

Motor starter solutions Power control & protection

Catalogue

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Schneider
Electric

施耐德電氣

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Environment characteristics 工作環境			GV2 ME	GV2 P	GV3 P	GV3 ME80	GV7 RS
Circuit breaker type 斷路器類型							
Conforming to standards 符合標準			IEC 60947-1, 60947-2, 60947-4-1, EN 60204, UL 508, CSA C 22.2 n° 14-05, NF C 63-650, 63-120, 79-130, VDE 0113, 0660		IEC/EN 60947-1, 60947-2, 60947-4-1, UL 508 type E, CSA C 22.2 n° 14-05 type E	IEC/EN, NF EN, BS EN, DIN EN 60947-2, 60947-4-1	IEC 60947-1, 60947-2, 60947-4-1, EN 60947-1, 60947-2, EN 60947-4-1, NF C 63-650, NF C 63-120, 79-130, VDE 0113, 0660
Product certifications 產品認證			UL, CSA, CCC, CEBEC, GOST, TSE, BV, GL, LROS, DNV, PTB, EZU, SETI, RINA, ATEX	UL, CSA, PTB, EZU, GOST, TSE, DNV, LROS, GL, BV, RINA, CCC, ATEX	UL, CSA, CCC (pending), GOST, ATEX	UL, CSA, LROS	UL, DNV, CCC
Degree of protection 保護級別	Conforming to IEC 60529 符合 IEC 60529 標準	Open mounted 開放式	IP 20		IP 20	IP 20	IP 405 with terminal shrouds
		In enclosure 封閉式	GV2 M●01: IP 41 GV2 M●02: IP 55	–	GV3 PC01 and GV3 PC02: IP 55	GV3 CE01: IP 55	–
Shock resistance 抗沖擊性能	Conforming to IEC 60068-2-27 符合 IEC 60068-2-27 標準		30 gn -11 ms		On: 15 gn -11 ms Off: 30 gn -11 ms	22 gn - 20 ms	15 gn -11 ms
Vibration resistance 抗振性能	Conforming to IEC 60068-2-6 符合 IEC 60068-2-6 標準		5 gn (5...150 Hz)		4 gn (5...300 Hz)	2.5 gn (0...25 Hz)	2.5 gn (25 Hz)
Ambient air temperature 環境溫度	Storage 貯存		°C -40...+80	-40...+80	-40...+80	-40...+80	-55...+95
	Operation 運作	Open mounted 開放式	°C -20...+60	-20...+60	-20...+60	-20...+60	-25...+70
		In enclosure 封閉式	°C -20...+40	-20...+40	-20...+40	-20...+40	–
Temperature compensation 溫度補償		In enclosure 封閉式	°C -20...+60	-20...+60	-20...+60	-20...+60	-25...+55
		In enclosure 封閉式	°C -20...+40	-20...+40	-20...+40	-20...+40	–
Flame resistance 阻燃性能	Conforming to IEC 60695-2-1 符合 IEC 60695-2-1 標準		960		960	960	960
Maximum operating altitude 最大運作海拔			2000		3000	3000	2000
Suitable for isolation 適用電氣隔離性能	Conforming to IEC 60947-1 § 7-1-6 符合 IEC 60947-1 § 7-1-6 標準		Yes		Yes	–	Yes

