

The essential guide TeSys

for power control & protection

helping you easily
select the right product

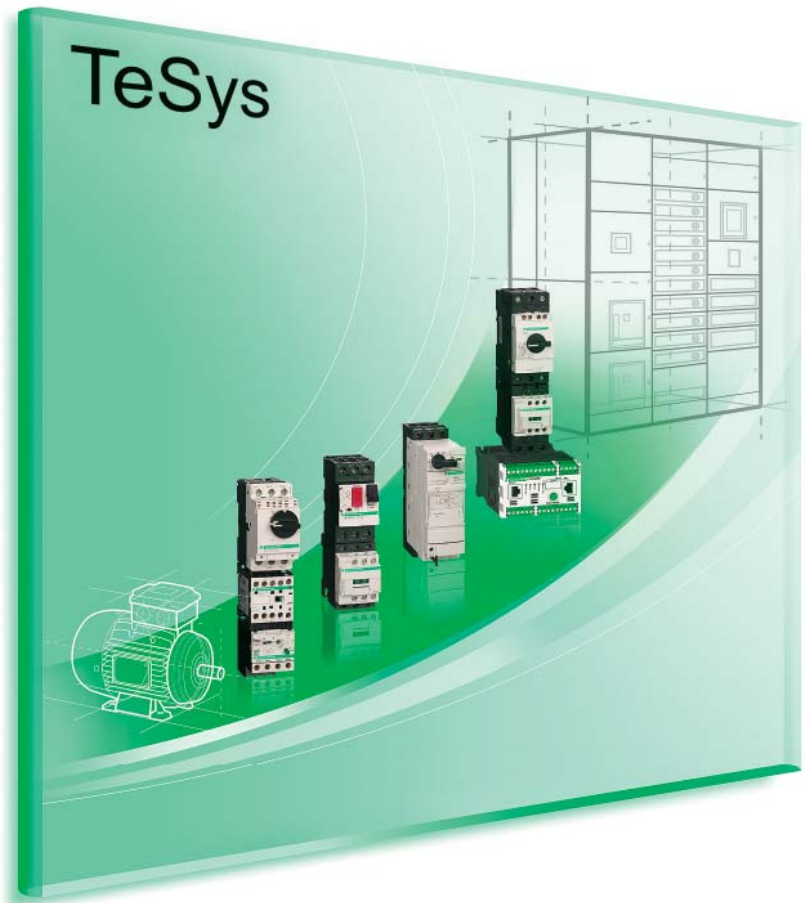
2008



Motor control

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

*Accurate and reliable
control of motors*



Increase your productivity, adopt our solutions which help to simplify setting-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: lighting, capacitor switching, heating, changeover contactor pairs, resistive loads, upstream protection.

Contents

New

TeSys Motor starters up to 65 A



The new
TeSys GV3
circuit-breakers,
LC1D 40/50/65
contactors,
LRD3
thermal relays
are equipped 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, **TeSys U** has openness in mind.

Motor control components

TeSys contactors 2 to 11

- Contactors, **TeSys K, D, F, B**
- Variable composition contactors, **TeSys CV**

TeSys protection components 12 to 33

- Thermal-magnetic circuit-breakers
- Magnetic circuit-breakers
- Fuse carriers, switch-disconnector-fuses
- Thermal overload relays
- Electronic thermal overload relays
- Electronic overload relays
- Starter-controller, **TeSys T**
- Multifunction protection relays
- Switch disconnectors **Mini Vario** and **Vario**

TeSys starters 34 to 41

- Combination motor starters
- Starter-controller, **TeSys U**
- Controller, **TeSys U**
- Enclosed motor starters

TeSys installation system 42 to 43

- For motor starter components with spring terminals, **TeSys Quickfit** technology

Components for power control applications 44 to 50

- Lighting, capacitor switching, heating, changeover contactor pairs

TeSys K

Contactors

0.06...5.5 kW



Connections

screw clamp terminals

Rated operational current	Ie max AC-3 (Ue ≤ 440V)	6 A	9 A	12 A
	Ie AC-1 (θ ≤ 40° C)	-	20 A	-
Rated operational power	220/240 V	1.5 kW	2.2 kW	3 kW
in category AC3	380/400 V...415/440 V	2.2 kW	4 kW	5.5 kW
	660/690 V...500 V	3 kW	4 kW	4 kW
Contactor type ^{(1)*}	~	LC1-K06••	LC1-K09••	LC1-K12••
	---	LP1-K06•• or LP4-K06••	LP1-K09 or LP4-K09••	LP1-K12 or LP4-K12••
Reversing contactor type *	~	LC2-K06	LC2-K09	LC2-K12
with mechanical interlock	---	LP2-K06 or LP5-K06	LP2-K09 or LP5-K09	LP2-K12 or LP5-K12

spring terminals

Add the figure 3 before the voltage code. Example LC1-K0610•• becomes LC1-K06103••

Faston connectors, 1 x 6.35 or 2 x 2.8

Add the figure 7 before the voltage code. Example LC1-K0610•• becomes LC1-K06107••

solder pins for printed circuit boards

Add the figure 5 before the voltage code. Example LC1-K0610•• becomes LC1-K06105••

(1) Basic reference, to be completed by adding 01 for N/C auxiliary contact, or 10 for N/O auxiliary contact.

* Basic reference to be completed by adding the coil voltage

Standard control circuit voltages

~ supply

Contactors LC1-K (0.8...1.15 Uc) (0.85...1.1Uc)

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 reference LC1-K0910P7

--- supply

Contactors LP1-K (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

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

Low consumption

Contactors LP4-K (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

Example of complete reference LC1-K0910BD



Auxiliary contact blocks

instantaneous, screw clamp connections

	■ for LC1, LP1-K, LP4			■ for LC1, LP1-K				
Composition	2N/O	- 2N/C	1N/O 1N/C	4N/O	3N/O 1N/C	2N/C 2N/C	1N/O 3N/C	- 4N/C
Reference	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, $\sim$ or $\equiv$ 24...48, 2 A maximum

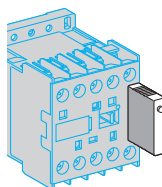
Control voltage 0.85...1.1Uc

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							
Voltage	$\sim$ or $\equiv$ 24...48 V			$\sim$ 110...240				
Reference	LA2-KT2E			LA2-KT2U				



Suppressor modules

For LC1, LP1-K

Type	Varistor ($\sim$ and $\equiv$)				Diode ($\equiv$) + zener		RC ($\sim$)
Voltage	12...24 V	32...48 V	50...129 V	130...250 V	12...24 V	32...48 V	220...250 V
Reference	LA4-KE1B	LA4-KE1E	LA4-KE1FC	LA4-KE1UG	LA4-KC1B	LA4-KC1E	LA4-KA1U

TeSys D

Contactors

0.06...75 kW



Connections

screw clamp terminals or connectors

Rated operational voltage		690 V					
Rated operational current	Ie max AC-3 (Ue ≤ 440V)	9 A	12 A	18 A	25 A	32 A	38 A
	Ie AC-1 (θ ≤ 60° C)	25 A		32 A	40 A	50 A	
Rated operational power in category AC3	220/240 V	2.2 kW	3 kW	4 kW	5.5 kW	7.5 kW	9 kW
	380/400 V	4 kW	5.5 kW	7.5 kW	11 kW	15 kW	18.5 kW
	415/440 V	4 kW	5.5 kW	9 kW	11 kW	15 kW	18.5 kW
	500 V	5.5 kW	7.5 kW	10 kW	15 kW	18.5 kW	18.5 kW
	660/690 V	5.5 kW	7.5 kW	10 kW	15 kW	18.5 kW	18.5 kW
	1000 V	—	—	—	—	—	—
Contactor type *		LC1-D09	LC1-D12	LC1-D18	LC1-D25	LC1-D32	LC1-D38
Reversing contactor type * with mechanical interlock		LC2-D09	LC2-D12	LC2-D18	LC2-D25	LC2-D32	LC2-D38

spring terminals ⁽¹⁾

Add the figure 3 before the voltage code. Example LC1-D09P7 becomes LC1-093P7

lug-clamps ⁽²⁾

Add the figure 6 before the voltage code. Example LC1-D09P7 becomes LC1-096P7

Faston connectors ⁽³⁾ 2 x 6.35 (power) and 1 x 6.35 (control) up to D12 only

Add the figure 9 before the voltage code. Example LC1-D09P7 becomes LC1-099P7

* Basic reference to be completed by adding the coil voltage



(1)



(2)



(3)

Standard control circuit voltages

~ supply

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

— supply

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

Low consumption

Contactors LC1-D09...D38 (coils with integral suppression device fitted as standard)

Volts —	5	12	20	24	48	110	120	250					
U 0.7...1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL					

Example of complete reference LC1-D09P7

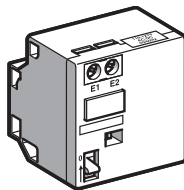


690 V			1 000 V on ~ supply, 690 V on --- supply			
40 A	50 A	65 A	80 A	95 A	115 A	150 A
60 A	80 A	80 A	125 A		200 A	
11 kW	15 kW	18.5 kW	22 kW	25 kW	30 kW	40 kW
18.5 kW	22 kW	30 kW	37 kW	45 kW	55 kW	75 kW
22 kW	25 kW	30 kW	45 kW	45 kW	59 kW	80 kW
22 kW	30 kW	37 kW	55 kW	55 kW	75 kW	90 kW
30 kW	33 kW	37 kW	45 kW	45 kW	80 kW	100 kW
–	–	–	45 kW	45 kW	75 kW	90 kW
LC1-D40A	LC1-D50A	LC1-D65A	LC1-D80	LC1-D95	LC1-D115	LC1-D150
LC2-D40A	LC2-D50A	LC2-D65A	LC2-D80	LC2-D95	LC2-D115	LC2-D150

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		
LC1-D09...D38	LAD-9R1V	included
■ with integral electrical interlocking		
LC1-D80 and D95 (~)	LA9-D8069	LA9-D4002
LC1-D80 and D95 (---)	LA9-D8069	LA9-D8002
LC1-D115 and D150	LA9-D11569	LA9-D11502
■ without electrical interlocking		
LC1-D09...D38	LA9-9R1	included
LC1-D40A...D65A	LAD-9R3	included
LC1-D80 and D95 (~)	LA9-D8069	LA9-D50978
LC1-D80 and D95 (---)	LA9-D8069	LA9-D80978



Mechanical latch blocks

Clip-on front mounting, manual or electrical unlatching control

For use on contactor	Reference	Standard control circuit voltages
LC1-D09...D65A ~ or ---, LC1-DT20...DT80 ~ or ---	LA6-6K10•	B E F M Q
LC1-D80...D150 3P ~, LC1-D80 and D115 3P ~, LC1-D115 4P ---	LA6-DK20•	B E F M Q



Contact type			instantaneous, connection by screw terminals	
Block mounting			Front mounting	Side mounting
References	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	–



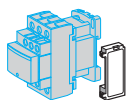
Type de contacts		Time delay, connection by screw terminals		
Block mounting		Front mounting		
Temporisation		0.1...3 s	0.1...30 s	10...180 s
References	On-delay	LADT0	LADT2	LADT4
	Off-delay	LADR0	LADR2	LADR4

