

# Contactors and *Thermal Overload Relays* from 6 to 2750 A



Merlin Gerin

Modicon

Square D

Telemecanique

Schneider Electric Brands



**SQUARE D**

Schneider Electric

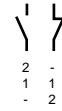
*Get more with the world's Power & Control specialist.*

## Front mounted additional blocks

### Coil Suffixes



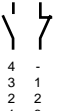
NO NC



LA1-KN20  
LA1-KN11  
LA1-KN02



NO NC

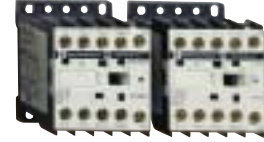


LA1-KN40  
LA1-KN31  
LA1-KN22  
LA1-KN13  
LA1-KN04

Hz	■ AC		■ DC		▲▲ Low Consumption DC	▼▼ AC/DC	▼ AC
	50/60	50*	60*			...400	40/400
24 V	B7	B5	B6	BD	BL	-	
48 V	E7	E5	E6	ED	EL	-	
72 V	-	-	-	SD	SL	-	
110 V	F7	F5	F6	FD		FW	F
120 V	G7	-	G6	-		FW	-
208 V	-	-	L6	-		-	-
220 V	M7	M5	M6	MD		MW	M
230 V	P7	P5	-	-		MW	P
240 V	U7	U5	U6	-		MW	U
250 V	-	-	-	UD		-	-
380 V	Q7	Q5	Q6	-		QW	Q
400 V	V7	V5	-	-		QW	V
415 V	N7	N5	-	-		QW	N
440 V	R7	R5	R6	RD*		QW	R

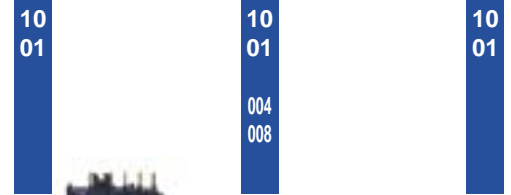
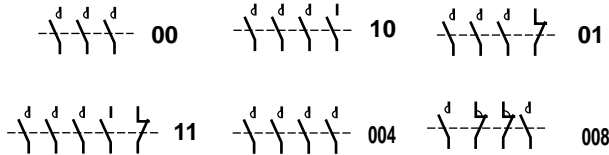
\*Except K

## Contactors



Max. inductive current AC3	A	6	9	12	
Max. resistive current AC1	A	20	20	20	
□— Max. wire size	AWG	10	10	10	
Maximum 3 phase power ratings per IEC 947-4	220/230 V	kW	1.5	2.2	3
	380/400 V	kW	2.2	4	5.5
	415 V	kW	2.2	4	5.5
	500 V	kW	3	4	4
	660/690 V	kW	3	4	4
	1000 V	kW	-	-	-
Maximum 3 phase horsepower ratings	200 V	HP	-	-	-
	230 V	HP	1.5	3	3
	460/480 V	HP	3	5	7.5
	575 V	HP	3	5	10
A <sub>1</sub> AC		LC1-K06 ●●■	LC1-K09 ●●■	LC1-K12●●■	
A <sub>2</sub> DC		LP1-K06 ●●■	LP1-K09 ●●■	LC1-K12●●■	
Low Consumption DC (≤2.4 W)		LP4-K06 ●●▲3	LP4-K09 ●●▲3	LP4-K12 ●●▲3	

### Part number suffixes to specify power pole/ auxiliary contact configuration



## Standard overload relays

Direct mounting on the contactor

Class 10

0.11	0.16	0.23	0.36
LR2-K0301	LR2-K0302	LR2-K0301	
0.36	0.54	0.8	1.2
LR2-K0304	LR2-K0305	LR2-K0304	
1.2	1.8	2.6	3.7
LR2-K0307	LR2-K0308	LR2-K0307	
3.7	5.5	8	11.5
LR2-K0312	LR2-K0314	LR2-K0312	
10	14	12	18
LR2-K0320		LR2-K0321	