Technical characteristics 技術特性			GV2 ME	GV2 P	GV3 P	GV3 ME80	GV7 RS20... RS100	GV7 RS150	GV7 RS220
Circuit breaker type 斷路器類型									
Utilisation category 使用類別	Conforming to IEC 60947-2 符合 IEC 60947-2 標準		A		A	A	A		
	Conforming to IEC 60947-4-1 符合 IEC 60947-4-1 標準		AC-3		AC-3	AC-3	AC-3		
Rated operational voltage 額定運作電壓 (Ue)	Conforming to IEC 60947-2 符合 IEC 60947-2 標準	V	690		690	690	690		
Rated insulation voltage 額定絕緣電壓 (Ui)	Conforming to IEC 60947-2 符合 IEC 60947-2 標準	V	690		690	690	750		
Rated voltage 額定電壓	Conforming to CSA C22-2 n° 14, UL 508 符合 CSA C22-2 n° 14, UL 508 標準	V	600		600	600 (B600)	600		
Rated operational frequency 額定運作頻率	Conforming to IEC 60947-4-1 UL, CSA 符合 IEC 60947-4-1 UL, CSA 標準	Hz	50/60		50/60	50/60	50/60		
Rated impulse withstand voltage 額定沖擊耐受電壓 (U imp)	Conforming to IEC 60947-2 符合 IEC 60947-2 標準	kV	6		6	6	8		
Total power dissipated per pole 每極耗散的總功率		W	2.5		8	8	5	8.7	14.5
Mechanical durability 機械壽命 (C.O.: Close 閉合, Open 斷開)		C.O.	100 000		50 000	30 000	50 000	40 000	20 000
		C.O.	100 000		–	30 000	50 000	40 000	20 000
Electrical durability 電氣壽命 for AC-3 duty 負載	440 V In/2	C.O.	100 000		–	30 000	50 000	40 000	20 000
	440 V In	C.O.	–		50 000	–	30 000	20 000	10 000
Duty class (maximum operating rate) 負載級別 (最大運作速率)		C.O./h	25		25	25	25		
Maximum conventional rated thermal current 最大約定發熱電流 (Ith)	Conforming to IEC 60947-4-1 符合 IEC 60947-4-1 標準	A	0.16...32		0.16...32	13...65	12...100	150	220
Rated duty 額定負載	Conforming to IEC 60947-4-1 符合 IEC 60947-4-1 標準		Continuous duty 不間斷負載						

TeSys motor circuit breaker 電動機斷路器

Thermal-magnetic motor circuit breakers

熱磁電動機斷路器

GV2 ME, GV2 P, GV3 P and GV3 ME80

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Breaking capacity of GV2 ME and GV2 P 分斷能力																								
Circuit breaker type 斷路器類型				GV2 ME										GV2 P										
				01 to 06	07	08	10	14	16	20	21 & 22	23 & 25	32	01 to 06	07	08	10	14	16	20	21 & 22	23 & 25	32	
Rating 額定電流		A		0.1 to 1.6	2.5	4	6.3	10	14	18	23 & 25	32	50	50	0.1 to 1.6	2.5	4	6.3	10	14	18	23 & 25	32	
Breaking capacity conforming to IEC 60947-2 分斷能力 符合 IEC 60947-2 標準	230/240V	lcu	kA	★	★	★	★	★	★	★	★	50	50	★	★	★	★	★	★	★	★	★	★	
		lcs% (1)		★	★	★	★	★	★	★	★	100	100	★	★	★	★	★	★	★	★	★	★	★
	400/415V	lcu	kA	★	★	★	★	★	15	15	15	10	10	★	★	★	★	★	★	★	★	★	★	
		lcs% (1)		★	★	★	★	★	50	50	40	50	50	★	★	★	★	★	★	★	★	★	★	★
	440V	lcu	kA	★	★	★	50	15	8	8	6	6	6	★	★	★	★	★	★	★	50	20	20	20
		lcs% (1)		★	★	★	100	100	50	50	50	50	50	★	★	★	★	★	★	★	75	75	75	75
	500V	lcu	kA	★	★	★	50	10	6	6	4	4	4	★	★	★	★	★	★	★	50	42	10	10
		lcs% (1)		★	★	★	100	100	75	75	75	75	75	★	★	★	★	★	★	★	100	75	75	75
	690V	lcu	kA	★	3	3	3	3	3	3	3	3	3	★	8	8	6	6	6	6	4	4	4	
		lcs% (1)		★	75	75	75	75	75	75	75	75	75	★	100	100	100	100	100	100	100	100	100	100

