of the transient voltage to 2 Uc maximum. Maximum reduction of the transient voltage peaks. Slight time delay on drop-out (1.1 to 1.5 times normal).
♦ No overvoltage or oscillation frequency. Polarized component. Slight time delay on drop-out (1.1 to 1.5 times normal).
★ Protection by limitation of the transient voltage to 3 Uc maximum and limitation of the oscillation frequency. Slight time delay on drop-out (1.2 times normal).

Paralleling Links

Description	Sold in lots of	Catalog Number	Price each
For 2 poles with screw-clamp terminals	4	LA9E01	**$ 2.20**
For 4 poles with screw-clamp terminals	2	LA9E02	**3.50**

Power Connectors

Description	Sold in lots of	Catalog Number	Price each
Set of 6 power connections for reversing contactors with screw-clamp terminals	100	LA9K0969	**$6.20**
Set of 4 power connections for changeover contactors with screw-clamp terminals	100	LA9K0970	**6.20**

Marking strips

Description	Sold in lots of	Catalog Number	Price each
Clips onto front of the contactor	100	LA9D90	**$.06**

Overload relays for 3-Pole contactors with screw-clamp terminals

Class 10, Relay setting range–A	Catalog Number	Price
0.1 to 0.16	LR2K0301	**$59.00**
0.16 to 0.23	LR2K0302	**59.00**
0.23 to 0.36	LR2K0303	**59.00**
0.36 to 0.54	LR2K0304	**59.00**
0.54 to 0.8	LR2K0305	**59.00**
0.8 to 1.2	LR2K0306	**59.00**
1.2 to 1.8	LR2K0307	**59.00**
1.8 to 2.6	LR2K0308	**59.00**
2.6 to 3.7	LR2K0310	**59.00**
3.8 to 5.5	LR2K0312	**59.00**
5.5 to 8	LR2K0314	**59.00**
8 to 11.5	LR2K0316	**59.00**
10 to 14	LR2K0321	**59.00**
12 to 16	LR2K0322	**59.00**

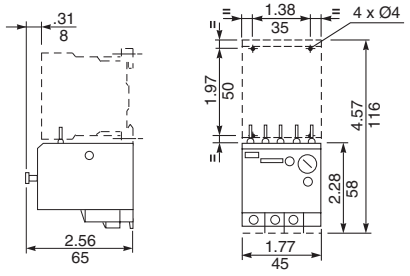
LR2K overload relays:
- AC or DC protection
- Ambient compensated bimetallic
- Class 10
- Single phase sensitivity
- Manual or auto reset
- Full load current dial

Accessories for overload relays

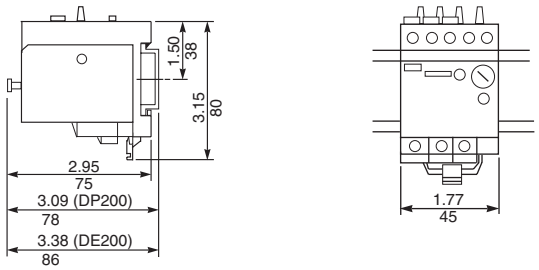
Description	Type of Connection	Catalog Number	Price
Terminal block for separate clip-on mounting of the overload relay onto 35 mm omega rail (AM1DP200)	Screw-clamp	LA7K0064	**$11.90**

For additional information, reference Catalog #8502CT9901R5/03.

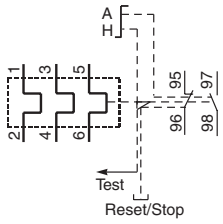
LR2K
Direct mounting under the contactor



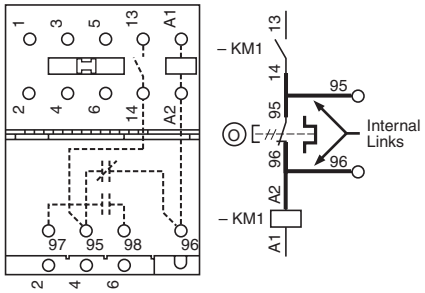
Separate mounting with **LA7-K0064** terminal block
on 35 mm ⊔ rail
(AM1DP200 or AM1DE200



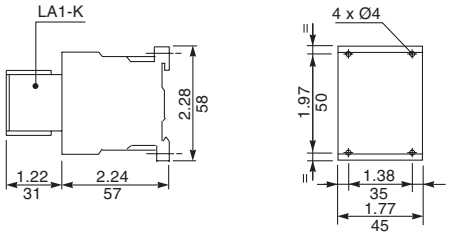
LR2K
Three-phase



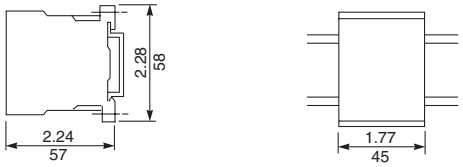
LR2K
Wiring Scheme



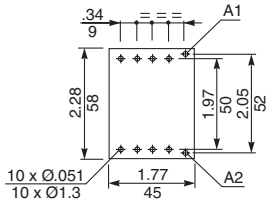
LC1, LP1, LP4K
mini-contactors
On baseplate



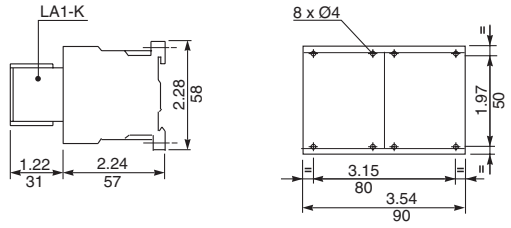
On AM1DP200 or DE200 rail (⊔ 35 mm)



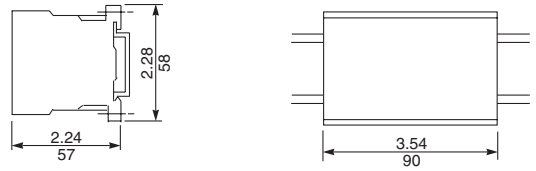
On printed circuit board



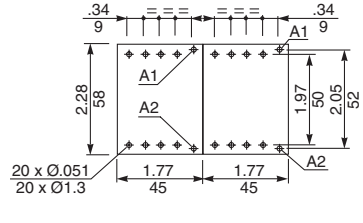
LC2, LC8, LP2, LP5K
reversing mini-contactors
On baseplate



On AM1DP200 or DE200 rail (⊔ 35 mm)



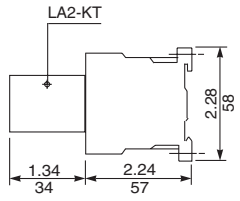
On printed circuit board for reversing contactors or
2 mini-contactors side-by-side



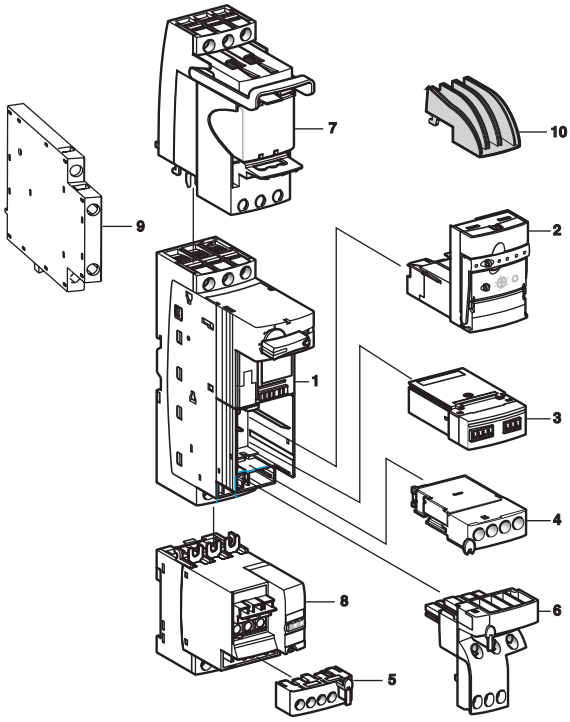
LA2KT
Electronic time delay contact blocks

Dual Dimensions: **INCHES**
Millimeters

On mini-contactors or reversing mini-contactors



For additional information, reference Catalog #8502CT9901R5/03.



Examples of Various U-Line Starter Components

The TeSys U-Line motor starter provides motor control from a basic starter to a controller which communicates on networks and provides programmable motor protection.

Using a plug-in modular design, the U-line starter allows the maximum flexibility in motor control. Select the 45 mm Power Base, panel mount, or mount on a 35 mm DIN rail. Select and install the various plug-in components for the application.

1. Power Base
   A. Self-protected base (shown), 12 or 32 A
   B. Starter base, 12 or 32 A

The power bases (starter and self-protected) provide the main contacts (power poles) for the device. The self-protected base provides short circuit protection as a self-protected, UL 508 Type E approved device.

2. Interchangeable Control Units—provide the control and thermal overload functions for the starter. The types available are:
   A. Standard control unit—provides basic Class 10 trip characteristics, no communications capabilities.
   B. Advanced control unit—provides a choice in Class 10 or Class 20 trip characteristics and allows for network communications when used with appropriate modules.
   C. Multifunction control unit—provides a wider range of programmable protection with built-in MODBUS® communication capabilities.

Six interchangeable, wide-range control units provide motor protection from 0.15 A to 32 A. The low consumption (low heat dissipation) control units include built-in surge protection.

3. Function and communication modules

Various function modules provide alarm indications, fault differentiation (manual and automatic reset on overload trip) and indication of motor load (Amps).

Communication modules allow either parallel or serial communication via MODBUS or AS-i networks. Other communications protocols are possible via gateways.

Auxiliary contact function modules provide a hard contact to monitor status of the power poles. Modules in three configurations (2 N.O., 1 N.O/1 N.C., and 2 N.C) provide signaling capabilities as traditional hard-wired contacts.

4. Auxiliary contact blocks

Indicate the status of the power poles and provide a fault signaling contact as traditional hard-wired contacts.

5. Plug-in terminal blocks

Allow wiring to be prepared in advance of final installation or to assist in any maintenance work without unwiring.

6. Control circuit pre-wiring blocks

Allow simple, clip-on connection to be made to other units (such as the reversing module).

7. Current Limiter/Isolator

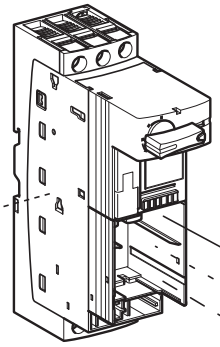
Mounts directly to the self-protected power bases and provides increased short circuit breaking capacity (up to 130 kA at 480 V and 65 kA at 600 V). In addition, the unit provides visible circuit isolation from the main power with provisions for padlocking.