## Multifunction overload relays

(1) Except LC1-D115, LC1-D150  
(2) Only LCI, LPI  
(3) For LP4-D

NO NC



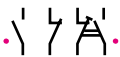
2 - LAD-N20  
1 1 LAD-N11  
- 2 LAD-N02

NO NC



4 - LAD-N40  
3 1 LAD-N31  
2 2 LAD-N22  
1 3 LAD-N13  
- 4 LAD-N04

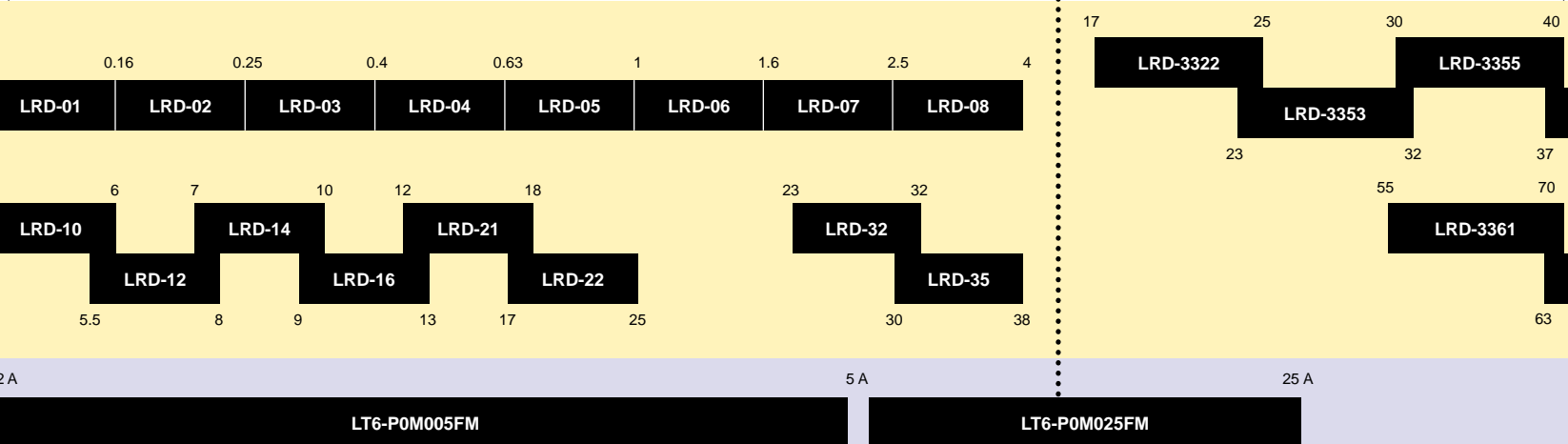
NO NC NC NO

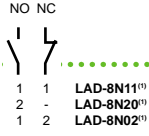
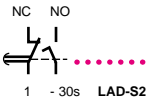
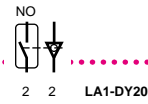
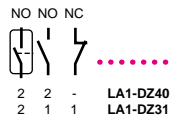