Maximum number of auxiliary contacts that can be fitted

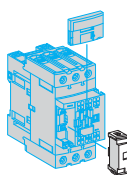
Type			Instantaneous						Time delay
			Side mounting			Front mounting			Front mounting
			on left side	on right side	and	1 contact	2 contacts	4 contacts	
AC	3P	LC1D09...D38	1	–	and	–	1	or 1	or 1
		LC1D40A...D65A	1	or 1	and	–	1	or 1	or 1
		LC1D80...95 (50/60Hz)	1	1	or	2	and 1	or 1	or 1
		LC1D80...95 (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
DC	3P	LC1D115	1	1	and	1	or 1	or 1	or 1
		LC1D09...D38	–	–	and	–	1	or 1	or 1
		LC1D40A...D65A	1	or 1	and	–	1	or 1	or 1
		LC1D80 and 95	–	–	and	1	or 1	or 1	or 1
	4P	LC1D115 and D150	1	–	and	–	1	or 1	or 1
		LC1DT20...DT40	–	–	and	–	1	or 1	or 1
		LC1DT60A...D80A	–	–	and	–	1	or 1	or 1
DC low consumption	3P	LC1D115	1	1	and	–	and 1	or 1	or 1
	4P	LC1D09...D38	–	–	and	–	1	–	–
		LC1DT20...DT40	–	–	and	–	1	–	–

TeSys D

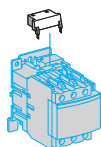
Contactor Suppressor modules



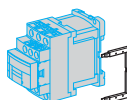
Type of module			RC circuits (Resistor-Capacitor)			
Mounting			Side clip-on	Front clip-on	Screw fixing	
For use with contactor			D09...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)	
References	Voltage	24...48 VAC	LAD4RCE	LAD4RC3E	LA4DA2E	
		50...127 VAC	LAD4RCG	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...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)	
References	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...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)	
References	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...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)	
References	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)	–	

TeSys F

Contactors

90...450 kW



Rated operational current	Ie max AC-3 (Ue ≤ 440V)	185 A	225 A	265 A	330 A
	Ie AC-1 (θ ≤ 40° C)	275 A	315 V	350 A	400 A
Rated operational voltage		1 000 V	1 000 V	1 000 V	1 000 V
Number of poles		3 or 4	3 or 4	3 or 4	3 or 4
Rated operational power	220/240 V	55 kW	63 kW	75 kW	100 kW
in category AC3	380/400 V	90 kW	110 kW	132 kW	160 kW
	415 V	100 kW	110 kW	140 kW	180 kW
	440 V	100 kW	110 kW	140 kW	200 kW
	500 V	110 kW	129 kW	160 kW	200 kW
	660/690 V	110 kW	129 kW	160 kW	220 kW
	1000 V	100 kW	100 kW	147 kW	160 kW
Contactor type*		LC1-F185	LC1-F225	LC1-F265	LC1-F330
Reversing contactor type*		LC2-F185	LC2-F225	LC2-F265	

* Basic reference to be completed by adding the coil voltage

Standard control circuit voltages													
~ supply													
Volts	24	48	110	115	120	208	220	230	240	380	400	415	440
Contactors LC1-F115...F225(0.85...1.1UC)													
50 Hz (coil LX1)	B5	E5	F5	FE5	-	-	M5	P5	U5	Q5	V5	N5	-
60 Hz (coil LX1)	-	E6	F6	-	G6	L6	M6	-	U6	Q6	-	-	R6U7
40...400 Hz (coil LX9)	-	E7	F7	FE7	G7	L7	M7	P7	U7	Q7	V7	N7	R7
Contactors LC1-F265...F330U7													
40...400 Hz (coil LX1)	B7	E7	F7	FE7	G7	L7	M7	P7	U7	Q7	V7	N7	R7
Contactors LC1-F400...F630U7													
40...400 Hz (coil LX1)	-	E7	F7	FE7	G7 ⁽¹⁾	L7	M7	P7	U7	Q7	V7	N7	R7
Contactor LC1-F780U7													
40...400 Hz (coil LX1)	-	-	F7	FE7	F7	L7	M7	P7	U7	Q7	V7	N7	R7
Contactor LC1-F800U7													
40...400 Hz (coil LX1)	-	-	FE7	FE7	FE7	-	P7	P7	P7	V7	V7	V7	V7Y7
⎓ supply													
Volts	24	48	110	125	220	230	250	400	440				
Contactors LC1-F115...F330(0.85...1.1UC)													
(coil LX4-F)	BD	ED	FD	GD	MD	MD	UD	-	RD				
Contactors LC1-F400...F630(0.85...1.1UC)													
(coil LX4-F)	-	ED	FD	GD	MD	-	UD	-	RD				
Contactor LC1-F780(0.85...1.1UC)													
(coil LX4-F)	-	-	FD	GD	MD	-	UD	-	RD				
Contactor LC1-F800(0.85...1.1UC)													
(coil LX4-F)	-	-	FW	FW	MW	MW	-	QW	-				
Example: For a 630 A contactor with a 110 V ~ coil, order LC1-F630F7													

Example: For a 630 A contactor with a 110 V ~ coil, order **LC1-F630F7**

(1) F7 for LC1-F630



	400 A	500 A	630 A	780 A	800 A
	500 A	700 A	1 000 A	1 600 A	1 000 A
	1 000 V	1 000 V	1 000 V	1 000 V	1 000 V
	2, 3 or 4	2, 3 or 4	2, 3 or 4	3 or 4	3
	110 kW	147 kW	200 kW	220 kW	250 kW
	200 kW	250 kW	335 kW	400 kW	450 kW
	220 kW	280 kW	375 kW	425 kW	450 kW
	250 kW	295 kW	400 kW	425 kW	450 kW
	257 kW	355 kW	400 kW	450 kW	450 kW
	280 kW	335 kW	450 kW	475 kW	475 kW
	185 kW	335 kW	450 kW	450 kW	450 kW
	LC1-F400	LC1-F500	LC1-F630	LC1-F780	LC1-F800
For customer assembly					



Auxiliary contact blocks

instantaneous				dust & damp protected contacts				time delay 1N/O + 1 N/C		
Composition	Reference	Composition	Reference	Composition	Reference	Composition	Reference	Type	Range	Reference
N/O N/C		N/O N/C		N/O N/C		N/O N/C				
1 -	LAD-N10	1 1	LAD-N11	2 2	LAD-N22	2 - - -	LA1-DX20	On-delay	0.1...3 s	LAD-T0
- 1	LAD-N01	2 -	LAD-N20	1 3	LAD-N13	2 2 - -	LA1-DY20		0.1...30 s	LAD-T2
		- 2	LAD-N02	4 -	LAD-N40	2 - 2 -	LA1-DZ40		10...180 s	LAD-T4
				- 4	LAD-N04	2 - 1 1	LA1-DZ31		1...30 s	LAD-S2
				3 1	LAD-N31			Off-delay	0.1...3 s	LAD-R0
				2 2	LAD-C22				0.1...30 s	LAD-R2
									10...180 s	LAD-R4

Mounting accessories for 3-pole reversing contactors for motor control

2 identical contactors, horizontally mounted

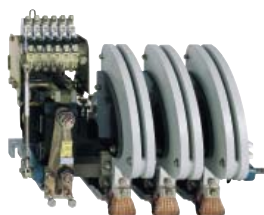
Mechanical interlock with an electrical interlocking kit for the contactors

Contactor type	Set of connections	Mechanical interlock
LC1-F115	LA9-FF976	LA9-FF970
LC1-F150	LA9-F15076	LA9-FF970
LC1-F185	LA9-FG976	LA9-FG970
LC1-F225	LA9-F22576	LA9-FG970
LC1-F265	LA9-FH976	LA9-FJ970
LC1-F330	LA9-FJ976	LA9-FJ970
LC1-F400	LA9-FJ976	LA9-FJ970
LC1-F500	LA9-FK976	LA9-FJ970
LC1-F630 or LC1-F800	LA9-FL976	LA9-FL970

TeSys B

Contactors

400...900 kW



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 kW	280 kW	425 kW	500 kW
in category AC3	220/240 V	400 kW	500 kW	750 kW	900 kW
	380/400 V	425 kW	530 kW	800 kW	900 kW
	415 V	450 kW	560 kW	800 kW	900 kW
	440 V	500 kW	600 kW	700 kW	900 kW
	500 V	560 kW	670 kW	750 kW	900 kW
	660/690 V	530 kW	530 kW	670 kW	750 kW
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 --- 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

Reference to compiled by the customer

Contactor type, according to required use		
$\sim$ supply 690 V, $=\overline{=}$ supply 220 V/pole		CV1-B
$\sim$ supply 1000 V, $=\overline{=}$ supply 440 V/pole		CV3-B
Contacting 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
	$=\overline{=}$	D
	$=\overline{=}$ + 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 $\square$, 1 N/O + 1 N/O On-delay auxiliary contacts: **CV3-BG2W0ZED10J**


Thermal-magnetic circuit-breakers GV2-ME and GV2-P for connection by screw clamp terminals
GV2-ME with pushbutton control, GV2-P control by rotary knob

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

400/415 V			500 V			690 V			Setting range of thermal trips	Magnetic tripping current	Reference	
P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	A	A (d ± 20%)		
kW	kA		kW	kA		kW	kA					
-	-	-	-	-	-	-	-	-	0.1...0.16	1.5	GV2-ME01	GV2-P01
0.06	★	★	-	-	-	-	-	-	0.16...0.25	2.4	GV2-ME02	GV2-P02
0.09	★	★	-	-	-	-	-	-	0.25...0.40	5	GV2-ME03	GV2-P03
0.12	★	★	-	-	-	0.37	★	★	0.40...0.63	8	GV2-ME04	GV2-P04
0.18	★	★	-	-	-	-	-	-	0.40...0.63	8	GV2-ME04	GV2-P04
0.25	★	★	-	-	-	0.55	★	★	0.63...1	13	GV2-ME05	GV2-P05
0.37	★	★	0.37	★	★	-	-	-	1...1.6	22.5	GV2-ME06	GV2-P06
0.55	★	★	0.55	★	★	0.75	★	★	1...1.6	22.5	GV2-ME06	GV2-P06
-	-	-	0.75	★	★	1.1	★	★	1...1.6	22.5	GV2-ME06	GV2-P06
0.75	★	★	1.1	★	★	1.5	3	75	1.6...2.5	33.5	GV2-ME07	
0.75	★	★	1.1	★	★	1.5	8	100	1.6...2.5	33.5		GV2-P07
1.1	★	★	1.5	★	★	2.2	3	75	2.5...4	51	GV2-ME08	
1.1	★	★	1.5	★	★	2.2	8	100	2.5...4	51		GV2-P08
1.5	★	★	2.2	★	★	3	3	75	2.5...4	51	GV2-ME08	
1.5	★	★	2.2	★	★	3	3	100	2.5...4	51		GV2-P08
2.2	★	★	3	50	100	4	3	75	4...6.3	78	GV2-ME10	
2.2	★	★	3	★	★	4	6	100	4...6.3	78		GV2-P10
3	★	★	4	10	100	5.5	3	75	6...10	138	GV2-ME14	
3	★	★	4	50	100	5.5	6	100	6...10	138		GV2-P14
4	★	★	5.5	10	100	7.5	3	75	6...10	138	GV2-ME14	
4	★	★	5.5	50	100	7.5	6	100	6...10	138		GV2-P14
5.5	15	50	7.5	6	75	9	3	75	9...14	170	GV2-ME16	
5.5	★	★	7.5	42	75	9	6	100	9...14	170		GV2-P16
-	-	-	-	-	-	11	3	75	9...14	170	GV2-ME16	
-	-	-	-	-	-	11	6	100	9...14	170		GV2-P16
7.5	15	50	9	6	75	15	3	75	13...18	223	GV2-ME20	
7.5	50	50	9	10	75	15	4	100	13...18	223		GV2-P20
9	15	40	11	4	75	18.5	3	75	17...23	327	GV2-ME21	
9	50	50	11	10	75	18.5	4	100	17...23	327		GV2-P21
11	15	40	15	4	75	-	-	-	20...25	327	GV2-ME22 ⁽²⁾	
11	50	50	15	10	75	-	-	-	20...25	327		GV2-P22
15	10	50	18.5	4	75	22	3	75	24...32	416	GV2-ME32	
15	50	50	18.5	10	75	22	4	100	24...32	416		GV2-P32