Other options include a reversing block (8), a control circuit contact block (9), incoming line insulator (10) required for stand alone (UL 508 Type E) applications, and handle mounting kit for through-the-door operation of the self-protected power base.

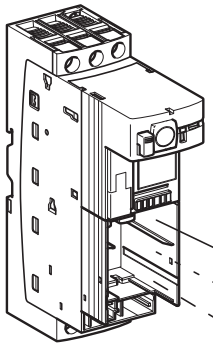
Dimensions. . . . . page 16-49

For additional information, reference Catalog #8502CT0201.

Step 1. Power Bases
(required; select one)

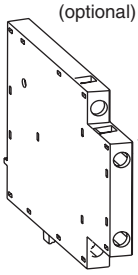


Self-protected base



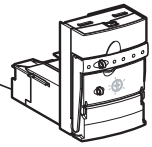
Starter base

Step 5. Power Base Accessories
(optional)

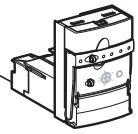


Control circuit contact block
For use only with self-protected base.

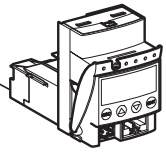
Step 2. Control Units
(required; select one)



Standard unit
Class 10, 3-phase



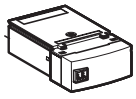
Advanced unit
Class 10, 1-phase
Class 10, 3-phase
Class 20, 3-phase



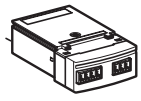
Multifunction, programmable unit

Step 3. Function Modules
(optional; select one)

Parallel wiring, communication, and auxiliary contact modules
Can be used with any control unit. Available modules are: LUFC00, ASILUFC5, LULC031, and LUFN● (shown).

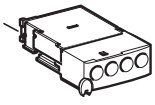


Fault differentiation modules
Can be used with advanced control unit only. Available modules are: LUFDH20 and LUFDA10 (shown).



Load Indication modules
Can be used with either advanced or multifunction control units. Available modules are: LUFV1 and LUFV2.

Step 4. Auxiliary Contact Blocks
(optional)



Auxiliary contact block
Can be used with any control unit. LUA1● shown.

Configuring a U-Line Motor Starter

Step 1. Select a power base (required) from the tables on page 16-44. Blanking covers are supplied with each power base to cover the control unit, function module, and auxiliary contact block cavities.

Step 2. Select a control unit (required) from the tables on page 16-45.

Step 3. Select a function module (optional) from the tables on page 16-46.

Step 4. Select one or more function module accessories (optional) from the table on page 16-46. Accessories not shown on this page include:

- Reversing block
- Plug-in terminal block
- Control circuit pre-wiring block

Step 5. Select one or more power base accessories (optional) from the table on page 16-48. Accessories not shown on this page include:

- Current limiter/isolation module
- Incoming line phase barrier
- Control circuit contact block

Dimensions . . . . . page 16-49

For additional information, reference Catalog #8502CT0201.

1. Power Bases (refer to page 16-43 for all 5 steps)

The U-Line motor starter consists of one power base (selected from this page) and one control unit (select from page 16-45) as a minimum. The power bases connect by one of two control circuit methods:

- With screw clamp terminals
- Without screw clamp terminals

When ordering units without screw clamp terminals (when building a reversing unit or pre-wiring the low voltage control), the terminal assemblies must be ordered separately (see page 16-47).

Each base includes one N.O. and one N.C. auxiliary contact to indicate the open or closed position of the power contacts. Power base accessories can be found on page 16-48.

LUB●2

LUB●20

LU2B●2

Full Voltage, Non-Reversing for Standard Applications

Control Connection	Max. Current (Amps)	Three Phase (HP max.)				Single Phase (HP max.)		Self-Protected Starter Base		Starter Base	
		200/208 V	220/240 V	460 V	575/600 V	120 V	240 V	Catalog Number	Price	Catalog Number	Price
With screw terminations	12	3	3	7.5	10	1.5	2	LUB12	**$164.**	LUS12	**$ 94.**
	32	10	10	20	25	2	5	LUB32	**230.**	LUS32	**127.**
Without terminations	12	3	3	7.5	10	1.5	2	LUB120	**154.**	LUS120	**84.**
	32	10	10	20	25	2	5	LUB320	**220.**	LUS320	**117.**

Full Voltage, Reversing for Standard Applications

Control Connection	Max. Current (Amps)	Three Phase (HP max.)				Single Phase (HP max.)		Self-Protected Starter Base▼		Starter Base	
		200/208 V	220/240 V	460 V	575/600 V	120 V	240 V	Catalog Number	Price	Catalog Number	Price
With screw terminations	12	3	3	7.5	10	1.5	2	LU2B12	**$325.**	▲	. . .
	32	10	10	20	25	2	5	LU2B32	**480.**	▲	. . .
Without terminations	12	3	3	7.5	10	1.5	2	LU2BA0	**315.**	▲	. . .
	32	10	10	20	25	2	5	LU2BB0	**470.**	▲	. . .

▲ Reversing motor starters are not available as assembled units. Order a full voltage, non-reversing motor starter base (LUS12● or LUS32●) from the tables above and a reversing block (LU6MB0● or LU2MB0●) from page 16-47.
▼ Complete the catalog number by selecting the proper voltage code from the table below.

Voltage Codes

Volts	24	48–72	110–240
DC	BL■♦	. . .	. . .
AC	B	. . .	. . .
DC or AC	. . .	ES★	FU

■ Voltage code to use for a power base with a communication module.
♦ DC voltage with range of 0.90 to 1.10 of nominal.
★ 48–72 Vdc; 48 Vac

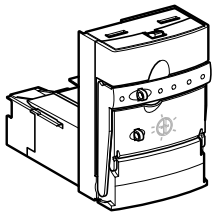
Dimensions . . . . . page 16-49

For additional information, reference Catalog #8502CT0201.

2. Control Units (refer to page 16-43 for all 5 steps)

The control units contain solid state overload relay and control power source for the U-line motor starter. When used with a U-Line power base, these create a complete motor starter. Select one control unit from the listings below based on the functions required and the full load current of the motor.

Note: The LUC●18● and LUC●32● control units can only be used on a 32 A power base. Mechanical interference prevents the use of these devices in 12 A power bases.



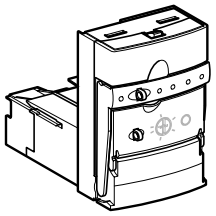
LUCA●

Standard Units—Class 10, 3-phase
No test feature, no motor data communications

Setting Range (Amps)	Used with power base (rating in Amps)	Catalog Number▲	Price
0.15–0.6	12 or 32	LUCAX6▲	**$ 75.00**
0.3–1.4	12 or 32	LUCA1X▲	**75.00**
1.25–5.0	12 or 32	LUCA05▲	**75.00**
3–12	12 or 32	LUCA12▲	**108.00**
4.5–18	32 (only)	LUCA18▲	**73.00**
8–32	32 (only)	LUCA32▲	**117.00**

Advanced Units—Class 10, 3-phase
Test button (simulates thermal overload trip), motor data available via communication function modules

Setting Range (Amps)	Used with power base (rating in Amps)	Catalog Number▲	Price
0.15–0.6	12 or 32	LUCBX6▲	**$ 94.00**
0.3–1.4	12 or 32	LUCB1X▲	**94.00**
1.25–5.0	12 or 32	LUCB05▲	**94.00**
3–12	12 or 32	LUCB12▲	**127.00**
4.5–18	32 (only)	LUCB18▲	**100.00**
8–32	32 (only)	LUCB32▲	**142.00**



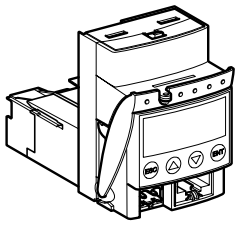
LUCB●
LUCC●
LUCD●

Advanced Units—Class 10, 1-phase
Test button (simulates thermal overload trip), motor data available via communication function modules

Setting Range (Amps)	Used with power base (rating in Amps)	Catalog Number▲	Price
0.15–0.6	12 or 32	LUCCX6▲	**$ 94.00**
0.3–1.4	12 or 32	LUCC1X▲	**94.00**
1.25–5.0	12 or 32	LUCC05▲	**94.00**
3–12	12 or 32	LUCC12▲	**127.00**
4.5–18	32 (only)	LUCC18▲	**100.00**
8–32	32 (only)	LUCC32▲	**142.00**

Advanced Units—Class 20, 3-phase
Test button (simulates thermal overload trip), motor data available via communication function modules

Setting Range (Amps)	Used with power base (rating in Amps)	Catalog Number▲	Price
0.15–0.6	12 or 32	LUCDX6▲	**$ 94.00**
0.3–1.4	12 or 32	LUCD1X▲	**94.00**
1.25–5.0	12 or 32	LUCD05▲	**94.00**
3–12	12 or 32	LUCD12▲	**127.00**
4.5–18	32 (only)	LUCD18▲	**100.00**
8–32	32 (only)	LUCD32▲	**142.00**



LUCM●

Multifunction Programmable Units
Built-in MODBUS® communication port, 24 Vdc only

Setting Range (Amps)	Used with power base (rating in Amps)	Catalog Number	Price
0.15–0.6	12 or 32	LUCMX6BL	**$410.00**
0.3–1.4	12 or 32	LUCM1XBL	**410.00**
1.25–5.0	12 or 32	LUCM05BL	**410.00**
3–12	12 or 32	LUCM12BL	**410.00**
4.5–18	32 (only)	LUCM18BL	**410.00**
8–32	32 (only)	LUCM32BL	**410.00**

▲ Complete the catalog number by selecting the proper voltage code from the table below.

Voltage Codes

Volts	24	48–72	110–240
DC	BL■♦	. . .	. . .
AC	B	. . .	. . .
DC or AC	. . .	ES★	FU

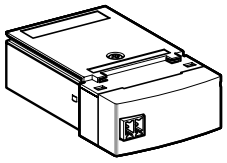
■ Voltage code to use for a power base with a communication module.
♦ DC voltage with range of 0.90 to 1.10 of nominal.
★ 48–72 Vdc; 48 Vac

16 IEC STYLE CONTACTORS AND STARTERS

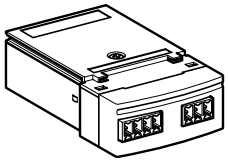
For additional information, reference Catalog #8502CT0201.