1 1 1 1 LAD-C22



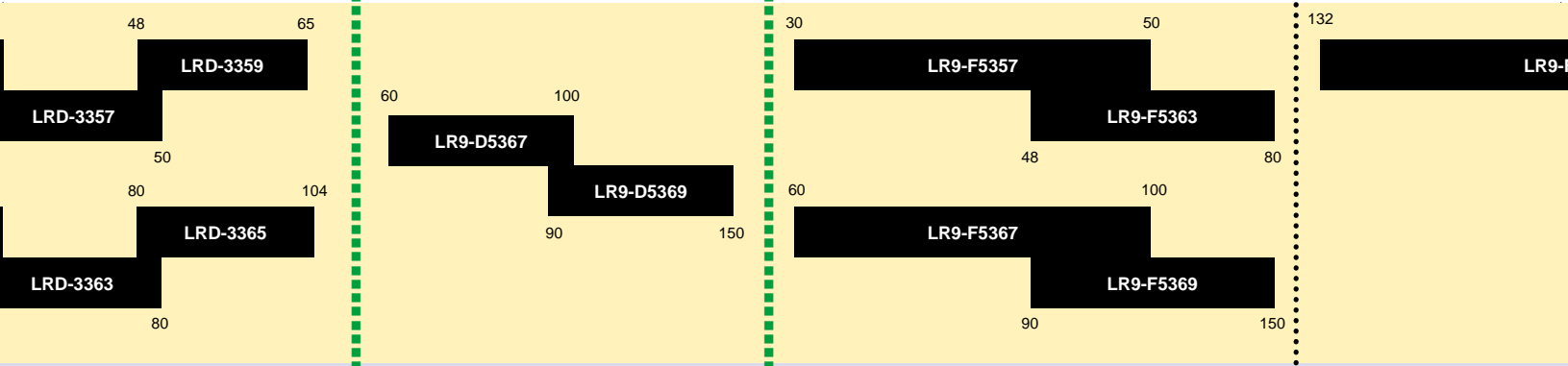
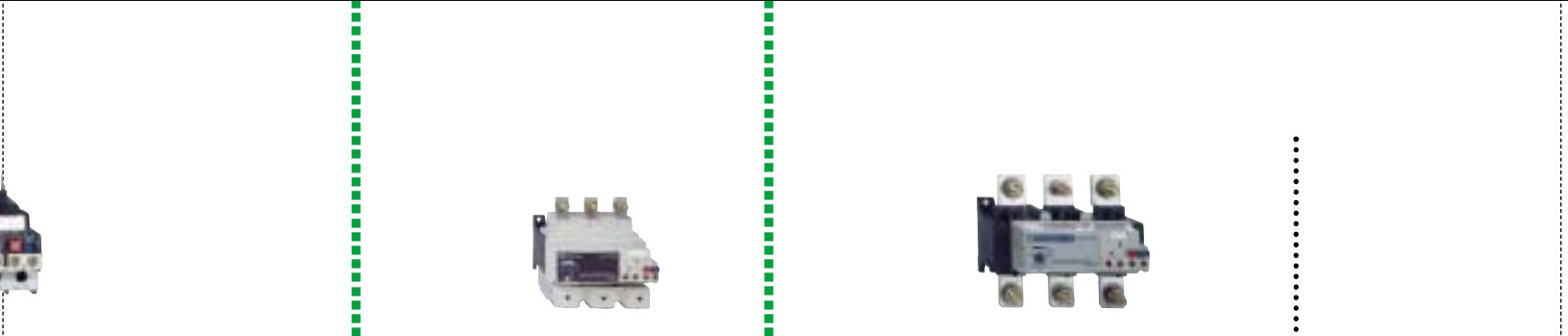
9	12	18	25	32	40	50	
25	25	32	40	50	60	80	
10	10	8	6	6	3	3	
2.2	3	4	5.5	7.5	11	15	
4	5.5	7.5	11	15	18.5	22	
4	5.5	9	11	15	22	25	
5.5	7.5	10	15	18.5	22	30	
5.5	7.5	10	15	18.5	30	33	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
2	3	5	7.5	10	10	15	
5	7.5	10	15	20	30	40	
7.5	10	15	20	30	30	40	
LC1-D09 ■■	LC1-D12 ■■	LC1-D18 ■■	LC1-D25 ■■	LC1-D32 ■■	LC1-D40 ■■	LC1-D50 ■■	LC1-D60 ■■
LC1-D09 ■■	LC1-D02 ■■	LC1-D18 ■■	LC1-D25 ■■	LC1-D32 ■■	LC1-D40 ■■	LC1-D50 ■■	LC1-D60 ■■
LC1-D09 ▲▲	LC1-D02 ▲▲	LC1-D18 ▲▲	LC1-D25 ▲▲	LC1-D32 ■■	LC1-D40 ■■	LC1-D50 ■■	LC1-D60 ■■

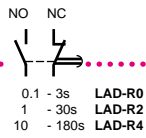
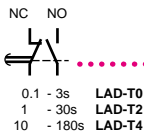




65	80	115	150	115	150	185	225
80	125	250	250	175	200	200	200
3	2	250 MCM	250 MCM	∅	3/∅	3/∅	300 MCM
18.5	22	30	40	30	40	55	63
30	37	55	75	55	75	90	110
37	45	59	80	59	80	100	110
37	55	75	90	75	90	110	129
37	45	80	100	80	100	110	129
-	-	75	90	65	65	100	100
-	-	-	-	30	40	50	60
20	30	40	50	40	50	60	75
50	60	75	100	75	100	125	150
50	60	100	125	100	125	150	150