H > 100 kA

(1) as % of Icu

(2) combined with a recommended contactor

Thermal-magnetic circuit-breakers GV2-ME for connection by spring terminals

 Add the figure 3 to the end of the reference. Example **GV2-ME22** becomes **GV2-ME223**
Thermal-magnetic circuit-breakers GV2-ME for connection by ring terminals

 Add the figure 6 to the end of the reference. Example **GV2-ME32** becomes **GV2-ME326**



Magnetic circuit-breakers GV2-LE and GV2-L for connection by screw clamp terminals

GV2-LE control by rocker lever, GV2-L control by rotary knob

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

400/415 V			500 V			690 V			Magnetic protection	Tripping current	Use in association with thermal overload relay	Reference
P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	rating	d ± 20%		
kW	kA		kW	kA		kW	kA		A	A		
0.06	★	★	-	-	-	-	-	-	0.4	5	LR2-K0302	GV2-LE03
0.09	★	★	-	-	-	-	-	-	0.4	5	LR2-K0304 or LRD-03	GV2-LE03 GV2-L03
0.12	★	★	-	-	-	0.37	★	★	0.63	8	LR2-K0304 or LRD-04	GV2-LE04 GV2-L04
0.18	★	★	-	-	-	-	-	-	0.63	8	LR2-K0305 or LRD-04	GV2-LE04 GV2-L04
-	-	-	-	-	-	0.55	★	★	1	13	LR2-K0305 or LRD-05	GV2-LE05 GV2-L05
0.25	★	★	-	-	-	-	-	-	1	13	LR2-K0306 or LRD-05	GV2-LE05 GV2-L05
-	-	-	-	-	-	0.75	★	★	1	13	LR2-K0306 or LRD-06	GV2-LE05 GV2-L05
0.37	★	★	0.37	★	★	-	-	-	1	13	LR2-K0306 or LRD-05	GV2-LE05 GV2-L05
0.55	★	★	0.55	★	★	1.1	★	★	1.6	22.5	LR2-K0307 or LRD-06	GV2-LE06 GV2-L06
-	-	-	0.75	★	★	-	-	-	1.6	22.5	LR2-K0307 or LRD-06	GV2-LE06 GV2-L06
0.75	★	★	1.1	★	★	1.5	3	75	2.5	33.5	LR2-K0308	GV2-LE07
0.75	★	★	1.1	★	★	1.5	4	100	2.5	33.5	LRD-07	GV2-L07
1.1	★	★	-	-	-	-	-	-	2.5	33.5	LR2-K0308 or LRD-08	GV2-LE08 GV2-L08
1.5	★	★	1.5	★	★	3	3	75	4	51	LR2-K0310	GV2-LE08
1.5	★	★	1.5	★	★	3	4	100	4	51	LRD-08	GV2-L08
-	-	-	2.2	★	★	-	-	-	4	51	LR2-K0312 or LRD-08	GV2-LE08 GV2-L08
2.2	★	★	3	50	100	4	3	75	6.3	78	LR2-K0312	GV2-LE10
2.2	★	★	3	★	★	4	4	100	6.3	78	LRD-10	GV2-L10
3	★	★	4	10	100	5.5	3	75	10	138	LR2-K0314	GV2-LE14
3	★	★	4	10	100	5.5	4	100	10	138	LRD-12	GV2-L14
4	★	★	5.5	10	100	-	-	-	10	138	LR2-K0316 or LRD-14	GV2-LE14 GV2-L14
-	-	-	-	-	-	7.5	3	75	10	138	LRD-14	GV2-LE14
-	-	-	-	-	-	7.5	4	100	10	138	LRD-14	GV2-L14
-	-	-	-	-	-	9	3	75	14	170	LRD-16	GV2-LE16
-	-	-	-	-	-	9	4	100	14	170	LRD-16	GV2-L16
5.5	15	50	7.5	6	75	11	3	75	14	170	LR2-K0321	GV2-LE16
5.5	50	50	7.5	10	75	11	4	100	14	170	LRD-16	GV2-L16
7.5	15	50	9	6	75	15	3	75	18	223	LRD-21	GV2-LE20
7.5	50	50	9	10	75	15	4	100	18	223	LRD-21	GV2-L20
9	15	40	11	4	75	18.5	3	75	25	327	LRD-22	GV2-LE22
9	50	50	11	10	75	18.5	4	100	25	327	LRD-22	GV2-L22
11	15	40	15	4	75	-	-	-	25	327	LRD-22	GV2-LE22
11	50	50	15	10	75	-	-	-	25	327	LRD-22	GV2-L22
15	10	50	18.5	4	75	22	3	75	32	416	LRD-32	GV2-LE32
15	50	50	18.5	10	75	22	4	100	32	416	LRD-32	GV2-L32

H > 100 kA

(1) as % of Icu

Common accessories GV2 / GV3, see page 5/15



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

Control by rotary knob

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range	Reference
400/415 V			500 V			660/690 V			of thermal	
P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	trips	
kW	kA		kW	kA		kW	kA		A	
5,5	100	50	7,5	12	50	11	6	50	9...13	GV3-P13
7,5	100	50	11	12	50	15	6	50	12...18	GV3-P18
11	100	50	15	12	50	18,5	6	50	17...25	GV3-P25
15	100	50	18,5	12	50	22	6	50	23...32	GV3-P32
18,5	50	50	22	10	50	30	5	60	30...40	GV3-P40
22	50	50	30	10	50	37	5	60	37...50	GV3-P50
30	50	50	37	10	50	45	5	60	48...65	GV3-P65

(1) as % of Icu

Thermal-magnetic circuit-breakers GV3-P for connection by ring terminals

Add the figure 6 to the end of the reference. Example **GV3-P13** becomes **GV3-P136**

For motor starter solution, only 1 EverLink terminal block, add the figure 1 at the end of the reference. Example : GV3P65 becomes GV3P651

Magnetic 11...30 kW with EverLink terminal blocks



Magnetic circuit-breakers GV3-L for connection by EverLink terminal blocks (2)

Control by rotary knob

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Associated equipment	Circuit-breaker	
400/415 V			500 V			690 V			Thermal	Short-circuit	
P	Icu	Ics	P	Icu	Ics	P	Icu	Ics	overload	protection	
kW	kA		kW	kA		kW	kA		relay	Rating A	Reference
11	100	50	15	12	50	18,5	6	50	LRD-22	25	GV3-L25
15	100	50	18,5	12	50	22	6	50	LRD-32	32	GV3-L32
18,5	50	50	22	10	50	30	5	60	LRD-3355	40	GV3-L40
22	50	50	30	10	50	45	5	60	LRD-3357	50	GV3-L50
30	50	50	37	10	50	45	5	60	LRD-3359	65	GV3-L65

Magnetic circuit-breakers GV3-L for connection by ring terminals

Add the figure 6 to the end of the reference. Example **GV3-L25** becomes **GV3-L256**

For motor starter solution, only 1 EverLink terminal block, add the figure 1 at the end of the reference. Example : GV3L65 becomes GV3L651

(2) BTR screw of 4 mm

Add-on blocks and accessories ⁽³⁾

Add-on blocks (front)

Fault signalling contact + instantaneous auxiliary contact

Contact type	N/O (fault) + N/C	N/O (fault) + N/O
Références (4)	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
Références	LAD96575	LAD96570	GV3G364	GV36264	GV3G66	GV3S

(3) Common add-on blocks and accessories GV2 / GV3, see page 5/15

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



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 GV2-LE	GV2-AP03	–	
	For GV3-P/L	GV3-AP01	GV3-AP02	

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
Instantaneous auxiliary contacts						C/O common point
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 (1)						
Side mounting (1 block on RH side of circuit-breaker)		50 Hz		60 Hz		
Voltage	24 V	GV-A•025		GV-A•026		
	48 V	GV-A•055		GV-A•056		
	100 V	GV-A•107				
	100...110 V			GV-A•107		
	110...115 V	GV-A•115		GV-A•116		
	120...127 V	GV-A•125				
	127 V			GV-A•115		
	200 V	GV-A•207				
	200...220 V			GV-A•207		
	220...240 V	GV-A•225		GV-A•226		
	380...400 V	GV-A•385		GV-A•386		
	415...440 V	GV-A•415				
	415 V			GV-A•416		
Padlocking device						
For use with up to 4 padlocks (padlocks not supplied) Ø 6 mm shank max		GV2-V03				

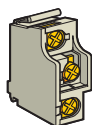


Thermal-magnetic circuit-breakers GV7-R for connection by screw clamp terminals

Control by rocker lever

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range	Reference
400/415 V			500 V			660/690 V			of thermal	
P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	trips	
kW	kA		kW	kA		kW	kA		A	
7.5	25	100	9	18	100	11	8	100	12...20	GV7-RE20
9	25	100	11	18	100	15	8	100		
7.5	70	100	9	50	100	11	10	100	12...20	GV7-RS20
9	70	100	11	50	100	15	10	100		
9	25	100	11	18	100	15	8	100	15...25	GV7-RE25
11	25	100	15	18	100	18.5	8	100		
9	70	100	11	50	100	15	10	100	15...25	GV7-RS25
11	70	50	15	50	100	18.5	10	100		
18.5	25	100	18.5	18	100	22	8	100	25...40	GV7-RE40
			22	18	100					
18.5	70	100	18.5	50	100	22	10	100	25...40	GV7-RS40
22	25	100	30	18	100	30	8	100	30...50	GV7-RE50
37	25	100	45	18	100	55	8	100	48...80	GV7-RE80
			55	18	100					
37	70	100	45	50	100	55	10	100	48...80	GV7-RS80
			55	50	100					
45	25	100	-	18	100	75	8	100	60...100	GV7-RE100
45	70	100	-	50	100	75	10	100	60...100	GV7-RS100
55	35	100	75	30	100	90	8	100	90...150	GV7-RE150
75	70	100	90	30	100	110	8	100		
55	70	100	75	50	100	90	10	100	90...150	GV7-RS150
75	70	100	90	50	100	110	10	100		
90	35	100	110	30	100	160	8	100	132...220	GV7-RE220
110	35	100	132	30	100	200	8	100		
			160	30	100					
90	70	100	110	50	100	160	10	100	132...220	GV7-RS220

(1) as % of Icu



Add-on blocks

Contact blocks

Auxiliary contacts

Contact type	C/O
	GV7-AE11

Thermal or magnetic fault discrimination

	$\approx$ 24...48 V or $\approx$ 24...72 V	$\approx$ 110...240 V
	GV7-AD111	GV7-AD112

Electric trips

Voltage	50/60 Hz	48 V	110... 130 V	200... 240 V	380...440 V	
	50 Hz					525 V
Undervoltage trip ⁽¹⁾		GV7-AU055	GV7-AU107	GV7-AU207	GV7-AU387	GV7-AU525
Shunt trip ⁽¹⁾		GV7-AS055	GV7-AS107	GV7-AS207	GV7-AS387	GV7-AS525