3. Function Modules (refer to page 16-43 for all 5 steps)

The function modules available for U-Line motor starters are shown in the tables below. Only one function module can be installed in a U-line motor starter.



LUFD●

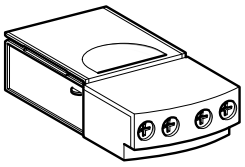


LUFV●

Available Function Modules

Module	Description	For use with:	Operation Requirements	Catalog Number	Price
Fault differentiation with manual reset (thermal overload)	Provides indication between an overload trip and a short circuit trip.▲	Advanced control units only	24–250 Vac or Vdc (power from control unit)	LUFDH20	**$104.00**
Fault differentiation with auto reset				LUFDA10	**104.00**
Thermal overload pre-alarm	Signals when the motor current reaches 1.05 of the full load setting on the control unit.	Advanced control units only	24–250 Vac or Vdc (power from control unit)	LUFW10	**104.00**
Motor load indication	Provides a signal proportional to the average currents in the three phases divided by the full load current setting of the control unit. The output corresponds to a load status of 0–2 times the full load setting of the control unit.	Advanced or multi function control units	4–20 mA, (requires separate 24 Vdc power supply)	LUFV2	**125.00**
Parallel wiring	Provides a convenient way to reduce control wiring and allow for connecting starters to a communications network by providing 24 Vdc for the starters.	Advanced or multi function control units (24 Vdc only) and LU9BN11C or LU9MRC pre-wired connector	LU9G02 splitter box and PLC network	LUFC00	**38.00**
AS-i communication	Allows the U-Line starter to be connected directly to the network using AS-i protocols.	Advanced or multi function control units (24 Vdc only) and LU9BN11C or LU9MRC pre-wired connector	Requires separate 24 Vdc power supply and AS-i network	ASILUFC5	**125.00**
MODBUS® communication	Allows the U-Line starter to be connected directly to the network using MODBUS protocols.	Advanced or multi function control units (24 Vdc only) and LU9BN11C or LU9MRC pre-wired connector	Requires separate 24 Vdc power supply and MODBUS network	LULC031	**145.00**

▲ On a short circuit trip, the function module contact changes state, the operating handle moves to the "Trip" position, and the power poles open. On thermal overload (and all other faults), the function module contact changes state. In Auto Reset mode, the operating handle remains in the "Ready" position and the power poles open. After a motor cool-down period (or after the fault is corrected) the unit resets and the power poles close. In Manual Reset mode, the operating handle moves to the "Trip" position and the power poles open. After a motor cool-down period (or after the fault is corrected) the handle must be moved to the "Reset" position and then to the "Ready" position.



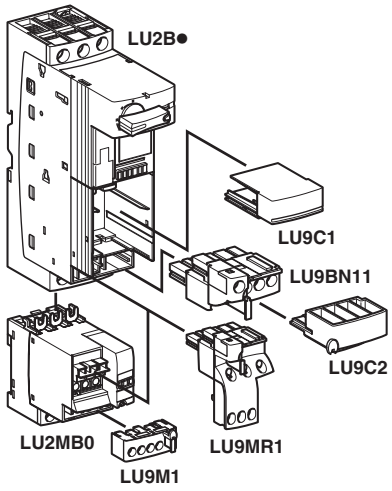
LUFN●

4. Auxiliary Contact Function Modules (refer to page 16-43 for all 5 steps)

These function modules provide hard contacts to indicate various operating conditions of the U-Line starter. Units with screw terminals plug directly into the U-Line power base. Units without terminals require the appropriate terminal block to be installed.

Contact Arrangement	Catalog Number	Price
2 N.O.	LUFN20	**$23.00**
1 N.O. and 1 N.C.	LUFN11	
2 N.C.	LUFN02	

For additional information, reference Catalog #8502CT0201.



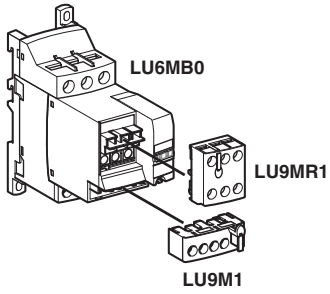
4. Auxiliary Contact Blocks (refer to page 16-43 for all 5 steps)

Terminals	Contact Indicates	Contact Normal Status	Contact State for Each Mode■						Catalog Number	Price
			Off	Ready	Run	Short Circuit Trip	Overload Trip (Manual Reset)	Overload Trip (Remote/ Auto Reset)♦		
Screw	Ready condition	N.O.	O	I	I	O	O	I	LUA1C11	**$23.00**
	Fault condition	N.C.	I	I	I	O	O	I		
Screw	Ready condition	N.O.	O	I	I	O	O	I	LUA1C20	
	Fault condition	N.O.	O	O	O	I	I	O		

■ I–indicates closed contact; O–indicates open contact
♦ Requires multifunction or advanced control unit plus fault differentiation module LUFDDA10.

Additional Accessories

Description	For use on:	Catalog Number	Price
Control Terminal Block	Power base LUB● and LUS●	LU9BN11	**$23.00**
Pre-wire connector	Power bases LUB● and LUS● to pre-wire 24 Vdc from LUFC00, ASILUFC5, or LULC031	LU9BN11C	**38.00**
	Power bases LU2B● to pre-wire 24 Vdc from LUFC00, ASILUFC5, or LULC031 to reversing block	LU9MRC	
Blanking covers	Auxiliary contact function module cavity	LU9C1	**5.00**
	Auxiliary contact block cavity	LU9C2	



Reversing Blocks and Accessories

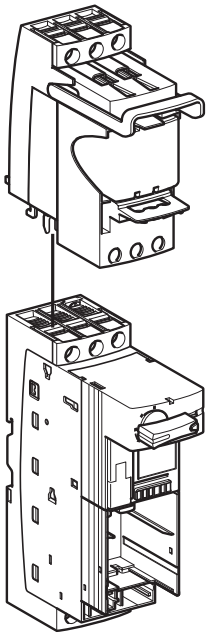
Mounting	Control Connections	Catalog Number▲	Price
Directly beneath power base	Without terminals	LU2MB0▲	**$148.00**
Separate (panel or 35 mm DIN rail)	Without terminals	LU6MB0▲	**148.00**
Coil terminals	Direct mounted for LUBA0●, LU2BB0●, LU2MB0●, or LU6MBO●	LU9M1	**10.00**
Control block	Separately mounted for LU6MB0●	LU9MR1	**10.00**
Pre-wire connector	Direct mounting of reversing block for connections between power base and connector block (required for direct mounting of reversing block)	LU9MR1C	**21.00**

▲ Complete the catalog number by selecting the proper voltage code from the table below.

Voltage Codes

Volts	24	48–72	110–240
DC	BL	. . .	. . .
AC	B	. . .	. . .
DC or AC	. . .	ES	FU

For additional information, reference Catalog #8502CT0201.



5. Power Base Accessories (refer to page 16-43 for all 5 steps)

Accessory	Application	Technical Data	Mounting	Catalog Number	Price
Control circuit contact block	Switches control circuit power via LUB● handle (NEC430-74 compliance)	5 amp at 600 Vac 5 amp at 250 Vdc	Side mounting to LUB● and LU2B● only	LUA8E20	**$ 47.00**
Current limiter/isolator	Additional current limiting aspects for the starter	130 kA at 460 V 70 kA at 690 V	Direct mounting to LUB● and LU2B●	LUALB1	**114.00**
Limiter cartridge	Replacement cartridge for LUALB1	130 kA at 460 V 70 kA at 690 V	. . .	LUALF1	**52.00**
Incoming line phase barrier	For UL 508 Type E compliance	. . .	Direct mounting to LUB●, LU2B●, or LUALB1	LU9SP0	**10.00**
Through-the-door operating mechanism	Use in enclosures 7.5 to 20 inches deep. Use with LUB● only.	. . .	. . .	LU9AP00	**80.00**
Operating handle (NEMA 12)	Use with LU9AP00	Black / Blue	Enclosure door	LU9AP11	**21.00**
		Red / Yellow	Enclosure door	LU9AP12	**21.00**

PowerSuite Software and Accessories

Item▲	Catalog Number	Price■
PowerSuite software	VW3A8104	**$150.00**
PC connection kit	VW3A8106	**75.00**
Pocket PC connection kit	VW3A8111	**95.00**

▲ For complete details on all components included with each item, refer to Catalog #8502CT0201.
■ Items under Discount Schedule CP4C.

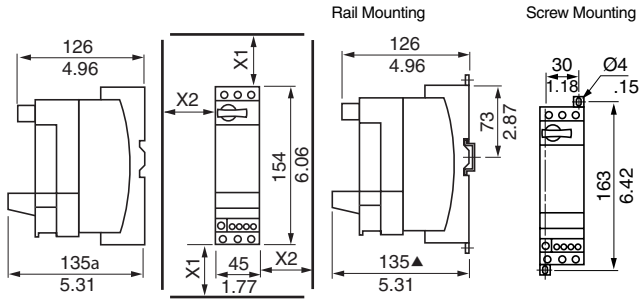
Additional accessories and components are available, including:

- Mounting accessories
- Gateways for FIPIO®, DEVICENET™, and PROFIBUS®
- Cabling accessories
- MAGELIS® remote display unit
- AS-i addressing console and adapters

For the complete line of TeSys U-Line motor starter accessories and all technical details (specifications, wiring diagrams, etc.) pertaining to the product line, refer to Catalog #8502CT0201.

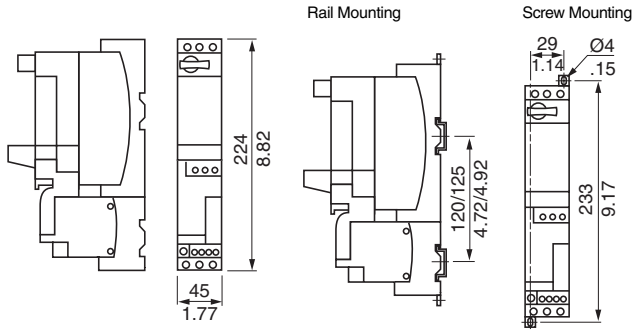
For additional information, reference Catalog #8502CT0201.