Breaking capacity of GV3 P and GV3 ME80 分斷能力											
Circuit breaker type 斷路器類型				GV3 P							GV3 ME80
				13	18	25	32	40	50	65	
Rating 額定電流		A		13	18	25	32	40	50	65	80
Breaking capacity conforming to IEC 60947-2 分斷能力 符合 IEC 60947-2 標準	230/240V	lcu	kA	100	100	100	100	100	100	100	100
		lcs% (1)		100	100	100	100	100	100	100	100
	400/415V	lcu	kA	100	100	100	100	50	50	50	15
		lcs% (1)		50	50	50	50	50	50	50	50
	440V	lcu	kA	50	50	50	50	50	50	50	10
		lcs% (1)		50	50	50	50	50	50	50	50
	500V	lcu	kA	12	12	12	12	10	10	10	4
		lcs% (1)		50	50	50	50	50	50	50	50
	690V	lcu	kA	6	6	6	6	5	5	5	2
		lcs% (1)		50	50	50	50	60	60	60	100

★ > 100 kA.
(1) As % of lcu.
佔 lcu 的百分比。

TeSys motor circuit breaker 電動機斷路器

Thermal-magnetic motor circuit breakers

熱磁電動機斷路器

GV7 RS

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Breaking capacity of GV7 R 分斷能力						
Circuit breaker type 斷路器類型				GV7		
				RS20...RS100	RS150	RS220
Rating 額定電流			A	12...20 to 60...100	90...150	132...220
Breaking capacity conforming to IEC 60947-2 分斷能力 符合 IEC 60947-2 標準	230/240V	Icu	kA	100	100	100
		Ics% (1)		100	100	100
	400/415V	Icu	kA	70	70	70
		Ics% (1)		100	100	100
	440V	Icu	kA	65	65	65
		Ics% (1)		100	100	100
	500V	Icu	kA	50	50	50
		Ics% (1)		100	100	100
	690V	Icu	kA	10	10	10
		Ics% (1)		100	100	100

(1) As % of Icu.
佔 Icu 的百分比。

Environment characteristics 工作環境					
Circuit breaker type 斷路器類型			GV2 LE	GV3 L	GK3 EF80
Conforming to standards 符合標準			IEC 60947-1, 60947-2, EN 60204, NF C 63-650, NF C63-120, 79-130, VDE 0113, 0660, UL 1077	IEC/EN 60947-1, 60947-2	IEC 60947-2, EN 60204
Product certifications 產品認證			UL, CSA, CCC	UL, CAS, CCC	UL, CAS, CCC
Degree of protection 保護等級	Conforming to IEC 60529 符合 IEC 60529 標準		IP20	IP 20	IP 20
Shock resistance 抗沖擊性能	Conforming to IEC 60068-2-27 符合 IEC 60068-2-27 標準		30 gn	On : 15 gn -11 ms Off : 30 gn -11 ms	22 gn -20 ms
Vibration resistance 抗振性能	Conforming to IEC 60068-2-6 符合 IEC 60068-2-6 標準		5 gn (5 to 150 Hz)	4 gn (5...300 Hz)	2.5 gn (0...25 Hz)
Ambient air temperature 環境溫度	Storage 貯存	°C	- 40...+ 80	- 40...+ 80	- 40...+ 80
	Operation 運作	°C	- 20...+ 60	- 20...+ 60	- 20...+ 70 open mounted
Flame resistance 阻燃性能	Conforming to IEC 60695-2-1 符合 IEC 60695-2-1 標準	°C	960	960	960
Maximum operating altitude 最大運作海拔		m	2000	3000	3000
Tightening torque 緊固扭矩		N.m	1.7	5 5: 25 mm ² 8: 35 mm ²	5
Suitable for isolation 適用電氣隔離性能			Yes	Yes	Yes