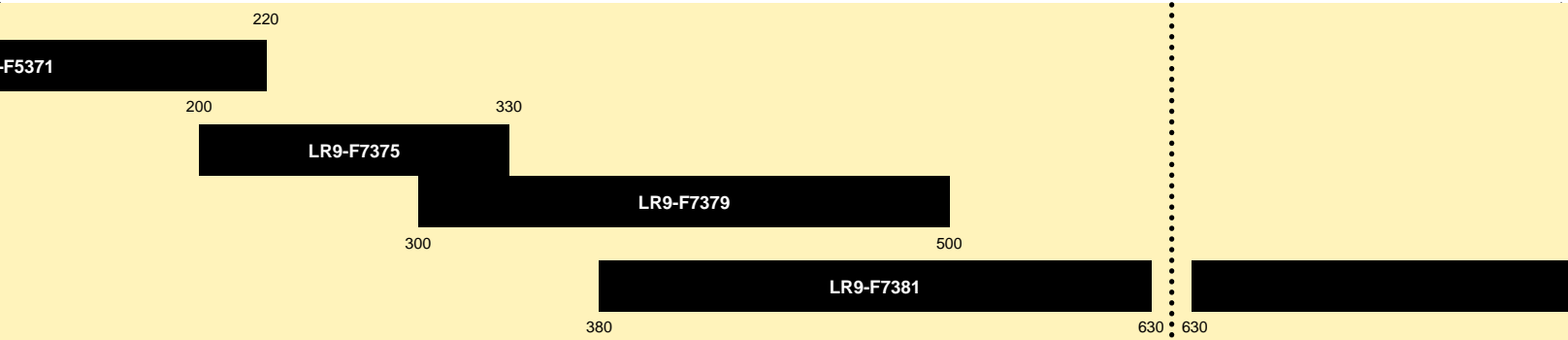
1-D65 ■■ LC1-D80 ■■ LC1-D115 ■■ LC1-D150 ▽ 7 LC1-F115 ■■ LC1-F150 ■■ LC1-F185 ■■ LC1-F225 ■■





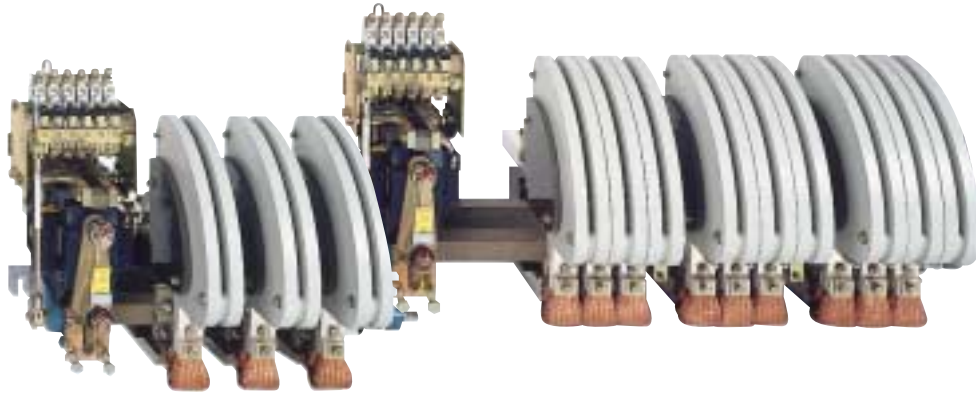
	265	330	400	500	630	800
	285	360	420	700	1000	1000
MCM	300 MCM	300 MCM	600 MCM	2 x 600 MCM	3 x 600 MCM	3 x 600 MCM
	75	100	110	147	200	250
	132	160	200	250	335	450
	140	180	220	280	375	450
	160	200	257	355	400	450
	160	220	280	335	450	475
	147	160	185	335	450	450
	60	75	100	150	250	-
	75	100	125	200	300	450
	150	200	250	400	600	800
	200	250	300	500	800	900

LC1-F265 ■■      LC1-F330 ■■      LC1-F400 ■■      LC1-F500 ■■      LC1-F630 ■■      LC1-F800 ▼▼      LC1-F1000 ▼▼



# Built-in auxiliary contacts

NO NC



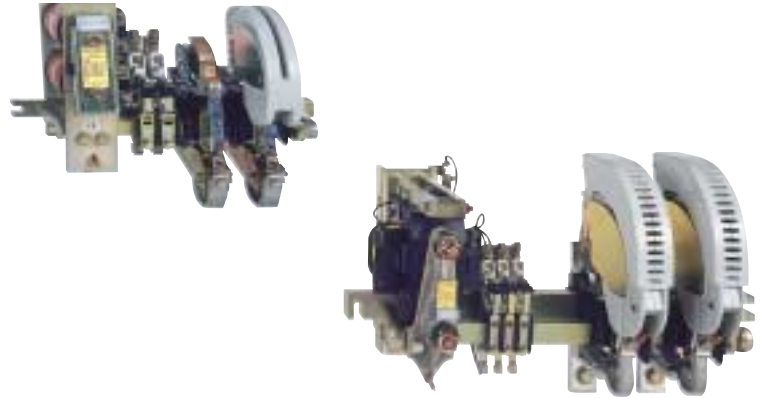
780	750	1000	1500	1800	A
1350	800	1250	2000	2750	A
750 MCM	2 x 80mm x 5mm	2 x 80mm x 5mm	3 x 100mm x 5mm	4 x 100mm x 5mm	AWG
	220	280	425	500	kW
	400	500	750	900	kW
	425	590	800	900	kW
	500	600	750	900	kW
	560	670	750	900	kW
	530	530	670	750	kW
-	-	-	-	-	HP
450	-	-	-	-	HP
900	-	-	-	-	HP
900	-	-	-	-	HP
-F780 ■■	LC1BL3 ◻▼22	LC1BM3 ◻▼22	LC1BP3 ◻▼22	LC1BR3 ◻▼22	AC DC

