The essential guide TeSys

for power control & protection

Catalogue

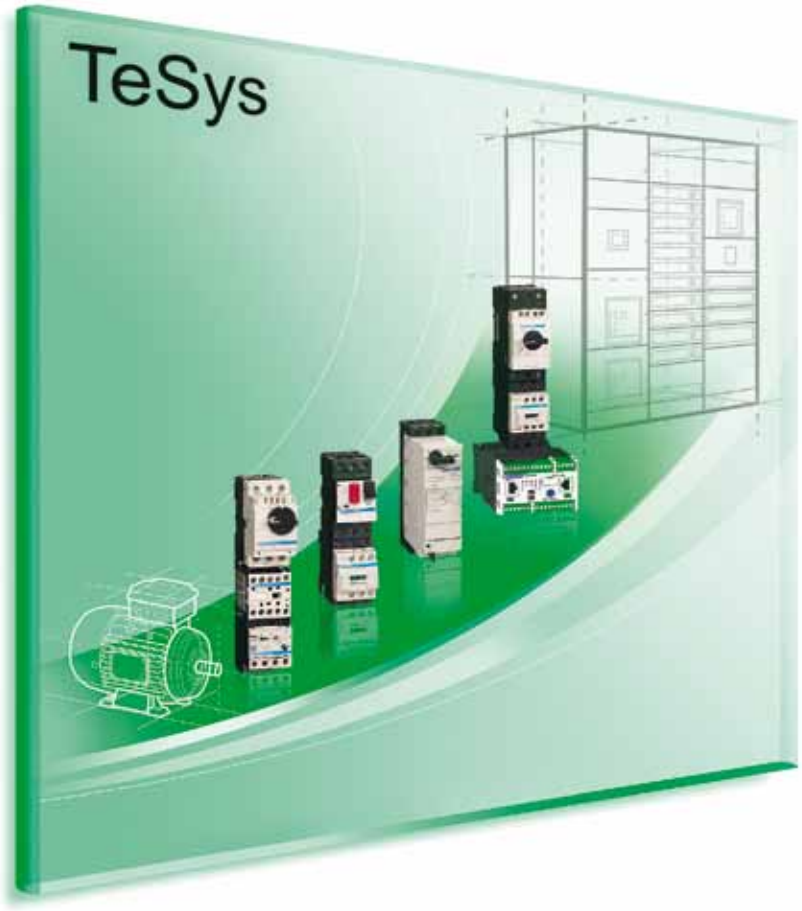
2013

Schneider Electric

Motor control

TeSys range provide you greater *simplicity*, *compactness*, *openness* and *flexibility*
... so many enhancements and new items to aid your productivity.

Accurate and reliable control of motors



Increase your productivity, with our solutions which help to simplify set-up.

Motor starters

- Ready-to-use component combinations, designed to work together in perfect harmony.
- Safe operation and level of coordination guaranteed by a major manufacturer.

Power circuit control

- A wide range of components.
- Solutions for a variety of power control applications: heating, changeover contactor pairs, resistive loads, upstream protection.

Contents

New

TeSys Motor starters up to 65 A

The new **TeSys GV3** Type E Starters, **LC1D 40/50/65** contactors, **LRD3** thermal relays are equiped with the new terminal block:

EverLink

Long lasting connection quality. Schneider Electric patented technology.

TeSys T

Motor management system

TeSys protected

TeSys T is an advanced motor management and protection system. It is able to guard against all motor malfunctions: overload, current peak, excessive consumption, etc.

TeSys U

Communication modules

With open communication across CANopen, Profibus DP, Modbus, AS-interface, Advantys STB, DeviceNet and Ethernet networks, Te**Sys** U *has openness in mind*.

Motor control components

Components for power control applications

TeSys K Contactors
0.5…10 HP

Connections				
■ screw clamp terminals				
Rated operational current	Ie max AC-3	6 A	9 A	12 A
(Ue - 440V)	Ie AC-1	-	20 A	-
Horsepower ratings	115/120 V 1 phase	0.5 hp	0.5 hp	0.5 hp
(UL/CSA ratings)	230/240 V 1 phase	1.0 hp	1.5 hp	1.5 hp
	208 V 3 phase	1.5 hp	3 hp	2 hp
	240 V 3 phase	1.5 hp	3 hp	3 hp
	480 V 3 phase	3 hp	5 hp	7.5 hp
	600 V 3 phase	3 hp	5 hp	10 hp
Contactor type (1)	ac	**LC1K06••**	**LC1K09••**	**LC1K12••**
	dc	**LP1K06••**	**LP1K09••**	**LP1K12••**
	dc low consumption	**LP4K06••**	**LP4K09••**	**LP4K12••**
Reversing contactor type (1)	ac	**LC2K06••**	**LC2K09••**	**LC2K12••**
(with mechanical interlock)	dc	**LP2K06••**	**LP2K09••**	**LP2K12••**
	dc low consumption	**LP5K06••**	**LP5K09••**	**LP5K12••**
■ spring terminals				
Add the number **3** before the voltage code. Example **LC1K0610••** becomes **LC1K06103••**				
■ Slip-on connectors, 1 x 6.35 or 2 x 2.8				
Add the number **7** before the voltage code. Example **LC1K0610••** becomes **LC1K06107••**				
■ solder pins for printed circuit boards				
Add the number **5** before the voltage code. Example **LC1K0610••** becomes **LC1K06105••**				

(1) Catalog number completed by adding 01 for N.C. auxiliary contact, or 10 for N.O. auxiliary contact, and adding the coil voltage code from the table below.
Example of complete catalog number: **LC1K0910BD.**

Standard control circuit voltages

ac supply																	
Contactors LC1K (0.8–1.15 Uc) *(0.85–1.1UC for M7, U7, Q7, N7, Y7 only)*																	
Volts	12	20	24	36	42	48	110	115	120	127	200/208		*220/230*		230	*230/240*	
50/60 Hz	**J7**	**Z7**	**B7**	**C7**	**D7**	**E7**	**F7**	**FE7**	**G7**	**FC7**	**L7**		***M7***		**P7**	***U7***	
Volts	256	277	*380/400*		400	*400/415*		440	480	500	575	600	*660/690*				
50/60 Hz	**W7**	**UE7**	***Q7***		**V7**	***N7***		**R7**	**T7**	**S7**	**SC7**	**X7**	***Y7***				
Example of complete catalog number: **LC1K0910G7**																	
dc supply																	
Contactors LP1K and LP2K (0.8–1.15 Uc)																	
Volts	12	20	24	36	48	60	72	100	110	125	155	174	200	220	230	240	250
Code	**JD**	**ZD**	**BD**	**CD**	**ED**	**ND**	**SD**	**KD**	**FD**	**GD**	**PD**	**QD**	**LD**	**MD**	**MPD**	**MUD**	**UD**
Low consumption																	
Contactors LP4K and LP5K (0.7–1.30 Uc), coil suppression as standard																	
Volts	12		20		24		48		72		110		120				
Code	**JW3**		**ZW3**		**BW3**		**EW3**		**SW3**		**FW3**		**GW3**				

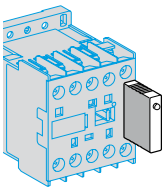
Auxiliary contact blocks

■ instantaneous, screw clamp connections

	■ for LC1, LP1-K, LP4			■ for LC1, LP1-K				
Contact arrangement	2N/O	- 2N/C	1N/O 1N/C	4N/O	3N/O 1N/C	2N/C 2N/C	1N/O 3N/C	- 4N/C
Catalog number	**LA1-KN20**	**LA1-KN02**	**LA1-KN11**	**LA1-KN40**	**LA1-KN31**	**LA1-KN22**	**LA1-KN13**	**LA1-KN04**

■ electronic time delay

Relay outputs, with common point changeover contact, ∿ or ⎓ 24…48, 2 A maximum		
Control voltage 0.85…1.1Uc		
Maximum switching capacity 250 VA or 150 W		
Operating temperature -10…+ 60°C		
Reset time: 1.5 s for 0.5 s after the time delay period		
Type	On-delay	
Timing range	1…30 s	
Composition	1 C/O (form C)	
Voltage	∿ or ⎓ 24…48 V	∿ 110…240
Catalog number	**LA2-KT2E**	**LA2-KT2U**



Suppressor modules

For LC1, LP1-K

Type	Varistor (∿ and ⎓)				Diode (⎓) + zener		RC (∿)
Voltage	12…24 V	32…48 V	50…129 V	130…250 V	12…24 V	32…48 V	220…250 V
Catalog number	**LA4-KE1B**	**LA4-KE1E**	**LA4-KE1FC**	**LA4-KE1UG**	**LA4-KC1B**	**LA4-KC1E**	**LA4-KA1U**

TeSys D Contactors
0.5 to 125HP

Connections						
■ **screw clamp terminals or connectors**						
Rated operational voltage		690 V				
Rated operational current	Ie max AC-3	9 A	12 A	18 A	25 A	32 A
Continuous current @600V max per UL / CSA		20 A	25 A	32 A	40 A	50 A
Horsepower ratings	115/120 V single phase	0.5 hp	1 hp	1 hp	2 hp	2 hp
CSA / UL ratings	220/230 V single phase	1 hp	2 hp	3 hp	3 hp	5 hp
	208 V three phase	2 hp	3 hp	5 hp	7.5 hp	10 hp
	240 V three phase	2 hp	3 hp	5 hp	7.5 hp	10 hp
	480 V three phase	5 hp	7.5 hp	10 hp	15 hp	20 hp
	600 V three phase	7.5 hp	10 hp	15 hp	20 hp	30 hp
Contactor type (1)		**LC1D09**	**LC1D12**	**LC1D18**	**LC1D25**	**LC1D32**
Reversing contactor type (with mechanical interlock) (1)		**LC2D09**	**LC2D12**	**LC2D18**	**LC2D25**	**LC2D32**
■ **spring terminals up to D32 only**						
Add the number **3** before the voltage code. Example **LC1D09G7** becomes **LC1D093G7**						
■ **ring tongue**						
Add the number **6** before the voltage code. Example **LC1D09G7** becomes **LC1D096G7**						
■ **slip-on connectors 2 x 6.35** (power) **and 1 x 6.35** (control) **up to D12 only**						
Add the number **9** before the voltage code. Example **LC1D09G7** becomes **LC1D099G7**						

(1) Catalog number to be completed by adding the coil voltage code from the table below. Example of complete catalog number: **LC1D09G7.**

LC1D183

LC1D186

LC1D189

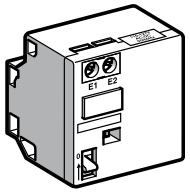
Standard control circuit voltages														
ac supply														
Volts	24	42	48	110	120	208	220	230	240	380	440	480	575	600
Contactors LC1D09–D150 (D09 through D32 and D150 available with 50/60 Hz only)														
50/60 Hz	**B7**	**D7**	**E7**	**F7**	**G7**	**LE7**	**M7**	**P7**	**U7**	**Q7**	**R7**	**T7**	**SC7**	**X7**
50 Hz	**B5**	**D5**	**E5**	**F5**	**G5**	**-**	**M5**	**P5**	**U5**	**Q5**	**R5**			
60 Hz	**B6**	**-**	**E6**	**F6**	**-**	**L6**	**M6**	**-**	**U6**	**Q6**	**R6**	**T6**	**S6**	**X6**
dc supply														
Volts	12	24	36	48	60	72	110	125	220	440				
Contactors LC1D09–D65A (coils with integral suppression device fitted as standard)														
0.7–1.25 Uc	**JD**	**BD**	**CD**	**ED**	**ND**	**SD**	**FD**	**GD**	**MD**	**RD**				
Contactors LC1D80														
0.85–1.1 Uc	**JD**	**BD**	**CD**	**ED**	**ND**	**SD**	**FD**	**GD**	**MD**	**RD**				
0.75–1.2 Uc	**JW**	**BW**	**CW**	**EW**	**-**	**SW**	**FW**	**-**	**MW**	**-**				
Contactors LC1D115 and D150 (coils with integral suppression device fitted as standard)														
0.75–1.2 Uc	**-**	**BD**	**-**	**ED**	**ND**	**SD**	**FD**	**GD**	**MD**	**RD**				
Low consumption														
Volts **dc**	5	12	20	24	48	110	120	250						
Contactors LC1D09–D32 (coils with integral suppression device fitted as standard)														
0.7–1.25 Uc	**AL**	**JL**	**ZL**	**BL**	**EL**	**FL**	**ML**	**UL**						




	1 000 V on ∿ supply, 690 V on ⎓ supply					
	40 A	50 A	65 A	80 A	115 A	150 A
	60 A	70 A	80 A	110 A	175 A	200 A
	3 hp	3 hp	5 hp	7.5 hp	–	–
	5 hp	7.5 hp	10 hp	15 hp	–	–
	10 hp	15 hp	20 hp	25 hp	30 hp	40 hp
	10 hp	15 hp	20 hp	30 hp	40 hp	50 hp
	30 hp	40 hp	40 hp	60 hp	75 hp	100 hp
	30 hp	40 hp	50 hp	60 hp	100 hp	125 hp
	LC1D40A	**LC1D50A**	**LC1D65A**	**LC1D80**	**LC1D115**	**LC1D150**
	LC2D40A	**LC2D50A**	**LC2D65A**	**LC2D80**	**LC2D115**	**LC2D150**

Mounting accessories for 3-pole reversing contactors

2 identical contactors with screw clamp terminals or connectors, horizontally mounted		
Mechanical interlock	Set of connections	Mechanical interlock
■ **with an electrical interlocking kit for the contactors**		
LC1D09–D32	**LAD9R1V**	included
■ **with integral electrical interlocking**		
LC1D80 (**ac**)	**LA9D8069**	**LA9D4002**
LC1D80 (**dc**)	**LA9D8069**	**LA9D8002**
LC1D115 and D150	**LA9D11569**	**LA9D11502**
■ **without electrical interlocking**		
LC1D09–D32	**LAD9R1**	included
LC1D40A - D65A	**LAD9R3**	included
LC1D80 (**ac**)	**LA9D8069**	**LA9D50978**
LC1D80 (**dc**)	**LA9D8069**	**LA9D80978**



Mechanical latch blocks

Clip-on front mounting, manual or electrical unlatching control						
For use on contactor	Catalog number	Standard control circuit voltages (50/60 Hz)				
		24 V	42/48 V	110/127 V	220/240 V	380/415 V
LC1D09 - D65A ac or dc, LC1DT20 - DT80 ac or dc	**LA6DK10•**	**B**	**E**	**F**	**M**	**Q**
LC1D80–D150 ac, **LC1D80** and **D115**	**LA6DK20•**	**B**	**E**	**F**	**M**	**Q**