(1) For mounting of a GV7-AD or a GV7-AU or AS

Accessories

Terminal shields IP 405

Supplied with the sealing accessory	GV7-AC01
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Phase barriers

Safety accessories	GV7-AC04
used when fitting of shields is impossible	

Insulating screens

Ensure insulation between the connections and the backplate	GV7-AC05
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Kit for combination with contactor

Allowing link between the circuit-breaker and the contactor	LC1-F115 to F185	LC1-F225 and F26	LC1-D115 and D150
	GV7-AC06	GV7-AC07	GV7-AC08

Rotary handles

Handle	black	red
Legend plate	black	yellow
■ direct IP 40	GV7-AP03	GV7-AP04
■ extended IP 55	GV7-AP01	GV7-AP02

Conversion accessory

for mounting on enclosure door IP 43	GV7-AP05
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Locking device

For circuit-breaker not fitted with a rotary handle	GV7-V01
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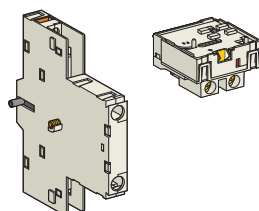


Thermal-magnetic circuit-breakers GV3-ME for connection by screw clamp terminals

Pushbutton control

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range of thermal trips	Reference
400/415 V			500 V			660/690 V				
P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾		
kW	kA		kW	kA		kW	kA		A	
37	15	50	45	4	100	55	2	100	56...80	GV3-ME80

(1) as % of Icu



Add-on blocks for GV3-ME

Contact blocks

Instantaneous auxiliary contacts (1 per breaker)						
Normal early break type contacts	N/C + N/O	N/O + N/O	N/C + N/O + N/O	N/O + N/O + N/O	N/O + N/O ⁽¹⁾	N/C + N/O ⁽¹⁾
	GV3-A01	GV3-A02	GV3-A03	GV3-A05	GV3-A06	GV3-A07

Fault signalling contact

Normal early break type contacts	N/C	N/O
	GV3-A08	GV3-A09

Electric trips

Voltage		50 Hz	60 Hz	110, 120, 127 V	220, 240 V	380, 415 V
				120, 127 V	277 V	440, 480 V
Undervoltage trip		GV3-B11		GV3-B22		GV3-B38
Shunt trip		GV3-D11		GV3-D22		GV3-D38

Padlocking device

Start button (for bare device)	GV1-V02
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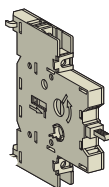
(1) + 2 volt free terminals



Magnetic circuit-breakers GK3-EF for connection by screw clamp terminals

Control by rotary knob

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Associated equipment	Circuit-breaker	
400/415 V			500 V			690 V			Thermal	Short-circuit	
P	Icu	Ics	P	Icu	Ics	P	Icu	Ics	min. size	protection	
kW	kA		kW	kA		kW	kA		relay	Rating A	Reference
37	35	25	45	15	30	-	-	-	LRD-3363	80	GK3-EF80



Add-on blocks for GK3

Contact blocks

Contact types	N/O	N/O + N/O	N/C + N/O	N/C	N/O
On-Off signalling contacts and "Control circuit test" function (1 or 2 blocks per device) mounted on RH side of GK3-EF	GK2-AX10	GK2-AX20	GK2-AX50		
Instantaneous fault signalling contacts (1 or 2 blocks per device) mounted on LH side of GK3-EF	GK2-AX12	GK2-AX22	GK2-AX52		
Fault signalling contact ⁽¹⁾				GV3-A08	GV3-A09

(1) 1 trip OR 1 fault signalling contact to be fitted inside the circuit-breaker.

Accessories

Padlocking device

for padlocking the operator, with up to 3 padlocks (padlocks not supplied)	GK3-AV01
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External operator

for mounting on enclosure door. Red Ø 40 pushbutton on yellow plate, can be locked in position O by means of up to 3 padlocks with door locked in position I, and door locked in position O when padlocked	GK3-AP03
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TeSys DF

Fuse carriers

0.5...125 A



Type			Fuse carriers without indicator			
Rated operational voltage (Ui)			500 V	690 V		
Fuse size			8,5 x 31,5 mm	10 x 38 mm	14 x 51 mm	22 x 58 mm
Conventional rated thermal current (Ith)			25 A	32 A	50 A	125 A
References	Number of poles	1P	DF81	DF101	DF141	DF221
		N	DF10N	DF10N	DF14N	DF22N
		1P+N	DF81N	DF10N	DF14N	DF22N
		2P	DF82	DF102	DF142	DF222
		3P	DF83	DF103	DF143C	DF223C
		3P+N	DF83N	DF103N	DF143NC	DF223NC



Type			Fuse carriers with indicator			
Rated operational voltage (Ui)			500 V	690 V		
Fuse size			8,5 x 31,5 mm	10 x 38 mm	14 x 51 mm	22 x 58 mm
Conventional rated thermal current (Ith)			25 A	32 A	50 A	125 A
References	Number of poles	1P	DF81V	DF101V	DF141V	DF221V
		1P+N	DF81NV	DF10NV	DF14NV	DF22NV
		2P	DF82V	DF102V	DF142V	DF222V
		3P	DF83V	DF103V	DF143CV	DF223CV
		3P+N	DF83NV	DF103NV	DF143NCV	DF223NCV

Accessories

Type		Auxiliary early break and blown fuse signalling contacts			
Fuse carrier to be equipped		DF14		DF22	
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		DF8	DF10	DF14	DF22
Size of cartridge fuse or link		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

Rated operational voltage with links, a.c. supply		690 V	690 V	690 V	690 V
Maximum continuous current for ambient temperature ≤ 40° C					
with links	min cable Ø/le (mm²/A)	6/32 or 4/25 or 2.5/16	4/25 or 2.5/16	10/50 or 6/40	32/125 or 25/100
with aM fuses (mm²/A)		6/32 or 4/22 or 2.5/20	4/22 or 2.5/20	10/50 or 6/35	32/125 or 25/100
with gG fuses (mm²/A)		6/32 or 2.5/20 or 1.5/16	2.5/20 or 1.5/16	10/40 or 6/32	25/100 or 16/80
Conforming to standards	NF EN 60947-3	●		●	●
	IEC 947-3	●		●	●
Product certifications		BV, UR		-	-
Fuse carrier type		LS1-D32	LS1-D323	GK1-E•	GK1-F•



Basic blocks

Connection

Rating	25 A	32 A	50 A		125 A	
Cartridge fuse size	10 x 38	10 x 38	14 x 51		22 x 58	
■ by spring terminals						
Number of early break contacts -						
Single-phase protection device	Without	Without	Without	With	Without	With
3-pole	LS1-D323					
■ by screw clamp terminals or connectors						
Number of early break contacts	-	-	1		1	
3-pole		LS1-D32	GK1-EK	GK1-EV	GK1-FK	GK1-FV
4-pole		LS1-D32 + LA8-D324	GK1-EM	GK1-EY	GK1-FM	GK1-FY
Number of early break contacts			2		2	
3-pole			GK1-ES	GK1-EW	GK1-FS	GK1-FW
4-pole			GK1-ET	GK1-EX	GK1-FT	GK1-FX



Operators

Handles	side			front	
Number of poles, 3 or 4					
For fuse carrier rating	125 A			32, 50, 125 A	
For mounting on	RH side		LH side		
	GK1-AP07		GK1-AP08	Fitted as standard	
external					
For fuse carrier rating	32 A	50 A		125 A	
For mounting on	RH or LH side	RH side	LH side	RH side	LH side
	DK1-FB005	GK1-AP05	GK1-AP06	GK1-AP07	GK1-AP08

Padlocking devices

For fuse carrier rating	32 A	50 A			
Number of poles	3 or 4	3		4	
Single-phase protection device	Without	Without	With	Without	With
	Integral	GK1-AV07	GK1-AV08	GK1-AV08	GK1-AV09

Links

Tubular links

Number of poles, 3 or 4				
For fuse carrier rating	32 A	50 A		125 A
Reference	DK1-CB92 ⁽¹⁾	DK1-EB92 ⁽²⁾		DK1-FA92 ⁽²⁾

(1) For use on a neutral circuit, the tubular link can be interlocked with special device LA8-D25906.

(2) 4-pole fuse carriers GK1-50 and 125 A 4 are fitted with an interlocked neutral tubular link as standard.

Add-on blocks

Contact blocks

For use on	LS1-D32		LS1-D323	
Contact type	N/O + N/C	N/O + N/O	N/O + N/C	N/O + N/O
Instantaneous auxiliary contacts				
Mounting	front			
	GV-AE11	GV-AE20	GV-AE113	GV-AE203



Switch-disconnector-fuse switch bodies

for use with NF C or DIN fuses

for use with R ₁ S or DIN bases										
Number of poles		3	3 + N ⁽¹⁾	3	4	3	4	3	4	3
Switch rating		32 A		50 A		63 A		100 A		125 A
Fuse size		10 x 38		14 x 51		00C ⁽²⁾		22 x 58		22 x 58
Type of operator:										
■ internal or external	RH or LH side and front	GS1-DD3	GS1-DD4							
	RH side			GS1-FD3	GS1-FD4	GS1-GD3	GS1-GD4	GS1-JD3	GS1-JD4	GS1-KD3
■ external	LH side			GS1-FG3	GS1-FG4	GS1-GG3	GS1-GG4	GS1-JG3	GS1-JG4	GS1-KG3
	front			GS1-F3	GS1-F4	GS1-G3	GS1-G4	GS1-J3	GS1-J4	GS1-K3
■ internal and external	front									

for use with BS fuses

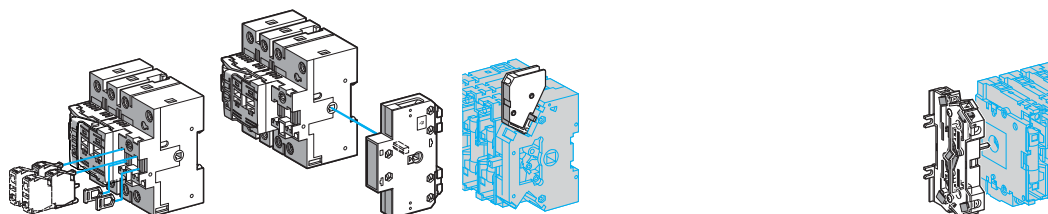
for use with DB-ranges										
Switch rating			32 A		63 A		100 A		160 A	
Fuse size			A1		A2-A3		A4 Ø ≤ 31 mm		A4	
Type of operator:									B1-B2	
■ internal or external	RH or LH side and front		GS1-DDB3	GS1-DDB4						
■ RH side					GS1-GBR3	GS1-GBR4	GS1-JBR3	GS1-JBR4	GS1-LLBR3	GS1-LLBR4
■ external	front									GS1-LBR3
■ internal and external	front		GS1-DB3	GS1-DB4	GS1-GB3	GS1-GB4	GS1-JB3	GS1-JB4	GS1-LLB3	GS1-LLB4
										GS1-LB3

(1) N = Switched Neutral

(2) Fuses for German market

Auxiliary “blown fuse” signalling contacts for use with NF C or DIN fuses

Contact type	1 st C/O					
Switch rating	50 A		100 and 125 A		160 A	
Fuse size	14 x 51		22 x 58		T0	
Number of poles	3	4	3	4	3	4
	GS1-AF13	GS1-AF14	GS1-AF23	GS1-AF24	GS1-AF33	GS1-AF34



