

Accurate and reliable control of motors

TeSys range provide you more *simplicity*, *compactness*, *openness* and *flexibility*

... so many evolutions and new items to aid your productivity.

TeSys For a *new* start!



A range of simple, compact and advanced components for power control and protection.

New horizons are opening up to you. Increase your productivity - adopt our solutions which help to simplify setting-up.

Motor starters

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

Power circuit control

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

The essential guide

A simplified selection guide enabling you to quickly select motor starters.

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b Contactors, **models K, D, F**

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- b Thermal overload relays
- b Electronic thermal overload relays
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- b Solid state overload relay system, **U-Line**

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TeSys U - LU9

Control increases in power



Simply Smart benefits

Introducing the 1st **intelligent** starter capable of integrating motor control, control and changeover functions in a unit 45 mm wide! **Simple** in its modular format, it is also **open** to standard buses and can monitor your applications via the web.

Applications

b Industry: ideal solution when the motor starter needs to be decentralized in the machine or the process



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	2 Hp	3 Hp	4 Hp
in category AC3	380/400 V–415/440 V	3 Hp	5 Hp	7.5 Hp
	660/690 V–500 V	4 Hp	5 Hp	5 Hp
Contactor type(1)(2)	AC	LC1K06**	LC1K09**	LC1K12**
	DC	LP1K06** or LP4K06**	LP1K09 or LP4K09**	LP1K12 or LP4K12**
Reversing contactor type (2)	AC	LC2K06	LC2K09	LC2K12
	DC	LP2K06 or LP5K06	LP2K09 or LP5K09	LP2K12 or LP5K12

■ spring terminals

Add the figure 3 before the voltage code. Example **LC1K0610**** becomes **LC1K06103****

■ slip-on connectors, 1 x 6.35 or 2 x 2.8

Add the figure 7 before the voltage code. Example **LC1K0610**** becomes **LC1K06107****

■ solder pins for printed circuit boards

Add the figure 5 before the voltage code. Example **LC1K0610**** becomes **LC1K06105****

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

(2) Basic catalog number to be completed by adding the coil voltage. Example (including auxiliary contact) LC1RO601G7.

Standard control circuit voltages

AC supply

Contactors LC1K (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 catalog number **LC1K0910P7**.

DC supply

Contactors LP1K (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 LP4K (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 catalog number **LC1K0910BD**.



Auxiliary contact blocks

■ instantaneous, screw clamp connections

	■ for LC1, LP1K, LP4				■ for LC1, LP1K			
Composition	2 N.O.	- 2 N.C.	1 N.O. 1 N.C.	4 N.O.	3 N.O. 1 N.C.	2 N.C. 2 N.C.	1 N.O. 3 N.C.	- 4 N.C.
Catalog number	LA1KN20	LA1KN02	LA1KN11	LA1KN40	LA1KN31	LA1KN22	LA1KN13	LA1KN04

■ electronic time delay

Relay outputs, with common point changeover contact, AC or DC 24–48, 2 A maximum

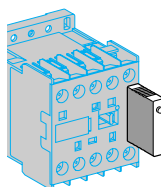
Control voltage 0.85–1.1U_c

Maximum switching capacity 250 VA or 150 W

Operating temperature -10 to + 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	AC or DC 24–48 V				AC 110–240			
Reference	LA2KT2E				LA2KT2U			



Suppressor modules

For LC1, LP1K

Type	Varistor (AC and DC)				Diode (DC) + zener		RC (AC)
Voltage	12–24 V	32–48 V	50–129 V	130–250 V	12–24 V	32–48 V	110–250 V
Catalog number	LA4KE1B	LA4KE1E	LA4KE1FC	LA4KE1UG	LA4KC1B	LA4KC1E	LA4KA1U



Connections

■ screw clamp terminals or connectors

Rated operational voltage		690 V				
Rated operational current	I _e max AC-3 (U _e - 440V)	9 A	12 A	18 A	25 A	32 A
	I _e AC-1 (θ - 60° C)	25 A		32 A	40 A	50 A
Rated operational power in category AC3	220/240 V	3 Hp	4 Hp	5 Hp	7.5 Hp	10 Hp
	380/400 V	5 Hp	7.5 Hp	10 Hp	15 Hp	20 Hp
	415/440 V	5 Hp	7.5 Hp	12 Hp	15 Hp	20 Hp
	500 V	7.5 Hp	10 Hp	13 Hp	20 Hp	25 Hp
	660/690 V	7.5 Hp	10 Hp	13 Hp	20 Hp	25 Hp
	1000 V	-	-	-	-	-
Contactor type(1)		LC1D09	LC1D12	LC1D18	LC1D25	LC1D32
Reversing contactor type * with mechanical interlock		LC2D09	LC2D12	LC2D18	LC2D25	LC2D32

■ spring terminals (1)

Add the figure 3 before the voltage code. Example **LC1D09P7** becomes **LC1093P7**

■ ring tongue terminals (2)

Add the figure 6 before the voltage code. Example **LC1D09P7** becomes **LC1096P7**

■ slip-on 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 **LC1D09P7** becomes **LC1099P7**

(1) Basic catalog number to be completed by adding the coil voltage. Example: **LC1D09P7**.



(1) LC1D093P7



(2) LC1D096P7



(3) LC1D099P7

Standard control circuit voltages

AC supply

Volts	24	42	48	110	115	220	230	240	380	400	415	440	500
Contactors LC1D09–D50 (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	-
Contactors LC1D40–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	-

DC supply

Volts	12	24	36	48	60	72	110	125	220	250	440		
Contactors LC1D09–D38 (coils with integral suppression device fitted as standard)													
U 0.7–1.25 U _c	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
Contactors LC1D40–D95													
U 0.85–1.1 U _c	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
U 0.75–1.2 U _c	JW	BW	OW	EW	-	SW	FW	-	MW	-	-		
Contactors LC1D115 and D150 (coils with integral suppression device fitted as standard)													
U 0.75–1.2 U _c	-	BD	-	ED	ND	SD	FD	GD	MD	UD	RD		
Low consumption													
Contactors LC1D09–D38 (coils with integral suppression device fitted as standard)													
Volts DC	5	12	20	24	48	110	120	250					
U 0.7–1.25 U _c	AL	JL	ZL	BL	EL	FL	ML	UL					

Example of complete catalog number **LC1D09P7**.

For enclosed version of d-Line starters up to 80A, reference catalog 8502CT9901.

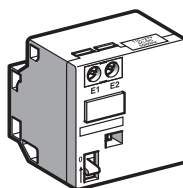


1000 V on AC supply, 690 V on DC supply							
38 A	40 A	50 A	65 A	80 A	95 A	115 A	150 A
12 Hp	15 Hp	20 Hp	25 Hp	30 Hp	30 Hp	40 Hp	50 Hp
25 Hp	25 Hp	30 Hp	40 Hp	50 Hp	60 Hp	75 Hp	100Hp
25 Hp	30 Hp	30/40 Hp	50 Hp	60 Hp	60 Hp	75 Hp	100 Hp
25 Hp	30 Hp	40 Hp	50 Hp	75 Hp	75 Hp	100 Hp	125Hp
25 Hp	40 Hp	44 Hp	50 Hp	60 Hp	60 Hp	100 Hp	125Hp
-	30 Hp	40 Hp	50 Hp	60 Hp	60 Hp	100 Hp	125 Hp
LC1D38	LC1D40	LC1D50	LC1D65	LC1D80	LC1D95	LC1D115	LC1D150
LC2D38	LC2D40	LC2D50	LC2D65	LC2D80	LC2D95	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–D38	LAD9R1V	included
■ with integral electrical interlocking		
LC1D40–D65	LA9D6569	LA9D4002
LC1D80 and D95 (AC)	LA9D8069	LA9D4002
LC1D80 and D95 (DC)	LA9D8069	LA9D8002
LC1D115 and D150	LA9D11569	LA9D11502
■ without electrical interlocking		
LC1D09–D38	LA99R1	included
LC1D40–D65	LA9D6569	LA9D50978
LC1D80 and D95 (AC)	LA9D8069	LA9D50978
LC1D80 and D95 (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
LC1D40–D65 3P AC or DC, LC1D65 4P AC, LC1D65 4P DC	LA6DK10•	B E F M Q
LC1D80–D150 3P AC, LC1D80 and D115 3P AC, LC1D115 4P DC	LA6DK20•	B E F M Q
LC1D09–D38 AC or DC, LC1DT20–DT40 AC or DC	LA66K10•	B E F M Q



Auxiliary contact blocks

■ instantaneous, for connection by screw clamp terminals

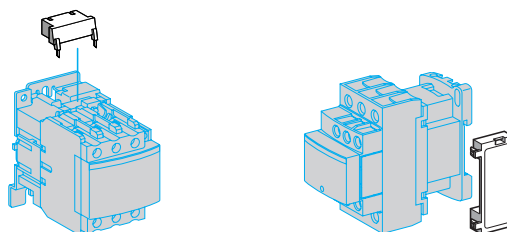
■ front mounting				■ side mounting				■ time delay		
Composition	Catalog number	Composition	Catalog number	Composition	Catalog number	Composition	Catalog number	Type	Range	Catalog number
N.O. N.C.		N.O. N.C.		N.O. N.C.		N.O. N.C.				
1 -	LADN10	1 1	LADN11	2 2	LADN22	1 1	LAD8N11	On-delay	0.1–3 s	LADT0
- 1	LADN01	2 -	LADN20	1 3	LADN13	2 -	LAD8N20		0.1–30 s	LADT2
		- 2	LADN02	4 -	LADN40	- 2	LAD8N02		10–180 s	LADT4
				- 4	LADN04			Off-delay	0.1–3 s	LADR0
				3 1	LADN31				0.1–30 s	LADR2
									10–180 s	LADR4

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Maximum number of auxiliary contacts that can be fitted

Contactors

Type	Instantaneous auxiliary contact blocks					Time delay
	Number of poles and size	Side mounting	Front mounting			Front mounting
			1 contact	2 contacts	4 contacts	
AC	3PLC1D09–D38	1 on LH side and	-	1	or 1	or 1
	LC1D40–D95 (50/60 Hz)	1 on each side or	2	and 1	or 1	or 1
	LC1D40–D95 (50 or 60 Hz)	1 on each side and	2	and 1	or 1	or 1
	LC1D115 and D150	1 on LH side	-	and 1	or 1	or 1
	4PLC1DT20–DT40	1 on LH side	-	1	or 1	or 1
	LC1D65 and D80	1 on each side or	1	or 1	or 1	or 1
	LC1D115	1 on each side and	1	or 1	or 1	or 1
DC	3PLC1D09–D38	-	-	1	or 1	or 1
	LC1D40–D95	-	1	or 1	or 1	or 1
	LC1D115 and D150	1 on LH side and	-	1	or 1	or 1
	4PLC1DT20–DT40	-	-	1	or 1	or 1
	LP1D65 and D80	-	2	and 1	or 1	or 1
	LC1D115	1 on each side	-	and 1	or 1	or 1
Low Consumption	3PLC1D09–D38	-	-	1	-	-
	4PLC1DT20–DT40	-	-	1		



Suppressor modules

Varistors (peak limiting)

Protection provided by limiting the transient voltage to 2 Uc max.

Maximum reduction of transient voltage peaks.

Slight increase in drop-out time (1.1 to 1.5 times the normal time)

Mounting	For use with contactor Rating	Type VAC	VDC	Catalog number
Clip-on	D09–D38 (3P)	12–24 V	-	LAD4VE
	DT20–DT40 (4P)	50–127 V	-	LAD4VG
		110–240 V	-	LAD4VU
Screw clamp	D40–D115 (3P)	24–48 V	-	LA4DE2E
	and	50–127 V	-	LA4DE2G
	D65–D115 (4P)	110–250 V	-	LA4DE2U
	D40–D115 (3P)	-	24–48 V	LA4DE3E
	and	-	50–127 V	LA4DE3G
	D65–D115 (4P)	-	110–250 V	LA4DE3U

Diodes

No overvoltage or oscillating frequency.

Increase in drop-out time (6 to 10 times the normal time).

Polarised component.

Screw clamp	D40–D95 (3P)	-	24–250 V	LA4DC3U
	D65 and D80 (4P)			

Bidirectional peak limiting diode

Protection provided by limiting the transient voltage to 2 Uc max.

Maximum reduction of transient voltage peaks.

Clip-on	D09–D38 (3P)	24 V	-	LAD4TB
	DT20–DT40 (4P)	72 V	-	LAD4TS
Screw clamp	D40–D95 (3P)	24 V	-	LA4DB2B
	D65 and D80 (4P)	72 V	-	LA4DB2S
	D40–D95 (3P)	-	24 V	LA4DB3B
	D65 and D80 (4P)	-	72 V	LA4DB3S

RC circuits (Resistor-Capacitor)

Effective protection for circuits highly sensitive to "high frequency" interference.

For use only in cases where the voltage is virtually sinusoidal, i.e. less than - 5% total harmonic distortion.

Voltage limited to 3 Uc max and oscillating frequency limited to 400 Hz max.