Contactors
Auxiliary contacts

Contact type			instantaneous, connection by screw terminals	
Mounting			Front mounting	Side mounting
Catalog number	Contact	1 “N/O”	**LADN10**	–
		1 “N/C”	**LADN01**	–
		1 “N/O” 1 “N/C”	**LADN11**	**LAD8N11**
		2 “N/O”	**LADN20**	**LAD8N20**
		2 “N/C”	**LADN02**	**LAD8N02**
		2 “N/O” 2 “N/C”	**LADN22**	–
		1 “N/O” 3 “N/C”	**LADN13**	–
		3 “N/O” 1 “N/C”	**LADN31**	–
		4 “N/O”	**LADN40**	–
		4 “N/C”	**LADN04**	–

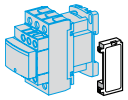
Contact type		Time delay, connection by screw terminals		
Mounting		Front mounting		
Time Range		0.1…3 s	0.1…30 s	10…180 s
Catalog number	On-delay	LADT0	LADT2	LADT4
	Off-delay	LADR0	LADR2	LADR4

Maximum number of auxiliary contacts that can be fitted

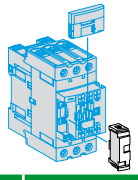
Type	Number of poles and size		Instantaneous						Time delay
			Side mounting			Front mounting			Front mounting
			on left side	on right side		1 contact	2 contacts	4 contacts	
AC	3P	LC1D09…D32	1	–	and	–	1	or 1	or 1
		LC1D40A…D65A	1	or 1	and	–	1	or 1	or 1
		LC1D80 (50/60Hz)	1	1	or	2	and 1	or 1	or 1
		LC1D80 (50 or 60Hz)	1	1	and	2	and 1	or 1	or 1
		LC1D115 and D150	1	–	and	–	1	or 1	or 1
	4P	LC1DT20…DT40	1	–	and	–	1	or 1	or 1
		LC1DT60A…D80A	1	or 1	and	–	1	or 1	or 1
		LC1D115	1	1	and	1	or 1	or 1	or 1
DC	3P	LC1D09…D32	–	–		–	1	or 1	or 1
		LC1D40A…D65A	1	or 1	and	–	1	or 1	or 1
		LC1D80	–	–		1	or 1	or 1	or 1
		LC1D115 and D150	1	–	and	–	1	or 1	or 1
	4P	LC1DT20…DT40	–	–		–	1	or 1	or 1
		LC1DT60A…D80A	–	–		–	1	or 1	or 1
		LC1D115	1	1		–	and 1	or 1	or 1
DC low consumption	3P	LC1D09…D32	–	–		–	1	–	–
	4P	LC1DT20…DT40	–	–		–	1	–	–

Contactors

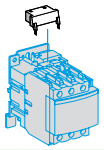
Suppressor modules



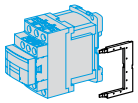
Type of module			**RC circuits** (Resistor-Capacitor)		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09…D32(3P) DT20…DT40(4P)	D40A…D65A(3P) DT60A…DT80A(4P)	D80…D150(3P) D40…D115(4P)
Catalog number	Voltage	24…48 VAC	**LAD4RCE**	**LAD4RC3E**	**LA4DA2E**
		50…127 VAC	**LAD4RCG**	**LAD4RC3G**	**LA4DA2G**
		110…240 VAC	**LAD4RCU**	**LAD4RC3U**	**LA4DA2U**
		380…415 VAC	–	**LAD4RC3N**	**LA4DA2N**



Type of module			**Varistors** (peak limiting)		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09…D32(3P) DT20…DT40(4P)	D40A…D65A(3P) DT60A…DT80A(4P)	D80…D150(3P) D40…D115(4P)
Catalog number	Voltage	24…48 VAC	**LAD4VE**	**LAD4V3E**	**LA4DE2E**
		50…127 VAC	**LAD4VG**	**LAD4V3G**	**LA4DE2G**
		110…240 VAC	**LAD4VU**	**LAD4V3U**	**LA4DE2U**
		24…48 VDC	–	–	**LAD4DE3E** (AC and DC)
		50…127 VDC	–	–	**LAD4DE3G** (AC and DC)
		110…240 VDC	–	–	**LAD4DE3U** (AC and DC)



Type of module			**Flywheel diodes**		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09…D32(3P) DT20…DT40(4P)	D40A…D65A(3P) DT60A…DT80A(4P)	D80…D150(3P) D40…D115(4P)
Catalog number	Voltage	24…250 VDC	**LAD4DDL**	**LAD4D3U**	**LAD4DC3U**



Type of module			**Bidirectional peak limiting diode**		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09…D32(3P) DT20…DT40(4P)	D40A…D65A(3P) DT60A…DT80A(4P)	D80…D150(3P) D40…D115(4P)
Catalog number	Voltage	24 VAC	**LAD4TB**	**LAD4T3B**	**LA4DB2B**
		24 VDC	**LAD4TBDL**	**LAD4T3B**	**LA4DB2S**
		72 VAC	**LAD4TS**	**LAD4T3S**	**LA4DB3B**
		72 VDC	**LAD4TSDL**	**LAD4T3S**	**LA4DB3S**
		125 VDC	**LAD4TGDL**	**LAD4T3G** (AC and DC)	–
		250 VDC	**LAD4TUDL**	**LAD4T3U** (AC and DC)	–
		600 VDC	**LAD4TXDL**	**LAD4T3R** (AC and DC)	–



Rated operational current	Ie max AC-3 (Ue ≤ 440V)	185 A	225 A	265 A	330 A	400 A	500 A
Continuous current @600V max per UL / CSA		200 A	250 A	285 A	370 A	420 A	700 A
Rated operational voltage		1 000 V	1 000 V	1 000 V	1 000 V	1 000 V	1 000 V
Horsepower ratings	208 V three phase	50 hp	(2)	60 hp	75 hp	100 hp	150 hp
(UL/CSA ratings)	240 V three phase	60 hp	(2)	75 hp	100 hp	125 hp	200 hp
	480 V three phase	125 hp	(2)	150 hp	200 hp	250 hp	400 hp
	600 V three phase	150 hp	(2)	200 hp	250 hp	300 hp	500 hp
Contactor type (1)		**LC1F185**	**LC1F225**	**LC1F265**	**LC1F330**	**LC1F400**	**LC1F500**
Reversing contactor type (1)		**LC2F185**	**LC2F225**	**LC2F265**	**-**		For customer assembly

(1) Basic catalog number to be completed by adding the coil voltage code from the table below. Example of complete catalog number: **LC1F185G7**.

(2) Current rated only.

Standard control circuit voltages

ac supply												
Volts	24	48	110	120	208	220	230	240	380	440	480	600
Contactors LC1F115–F225 *(0.85–1.1UC)*												
50 Hz (coil LX1)	**B5**	**E5**	**F5**	**-**	**-**	**M5**	**P5**	**U5**	**Q5**	**-**	**-**	**-**
60 Hz (coil LX1)	**-**	**E6**	**F6**	**G6**	**L6**	**M6**	**-**	**U6**	**Q6**	**R6**	**Q5**	**-**
40–400 Hz (coil LX9)	**-**	**E7**	**F7**	**G7**	**L7**	**M7**	**P7**	**U7**	**Q7**	**R7**	**-**	**-**
Contactors LC1F265–F330 *(0.85–1.1UC)*												
40–400 Hz (coil LX1)	**B7**	**E7**	**F7**	**G7**	**L7**	**M7**	**P7**	**U7**	**Q7**	**R7**	**S7**	**X7**
Contactors LC1F400–F630 *(0.85–1.1UC)*												
40–400 Hz (coil LX1)	**-**	**E7**	**F7**	**G7** (1)	**L7**	**M7**	**P7**	**U7**	**Q7**	**R7**	**-**	**X7**
Contactor LC1F780 *(0.85–1.1UC)*												
40–400 Hz (coil LX1)	**-**	**-**	**F7**	**F7**	**L7**	**M7**	**P7**	**U7**	**Q7**	**R7**	**N7**	**-**
Contactor LC1F800 *(0.7–1.3UC)*												
40–400 Hz (coil LX1)	**-**	**-**	**F7**	**F7**	**L7**	**M7**	**P7**	**U7**	**Q7**	**R7**	**-**	**-**
Contactor LC1F1250 - F2100 *(0.85–1.1UC)*	**-**	**-**	**F7**	**F7**	**L7**	**M7**	**P7**	**U7**	**Q7**	**R7**	**N7**	
dc supply												
Volts	24	48	110	125	220	230	250	400	440			
Contactors LC1F115–F330 *(0.85–1.1UC)*												
(coil LX4F)	**BD**	**ED**	**FD**	**GD**	**MD**	**-**	**UD**	**-**	**RD**			
Contactors LC1F400–F630 *(0.85–1.1UC)*												
(coil LX4F)		**ED**	**FD**	**GD**	**MD**	**-**	**UD**	**-**	**RD**			
Contactor LC1F780												
(coil LX4F)	**-**	**-**	**FD**	**GD**	**MD**	**-**	**UD**	**-**	**RD**			
Contactor LC1F800												
(coil LX4F)	**-**	**-**	**FW**	**FW**	**MW**	**MW**	**-**	**QW**	**-**			
Contactor LC1F1250												
(coil LX4F)	**-**	**ED**	**FD**	**-**	**MD**	**-**	**UD**	**-**	**-**			
Contactor LC1F1400 to LC1F2100												
(coil LX4F)	**-**	**-**	**F**	**GD**	**MD**	**-**	**UD**	**-**	**RD**			

Example: For a 630 A contactor with a 110 V ∼ coil, order **LC1F630F7**

(1) F7 for LC1F630




630 A	780 A	800 A	1250 A	1400 A	1700 A	2100 A
1 000 A	1 350 A	1 000 A	600 V	600 V	600 V	600 V
1 000 V	1 000 V	1 000 V	3	3	3	3
250 hp	-	-	(2)	(2)	(2)	(2)
300 hp	450 hp	450 hp	(2)	(2)	(2)	(2)
600 hp	900 hp	800 hp	(2)	(2)	(2)	(2)
800 hp	900 hp	900 hp	(2)	(2)	(2)	(2)
LC1F630	**LC1F780**	**LC1F800**	**LC1F1250**	**LC1F1400**	**LC1F1700**	**LC1F2100**



Auxiliary contact blocks

instantaneous						time delay 1N.O. + 1 N.C.		
Contact Arrangement N.O. N.C.	Catalog No.	Contact Arrangement N.O. N.C.	Catalog No.	Contact Arrangement N.O. N.C.	Catalog No.	Type	Range	Catalog No.
1 -	**LADN10**	1 1	**LADN11**	2 2	**LADN22**	On-delay	0.1–3 s	**LADT0**
- 1	**LADN01**	2 -	**LADN20**	1 3	**LADN13**		0.1–30 s	**LADT2**
		- 2	**LADN02**	4 -	**LADN40**		10–180 s	**LADT4**
				- 4	**LADN04**		1–30 s	**LADS2**
				3 1	**LADN31**	Off-delay	0.1–3 s	**LADR0**
				2 2	**LADC22**		0.1–30 s	**LADR2**
							10–180 s	**LADR4**

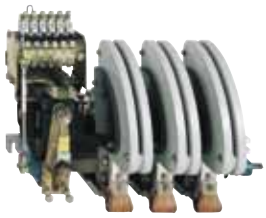
Mounting accessories for 3-pole reversing contactors for motor control

2 identical contactors, horizontally mounted

Mechanical interlock with an electrical interlocking kit for the contactors

Contactor type	Set of connections	Mechanical interlock
LC1F115	**LA9FF976**	**LA9FF970**
LC1F150	**LA9F15076**	**LA9FF970**
LC1F185	**LA9FG976**	**LA9FG970**
LC1F225	**LA9F22576**	**LA9FG970**
LC1F265	**LA9FH976**	**LA9FJ970**
LC1F330	**LA9FJ976**	**LA9FJ970**
LC1F400	**LA9FJ976**	**LA9FJ970**
LC1F500	**LA9FK976**	**LA9FJ970**
LC1F630 or **LC1F800**	**LA9FL976**	**LA9FL970**
LC1F1250 to **LC1F2100**	**-**	**-**

TeSys B Contactors
620…2100 HP



Rated operational current	Ie max AC-3 (Ue ≤ 440V)	750 A	1000 A	1500 A	1800 A
	Ie AC-1 (θ ≤ 40° C)	800 A	1250 V	2000 A	2750A
Rated operational voltage		1 000 V	1 000 V	1 000 V	1 000 V
Number of poles		1 to 4	1 to 4	1 to 4	1 to 4
Rated operational power	220/240 V	220 kW	280 kW	425 kW	500 kW
in category AC3	380/400 V	400 kW	500 kW	750 kW	900 kW
	415 V	425 kW	530 kW	800 kW	900 kW
	440 V	450 kW	560 kW	800 kW	900 kW
	500 V	500 kW	600 kW	700 kW	900 kW
	660/690 V	560 kW	670 kW	750 kW	900 kW
	1000 V	530 kW	530 kW	670 kW	750 kW
CSA approvals					
	Max operational current	800A	1000A	1500A	2000A
	Max horsepower @ 600 V	620 HP	1000 HP	1500 HP	2100 HP
4 instantaneous contact configurations					
2 N/C + 2 N/O, 3 N/O + 1 N/C, 1 N/O + 3 N/C or 4 N/O					
Contactor type*		**LC1-BL**	**LC1-BM**	**LC1-BP**	**LC1-BR**

* Basic reference to be completed by adding the coil voltage, followed by the instantaneous contact configuration.

Standard control circuit voltages (for other voltages, please consult your Regional Sales Office)												
Volts	48	110	125	127	220	230	240	380	400	415	440	500
∿ 50…400 Hz	**-**	**F**	**-**	**G**	**M**	**P**	**U**	**Q**	**V**	**N**	**R**	**S**
⎓	**ED**	**FD**	**GD**	**-**	**MD**	**-**	**-**	**-**	**-**	**-**	**RD**	**-**

Example: To order a 1500 A contactor with 127 V c coil with 3 N/O + 1 N/C, select **LC1-BP33G31**

Mounting accessories

Description	For contactor	Reference
Bar support bracket	**LC1-BL** to **BR**	**LA9-B103**
for mounting on 120 or 150 mm centres		
Mechanical interlock and locking device components	**LC1-B**	**EZ2-LB0601**

Contactors variable composition

CV1-B : 80…1000 A, CV3-B : 80…500 A

Reference to compiled by the customer

Contactor type, according to required use													
∼ supply 690 V, ⎓ supply 220 V/pole			CV1-B										
∼ supply 1000 V, ⎓ supply 440 V/pole			CV3-B										
Contactor rating	CV1: 80 A	CV3: 80 A		F									
	CV1: 200 A	CV3: 170 A		G									
	CV1: 300 A	CV3: 250 A		H									
	CV1: 470 A	CV3: 320 A		J									
	CV1: 630 A	CV3: 500 A		K									
	CV1: 1000 A			L									
Number of poles (PN1 main poles for CV1 and PA3 main poles for CV3)													
Normally Open main poles	1 N/O				1								
	2 N/O				2								
	3 N/O				3								
	4 N/O				4								
	5 N/O				5								
Normally Closed main poles	1 N/C						1						
	2 N/C						2						
	3 N/C						3						
No main poles					0	Z	0	Z					
Operational current	10 A					E		E					
	20 A					N		N					
	40 A					P		P					
	80 A					F		F					
	125 A					R		R					
	170 A					W		W					
	200 A					G		G					
	250 A					S		S					
	300 A					H		H					
	320 A					T		T					
	470 A					J		J					
	500 A					V		V					
	630 A					K		K					
	1000 A					L		L					
Control circuit voltage	48 V								E				
	110 V								F				
	120 V								K				
	208 V								L				
	220 V								M				
	230 V								P				
	240 V								U				
	380 V								Q				
	400 V								V				
	440 V								R				
Operating frequency	50 Hz									5			
	60 Hz									6			
	50/60 Hz									7			
	⎓									D			
	⎓ + economy resistor									R			
Instantaneous auxiliary contacts													
Normally Open	1 N/O										1		
	2 N/O										2		
	3 N/O										3		
	4 N/O										4		
Normally Closed	1 N/C											1	
	2 N/C											2	
	3 N/C											3	
	4 N/C											4	
Without instantaneous contact											0	0	
On-delay	1 C/O												J
Off-delay	1 C/O												N

Example 1/ for single-phase capacitor switching: 400 V - 80 A - 1 N/O pole - Control circuit 220 V / 50 Hz, 1 N/O and 1 1N/C auxiliary contacts: **CV1-BF1F0ZM511**.