Starter Controllers
Non-reversing

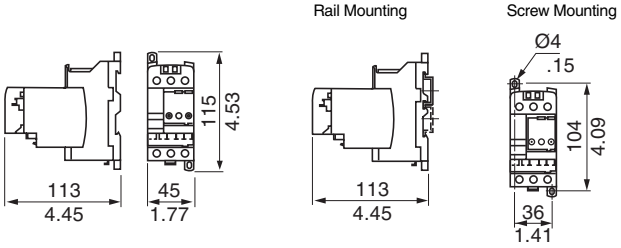


Minimum electrical clearance:
X1 = 35 mm for Ue = 440 V and 70 mm for Ue = 500 and 690 V,
X2 = 0
▲ Maximum depth (with MODBUS® communication module)

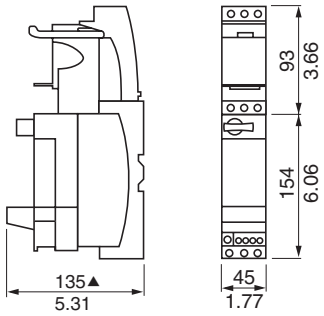
Reversing



Reversing block for mounting separately from power base

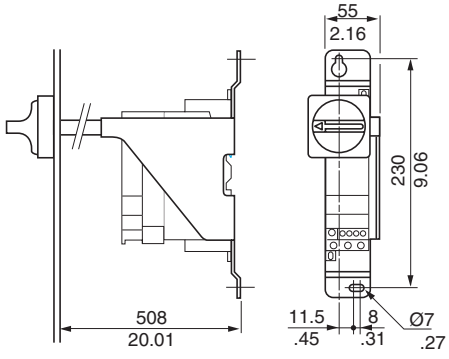


Limiter disconnector LUALB1

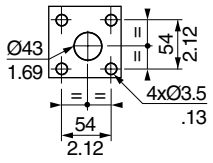


▲ Maximum depth (with MODBUS communication module)

Door interlock mechanisms
LU9AP00



Door cut-out



Dual Dimensions: **INCHES**
Millimeters

For additional information, reference Catalog #8502CT0201.

GV2M
w/ D-Line contactor

The GV2 and GV3 devices are 3-pole, horsepower-rated manual starters. They include a manual disconnect, Class 10 ambient-compensated, bi-metallic thermal overload relay, and an instantaneous magnetic trip mechanism in one compact unit.

Either starter can be used alone for local, manual control of a single motor or can be wired in front of a contactor to provide a complete, remotely operated motor control circuit. The GV2 and GV3 are particularly effective when multiple motor circuits are to be housed in one panel.

The GV2 and GV3 devices are UL Listed for group installations for motors with individual full-load currents up to 63 A. If each motor in a grouping is controlled by a GV2 or GV3 device, only one branch circuit protective device (circuit breaker or fusing) is necessary for the entire group. The table below specifies the maximum allowable size of the branch protector for each manual starter, in accordance with National Electrical Code Article 430-53.

The GV2P is listed and approved for UL 508 Type E self-protected starter applications when used with incoming line insulator GV2GH7.

The interrupting rating for group installations is 10 kA at 480 V for the GV2M and 50 kA at 480 V for both the GV2P and GV3M devices. The instantaneous trip is set at 13 times the thermal trip setting and is not adjustable.

The GV2M and the GV3M manual starters feature pushbutton control to indicate the ON or OFF state of the device. The GV2P features a rotary handle which indicates the ON or OFF state and also whether the unit has been tripped by overload, short-circuit, undervoltage, or shunt trip. All devices are now available with spring terminal clamps. Add "3" to the end of the catalog number.

GV2ME

GV2P21 with
GV2GH7 installed

GV3M06

How to Order

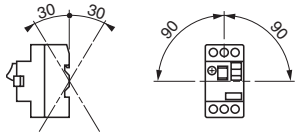
To order the basic motor starter, select the model number (GV2ME●●, GV2P●●, or GV3ME●●) with the appropriate thermal setting from the table below. The thermal trip range and setting should be determined from the motor nameplate full-load current.

Thermal Setting (A)	Maximum Horsepower Ratings 1Ø 115 V hp	1Ø 230 V hp	3Ø 200 V hp	3Ø 230 V hp	3Ø 460 V hp	3Ø 575 V hp	Group Motor Applications Max. Fuse or Circuit Breaker	GV2/3M pushbutton Catalog Number	GV2/3M pushbutton Price	GV2P rotary handle Catalog Number	GV2P rotary handle Price
0.11-0.16	...	...	...	...	...	...	1200 A	GV2ME01▲	**$106.00**	GV2P01	**$141.00**
0.16-0.25	...	...	...	...	...	...	1200 A	GV2ME02▲	**106.00**	GV2P02	**141.00**
0.25-0.40	...	...	...	...	...	...	1200 A	GV2ME03▲	**106.00**	GV2P03	**141.00**
0.40-0.63	...	...	...	...	...	...	1200 A	GV2ME04▲	**120.00**	GV2P04	**155.00**
0.63-1	...	...	...	...	1/2	1/2	1200 A	GV2ME05▲	**120.00**	GV2P05	**155.00**
1-1.6	...	1/10	...	...	3/4	1	1200 A	GV2ME06▲	**120.00**	GV2P06	**155.00**
1.6-2.5	...	1/6	1/2	1/2	1	1 1/2	1200 A	GV2ME07▲	**120.00**	GV2P07	**155.00**
2.5-4	1/8	1/3	3/4	1	2	3	1200 A	GV2ME08▲	**120.00**	GV2P08	**155.00**
4-6.3	1/4	1/2	1 1/2	1 1/2	3	5	1200 A	GV2ME10▲	**120.00**	GV2P10	**155.00**
6-10	1/2	1 1/2	2	3	5	7 1/2	1200 A	GV2ME14▲	**120.00**	GV2P14	**155.00**
9-14	3/4	2	3	3	10	10	1200 A	GV2ME16▲	**149.00**	GV2P16	**185.00**
13-18	1	3	5	5	10	15	1200 A	GV2ME20▲	**149.00**	GV2P20	**185.00**
17-23	1 1/2	3	5	7 1/2	15	20	1200 A	GV2ME21▲	**149.00**	GV2P21	**185.00**
20-25	2	3	5	7 1/2	15	20	1200 A	GV2ME22▲	**149.00**	GV2P22	**185.00**
24-32	2	5	10	10	20	30	1200 A	GV2ME32	**149.00**	GV2P32	**185.00**
1-1.6	...	1/10	...	...	3/4	1	500 A	GV3ME06	**269.00**	...	**...**
1.6-2.5	...	1/16	1/2	1/2	1	1 1/2	500 A	GV3ME07	**269.00**	...	**...**
2.5-4	1/8	1/3	3/4	1	2	3	500 A	GV3ME08	**269.00**	...	**...**
4-6	1/4	1/2	1 1/2	1 1/2	3	...	500 A	GV3ME10	**269.00**	...	**...**
6-10	1/2	1 1/2	2	3	5	7 1/2	500 A	GV3ME14	**269.00**	...	**...**
10-16	1	2	3	5	10	10	500 A	GV3ME20	**299.00**	...	**...**
16-25	2	3	5	7 1/2	15	20	500 A	GV3ME25	**299.00**	...	**...**
25-40	3	7 1/2	10	10	25	30	500 A	GV3ME40	**336.00**	...	**...**
40-63	5	10	20	20	40	60	500 A	GV3ME63	**336.00**	...	**...**

▲ For spring terminals add 3 to the catalog number, for example, GV2ME013. GV2ME32 is not available with spring terminals.

Specifications

Operating Positions:



Rated voltage—600 V

Rated thermal current—25 A (GV2), 63 A (GV3)

Interrupting current at 480 V:
12 kA (GV2M), 50 kA (GV2P and GV3M)

Mechanical life:
GV2: 100,000 operations
GV3M06 to M25: 100,000 operations
GV3M40 to M63: 63,000 operations

File E164864
CNN NLRV

File LR81630
Class 3211 05

Shock resistance—30 g (conforming to IEC 600 68-2-27)

Vibration resistance—5 g (5 to 150 Hz) (IEC 600 68-2-26)

Ambient temperature:
-40 to 176°F (-40 to +80°C) for storage
-4 to 140°F (-20 to +60°C) open operation
-4 to 104°F (-20 to +40°C) enclosed operation

Ambient temperature compensation:
-4 to 140°F (-20 to +60°C) open operation
-4 to 104°F (-20 to +40°C) enclosed operation

Maximum operating life—25 operations per hour

Operating current of magnetic trip is approximately 13 times maximum thermal trip (non-adjustable setting)

For additional information, reference Catalog #2520CT0001R9/02.

TeSys™ LS1 Fuseholder
Manual Starter and Protector

LS1D30

- 45 mm wide (same dimensions as GV2ME)
- Available with screw clamp and spring type terminals
- Mounts directly to LC1D09–D32 contactors (with use of GV2AF3 or GV2AF4)
- Meets application needs for fusible starter
- Uses GV2AE instantaneous contact blocks to open control circuits
- DIN rail mounted

Description	Fuse Type	Dimensions		Use In	Catalog Number	Price
		IN	mm			
Spring terminals, 3-pole	CC, KTK-R	0.41 x 1.5	10.3 x 38	US Markets	LS1D303	**$67.00**
Screw clamp terminals, 3-pole	CC, KTK-R	0.41 x 1.5	10.3 x 38	US Markets	LS1D30	**57.00**
Spring terminals, 3-pole	aM, gG	0.39 x 1.5	10 x 38	European Markets	LS1D323	**67.00**
Screw clamp terminals, 3-pole	aM, gG	0.39 x 1.5	10 x 38	European Markets	LS1D32	**57.00**
Auxiliary main pole adder	aM, gG	0.39 x 1.5	10 x 38	European Markets	LA8D324▲	**57.00**

▲ Can be mounted on left-hand or right-hand side of the 3-pole LS1D32 block.

Specifications

Type	LS1D30, LS1D303	LS1D32, LS1D323, LS1DT32
Max. voltage	600 V 3 Phase	
Max. current	30 A	
Conforming to standards	IEC 60947-1, 60947-2, 60947-4-1, EN60204, BS4841, UL 508, CSA 222.2 No. 14, NFC 63-650, 63-120, 79-130, VDE 0113, 0660	
Product approvals	UL, CSA	BV
Protective treatment	"TH"	"TH"
Ambient air temperature —operation	-58 to 158° F (-50 to +70° C)	
Wiring Number of conductors and cross sectional area (c.s.a.)	**Max.**	**Min.**
Solid cable	2–#8 AWG (2–6 mm^2)	2–#16 (2–1 mm^2)
Flexible cable without cable end	2–#8 AWG (2–6 mm^2)	2–#14 (2–1 mm^2)
Flexible cable with cable end	2–#10 AWG (2–4 mm^2)	2–#16 AWB (2–1 mm^2)
Resistance to mechanical impact conforming to IEC 60947-1 §7-1-6	0.5 J	
Tightening torque	15 in-lb (1.7 N•m)	
Sensitivity to phase failure	No	

For additional information, reference Catalog #2520CT0001R9/02.