Slight increase in drop-out time (1.2 to 2 times the normal time)

Clip-on	D09–D38 (3P)	12–24 V	-	LAD4RCE
	DT20–DT40 (4P)	110–240 V	-	LAD4RCU
Screw fixing	D40–D150 (3P)	24–48 V	-	LA4DA2E
	and	50–127 V	-	LA4DA2G
	D65–D115 (4P)	110–240 V	-	LA4DA2U
		380–415 V	-	LA4DA2N



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	75 Hp	75 Hp	100 Hp	125 Hp
in category AC3	380/400 V	125 Hp	150 Hp	200 Hp	250 Hp
	415 V	125 Hp	150 Hp	175 Hp	220 Hp
	440 V	125 Hp	150 Hp	175 Hp	300 Hp
	500 V	150 Hp	175 Hp	250 Hp	300 Hp
	660/690 V	150 Hp	175 Hp	250 Hp	350 Hp
	1000 V	125 Hp	125 Hp	200 Hp	250 Hp
Contactor type(1)		LC1F185	LC1F225	LC1F265	LC1F330
Reversing contactor type (1)		LC2F185	LC2F225	LC2F265	

(1) Basic catalog number to be completed by adding the coil voltage code. Example: **LC1F185F7**.

Standard control circuit voltages

AC supply

Volts	24	48	110	115	120	208	220	230	240	380	400	415	440
Contactors LC1F115–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 LC1F265–F330U7													
40–400 Hz (coil LX1)	B7	E7	F7	FE7	G7	L7	M7	P7	U7	Q7	V7	N7	R7
Contactors LC1F400–F630U7													
40–400 Hz (coil LX1)	-	E7	F7	FE7	G7 (1)	L7	M7	P7	U7	Q7	V7	N7	R7
Contactor LC1F780U7													
40–400 Hz (coil LX1)	-	-	F7	FE7	F7	L7	M7	P7	U7	Q7	V7	N7	R7
Contactor LC1F800U7													
40–400 Hz (coil LX1)	-	-	FE7	FE7	FE7	-	P7	P7	P7	V7	V7	V7	V7Y7

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	MD	UD	-	RD
Contactors LC1F400–F630(0.85–1.1UC)									
(coil LX4F)	-	ED	FD	GD	MD	-	UD	-	RD
Contactor LC1F780(0.85–1.1UC)									
(coil LX4F)	-	-	FD	GD	MD	-	UD	-	RD
Contactor LC1F800(0.85–1.1UC)									
(coil LX4F)	-	-	FW	FW	MW	MW	-	QW	-

Example: For a 630 A contactor with a 110 VAC coil, order **LC1F630F7**.

(1) F7 for LC1F630.



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
150 Hp	200 Hp	300 Hp	350 Hp	400 Hp
300 Hp	400 Hp	450 Hp	600 Hp	600 Hp
350 Hp	450 Hp	500 Hp	500 Hp	600 Hp
400 Hp	400 Hp	600 Hp	500 Hp	600 Hp
300 Hp	475 Hp	600 Hp	600 Hp	600 Hp
450 Hp	450 Hp	600 Hp	600 Hp	600 Hp
250 Hp	450 Hp	600 Hp	600 Hp	600 Hp
LC1F400	LC1F500	LC1F630	LC1F780	LC1F800
For customer assembly				

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Auxiliary contact blocks

■ instantaneous			dust & damp protected contacts			■ time delay 1N.O. + 1 N.C.		
Composition	Catalog number	Composition	Catalog number	Composition	Catalog number	Composition	Catalog number	Type
N.O. N.C.		N.O. N.C.		N.O. N.C.		N.O. N.C.		Range
1 -	LADN10	1 1	LADN11	2 2	LADN22	2 - - -	LA1DX20	On-delay
- 1	LADN01	2 -	LADN20	1 3	LADN13	2 2 - -	LA1DY20	0.1–3 s
		- 2	LADN02	4 -	LADN40	2 - 2 -	LA1DZ40	0.1–30 s
				- 4	LADN04	2 - 1 1	LA1DZ31	10–180 s
				3 1	LADN31			1–30 s
				2 2	LADC22			LADS2
								Off-delay
								0.1–3 s
								0.1–30 s
								10–180 s
								LADR0
								LADR2
								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



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	
200 V	230 V	460 V	575 V			Push button	Rotary Handle
-	-	-	-	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	0.5	0.63–1	13	GV2ME05	GV2P05
-	-	0.75	1	1–1.6	22.5	GV2ME06	GV2P06
0.5	0.5	1	1.5	1.6–2.5	33.5	GV2ME07	GV2P07
0.75	1	2	3	2.5–4	51	GV2ME08	GV2P08
1.5	1.5	3	5	4–6.3	78	GV2ME10	GV2P10
2	3	5	7.5	6–10	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
5	7.5	15	20	20–25	327	GV2ME22	GV2P22
10	10	20	30	24–32	416	GV2ME32	GV2P32

Thermal-magnetic circuit-breakers GV2ME for connection by spring terminals

Add the number 3 to the end of the catalog number. Example GV2ME223 (available up to GV2ME22)

Thermal-magnetic circuit-breakers GV2ME for connection by spring terminals

Add the figure 3 to the end of the catalog number. Example GV2ME223 (available up to GV2ME22)



Fuse holder—30 A rated, type CC or KTK-R fuses

	Catalog Number
With screw terminals	LS1D30
With spring terminals	LS1D303
Auxiliary pole (screw terminals; mount on left or right side)	LA8D324



Accessories				
Combination block				
For mounting on		LC1K or LP1K	LC1D09–D38	LAD31 and LC1D09–D38
		GV2AF01	GV2AF3	GV2AF4
Sets of 3-pole busbars				
63 A	Pitch	45 mm	54 mm	72 mm
Number of tap-offs	2	GV2G245	GV2G254	GV2G272
	3	GV2G345	GV2G354	
	4	GV2G445	GV2G454	GV2G472
	5		GV2G554	
Protective end cover				
For unused busbar outlets	GV1G10			
Terminal blocks				
For supply to one or more GV2G busbar sets		connection from the top	can be fitted with current limiter GV1L3 (GV2ME and GV2P)	
		GV1G09	GV1G05	
Padlockable external operator for GV2P (150 to 290 mm)				
Padlocking		In “On” and “Off” position	In “Off” position	
Handle		black	red	
Legend plate		blue	yellow	
IP 54		GV2AP01	GV2AP02	
Padlocking device				
For all GV2 devices		For use with up to 6 padlocks (padlocks not supplied) Ø 6 mm shank max		
		GV2V03		

5

Add-on blocks						
Contact blocks						
Contact types		N.O. or N.C.	N.O. + N.C.	N.O. + N.O.	(fault) + N.C.	N.C. + N.O.
Instantaneous auxiliary contacts						C.O. common point
Mounting	front	GVAE1	GVAE11	GVAE20		
	LH side		GVAN11	GVAN20		
Fault signalling contact + instantaneous auxiliary contact						
	LH side			GVAD1010	GVAD1001	GVAD0110
					GVAD0101	
Short-circuit signalling contact						
	LH side					GVAM11
Electric trips						
Undervoltage or shunt trips (1)						
Side mounting (1 block on RH side of circuit-breaker)		50 Hz		60 Hz		
Voltage (AC)	24 V	GVA•025		GVA•026		
	48 V	GVA•055		GVA•056		
	100 V	GVA•107				
	100–110 V			GVA•107		
	110–115 V	GVA•115		GVA•116		
	120–127 V	GVA•125				
	127 V			GVA•115		
	200 V	GVA•207				
	200–220 V			GVA•207		
	220–240 V	GVA•225		GVA•226		
	380–400 V	GVA•385		GVA•386		
	415–440 V	GVA•415				
	415 V			GVA•416		

(1) Undervoltage trips: replace the • with U, shunt trips: replace the • with S

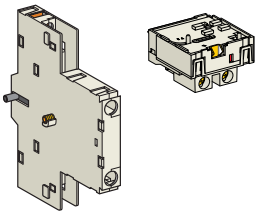


Manual motor starters GV3ME for connection by screw clamp terminals

Pushbutton control

Table with 6 columns: Horsepower ratings of 3-phase motors 50/60 Hz (200 V, 230 V, 460 V, 575 V), Setting range of thermal trips (A), and Catalog Number. It lists various GV3ME models (GV3ME06 to GV3ME80) and their corresponding horsepower and thermal trip settings.

5



Add-on blocks

Contact blocks

Table for Instantaneous auxiliary contacts (1 per breaker). Columns include contact types (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)) and corresponding part numbers (GV3A01 to GV3A07).

Fault signalling contact

Table for Fault signalling contact. Columns include contact types (N.C., N.O.) and corresponding part numbers (GV3A08, GV3A09).

Electric trips

Table for Electric trips. Columns include Voltage (50 Hz, 60 Hz), trip types (Undervoltage trip, Shunt trip), and corresponding part numbers (GV3B11, GV3B22, GV3B38, GV3D11, GV3D22, GV3D38).

Padlocking device

Table for Padlocking device. Columns include Start button (for bare device) and corresponding part number (GV1V02).

(1) + 2 volt free terminals

Manual motor starters

1–120 Hp

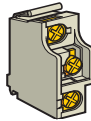
TeSys
Type GV7R



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	
5	10	15	12–20	GV7RE20
5	10	15	12–20	GV7RS20
7.5	15	20	15–25	GV7RE25
7.5	15	20	15–25	GV7RS25
10	30	30	25–40	GV7RE40
10	30	30	25–40	GV7RS40
15	30	40	30–50	GV7RE50
30	60	75	48–80	GV7RE80
30	60	75	48–80	GV7RS80
30	75	100	60–100	GV7RE100
30	75	100	60–100	GV7RS100
50	100	150	90–150	GV7RE150
50	100	150	90–150	GV7RS150
75	150	200	132–220	GV7RE220
75	150	200	132–220	GV7RS220



Add-on blocks

Contact blocks

Auxiliary contacts	Contact type	C.O.
		GV7AE11
Thermal or magnetic fault discrimination	24–48 VAC/DC or 24–72 VDC	110–240 VAC/DC
	GV7AD111	GV7AD112

Electric trips

Voltage	50/60 Hz	48 V	110–130 V	200–240 V	380–440 V	525 V
	50 Hz					
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
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Phase barriers

used when fitting of shields is impossible	GV7AC04
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Insulating screens

Ensure insulation between the connections and the backplate	GV7AC05
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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
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Locking device

For starter not fitted with a rotary handle	GV7V01
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GS1 fusible disconnect switch 30–800 A

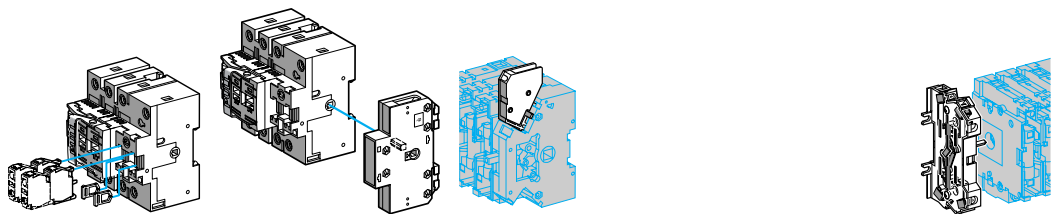
Catalog number	GS1DDU3	GS1DU3	GS1EERU20	GS1EERU30	GS1EEU3
Switch Type	Compact fused	Compact fused	Fused	Fused	Fused
Fuses	CC	J	CC	CC	CC
Amps	30	30	30	30	30
Poles	3	3	2	3	3
Operator Style	Thru-the-door	Thru-the-door	Side handle	Side handle	Thru-the-door
Max. HP 3 Phase:					
kW/hp at 240V	5.5/7.5	5.5/7.5	n/a	5.5/7.5	5.5/7.5
kW/hp at 480V	11/15	11/15	n/a	11/15	11/15
kW/hp at 600V	15/20	15/20	n/a	15/20	15/20

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LK3 non-fused disconnect switch 30–1200 A

Catalog number	LK3GU3	LK3GU3	LK3JU3	LK3MU3 (1)	LK3QU3 (1)
Switch Type	Compact Non-fused	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:					
kW/hp at 240V	5.5.7.5	11/15	22/30	45/60	90/125
kW/hp at 480V	11/15	22/30	45/60	90/125	185/250
kW/hp at 600V	15/20	37/50	55/75	110/150	250/350

(1) Terminal lugs must be ordered separately.



Auxiliary early break and/or signalling contacts

Switch rating	30–200 A		50–400 A		600–800A		50–400 V	
Contact type	1 N.O.	1 N.C.	1 C.O.	2 C.O.	1 C.O.	2 C.O.	1N.C.+1N.O.	2N.C.+2N/O
Standard contacts	GS1AM110	GS1AM101	GS1AM1	GS1AM2	GS1AMU3	GS1AMU4	GS1AN11	GS1AN22





	GS1EU3	GS1GU3	GS1JU3 (1)	GS1MU3 (1)	GS1QU3 (1)	GS1SU3 (1)	GS1TU3(1)
	Fused	Fused	Fused	Fused	Fused	Fused	Fused
	J	J	J	J	J	J	L
	30	60	100	200	400	600	800
	3	3	3	3	3	3	3
	Thru-the-door	Thru-the-door	Thru-the-door	Thru-the-door	Thru-the-door	Thru-the-door	Thru-the-door
	5.5/7.5	11/15	22/30	45/60	90/125	185/250	185/250
	11/15	22/30	45/60	90/125	185/250	370/500	370/500
	15/20	37/50	55/75	110/150	250/350	370/500	370/500

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	LK3SU3 (1)	LK3TU3 (1)	LK3UU3 (1)	LK3WU3
	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
	150/200	185/250	185/250	185/250
	300/400	370/500	370/500	370/500
	250/350	370/500	370/500	370/500

(1) Terminal lugs must be ordered separately.