1A + LR2D1305  
 5A + LR2D1310

2750 A

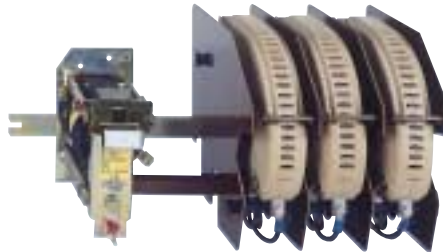
2750 A

For heavy-duty applications,  
contactors designed to switch  
up to 2750 amps



### **CV1 Contactors**

- For loads up to 950 amps inductive, 1000 amps resistive
- Voltage up to 660 VAC or 440 VDC
- Frequency up to 200 Hz
- Maximum of 5 NO or NC power poles
- Maximum of 7 NO or NC auxiliary poles



### **CV3 Contactors**

- For loads up to 1800 amps inductive, 2750 amps resistive
- Voltage up to 1000 VAC or 1500 VDC
- Frequency up to 400 Hz
- Maximum of 5 NO or NC power poles
- Maximum of 7 NO or NC auxiliary poles



## Protection and intelligence combined

- The LT6-P electronic multifunction protection relay is ideally suited to high performance applications. It provides protection for your motors in virtually any application or operating condition.
- It enables automatic control of different methods of starting:
  - cross-line (reversing or non-reversing)
  - star/delta
  - 2-speed
- All the functionalities are programmable with parameters entered locally or using a PC software.
- It integrates into all the most complex automation systems through its communication functions on UNITELWAY®, JBUS™, MODBUS® protocols.







## Protect your motor from damaging over-temperatures

- The LT3-S thermistor relay provides complementary protection by direct measurement of the temperature of motors equipped with PTC thermistor probes, for operation:
  - in hard ambient conditions: high temperature, dust, humidity
  - with severe duty: fast operating cycles, use of DC injection braking.





### **INTEGRAL™ Self-Protected Starters**

TELEMECANIQUE® INTEGRAL self-protected starters combine circuit breaker, contactor and dual function overload relay for coordinated circuit protection. INTEGRAL starters are the only self-protected starters to have UL/CSA verification for Type 2 coordinated protection. INTEGRAL starters can reduce panel space requirements by 40 to 60%. 18A, 32A and 63A models are available.

Request document  
8539CT9201R6/97



### **Manual Starter and Protector**

The TELEMECANIQUE GV2 and GV3 devices incorporate a manual disconnect, overload relay and instantaneous magnetic trip mechanism in one compact device. They can be used as standalone manual starters or to protect each branch circuit of a group motor installation.

Request document  
252OCT9501R6/97



### **Enclosed IEC Starters**

D-Line starters and INTEGRAL self-protected starters are available in metal NEMA Type 1 and 12 enclosures. These enclosed devices utilize INSTAKIT™ components for the addition of cover mounted pilot devices. INSTAKIT components are pre-wired control operator kits that use a universal connector for quick, easy installation.

Request following documents  
9502HO9401R0996 - INSTAKIT pre-wired starter access  
9502HO9402R0996 - D-Line non-combination starters  
9502HO9403R0996 - INTEGRAL starters  
8502CT0101 - IEC SMCE contactors and starters  
8502BR0102 - TeSys-The New D-LINE

D-Line, K-Line and F-Line contactors and overload relays are the largest selling motor starting and protection devices in the world. They offer starting for motors up to 800 hp at 480 AC volts and switching of resistive loads up to 1350 amps. They are UL-listed, CSA-certified and CE-marked for use in North America and around the world.

**Visit the Square D web site  
at [www.SquareD.com](http://www.SquareD.com)**

Order Number 8502BR0101  
Printed in U.S.A.



**SQUARE D**  
Schneider Electric

© 2001 Schneider Electric  
All Rights Reserved