2/ for heating circuits, d.c. supply 800 V - 150 A - 2 N/O poles - Control circuit 48 V ⎓ , 1 N/O + 1 N/O On-delay auxiliary contacts: **CV3-BG2W0ZED10J**

TeSys K Thermal overload relays
0.11…11.5 A

Thermal overload relays, model k adjustable from 0.11 to 12 A				
Connection by screw clamp terminals, direct mounting on contactors LC1K, manual or automatic reset				
Relay setting range	Fuses to be used with selected relay—international applications (1)			Catalog Number
Class 10 A	aM	gG	BS88	
0.11–0.16 A	0.25 A	0.5 A	-	**LR2K0301**
0.16–0.23 A	0.25 A	0.5 A	-	**LR2K0302**
0.23–0.36 A	0.5 A	1 A	-	**LR2K0303**
0.36–0.54 A	1 A	1.6 A	-	**LR2K0304**
0.54–0.8 A	1 A	2 A	-	**LR2K0305**
0.8–1.2 A	2 A	4 A	6 A	**LR2K0306**
1.2–1.8 A	2 A	6 A	6 A	**LR2K0307**
1.8–2.6 A	2 A	6 A	10 A	**LR2K0308**
2.6–3.7 A	4 A	10 A	16 A	**LR2K0310**
3.7–5.5 A	6 A	16 A	16 A	**LR2K0312**
5.5–8 A	8 A	20 A	20 A	**LR2K0314**
8–11.5 A	10 A	25 A	20 A	**LR2K0316**

Thermal overload relays for use on class 10 unbalanced loads: for above catalog numbers LR2K0305 to LR2K0316 only, replace the prefix LR2 with LR7.
Example LR7K0310.

Accessories		
Prewiring kit		
Allowing direct connection of the N.C. contact	For use on	
of relay LRD01–35 or LR3D01– D35 to the contactor	LC1D09–D18	**LAD7C1**
	LC1D25–D32	**LAD7C2**
Terminal blocks (2)		
For clip-on mounting on 35 mm mounting rail (AM1DP200)	LRD01–35 and LR3D01–D35	**LAD7B10**
or screw clamp	LRD3•••, LR3D3•••, LRD35••	**LA7D3064** (3)
For independent mounting of the relay	LR2K••••	**LA7K0064**
Everlink Terminal blocks		
Separate terminal block	LRD-313••• LRD-365	**LAD9R3**
Terminal block adapter		
For mounting a relay beneath an LC1D115 or D150 contactor	LRD3•••, LR3D3•••, LRD35••	**LA7D3058**

(1) Short circuit protection for North American applications: circuit breakers selected in accordance with CEC and local codes; fuses selected with maximum of 400% full load current.
(2) Terminal blocks are supplied with terminals protected against direct finger contact and screws in the open “ready-to-tighten” position.
(3) To order a terminal block for connection by lug-clamps, the catalog number becomes LA7D30646.

TeSys D — Thermal overload relays

0.1…140 A

Thermal overload relays, TeSys D
adjustable from 0.1 to 140 A

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

	Relay setting range	Fuses to be used with selected relay international applications			With contactor	Catalog number
Connection by screw clamp terminals or connectors		aM	gG	BS88		
Class 10 A	0.10…0.16 A	0.25 A	2 A	-	LC1-D09…D32	**LRD 01**
	0.16…0.25 A	0.5 A	2 A	-	LC1-D09…D32	**LRD 02**
	0.25…0.40A	1 A	2 A	-	LC1-D09…D32	**LRD 03**
	0.40…0.63 A	1 A	1.6 A	-	LC1-D09…D32	**LRD 04**
	0,63…1 A	2 A	4 A	-	LC1-D09…D32	**LRD 05**
	1…1.7 A	2 A	4 A	6 A	LC1-D09…D32	**LRD 06**
	1.6…2.5 A	4 A	6 A	10 A	LC1-D09…D32	**LRD 07**
	2.5…4 A	6 A	10 A	16 A	LC1-D09…D32	**LRD 08**
	4…6 A	8 A	16 A	16 A	LC1-D09…D32	**LRD 10**
	5.5…8 A	12 A	20 A	20 A	LC1-D09…D32	**LRD 12**
	7…10 A	12 A	20 A	20 A	LC1-D09…D32	**LRD 14**
	9…13 A	16 A	25 A	25 A	LC1-D12…D32	**LRD 16**
	12…18 A	20 A	35 A	32 A	LC1-D18…D32	**LRD 21**
	16…24 A	25 A	50 A	50 A	LC1-D25…D32	**LRD 22**
	23…32 A	40 A	63 A	63 A	LC1-D25…D32	**LRD 32**
	30…38 A	50 A	80 A	80 A	LC1-D32	**LRD 35**
	55…70 A	80 A	125 A	125 A	D50…D80	**LRD 3361**
	63…80 A	80 A	125 A	125 A	D65…D80	**LRD 3363**
	80…104 A	100 A	160 A	160 A	D80... D80	**LRD 3365**
	80…104 A	125 A	200 A	160 A	D115... D150	**LRD 4365**
	95…120 A	125 A	200 A	200 A	D115... D150	**LRD 4367**
	110…140 A	160 A	250 A	200 A	D150	**LRD 4369**
	80…104 A	100 A	160 A	160 A	Separate amount	**LRD 33656**
	95…120 A	125 A	200 A	200 A	Separate amount	**LRD 33676**
	110…140 A	160 A	250 A	200 A	Separate amount	**LRD 33696**
Class 20	6 A	10 A	16 A		LC1-D09…D32	**LRD 1508**
	4…6 A	8 A	16 A	16 A	LC1-D09…D32	**LRD 1510**
	5.5…8 A	12 A	20 A	20 A	LC1-D09…D32	**LRD 1512**
	7…10 A	16 A	20 A	25 A	LC1-D09…D32	**LRD 1514**
	9…13 A	16 A	25 A	25 A	LC1-D12…D32	**LRD 1516**
	12…18 A	25 A	35 A	40 A	LC1-D18…D32	**LRD 1521**
	17…25 A	32 A	50 A	50 A	LC1-D25... D32	**LRD 1522**
	23…28 A	40 A	63 A	63 A	LC1-D25... D32	**LRD 1530**
	25…32 A	40 A	63 A	63 A	LC1-D25... D32	**LRD 1532**
	55…70 A	100 A	125 A	125 A	D65…D80	**LR2 D3561**
	63…80 A	100 A	160 A	125 A	D80	**LR2 D3563**
Connection by EverLink terminal blocks, with BTR screws						
Class 10 A	9…13 A	16 A	25 A	25 A	LC1-D40A…D65A	**LRD 313** (1)
	12…18 A	20 A	32 A	35 A	LC1-D40A…D65A	**LRD 318** (1)
	17…25 A	25 A	50 A	50 A	LC1-D40A…D65A	**LRD 325** (1)
	23…32 A	40 A	63 A	63 A	LC1-D40A…D65A	**LRD 332** (1)
	30…40 A	40 A	80 A	80 A	LC1-D40A…D65A	**LRD 340** (1)
	37…50 A	63 A	100 A	100 A	LC1-D40A…D65A	**LRD 350** (1)
	48…65 A	63 A	100 A	100 A	LC1-D40A…D65A	**LRD 365** (1)
Class 20	9…13 A	20 A	32 A	35 A	LC1-D40A…D65A	**LRD 313L** (1)
	12…18 A	25 A	40 A	40 A	LC1-D40A…D65A	**LRD 318L** (1)
	17…25 A	32 A	50 A	50 A	LC1-D40A…D65A	**LRD 325L** (1)
	23…32 A	40 A	63 A	63 A	LC1-D40A…D65A	**LRD 332L** (1)
	30…40 A	50 A	80 A	80 A	LC1-D40A…D65A	**LRD 340L** (1)
	37…50 A	63 A	100 A	100 A	LC1-D40A…D65A	**LRD 350L** (1)
	48…65 A	80 A	125 A	125 A	LC1-D40A…D65A	**LRD 365L** (1)

Short circuit protection for North American applications: circuit breakers selected in accordance with CEC and local codes; fuses selected with maximum of 400% full load current.

Class 10A with connection by lug-clamps:
Select overload relay with screw clamp terminals or connectors from the table above and add one of following suffixes:
- figure 6 for relays LRD01 to LRD35 and LRD313 to LRD365.
- figure A66 for relays LRD3361 to LRD3365.

Relays LRD43 are suitable as standard, for use with lug-clamps

Thermal overload relays for use with unbalanced loads Class 10A with connection by screw clamp terminals and lug-clamp terminals:
In the reference selected above, change LRD (except LRD 4●●●) by LR3D
Example: LRD01 becomes LR3D01
Example with screw clamp terminal: LRD340 becomes LR3D340
Example with lug-clamp terminal: LRD3406 becomes LR3D3406

(1) Independant mounting on a DIN rail, order an EverLink LAD96560 terminal block.

Electronic thermal overload relays
60…630 A

For use with contactor	LC1-D	LC1-F
Motor current	60…150 A	30…630 A
Basic reference, to be completed	**LR9-D**	**LR9-F**

Relay setting range	Fuse to be used with selected relay international applications		For mounting beneath contactor LC1-	Compensated and differential		or not with alarm
	aM	gG		Class 10	Class 20	Class 10 or 20
60…100	100	160	D115 and D150	**LR9-D5367**	**LR9-D5567**	
90…150	160	250	D115 and D150	**LR9-D5369**	**LR9-F5569**	
30…50	50	80	F115…F185	**LR9-F5357**	**LR9-F5557**	**LR9-F57**
48…80	80	125	F115…F185	**LR9-F5363**	**LR9-F5563**	**LR9-F63**
60…100	100	200	F115…F185	**LR9-F5367**	**LR9-F5567**	**LR9-F67**
90…150	160	250	F115…F185	**LR9-F5369**	**LR9-F5569**	**LR9-F69**
132…220	250	315	F185…F400	**LR9-F5371**	**LR9-F5571**	**LR9-F71**
200…330	400	500	F225…F500	**LR9-F7375**	**LR9-F7575**	**LR9-F75**
300…500	500	800	F225…F500	**LR9-F7379**	**LR9-F7579**	**LR9-F79**
380…630	630	800	F400…F630 and F800	**LR9-F7381**	**LR9-F7581**	**LR9-F81**

Short circuit protection for North American applications: circuit breakers selected in accordance with CEC and local codes; fuses selected with maximum of 400% full load current.

Accessories		
Remote control		
Function	Reset	Stop and/or Reset
Reset by flexible cable (length 0.5 m)	**LA7-D305**	
Adapter for door interlock mechanism		**LA7-D1020**
Operating head for pushbutton		
Spring return	**ZA2-BL639**	**ZA2-BL432**
Rod with snap-off end		
Adjustable from 17 to 120 mm	**ZA2-BZ13**	
Insulated terminal blocks		
For relays LR9-F5•57, F5•63, F5•67, F5•69, F57, F63, F67 and F69	Set of 2 blocks	
	LA9-F103	

Electronic protection relays for use with PTC thermistor probes
0…800 A

For use with contactor	LC1-D or LC1-F
Motor current	No limit
Basic reference, to be completed	**LT3-S**

Protection units with automatic reset with thermistor short-circuit detection				
without fault memory				
Connection		Voltage	Output contact	Reference
by cage connectors	∿ 50/60 Hz	115 V	N/C	**LT3-SE00F**
		230 V	N/C	**LT3-SE00M**
	⎓	24 V	N/C	**LT3-SE00F**
On front panel: fault and voltage signalling indicator				
	∿ 50/60 Hz	115/230 V	N/C + N/O	**LT3-SA00M**
	⎓	24/48 V	N/C + N/O	**LT3-SA00ED**
	∿ 50/60 Hz or ⎓	24…230 V	2 C/O	**LT3-SA00MW**
with fault memory				
On front panel: fault and voltage signalling indicator, Test and Reset button				
	∿ 50/60 Hz	400 V	N/C + N/O	**LT3-SM00V**
		24/48 V	N/C + N/O	**LT3-SM00E**
		115/230 V	N/C + N/O	**LT3-SM00M**
	⎓	24/48 V	N/C + N/O	**LT3-SM00ED**
	∿ 50/60 Hz or ⎓	24…230 V	2 C/O	**LT3-SM00MW**

Accessories								
PTC thermistor probes for LT3								
Normal operating temperature (NOT)	90 °C	110 °C	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
Integrated triple probes	**DA1-TT090**	**DA1-TT110**	**DA1-TT120**	**DA1-TT130**	**DA1-TT140**	**DA1-TT150**	**DA1-TT160**	**DA1-TT170**
Normal operating temperature (NOT)	60 °C	70 °C	80 °C	90 °C	100 °C			
Surface probes	**DA1-TS060**	**DA1-TS070**	**DA1-TS080**	**DA1-TS090**	**DA1-TS100**			

Motor management system

Controllers

Type of fieldbus			Ethernet TCP/IP		Modbus	
Supply voltage			24 VDC	100…240 VAC	24 VDC	100…240 VAC
References	Current range	0.4…8 A	**LTMR08EBD**	**LTMR08EFM**	**LTMR08MBD**	**LTMR08MFM**
		1.35…27 A	**LTMR27EBD**	**LTMR27EFM**	**LTMR27MBD**	**LTMR27MFM**
		5…100 A	**LTMR100EBD**	**LTMR100EFM**	**LTMR100MBD**	**LTMR100MFM**