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 only) (5)			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 A 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 of relay LRD01–35 or LR3D01–D35 to the contactor	For use on LC1D09–D18	LAD7C1
	LC1D25–D38	LAD7C2

Terminal blocks (1)

For clip-on mounting on 35 mm mounting rail (AM1-DP200) or screw fixing	LRD01–35 and LR3D01–D35	LAD7B10
	LRD3***, LR3D3***, LRD35**	LA7D3064 (2)
For independent mounting of the relay	LR2K****	LA7K0064

Terminal block adapter

For mounting a relay beneath an LC1D115 or D150 contactor	LRD3***, LR3D3***, LRD35**	LA7D3058
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Stop or electrical reset

Remote(3)	LRD01–35 and LR3D01–D35	LAD703• (4)
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Tripping or electrical reset device

Remote(3)	All relays except LRD01–35 and LR3D01–D35	LA7D03• (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 catalog number becomes LA7D30646.

(3) The time for which the coil of remote tripping or electrical resetting device LA7D03 or LAD703 can remain energized 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) Catalog number to be completed by adding the code indicating the control circuit voltage.

(5) Short circuit protection for U.S. applications: circuit breakers selected in accordance with NEC and local codes; fuses selected with maximum of 400% full load current.

Standard control circuit voltages

AC 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

DC supply

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

0.1–140 A

TeSys
D-line



Thermal overload relays, model d adjustable from 0.1 to 140 A

Compensated relays with manual or automatic reset, with relay trip indicator, for AC or DC

Relay setting range		Fuses to be used with selected relay (international applications only) (5)			With contactor	Catalog number
		aM	gG	BS88		
Class 10 A	0.10–0.16 A	0.25 A	2 A	-	LC1D09–D38	LRD01
	0.16–0.25 A	0.5 A	2 A	-	LC1D09–D38	LRD02
	0.25–0.40 A	1 A	2 A	-	LC1D09–D38	LRD03
	0.40–0.63 A	1 A	1.6 A	-	LC1D09–D38	LRD04
	0.63–1 A	2 A	4 A	-	LC1D09–D38	LRD05
	1–1.7 A	2 A	4 A	6 A	LC1D09–D38	LRD06
	1.6–2.5 A	4 A	6 A	10 A	LC1D09–D38	LRD07
	2.5–4 A	6 A	10 A	16 A	LC1D09–D38	LRD08
	4–6 A	8 A	16 A	16 A	LC1D09–D38	LRD10
	5.5–8 A	12 A	20 A	20 A	LC1D09–D38	LRD12
	7–10 A	12 A	20 A	20 A	LC1D09–D38	LRD14
	9–13 A	16 A	25 A	25 A	LC1D12–D38	LRD16
	12–18 A	20 A	35 A	32 A	LC1D18–D38	LRD21
	16–24 A	25 A	50 A	50 A	LC1D25–D38	LRD22
	23–32 A	40 A	63 A	63 A	LC1D25–D38	LRD32
	30–38 A	50 A	80 A	80 A	LC1D32 and D38	LRD35
	17–25 A	25 A	50 A	50 A	LC1D40–D95	LRD3322
	23–32 A	40 A	63 A	63 A	LC1D40–D95	LRD3353
	30–40 A	40 A	100 A	80 A	LC1D40–D95	LRD3355
	37–50 A	63 A	100 A	100 A	LC1D40–D95	LRD3357
	48–65 A	63 A	100 A	100 A	LC1D50–D95	LRD3359
	55–70 A	80 A	125 A	125 A	LC1D50–D95	LRD3361
	63–80 A	80 A	125 A	125 A	LC1D65 and D95	LRD3363
	80–104 A	100 A	160 A	160 A	LC1D80 and D95	LRD3365
	80–104 A	125 A	200 A	160 A	LC1D115 and D150	LRD4365
	95–120 A	125 A	200 A	200 A	LC1D115 and D150	LRD4367
	110–140 A	160 A	250 A	200 A	LC1D150	LRD4369
	80–104 A	100 A	160 A	160 A	(1)	LRD33656
	95–120 A	125 A	200 A	200 A	(1)	LRD33676
	110–140 A	160 A	250 A	200 A	(1)	LRD33696
Class 20 A	6 A	10 A	16 A		LC1D09–D32	LRD1508
	4–6 A	8 A	16 A	16 A	LC1D09–D32	LRD1510
	5.5–8 A	12 A	20 A	20 A	LC1D09–D32	LRD1512
	7–10 A	16 A	20 A	25 A	LC1D09–D32	LRD1514
	9–13 A	16 A	25 A	25 A	LC1D12–D32	LRD1516
	12–18 A	25 A	35 A	40 A	LC1D18–D32	LRD1521
	17–25 A	32 A	50 A	50 A	LC1D25 and D32	LRD1522
	23–28 A	40 A	63 A	63 A	LC1D25 and D32	LRD1530
	25–32 A	40 A	63 A	63 A	LC1D25 and D32	LRD1532
	17–25 A	32 A	50 A	50 A	LC1D40–D95	LR2D3522
	23–32 A	40 A	63 A	63 A	LC1D40–D95	LR2D3553
	30–40 A	50 A	100 A	80 A	LC1D40–D95	LR2D3555
	37–50 A	63 A	100 A	100 A	LC1D50–D95	LR2D3557
	48–65 A	80 A	125 A	100 A	LC1D50–D95	LR2D3559
	55–70 A	100 A	125 A	125 A	LC1D65–D95	LR2D3561
	63–80 A	100 A	160 A	125 A	LC1D80 and D95	LR2D3563

(1) Separate mounting. Screw clamp terminal connections or connectors. For spring terminal connections on LRD01 to LRD22, add 3 to the end of the catalog number.

Example: **LRD01** becomes **LRD013**. For lug-clamp connections, add 6 to the end of the catalog number. Example: **LRD01** becomes **LRD016**. For thermal overload relays for use with class 10 A unbalanced loads, with connection by screw clamp terminals, change the prefix in the catalog numbers above from LRD (except LRD4*** to LR3D.

Example **LRD01** becomes **LR3D01**.

(5) Short circuit protection for U.S. applications: circuit breakers selected in accordance with NEC and local codes; fuses selected with maximum of 400% full load current.



For use with contactor	LC1D	LC1F
Motor current	60–150 A	30–630 A
Catalog number, to be completed	LR9D	LR9F

5

Relay setting range	Fuse to be used with selected relay (international application) (3)		For mounting	Compensated and differential beneath contactor LC1		or not with alarm
	aM	gG		Class 10	Class 20	Class 10 or 20
60–100	100	160	D115 and D150	LR9D5367	LR9D5567	
90–150	160	250	D115 and D150	LR9D5369	LR9F5569	
30–50	50	80	F115–F185	LR9F5357	LR9F5557	LR9F57
48–80	80	125	F115–F185	LR9F5363	LR9F5563	LR9F63
60–100	100	200	F115–F185	LR9F5367	LR9F5567	LR9F67
90–150	160	250	F115–F185	LR9F5369	LR9F5569	LR9F69
132–220	250	315	F185–F400	LR9F5371	LR9F5571	LR9F71
200–330	400	500	F225–F500	LR9F7375	LR9F7575	LR9F75
300–500	500	800	F225–F500	LR9F7379	LR9F7579	LR9F79
380–630	630	800	F400–F630 and F800	LR9F7381	LR9F7581	LR9F81

Accessories

Remote control

Function	Reset	Stop and/or Reset
Electrical reset (1)	LA7D03• (2)	
Reset by flexible cable (length 0.5 m)	LA7D305	
Adapter for door interlock mechanism		LA7D1020

Operating head for pushbutton

Spring return	ZA2BL639	ZA2BL432
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Rod with snap-off end

Adjustable from 17 to 120 mm	ZA2BZ13	
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Insulated terminal blocks

For relays LR9F5•57, F5•63, F5•67, F5•69, F57, F63, F67 and F69	Set of 2 blocks
	LA9F103

(1) The time for which the coil of remote electrical reset device LA7D03 can remain energized 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) Catalog number to be completed by adding the coil voltage code, see page 5/27.

(3) Short circuit protection for U.S. applications: circuit breakers selected in accordance with NEC and local codes; fuses selected with maximum of 400% full load current.

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

TeSys
LT3, LT6



For use with contactor	LC1-D or LC1-F
Motor current	No limit
Basic reference, to be completed	LT3S

3-pole multifunction protection relays

Operational current	A	0.2–1. 1–5
		LT6P0M005FM

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Protection units with automatic reset with thermistor short-circuit detection

■ without fault memory

Connection		Voltage	Output contact	Catalog number
by cage connectors	AC 50/60 Hz	115 V	N.C.	LT3SE00F
		230 V	N.C.	LT3SE00M
	DC	24 V	N.C.	LT3SE00F
On front panel: fault and voltage signalling indicator				
	AC 50/60 Hz	115/230 V	N.C. + N.O.	LT3SA00M
	DC	24/48 V	N.C. + N.O.	LT3SA00ED
	AC 50/60 Hz or DC	24–230 V	2 C.O.	LT3SA00MW

■ with fault memory

On front panel: fault and voltage signalling indicator, Test and Reset button

	AC 50/60 Hz	400 V	N.C. + N.O.	LT3SM00V
		24/48 V	N.C. + N.O.	LT3SM00E
		115/230 V	N.C. + N.O.	LT3SM00M
	DC	24/48 V	N.C. + N.O.	LT3SM00ED
	AC 50/60 Hz or DC	24–230 V	2 C.O.	LT3SM00MW



Type	Mini-Vario for standard applications			
	Mounting door		Backplate mounting in enclosure	
Handle color / Front plate	Red / Yellow Black / Black		Red / Yellow	
Front plate dimensions(mm)	60 x 60		60 x 60	
Mounting	Ø 22.5 mm		Ø 22.5 mm	
Degree of protection	IP 20		IP 20	
Rated operational voltage (Ue)	600 V		600 V	
Thermal current in open air (Ith)	10/12 A	VCDN12	VBDN12	VCCDN12
	16/20 A	VCDN20	VBDN20	VCCDN20

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Type		Vario for high performance applications						
		Mounting door					Backplate mounting in enclosure	
Handle color/Front plate		Red / Yellow	Black / Black	Red / Yellow	Black / Black	Red / Yellow		
Front plate dimensions		60 x 60 mm		60 x 60 mm		90 x 90 MM	60 x 60 mm	
Mounting		Ø 22.5 mm		4 screws		4 screws	Ø 22.5 mm	4 screws
Degree of protection		IP 20		IP 20		IP 20	IP 20	IP 20
Rated operational voltage (Ue)		600 V		600 V		600 V	600 V	600 V
Thermal current in open air :UL/IEC (A)	10/12 A	VCD02	VBD02	VCF02	VBF02	–	VCCD02	VCCF02
	16/20 A	VCD01	VBD01	VCF01	VBF01	–	VCCD01	VCCF01
	20/25 A	VCD0	VBD0	VCF0	VBF0	–	VCCD0	VCCF0
	20/32 A	VCD1	VBD1	VCF1	VBF1	–	VCCD1	VCCF1
	25/40 A	VCD2	VBD2	VCF2	VBF2	–	VCCD2	VCCF2
	45/63 A	–	–	VCF3	VBF3	–	–	VCCF3
	63/80 A	–	–	VCF4	VBF4	–	–	VCCF4
	100/125 A	–	–	–	–	VCF5	–	VCCF5
	110/175 A	–	–	–	–	VCF6	–	VCCF6



Add-on modules	For mini-Vario		For Vario						
Main pole modules									
Rating:UL/IEC (A)	10/12 A	16/20 A	10/12 A	16/20 A	20/25 A	20/32 A	25/40 A	45/63 A	63/80 A
Catalog number	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		
Catalog number	VZN11		VZ11		VZ12		VZ13		
Earthing module									
Catalog number	VZN14		VZ14		VZ15		VZ16		
Auxiliary contact block modules									
Contact types	N.O.	N.C.	N.O. + N.C.			N.O. + N.O.			
Catalog number	VZN05	VZN06	VZ7			VZ20			



Power base for D.O.L. starter					■ Non reversing		■ Reversing	
Connection by screw clamp terminals					Catalog number	Current rating	Catalog number	Current rating
Operational voltage	200/208 V	230/240 V	460 V	575/600 V				
Horsepower rating (UL ratings)	3	3	7.5	10	LUB12	12 A	LU2B12**	12 A
	10	10	20	25	LUB32	32 A	LU2B32**	32 A