Auxiliary early break and/or signalling contacts

Switch rating	32 A				50...400 A		630...1250 A		50...400 V	
Contact type	1 N/O	1 N/C	1 C/O	2 C/O	1 C/O	2 C/O	1 C/O	2 C/O	1 N/C + 1 N/O	2 N/C + 2 N/O
Standard contacts	GS1-AM110	GS1-AM101	GS1-AM111	GS1-AM211	GS1-AM1	GS1-AM2	GS1-AM3	GS1-AM4	GS1-AN11	GS1-AN22
Contacts with test facility									GS1-ANT11	GS1-ANT22



4	3	4	3	4	3	4	3	4	3	4	3	4	3	4
160 A			250 A			400 A			630 A			1250 A		
Size 00			Size 0			Size 00			Size 1			Size 2		
GS1-KD4	GS1-KKD3	GS1-KKD4	GS1-LD3	GS1-LD4	GS1-LLD3	GS1-LLD4	GS1-ND3	GS1-ND4	GS1-QQD3	GS1-QQD4	GS1-SD3	GS1-SD4	GS1-VD3	GS1-VD4
GS1-KG4	GS1-KKG3	GS1-KKG4	GS1-LG3	GS1-LG4	GS1-LLG3	GS1-LLG4	GS1-NG3	GS1-NG4	GS1-QQG3	GS1-QQG4				
GS1-K4	GS1-KK3	GS1-KK4	GS1-L3	GS1-L4	GS1-LL3	GS1-LL4	GS1-N3	GS1-N4	GS1-QQ3	GS1-QQ4				
												GS1-S3	GS1-S4	GS1-V3
													GS1-V4	

200 A			250 A			315 A			400 V			630 A		
B1-B2			B1...B3			B1...B3			B1...B4			C1-C2		
GS1-LBR4	GS1-MMBR3	GS1-MMBR4	GS1-NBR3	GS1-NBR4	GS1-PPBR3	GS1-PPBR4	GS1-QQBR3	GS1-QQBR4	GS1-SBR3	GS1-SBR4	GS1-TBR3	GS1-TRB4	GS1-VRB3	GS1-VRB4
GS1-LB4	GS1-MMB3	GS1-MMB4	GS1-NB3	GS1-NB4	GS1-PPB3	GS1-PPB4	GS1-QQB3	GS1-QQB4						
									GS1-SB3	GS1-SB4	GS1-TB3	GS1-TB4	GS1-VB3	GS1-VB4

250 and 400 A						630 A				1250 A				2 nd C/O	
T1 and T2						T3				T4				50...400 A	
3						3				3				-	
4						4				4				-	
GS1-AF43	GS1-AF44	GS1-AF63	GS1-AF64	GS1-AF73	GS1-AF74	GS1-AF	GS1-AF	GS1-AFF	GS1-AFF	GS1-AFF	GS1-AFF	GS1-AFF	GS1-AFF	GS1-AFF	GS1-AFF

TeSys K Thermal overload relays

0.11...11.5 A



Thermal overload relays, TeSys K adjustable from 0.11 to 12 A

Connection by screw clamp terminals, direct mounting on contactors LC1-K, manual or automatic reset

Relay setting range	Fuses to be used with selected relay			Reference
Class 10 A	aM	gG	BS88	
0.11...0.16 A	0.25 A	0.5 A	-	LR2-K0301
0.16...0.23 A	0.25 A	0.5 A	-	LR2-K0302
0.23...0.36 A	0.5 A	1 A	-	LR2-K0303
0.36...0.54 A	1 A	1.6 A	-	LR2-K0304
0.54...0.8 A	1 A	2 A	-	LR2-K0305
0.8...1.2 A	2 A	4 A	6 A	LR2-K0306
1.2...1.8 A	2 A	6 A	6 A	LR2-K0307
1.8...2.6 A	2 A	6 A	10 A	LR2-K0308
2.6...3.7 A	4 A	10 A	16 A	LR2-K0310
3.7...5.5 A	6 A	16 A	16 A	LR2-K0312
5.5...8 A	8 A	20 A	20 A	LR2-K0314
8...11.5 A	10 A	25 A	20 A	LR2-K0316

Thermal overload relays for use on class 10 A unbalanced loads: for above references LR2-K0305 to LR2-K0316 only, replace the prefix LR2 with LR7.

Example LR7-K0310.

Accessories

Prewiring kit

Allowing direct connection of the N/C contact of relay LRD-01...35 or LR3-D01... D35 to the contactor	For use on	
	LC1-D09...D18	LAD-7C1
	LC1-D25...D38	LAD-7C2

Terminal blocks (1)

For clip-on mounting on 35 mm mounting rail (AM1-DP200) or screw fixing	LRD-01...35 and LR3-D01...D35	LAD-7B10
	LRD-3***, LR3-D3***, LRD-35**	LA7-D3064 ⁽²⁾
For independent mounting of the relay	LR2-K***	LA7-K0064

EverLink Terminal blocks

Separate terminal block	LRD-313... LRD-365	LAD-9R3
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Terminal block adapter

For mounting a relay beneath an LC1-D115 or D150 contactor	LRD-3***, LR3-D3***, LRD-35**	LA7-D3058
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Stop or electrical reset

Remote ⁽³⁾	LRD-01...35 and LR3-D01...D35	LAD-703 ⁽⁴⁾
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Tripping or electrical reset device

Remote ⁽³⁾	All relays except LRD-01...35 and LR3-D01...D35	LA7-D03 ⁽⁴⁾
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(1) Terminal blocks are supplied with terminals protected against direct finger contact and screws in the open "ready-to-tighten" position.

(2) To order a terminal block for connection by lug-clamps, the reference becomes LA7-D30646.

(3) The time for which the coil of remote tripping or electrical resetting device LA7-D03 or LAD-703 can remain energised depends on its rest time: 1 s pulse duration with 9 s rest time; maximum pulse duration of 20 s with a rest time of 300 s. Minimum pulse time 200 ms.

(4) Reference to be completed by adding the code indicating the control circuit voltage.

Standard control circuit voltages

~ supply

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

--- supply

Consumption, inrush and sealed < 100 W	J	B	E	DD	F	M	-	-
--	---	---	---	----	---	---	---	---



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			With contactor	Reference
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...D38	LRD 01
	0.16...0.25 A	0.5 A	2 A	-	LC1-D09...D38	LRD 02
	0.25...0.40 A	1 A	2 A	-	LC1-D09...D38	LRD 03
	0.40...0.63 A	1 A	1.6 A	-	LC1-D09...D38	LRD 04
	0.63...1 A	2 A	4 A	-	LC1-D09...D38	LRD 05
	1...1.7 A	2 A	4 A	6 A	LC1-D09...D38	LRD 06
	1.6...2.5 A	4 A	6 A	10 A	LC1-D09...D38	LRD 07
	2.5...4 A	6 A	10 A	16 A	LC1-D09...D38	LRD 08
	4...6 A	8 A	16 A	16 A	LC1-D09...D38	LRD 10
	5.5...8 A	12 A	20 A	20 A	LC1-D09...D38	LRD 12
	7...10 A	12 A	20 A	20 A	LC1-D09...D38	LRD 14
	9...13 A	16 A	25 A	25 A	LC1-D12...D38	LRD 16
	12...18 A	20 A	35 A	32 A	LC1-D18...D38	LRD 21
	16...24 A	25 A	50 A	50 A	LC1-D25...D38	LRD 22
	23...32 A	40 A	63 A	63 A	LC1-D25...D38	LRD 32
	30...38 A	50 A	80 A	80 A	LC1-D32 et D38	LRD 35
	55...70 A	80 A	125 A	125 A	D50...D95	LRD 3361
	63...80 A	80 A	125 A	125 A	D65...D95	LRD 3363
	80...104 A	100 A	160 A	160 A	D80 et D95	LRD 3365
	80...104 A	125 A	200 A	160 A	D115 et D150	LRD 4365
	95...120 A	125 A	200 A	200 A	D115 et D150	LRD 4367
	110...140 A	160 A	250 A	200 A	D150	LRD 4369
	80...104 A	100 A	160 A	160 A	Montage séparé	LRD 33656
	95...120 A	125 A	200 A	200 A	Montage séparé	LRD 33676
	110...140 A	160 A	250 A	200 A	Montage séparé	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 et D32	LRD 1522
	23...28 A	40 A	63 A	63 A	LC1-D25 et D32	LRD 1530
	25...32 A	40 A	63 A	63 A	LC1-D25 et D32	LRD 1532
	55...70 A	100 A	125 A	125 A	D65...D95	LR2 D3561
	63...80 A	100 A	160 A	125 A	D80 et D95	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)

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

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

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



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		For mounting	Compensated and differential		or not with alarm
	aM	gG	beneath contactor LC1-	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

Accessories

Remote control

Function	Reset	Stop and/or Reset
Electrical reset ⁽¹⁾	LA7-D03• ⁽²⁾	
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
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Rod with snap-off end

Adjustable from 17 to 120 mm	ZA2-BZ13	
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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

(1) The time for which the coil of remote electrical reset device LA7-D03 can remain energised depends on its rest time: 1 s pulse with 9 s rest time; 5 s pulse duration with 30 s rest time; 10 s pulse duration with 90 s rest time: maximum pulse duration 20 s with rest time of 300 s. Minimum pulse time: 200 ms.

(2) Reference to be completed by adding the coil voltage code, see page 5/27



Relay type		Electronic over current relays			
		TeSys LR97D			
Relay setting range		0,3...1,5 A	1,2...7 A	5...25 A	20...38 A
For use with contactor		LC1D09...D38			LC1D25...D38
References	200... 240 VAC	LR97D015M7	LR97D07M7	LR97D025M7	LR97D038M7
	100... 120 VAC	LR97D015F7	LR97D07F7	LR97D025F7	LR97D038F7
	24 VAC/DC	LR97D015B	LR97D07B	LR97D025B	LR97D038B
	48 VAC/DC	LR97D015E	LR97D07E	LR97D025E	LR97D038E

0,5...60 A



Relay type		Electronic over current relays		
		TeSys LT47 with manual reset		
Relay setting range		0,5...6 A	3...30 A	5...60 A
References	200... 240 VAC	LT4706M7S	LT47D30M7S	LT4760M7S
	100... 120 VAC	LT47D06F7S	LT47D30F7S	LT4760F7S
	24 VAC/DC	LT47D06BS	LT47D30BS	LT4760BS
	48 VAC/DC	LT47D06ES	LT47D30ES	LT4760ES



Relay type		Electronic over current relays		
		TeSys LT47 with automatic reset		
Relay setting range		0,5...6 A	3...30 A	5...60 A
References	200... 240 VAC	LT4706M7A	LT47D30M7A	LT4760M7A
	100... 120 VAC	LT47D06F7A	LT47D30F7A	LT4760F7A
	24 VAC/DC	LT47D06BA	LT47D30BA	LT4760BA
	48 VAC/DC	LT47D06EA	LT47D30EA	LT4760EA

Accessories : please consult your Schneider Electric agency.