Type of fieldbus			Profibus DP		CANopen		DeviceNet	
Supply voltage			24 VDC	100…240 VAC	24 VDC	100…240 VAC	24 VDC	100…240 VAC
References	Current range	0.4…8 A	**LTMR08PBD**	**LTMR08PFM**	**LTMR08CBD**	**LTMR08CFM**	**LTMR08DBD**	**LTMR08DFM**
		1.35…27 A	**LTMR27PBD**	**LTMR27PFM**	**LTMR27CBD**	**LTMR27CFM**	**LTMR27DBD**	**LTMR27DFM**
		5…100 A	**LTMR100PBD**	**LTMR100PFM**	**LTMR100CBD**	**LTMR100CFM**	**LTMR100DBD**	**LTMR100DFM**

Extension module

Type of module	Extension 4 additional inputs + voltage measuring	
Inputs voltage	24 VDC	100…240 VAC
References	**LTMEV40BD**	**LTMEV40FM**

Control Unit

Type of terminal	Compact display
Supply voltage	24 VDC
References	**LTMCU**

Current transformers

Type of transformer		External			
Operational current	primary	100 A	200 A	400 A	800 A
	secondary	1 A			
References		LT6CT1001	LT6CT2001	LT6CT4001	LT6CT8001

Earth fault toroids

Type of toroid	Closed						Split	
Maximum current	65 A	85 A	160 A	250 A	400 A	630 A	85 A	250 A
Internal diameter	Ø 30	Ø 50	Ø 80	Ø 120	Ø 200	Ø 300	Ø 46	Ø 110
References	50437	50438	50439	50440	50441	50442	50485	50486

PTC thermistor probe

Type of probe	Triple							
Operating temperature	90°C	110°C	120°C	130°C	140°C	150°C	160°C	170°C
References	DA1TT090	DA1TT110	DA1TT120	DA1TT130	DA1TT140	DA1TT150	DA1TT160	DA1TT170

Accessories (1)

Type of accessory	Connecting cable Controller / Extension module		
Length of cable	0.04 m	0.3 m	1 m
References	LTMCC004	LU9R03	LU9R10

Type of accessory	Connecting cable Controller / Display			Connection kit PC serial port
Length of cable	1 m	3 m	5 m	–
References	VW3A1104R10	VW3A1104R30	VW3A1104R50	VW3A8106

(1) For other connection accessories, see www.schneider-electric.ca

TeSys
GV2/GV3

Manual motor starters
0.1 to 30HP

The GV range of products are 3-pole, horsepower rated, CSA22.2 no. 14 and UL 508 listed, manual motor starters. They include a manual disconnect, class 10 ambient-compensated thermal overload relay, and an instantaneous magnetic trip mechanism in one compact unit. Any GV manual starter can be used alone for local manual control of a motor up to 220A.

Manual motor starters GV2ME and GV2P for connection by screw clamp terminals GV2ME with pushbutton control, GV2P control by rotary knob

Horsepower ratings of 3-phase motors 50/60 Hz				Setting range of thermal trips A	Magnetic tripping current A	Catalog Number Group motor or manual starter	
200 V	230 V	460 V	575 V			Pushbutton 600 V max	Rotary Handle 600 V (Type E 480 V max)
-	-	-	-	0.1-0.16	1.5	GV2ME01	GV2P01
-	-	-	-	0.16-0.25	2.4	GV2ME02	GV2P02
-	-	-	-	0.25-0.40	5	GV2ME03	GV2P03
-	-	-	-	0.40-0.63	8	GV2ME04	GV2P04
-	-	-	0.5	0.63-1	13	GV2ME05	GV2P05
-	-	0.75	0.75	1-1.6	22.5	GV2ME06	GV2P06
0.5	0.5	1	1.5	1.6-2.5	33.5	GV2ME07	GV2P07
0.75	0.75	2	3	2.5-4	51	GV2ME08	GV2P08
1	1.5	3	5	4-6.3	78	GV2ME10	GV2P10
2	3	5	7.5	3-10	138	GV2ME14	GV2P14
3	3	10	10	9-14	170	GV2ME16	GV2P16
5	5	10	15	13-18	223	GV2ME20	GV2P20
5	7.5	15	20	17-23	327	GV2ME21	GV2P21
7.5	7.5	15	20	20-25	327	GV2ME22	GV2P22
7.5	10	20	25	24-32	416	GV2ME32	GV2P32 (group motor installation only)

For common add on blocks and accessories for GV2/GV3 please see page 19.

The GV range may be used in group motor installations per CEC and NEC. Group motor applications do not require Type E devices but Type E devices can be used in Group applications if desired.

Manual motor starters
1 to 50HP
with EverLink terminal blocks

Thermal-magnetic circuit-breakers GV3-P for connection by EverLink terminal blocks (2)
Control by rotary knob

Horsepower ratings of 3-phase motors 50/60 Hz						Setting range	Catalog Number
1ph		3ph				Thermal trips (A)	Type E
115V	230V	200V	230V	460V	575V		600V max
1	2	3	3	7.5	10	9...13	GV3P13
1	3	5	5	10	15	12...18	GV3P18
2	3	7.5	7.5	15	20	17...25	GV3P25
2	5	10	10	20	30	23...32	GV3P32
3	5	10	10	30	30	30...40	GV3P40
3	7.5	15	15	40	40	37...50	GV3P50
5	10	20	20	50	50	48...65	GV3P65

(2) BTR screw of 4 mm

GV3 add-on blocks and accessories

Add-on blocks (front)	Fault signalling contact + instantaneous auxiliary contact	
Contact type	N/O (fault) + N/C	N/O (fault) + N/O
Catalog number	**GV-AED011**	**GV-AED101**

Accessories						
Type	for contactor for lug type terminals	IP20 cover for lug type terminals	Set of 3-pole 115 A busbars	2-pole busbars	"Wide spacing" UL 508 type E cover	Side by side mounting busbars
Catalog number	**LAD96575**	**LAD96570**	**GV3G364**	**GV36264**	**GV3G66**	**GV3S**

(3) Common add-on blocks and accessories GV2 / GV3, see page 19

(4) For spring terminal version add **3** to the end of the reference. Example **GV-AED011** becomes **GV-AED0113**

Circuit-breakers
Accessories



Accessories GV2						
Combination block						
For mounting on		LC1-K or LP1-K	LC1-D09…D38	LAD-31 and LC1-D09…D38		
		GV2-AF01	**GV2-AF3**	**GV2-AF4**		
Sets of 3-pole busbars						
63 A	Pitch	45 mm	54 mm	72 mm		
Number of tap-offs	2	**GV2-G245**	**GV2-G254**	**GV2-G272**		
	3	**GV2-G345**	**GV2-G354**			
	4	**GV2-G445**	**GV2-G454**	**GV2-G472**		
	5		**GV2-G554**			
Protective end cover						
For unused busbar outlets		**GV1-G10**				
Terminal blocks						
For supply to one or more GV2-G busbar sets		connection from the top	can be fitted with current limiter GV1-L3 (GV2-ME and GV2-P)			
		GV1-G09	**GV1-G05**			
Padlockable external operator for GV2 and GV3 (150 to 290 mm)						
Padlocking		In “On” and “Off” position	In “Off” position			
Handle		black	red			
Legend plate		blue	yellow			
IP 54	For GV2-ME/P/L	**GV2-AP01**	**GV2-AP02**			
	For GV3-P	**GV3-AP01**	**GV3-AP02**			
TeSys rotating handles for		**GV2-P**	**GV3-P**			
Kit IP54 black handle		**GV2APN01**	**GV3APN01**			
IP54 kid red/yellow handle		**GV2APN02**	**GV3APN02**			
IP65 kit red/yellow handle		**GV2APN04**	**GV3APN04**			
Line Insulator						
	For GV2-P Type UL508E (not required by CSA)	**GV2-GH7**				
	For GV3-P Type UL508E (not required by CSA)	**GV3-G66**				
Add-on blocks common to GV2 / GV3						
Contact blocks						
Contact types		N/O or N/C	N/O + N/C	N/O + N/O	(fault) + N/C	(fault) + N/O	C/O common point
Instantaneous auxiliary contacts							
Mounting	front	**GV-AE1**	**GV-AE11**	**GV-AE20**			
	LH side		**GV-AN11**	**GV-AN20**			
Fault signalling contact + instantaneous auxiliary contact							
	LH side “F” fault				**GV-AD1001**	**GV-AD1010**	
	“O” fault				**GV-AD0101**	**GV-AD0110**	
Short-circuit signalling contact							
	LH side						**GV-AM11**
Electric trips							
Undervoltage or shunt trips (Replace • in catalog number with "S" for Shunt trip or "U" for Undervoltage trip)							
Side mounting (1 block on RH side of circuit-breaker)		50 Hz			60 Hz		
Voltage	24 V	**GV-A•025**			**GV-A•026**		
	110…115 V	**GV-A•115**			**GV-A•116**		
	120…127 V	**GV-A 125**					
	200…220 V				**GV-A•207**		
	220…240 V	**GV-A•225**			**GV-A•226**		
	380…400 V	**GV-A•385**			**GV-A•386**		
	480 V				**GV-A•415**		
	600 V				**GV-A•505**		
Padlocking device							
For use with up to 4 padlocks (padlocks not supplied) Ø 6 mm shank max		**GV2-V03**					

Manual motor starters
5 to 200 HP

Manual motor starters GV7R for connection by screw clamp terminals
Control by rocker lever

Horsepower ratings of 3-phase motors 50/60 Hz			Setting range of thermal trips	Catalog Number	
230 V	460V	575 V	A	25-35KA	65KA
5	10	15	12–20	**GV7RE20**	**GV7RS20**
7.5	15	20	15–25	**GV7RE25**	**GV7RS25**
10	30	30	25–40	**GV7RE40**	**GV7RS40**
15	30	40	30–50	**GV7RE50**	**GV7RS50**
30	60	75	48–80	**GV7RE80**	**GV7RS80**
30	75	100	60–100	**GV7RE100**	**GV7RS100**
50	100	150	90–150	**GV7RE150**	**GV7RS150**
75	150	200	132–220	**GV7RE220**	**GV7RS220**

Add-on blocks
Contact blocks

Auxiliary contacts						
Contact type		C/O				
		GV7AE11				
Thermal or magnetic fault discrimination						
		24–48 V or 24–72 V		110–240 V		
		GV7AD111		**GV7AD112**		
Electric trips						
Voltage	50/60 Hz	48 V	110–130 V	200–240 V	380–440 V	
	50 Hz					525 V
Undervoltage trip (1)		**GV7AU055**	**GV7AU107**	**GV7AU207**	**GV7AU387**	**GV7AU525**
Shunt trip (1)		**GV7AS055**	**GV7AS107**	**GV7AS207**	**GV7AS387**	**GV7AS525**

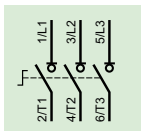
(1) For mounting of a GV7AD or a GV7AU or AS

Accessories

Terminal shields IP 405				
Supplied with the sealing accessory		**GV7AC01**		
Phase barriers				
Safety accessories		**GV7AC04**		
used when fitting of shields is impossible				
Insulating screens				
Ensure insulation between		**GV7AC05**		
the connections and the backplate				
Kit for combination with contactor				
Allowing link between the circuit-breaker and the contactor		LC1F115 to F185	LC1F225 and F26	LC1D115 and D150
		GV7AC06	**GV7AC07**	**GV7AC08**
Rotary handles				
Handle		black		red
Legend plate		black		yellow
■ **direct**	IP 40	**GV7AP03**		**GV7AP04**
■ **extended**	IP 55	**GV7AP01**		**GV7AP02**
Conversion accessory				
for mounting on enclosure door	IP 43	**GV7AP05**		
Locking device				
For circuit-breaker not fitted with a rotary handle		**GV7V01**		

Vario — Protection Components 12...175A

Motor disconnect switches



Varlo Switch Kits

Type				Door Mount				Rear Mount with Extension Shaft		Switch & Handle DIN Rail mount
Color				red/yellow	red/yellow	black/grey	black/grey	red/yellow	red/yellow	red/yellow
Front plate dimensions (mm)				60 x 60	90 x 90	60 x 60	90 x 90	90 x 90	60 x 60	–
Mounting				1 Hole	4 Hole	1 Hole	4 Hole	4 Hole	1 Hole	DIN Rail
Degree of protection				IP20	IP20	IP20	IP20	IP20	IP20	–
Amps		1 Phase, HP rating		3 Phase, HP rating						
UL/ CSA	IEC	120V	200V	208V	240V	480V	600V			
10	12	1	2	2	2	5	5	VCD02	VCF02	VBD02	VBF02	VCCF02	VCCD02	–
16	20	1.5	3	3	3	7.5	7.5	VCD01	VCF01	VBD01	VBF01	VCCF01	VCCD01	–
20	25	2	3	5	5	10	10	VCD0	VCF0	VBD0	VBF0	VCCF0	VCCD0	VVE0
20	32	2	3	5	5	10	10	VCD1	VCF1	VBD1	VBF1	VCCF1	VCCD1	VVE1
25	40	2	3	5	5	10	15	VCD2	VCF2	VBD2	VBF2	VCCF2	VCCD2	VVE2
45	63	5	7.5	7.5	10	20	30		VCF3		VBF3	VCCF3		VVE3
63	80	7.5	10	10	15	30	40		VCF4		VBF4	VCCF4		VVE4
100	125	15	20	20	25	50	50		VCF5		VBF5	VCCF5		
110	175	15	25	25	30	50	60		VCF6		VBF6	VCCF6		

Enclosed Varlo Switch

Amps		1 Phase, HP rating		3 Phase, HP rating				Non Metallic	Metallic		
UL/ CSA	IEC	120V	200V	208V	240V	480V	600V	Type 1/ 12	Type 1	Type 12	Type 4 / 4X (indoor use only)
20	32	2	3	5	5	10	10	VC1GU	9421V1G30	9421V1A30	9421V1W30
25	40	2	3	5	5	10	15	VC2GU	9421V2G30	9421V2A30	9421V2W30
45	63	5	7.5	7.5	10	20	30	VC3GU			
63	80	7.5	10	10	15	30	40	VC4GU			
100	125	15	20	20	25	50	50	VC5GU			
110	175	15	25	25	30	50	60	VC6GU			

Varlo Switch

Amps		1 Phase, HP rating		3 Phase, HP rating				Shaft Size	3 Pole	Add-On Power Pole
UL/ CSA	IEC	120V	200V	208V	240V	480V	600V			
10	12	1	2	2	2	5	5	6mm	V02	VZ02
16	20	1.5	3	3	3	7.5	7.5	6mm	V01	VZ01
20	25	2	3	5	5	10	10	6mm	V0	VZ0
20	32	2	3	5	5	10	10	6mm	V1	VZ1
25	40	2	3	5	5	10	15	6mm	V2	VZ2
45	63	5	7.5	7.5	10	20	30	6mm	V3	VZ3
63	80	7.5	10	10	15	30	40	6mm	V4	VZ4
100	125	15	20	20	25	50	50	6mm	V5	–
110	175	15	25	25	30	50	60	6mm	V6	–