5



Add-on blocks							
Contact blocks							
Signalling		Contact					
■ status of starter-controller power poles		N.O. (53-54)					
■ fault				N.C. (95-96)			
■ control handle in position O				N.O. (17-18)		N.O. (97-98)	
Connection	Item	1	1	1	1	1	1
■ screw clamp terminals	1 + 2	LUA1D11		LUA1C11		LUA1C20	
■ without connections	1	LUA1D110		LUA1C110		LUA1C200	
Auxiliary contact blocks							
		N.O.	N.C.	N.O.	N.C.	N.O.	N.C.
		2	-	1	1	-	2
■ screw clamp terminals	3	LUFN20		LUFN11		LUFN02	



Modules			
■ parallel wiring	LUFC00		
■ alarm	LUFW10		
■ communication	AS-i		Modbus
	ASILUFC5		LULC032
■ indication of motor load			4–20 mA
■ fault differentiation and reset			LUFV2
	manual reset		automatic reset
	LUFDH11		LUFDA10





Control units

■ standard		Class 10		
Setting range	Clip-in mounting on power base			
0.15–0.6	12 and 32	LUCAX6**		
0.35–1.4	12 and 32	LUCA1X**		
1.25–5	12 and 32	LUCA05**		
3–12	12 and 32	LUCA12**		
4.5–18	32	LUCA18**		
8–32	32	LUCA32**		
■ advanced		Class 10		Class 20
For motor type	■ 3-phase	■ single-phase	3-phase	
	12 and 32	LUCBX6**	LUCCX6**	LUCDX6**
	12 and 32	LUCB1X**	LUCC1X**	LUCD1X**
	12 and 32	LUCB05**	LUCC05**	LUCD05**
	12 and 32	LUCB12**	LUCC12**	LUCD12**
	32	LUCB18**	LUCC18**	LUCD18**
	32	LUCB32**	LUCC32**	LUCD32**
■ multifunction		Class 5 to 35		
	12 and 32	LUCMX6BL		
	12 and 32	LUCM1XBL		
	12 and 32	LUCM05BL		
	12 and 32	LUCM12BL		
	32	LUCM18BL		
	32	LUCM32BL		

Basic catalog number to be completed by adding the voltage code (1)

Parameter entry, monitoring of parameter values and consultation of logs are carried out:

- either on the front panel, using the built-in display window/ keypad,
 - or via an operator terminal,
 - or via a PC or a PDA with PowerSuite software,
 - or remotely, via a Modbus communication bus
- Programming of the product via the keypad requires a 24 Vdc auxiliary power supply.



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

Volts	24	48–72	110–240
DC	BL	-	-
AC	B	-	-
AC/DC	-	ES(1)	FU (2)

(1) 48–72 VDC, 48 VAC. (2) 110–220 VDC, 110–240 VAC.

Solid state overload relay system
0–800 A



Above 32 A, the U-line Solid state overload relay system provides a motor starter management solution identical to that provided by TeSys U-line 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-line self protected starter and, in particular, provides motor starter overload protection and control functions.
It consists of a control unit whose adjustment range is compatible with the secondary of current transformers, plus a control base which also allows fitment of a function module or a communication module . It requires a 24 VDC external power supply.

5	Control bases		For use with contactors	
	Current transformers (auxiliary supply voltage 24 VDC)			
	Connection	screw		
	Control	screw	LUTM10BL TeSys model D	



Control units		Class 10		Class 20	Class 5 to 30
For 3-phase motors					
Setting range	0.35–1.05				
■ advanced		LUCBT1BL		LUCDT1BL	
■ multifunction					LUCMT1BL





Accessories

Module		
■ alarm	LUFW10	
■ communication		Modbus LULC033
■ indication of motor load		4–20 mA LUFV2

5

Current transformers

Operational current						
■ primary	30	50	100	200	400	800
■ secondary	LUTC0301	LUTC0501	LUTC1001	LUTC2001	LUTC4001	LUTC8001

IEC type industrial control relays

TeSys Type CA2K, CA3K and CA4K



CA2KN40**



CA2KN403**



CA3KN407**



CA4KN405***

Control relays

- Mounting on 35 mm DIN 3 track or 4 screw direct mounting - Screws in open "ready-to-tighten" position - NEMA A600, Q600 - IEC AC15, DC13	Control Circuit		Type of Termination	Contact Configuration		Catalog number (1)
	Supply	Consumption		N.O.	N.C.	
	AC	4.5 VA	screw clamp	4	0	CA2KN40**
				3	1	CA2KN31**
				2	2	CA2KN22**
	AC	4.5 VA	spring terminals	4	0	CA2KN403**
				3	1	CA2KN313**
				2	2	CA2KN223**
	AC	4.5 VA	Slip-on 1 x 6.35 or 2 x 2.8	4	0	CA2KN407**
				3	1	CA2KN317**
				2	2	CA2KN227**
	AC	4.5 VA	solder pins for printed circuit board	4	0	CA2KN405**
				3	1	CA2KN315**
				2	2	CA2KN225**
	DC	3 W	screw clamp	4	0	CA3KN40**
				3	1	CA3KN31**
				2	2	CA3KN22**
	DC	3 W	spring terminals	4	0	CA3KN403**
				3	1	CA3KN313**
				2	2	CA3KN223**
	DC	3 W	Slip-on 1 x 6.35 or 2 x 2.8	4	0	CA3KN407**
				3	1	CA3KN317**
				2	2	CA3KN227**
	DC	3 W	solder pins for printed circuit board	4	0	CA3KN405**
				3	1	CA3KN315**
				2	2	CA3KN225**

Low consumption control relays

- Compatible with programmable controller outputs - LED indicator incorporated - Wide range coil (70 to 130% U_c), suppressor fitted as standard - Mounting on 35 mm DIN 3 track or 4 screw direct mounting - Screws in open "ready-to-tighten" position	DC	1.8 W	screw clamp	4	0	CA4KN40***
				3	1	CA4KN31***
				2	2	CA4KN22***
	DC	1.8 W	spring terminals	4	0	CA4KN403***
				3	1	CA4KN313***
				2	2	CA4KN223***
	DC	1.8 W	Slip-on 1 x 6.35 or 2 x 2.8	4	0	CA4KN407***
				3	1	CA4KN317***
				2	2	CA4KN227***
	DC	1.8 W	solder pins for printed circuit board	4	0	CA4KN405***
				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 U_c) (0.85–1.1 U_c)

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

CA3-K control relays (0.8–1.15 U_c)

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 U_c)

Volts DC	12	24	48	72
Code	JW3	BW3	EW3	SW3

For additional options and information, reference catalog 8501CT0101.

IEC type industrial control relays

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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

For additional options and information, reference catalog 8501CT0101.

For other versions, please consult with your local Schneider Electric agency/
Square D sales office: visit www.us.telemecanique.com.

IEC type industrial control relays

TeSys Type CAD



CAD32**



CAD503**



CAD326**

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						

For additional options and information, reference catalog 8501CT0101.

IEC type industrial control relays

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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.	N.C.	(1)	Normal N.O.	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; see diagram on page 8 of Catalog 8501CT0101).

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
				0.1 to 3 sec. (2)	LADR03
1 N.C. and 1 N.O.	1	Off-Delay	spring terminal	0.1 to 30 sec.	LADR23
				10 to 180 sec.	LADR43

(Lockout Cover, see page 7 of Catalog 8501CT0101.)

(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.

For additional options and information, reference catalog 8501CT0101.

Contactors and starters
 3-pole contactors and starters,
 open style

(1) Standard control circuit voltages:

Volts	24	110	120	208	220
50 Hz	–	V02	–	–	V03
60 Hz	V01 (4)	–	V02	V08	–

Volts	240	380	440	480	600
50 Hz	–	V05	V06	–	–
60 Hz	V03	–	–	V06	V07

For 24 V and 120 V coils add the letter "S" for separate control. Example: 8502SAO12 V01S.



Type							Contactors 3-pole, open style	Starters 3-pole, open style			
Characteristics											
NEMA size	Standard power ratings of 3-phase motors 50/60 Hz				Maximum continuous current	Basic catalog number complete with code indicating control circuit voltage (1) and optional Forms (2)	Basic catalog number complete with code indicating control circuit voltage (1) optional Forms (2) and “H” code (3)				
Motor voltage											
	200 V		230 V		460 V	575 V					
	Hp	kW	Hp	kW	Hp	kW	A				
00	1.5	1.1	1.5	1.1	2	1.5	2	1.5	9	8502SAO12 ppp	8536SAO12 ppp
0	3	2.2	3	2.2	5	3.7	5	3.7	18	8502SBO2 ppp	8536 SBO2 ppp
1	7.5	5.5	7.5	5.5	10	7.5	10	7.5	27	8502SCO2 ppp	8536 SCO3 ppp
2	10	7.5	15	11	25	18.5	25	18.5	45	8502SDO2 ppp	8536 SDO1 ppp
3	25	18.5	30	22	50	37	50	37	90	8502SEO2 ppp	8536 SEO1 ppp
4	40	30	50	37	100	75	100	75	135	8502SFO2 ppp	8536 SFO1 ppp
5	75	55	100	75	200	150	200	150	270	8502SGO2 ppp	8536 SGO1 ppp
6	150	110	200	150	400	300	400	300	540	8502SHO2 ppp	8536 SHO2 ppp
7	—	—	300	220	600	450	600	450	810	8502SJO2 ppp	8536 SJO2 ppp

(2) For optional Forms, please consult your nearest Square D/Schneider Electric sales office.

(3) Add the letter "H" for Solid State Overload Relays, see tables below.

(4) 24 V coil is not available for sizes 4 to 7. Available for sizes 00–3, specify the letter "S" for separate control.

Solid State Overload Relays

(6) Standard current ranges dependent on starter size e:

Size	00	0	1	2	3
Current ranges A	1.5–4.5 (8)	6–18	9–27	15–45	30–90

Size	4	5	6	7
Current ranges A	45–135	90–270	180–540 (8)	270–810 (9)



Form adders			Motor Logic® solid state relays Without additional auxiliary contact	Motor Logic® solid state relays With additional auxiliary contact
Description	Current range	For use with	Suffix to be added to the starter catalog number (7)	Suffix to be added to the starter catalog number (7)
Trip class 10	Base unit,	(6)	8536 Spp	H10 H11
Base unit, Trip class 20	(6)	8536 Spp	H20	H21
Feature unit	(6)	8536 Spp	H30	H31
		8736 Spp		

(7) Example: 8536SAO12V01H10.

(8) Only available with feature units.

(9) Only available with feature units with auxiliary contact.
For additional information, reference catalog 8502CT9701.

3-pole reversing contactors and reversing starters, open style

(1) Standard control circuit voltages:

Volts	24	110	120	208	220
50 Hz	–	V02	–	–	V03
60 Hz	V01 (4)	–	V02	V08	–

Volts	240	380	440	480	600
50 Hz	–	V05	V06	–	–
60 Hz	V03	–	–	V06	V07

For 24 V and 120 V coils add the letter "S" for separate control. Example: 8702SAO4V01S.

Type									Reversing contactors 3-pole, open style			Reversing starters 3-pole, open style		
Characteristics														
NEMA size	Standard power ratings of 3-phase motors 50/60 Hz						Maximum continuous current	Basic catalog number complete with code indicating control circuit voltage (1) and optional Forms (2)			Basic catalog number complete with code indicating control circuit voltage (1) optional Forms (2) and “H” code (3)			
	Motor voltage													
	200 V		230 V		460 V		575 V							
	Hp	kW	Hp	kW	Hp	kW	Hp	kW	A	Vertical	Side by side	Vertical	Side by side	
00	1.5	1.1	1.5	1.1	2	1.5	2	1.5	9	–	8702SAO4 ppp	–	8736SAO16 ppp	
0	3	2.2	3	2.2	5	3.7	5	3.7	18	8702SBO12 ppp	8702SBO4 ppp	8736SBO10 ppp	8736SBO4 ppp	
1	7.5	5.5	7.5	5.5	10	7.5	10	7.5	27	8702SCO7 ppp	8702SCO8 ppp	8736SCO7 ppp	8736SCO8 ppp	
2	10	7.5	15	11	25	18.5	25	18.5	45	8702SDO1 ppp	8702SDO2 ppp	8736SDO1 ppp	8736SDO2 ppp	
3	25	18.5	30	22	50	37	50	37	90	8702SEO1 ppp	8702SEO2 ppp	8736SEO1 ppp	8736SEO2 ppp	
4	40	30	50	37	100	75	100	75	135	8702SFO1 ppp	8702SFO3 ppp	8736SFO1 ppp	8736SFO3 ppp	
5	75	55	100	75	200	150	200	150	270	8702SGO1 ppp	8702SGO3 ppp	8736SGO1 ppp	8736SGO3 ppp	
6	150	110	200	150	400	300	400	300	540	–	8702SHO1 ppp	–	8736SHO1 ppp	
7	–	–	300	220	600	450	600	450	810	–	8702SJO1 ppp	–	8736SJO1 ppp	

(2) For optional Forms, please consult your nearest Square D/Schneider Electric sales office.

(3) Add the letter "H" for Solid State Overload Relays, see tables below.

(4) 24 V coil is not available for sizes 4 to 7. Available for sizes 00–3, specify the letter "S" for separate control.