Type of fieldbus			Modbus		Profibus DP	
Supply voltage			24 VDC	100...240 VAC	24 VDC	100...240 VAC
References	Current range	0.4...8 A	LTMR08MBD	LTMR08MFM	LTMR08PBD	LTMR08PFM
		1.35...27 A	LTMR27MBD	LTMR27MFM	LTMR27PBD	LTMR27PFM
		5...100 A	LTMR100MBD	LTMR100MFM	LTMR100PBD	LTMR100PFM



Type of fieldbus			CANopen		DeviceNet	
Supply voltage			24 VDC	100...240 VAC	24 VDC	100...240 VAC
References	Current range	0.4...8 A	LTMR08CBD	LTMR08CFM	LTMR08DBD	LTMR08DFM
		1.35...27 A	LTMR27CBD	LTMR27CFM	LTMR27DBD	LTMR27DFM
		5...100 A	LTMR100CBD	LTMR100CFM	LTMR100DBD	LTMR100DFM

Extension module



Type of module		Extension 4 additional inputs + voltage measuring		Ethernet external port Modbus RTU / Modbus TCP/IP
Inputs voltage		24 VDC	100...240 VAC	24 VDC
References		LTMEV40BD	LTMEV40FM	TCSEQM113M13M

Operator dialogue terminal and software



Type of terminal		Compact display	Configuration software
Description		4 lines of 20 characters	For Windows 98, 2000, XP
Supply voltage		24 VDC	—
References		XBTL1000	XBTL1000

TeSys T Motor management system

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	TA30	PA50	IA80	MA120	SA200	GA300	POA	GOA

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		2.5 m	–
References		XBTZ938	VW3A8106

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



For use with contactor	LC1-D or LC1-F	LC1-D or LC1-F
Motor current	No limit	1...5 A
Basic reference, to be completed	LT3-S	LT6-P0M0-5FM

3-pole multifunction protection relays

Operational current	A	0.2...1. 1...5	5...25
		LT6-P0M005FM	LT6-P0M025FM

Protection units with automatic reset with thermistor short-circuit detection without fault memory

Connection	Voltage	Output contact	Reference
by cage connectors	~ 50/60 Hz	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 Hz1 or ---	24...230 V	2 C/O	LT3-SM00MW

Accessories

PTC thermistor probes for LT3 and LT6 relays

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			

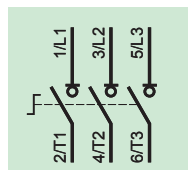
Configuration software for LT6 relays

Languages: English, French, German, Italian, Spanish	Kit ⁽¹⁾	Diskette
For use with all relay sizes LA9-P620	LA9-P621	

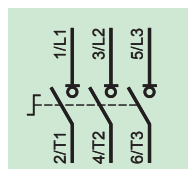
Current transformers for LT6 relays

Operational current	primary	100 A	400 A	800 A
	secondary	1 A	1 A	1 A
		LT6-CT1001	LT6-CT4001	LT6-CT8001

(1) Comprising 2 x 3" 1/2 diskettes, 1 x 2 m connection cable with 2 SUB-D 9-pin connectors (female-female)



Type	Mini-Vario for standard applications		
	Mounting door		Backplate mounting in enclosure
Colour handle / Front plate	Red / Yellow	Black / Black	Red / Yellow
Front plate dimensions (mm)	60 x 60		60 x 60
Fixing	Ø 22.5 mm		Ø 22.5 mm
Degree of protection	IP 20		IP 20
Rated operational voltage (Ue)	690 V		690 V
Thermal current in open air (Ith)	12 A	VCDN12	VBDN12
	20 A	VCDN20	VBDN20



Type	Vario for high performance applications						Backplate mounting in enclosure		
	Mounting door								
Colour handle / Front plate	Red / Yellow	Black / Black	Red / Yellow	Black / Black	Red / Yellow	Red / Yellow			
Front plate dimensions (mm)	60 x 60	60 x 60	60 x 60	60 x 60	90 x 90	90 x 90	60 x 60	90 x 90	90 x 90
Fixing	Ø 22,5 mm		4 screws		4 screws		Ø 22,5 mm	4 screws	4 screws
Degree of protection	IP 20		IP 20		IP 20		IP 20	IP 20	IP 20
Rated operational voltage (Ue)	690 V		690 V		690 V		690 V	690 V	690 V
Thermal current in open air (Ith)	12 A	VCD02	VBD02	VCF02	VBF02	–	VCCD02	VCCF02	–
	20 A	VCD01	VBD01	VCF01	VBF01	–	VCCD01	VCCF01	–
	25 A	VCD0	VBD0	VCF0	VBF0	–	VCCD0	VCCF0	–
	32 A	VCD1	VBD1	VCF1	VBF1	–	VCCD1	VCCF1	–
	40 A	VCD2	VBD2	VCF2	VBF2	–	VCCD2	VCCF2	–
	63 A	–	–	VCF3	VBF3	–	–	VCCF3	–
	80 A	–	–	VCF4	VBF4	–	–	VCCF4	–
	125 A	–	–	–	–	VCF5	–	–	VCCF5
175 A	–	–	–	–	–	VCF6	–	–	VCCF6

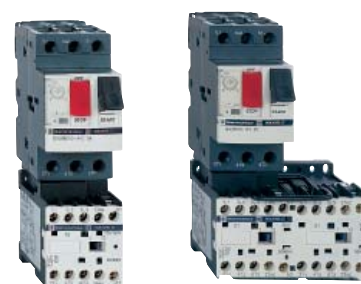


Add-on modules	For mini-Vario		For Vario						
Main pole modules									
Rating	12 A	20 A	12 A	20 A	25 A	32 A	40 A	63 A	80 A
References	VZN12	VZN20	VZ02	VZ01	VZ0	VZ1	VZ2	VZ3	VZ4
Neutral pole module with early make and late break contacts									
Rating	12...20 A		12...40 A		63 and 80 A		125 and 175 A		
References	VZN11		VZ11		VZ12		VZ13		
Earthing module									
References	VZN14		VZ14		VZ15		VZ16		
Auxiliary contact block modules									
Contact types	N/O	N/C	N/O + N/C			N/O + N/O			
References	VZN05	VZN06	VZ7			VZ20			



D.O.L. starters

		with circuit-breaker		with fuse protection
Level of service	Coordination:	Type 1		Type 2
Power at 400 V	Up to:	5.5 kW	15 kW	37 kW
Type of components		Combination automatic motor starter with overload protection incorporated in the circuit-breaker		Fuse carrier + plate-mounted contactor
Basic reference, to be completed		GV2-ME	GV2-DM	GV2-DP
				LC4-D



Starters GV2-ME

					Non-reversing		Reversing
Standard power ratings of 3-phase motors			Setting	Fixed	For customer assembly		Factory assembled
50/60 Hz in category AC-3 (kW)			range of thermal trips	magnetic tripping current	Motor circuit-breaker	Contactor	Basic reference, to be completed with code indicating control circuit voltage
400/415 V	440 V	500 V		13 Irth			
0.37	0.37	0.37	1...1.6	22.5	GV2-ME06	LC1-K06	GV2-ME06K1**
0.55	0.55	0.55					GV2-ME06K2**
-	-	0.75					
0.75	0.75	-	1.6...2.5	33.5	GV2-ME07	LC1-K06	GV2-ME07K1**
-	1.1	1.1					GV2-ME07K2**
1.1	-	1.5	2.5...4	51	GV2-ME08	LC1-K06	GV2-ME08K1**
1.5	1.5	2.2					GV2-ME08K2**
2.2	2.2	-	4...6.3	78	GV2-ME10	LC1-K06	GV2-ME10K1**
-	-	3					GV2-ME10K2**
3	-	4	6...10	138	GV2-ME14	LC1-K09	GV2-ME14K1**
4	4	5.5					GV2-ME14K2**
5.5	5.5	7.5	9...14	170	GV2-ME16	LC1-K12	GV2-ME16K1**
							GV2-ME16K2**

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

Volts	24	110	220/230	230	230/240	380/400
~ 50...400 Hz	B7	F7	M7	P7	U7	Q7
--- (1)	BW3	-	-	-	-	-

(1) Low consumption coil (1.5 W), wide range (0.7...1.3 Uc) and with integral suppression device as standard.



D.O.L. starters GV2-DM and GV2-DP

					Non-reversing		Reversing
Standard power ratings of 3-phase motors			Setting	Fixed	For customer assembly		Factory assembled
50/60 Hz in category AC-3 (kW)			range of thermal trips	magnetic tripping current	Motor circuit-breaker	Contactor	Basic reference, to be completed with code indicating control circuit voltage
400/415 V	440 V	500 V		13 Irth			
0.06	0.06	-	0.16...0.25	2.4	GV2-ME02	LC1-D09**	GV2-DM102**
					GV2-P02	LC1-D09**	GV2-DP102**
0.09	0.09	-	0.25...0.40	5	GV2-ME03	LC1-D09**	GV2-DM103**
-	0.12	-			GV2-P03	LC1-D09**	GV2-DP103**
0.12	-	-	0.40...0.63	8	GV2-ME04	LC1-D09**	GV2-DM104**
0.18	0.18	-			GV2-P04	LC1-D09**	GV2-DP104**
0.25	0.25	-	0.63...1	13	GV2-ME05	LC1-D09**	GV2-DM105**
0.37	0.37	-			GV2-P05	LC1-D09**	GV2-DP105**
-	-	0.37	1...1.6	22.5	GV2-ME06	LC1-D09**	GV2-DM106**
0.55	0.55	0.55			GV2-P06	LC1-D09**	GV2-DP106**
-	-	0.75					
0.75	0.75	-	1.6...2.5	33.5	GV2-ME07	LC1-D09**	GV2-DM107**
-	1.1	1.1			GV2-P07	LC1-D09**	GV2-DP107**
1.1	-	1.5	2.5...4	51	GV2-ME08	LC1-D09**	GV2-DM108**
1.5	1.5	2.2			GV2-P08	LC1-D09**	GV2-DP108**
2.2	2.2	-	4...6.3	78	GV2-ME10	LC1-D09**	GV2-DM110**
-	3	3			GV2-P10	LC1-D09**	GV2-DP110**
3	-	4	6...10	138	GV2-ME14	LC1-D09**	GV2-DM114**
4	4	5.5			GV2-P14	LC1-D09**	GV2-DP114**
5.5	5.5	7.5	9...14	170	GV2-ME16	LC1-D12**	GV2-DM116**
-	7.5	9			GV2-P16	LC1-D25**	GV2-DP116**
7.5	9	-	13...18	223	GV2-ME20	LC1-D18**	GV2-DM120**
					GV2-P20	LC1-D25**	GV2-DP120**
9	11	11	17...23	327	GV2-ME21	LC1-D25**	GV2-DM121**
					GV2-P21	LC1-D25**	GV2-DP121**
11	-	15	20...25	327	GV2-ME22	LC1-D25**	GV2-DM122**
					GV2-P22	LC1-D25**	GV2-DP122**
15	15	18.5	24...32	416	GV2-ME32	LC1-D32**	GV2-DM132**
					GV2-P32	LC1-D32**	GV2-DP132**

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

Volts	24	220	230
~ 50...400 Hz	B7	M7	P7
--- ⁽¹⁾	BD		-

(1) Low consumption coil (1.5 W), wide range (0.7...1.3 Uc) with integral suppression device as standard.