GVAU116

GVAE11

GVAD0101

GVAN11

Voltage Trips

Only one trip or fault signaling contact can be installed per GV2/GV3 device.

Description	Characteristics	Voltage	Frequency	Catalog Number▲	Price
Voltage trips GV2	Undervoltage or Shunt trip (external mount, 1 block right side only)	24 V	50 Hz 60 Hz	GVA●025 GVA●026	**$54.00**
		48 V	50 Hz 60 Hz	GVA●055 GVA●056	
		100–110 V	50/60 Hz	GVA●107	
		110–115 V	50 Hz 60 Hz	GVA●115 GVA●116	
		120–127 V	50 Hz	GVA●125	
		127 V	60 Hz	GVA●115	
		200 V	50 Hz	GVA●207	
		200–220 V	60 Hz	GVA●207	
		220–240 V	50 Hz 60 Hz	GVA●225 GVA●226	
		380–400 V	50 Hz 60 Hz	GVA●385 GVA●386	
		415–440 V	50 Hz	GVA●415	
		415 V	60 Hz	GVA●416	
		440 V	60 Hz	GVA●385	
		480 V	60 Hz	GVA●415	
		500 V 600 V	50 Hz 60 Hz	GVA●505	
Voltage trips △ GV3	Undervoltage trip (internal mount)	110–127 V 120–127 V	50 Hz 60 Hz	GV3B11	**54.00**
		220–240 V 240–277 V	50 Hz 60 Hz	GV3B22	
		380–415 V 480 V	50 Hz 60 Hz	GV3B38	
	Shunt trip (internal mount)	110–127 V 120–127 V	50 Hz 60 Hz	GV3D11	
		220–240 V 240–277 V	50 Hz 60 Hz	GV3D22	
		380–415 V 480 V	50 Hz 60 Hz	GV3D38	

▲ To order an under voltage trip: replace the bullet (●) with a **U**, example: **GVAU025**. To order a shunt trip: replace the bullet (●) with an **S**, example: **GVAS025**.

Auxiliary Contact Blocks

Description	Mounting Location	Max. No. of Blocks	Contact Type	Sold in lots of	Catalog Number	Price
Instantaneous auxiliary contacts GV2	Front■ □	1	N.O. or N.C.♦ N.O. + N.C. N.O. + N.O.	1 10 1	GVAE1 GVAE11▼ GVAE20▼	**$14.50** **23.80** **23.80**
	Left Hand Side	2	N.O. + N.C. N.O. + N.O.	1 1	GVAN11▼ GVAN20▼	**23.80** **23.80**
Fault signaling contact + instantaneous auxiliary contact GV2	Left Hand Side★	1	N.O. (fault) + N.O. N.O. (fault) + N.C. N.C. (fault) + N.O. N.C. (fault) + N.C.	1 1 1 1	GVAD1010 GVAD1001 GVAD0110 GVAD0101	**36.20** **36.20** **36.20** **36.20**
Short circuit signaling contact GV2	Left Hand Side	1	SPDT	1	GVAM11	**23.80**
Instantaneous auxiliary contact GV3	Side mount (1 block per device)	... ...	N.O. + N.C. N.O. + N.O. N.O. + N.O. + N.C. N.O. + N.O. + N.O. N.O. + N.O. + 2 Term. connect. N.O. + N.C. + 2 Term. connect.	1 1 1 1 1 1	GV3A01 GV3A02 GV3A03 GV3A05 GV3A06 GV3A07	**23.80** **23.80** **23.80** **23.80** **23.80** **23.80**
Fault signaling contact GV3	Internal mount △ (1 block per device)	... ...	N.C. N.O.	1 1	GV3A08 GV3A09	**23.80** **23.80**

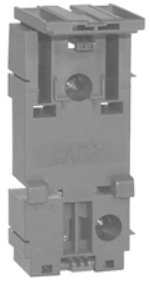
■ Mounting of a **GVAE** contact block or a **GV2AK00** visible isolation block on **GV2P** and **GV2L**.
♦ Choice of N.C. or N.O. contact operation, depending on which way the reversible block is mounted.
★ The **GVAD** is always mounted next to the starter.
▼ For spring terminals add 3 to the catalog number. Example: **GVAE113**
△ One trip or one fault signaling can be fitted per GV3.
□ Cannot be used with **GV2GH7** insulator.

Voltage Trips–Technical Data (GV2AU, GV2AS, GV3B, GV3D)

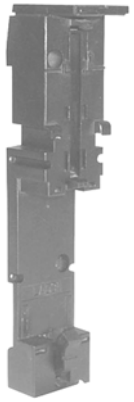
	Rated Voltage–660 Vac				
Model	**Inrush**	**Sealed**	**Pick-Up Voltage**	**Drop-Out Voltage**	**Operating Time◊**
GV2AU	12 VA / 8 W	3.5 VA / 1.1 W	0.8 to 1.1	0.35 to 0.7	10 to 15 ms
GV2AS	14 VA / 10.5 W	5 VA / 1.6 W	0.7 to 1.1	0.2 to 0.75	10 to 15 ms
GV3B	12 VA / 7 W	7 VA / 2.5 W	0.8 to 1.1	0.7 to 0.35	10 ms
GV3D	12 VA / 7 W	7 VA / 2.5 W	0.8 to 1.1	0.7	15 ms

◊ From the loss of voltage at the trip terminals to the opening of the starter contacts.

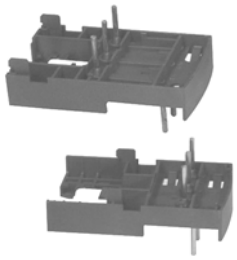
For additional information, reference Catalog #2520CT0001R9/02.



LAD31



LAD311



GV2AF3 / GV2AF4

GV2GH7

GV2: Mounting Accessories

Description	Application	Standard Pack ■	Catalog Number	Price Each
Common mounting plate	For GV2 plus any 3-pole LC1D09 thru LC1D25 contactor. (supplied with GV1G02 connector)	1	GK2AF01	**$14.40**
Adapter plate	For screw mounting of GV2M	10	GV2AF02	**4.50**
Combination block	Interconnect for GV2 plus any 3-pole LC1K or LP1K contactor Interconnect GV2 and LC1D09 thru D32 Interconnect GV2 and LC1D09 thru D32 mounted on LAD31	10 10 10	GV2AF01 GV2AF3 GV2AF4	**9.30** **2.10** **2.10**
7.5 mm compensation plate	To allow mounting of GV2M and GV2P on a common bus bar	10	GV1F03	**3.60**
Mounting plate	For mounting GV2ME or GV2P and contactor LC1D09 thru D32	10	LAD31	**4.10**
		10	LAD311	**8.20**

GV2: Cabling Accessories—Bus Bars

Description	Application	Pitch	Standard Pack ■	Catalog Number	Price Each
3-Pole, 63 A Bus Bar	For feeding 2 GV2 starters	45	1	GV2G245	**$15.50**
		54	1	GV2G254	**15.50**
		72	1	GV2G272	**15.50**
	For feeding 3 GV2 starters	45	1	GV2G345	**19.10**
		54	1	GV2G354	**19.10**
	For feeding 4 GV2 starters	45	1	GV2G445	**22.80**
		54	1	GV2G454	**22.80**
		72	1	GV2G472	**22.80**
	For feeding 5 GV2 starters	54	1	GV2G554	**22.80**

GV2: Other Cabling Accessories

Description	Application	Standard Pack ■	Catalog Number	Price Each
Terminal blocks	Top feed for use with bus bars	1	GV1G09	**$22.80**
	Bottom feed, to be used with bus bars; can be fitted with GV1L3 current limiter	1	GV2G05	**22.80**
Protective end cover	To cover unused bus bar outlets	5	GV1G10	**2.40**
3-pole flexible connector	For connecting a GV2 to an LC1D09 thru D25 contactor	10	GV1G02	**9.50**
Conduit adapter (½" NPT)		1	GV2AK1	**10.80**
Incoming line insulator	For GV2P when used in UL 508 Type E applications▲	10	GV2GH7	**10.00**

▲ Cannot be used with front-mounted auxiliary contact block.

GV2/GV3: Other Accessories

Description	Application	Standard Pack ■	Catalog Number	Price Each
Visible isolation block - GV2P	Front mount, 3-pole visible isolation on incoming side of GV2P	1	GV2AK00	**$47.60**
Current limiter - GV2M	Increases interrupt capacity when attached to GV2M	1	GV1L3	**78.00**
Locking attachment - GV3M	Required for padlocking of GV3M	5	GV1V02	**6.00**
Through-Door operator - GV2P	For operating GV2P through enclosure door (red handle, yellow legend plate)	1	GV2AP02	**90.00**

GV2/GV3 Enclosures

Description	Mounting	Rating	Catalog Number	Price Each
Enclosures for GV2M with or without accessories (maximum of 1 accessory on right and left)	Surface mount	NEMA 1, IP41 NEMA 12, IP55	GV2MC01 GV2MC02	**$ 36.20** **52.00**
	Flush mount	NEMA 1, IP41 NEMA 12, IP55	GV2MP01 GV2MP02	**20.70** **36.20**
	Flush mount reduced width (max. of 1 accessory on right)	NEMA 1, IP41 NEMA 12, IP55	GV2MP03 GV2MP04	**18.60** **33.10**
Enclosures for GV3M with or without accessories	Surface mount	NEMA 1 UL listed	GV3CE01	**179.00**

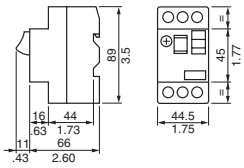
GV2 Enclosures Accessories

Description	Type		Standard Pack■	Catalog Number	Price Each
Padlocking device for GV2M (when padlocked, starter is automatically in Off position)			1	GV2V01	**$17.90**
Mushroom head stop pushbutton (40 mm, red) ♦	Spring return		1	GV2K011	**23.90**
	Latching	Key release (Ronis key no. 455)	1	GV2K021	**69.00**
		Turn to Release	1	GV2K031	**69.00**
	Latching / Padlockable	Turn to Release	1	GV2K04	**78.00**
Sealing kit	For enclosures GV2MC01 and GV2MP01		10	GV2E01	**12.00**
Pilot Light (neon)	110 V	Green	10	GV2SN13	**17.90**
	110 V	Red	10	GV2SN14	
	110 V	Orange	10	GV2SN15	
	110 V	White	10	GV2SN17	
	220/240 V	Green	10	GV2SN23	
	220/240 V	Red	10	GV2SN24	
	220/240 V	Orange	10	GV2SN25	
	220/240 V	White	10	GV2SN27	
	380/440 V	Green	10	GV2SN33	
	380/440 V	Red	10	GV2SN34	
	380/440 V	Orange	10	GV2SN35	
	380/440 V	White	10	GV2SN37	

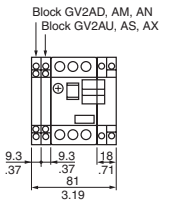
■ Orders must specify multiples of quantities listed.
♦ Supplied with IP55 sealing kit.