Solid State Overload Relays



Form adders	Motor Logic® PLUS solid state relays 200 to 480 V	Motor Logic® PLUS solid state relays 600 V
Current range	Suffix to be added to the starter catalog number (7)	Suffix to be added to the starter catalog number (7)
0.5–2.3 A	B20	B24
2–9 A	B30	B34
6–27 A	B40	B44
10–45 A	B50	B54
20–90 A	B60	B64
60–135 A	B70	B74
120–270 A	B80	B84
240–540 A	B90	B94

(7) Example: 8536SAO12V01B20.

For additional information, reference catalog 8502CT9701.

Combination starters 3-pole disconnect switch starters



NEMA 1 general purpose enclosure



NEMA 12 dust-tight and drip-tight industrial use enclosure

Type						3-pole starters non-reversing with Class H fuses	3-pole starters, non-reversing with Class R fuses	3-pole starters, non-reversing with Class H fuses	3-pole starters, non-reversing with Class R
fuses									
Characteristics									
Size	Standard power ratings				Fuse	Basic catalog number	Basic catalog number	Basic catalog number	Basic catalog number
NEMA	of 3-phase motors 50/60 Hz				size	complete with code indicating control circuit voltage (1) optional Forms (2) and H code (3)	complete with code indicating control circuit voltage (1) and optional Forms (2)	complete with code indicating circuit voltage (1) optional Forms (2) and H code (3)	complete with code indicating circuit voltage (1) and optional Forms (2)
Motor voltage (starter voltage)									
200 V (208 V) 230 V (240 V) 460 V (480 V) 575 V (600 V)									
	Hp	kW	Hp	kW	Hp	kW	Hp	kW	A
0	3	2.2	3	2.2	—	—	—	—	30
	—	—	—	—	5	3.75	5	3.75	30
1	5	3.75	5	3.75	—	—	—	—	30
	—	—	—	—	10	7.5	10	7.5	30
2	7.5	5.5	7.5	5.5	—	—	—	—	60
	10	7.5	15	11	—	—	—	—	60
	—	—	—	—	15	11	15	11	30
	—	—	—	—	25	18.5	25	18.5	60
3	20	15	25	18.5	—	—	—	—	100
	—	—	—	—	50	37	50	37	100
	25	18.5	30	22	—	—	—	—	200
4	40	30	50	37	—	—	—	—	200
	—	—	—	—	100	75	100	75	200
5	75	55	100	75	—	—	—	—	400
	—	—	—	—	200	150	200	150	400
6	150	110	200	150	—	—	—	—	600
	—	—	—	—	400	300	400	300	600

(1) Standard control circuit voltages:

Volts	24	110	120	208	220	240	380	440	480	600
50 Hz	—	V02	—	—	V03	—	V05	V06	—	—
60 Hz	V01 (6)(7)	—	V02 (6)	V08	—	V03	—	—	V06	V07

For 24 V and 120 V coils add the letter "S" for separate control. Example: 8538SBG12 V01S.

(2) For optional Forms, please consult your nearest Square D/Schneider Electric sales office.

(3) Add the letter "H" for Solid State Overload Relays, see table on page opposite.

(4) To order a unit with external reset, replace (4) with "2". To order a unit without external reset, replace (4) with "1".

(5) To order a unit with external reset, replace (5) with "4". To order a unit without external reset, replace (5) with "3".

(6) To order this voltage code, add the letter "S" (separate control).

(7) 24 V coil not available for sizes 4 to 6. Available for sizes 0 to 3, specify letter "S" (separate control).

Solid state overload Relays



Form adders			Motor Logic® solid state relays
For use with	Current range	Description	Suffix to be added to the starter catalog number(9)
8538SpG 1p /Sp A 1p /SpA 2p (except 8538 SDG16/SDA16/SDA26)	(8)	Base unit, Trip Class 10	H10
	(8)	Base unit, Trip Class 20	H20
	(8)	Feature unit	H30
8538SBG12/13, 8538SBA12/22/13/23, 8538SCG12/14, 8538SCA12/22/14/24, 8538SDG16, 8538SDA16/26	3–9 A	Base unit, Trip Class 10	H109
	3–9 A	Base unit, Trip Class 20	H209
	1.5–4.5 A	Feature unit	H308
	3–9 A	Feature unit	H309
8538SCG12/14	6–18 A	Base unit, Trip Class 10	H100
8538SCA12/22/14/24,	6–18 A	Base unit, Trip Class 20	H200
8538SDG16	6–18 A	Feature unit	H300
8538SDA16/26			
8538SDG16,	9–27 A	Base unit, Trip Class 10	H101
8538SDA16/26	9–27 A	Base unit, Trip Class 20	H201
	9–27 A	Feature unit	H301

(8) Standard current ranges dependent on starter size:

Size	00	0	1	2	3	4	5	6	7
Current ranges A	3–9	6–18	9–27	15–45	30–90	45–135	90–270	180–540 ⁽¹⁰⁾	270–810 ⁽¹¹⁾

(9) Example: 8538SBG12V01H10.

(10) Only available with feature units.

(11) Only available with feature units with auxiliary contact.

(1) Standard control circuit voltages:

Volts	24	110	120	208	220
50 Hz	–	V02	–	–	V03
60 Hz	V01 (4)(5)	–	V02 (4)	V08	–

Volts	240	380	440	480	600
50 Hz	–	V05	V06	–	–
60 Hz	V03	–	–	V06	V07

For 24 V and 120 V coils add the letter "S" for separate control. Example: 8539SCG41V02H10S.



NEMA 1 general purpose enclosure

Type										3-pole circuit breaker starter s, non-reversing	
Characteristics											
NEMA size	Standard power ratings of 3-phase motors 50/60 Hz								Circuit-breaker	Basic catalog number complete with code indicating control circuit voltage (1), optional Forms (2) and “H” code (3)	
Motor voltage (star ter voltage)											
200 V (208 V) 230 V (240 V) 460 V (480 V) 575 V (600 V)											
	Hp	kW	Hp	kW	Hp	kW	Hp	kW			
0	0.3	0.2	0.3	0.2	1	0.75	1	0.75	GJL 36003 MO1	8539SBG41 ppp	
	1	0.75	1	0.75	3	2.2	3	2.2	GJL 36007 MO2	8539SBG42 ppp	
	3	2.2	3	2.2	5	3.7	5	3.7	GJL 36015 MO3	8539SBG43 ppp	
1	0.3	0.2	0.3	0.2	1	0.75	1	0.75	GJL 36003 MO1	8539SCG41 ppp	
	1	0.75	1	0.75	3	2.2	3	2.2	GJL 36007 MO2	8539SCG42 ppp	
	3	2.2	3	2.2	7.5	5.5	10	7.5	GJL 36015 MO3	8539SCG43 ppp	
	5	3.7	7.5	5.5	10	7.5	–	–	GJL 36030 MO4	8539SCG44 ppp	
	7.5	5.5	–	–	–	–	–	–	GJL 36050 MO5	8539SCG45 ppp	
2	3	2.2	3	2.2	7.5	5.5	10	7.5	GJL 36015 MO3	8539SDG41 ppp	
	5	3.7	7.5	5.5	15	11	20	15	GJL 36030 MO4	8539SDG42 ppp	
	10	7.5	10	7.5	25	18.5	25	18.5	GJL 36050 MO5	8539SDG43 ppp	
	–	–	15	11	–	–	–	–	GJL 36075 MO6	8539SDG44 ppp	
3	–	–	–	–	25	18.5	30	22	GJL 36050 MO5	8539SEG41 ppp	
	25	18.5	30	22	30	22	50	37	FAL 36100 18M	8539SEG42 ppp	
4	30	22	–	–	75	55	100	75	KAL 36250 25M	8539SFG42 ppp	
	–	–	40	30	–	–	–	–	KAL 36250 26M	8539SFG43 ppp	
	–	–	50	37	100	75	–	–	KAL 36250 29M	8539SFG44 ppp	
5	–	–	–	–	–	–	125	90	KAL 36250 29M	8539SGG41 ppp	
	50	37	–	–	–	–	150	110	KAL 36250 30M	8539SGG42 ppp	
	–	–	60	45	125	90	–	–	KAL 36250 31M	8539SGG43 ppp	
	60	45	75	55	150	110	200	150	LAL 36400 32M	8539SGG44 ppp	
	75	55	–	–	–	–	–	–	LAL 36400 33M	8539SGG45 ppp	
	–	–	100	75	200	150	–	–	LAL 36400 35M	8539SGG46 ppp	
6	–	–	–	–	–	–	250	185	LAL 36400 35M	8539SHG42 ppp	
	100	75	–	–	250	185	300	220	LAL 36400 36M	8539SHG43 ppp	
	125	90	150	110	300	220	400	300	MAL 36600 40M	8539SHG44 ppp	
	150	110	–	–	350	250	–	–	MAL 36600 42M	8539SHG45 ppp	
	–	–	200	150	400	300	–	–	MAL 36600 44M	8539SHG46 ppp	
7	–	–	–	–	–	–	500	370	MAL 36800 44M	8539SJG41 ppp	
	–	–	250	185	500	370	600	450	MAL 36800 45M	8539SJG42 ppp	
	–	–	300	220	600	450	–	–	MAL 361000 47M	8539SJG43 ppp	

(2) For optional Forms, please consult your nearest Schneider Electric/Square D sales office.

(3) Add the letter "H" for Motor Logic® solid state overload relays, see page 1-30.

Motor Logic® PLUS solid state overload relays are not available on combination starters.

(4) For this voltage code, add the letter "S" (separate control).

(5) 24 V coil not available for sizes 4 to 6. Available for sizes 0 to 3, specify letter "S" (separate control).

Thermal-magnetic circuit-breaker starters

(1) Standard control circuit voltages:

Volts	24	110	120	208	220
50 Hz	–	V02	–	–	V03
60 Hz	V01 (4/5)	–	V02 (4)	V08	–

Volts	240	380	440	480	600
50 Hz	–	V05	V06	–	–
60 Hz	V03	–	–	V06	V07

For 24 V and 120 V coils add the letter "S" for separate control. Example: 8539SBG1V02H10S.

NEMA 1 general purpose enclosure



Type								3-pole thermal-magnetic circuit-breaker starters, non-reversing
Characteristics								Basic catalog number complete with code indicating control circuit voltage (1), optional Forms (2) and "H" code (3)
NEMA size	Standard power ratings of 3-phase motors 50/60 Hz				Circuit-breaker			
	Motor voltage (starter voltage)				Type	Current rating		
	200 V (208 V)	230 V (240 V)	460 V (480 V)	575 V (600 V)				
	Hp kW	Hp kW	Hp kW	Hp kW		A		
0	2 1.5	2 1.5	– –	– –	FAL	15	8539SBG1	ppp
	– –	– –	5 3.7	5 3.7	FAL	15	8539SBG2	ppp
	3 2.2	3 2.2	– –	– –	FAL	20	8539SBG3	ppp
1	5 3.7	– –	– –	– –	FAL	35	8539SCG5	ppp
	7.5 5.5	– –	– –	– –	FAL	50	8539SCG2	ppp
	– –	5 3.7	– –	– –	FAL	30	8539SCG1	ppp
	– –	7.5 5.5	– –	– –	FAL	45	8539SCG6	ppp
	– –	– –	7.5 5.5	10 7.5	FAL	20	8539SCG3	ppp
	– –	– –	10 7.5	– –	FAL	25	8539SCG7	ppp
	– –	– –	– –	7.5 5.5	FAL	15	8539SCG8	ppp
	– –	– –	– –	– –	FAL	60	8539SDG1	ppp
2	10 7.5	10 7.5	– –	– –	FAL	60	8539SDG1	ppp
	– –	15 11	– –	– –	FAL	80	8539SDG7	ppp
	– –	– –	7.5 5.5	– –	FAL	20	8539SDG3	ppp
	– –	– –	20 15	25 18.5	FAL	60	8539SDG4	ppp
	– –	– –	25 18.5	– –	FAL	70	8539SDG5	ppp
	– –	– –	– –	15 11	FAL	35	8539SDG8	ppp
	– –	– –	– –	20 15	FAL	45	8539SDG9	ppp
	– –	– –	– –	– –	FAL	90	8539SEG3	ppp
3	15 11	20 15	40 30	50 37	FAL	90	8539SEG3	ppp
	20 15	25 18.5	50 37	– –	FAL	100	8539SEG1	ppp
	25 18.5	30 22	– –	– –	KAL	110	8539SEG5	ppp
	– –	– –	30 22	40 30	FAL	80	8539SEG6	ppp
	– –	– –	– –	30 22	FAL	60	8539SEG4	ppp
4	30 22	– –	75 55	– –	KAL	125	8539SFG3	ppp
	40 30	50 37	100 75	– –	KAL	200	8539SFG4	ppp
	– –	40 30	– –	100 75	KAL	150	8539SFG1	ppp
	– –	– –	60 45	75 55	KAL	110	8539SFG5	ppp
	– –	– –	– –	60 45	FAL	100	8539SFG6	ppp
5	50 37	– –	– –	150 110	LAL	200	8539SGG6	ppp
	60 45	75 55	150 110	200 150	LAL	250	8539SGG1	ppp
	75 55	– –	– –	– –	LAL	300	8539SGG4	ppp
	– –	60 45	125 90	– –	LAL	225	8539SGG3	ppp
	– –	100 75	200 150	– –	LAL	350	8539SGG2	ppp
	– –	– –	– –	125 90	KAL	200	8539SGG7	ppp
6	100 75	125 90	250 185	300 220	MAL	450	8539SHG4	ppp
	125 90	150 110	300 220	400 300	MAL	600	8539SHG3	ppp
	150 110	– –	350 250	– –	MAL	600	8539SHG5	ppp
	– –	200 150	400 300	– –	MAL	800	8539SHG7	ppp
	– –	– –	– –	250 185	MAL	250	8539SHG6	ppp
	– –	– –	– –	350 250	MAL	500	8539SHG2	ppp
	– –	250 185	500 370	600 450	MAL	900	8539SJG2	ppp
7	– –	300 220	600 450	– –	MAL	1000	8539SJG3	ppp
	– –	– –	– –	500 370	MAL	800	8539SJG1	ppp

(2) For optional Forms, please consult your nearest Schneider Electric/Square D sales office.