=



+



Function characteristics, LUB... + LUCA...	Maximum motor power < 400/415 V	Power base		Standard control unit	
		Non-reversing	Reversing (1)	Class 10 (2)	Setting range
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only). - Manual reset following thermal fault.	0.09 kW	LUB12	LU2B12●●	LUCA6X●●	0.15...0.6 A
	0.25 kW	LUB12	LU2B12●●	LUCA1X●●	0.35...1.4 A
	1.5 kW	LUB12	LU2B12●●	LUCA05●●	1.25...5 A
	5.5 kW	LUB12	LU2B12●●	LUCA12●●	3...12 A
	7.5 kW	LUB32	LU2B32●●	LUCA18●●	4.5...18 A
	15 kW	LUB32	LU2B32●●	LUCA32●●	8...32 A

ADVANCED motor starter



Function characteristics, LUB... + LUCA...	Maximum motor power < 400/415 V	Power base		Advanced control unit		
		Non-reversing	Reversing (1)	Class 10 (2) (3)	Class 20 (2)	Setting range
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only). - Manual reset following thermal fault. - Thermal overload test function.	0.09 kW	LUB12	LU2B12●●	LUCB6X●●	LUCD6X●●	0.15...0.6 A
	0.25 kW	LUB12	LU2B12●●	LUCB1X●●	LUCD1X●●	0.35...1.4 A
	1.5 kW	LUB12	LU2B12●●	LUCB05●●	LUCD05●●	1.25...5 A
	5.5 kW	LUB12	LU2B12●●	LUCB12●●	LUCD12●●	3...12 A
	7.5 kW	LUB32	LU2B32●●	LUCB18●●	LUCD18●●	4.5...18 A
	15 kW	LUB32	LU2B32●●	LUCB32●●	LUCD32●●	8...32 A

(3) For single-phase-motors, replace LUCB●●●● by LUCC●●●●.

MULTIFUNCTION motor starter



Function characteristics, LUB... + LUCA...	Maximum motor power < 400/415 V	Power base		Multifunction control unit	
		Non-reversing	Reversing (1)	Class 5 to 30	Setting range
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment 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.	0.09 kW	LUB12	LU2B12●●	LUCM6XB	0.15...0.6 A
	0.25 kW	LUB12	LU2B12●●	LUCM1XB	0.35...1.4 A
	1.5 kW	LUB12	LU2B12●●	LUCM05B	1.25...5 A
	5.5 kW	LUB12	LU2B12●●	LUCM12B	3...12 A
	7.5 kW	LUB32	LU2B32●●	LUCM18B	4.5...18 A
	15 kW	LUB32	LU2B32●●	LUCM32B	8...32 A

(1) Complete the references of the power bases according to the following table.

Example: LU2B12

●●

(2) 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



Type of optional function	Thermal overload alarm	Thermal fault signalling			Motor load indication
Compatible with LUCA	NO	NO	NO	NO	NO
Compatible with LUCB	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)
		—	—	NO (43-44)	NC (41-42)
References	Screw clamp terminals	LUA1C11	LUA1C20	LUFN20	LUFN11
	Without connections	LUA1C110	LUA1C200	—	—



Function characteristics	Control base for use with contactors		Multifunction control unit Class 5 to 35
	TeSys D (LC1D..)	TeSys F (LC1F..)	
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment 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 (equipment 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 TeSys 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 TeSys 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.



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	Parallele 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



Starters

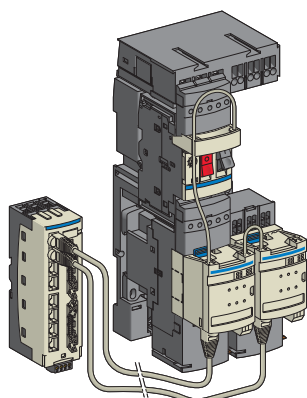
D.O.L.

■ standard

Standard power ratings of 3-phase motors in category AC3 400/415 V		4...37 kW	0.06...37 kW	0.55...30 kW	0.37...5.5 kW	0.25...45 kW
Starters	manual	●	●	●	-	-
	auto	-	-	-	●	●
Isolating device	switch-disconnector-fuse	●	-	-	-	-
	circuit-breaker	-	●	●	●	-
	fuse carrier	-	-	-	-	-
Protection	short-circuit	-	●	●	●	-
	overload	-	●	-	●	●
Communication		-	-	-	-	-
Basic reference	Non reversing	V•F	GV2-ME	GV2-LC	LE1-GVME	LE1-M
		VCFN	GV3-PC	GV-NGC		LE1-D
		V•FX	GV3-CE			
	Reversing					LE2-K
						LE2-D



2 stage							
	■ safety applications			■ AS-i bus		standard star-delta	
	2.2...45 kW	0.06...11 kW	0.06...9 kW	0.06...9 kW	0.06...5.5 kW	5.5...132 kW	7.5...75 kW
	-	●	-	-	-	-	-
	●	-	●	●	●	●	●
	-	-	●	-	-	-	-
	-	●	●	●	●	-	-
	●	-	-	-	-	-	●
	●	●	●	●	●	-	●
	●	●	●	●	●	●	●
	-	-	-	-	●	-	-
LE4-K		GV2-ME	LG1-K	LG7-K	LF1-M	LE3-K	LE6-D
LE4-D			LG1-D	LG7-D	LF1-P	LE3-D	LE3-D
				LJ7-K	LF7-P	LE3-F	
LE8-K				LG8-K	LF2-M		
LE8-D				LJ8-K	LF2-P		
LE2-D					LF8-P		



TeSys 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.

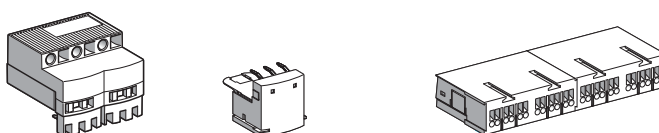
Components for pre-wiring the power part

- 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).

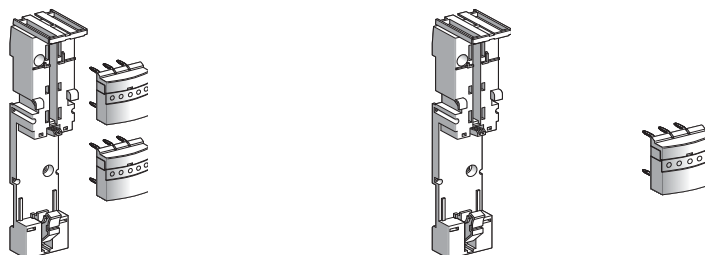
Components for pre-wiring the control part

- 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



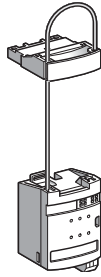
Type	Terminal block		60 A power splitter box	
	Upstream	Downstream	Extension by LAD32●	
Maximum c.s.a. of connection	16 mm ²	6 mm ²	–	–
Use	Splitter boxes supply	Motor cables	–	–
Number of starters	–	–	2	4
Reference	LAD3B1	LAD331	LAD322	LAD324



Type	Connection kit	Mounting plate for	Power connection
	For D.O.L. starter (1)	GV2 ME & contactor	module
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
	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

Components Lighting applications (AC5)

Sodium vapour lamps low pressure															
	Non corrected							With parallel compensation							
P (W)	3-	55	90	135	150	180	200	35	55	90	135	150	180	200	
IB (A)	1.2	1.6	2.4	3.1	3.2	3.3	3.4	0.3	0.4	0.6	0.9	1	1.2	1.3	
C (μF)	-	-	-	-	-	-	-	17	17	25	36	36	36	36	LC1-
Max. number of lamps accordint to P (W), per contactor	6	5	3	2	2	2	2	-	-	-	-	-	-	-	K09
	10	7	5	3	3	3	3	40	30	-	-	-	-	-	D09, D12
	12	9	6	4	4	4	4	50	37	25	-	-	-	-	D18
	15	11	7	6	5	5	5	63	47	31	21	19	15	14	D25
	21	16	10	8	8	7	7	86	65	43	28	26	21	20	D32, D38
	27	20	13	10	10	10	9	110	82	55	36	33	27	25	D40
	35	26	17	13	13	12	12	140	105	70	46	42	35	32	D50, D65
	50	37	25	19	18	18	17	200	150	100	66	60	50	46	D80, D95
	100	75	50	38	36	36	34	400	300	200	132	120	100	92	D115, D150
	140	104	70	54	52	50	48	560	420	280	186	168	140	128	F185
	152	114	76	58	56	54	54	606	454	302	202	182	152	140	F225
	174	130	88	68	66	64	62	700	524	350	232	210	174	162	F265
	198	148	98	76	74	72	70	792	594	396	264	238	198	182	F330
	250	188	124	96	94	90	88	1002	752	502	334	300	250	252	F400
	338	254	168	130	126	122	118	1352	1014	676	450	406	338	312	F500
	496	372	248	192	186	180	174	1982	1488	992	660	594	496	458	F600, F800
high pressure															
P (W)	150	250	400	700	1000			150	250	400	700	1000			
IB (A)	1.9	3.2	5	8.8	12.4			0.84	1.4	2.2	3.9	5.5			
C (μF)	-	-	-	-	-			20	32	48	96	120			LC1-
Max. number of lamps accordint to P (W), per contactor	4	2	1	-	-			-	-	-	-	-			K09
	6	3	2	1	-			-	-	-	-	-			D09, D12
	7	4	3	1	1			17	-	-	-	-			D18
	10	5	3	2	1			22	13	8	-	-			D25
	13	8	5	2	2			30	18	11	6	-			D32, D38
	17	10	6	3	2			39	23	15	8	6			D40
	22	13	8	4	3			50	30	19	10	7			D50, D65
	31	18	12	6	4			71	42	27	15	10			D80, D95
	62	36	24	12	8			142	84	54	30	20			D115, D150
	88	52	34	18	14			200	120	76	42	30			F185
	96	56	36	20	16			216	130	82	46	32			F225
	110	66	42	24	18			250	150	94	54	38			F265
	124	74	48	26	20			282	170	108	60	42			F330
	158	94	60	34	24			358	214	136	76	54			F400
	214	126	80	46	32			482	290	184	104	74			F500
	312	186	118	68	48			708	424	270	152	108			F630, F800
Metal iodine vapour lamps															
P (W)	250	400	1000	2000				250	400	1000	2000				
IB (A)	2.5	3.6	9.5	20				1.4	2	5.3	11.2				
C (μF)	-	-	-	-				32	32	64	140				LC1-
Max. number of lamps accordint to P (W), per contactor	3	2	-	-				-	-	-	-				K09
	4	3	1	-				-	-	-	-				D09, D12
	6	4	1	-				-	-	-	-				D18
	7	5	2	-				13	9	-	-				D25
	10	7	2	1				18	13	4	-				D32, D38
	13	9	3	1				23	16	6	-				D40
	16	11	4	2				30	21	7	-				D50, D65
	24	16	6	3				42	30	11	5				D80, D95
	48	32	12	6				84	60	22	10				D115, D150
	66	46	18	8				120	84	32	14				F185
	72	50	20	10				130	90	34	16				F225
	84	58	22	12				150	104	40	18				F265
	94	66	24	14				170	118	44	20				F330
	120	84	32	16				214	150	56	26				F400
	162	112	42	20				290	202	76	36				F500
	238	164	62	30				424	298	112	52				F630, F800

Incandescent and halogen lamps

P (W)	60	75	100	150	200	300	500	750	1000		
IB (A)	0.27	0.34	0.45	0.68	0.91	1.40	2.30	3.40	4.60		LC1-
Max. number of lamps	35	28	21	14	10	6	4	2	2		K09
accordint to P (W), per contactor	59	47	35	23	17	11	7	4	3		D09, D12
	77	61	46	30	23	15	9	6	4		D18
	92	73	55	36	27	18	11	7	5		D25
	129	103	77	51	38	25	15	10	7		D32, D38
	163	129	97	64	48	31	19	13	9		D40
	207	164	124	82	62	40	24	16	12		D50, D65
	296	235	177	117	88	57	34	23	17		D80, D95
	430	340	256	170	126	82	50	34	24		D115
	466	370	280	184	138	90	54	36	26		D150
	710	564	426	282	210	136	82	56	40		F185
	770	610	462	304	228	148	90	60	44		F225
	888	704	532	352	262	170	104	70	52		F265
	1006	800	604	400	298	194	118	80	58		F330
	1274	1010	764	504	378	244	148	100	74		F400
	1718	1364	1030	682	508	330	200	136	100		F500
	2328	1850	1396	924	690	448	272	184	136		F600
	2776	2204	1666	1102	824	534	326	220	162		F800