Varlo Switch Accessories

Auxilliary Contacts (10A)

1 N.O. / 1 N.C. (early make, late break0	VZ7
2 N.O.	VZ20

Handle

Mounting		Single Hole				Four Hole					
Color		red yellow		black/grey		red/yellow			black/grey		
Front Plate Dimensions (mm)		45x45 mm	60x60 mm	45x45mm	60x60mm	45x45mm	60x60mm	90x90mm	45x45mm	60x60mm	90x90mm
Padlockable for base switch	V02 to V2	KCC1YZ	KCD1PZ		KAD1PZ	KCE1YZ	KCF1PZ			KAF1PZ	
	V3 to V4						KCF2PZ			KAF2PZ	
	V5 to V6							KCF3PZ			KAF3PZ
Non-Padlockable for base switch	V02 to V2	KCC1LZ	KDD1PZ	KAC1BZ	KBD1PZ	KCE1LZ	KDF1PZ		KAE1BZ	KBF1PZ	
	V3 to V4						KDF2PZ			KBF2PZ	
	V5 to V6							KDF3PZ			KBF3PZ

Shaft Kits & Plates

Base Switch	Maximum Panel Depth	Shaft Kit	Door Interlock Plate	Door Mounting Plate
V02 to V2	330mm	VZ17	KZ32	KZ83
	429mm	VZ30	KZ32	KZ83
V03 to V4	320mm	VZ18	KZ74	KZ81
	419mm	VZ30	KZ74	KZ81
V05 to V6	351mm	VZ18	KZ74	KZ81
	450mm	VZ31	KZ74	KZ81

TeSys DF — Fuse carriers
0.5…125 A

Type			Fuse carriers without indicator			
Rated operational voltage (Ui)			600 V (UL & CSA)	690 V (cURus certified component)		
Fuse size			Class CC	10 x 38 mm	14 x 51 mm	22 x 58 mm
Conventional rated thermal current (ith)			30 A	32 A	50 A	125 A
Catalog number	Number of poles	1P	DFCC1	DF101	DF141	DF221
		N	–	DF10N	DF14N	DF22N
		1P+N	–	DF101N	DF141N	DF221N
		2P	DFCC2	DF102	DF142	DF222
		3P	DFCC3	DF103	DF143C	DF223C
		3P+N	–	DF103N	DF143NC	DF223NC

Type			Fuse carriers with indicator			
Rated operational voltage (Ui)			600 V (UL & CSA)	690 V (cURus certified component)		
Fuse size			Class CC	10 x 38 mm	14 x 51 mm	22 x 58 mm
Conventional rated thermal current (ith)			30 A	32 A	50 A	125 A
References	Number of poles	1P	DFCC1V	DF101V	DF141V	DF221V
		1P+N	–	DF101NV	DF141NV	DF221NV
		2P	DFCC2V	DF102V	DF142V	DF222V
		3P	DFCC3V	DF103V	DF143CV	DF223CV
		3P+N	–	DF103NV	DF143NCV	DF223NCV

Accessories

Type	Auxiliary early break and blown fuse signalling contacts			
Fuse carrier to be equipped	DF14 (not UL or CSA)		DF22 (not UL or CSA)	
Size of cartridge fuse or link	14 x 51 mm		22 x 58 mm	
Number of contacts	1	2	1	2
References	DF14AM1	DF14AM2	DF22AM1	DF22AM2

Type	Fuse carrier assembly kits				
Fuse carrier to be assembled	DFCC	DF8	DF10	DF14	DF22
Size of cartridge fuse or link	Class CC	8,5 x 31,5 mm	10 x 38 mm	14 x 51 mm	22 x 58 mm
Kit contents	1 pin, 2 clips			1 pin, 3 clips	
References	DF10AP			DF14AP	DF22AP

Fuse carriers
0…32 A

Fuse Carriers				
Rated operational voltage with links, a.c. supply		600 V	690 V	690 V
Maximum continuous current for ambient temperature ≤ 40° C				
with CC or KTK-R (wire gauge/A)		2 - #8 AWG/30A max		
with links (mm^2/A)			4/25A or 2.5/16A	6/32A or 4/25A or 2.5/16A
with aM fuses (mm^2/A)			4/22A or 2.5/20A	6/32A or 4/22A or 2.5/20A
with gG fuses (mm^2/A)			2.5/20A or 1.5/16A	6/32A or 2.5/20A or 1.5/16A
Conforming to standards	CSA/UL	●		
	NF EN 60947-3		●	●
	IEC 947-3		●	●
Product certifications			**BV UR**	**BV UR**
Fuse carrier type		**LS1D30**	**LS1D323**	**LS1D32**

Basic blocks connection			
Rating	30A	25A	32A
Cartridge fuse size	Type CC or KTK-R	10 x 38	10 x 38
Screw clamp connection			
3-pole	LS1D30		LS1-D32
4-pole			LS1-D32+LA8-D324
Spring terminal connection			
3-pole	LS1D303	LS1D323	

Add-on blocks Contact blocks						
For use on	LS1D30		LS1D32		LS1D323	
Contact type	N/O+N/C	N/O+N/O	N/O+N/C	N/O+N/O	N/O+N/C	N/O+N/O
Instantaneous auxiliary contacts						
Front mounting	GVAE11	GVAE20	GVAE11	GVAE20	GVAE113	GVAE203

Fusible and non-fused disconnects
30... 1200A

GS1/2 Fusible disconnect switch 30-800A				
Catalog Number	GS1DDU3	GS1DU3	GS2GU3N	GS2JU3N
Switch Type	Compact Fused	Compact Fused	Fused	Fused
Fuses	CC	J	J	J
Amps	30	30	60	100
Poles	3	3	3	3
Operator Style	Thru-the-door	Thru-the-door	Thru-the-door	Thru-the-door
Max. HP 3 Phase:				
HP at 240V	7.5	7.5	15	30
HP at 480V	15	15	30	60
HP at 600V	20	20	50	75
Handle				
1,4,4X,12 Black	GS2AH410	GS2AH410	GS2AH410	GS2AH430
1,4,4X,12 Red / Yellow	GS2AH420	GS2AH420	GS2AH420	GS2AH440
Shaft				
320mm	GS2AE8	GS2AE8	GS2AE8	GS2AE2
400mm	GS2AE81	GS2AE81	GS2AE81	GS2AE21
Lugs (6 per kit)				
Catalog Number	Standard	Standard	Standard	Standard

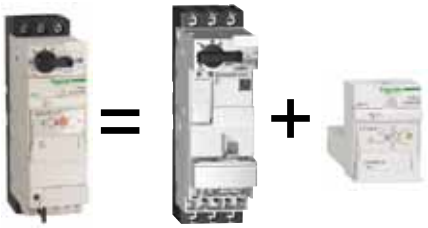
LK4 non-fused disconnect switch 30-1200A					
Catalog Number	LK4DU3CN	LK4GU3CN	LK4JU3N	LK4MU3N	LK4QU3N
Switch Type	Compact Non-fused	Compact Non-fused	Non-fused	Non-fused	Non-fused
Amps	30	60	100	200	400
Poles	3	3	3	3	3
Operator Style	Thru-the-door	Thru-the-door	Thru-the-door	Thru-the-door	Thru-the-door
Max. HP 3 Phase:					
HP at 240V	10	20	30	75	125
HP at 480V	20	40	75	150	250
HP at 600V	30	50	100	200	350
Handle					
1,4,4X,12 Black	LK4AH410CN	LK4AH410CN	GS2AH430	GS2AH430	GS2AH430
1,4,4X,12 Red / Yellow	LK4AH420CN	LK4AH420CN	GS2AH440	GS2AH440	GS2AH440
Shaft					
320mm	LK4AE12CN (1)	LK4AE12CN (1)	GS2AE2	GS2AE2	GS2AE2
400mm			GS2AE21	GS2AE21	GS2AE21
Lugs (6 per kit)					
Catalog Number	Standard	Standard	GS1AW403	GS1AW403	GS1AW503

*Note (1) Shaft Guide for compact Non-fused = LK4AEAH12CN

GS2MU3N	GS2QU3N	GS2SU3	GS2TU3
Fused	Fused	Fused	Fused
J	J	J	L
200	400	600	800
3	3	3	3
Thru-the-door	Thru-the-door	Thru-the-door	Thru-the-door
60	125	200	250
125	250	400	500
150	350	500	500
GS2AH430	GS2AH430	GS2AH150	GS2AH150
GS2AH440	GS2AH440	GS2AH160	GS2AH160
GS2AE2	GS2AE2	GS2AE5	GS2AE5
GS2AE21	GS2AE21	GS2AE51	GS2AE51
GS1AW403	GS1AW503	GS1AW503	GS1AW503

LK4SU3N	LK4TU3N	LK4UU3N	LK4WU3N
Non-fused	Non-fused	Non-fused	Non-fused
600	800	1000	1200
3	3	3	3
Thru-the-door	Thru-the-door	Thru-the-door	Thru-the-door
200	200	200	200
400	500	500	500
350	500	500	500
GS2AH150	GS2AH170	GS2AH170	GS2AH170
GS2AH160	GS2AH180	GS2AH180	GS2AH180
GS2AE6	GS2AE6	GS2AE6	GS2AE6
GS2AE61	GS2AE61	GS2AE61	GS2AE61
GS1AW503	GS1AW903	GS1AW903	GS1AW903

Type E Self Protected Motor Starters
and non combination motor starters



Power base

	Single Phase			Three Phase				Type E self protected combination motor controller (1)	
	120V	240V	200/208V	230/240V	480V	600V	Current rating	Non Reversing	Reversing (2)
Horsepower	1/2	2	3	3	7.5	10	12A	LUB12	LU2B12**
CSA/UL	2	5	10	10	20	25	32A	LUB32	LU2B32**

(1) Current limiter LUALB1 required for 600V type E applications, Phase barrier LU9SP0 required for UL approval

Control units

		Standard (3)	Advanced (3)			Multifunction
Setting Range (A)	Mounts on to	Class 10 three phase	Class 10 three phase	Class 10 single phase	Class 20 three phase	Class 5 – 35 three phase
0.15 – 0.6	12 and 32	LUCA6X**	LUCB6X**	LUCC6X**	LUCD6X**	LUCM6XBL
0.35 – 1.4	12 and 32	LUCA1X**	LUCB1X**	LUCC1X**	LUCD1X**	LUCM1XBL
1.25 – 5	12 and 32	LUCA05**	LUCB05**	LUCC05**	LUCD05**	LUCM05BL
3 – 12	12 and 32	LUCA12**	LUCB12**	LUCC12**	LUCD12**	LUCM12BL
4.5 – 18	32	LUCA18**	LUCB18**	LUCC18**	LUCD18**	LUCM18BL
8 – 32	32	LUCA32**	LUCB32**	LUCC32**	LUCD32**	LUCM32BL

Function characteristics

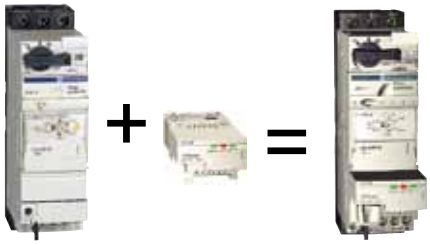
Standard = LUB... + LUCA...	Advanced = LUB... + LUCB/C/D...	Multifunction = LUB... + LUCM...
Thermal overload protection against: • short-circuit, overcurrent, • phase failure or imbalance, • insulation breaks (equipment only). Manual reset following thermal fault.	Thermal overload protection against: • short-circuit, overcurrent, • phase failure or imbalance, • insulation breaks (equipment only). Manual reset following thermal fault. Thermal overload test function.	Thermal overload protection against: • short-circuit, overcurrent, • phase failure or imbalance, • insulation breaks (equipment only). Manual reset following thermal fault. • Thermal overload test function. • Overtorque and no-load running, alarm, • Motor operation log, • Motor parameters display on LUCM.., PC or HMI • Integrated Modbus communication.

(2) Complete the references of the power bases according to the following table.	Example: **LU2B12**	**
(3) Complete the references of the control units according to the following table.	Example: **LUCA/B/D/M6X**	**

Standard control circuit voltages	
24 V DC	BL
24 V AC	B
48 V AC / 48...72 V DC	ES
110...240 V AC / 110...220 V DC	FU

Starter-controller for 3-phase motors

Function modules



Type of optional function	Thermal overload alarm	Thermal fault signalling			Motor load indication
Compatible with LUCA	NO	NO	NO	NO	NO
Compatible with LUCL	NO	NO	NO	NO	NO
Compatible with LUCB, LUCD	YES	YES	YES	YES	YES
Compatible with LUCM	NO	NO	NO	NO	YES
Output signal	1 NO	1 NO +1 NC	1 NC	1 NO	4…20 mA
Reset	NA	Manual	Automatic or remote		NA
References	**LUFW10**	**LUFDH11**	**LUFDA01**	**LUFDA10**	**LUFV2**

Communication modules

Type of communication	Modbus	Advantys STB	Profibus DP	CANopen	DeviceNet	AS-Interface	Parallel wiring
Only compatible with 24 V DC control units LUCA..BL, LUCB..BL, LUCD..BL, LUCM..BL	YES	YES	YES	YES	YES	YES	YES
Transfer speed	19.2 Kbps	Dpg. on NIM (1)	9,6…12 Mbps	20 K…1 Mbps	125…500 Kbaud	167 Kbps	NA
Number of slaves	31 per Modbus master	Dpg. on Network Interface Module	125 per Profibus DP module	128 per CANopen module	63 per DeviceNet module	62 per AS-Interface master	8 per LU9GC02 splitter box
Pre-wired coil connection (A1 A2)	LU9BN11C, LU9MRC	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11C, LU9MRC	LU9Rxx
Connecting cable to PC	VW3 A8 306 R●●	LU9RCD●●, LU9RDD●●	TSXPBSCA●●	TSXCANC●●	DeviceNet standard	XZCG0142	TSXCDP●●●
References	**LUFC033**	**LULC15**	**LULC07**	**LULC08**	**LULC09**	**ASILUFC51**	**LUFC00**

(1) Network Interface Module.