For additional information, reference Catalog #2520CT0001R9/02.

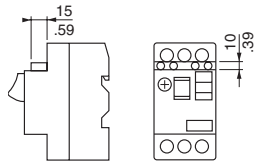
GV2M



GV2AD, AM, AN, AU, AS, AX

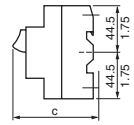


GV2AE

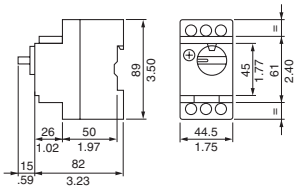


Mounting of GV2M

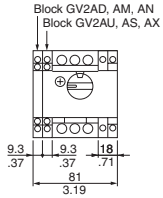
On 35 mm ⊔ rail
C = 78.5 mm (3.09") on AM1DP200 (35 x 7.5 mm)
C = 86 mm (3.39") on AM1DE200, ED200 (35 x 15 mm)



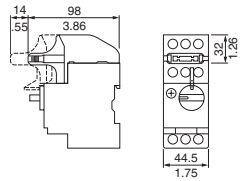
GV2P



GV2AD, AM, AN, AU, AS, AX

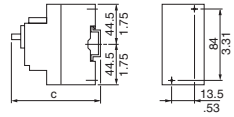


GV2AK00

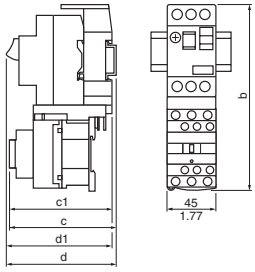


Mounting of GV2P

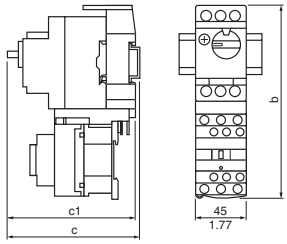
On 35 mm ⊔ rail
C = 98.5 mm (3.88") on AM1DP200
(35 x 7.5 mm)
C = 106 mm (4.17") on AM1DE200, ED200
(35 x 15 mm)



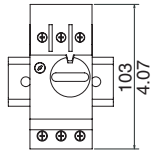
GV2AF4 + LAD31
Combination GV2ME + D range contactor



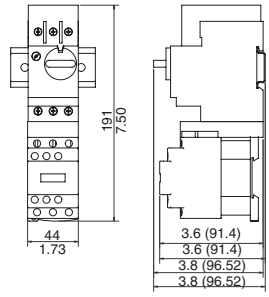
Combination GV2P + D range contactor



GV2P + GV2GH7
for UL 508 Type E application



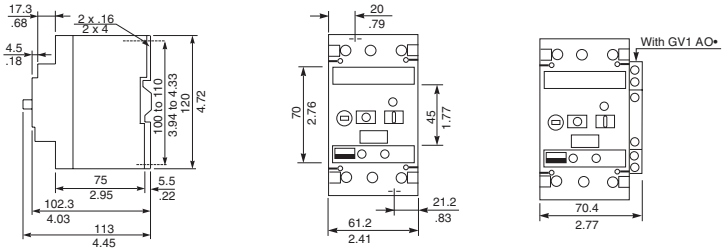
GV2P + GV2GH7 + D-Line contactor
for UL 508 Type E application



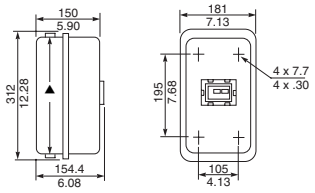
GV2ME +	LC2D09 to D18	LC2D25 and D32
b	7.4 (188.6)	7.8 (199)
c1	3.6 (92.7)	3.9 (99)
c	3.9 (98.2)	4.11 (104.5)
d1	3.9 (98.3)	3.9 (98.3)
d	4.1 (103.8)	1.4 (103.8)

GV2P +	LC2D09 to D18	LC2D25 and D32
b	6.61 (168.1)	7.9 (199.5)
c1	4.6 (116.8)	4.6 (116.8)
c	4.8 (122.3)	4.8 (122.3)
...	...	...
...	...	...

GV3 Manual Starter and Protector

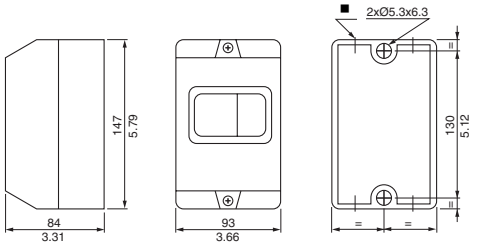


GV3CE01 Enclosure



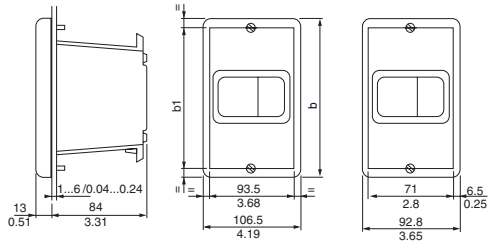
▲ 1 x .83 in (21 mm) and 1 x 1.48 in (37.5 mm) Knockout

Surface mounting enclosure GV2MC0●



■ **4 knock-outs for 16 mm plastic cable glands or no. 16 conduit.**

Flush mounting enclosure GV2MP0● (bracket cut-out)



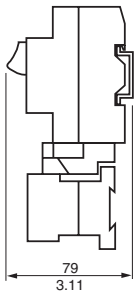
GV2	b		b1	
	IN	mm	IN	mm
MP01, MP02	5.51	140	5.00	127
MP03, MP04	5.24	133	4.61	117

For additional information, reference Catalog #2520CT0001R9/02.

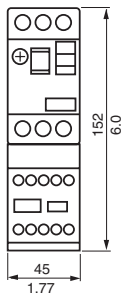
9/8/03

Approximate Dimensions
TeSys™ Manual Starter and Protector

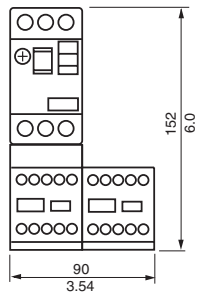
GV2M with GK2AF01 and LC1K dimensions in mm



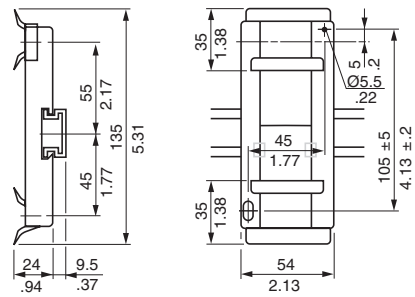
GV2M with GV2AF01 and LC1K



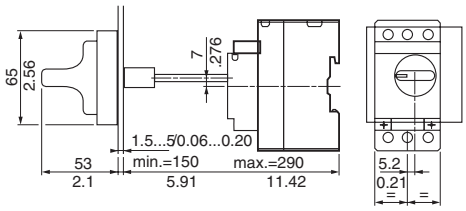
GV2M with GV2AF01 and LC2K



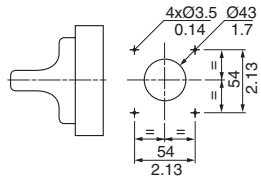
Adapter plate GK2AF01



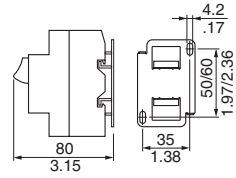
Mounting external operator GV2AP0●



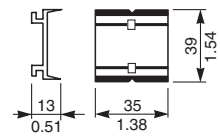
Door cut-out



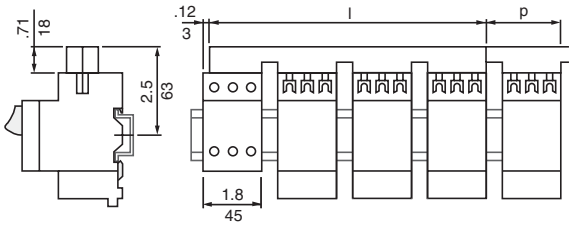
GV2M on panel with GV2AF02 adapter plate



7.5 mm height compensation plate GV1F03

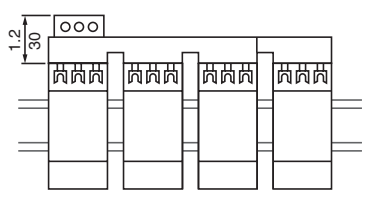


Sets of bus bars GV2G445, GV2G454, GV2G472 with terminal block GV2G05

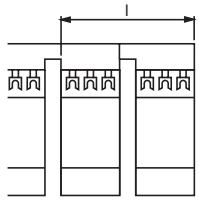


		I	P
GV2G445	0.16 x 1.8" (4 x 45 mm)	7.0" (179 mm)	1.8" (45 mm)
GV2G454	0.16 x 2.1" (4 x 54 mm)	8.1" (206 mm)	2.1" (54 mm)
GV2G472	0.16 x 1.8" (4 x 45 mm)	10.2" (260 mm)	2.8" (72 mm)

Sets of bus bars with terminal block GV1G09



Sets of bus bars GV2G245, GV2G254, GV2G272



		I
GV2G245	0.08 x 1.8" (2 x 45 mm)	3.5" (89 mm)
GV2G254	0.08 x 2.1" (2 x 54 mm)	3.9" (98 mm)
GV2G272	0.08 x 2.8"(2 x 72 mm)	4.6" (116 mm)
GV2G354	0.12 x 2.1" (3 x 54 mm)	6.0" (152 mm)

For additional information, reference Catalog #2520CT0001R9/02.


GV7AC01


GV7RE20

The GV7 devices are 3-pole, horsepower-rated manual starters. They include a manual disconnect, Class 10 ambient-compensated, bi-metallic thermal overload relay, and an instantaneous magnetic trip mechanism in one compact unit.