Fluorescent lamps with starter

single fitting											
	Non-corrected					With parallel correction					
P (W)	20	40	65	80	110	20	40	65	80	110	
IB (A)	0.39	0.45	0.70	0.80	1.2	0.17	0.26	0.42	0.52	0.72	
C (μF)	-	-	-	-	-	5	5	7	7	16	LC1-
Max. number of lamps	24	21	13	12	8	56	36	22	18	-	K09
accordint to P (W), per contactor	41	35	22	20	13	94	61	38	30	22	D09, D12
	53	46	30	26	17	123	80	50	40	29	D18
	66	57	37	32	21	152	100	61	50	36	D25
	89	77	50	43	29	205	134	83	67	48	D32, D38
	112	97	62	55	36	258	169	104	84	61	D40
	143	124	80	70	46	329	215	133	107	77	D50, D65
	205	177	114	100	66	470	367	190	153	111	D80, D95
	410	354	228	200	132	940	614	380	306	222	D115, D150
	492	426	274	240	160	1128	738	456	368	266	F185
	532	462	296	260	172	1224	800	490	400	288	F225
	614	532	342	300	200	1412	922	570	462	332	F265
	696	604	388	340	226	1600	1046	648	522	378	F330
	882	764	490	430	286	2024	1322	818	662	478	F400
	1190	1030	662	580	386	2728	1724	1104	892	644	F500
	1612	1398	698	786	524	3700	2418	1498	1210	874	F630, F800

twin fitting											
P (W)	2x20	2x40	2x65	2x80	2x110	2x20	2x40	2x65	2x80	2x110	
IB (A)	2x0.22	2x0.41	2x0.67	2x0.82	2x1.1	2x0.13	2x0.24	2x0.39	2x0.48	2x0.65	LC1-
Max. number of lamps	2x21	2x11	2x7	2x5	2x4	2x36	2x20	2x12	2x10	2x7	K09
accordint to P (W), per contactor	2x36	2x18	2x10	2x8	2x6	2x60	2x32	2x20	2x16	2x12	D09, D12
	2x46	2x24	2x14	2x12	2x8	2x80	2x42	2x26	2x20	2x16	D18
	2x58	2x30	2x18	2x14	2x10	2x100	2x54	2x32	2x26	2x20	D25
	2x78	2x42	2x26	2x20	2x14	2x134	2x72	2x44	2x36	2x26	D32, D38
	2x100	2x52	2x32	2x26	2x18	2x168	2x90	2x56	2x44	2x32	D40
	2x126	2x68	2x40	2x34	2x24	2x214	2x116	2x70	2x58	2x42	D50, D65
	2x180	2x96	2x58	2x48	2x36	2x306	2x166	2x102	2x82	2x60	D80, D95
	2x360	2x194	2x118	2x96	2x72	2x614	2x332	2x204	2x166	2x122	D115, D150
	2x436	2x234	2x142	2x116	2x86	2x738	2x400	2x246	2x200	2x148	F185
	2x472	2x254	2x154	2x126	2x94	2x800	2x432	2x266	2x216	2x160	F225
	2x544	2x292	2x178	2x146	2x108	2x922	2x500	2x308	2x250	2x184	F265
	2x618	2x332	2x202	2x166	2x124	2x1046	2x566	2x348	2x282	2x208	F330
	2x782	2x420	2x256	2x210	2x156	2x1322	2x716	2x440	2x358	2x264	F400
	2x1054	2x566	2x346	2x282	2x210	2x1784	2x966	2x594	2x482	2x356	F500
	2x1430	2x766	2x468	2x384	2x286	2x2418	2x1310	2x806	2x654	2x484	F630, F800

Components

Capacitor switching

0...1000 kVAR

On-load capacitor switching

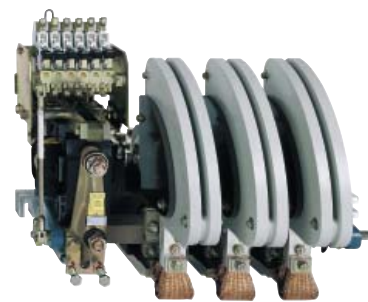
for bar-mounted contactors, a.c. control circuit

Rated operational voltage (V)	Without damping resistor				With damping resistor			
	Number of poles	Max. operational current (A)		Basic reference, to be completed	Number of poles	Max. operational current (A)		Basic reference, to be completed
		50 Hz	180 Hz			50 Hz	180 Hz	
1300	1	80	60	CE5-FB11•11	1 + 1 staggered pole	80	60	CE6-FB12•11
		160	125	CE5-GB11•11		160	125	CE6-GB12•11
		240	190	CE5-HB11•11		240	190	CE6-HB12•11
	2	80x2	60x2	CE5-FB21•11	2 + 2 staggered poles			
		160x2	125x2	CE5-GB21•11				
		240x2	190x2	CE5-HB21•11		240x2	190x2	CE6-HB22•11
1500	3	80x3	60x3	CE5-FB31•11	1 + 2 staggered poles			
		160x3	125x3	CE5-GB31•11				
		240x3	190x3	CE5-HB31•11				
	2 poles in series	160	125	CE5-GB12•11		160	125	CE6-GB13•11
		280	220	CE5-HB12•11		280	220	CE6-HB13•11
	2 x 2 poles in series	280x2	220x2	CE5-HB22•11				
2000	2 poles in series	240	190	CS5-HB12•11	1 + 2 staggered poles	240	190	CS6-HB13•11
	2 x 2 poles in series	240x2	190x2	CS5-HB22•11				
3000	3 poles in series	280	220	CS5-HB13•11	1 + 3 staggered poles	280	220	CS6-HB14•11

Standard control circuit voltages

~ supply

Volts	110	125	127	200	220	240	250	380	415	440	500
50 Hz (coil LX1)	F	-	G	L	M	U	-	Q	N	R	S



Maximum operational power of contactors

standard contactors

Operational power at 50/60 Hz

	$\theta \geq 40\text{ }^{\circ}\text{C}$			$\theta \geq 55\text{ }^{\circ}\text{C}$			Peak current	Contactor size
	220 V	400 V	600 V	220 V	400 V	600 V		
	240 V	440 V	690 V	240 V	440 V	690 V		
	kVAR	kVAR	kVAR	kVAR	kVAR	kVAR	A	
6	11	15	15	6	11	15	560	LC1-D09, D12
9	15	20	20	9	15	20	850	LC1-D18
11	20	25	25	11	20	25	1600	LC1-D25
14	25	30	30	14	25	30	1900	LC1-D32, D38
17	30	37	37	17	30	37	2160	LC1-D40A
22	40	50	50	22	40	50	2160	LC1-D50A
22	40	50	50	22	40	50	3040	LC1-D65A
35	60	75	75	35	60	75	3040	LC1-D80, D95
50	90	125	125	38	75	80	3100	LC1-D115
60	110	135	135	40	85	90	3300	LC1-D150
70	125	160	160	50	100	100	3500	LC1-F185
80	140	190	190	60	110	110	4000	LC1-F225
90	160	225	225	75	125	125	5000	LC1-F265
100	190	275	275	85	140	165	6500	LC1-F330
125	220	300	300	100	160	200	8000	LC1-F400
180	300	400	400	125	220	300	10000	LC1-F500
250	400	600	600	190	350	500	12000	LC1-F630
250	400	600	600	190	350	500	14200	LC1-F800
200	350	500	500	180	350	500	25000	LC1-BL
300	550	650	650	250	500	600	25000	LC1-BM
500	8350	950	950	400	750	750	25000	LC1-BP
600	1100	1300	1300	500	1000	1000	25000	LC1-BR

special contactors

Operational power at 50/60 Hz

	$\theta \geq 55\text{ }^{\circ}\text{C}$			Instantaneous auxiliary contacts		Tightening torque on cable end	Basic reference, to be completed
	220 V	400 V	660 V				
	240 V	440 V	690 V				
	kVAR	kVAR	kVAR	N/O	N/C	N.m	
6.7	12.5	18	18	1	1	1.2	LC1-DFK11••
				-	2	1.2	LC1-DFK02••
8.5	16.7	24	24	1	1	1.7	LC1-DGK11••
				-	2	1.7	LC1-DGK02••
10	20	30	30	1	1	1.9	LC1-DLK11••
				-	2	1.9	LC1-DLK02••
15	25	36	36	1	1	2.5	LC1-DMK11••
				-	2	2.5	LC1-DMK02••
20	33.3	48	48	1	2	5	LC1-DPK12••
25	40	58	58	1	2	5	LC1-DTK12••
40	60	92	92	1	2	9	LC1-DWK12••

Standard control circuit voltages

~ supply

Volts	24	42	48	110	115	220	230	240	380	400	415	440
50/60 Hz (coil LX1)	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7



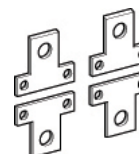
Maximum operational current (device in open air)

Contactors			LC1-/LP1-K09	LC1-/LP1-K12	LC1-D09	LC1-DT20	LC1-D12	LC1-D18	LC1-D25	LC1-D32	LC1-D38	LC1-D40A
■ 3-pole												
■ 4-pole												
LC2- changeover contactor pairs, factory assembled				K09004	K12004		DT20	DT25	DT32	DT40		DT60A
Operational current in AC-1, in A,	≤ 40° C	A	20	20	25	20	25	32	40	50	50	60
according to ambient temperature	≤ 60° C	A	20	20	25	20	25	32	40	50	50	60
	≤ 70° C											
Maximum operational	220/230 V	kW	8	8	9	8	9	11	14	18	18	21
power ≤ 60° C	240 V	kW	8	8	9	8	9	12	15	19	19	23
	380/400 V	kW	14	14	15	14	15	20	25	31	31	37
	415 V	kW	14	14	17	14	17	21	27	34	34	41
	440 V	kW	15	15	18	15	18	23	29	36	36	43
	500 V	kW	17	17	20	17	20	23	33	41	41	49
	660/690 V	kW	22	22	27	22	27	34	43	54	54	65

Increase in operational current by parallel connection of poles

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
	3 poles	D80	LA9-D80961
		D09...D38	LAD-9P3 ⁽¹⁾
■ TeSys F	2 poles	D40A...D65A	LAD-9P33
		D80	LA9-D80962
		DT20...DT25	LA9-D1263
		D40A...D65A	2 x LAD-9P33
	2 to 2	D80	LA9-D80963
		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										
	80	80	125	250	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

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⁾					
LC1-F1154 or F1505	(3)	LA9-FF4F	At bottom	At top	
LC1-F1854	(3)	LA9-FG4G	LC1-F115 or F1154	LC1-F185 or F1854	LA9-FG4F
LC1-F2254	(3)	LA9-FG4G	or LC1-F150 or F1504	LC1-F225 or F2254	LA9-FG4F
LC1-F2654 or F3304	(3)	LA9-FH4H		LC1-F265 or F2654	LA9-FH4F
LC1-F4004	(3)	LA9-FJ4J		LC1-F300 or F3304	LA9-FH4F
LC1-F5004	(3)	LA9-FK4K		LC1-F400 or F4004	LA9-FJ4F
LC1-F6304	(3)	LA9-FL4L		LC1-F500 or F5004	LA9-FK4F
LC1-F7804	(4)	LA9-FX971 ⁽⁴⁾		LC1-F630, F6304 or F800	LA9-FL4F
			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.

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