Information carried by the Modbus, Advantys STB or CANopen bus			
Type of control unit	**LUCA●●BL**	**LUCB●●BL, LUCD●●BL**	**LUCM●●BL**
Start and Stop commands	**X**	**X**	**X**
Starter status (ready, running, fault)	**X**	**X**	**X**
Thermal alarm		**X**	**X**
Remote reset via the bus		**X**	**X**
Indication of motor load		**X**	**X**
Signalling and fault differentiation		**X**	**X**
Alarms (overcurrent, …)			**X**
Remote programming and monitoring of all the functions			**X**
“Log” function			**X**
Monitoring function			**X**

Contact blocks

Type of contact block		Add-on		Auxiliary		
Signalling contacts	of any fault	NC (95-96)	NO (97-98)	–	–	–
	position of control handle	NO (17-18)	NO (17-18)	–	–	–
2 auxiliary contacts module		–	–	NO (33-34)	NC (31-32)	NC (31-32)
		–	–	NO (43-44)	NO (43-44)	NC (41-42)
References	Screw clamp terminals	**LUA1C11**	**LUA1C20**	**LUFN20**	**LUFN11**	**LUFN02**
	Without connections	**LUA1C110**	**LUA1C200**	–	–	–

TeSys
LUTM

Controller for 3-phase motors
MULTIFUNCTION protection

Function characteristics	Control base for use with contactors		Multifunction control unit
	TeSys D (LC1D..)	TeSys F (LC1F..)	Class 5 to 35
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipmemt only). - Manual, automatic or remote reset, - Thermal overload test function, - Overtorque and no-load running, alarm, - Motor operation log, - Motor parameters display on LUCM.., PC or HMI, - Integrated Modbus communication.	**LUTM10BL**	**LUTM20BL**	**LUCMT1BL**

ADVANCED protection

Function characteristics	Control base for use with contactors		Advanced control unit	
	TeSys D (LC1D..)	TeSys F (LC1F..)	Class 10	Class 20
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipmemt only). - Manual reset following thermal fault. - Thermal overload test function.	**LUTM10BL**	**LUTM20BL**	**LUCBT1BL**	**LUCDT1BL**

Current transformers

Type of transformer							
Supply voltage		24 V DC					
Operating current	Primary	30 A	50 A	100 A	200 A	400 A	800 A
	Secondary	1 A					
References		**LUTC0301**	**LUTC0501**	**LUTC01001**	**LUTC02001**	**LUTC04001**	**LUTC05001**

Above 32 A, the TeSys U controller provides a motor starter management system solution identical to that provided by the Te**Sys** U starter-controller.

Used in conjunction with a short-circuit protection device and a contactor, it provides a motor starter whose functions are the same as those of a Te**Sys** U starter-controller and, in particular, provides the following functions: overload protection, motor starter control and application monitoring.

It comprises a control unit, whose adjustment range is compatible with the secondary of current transformers, and a control base that also enables the fitting of a function module or communication module.

It requires a 24 V DC external power supply.

Controller for 3-phase motors
Function modules

Type of optional function	Thermal overload alarm	Motor load indication
Compatible with LUCA	NO	NO
Compatible with LUCL	NO	NO
Compatible with LUCB, LUCD	YES	YES
Compatible with LUCM	NO	YES
Output signal	1 NO	4…20 mA
Reset	NA	NA
References	**LUFW10**	**LUFV2**

Communication modules

Type of communication	Modbus	Advantys STB	CANopen	DeviceNet	Parallel wiring
Only compatible with 24 V DC control units LUCA..BL, LUCB..BL, LUCD..BL, LUCM..BL	YES	YES	YES	YES	YES
Transfer speed	19.2 Kbps	Dpg. on NIM (1)	20 K…1 Mbps	125…500 Kbaud	NA
Number of slaves	31 per Modbus master	Dpg. on Network Interface Module	128 per CANopen module	63 per DeviceNet module	8 per LU9GC02 splitter box
Pre-wired coil connection (A1 A2)	LU9BN11C, LU9MRC	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9Rxx
Connecting cable to PC	VW3 A8 306 R●● LU9RDD●●	LU9RCD●●,	TSXCANC●●	DeviceNet standard	TSXCDP●●●
References	**LUFC033**	**LULC15**	**LULC08**	**LULC09**	**LUFC00**

Information carried by the Modbus, Advantys STB or CANopen bus		
Type of control unit	**LUCBT1BL, LUCDT1BL**	**LUCMT1BL**
Start and Stop commands	**X**	**X**
Starter status (ready, running, fault)	**X**	**X**
Thermal alarm	**X**	**X**
Remote reset via the bus	**X**	**X**
Indication of motor load	**X**	**X**
Signalling and fault differentiation	**X**	**X**
Alarms (overcurrent, …)		**X**
Remote programming and monitoring of all the functions		**X**
“Log” function		**X**
Monitoring function		**X**

Enclosed Motor Starters
0.5... 250 HP

Non Reversing

208V	230V	460V	575V	Non Combination		Combination Fusible		Combination Circuit Breaker	
Hp	Hp	Hp	Hp	Type 1	Type 12	Type 1	Type 12	Type 1	Type 12
2	2	5	7.5	LE1D093A62OG70	LE1D093A72OG70	LE1D098B62OG70	LE1D098B72OG70	LE1D099E62OG70	LE1D099E72OG70
3	3	7.5	10	LE1D123A62OG70	LE1D123A72OG70	LE1D128B62OG70	LE1D128B72OG70	LE1D129E62OG70	LE1D129E72OG70
5	5	10	15	LE1D183A62OG70	LE1D183A72OG70	LE1D188B62OG70	LE1D188B72OG70	LE1D189E62OG70	LE1D189E72OG70
7.5	7.5	15	20	LE1D253A62OG70	LE1D253A72OG70	LE1D258C62OG70	LE1D258C72OG70	LE1D259E62OG70	LE1D259E72OG70
10	10	20	25	LE1D323A62OG70	LE1D323A72OG70	LE1D328C62OG70	LE1D328C72OG70	LE1D329F62OG70	LE1D329F72OG70
10	10	30	30	LE1D403A62OG70	LE1D403A72OG70	LE1D408C62OG70	LE1D408C72OG70	LE1D409F62OG70	LE1D409F72OG70
10	15	40	40	LE1D503A62OG70	LE1D503A72OG70	LE1D508D62OG70	LE1D508D72OG70	LE1D509G62OG70	LE1D509G72OG70
20	20	40	50	LE1D653A62OG70	LE1D653A72OG70	LE1D658D62OG70	LE1D658D72OG70	LE1D659G62OG70	LE1D659G72OG70
25	30	60	60	LE1D803A62OG70	LE1D803A72OG70	LE1D808D62OG70	LE1D808D72OG70	LE1D809G62OG70	LE1D809G72OG70
30	40	75	75	LE1D113A62OG70	LE1D113A72OG70	LE1D118E62OG70	LE1D118E72OG70	LE1D119J62OG70	LE1D119J72OG70
40	50	100	100	LE1D153A62OG70	LE1D153A72OG70	LE1D158E62OG70	LE1D158E72OG70	LE1D159J62OG70	LE1D159J72OG70
50	60	125	125	LE1F183A62OG70	LE1F183A72OG70	LE1F188E62OG70	LE1F188E72OG70	LE1F189J62OG70	LE1F189J72OG70
60	75	150	150	LE1F263A62OG70	LE1F263A72OG70	LE1F268F62OG70	LE1F268F72OG70	LE1F269J62OG70	LE1F269J72OG70
75	100	200	200	LE1F333A62OG70	LE1F333A72OG70	LE1F338F62OG70	LE1F338F72OG70	LE1F339K62OG70	LE1F339K72OG70
100	125	250	250	LE1F403A62OG70	LE1F403A72OG70	LE1F408F62OG70	LE1F408F72OG70	LE1F409K62OG70	LE1F409K72OG70

Reversing

208V	230V	460V	575V	Non Combination		Combination Fusible		Combination Circuit Breaker	
Hp	Hp	Hp	Hp	Type 1	Type 12	Type 1	Type 12	Type 1	Type 12
2	2	5	7.5	LE2D093A62OG70	LE2D093A72OG70	LE2D098B62OG70	LE2D098B72OG70	LE2D099E62OG70	LE2D099E72OG70
3	3	7.5	10	LE2D123A62OG70	LE2D123A72OG70	LE2D128B62OG70	LE2D128B72OG70	LE2D129E62OG70	LE2D129E72OG70
5	5	10	15	LE2D183A62OG70	LE2D183A72OG70	LE2D188B62OG70	LE2D188B72OG70	LE2D189E62OG70	LE2D189E72OG70
7.5	7.5	15	20	LE2D253A62OG70	LE2D253A72OG70	LE2D258C62OG70	LE2D258C72OG70	LE2D259E62OG70	LE2D259E72OG70
10	10	20	25	LE2D323A62OG70	LE2D323A72OG70	LE2D328C62OG70	LE2D328C72OG70	LE2D329F62OG70	LE2D329F72OG70
10	10	30	30	LE2D403A62OG70	LE2D403A72OG70	LE2D408C62OG70	LE2D408C72OG70	LE2D409F62OG70	LE2D409F72OG70
10	15	40	40	LE2D503A62OG70	LE2D503A72OG70	LE2D508D62OG70	LE2D508D72OG70	LE2D509G62OG70	LE2D509G72OG70
20	20	40	50	LE2D653A62OG70	LE2D653A72OG70	LE2D658D62OG70	LE2D658D72OG70	LE2D659G62OG70	LE2D659G72OG70

1 Phase - Non Reversing

120V	240V	Non Combination	
Hp	Hp	Type 1	Type 12
0.3	1	LESD093A62OG70	LESD093A72OG70
0.5	2	LESD123A62OG70	LESD123A72OG70
1	3	LESD183A62OG70	LESD183A72OG70
2	3	LESD253A62OG70	LESD253A72OG70
2	5	LESD323A62OG70	LESD323A72OG70
3	5	LESD403A62OG70	LESD403A72OG70
3	7.5	LESD503A62OG70	LESD503A72OG70
5	10	LESD653A62OG70	LESD653A72OG70
7.5	15	LESD803A62OG70	LESD803A72OG70

Note: All starters listed are complete with 120VAC coils. For other control voltages, please consult your local Schneider Electric distributor.

Note: Overload relay must be ordered separately. Please consult you local Schneider Electric distributor for assistance.

Field Installable Operators	Description	Nameplate	Catalog Number
One Operator	Push button (double touch)	I-O	**LA9CA06IO**
	2 Position Selector Switch	OFF-ON	**LA9CA06DT**
	3 Position Selector Switch	HAND-OFF-AUTO	**LA9CA06ET**
	Pilot Light Full Voltage	POWER ON	**LA9CA06ST**
	Pilot Light Transformer	POWER ON	**LA9CA06FT***
	Pilot Light LED	POWER ON	**LA9CA16ST***
Two Operators	2 Push Buttons	START/STOP	**LA9CA06GT**
	2 Position Selector Switch + Full Voltage Pilot	OFF-ON/POWER ON	**LA9CA06WT**
	2 Position Selector Switch + Transformer Pilot	OFF-ON/POWER ON	**LA9CA06HT***
	2 Position Selector Switch + LED Pilot	OFF-ON/POWER ON	**LA9CA06WT***
	3 Position Selector Switch + Full Voltage Pilot	HAND-OFF-AUTO/POWER ON	**LA9CA06UT**
	3 Position Selector Switch + Transformer Pilot	HAND-OFF-AUTO/POWER ON	**LA9CA06JT***
	3 Position Selector Switch + LED Pilot	HAND-OFF-AUTO/POWER ON	**LA9CA16UT***
Three Operators	3 Push buttons	FORWARD/REVERSE/STOP	**LA9CA06LT**
	2 Push buttons + LED Pilot	START/STOP/POWER ON	**LA9CA06VT***
	2 Pos. Selector Switch + 2 Transformer Pilots (480 or 600 V)	OFF-ON/RUN/TRIP	**LA9CA06PT***
	2 Pos. Selector Switch + 2 LED Pilots (24, 120, or 240 V)	OFF-ON/RUN/TRIP	**LA9CA06PT***
	3 Pos. Selector Switch + 2 Transformer Pilots (480 or 600 V)	HAND-OFF-AUTO/RUN/TRIP	**LA9CA06QT***
	3 Pos. Selector Switch + 2 LED Pilots (24, 120, or 240 V)	HAND-OFF-AUTO/RUN/TRIP	**LA9CA06QT***

*Add the appropriate suffix to the catalogue number

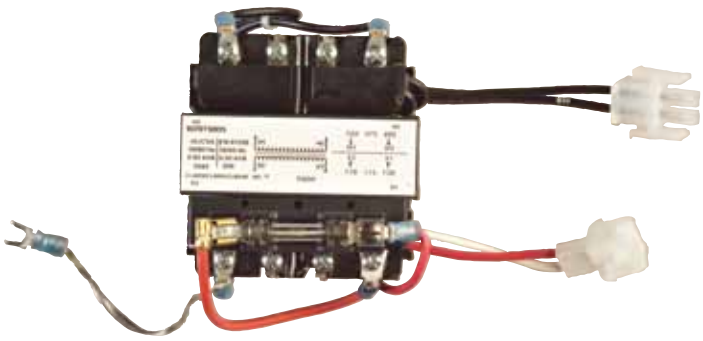
(volts)	24V	120V	208/240V	480V	600V
Code	B	G	M	T	X

Note LED type are only available for voltage codes: B,G &M. Above catalogue numbers specify green pilot lights as standard. Dual pilot lights are green and amber. For other colours please consult the catalogue.

Adapter for local + Remote Control Description	Catalog number
3 wire adaptor	LA9AADIS3
4 wire adaptor	LA9AADIS4
5 wire adaptor	LA9AADIS5

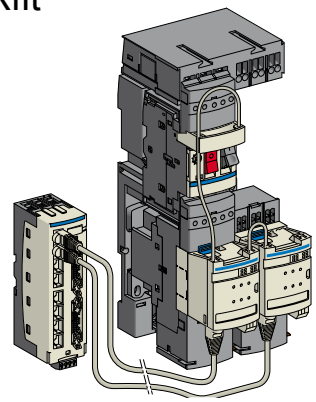
Control circuit transformer					
VA Rating	**For LE1 starters**		**Catalogue**		
50VA	D09-D32		LA9TFD32*		
100VA	D40-D80		LA9TFD80*		
	Primary				
Voltage	600V	480V	240V	208V	120V
Secondary 120V	X	T	M	L	-
24V	A	B	C	D	E

Replace * with Suffix from above table



Installation system

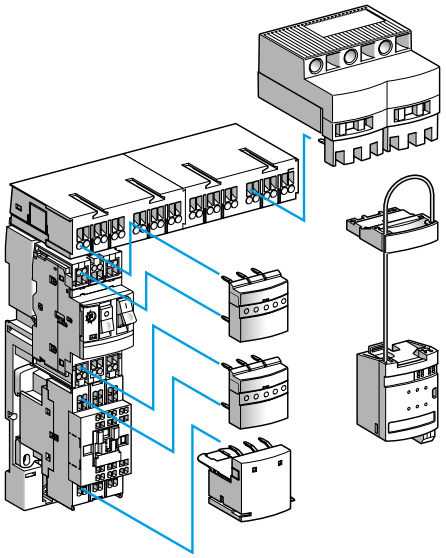
Presentation



Te**Sys** Quickfit is a modular system which standardises and simplifies the implementation of motor starters with its pre-wired control and power circuits.
Installation of a motor starter becomes quick, simple, safe and flexible.
In addition, this system:
■ enables the motor starter to be customised at a later date,
■ reduces maintenance time and
■ optimises panel space by reducing the number of terminals and intermediate interfaces and the amount of ducting.