(3) Add the letter "H" for Motor Logic® solid state overload relays, see page 5/30.

Motor Logic® PLUS solid state overload relays are not available on combination starters.

(4) For this voltage code, add the letter "S" (separate control).

(5) 24 V coil not available for sizes 4 to 6. Available for sizes 0 to 3, specify letter "S" (separate control).

For additional information, reference catalog 8538CT9701.



Type			Base units for separate mounting	Base units for retrofit to Type S starters (2)
NEMA Size	Full load current range	Type	Catalog number	Catalog number
3-phase 00C (1)	3–9 A	Trip Class 10	9065SSC10	9065SSC10
		Trip Class 20	9065SSC20	9065SSC20
0 (1)	6–18 A	Trip Class 10	9065SS010	9065SS010
		Trip Class 20	9065SS020	9065SS020
1 (1)	9–27 A	Trip Class 10	9065SS110	9065SS110
		Trip Class 20	9065SS120	9065SS120
2	15–45 A	Trip Class 10	9065SS210	9065SR210
		Trip Class 20	9065SS220	9065SR220
3	30–90 A	Trip Class 10	9065SS310	9065SR310
		Trip Class 20	9065SS320	9065SR320
4	45–135 A	Trip Class 10	9065SS410	9065SR410
		Trip Class 20	9065SS420	9065SR420

Motor Logic
feature units



Type			Feature units for separate mounting	Feature units for retrofit to Type S starters (2)
NEMA Size	Full load current range	Type	Catalog number	Catalog no.
3-phase 00B (1)	1.5–4.5 A	Trip Class 10/20	9065SFB20	9065SFB20
00C (1)	3–9 A	Trip Class 10/20	9065SFC20	9065SFC20
0 (1)	6–18 A	Trip Class 10/20	9065SF020	9065SF020
1 (1)	9–27 A	Trip Class 10/20	9065SF120	9065SF120
2	15–45 A	Trip Class 10/20	9065SF220	9065ST220
3	30–90 A	Trip Class 10/20	9065SF320	9065ST320
4	45–135 A	Trip Class 10/20	9065SF420	9065ST420
5 (3)	90–270 A	Trip Class 10/20	–	9065ST520
6 (3)	180–540 A	Trip Class 10/20	–	9065ST620
7 (3)	270–810 A	Trip Class 10/20	–	9065ST720

(1) For power connection kit, see table on page opposite.
(2) For Type S starter catalog numbers, see page 5/30.
(3) Replacement for existing Type S starters with an existing Motor Logic® solid state overload relay. Does not include primary current transformer or additional components.

Motor Logic PLUS programmable units



Type			Base units for separate mounting
NEMA Size	Current range A	Voltage V	Catalog number
0	0.5–2.3	200–480	9065SPB4
		600	9065SPB6
0	2–9	200–480	9065SPC4
		600	9065SPC6
1	6–27	200–480	9065SP14
		600	9065SP16
2	10–45	200–480	9065SP24
		600	9065SP26
3	20–90	200–480	9065SP34
		600	9065SP36
4 (1)	60–135	200–480	9065SP44
		600	9065SP46
5 (2)	120–270	200–480	9065SP54
		600	9065SP56
6 (3)	240–540	200–480	9065SP64
		600	9065SP66

(1) Size 4 requires the use of an external current transformer. Ratio of 150:5 recommended.

(2) Size 5 requires the use of an external current transformer. Ratio of 300:5 recommended.

(3) Size 6 requires the use of an external current transformer. Ratio of 600:5 recommended.

Accessories

Type			Power connection kits
Type	Description	For use on	Catalog number
Lug connector kits	For separate mounting	9065 Sp (Sizes 00B/00C/0/1)	9999LLO
	For mounting on Type S starters	9065 Sp (Sizes 00B/00C/0/1)	9999LBO

Compact contactors, single-pole and 2-pole



Type													Compact contactors single-pole	Compact contactors 2-pole ⁽³⁾	
Full load current	Locked rotor current			Resistive load current	Motor power								N.O. poles	Basic catalog number complete with code indicating control circuit voltage ⁽¹⁾	Basic catalog number complete with code indicating control circuit voltage ⁽¹⁾
	277 V	480 V	575 V		115V single-phase	230V single-phase	230 V460/575 V 3-phase		3-phase						
A	A	A	A	A	Hp	kW	Hp	kW	Hp	kW	Hp	kW			
20	100	100	80	25	1	0.75	2	1.5	–	–	–	–	1 or 2	8910DP11 ppp	8910DP12 ppp
25	125	125	100	30	2	1.5	3	2.2	–	–	–	–	1 or 2	8910DP21 ppp	8910DP22 ppp
30	150	150	120	40	2	1.5	(1)	(1)	–	–	–	–	1 or 2	8910DP31 ppp	8910DP32 ppp
40	240	200	160	50 (2)	2	1.5	5	3.7	–	–	–	–	1 or 2	8910DP41 ppp	8910DP42 ppp

(1) 3 hp (2.2 kW) for 1-pole device; 5 hp (3.7 kW) for 2-pole device.

2, 3 and 4-pole, contactors



Type													2, 3 and 4-pole, contactors (3)	
Full load current	Locked rotor current			Resistive load current	Motor power								Basic catalog number complete with code indicating control circuit voltage (1)	
	277 V	480 V	575 V		115 V single-phase	230 V single-phase	230 V 3-phase	460/575 V 3-phase						
A	A	A	A	A	Hp	kW	Hp	kW	Hp	kW	Hp	kW		
20	120	100	80	25	1	1.1	2	1.5	5	3.7	7.5	5.5	2	8910DPA12 ppp
													3	8910DPA13 ppp
													4	8910DPA14 ppp
25	150	125	100	35	2	1.5	3	2.2	7.5	5.5	10	7.5	2	8910DPA22 ppp
													3	8910DPA23 ppp
													4	8910DPA24 ppp
30	180	150	120	40	2	1.5	5	3.7	10	7.5	15	11	2	8910DPA32 ppp
													3	8910DPA33 ppp
													4	8910DPA34 ppp
40	240	200	160	50	3	2.2	7.5	5.5	10	7.5	20	15	2	8910DPA42 ppp
													3	8910DPA43 ppp
													4	8910DPA44 ppp
50	300	250	200	62	3	2.2	10	7.5	15	11	30	22	2	8910DPA52 ppp
													3	8910DPA53 ppp
60	360	300	240	75	5	3.7	10	7.5	25	18.5	30	22	2	8910DPA62 ppp
													3	8910DPA63 ppp
75	450	375	300	94	5	3.7	15	11	25	18.5	40	30	2	8910DPA72 ppp
													3	8910DPA73 ppp
90	540	450	360	120	7.5	5.5	20	15	30	22	50	37	2	8910DPA92 ppp
													3	8910DPA93 ppp
120	720	600	480	120	10	7.5	25	18.5	40	30	75	55	2	8910DPA122 ppp
													3	8910DPA123 ppp

For additional information, reference catalog 8910CT9301R6/97.

4-pole contactors

Type														4-pole contactors with 2 N.O. and 2 N.C. poles	
Full load current	Locked rotor current			Resistive load current	Motor power								N.O. poles (3)	N.C. poles (7)	Basic catalog number complete with code indicating control circuit voltage (1)
	277 V	480 V	575 V		115 V single-phase	230 V single-phase	230 V/460/575 V 3-phase		3-phase						
A	A	A	A	A	Hp	kW	Hp	kW	Hp	kW	Hp	kW			
20	120	100	80	25	1	0.75	2	1.5	5	3.7	7.5	5.5	2	2	
25	150	125	100	35	2	1.5	3	2.2	7.5	5.5	10	7.5	2	2	
30	180	150	120	40	2	1.5	5	3.7	10	7.5	15	11	2	2	
40	240	200	160	50	3	2.2	7.5	5.5	10	7.5	20	15	2	2	

Accessories

Type		External auxiliary contacts
For use on	Description	Catalog number
8910DPA	1 N.O. contact	9999D10
	1 N.C. contact	9999D01
	1 N.O. and 1 N.C. contacts	9999D11
	2 N.O. contacts	9999D20
8910DPA122/123	1 N.O. contact	9999SX6
	1 N.C. contact	9999SX7
	1 N.O. and 1 N.C. isolated contacts	9999SX8
	1 N.O. overlapping contact	9999SX9
	1 N.C. overlapping contact	9999SX10

(1) Standard control circuit voltages for 8910DP/DPA :

Volts	24	110	120	208-240	220	277	440	480	550	600
50 Hz	V14	V02	—	—	V09	—	V06 (4)	—	V07 (5)	—
60 Hz	V14	—	V02	V09	—	V04	—	V06 (4)	—	V07 (5)

Standard control circuit voltage for 8910DPA122/DPA123:

Volts	24	110	120	208	220	230-240	440	480	550	600
50 Hz	V12	V02	—	—	V03	—	V06	—	V07	—
60 Hz	V01 (6)	—	V02	V08	—	V03	—	V06	—	V07

(2) 50 A resistive limited to 277 V (single pole device only). All other contactors rated 40 A resistive (above 277 V).

(3) Above 240 V, all lines must be switched.

(4) Not available for type 8910DP11 to 8910DP31 single-pole devices.

(5) Not available for type 8910DP single and 2-pole devices.

(6) Only available on types 8910DPA122/DPA123.

(7) N.C. poles on outside. N.C. poles "open" before N.O. poles "close".

For additional information, reference catalog 8910CT9301R6/97.

Lighting contactors Multipole contactors Types L and LX



Type		Multipole contactors, open style, electrically held (2)	Multipole contactors, open style, mechanically held (2)
Thermal operating current (A)	Number of poles (3)	Basic catalog number complete with code indicating control circuit voltage (1)	Basic catalog number complete with code indicating control circuit voltage (1)
20	2	8903LO20 ppp	8903LXO20 ppp
	3	8903LO30 ppp	8903LXO30 ppp
	4	8903LO40 ppp	8903LXO40 ppp
	6	8903LO60 ppp	8903LXO60 ppp
	8	8903LO 80 ppp	8903LXO80 ppp
	10	8903LO1000 ppp	8903LXO1000 ppp
	12	8903LO1200 ppp	8903LXO1200 ppp

(1) Standard control circuit voltages:

Volts	24 (4)	110	120	208	220
50 Hz	—	V02	—	—	V03
60 Hz	V01	—	V02	V08	—

Volts	240	277	440	480
50 Hz	—	—	V06	—
60 Hz	V03	V04	—	V06

For Forms and kits, please consult your nearest Square D/Schneider Electric sales office.

Multipole contactors Type S



Type		Multipole contactors, open style, electrically held (2)	Multipole contactors, open style, mechanically held (2)
Thermal operating current (A)	Number of poles	Basic catalog number complete with code indicating control circuit voltage (1)	Basic catalog number complete with code indicating control circuit voltage (1)
30	2	8903SMO1 ppp	8903SMO10 ppp
	3	8903SMO2 ppp	8903SMO11 ppp
	4	8903SMO3 ppp	8903SMO12 ppp
	5	8903SMO4 ppp	8903SMO13 ppp
60	2	8903SPO1 ppp	8903SPO10 ppp
	3	8903SPO2 ppp	8903SPO11 ppp
	4	8903SPO3 ppp	8903SPO12 ppp
	5	8903SPO4 ppp	8903SPO13 ppp
100	2	8903SQO1 ppp	8903SQO10 ppp
	3	8903SQO2 ppp	8903SQO11 ppp
	4	8903SQO3 ppp	8903SQO12 ppp
	5	8903SQO4 ppp	8903SQO13 ppp
200	2	8903SVO1 ppp	8903SVO10 ppp
	3	8903SVO2 ppp	8903SVO11 ppp
	4	8903SVO3 ppp	8903SVO12 ppp
	5	8903SVO4 ppp	—
300	2	8903SXO1 ppp	8903SXO13 ppp
	3	8903SXO2 ppp	8903SXO14 ppp
400 (5)	2	8903SYO1 ppp	8903SYO16 ppp
	3	8903SYO2 ppp	8903SYO17 ppp
600 (5)	2	8903SZO1 ppp	8903SZO18 ppp
	3	8903SZO2 ppp	8903SZO19 ppp
800 (5)	2	8903SJO1 ppp	8903SJO10 ppp
	3	8903SJO2 ppp	8903SJO11 ppp

(2) All lighting contactors are provided with separate control as standard, except electrically held 400, 600 and 800 A devices.