Either starter can be used alone for local, manual control of a single motor or can be wired in front of a contactor to provide a complete, remotely operated motor control circuit. The GV7 devices are particularly effective when multiple motor circuits are to be housed in one panel.

The GV7 are UL Listed for group installations for motors with individual full-load currents up to 220 A. The interrupting rating for group installations is 25 kA at 480 V for the GV7RE and 65 kA at 480 V for the GV7RS. The instantaneous trip is set at 13 times the thermal trip setting and is not adjustable.

The GV7M manual starters feature either a toggle or rotary handle to indicate the ON or OFF state of the device, and when the unit has been tripped by overload, short-circuit, undervoltage, or shunt trip.

Thermal Setting	Maximum Horsepower Ratings 3Ø			25-35 kAIC		65 kAIC	
	230 V hp	460 V hp	575 V hp	Catalog Number ▲♦★	Price	Catalog Number ■♦★	Price
12–20	5	10	15	GV7RE20	**$417.00**	GV7RS20	**$542.00**
15–25	7.5	15	20	GV7RE25	**417.00**	GV7RS25	**542.00**
25–40	10	30	30	GV7RE40	**417.00**	GV7RS40	**542.00**
30–50	15	30	40	GV7RE50	**417.00**	GV7RS50	**542.00**
48–80	30	60	75	GV7RE80	**417.00**	GV7RS80	**542.00**
60–100	30	75	100	GV7RE100	**456.00**	GV7RS100	**594.00**
90–150	50	100	150	GV7RE150	**502.00**	GV7RS150	**652.00**
132–220	75	150	200	GV7RE220	**502.00**	GV7RS220	**652.00**

▲ GV7RE20-GV7RE100 have 25 kAIC @ 480 Vac.
■ GV7RE150-GV7RE220 have 35 kAIC @ 480 Vac.
♦ GV7 starters are supplied without lugs. Order lugs from table below.
★ Group installation: Maximum fuse and circuit breaker size is 1200 A.


GV7AD111

Auxiliary contact blocks (auxiliary contact functions depends on location inside the device)

Description	Mounting Location	Max. No. of Blocks	Contact Type	Catalog Number	Price
Standard					
Instantaneous	Inside Device	2 per device	N.O. + N.C.	GV7AE11	**$23.80**
Trip Indication		1 per device	N.O. + N.C.		
Fault Indication		1 per device	N.O. + N.C.		
Low Level					
Instantaneous	Inside Device	2 per device	N.O. + N.C.	GV7AB11	**23.80**
Trip Indication		1 per device	N.O. + N.C.		
Fault Indication		1 per device	N.O. + N.C.		


GV7AS055

Voltage Trips

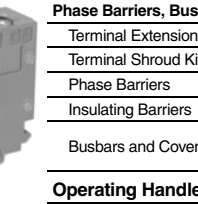
Description	Mounting Location	Max. No. of Blocks	Voltage		Catalog Number	Price
Undervoltage Trip	Inside Device	1 per device	48 Vac 110–130 Vac 200–240 Vac 380–440/480 Vac 525 Vac	50 Hz 50/60 Hz 50/60 Hz 50/60 Hz 50 Hz	GV7AU055 GV7AU107 GV7AU207 GV7AU387 GV7AU525	**$64.00**
Shunt Trip	Inside Device	1 per device	48 Vac 110–130 Vac 200–240 Vac 380–440/480 Vac 525 Vac	50 Hz 50/60 Hz 50/60 Hz 50/60 Hz 50 Hz	GV7AS055 GV7AS107 GV7AS207 GV7AS387 GV7AS525	**64.00**
Fault Indication	Inside Device	1 per device	24–130 110–415		GV7AD111 GV7AD112	**72.00**


GV7AP03

Wiring Accessories

Description	Application	Catalog Number	Price
Box Lugs	Sold in lots of 3 for GV7R●20–150▼	GV7AC021	**$13.10 each**
	Sold in lots of 3 for GV7R●220▼	GV7AC022	**16.60 each**
Phase Barriers, Bus Bars & Shrouds			
Terminal Extension Kit	Increases center distance between phases to 45 mm	GV7AC03	**31.10**
Terminal Shroud Kit	Covers terminal connections for touch safe protection	GV7AC01	**27.90**
Phase Barriers	Provides maximum phase separation at connection points	GV7AC04	**31.10**
Insulating Barriers	Provides insulation between connectors and backplate	GV7AC05	**16.60**
Busbars and Covers	Connect to LC1F115–185 contactor	GV7AC06	**31.10**
	Connect to LC1F225–265 contactor	GV7AC07	**31.10**
Operating Handles and Accessories			
Black rotary operating handle with black legend plate (mounts directly on device)		GV7AP03	**57.00**
Red rotary operating handle with yellow legend plate (mounts directly on device)		GV7AP04	**57.00**
Conversion accessory to mount device directly on panel door		GV7AP05	**9.30**
Black rotary operating handle with black legend plate and extension kit (185–600 mm)		GV7AP01	**68.00**
Red rotary operating handle with yellow legend plate and extension kit (185–600 mm)		GV7AP02	**68.00**
Padlocking device for toggle handle (max. 38 mm padlocks)		GV7V01	**9.30**

▼ Wire size: GV7AC021—#14–3/0; GV7AC022—#14–350 kcmil.


GV7AE11

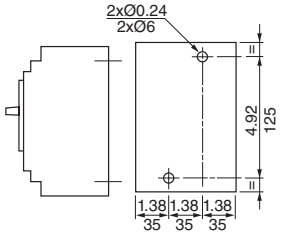

GV7AC021


GV7V01

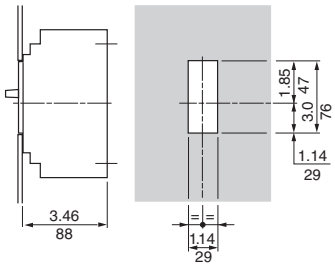
Dimensions. . . . . pages 16-57–16-58

For additional information, reference Catalog #2520CT0001R9/02.

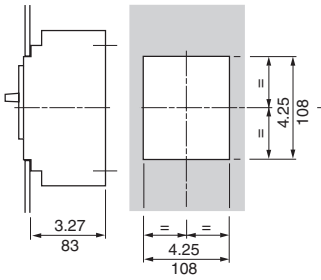
Panel Mounting



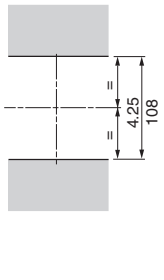
Flush Mounting



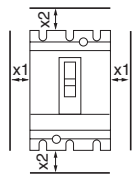
1 GV7R



n controllers
GV7R side by side

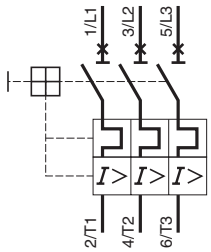


Minimum clearance		x1	x2
		IN (mm)	IN (mm)
Painted or insulated metal plate, insulation or insulated bar		0 (0)	1.18 (30)
Bare metal plate	U ≤ 440 V	0.20 (5)	1.38 (35)
	440 V < U < 600 V	0.39 (10)	1.38 (35)
	U ≥ 600 V	0.79 (20)	1.38 (35)



Minimum distance between 2 units mounted side by side = 0.

Motor controllers GV7R

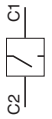


Add-on auxiliary contacts
GV7AE11, GV7AB11

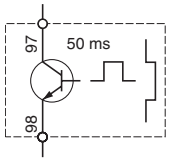
A self-adhesive label, supplied with the contact, can be affixed to the front face of the starter to allow personalized marking according to the function of the contact or contacts.

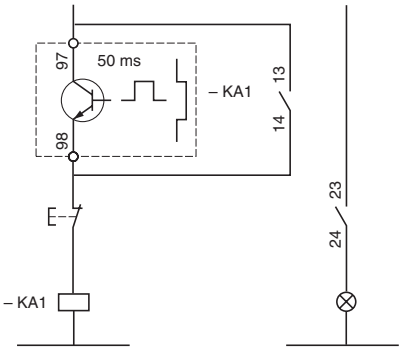
Electric trips
GV7AU●●●

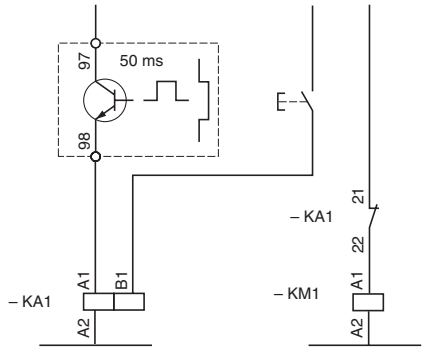
GV7AS●●●



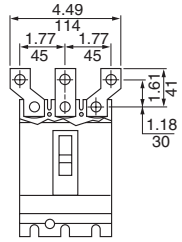
GV7AD111, AD112



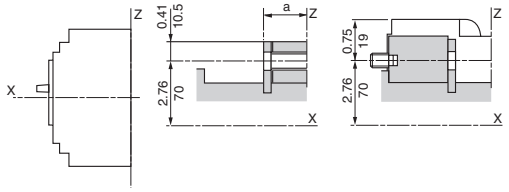




Spreaders GV7AC03

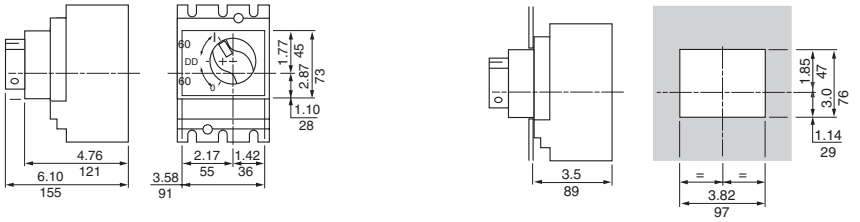


Cabling **Smooth Terminals** **Connectors**

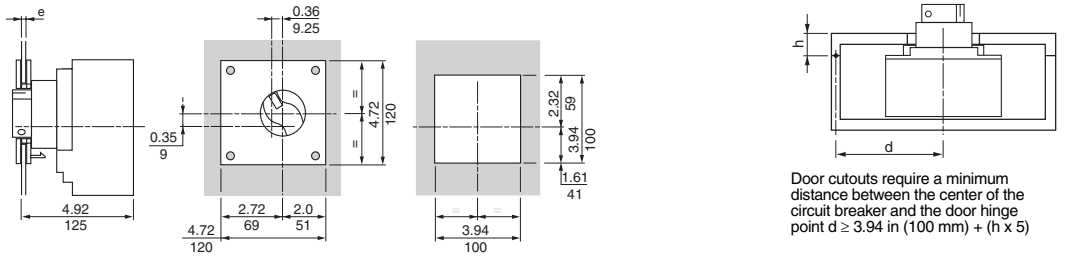


	a (in/mm)
GV7R●	0.77/19.5
GV7R●220	0.85/21.5

Direct Rotary Handle GV7AP03, GV7A04 **Flush Mounting**

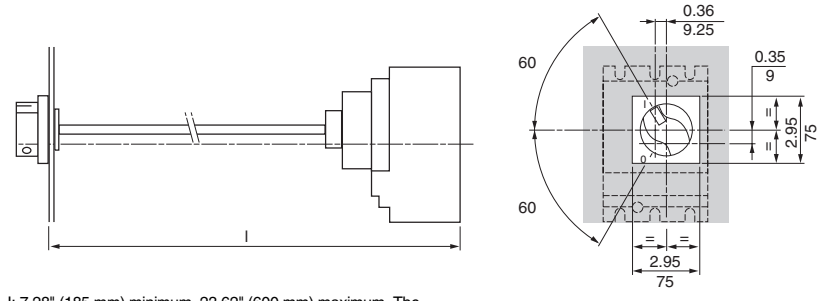


Direct Rotary Handle GV7AP03 or GV7AP04, GV7AP05 **Front Fuse Center** **Enclosure viewed from top**