The motor starters concerned are those created by combining:
– GV2 ME or GV3 P circuit-breakers, with an operating limit of 80% of the maximum current at an ambient temperature of 60 °C, up to 690 V
– with 9 to 65 A TeSys D (LC1) contactors.

This offer comprises components for pre-wiring
■ the power part,
■ the control part.



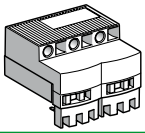
Components for pre-wiring the power part

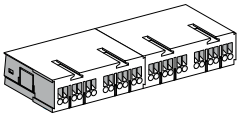
■ **a power kit** comprising, for each starter, a plate for mounting the contactor and the circuit-breaker, and two power connection modules,
■ **a power splitter box** for 2 or 4 starters,
■ **an upstream terminal block** for a power supply up to 60 A (16 mm²),
■ **a downstream terminal block** for connecting the motor power supply cables and the earth cables (6 mm²).

Components for pre-wiring the control part

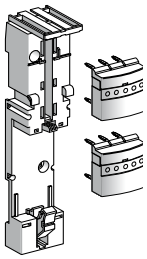
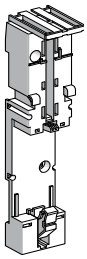
■ **a control circuit connection module** that mounts directly on the contactor and the circuit-breaker of each starter. This module integrates the status and control information of this particular motor starter.
■ **a parallel wiring module** enabling grouping of the information relating to each motor starter:
□ **HE 10,** intended for centralised applications. The information is transmitted to the PLC via the Advantys Telefast pre-wired system.
□ **STB,** intended for decentralised automation architectures. This module is integrated in an Advantys STB configuration for connection to the PLC via a fieldbus.

9…25 A power pre-wiring components





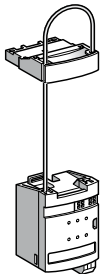
Type	Terminal block		60 A power splitter box	
	Upstream	Downstream	Extension by LAD32●	
Maximum c.s.a. of connection	16 mm²	6 mm²	–	–
Use	Splitter boxes supply	Motor cables	–	–
Number of starters	–	–	2	4
Reference	**LAD3B1**	**LAD331**	**LAD322**	**LAD324**


Type	Connection kit	Mounting plate for	Power connection module
	For D.O.L. starter (1)	GV2 ME & contactor	
Composition	1 mounting plate LAD311 for GV2ME 2 power connection modules LAD341	For 1 motor starter	
Reference	**LAD252**	**LAD311**	**LAD341**

(1) For a reversing starter order 2 connection kits **LAD252**

Control-command pre-wiring components



Type	Connection module			
TeSys D coil voltage	12…250 V AC or 5…130 V DC		24 V DC	
Type of coil control relay	Electronic		Without relay	
Type of motor starter	Direct	Reversing	Direct	Reversing
Reference	**LAD9AP31**	**LAD9AP32**	**LAD9AP3D1**	**LAD9AP3D2**

Type	24 V DC parallel wiring module	
	Splitter box	Advantys STB parallel interface module
PLC/motor starter side connectors	2 x HE10/8 x RJ45	–/4 x RJ45
Reference	**LU9G02**	**STBEPI2145**

Accessories

Type		Connecting cables (1)	From splitter box LU9G02 to the PLC		
Connectors		2 x RJ45	2 HE10		Bare wires and HE10
Gauge / c.s.a.		–	22 / 0.324 mm^2	28 / 0.080 mm^2	22 / 0.324 mm^2
Reference	L = 0.3 m	**LU9R03**	–	–	–
	0.5 m	–	**TSXCDP053**	–	–
	1 m	**LU9R10**	**TSXCDP103**	**ABFH20H100**	–
	2 m	–	**TSXCDP203**	**ABFH20H200**	–
	3 m	**LU9R30**	**TSXCDP303**	**ABFH20H300**	**TSXCDP301**
	5 m	–	**TSXCDP503**	–	**TSXCDP301**

(1) From connection module LAD9AP3● to splitter box LU9G02 or module STBEPI2145

Type	Connectors		Connecting cable
	Spring terminals	Self-stripping	
Use	External contact, auxiliary power supply		Between communication module APP1C● and splitter box LU9GG02
Reference	**APE1PRE21**	**APE1PAD21**	**APP2AH40H060**

Standard TeSys products can be used for elevator and safety applications when applied as followings:

Elevator approvals per CSA22.2 / CSA B44.1 / ASME 17.5
File LR43364

Single Phase	Three Phase					
240V	200/208V	230/240V	480V	600V	TeSys Series	Previous Generation
1.5	2	3	7.5	7.5	LC1D12	LC1DFD**
3	5	7.5	15	20	LC1D25	LC1DLD**
5	10	-	-	-	LC1D32	
7.5	-	15	25	30	LC1D50	LC1DRD**
10	-	20	40	50	LC1D65	LC1DTD**
15	-	25	50	50	LC1D80	LC1DWD**
15	-	30	60	50	LC1D150	
20	30	30	75	75	LC1F185	LC1FGD3
-	40	40	-	-	LC1F265	
-	50	50	-	-	LC1F330	
-	60	60	-	-	LC1F400	
-	75	75	-	-	LC1F500	
-	100	100	-	-	LC1F630	

Contactors in Safety Circuits





Contactors are an integral part of safety applications. Schneider Electric offers a wide variety of contactors which are suitable for use in safety applications due to mechanically linked power contacts and mirror contacts.

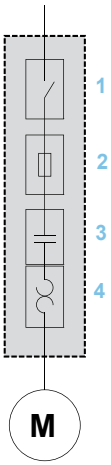
A number of standards have been published in recent years that use the concept of functional safety. Examples include IEC 61508, IEC 62061, IEC 61511, ISO 13849-1, and IEC 61800-5-2 which have all been adopted in Europe and published as ENs. Functional safety is a relatively recent concept that replaces the old `Categories' of behavior under fault conditions that were defined in EN 954-1, and were often mistakenly described as `Safety Categories'.

Now that EN 954-1 is withdrawn, the available alternatives are EN 62061 and EN ISO 13849-1. The performance of each safety function is specified as either a SIL (Safety Integrity Level) in the case of EN 62061 or PL (Performance Level) in the case of EN ISO 13849-1. In both cases the architecture of the control circuit which delivers the safety function is a factor, but unlike EN 954-1 these new standards require consideration of the reliability of the selected components.

In the past there has been a tendency for components specified to a high category of EN 954-1 to be chosen instead of components that have a lower category, but might actually have more suitable functions. This might be as a result of the misconception that the categories are hierarchical such that for example, category 3 is always “better” than category 2 and so on. Functional safety standards are intended to encourage designers to focus more on the functions that are necessary to reduce each individual risk, and what performance is required for each function, rather than simply relying on particular components.

For more information on Functional Safety, please visit our web site at:
www.schneider-electric.ca under: Solutions > Machines for OEMs > Machine control solutions

Combination Starters – Type E & Type F



1 Motor disconnect (disconnect switch)
2 Motor Branch Circuit Protection (short circuit protection)
3 Motor controller (contactor)
4 Motor Overload Protection (thermal overload relay)

Combination Starters are the most common type of packaged motor starter. They are called 'Combination' because of their structure and their combined functions. The figure opposite shows the four combined functions that constitute a complete motor starter circuit, defined as a "Motor branch circuit" by the CEC and NEC. CSA 22.2 no 14 and UL508 currently give different types of combination starter that meet the requirements of a «Motor branch circuit».

Type E, called **"self-protected combination starter"**, covers all these functions and can be controlled manually (thermal-magnetic circuit-breaker) or remotely (starter-controller). Type E starters withstand faults within their declared nominal rating without sustaining damage, after which they can be put back into service. In addition, they can withstand more severe short-circuit and durability performance tests without welding or excessive wear of the contact tips.

Type F, called **"Combination motor starter"**, consists of a type E manual starter (thermal-magnetic circuit-breaker) combined with a contactor. These starters are evaluated by means of basic short-circuit tests, but are not considered as "self-protected". For this combination, the type E starter must be marked "Combination Motor Controller when used with ...", followed by the reference of the load side contactor.

At present, CSA does not recognize Type F combinations. Manual starters used with contactors can be used in Group Protection as described below.

UL508A & Control Panels

To help users properly coordinate their motor control equipment with their distribution system in the event of a fault, article 409 of the 2005 NEC requires panel builders to list the short-circuit withstand rating of their motor control panels. According to standard UL508A, manufacturers must use the short-circuit withstand value of the lowest rated device as the nominal withstand rating of the panel, unless the devices have been tested together for a higher coordinated rating. The minimum **"short-circuit current rating"** (SCCR), on motor control components for horsepower ratings of 50 hp or below is 5000 A. Using a **type E or type F** combination starter eliminates the coordination problems of using individual components for the "motor branch circuit protection", "motor controller" and "motor overload protection" functions. The panel builder uses the declared short-circuit current rating for the combination starter. This value is generally higher than 5000 A. This makes it easier to list the short-circuit current ratings and to check the compatibility of a UL508A motor control panel within a given distribution system.

Group Protection

Both the CEC and NEC allow a single short-circuit protection device to be used for more than one motor circuit if the components used are marked and listed for such use. Components suitable for use in group protection, known as **"motor group installations"**, can be marked in one of the following two ways:

Case n° 1
The contactor and the motor overload relay are both listed as suitable for group installation. An inverse time circuit-breaker can be used as the short-circuit protection device if it is also listed as suitable for group installation. The panel builder must therefore make sure that the short-circuit protection device selected (fuses or inverse time circuit-breaker) does not exceed the value allowed by rule 28-206 of the CEC or article 430.40 of the NEC for the smallest overload relay used in the circuit. Once these conditions have been met, the panel builder can reduce the size of the conductor connecting the short-circuit protection device to the individual motor contactor/overload relay, to one third of the size of the upstream circuit conductor supplying the protection device. The panel builder must limit the length of the motor starter conductor (connecting the short-circuit protection device to the motor contactor/overload relay) to a maximum of 7.5 m (25 feet).

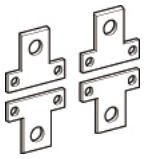
Case n° 2 (Not approved under the CEC for US export applications only)
The motor contactor and overload relay are listed as suitable for **"tap conductor protection"** in group installations. This category allows the panel designer to reduce the size of the conductor connecting the short-circuit protection device to the individual motor contactor/overload relay, to one tenth of the size of the upstream circuit conductor supplying the protection device. The designer must limit the length of this conductor to a maximum of 3.05 m (10 feet). In both cases, the supply circuits must not be less than 125 % of the connected motor FLA (Full Load Amps) rating. For panel builders, using **type F** combination starters in group installations simplifies group motor considerations. Each starter is a fully coordinated motor branch circuit. The panel builder follows the same NEC requirements for sizing the supply conductors as those required for single motor branch circuits. The size of the supply conductors can be reduced in accordance with the specifications of article 430.28. This allows the same flexibility in conductor sizing as that offered in article 430.53 (D), without a requirement to check the short-circuit protection rating marked on the components and the overload relay limit. A UL508A panel does not need a short-circuit protection device when each motor starter installed is a **type F**. The upstream short-circuit protection device supplying the starter protects the panel. The panel builder only has to consider the panel/enclosure disconnect requirements specified by the NEC or local codes.

Resistive Loads and changeover contactor pairs
0…2750 A

Maximum operational current (device in open air)

Contactors			LC1-/LP1-	LC1-/LP1-	LC1-	LC1-	LC1-	LC1-	LC1-	LC1-
■ 3-pole			K09	K12	D09	D12	D18	D25	D32	D40A
■ 4-pole					DT20	DT25	DT32	DT40		
LC2- changeover contactor pairs, factory assembled			K09004	K12004	DT20	DT25	DT32	DT40		DT60A
UL/CSA Maximum continuous		A	20	20	20	25	32	40	50	60
Operational current in AC-1, in A,	≤ 40° C	A	20	20	20	25	32	40	50	60
according to ambient temperature	≤ 60° C	A	20	20	20	25	32	40	50	60
	≤ 70° C									
Maximum operational	220/230 V	kW	8	8	8	9	11	14	18	21
power ≤ 60° C	240 V	kW	8	8	8	9	12	15	19	23
	380/400 V	kW	14	14	14	15	20	25	31	37
	415 V	kW	14	14	14	17	21	27	34	41
	440 V	kW	15	15	15	18	23	29	36	43
	500 V	kW	17	17	17	20	23	33	41	49
	660/690 V	kW	22	22	22	27	34	43	54	65

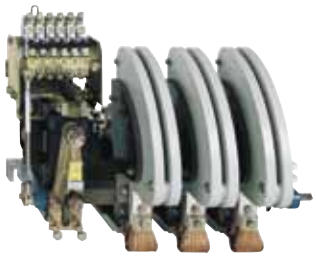
Increase in operational current
by parallel connection of poles (Not for CSA/UL applications)
Apply the following coefficients to the currents or powers above; these coefficients take into account an often unbalanced distribution of current between the poles:
- 2 poles in parallel K = 1.6
- 3 poles in parallel K = 2.25
- 4 poles in parallel K = 2.8



Connection accessories for heating applications

Paralleling links for:			Reference
■ **TeSys K**	2 poles	with screw clamp terminals	**LA9-E01**
	4 poles	with screw clamp terminals	**LA9-E02**
■ **TeSys D**	2 poles	D09…D38	**LA9-D2561**
		DT20 and DT25 (4P)	**LA9-D1261**
		DT32…DT40 (4P)	**LAD-D96061**
		D40A…D65A	**LAD-9P32**
		D80	**LA9-D80961**
	3 poles	D09…D38	**LAD-9P3** (1)
		D40A…D65A	**LAD-9P33**
		D80	**LA9-D80962**
	4 poles	DT20…DT25	**LA9-D1263**
		D40A…D65A	**2 x LAD-9P33**
		D80	**LA9-D80963**
■ **TeSys F**	2 to 2	**LC1-F1154**	**LA9-FF602**
		LC1-F1504, F1854	**LA9-FG602**
		LC1-F2254, F2654, F3304, F4004	**LA9-FH602**
		LC1-F5004	**LA9-FK602**
		LC1-F6304	**LA9-FL602**