Electrically held 400, 600 and 800 A devices are provided with common control.

(3) For factory conversion of N.O. contacts to N.C., order following this example: for 2 N.O. + 2 N.C., order catalog no. 8903LO22.

There is a maximum of eight N.C. poles for Type 8903L contactors and a maximum of six N.C. poles for Type 8903LX contactors (field conversion only).

Versions are available with up to 12 N.C. poles (factory only).

(4) 24 V coils are not available for 200–800 A devices.

(5) Form F4T is provided as standard on electrically held devices 400–800 A; include line voltage when ordering. Control voltage is 120–60.

For 400–800 A devices—must specify line voltage, not control voltage.

For additional information, reference catalog 8903CT9701.

For other versions, please consult with your local Schneider Electric/
Square D sales office: visit www.us.telemechanique.com.

Manual starters and switches **NEMA Type**

Manual starters Type F, general purpose surface mounting enclosure (NEMA 1)



Type											Single units, standard starters	Single units, starters with handle padlockable in the 'O' position
Type of operator	Number of poles	Maximum power of single-phase motors						Maximum continuous current	Features		Catalog number	Catalog number
		115-230 Vac		115-230 Vdc		277 Vac						
		Hp	kW	Hp	kW	Hp	kW	A				
Toggle operator (1)	1	1	0.75	-	-	1	0.75	16	Standard		2510FG1	2510FG5
									With red pilot light		2510FG1P	2510FG5P
(1)	2	1	0.75	0.75	0.55	1	0.75	16	Standard		2510FG2	2510FG6
									With red pilot light		2510FG2P	2510FG6P
Removable key (1)	1	1	0.75	-	-	1	0.75	16	Standard		2510FG3	-
									With red pilot light		2510FG3P	-
(1)	2	1	0.75	0.75	0.55	1	0.75	16	Standard		2510FG4	-
									With red pilot light		2510FG4P	-

5

Type											Duplex units, 1 starter in duplex enclosure	Duplex units, 2 starters in one enclosure
Type of operator	Number of poles	Maximum power of single-phase motors						Maximum continuous current	Features		Catalog number	Catalog number
		115-230 Vac		115-230 Vdc		277 Vac						
		Hp	kW	Hp	kW	Hp	kW	A				
Toggle operator (1) (2)	2 (3)	1	0.75	0.75	0.55	1	0.75	16	Standard		2510FG02	2510FG22
									With red pilot light		2510FG02P	2510FG22P
Removable key (1) (2)	2 (3)	1	0.75	0.75	0.55	1	0.75	16	With red pilot light		2510FG04P	2510FG44P

Type											Duplex units, starters with "AUTO-OFF-HAND" selector switch	
Type of operator	Type of of poles	Number of single-phase motors	Maximum power				Maximum continuous current		Features		Catalog number	
			115-230 Vac		115-230 Vdc		277 Vac					
			Hp	kW	Hp	kW	Hp	kW	A			
Toggle operator (1)	1	1	0.75	-	-	1	0.75	16	Standard		2510FG71	
									With red pilot light		2510FG71P	
(1)	2	1	0.75	0.75	0.55	1	0.75	16	Standard		2510FG72	
									With red pilot light		2510FG72P	
Removable key (1)	2	1	0.75	0.75	0.55	1	0.75	16	With red pilot light		2510FG74P	

(1) One thermal unit is required

(2) For two starters in one enclosure, two thermal units are required.

(3) Two poles for each starter.

For additional information, reference catalog 2570CT9701.



Type														Non-reversing
Type of operator	No. of poles	Maximum motor powers										Max. continuous current		Catalog number
		115 Vac	230 Vac	460 Vac	575 Vac	90 Vdc	115 Vdc	230 Vdc					Features	
		Hp kW	Hp kW	Hp kW	Hp kW	Hp kW	Hp kW	Hp kW				A		
Toggle operator	2	2 1.5	2 1.5	3 2.2	3 2.2	1 0.75	2 1.5	1.5 1.1				30	Standard	2510KG1
		2 1.5	2 1.5	3 2.2	3 2.2	1 0.75	2 1.5	1.5 1.1				30	(1) 115 Vac	2510KG1A
		2 1.5	2 1.5	3 2.2	3 2.2	1 0.75	2 1.5	1.5 1.1				30	(1) 230 Vac	2510KG1B
	3	2 1.5	7.5 5.6	10 7.5	10 7.5	1 0.75	2 1.5	1.5 1.1				30	Standard	2510KG2
		2 1.5	7.5 5.6	10 7.5	10 7.5	1 0.75	2 1.5	1.5 1.1				30	(1) 208–277 Vac	2510KG2B
		2 1.5	7.5 5.6	10 7.5	10 7.5	1 0.75	2 1.5	1.5 1.1				30	(1) 440–600 Vac	2510KG2C
	2	2 1.5	3 2.2	7.5 5.6	10 7.5	1 0.75	2 1.5	1.5 1.1				30	Standard	2510KG5
		2 1.5	3 2.2	7.5 5.6	10 7.5	1 0.75	2 1.5	1.5 1.1				30	(1) 115 Vac	2510KG5A
		2 1.5	3 2.2	7.5 5.6	10 7.5	1 0.75	2 1.5	1.5 1.1				30	(1) 230 Vac	2510KG5B
	3	2 1.5	7.5 5.6	15 11.2	20 14.9	1 0.75	2 1.5	1.5 1.1				30	Standard	2510KG6
		2 1.5	7.5 5.6	15 11.2	20 14.9	1 0.75	2 1.5	1.5 1.1				30	(1) 208–277 Vac	2510KG6B
		2 1.5	7.5 5.6	15 11.2	20 14.9	1 0.75	2 1.5	1.5 1.1				30	(1) 440–600 Vac	2510KG6C
Removable key	2	2 1.5	2 1.5	3 2.2	3 2.2	1 0.75	2 1.5	1.5 1.1				30	Standard	2510KG3
		2 1.5	2 1.5	3 2.2	3 2.2	1 0.75	2 1.5	1.5 1.1				30	(1) 115 Vac	2510KG3A
		2 1.5	2 1.5	3 2.2	3 2.2	1 0.75	2 1.5	1.5 1.1				30	(1) 230 Vac	2510KG3B
	3	2 1.5	7.5 5.6	10 7.5	10 7.5	1 0.75	2 1.5	1.5 1.1				30	Standard	2510KG4
		2 1.5	7.5 5.6	10 7.5	10 7.5	1 0.75	2 1.5	1.5 1.1				30	(1) 208–277 Vac	2510KG4B
		2 1.5	7.5 5.6	10 7.5	10 7.5	1 0.75	2 1.5	1.5 1.1				30	(1) 440–600 Vac	2510KG4C

(1) With red pilot light.

Manual switches Types T and M, in general purpose surface mounting enclosure (NEMA 1)



Type										Non-reversing
Type of operator	No. of poles	NEMA Size	Ratings							Catalog number
			Motor voltage			Max. power				
			DC			3-phase		Single-phase		
			V	Hp	kW	Hp	kW	Hp	kW	
Toggle operator	AC 2	M-0	115	–	–	–	–	1	0.75	2510TBG1
			230	–	–	–	–	2	1.5	
		M-1	115	–	–	–	–	2	1.5	2510TCG1
			230	–	–	–	–	3	2.2	
		M-1P	115	–	–	–	–	3	2.2	2510TCG2
			230	–	–	–	–	5	3.7	
	AC 3	M-0	200–230	–	–	3 (2)	2.2 (2)	–	–	2510TBG2
			380–575	–	–	5 (3)	3.7 (3)	–	–	
		M-1	200–230	–	–	7.5 (2)	5.5 (2)	–	–	2510TCG3
			380–575	–	–	10 (3)	7.5 (3)	–	–	
	DC 2	M-0	115	1	0.75	–	–	–	–	2510TBG4
			230	1.5	1.1	–	–	–	–	
		M-1	115	1.5	1.1	–	–	–	–	2510TCG5
			230	2	1.5	–	–	–	–	
Push button	AC 2	M-0	115	–	–	–	–	1	0.75	2510MBG1
			230	–	–	–	–	2	1.5	
		M-1	115	–	–	–	–	2	1.5	2510MCG1
			230	–	–	–	–	3	2.2	
		M-1P	115	–	–	–	–	3	2.2	2510MCG2
			230	–	–	–	–	5	3.7	
	AC 3	M-0	200–230	–	–	3 (2)	2.2 (2)	–	–	2510MBG2
			380–575	–	–	5 (3)	3.7 (3)	–	–	
		M-1	200–230	–	–	7.5 (2)	5.5 (2)	–	–	2510MCG3
			380–575	–	–	10 (3)	7.5 (3)	–	–	
	DC 2	M-0	115	1	0.75	–	–	–	–	2510MBG4
			230	1.5	1.1	–	–	–	–	
		M-1	115	1.5	1.1	–	–	–	–	2510MCG5
			230	2	1.5	–	–	–	–	

(2) Value for 230 V.

(3) Value for 575 V.

Type					Replacement parts kits
Description	For use with			Number of poles in the kit	Catalog number
	Class	Type	NEMA Size or current		
Replacement parts kits (the kit contains the moving and stationary contacts, contact springs and necessary hardware)	8502, 8536, 8538, 8539, 8702, 8736	SA (Series B)	00	3	9998SJ1
		SB	0	3	9998SL2
				4	9998SL12
		SB, SC (power pole adder)	0 and 1	1	9998SL22
		SC	1 and 1P	3	9998SL3
			1	4	9998SL13
		SD	2	3	9998SL4
				4	9998SL14
		SD (power pole adder)	2	1	9998SL24
		SE	3	2	9998SL6
				3	9998SL7
		SF	4	2	9998SL8
				3	9998SL9
		SG	5	2	9998SL10
				3	9998SL11
		SH	6	2	9998SL25
				3	9998SL26
		SJ	7	2	9998SL30
				3	9998SL31
	8903	L (Series C) and LX (Series B)	20 A	4	9998RA5B
		SM	30 A	3	9998SL3
				4	9998SL13
		SP	60 A	3	9998SL4
				4	9998SL14
		SQ	100 A	2	9998SL6
				3	9998SL7
		SV	200 A	2	9998SL8
				3	9998SL9
		SX	300 A	2	9998SL10
				3	9998SL11
		SY	400 A	2	9998SL25
				3	9998SL26
		SZ	600 A	2	9998SL32
				3	9998SL33
		SJ	800 A	2	9998SL30
				3	9998SL31
	8910	DPA 1p	20 A	1	9998DRC1
		DPA 2p	25 A	1	9998DRC2
		DPA 3p	30 A	1	9998DRC3
		DPA 4p	40 A	1	9998DRC4
		DPA 5p	50 A	1	9998DRC5
		DPA 6p	60 A	1	9998DRC6
		DPA 7p	75 A	1	9998DRC7
		DPA 9p	90 A	1	9998DRC9
		DPA 123	120 A	1	9998DRC12

For additional information, reference catalog 8502CT9701.

External auxiliary contacts



Type				External contact kits	
Description	For use with			Type of contact	Catalog number
	Class	Type	NEMA size or current		
External convertible contact kits	8502, 8702,	SA to SJ	00 to 7	1 N.O. contact	9999SX6
	8536, 8736			1 N.C. contact	9999SX7
	8903 (Type S only)	SM to SJ	30–800 A	2 isolated contacts 1 N.O. and 1 N.C.	9999SX8
				1 N.O. overlapping contact	9999SX9 (1)
				1 N.C. overlapping contact	9999SX10 (1)
External non-convertible contact kits	8502, 8702,	SA to SJ	00 to 7	1 N.O. contact	9999SX13
	8536, 8736			1 N.C. contact	9999SX14
	8903 (Type S only)	SM to SJ	30–800 A	2 isolated contacts 1 N.O. and 1 N.C.	9999SX15
				1 N.O. overlapping contact	9999SX16 (1)
				1 N.C. overlapping contact	9999SX17 (1)

(1) These products must be used together and must be mounted on the same side of the contactor. They are suitable for applications where it is necessary for a N.O. contact to overlap a N.C. contact.