Door cutouts require a minimum distance between the center of the circuit breaker and the door hinge point d ≥ 3.94 in (100 mm) + (h x 5)

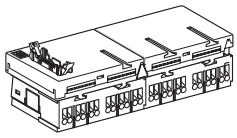
Extended Rotary Handle GV7AP01, GV7AP02



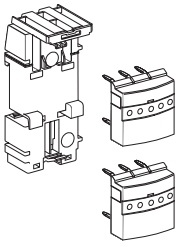
l: 7.28" (185 mm) minimum, 23.62" (600 mm) maximum. The shaft of the extended rotary handle GV7AP01 or GV7AP02 must be cut to length: l - 4.96" (126 mm)

TeSys™ Wiring, Communication, and Busbar System

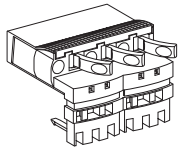
Components for D-Line Contactors and GV Manual Motor Protectors with Spring Terminals using QUICKFIT™ Technology



APP2R4H1

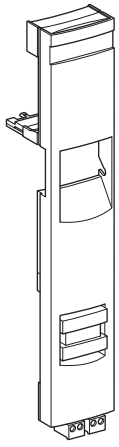


LAD35



LAD3B

LAD33



APP2D1•

Splitter Boxes

A total of up to eight starters is permissible after extensions. Use multiple quantities of the same catalog number to create the desired line-up.

Description	Type of Control-command Connection on Control System Side	No. of I/O per Starter	No. of Starters per Unit	Catalog Number	Price
50 A power splitter box	. . .	. . .	2	LAD322	**$ 52.00**
			4	LAD324	**93.00**
50 A power and control splitter box	1 x HE10 8I/8O	1I/1O	4	APP2R4H1	**124.00**
	1 x HE10 16I and 1 x HE10 8O	2I/1O	4	APP2R4H2	**124.00**
	Via module APP1C●●● ▲	. . .	2	APP2R2E	**124.00**
			4	APP2R4E	**124.00**
	AS-i	2I/1O	2	APP2R2AS	**124.00**
		1I/1O	4	APP2R4AS	**124.00**

▲ Connection to an APP1C●●● module via APP2CX adaptor (LAD35).

Power Connection Components for One Starter

Description	Kit Consists of:	Catalog Number	Price
Assembly and power connection kit	One LAD31 plate for GV2ME and two LAD34 power connection modules	LAD351	**$20.70**
Reversing kit ■	One set of bus bars and one mechanical interlock	LAD32	**20.70**

■ To create a D-Line reverser, use two LC1D contactors, one assembly and power connection kit, and one reversing kit.

Power Connection Accessories for One Starter

Description	Max. Connection Cross-Section	Use	Catalog Number	Price
Upstream terminal block (50 A max)	16 mm^2 (6 AWG)	Power supply for one or two power splitter boxes	LAD3B	**$83.00**
Downstream terminal block (50 A max)	6 mm^2 (10 AWG)	Connection of motor cables	LAD331	**41.40**

Control Connection Module for One Starter

Description	D-Line Coil Voltage	Type of Coil Control Relay	Type of Starter	Catalog Number	Price
Control connection module (integrating contact block GVAE20)	12–240 Vac or 24–125 Vdc	Electromechanical ♦	Direct	APP2D1	**$41.40**
			Reversing	APP2D2	**72.00**
	24–48 Vdc	Without relay ★	Direct	APP2D1D	**31.10**
			Reversing	APP2D2D	**31.10**

♦ Relay supplied mounted on the front panel of the control connection.
★ The use of D-Line low consumption contactors is recommended.

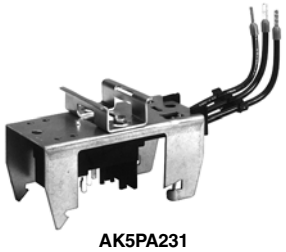
Spare or Replacement Parts

Description	Type of Control-command Connection on Control System Side	No. of I/O per Starter	No. of Starters	Sold in Lots of	Catalog Number	Price
Plate for mounting a GV2ME manual starter	. . .	. . .	1	10	LAD31	**$ 4.10**
			1	10	LAD311	**8.20**
Power connection module	. . .	. . .	1	10	LAD341	**31.10**
Control-command splitter box (single, for mounting on a power splitter box)	1 x HE10 8I/8O	1I/1O	4	1	APP2R4H3	**75.00**
	1 x HE10 16I and 1 x HE10 8O	2I/1O	4	1	APP2R4H4	**75.00**
	Per module APP1C●●● ▼	. . .	2	1	APP2R2C	**75.00**
			4	1	APP2R4C	**75.00**
	AS-i	2I/1O	2	1	APP2R2A	**75.00**
		1I/1O	4	1	APP2R4A	**75.00**
Replacement electromechanical relay (for control connection module)		. . .	1	10	APP2ER	**5.00**

▼ Connection to an APP1C●●● module via APP2CX adaptor (LAD35).

For additional information, reference Catalog #8502CT0101.

AK5JB143



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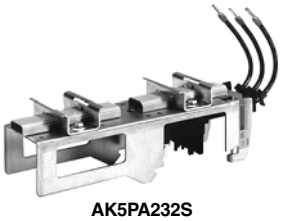

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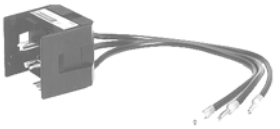

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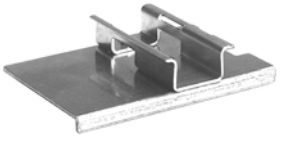

AK5PE17

AM1DL201

Approvals:
IEC 439, UL, CSA, DNV, LROS

File E161251
CCN NMTR

File LR 89150
Class 6228-01

The AK5 pre-fabricated bus bar system provides a quick and easy method of mounting control devices. All components are finger safe, UL Listed, CSA approved and CE marked. Although the AK5 system can be screw mounted onto any type of support, it **must be mounted** on the AM1DL201 DIN rail when component mounting plates incorporating a tap-off are used. When using tap-offs, the nominal operating current of the bus bar (160 Amperes @ 35°) must not be exceeded.

160 Ampere Three Phase Busbar System

Maximum number of mounting plates						Length		Catalog Number	Price
Tap-off		Standard Width Plate		Extension Plate					
IN	mm	IN	mm	IN	mm				
1.42	36	2.13	54▲	2.80	71	IN	mm		
6		4		2		13.39	344	AK5JB143	**$140.00**
9		6		3		17.64	452	AK5JB144	**177.00**
12		8		4		21.85	560	AK5JB145	**187.00**
15		10		5		26.05	668	AK5JB146	**230.00**
24		16		8		38.69	992	AK5JB149	**262.00**
27		18		9		42.90	1100	AK5JB1410	**360.00**

▲ Auxiliary contacts on INTEGRAL 18 will reduce maximum number of devices–see table below.

Mounting Plate Tap-off
Plugs into busbar mounted on AM1DL201 DIN rail.

Width		Thermal Current Amperes	Application	Catalog Number	Price
IN	mm				
2.13	54	25 A	INTEGRAL 18 & 32 & GV2	AK5PA231	**$ 65.00**
2.13	54	25 A	GV2 & Contactor	AK5PA232	**80.00**
4.25	108	25 A	GV2 & Reversing Contactor	AK5PA232S	**137.00**

Bus Tap-off
Plugs into busbar for wiring to a separately mounted device.

Width		Thermal Current Amperes	Length of Leads		Catalog Number	Price
IN	mm		IN	mm		
1.42	36	32 A	9.84	250	AK5 PC33	**$15.30**
1.42	36	32 A	39.37	1000	AK5 PC33L	**25.20**

Extension Plates
Used to mount wider components. Bolt to standard mounting plates (after DIN rails are removed).

Width		Application	Catalog Number	Price
IN	mm			
2.80	71	INTEGRAL 32	AK5PE17	**$13.10**
2.80	71	GV & Reversing contactor	AK5PE27	**17.50**

Mounting Rail
Must be used for mounting plates with tap-offs.

Description	Material and Surface Treatment	Depth	Length	Catalog Number	Price
		mm	mm		
75 mm Omega Rail	2 mm steel with 10 microns of zinc chromate	15	2000	AM1DL201	**$13.70**

Maximum Number of Devices Per Busbar System ■

Device	Used with	AK5 Busbar System					
		JB143	JB144	JB145	JB146	JB149	JB1410
AK5PA231 Mounting Plate	INTEGRAL 18 Only	4	6	8	10	16	18
	INTEGRAL 18 with 1 aux. block	4	6	8	10	16	18
	INTEGRAL 18 with 2 aux. blocks	3	4	6	7	12	14
	INTEGRAL 18 with 3 aux. blocks	2	4	5	6	10	12
	AK5PE17/27 extension plate	3	4	6	8	13	14
AK5PC33/PC33L	...	6	9	12	15	24	27

■ The AK5 system may be used with GV2 and GV3 devices in combination with LC1D contactors and INTEGRAL 32 devices.

For additional information, reference Catalog #8502CT0101.