(1) Link that can be split, allowing parallel connection of 2 poles



	LC1-D50A	LC1-D65A	LC1-D80	LC1-D115	LC1-F185	LC1-F225	LC1-F265	LC1-F330	LC1-F400	LC1-F500	LC1-F630	LC1-F780	LC1-F800	LC1-BL	LC1-BM	LC1-BP	LC1-BR
		DT80A	D80004	D115004	F1854	F2254	F2654										
	70	80	110	175	200	250	285	370	420	700	1000	1350	1000	800	1250	2000	2750
	80	80	125	200	275	315	350	400	500	700	1000	1600	1000	800	1250	2000	2750
	80	80	125	200	275	280	300	360	430	580	850	1350	850	700	1100	1750	2400
					180	200	250	290	340	500	700	1100	700	600	900	1500	2000
	29	29	45	80	90	100	120	145	170	240	350	550	350	300	425	700	1000
	31	31	49	83	100	110	125	160	180	255	370	570	370	330	450	800	1100
	50	50	78	135	165	175	210	250	300	430	600	950	600	500	800	1200	1600
	54	54	85	140	170	185	220	260	310	445	630	1000	630	525	825	1250	1700
	58	58	90	150	180	200	230	290	330	370	670	1050	670	550	850	1400	2000
	65	65	102	170	200	220	270	320	380	660	750	1200	750	600	900	1500	2100
	86	86	135	235	280	300	370	400	530	740	1000	1650	1000	800	1100	1900	2700

Accessories for changeover contactor pairs
0…2750 A

Mounting accessories for changeover contactor pairs (for customer assembly)					
Contactor type	Set of power connections	Mechanical interlock	Contactor type	Set of power connections	Mechanical interlock
2 contactors, vertically mounted					
■ **4-pole changeover pairs** with locking device components					
LC1-B		**EZ2-LB0601**			
2 identical contactors, horizontally mounted					
■ with electrical interlocking kit for the contactors					
LC1-DT20…**DT40**	**LAD-T9R1V** (1)				
■ mechanical interlock with integral electrical interlocking					
LP1-D80004	**LA9-D8070**	**LA9-D8002**	**LC1-D115004**	**LA9-D11570**	**LA9-D11502**
■ without electrical interlocking (2)					
LC1-DT20…**DT32**	**LAD-T9R1** (2)		**LC1-DT40** and **DT60**	**LAD-T9R2** (2)	
LP1-D80004	**LA9-D8070**	**LA9-D80978**			
2 contactors of identical rating, horizontally mounted					
■ **4-pole changeover pairs**					
LC1-F1154	**LA9-FF977**	**LA9-FF970**	**LC1-F1504**	**LA9-F15077**	**LA9-FF970**
LC1-F1854	**LA9-FG977**	**LA9-FG970**	**LC1-F2254**	**LA9-F22577**	**LA9-FG970**
LC1-F2654	**LA9-FH977**	**LA9-FJ970**	**LC1-F3304**	**LA9-FJ977**	**LA9-FJ970**
LC1-F4004	**LA9-FJ977**	**LA9-FJ970**	**LC1-F5004**	**LA9-FK977**	**LA9-FJ970**
LC1-F6304	**LA9-FL977**	**LA9-FL970**			
■ **3-pole changeover pairs** with electrical interlocking					
LC1-D115 and **D150**	**LA9-D11571**	**LA9-D11502**			
reversers assembled using 2 contactors, vertically mounted					
■ **4-pole changeover pairs using contactors of identical rating** (3)			■ **3 or 4-pole changeover pairs using contactors of different rating**		
			At bottom	At top	
LC1-F1154 or **F1505**	(3)	**LA9-FF4F**	**LC1-F115** or **F1154**	**LC1-F185** or **F1854**	**LA9-FG4F**
LC1-F1854	(3)	**LA9-FG4G**	or **LC1-F150** or **F1504**	**LC1-F225** or **F2254**	**LA9-FG4F**
LC1-F2254	(3)	**LA9-FG4G**		**LC1-F265** or **F2654**	**LA9-FH4F**
LC1-F2654 or **F3304**	(3)	**LA9-FH4H**		**LC1-F300** or **F3304**	**LA9-FH4F**
LC1-F4004	(3)	**LA9-FJ4J**		**LC1-F400** or **F4004**	**LA9-FJ4F**
LC1-F5004	(3)	**LA9-FK4K**		**LC1-F500** or **F5004**	**LA9-FK4F**
LC1-F6304	(3)	**LA9-FL4L**		**LC1-F630**, **F6304** or **F800**	**LA9-FL4F**
LC1-F7804	(4)	**LA9-FX971** (4)	**LC1-F185** or **F1854**	**LC1-F265** or **F2654**	**LA9-FH4G**
			or **LC1-F225** or **F2254**	**LC1-F330** or **F3304**	**LA9-FH4G**
				LC1-F400 or **F4004**	**LA9-FJ4G**
				LC1-F500 or **F5004**	**LA9-FK4G**
				LC1-F630, **F6304** or **F800**	**LA9-FL4G**
			LC1-F265 or **F2654**	**LC1-F400** or **F4004**	**LA9-FJ4H**
			or **LC1-F330** or **F3304**	**LC1-F500** or **F5004**	**LA9-FK4H**
				LC1-F630, **F6304** or **F800**	**LA9-FL4H**
			LC1-F400 or **F4004**	**LC1-F500** or **F5004**	**LA9-FK4J**
				LC1-F630, **F6304** or **F800**	**LA9-FL4J**
			LC1-F500 or **F5004**	**LC1-F630**, **F6304** or **F800**	**LA9-FL4K**

(1) Including mechanical interlock.

(2) Order separately 2 auxiliary contact blocks LAD-N•1 to obtain electrical interlocking between the two contactors.

(3) Power connections to be made by the customer.

(4) Double mechanical interlock mechanism with 2 interlock connecting rods and 4 power connecting links.

CA2K, CA3K and CA4K

CA2KN40••

Control relays

■ Mounting on 35 mm DIN 3 track or 4 screw direct mounting ■ Screws in open "ready-to-tighten" position	Control Circuit		Type of Termination	Contact Configuration		Catalog Number (1)
	Supply	Consumption		N.O.	N.C.	
■ NEMA A600, Q600				4	0	**CA2KN40••**
■ IEC AC15, DC13	ac	4.5 VA	screw clamp	3	1	**CA2KN31••**
				2	2	**CA2KN22••**
				4	0	**CA2KN403••**
	ac	4.5 VA	spring terminals	3	1	**CA2KN313••**
				2	2	**CA2KN223••**
				4	0	**CA2KN407••**
	ac	4.5 VA	Slip-on 1 x 6.35 or 2 x 2.8	3	1	**CA2KN317••**
				2	2	**CA2KN227••**
				4	0	**CA2KN405••**
	ac	4.5 VA	solder pins for printed circuit board	3	1	**CA2KN315••**
				2	2	**CA2KN225••**
				4	0	**CA3KN40••**
	dc	3 W	screw clamp	3	1	**CA3KN31••**
				2	2	**CA3KN22••**
				4	0	**CA3KN403••**
	dc	3 W	spring terminals	3	1	**CA3KN313••**
				2	2	**CA3KN223••**
				4	0	**CA3KN407••**
	dc	3 W	Slip-on 1 x 6.35 or 2 x 2.8	3	1	**CA3KN317••**
				2	2	**CA3KN227••**
				4	0	**CA3KN405••**
	dc	3 W	solder pins for printed circuit board	3	1	**CA3KN315••**
				2	2	**CA3KN225••**
Low consumption control relays						
■ Compatible with programmable controller outputs				4	0	**CA4KN40•••**
■ LED indicator incorporated	dc	1.8 W	screw clamp	3	1	**CA4KN31•••**
■ Wide range coil (70 to 130% Uc), suppressor fitted as standard				2	2	**CA4KN22•••**
■ Mounting on 35 mm DIN 3 track or 4 screw direct mounting				4	0	**CA4KN403•••**
■ Screws in open "ready-to-tighten" position	dc	1.8 W	spring terminals	3	1	**CA4KN313•••**
				2	2	**CA4KN223•••**
				4	0	**CA4KN407•••**
	dc	1.8 W	Slip-on 1 x 6.35 or 2 x 2.8	3	1	**CA4KN317•••**
				2	2	**CA4KN227•••**
				4	0	**CA4KN405•••**
	dc	1.8 W	solder pins for printed circuit board	3	1	**CA4KN315•••**
				2	2	**CA4KN225•••**

(1) Complete the catalog number by adding the proper voltage code from the table below. Example: **CA4KN227BW3.**

CA2-K control relays (0.8–1.15 Uc) *(0.85–1.1UC)*

Volts ac, 50/60 Hz	12	24	36	42	48	110	120	127	208	*220/230*	230	*230/240*	*380/400*	400	*400/415*	440	480	500	*660/690*
Code	**J7**	**B7**	**C7**	**D7**	**E7**	**F7**	**G7**	**FC7**	**L7**	**M7**	**P7**	**U7**	**Q7**	**V7**	**N7**	**R7**	**T7**	**S7**	**Y7**

Up to and including 240 V. Coil with integral suppression device available: add 2 to the code required. Example: J72.

CA3-K control relays (0.8–1.15 Uc)

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**

Coil with integral suppression device available: add **3** to the code required. Example: **JD3**

CA4-K, low consumption control relays (wide range coil : 0.7–1.3 Uc)

Volts dc	12	24	48	72
Code	**JW3**	**BW3**	**EW3**	**SW3**

Instantaneous auxiliary contact blocks

- Clip-on front mounting, 1 block per control relay
- Auxiliary contact module not suitable for safety circuits

Type of Connection	Contact Configuration		Catalog Number
	N.O.	N.C.	
screw clamp	2	0	**LA1KN20**
	0	2	**LA1KN02**
	1	1	**LA1KN11**
	4	0	**LA1KN40** (1)
	3	1	**LA1KN31** (1)
	2	2	**LA1KN22** (1)
	1	3	**LA1KN13** (1)
	0	4	**LA1KN04** (1)
spring terminals	2	0	**LA1KN203**
	0	2	**LA1KN023**
	1	1	**LA1KN113**
	4	0	**LA1KN403** (1)
	3	1	**LA1KN313** (1)
	2	2	**LA1KN223** (1)
	1	3	**LA1KN133** (1)
	0	4	**LA1KN043** (1)
Slip-on 1 x 6.35 or 2 x 2.8	2	0	**LA1KN207**
	0	2	**LA1KN027**
	1	1	**LA1KN117**
	4	0	**LA1KN407** (1)
	3	1	**LA1KN317** (1)
	2	2	**LA1KN227** (1)
	1	3	**LA1KN137** (1)
	0	4	**LA1KN047** (1)

(1) Not to be used on CA4KN relays

Electronic time delay contact blocks

- Relay output, with common point changeover contact, 240 Vac/Vdc, 2 A maximum.
- Control voltage: 0.85–1.1 Uc.
- Maximum switching capacity: 250 VA or 150 W.
- Operating temperature: - 10 to + 60 °C (+14° F to 140° F).
- Reset time: 1.5 sec. during the time delay period, 0.5 sec. after the time delay.
- Clip-on front mounting, 1 block per control relay

Voltage	Type	Timing Range	Composition C.O.	Catalog Number
24–48 Vac/ Vdc	On-delay	1–30 seconds	1	**LA2KT2E**
110–240 Vac	On-delay	1–30 seconds	1	**LA2KT2U**

CAD32••

Instantaneous control relays

Terminal Type	Number of Contacts	Contact Configuration		Catalog Number (1)
		N.O.	N.C.	
screw clamp	5	5	0	**CAD50••**
		3	2	**CAD32••**
spring terminal	5	5	0	**CAD503••**
		3	2	**CAD323••**
ring tongue	5	5	0	**CAD506••**
		3	2	**CAD326••**

(1) Complete the catalog number by adding the proper voltage code from the table below. Example: **CAD50G7**.

AC 50/60 Hz coil									
Volts	12	24	48	120	208	240	277	480	600
Code	**J7**	**B7**	**E7**	**G7**	**LE7**	**U7**	**W7**	**T7**	**X7**

DC coil (coils have built in suppression as standard)											
Volts	12	24	36	48	60	72	110	125	220	250	440
Code	**JD**	**BD**	**CD**	**ED**	**ND**	**SD**	**FD**	**GD**	**MD**	**UD**	**RD**

DC low consumption coil (coils have built in suppression as standard)					
Volts	5	12	24	48	72
Code	**AL**	**JL**	**BL**	**EL**	**SL**

Instantaneous auxiliary contact blocks (for use in normal operation environments)

Number of Contacts	Max. Number per Device (clip-on mounting)		Termination Type	Contact Composition		Catalog Number
	Front	Left Side Only		N.O.	N.C.	
2	1	–	Screw Clamp	2	0	**LADN20**
				1	1	**LADN11**
				0	2	**LADN02**
2	1	–	Spring Terminal	2	0	**LADN203**
				1	1	**LADN113**
				0	2	**LADN023**
2	–	1 (not for DC devices)	Screw Clamp	2	0	**LAD8N20**
				1	1	**LAD8N11**
				0	2	**LAD8N02**
4	1	–	Screw Clamp	4	0	**LADN40**
				3	1	**LADN31**
				2	2	**LADN22**
				1	3	**LADN13**
				0	4	**LADN04**
4	1	–	Spring Terminal	4	0	**LADN403**
				3	1	**LADN313**
				2	2	**LADN223**
				1	3	**LADN133**
				0	4	**LADN043**
4	1	–	Screw Clamp	2	2	**LADC22** (4)
4	1	–	Spring Terminal	2	2	**LADC223** (4)

Instantaneous auxiliary contact blocks with dust and damp protected contacts (for use in particularly harsh industrial environments)

Number of Contacts	Max. Number per Device Front Mounting	Contact Composition					Catalog Number
		Sealed N.O.	Sealed N.C.	(1)	Normal N.O.	Normal N.C.	
2	1	2	–	–	–	–	**LA1DX20**
		–	2	–	–	–	**LA1DX02**
		2	–	2	–	–	**LA1DY20**
4	1	2	–	–	2	–	**LA1DZ40**
		2	–	–	1	1	**LA1DZ31**

(1) Grounding terminal points (2 terminals jumpered together)

Time delay auxiliary contact blocks

Number and Type of Contacts	Max. Number per Device Front Mounting	Time Delay Type	Termination Type	Range	Catalog Number
1 N.C. and 1 N.O.	1	On-Delay	screw clamp	0.1 to 3 sec. (2)	**LADT0**
				0.1 to 30 sec.	**LADT2**
				10 to 180 sec.	**LADT4**
				1 to 30 sec. (3)	**LADS2**
1 N.C. and 1 N.O.	1	On-Delay	spring terminal	0.1 to 3 sec. (2)	**LADT03**
				0.1 to 30 sec.	**LADT23**
				10 to 180 sec.	**LADT43**
				1 to 30 sec. (3)	**LADS23**
1 N.C. and 1 N.O.	1	Off-Delay	screw clamp	0.1 to 3 sec. (2)	**LADR0**
				0.1 to 30 sec.	**LADR2**
				10 to 180 sec.	**LADR4**
1 N.C. and 1 N.O.	1	Off-Delay	spring terminal	0.1 to 3 sec. (2)	**LADR03**
				0.1 to 30 sec.	**LADR23**
				10 to 180 sec.	**LADR43**

(2) With extended scale from 0.1 to 0.6 s.

(3) With switching time of 40 ms ± 15 ms between opening of the N.C. contact and closing of the N.O. contact.

(4) Includes 1 N.O. & 1 N.C. overlapping contact

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