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External auxiliary contacts

Type				External auxiliary contacts	
Description	For use with		Type of contact	Catalog number	
	Class	Type			
External auxiliary contacts	8910	DPA	1 N.O. contact	9999D10	
			1 N.C. contact	9999D01	
			2 isolated contacts 1 N.O. and 1 N.C.	9999D11	
			2 N.O. contacts	9999D20	
	DPA122/123		1 N.O. contact	9999SX6	
			1 N.C. contact	9999SX7	
			2 isolated contacts 1 N.O. and 1 N.C.	9999SX8	
			1 N.O. overlapping contact	9999SX9	
			1 N.C. overlapping contact	9999SX10	

(1) Standard AC control circuit voltages:

Volts	24	110	120	208	220
50 Hz	V12	V02	–	–	V03
60 Hz	V01	–	V02	V08	–

Volts	240	440	480	550	600
50 Hz	–	V06	–	V07	–
60 Hz	V03	–	V06	–	V07

Example: 8501XO20 V02



		AC Control relay	AC Latching relay
Continuous Load Rating	Normally Open Convertible	Basic catalog number complete with code	Basic catalog number complete with code
Inductive / resistive	Instantaneous Contacts	indicating control circuit voltage (1)	indicating control circuit voltage (1)
10 A / 10 A	0	8501XO00 ppp	–
	2	8501XO20 ppp	8501XO20XL ppp
	3	8501XO30 ppp	8501XO30XL ppp
	4	8501XO40 ppp	8501XO40XL ppp
	6	8501XO60 ppp	8501XO60XL ppp
	8	8501XO80 ppp	8501XO80XL ppp
	10	8501XO1000 ppp	–
	12	8501XO1200 ppp	–

A maximum of 8 N.C. contacts is allowed on 9–12 pole relays

Note: Unlatch coil is rated for intermittent duty and should be connected through a N.O. contact of the relay if the input signal is maintained. Order one more N.O. contact than the application requires to use as a coil clearing contact.

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DC relays

(2) Standard DC control circuit voltages:

Volts	12	24	48	72
	V51	V53	V56	V58

Volts	115	125	230	250
	V62	V62	V66	V66

Example: 8501XDO80V53.



		DC Control relay	DC Latching relay
Continuous Load Rating	Normally Open Convertible	Basic catalog number complete with code	Basic catalog number complete with code
Inductive / resistive	Instantaneous Contacts	indicating control circuit voltage (2)	indicating control circuit voltage (2)
5 A / 5 A	0	8501XDO00 ppp	–
	2	8501XDO20 ppp	8501XDO20XDL ppp
	4	8501XDO40 ppp	8501XDO40XDL ppp
	6	8501XDO60 ppp	8501XDO60XDL ppp
	8	8501XDO80 ppp	8501XDO80XDL ppp

Note: Unlatch coil is rated for intermittent duty and should be connected through a N.O. contact of the relay if the input signal is maintained. Order one more N.O. contact than the application requires to use as a coil clearing contact.

Circuit breaker operating mechanisms

NEMA Type

Door mounted kits



Operating Mechanism
(includes lockout)

Complete kit			Std. shaft /std. handle		Long shaft /std. handle		Long shaft / short handle	
Does not include circuit breaker			Includes: Operating mechanism Standard 6" handle Standard shaft kit		Includes: Operating mechanism Standard 6" handle Long shaft kit		Includes: Operating mechanism Short 3" handle Long shaft kit	
Use with:			Catalog number	Mounting depth min.-max. (1)	Catalog number	Mounting depth min.-max. (1)	Catalog number	Mounting depth min.-max. (1)
Circuit breaker or interrupter type	Number of poles	Frame size (A)						
GJL	3	75, 100	9421LG1	5-1/2-10-1/4	9421LG4	5-1/2-20-7/8	9421LG3	5-1/2-20-7/8
FAL, FCL, FHL	2-3	100	9421LN1	5-1/2-10-7/16	9421LN4	5-1/2-21	9421LN3	5-1/2-21
KAL, KCL, KHL	2-3	250	9421LP1	6-1/4-11-3/16	9421LP4	6-1/4-21-3/4	9421LP3	6-1/4-21-3/4
LAL, LHL, Q4L	2-3	400	9421LR1	6-5/16-10-7/8	9421LR4	6-5/16-21-1/2	(3)	
MEL, MXL	2-3	800	9421LT1 (2)	7-3/16-11-5/8	9421LT4 (2)	7-3/16-22-1/4	(3)	
MAL, MHL	2-3	1000	9421LT1 (2)	7-3/16-11-5/8	9421LT4 (2)	7-3/16-22-1/4	(3)	
NAL, NCL, NEL, NXL	2-3	1200	9421LX1 (2)	8-1/4-12-3/4	9421LX4 (2)	8-1/4-23-3/8	(3)	
Merlin Gerlin® NSF, Powerpact D, H and J Circuit Breakers								
MG-NSF,	3	250	9421LJ1	5-1/2-10-3/4	9421LJ4	5-1/2-21-3/8	(3)	
Powerpact D, H and J								

(1) Mounting depth measured from circuit breaker mounting surface (control panel) to outside of enclosure door in inches.

(2) Types LT1, LT4, LX1, and LX4 include an 8" handle rather than a 6" handle.

(3) 3" handles are not recommended for use with these circuit breakers.

Handles



Use With			Standard Handle Assemblies			Special 3" Version		
Circuit breaker or interrupter type	Number of poles	Frame size (A)	Type 1, 3R, 12 (Painted)	Type 3R, 4 (Painted)	Type 3R, 4, 4X (Chrome Plated)	Type 1, 3R, 12 (Painted)	Type 3R, 4 (Painted)	Type 3R, 4, 4X (Chrome Plated)
GJL	3	75	9421LH6	9421LH46	9421LC46	9421LH43	9421LH43	9421LC43
FAL, FCL, FHL	2-3	100	9421LH6	9421LH46	9421LC46	9421LH43	9421LH43	9421LC43
KAL, KCL, KHL	2-3	250	9421LH6	9421LH46	9421LC46	9421LH43	9421LH43	9421LC43
LAL, LHL, Q4L	2-3	400	9421LH6	9421LH46	9421LC46	(3)		
MEL, MXL	2-3	800	9421LH8	9421LH48	9421LC48	(3)		
MAL, MHL	2-3	1000	9421LH8	9421LH48	9421LC48	(3)		
NAL, NCL, NEL, NXL	2-3	1200	9421LH8	9421LH48	9421LC48	(3)		

(3) 3" handles are not recommended for use with these circuit breakers.

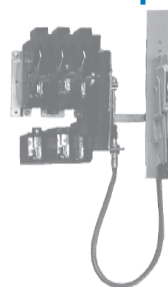
For additional information, reference catalog 9420CT9701.

For other versions, please consult with your local Schneider Electric/
Square D sales office: visit www.us.telemechanique.com.



Disconnect switches

Variable depth and cable operated



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Disconnect switches													
Disconnect switch size	Variable depth mtg. range min.–max. (inches)	Maximum horsepower ratings (1) AC systems volts (Motor volts)				DC Using 2 poles 250 V max.	Fuse type	Fuse clip rating (amperes) non-interchang eable type For Class H, J, K or R fuses only		Switch and operating mechanism only— does not include handle mechanism Type	Switch for use with cable operators ONLY— does not inc lude handle mechanism or cab le operator Type	Switch and operating mechanism and handle mechanism—overpac ked Includes Type A1 handle mechanism Type	
		208 (200)	240 (230)	480 (460)	600 (575)			250 V	600 V			Includes Type A2 handle mechanism Type	
30 A	6-5/8"–18"	7.5	7.5	15	20	5	None	—	—	9421TCN30	9421TCN30C	9421ATCN301	9421ATCN302
							H, K, J, R	30	—	9421TCF30	9421TCF30C	9421ATCF301	9421ATCF302
								60	30	9421TCF33	9421TCF33C	9421ATCF331	9421ATCF332
60 A	6-5/8"–18"	15	15	30	50	10	None	—	—	9421TDN60	9421TDN60C	9421ATDN601	9421ATDN602
							H, K, J, R	60	30	9421TDF60	9421TDF60C	9421ATDF601	9421ATDF602
								—	60	9421TDF63	9421TDF63C	9421ATDF631	9421ATDF632
100 A	6-5/8"–18"	25	30	60	75	20	None	—	—	9421TEN10	9421TEN10C	9421ATEN101	9421ATEN102
							H, K, J, R	100	100	9421TEF10	9421TEF10C	9421ATEF101	9421ATEF102
200 A	9-1/8–19-1/4 (2)	40	60	125	150	40	None	—	—	9421TF1	—	9421ATF11	9421ATF21
							H, K, J, R	200	200	9421TF2	—	9421ATF12	9421ATF22
								—	400	9421TF3 (3)	—	9421ATF13 (3)	9421ATF23 (3)
400 A Fixed Depth(4)	11.38 (A5 or A6 Handle)	75	125	250	350	50	None	—	—	9421TG1 (6)(7)	—	For handle selection, see table below.	
400 A Adj. Depth (4)	15.87–19 (5) (A7 or A8 Handle)	75	125	250	350	50	H, K, J, R	400	400	9421TG2 (6)(7)	—	For handle selection, see table below.	

(1) Refers to rating of switch only.

(2) 9422 R2 will extend maximum mounting depth 7"

(3) Accommodates Class J fuses only.

(4) Switches are either fixed-depth or adjustable; the handle will determine installation.

(5) In steps of 0.63 inches

(6) Commercially available enclosures may not accept type TG operating mechanisms. **Contact enclosure manufacturer for availability of enclosures for use with these switches.**

(7) Right hand flange mounting only.

Cable operator and handles

			Cable Mechanisms (8)	Cable Mechanisms with A1 Handle for Types 1, 3, 3R, 4 and 12
Disconnect Switch Size	Switch Types	Cable Length	Catalog number	Catalog number
30 A, 60 A, 100 A	TCF, TCN, TDF, TDN, TEF, TEN	36"	9421CFT30	9421CFT31
		48"	9421CFT40	—
		60"	9421CFT50	9421CFT51
		120"	9421CFT10	9421CFT11

(8) Must purchase handle mechanism separately (9422, A1, A2, A3 or A4).

			Handle NEMA Type Enclosure 1, 3, 3R, 4 (sheet steel), 12	4, 4X (stainless steel) (10)
Type of Handle			Catalog number	Catalog number
6" HANDLE (9)			9421A1	9421A2
4" HANDLE (9)			9421A3	9421A4
12" HANDLE (fixed depth) (11)			9421A5	9421A6
12" HANDLE (variable depth) (11)			9421A7	9421A8
10" HANDLE (12)			9421A9	9421A10

(9) For use with 30–200 Ampere switches and all circuit breaker mechanisms.

(10) All external metal parts are either stainless steel or a chrome-plated non-ferrous die casting.

(11) For use with 400 Ampere Type TG1 and TG2 disconnect switches ONLY.

(12) For use with Type D2 remote or dual adaptor kit.

For additional information, reference catalog 9420CT9701.

Circuit breaker operating mechanisms

NEMA Type

Flange mounted



Use with:				Operating mechanism		
Circuit breaker frame size	Number of poles	Frame size (A)	Variable depth mtg. range (In.) min.-max. (1)	Operating mechanism only — does not include handle mechanism	Operating mechanism and handle mechanism Includes Type A1 (2) handle mechanism	Includes Type A2 (2) handle mechanism
Square D circuit breakers						
GJL	3	100	6.00–17.75	9422RG1	9422ARG11	9422ARG21
FAL, FHL	2–3	100	5.38–17.75	9422RN1	9422ARN11	9422ARN21
KAL, KHL	2–3	250	6.38–17.88	9422RP1	9422ARP11	9422ARP21
LAL, LHL, Q4L	2–3	400	7.44–18.25	9422RR1	9422ARR11	9422ARR21
MEL, MXL	2–3	800	9.00–18.38	9422R T1	9422ART11	9422ART21
MAL, MHL	2–3	1200	9.00–18.38	9422RT1	9422ART11	9422ART21
NAL, NCL, NEL, NXL	2–3	1200	11.00–18.37	9422RX1	–	–
Merlin Gerin NSF, NSJ, Powerpact D, Hand J Circuit Breakers						
MG-NSF,						
Powerpact D, Hand J	3	250	5.88–17.75	9422RQ1	–	–
MG-NSJ	3	600	9.00–17.75	9422RS1	–	–

(1) Class 9422 Type R2 will extend mounting depth 7 inches.

(2) For handle information, see page 5/48.

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Cable operators

				Cable operators	
Circuit breaker type	No. of poles	Frame size	Cable length	Cable mechanism	Cable mechanisms with A1 handle for Types 1, 3, 3R, 4, 12 (1)
GJL	3	100	36"	9422CGJ30	9422CGJ31
			48"	9422CGJ40	9422CGJ41
			60"	9422CGJ50	9422CGJ51
			120"	9422CGJ10	9422CGJ11
FAL, FHL	2-3	100	36"	9422CFA30	9422CFA31
				9422CFA50	9422CFA51
				9422CFA10	9422CFA11
KAL, KHL	2-3	250	36"	9422CKA30	9422CKA31
			60"	9422CKA50	9422CKA51
			120"	9422CKA10	9422CKA11
LAL, LHL, Q4L	2-3	400	36"	9422CLA30	9422CLA31
			60"	9422CLA50	9422CLA51
			120"	9422CLA10	9422CLA11
MG-NSF, Powerpact D, Hand J	3	250	36"	9422CSF30	–
			60"	9422CSF50	–
			84"	9422CSF70	–
			120"	9422CSF10	–
MG-NSF, Powerpact D, Hand J	4	250	36"	9422CSF304	–
			60"	9422CSF504	–
			120"	9422CSF104	–
MG-NSJ	3	600	36"	9422CSJ30	–
			60"	9422CSJ50	–
			120"	9422CSJ10	–
MG-NSJ	4	600	36"	9422CSJ304	–
			60"	9422CSJ504	–
			120"	9422CSJ104	–

For additional information, reference catalog 9420CT9701.

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