Technical characteristics 技術特性					
Utilisation category 使用類別	Conforming to IEC 60947-2 符合 IEC 60947-2 標準		A	A	A
	Conforming to IEC 60947-4-1 符合 IEC 60947-4-1 標準		AC-3	AC-3	AC-3
Rated operational voltage 額定運作電壓 (Ue)	Conforming to IEC 60947-2 符合 IEC 60947-2 標準	V	690	690	690
Rated insulation voltage 額定絕緣電壓 (Ui)	Conforming to IEC 60947-2 符合 IEC 60947-2 標準	V	690	690	750
Rated operational frequency 額定運作頻率	Conforming to IEC 60947-2 符合 IEC 60947-2 標準	Hz	50/60	50/60	50...60
Rated impulse withstand voltage 額定沖擊耐受電壓 (U imp)	Conforming to IEC 60947-2 符合 IEC 60947-2 標準	kV	6	6	10
Mechanical durability 機械壽命 (C.O.: Closing 閉合, Opening 斷開) for AC-3 duty 負載		C.O.	100 000	50 000	20 000
Electrical durability 電氣壽命 (C.O.: Closing 閉合, Opening 斷開) for AC-3/415V duty 負載		C.O.	100 000	50 000	1500
Duty class (maximum operating rate) 負載類別 (最大運作速率)		C.O./h	40	25	40

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Circuit breaker type 斷路器類型				GV2 LE							
				07	08	10	14	16	20	22	32
Rating 額定電流		A		2.5	4	6.3	10	14	18	25	32
Breaking capacity conforming to IEC 60947-2 分斷能力 符合 IEC 60947-2 標準	230/240V	l _{cu}	kA	★	★	★	★	★	★	50	50
		l _{cs} % (1)		★	★	★	★	★	★	100	100
	400/415V	l _{cu}	kA	★	★	★	★	15	15	15	10
		l _{cs} % (1)		★	★	★	★	50	50	40	50
	440V	l _{cu}	kA	★	★	50	15	8	8	6	6
		l _{cs} % (1)		★	★	100	100	50	50	50	50
	500V	l _{cu}	kA	★	★	50	10	6	6	4	4
		l _{cs} % (1)		★	★	100	100	75	75	75	75
	690V	l _{cu}	kA	3	3	3	3	3	3	3	3
		l _{cs} % (1)		75	75	75	75	75	75	75	75

Circuit breaker type 斷路器類型				GV3 L25	GV3 L32	GV3 L40	GV3 L50	GV3 L65	GK3 EF80
Breaking capacity of the circuit breaker only or of the circuit breaker combined with a thermal overload relay 僅斷路器的分斷能力 或採用熱過載繼電器時斷路器的分斷能力	230/240V	l _{cu}	kA	100	100	100	100	100	50
		l _{cs} % (1)		100	100	100	100	100	40
	400/415V	l _{cu}	kA	100	100	50	50	50	35
		l _{cs} % (1)		50	50	50	50	50	25
	440V	l _{cu}	kA	50	50	50	50	50	25
		l _{cs} % (1)		50	50	50	50	50	30
	500V	l _{cu}	kA	12	12	10	10	10	15
		l _{cs} % (1)		50	50	50	50	50	30
	690V	l _{cu}	kA	6	6	5	5	5	6
		l _{cs} % (1)		50	50	60	60	60	50

★ > 100 kA.

(1) As % of I_{cu}.

佔 I_{cu} 的百分比。

TeSys motor circuit breaker 電動機斷路器

Thermal-magnetic motor circuit breakers

熱磁電動機斷路器

GV2 ME and GV2 P



GV2 ME



GV2 P

Thermal magnetic circuit breakers GV2 ME and GV2 P 熱磁電動機斷路器

GV2 ME: pushbutton control 按鈕控制, GV2 P: control by rotary knob 轉換開關控制

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3 三相電動機標準額定功率 50/60 Hz · AC-3 類									Setting range of thermal trips 熱脫扣設定範圍	Magnetic tripping current 磁脫扣電流 I _d ± 20 %	Reference 型號	Weight 重量
400/415 V			500 V			690 V			A	A		kg
P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)				
kW	kA	%	kW	kA	%	kW	kA	%				
-	-	-	-	-	-	-	-	-	0.1...0.16	1.5	GV2 ME01	0.260
											or GV2 P01	0.350
0.06	★	★	-	-	-	-	-	-	0.16...0.25	2.4	GV2 ME02	0.260
											or GV2 P02	0.350
0.09	★	★	-	-	-	-	-	-	0.25...0.40	5	GV2 ME03	0.260
											or GV2 P03	0.350
0.12	★	★	-	-	-	0.37	★	★	0.40...0.63	8	GV2 ME04	0.260
											or GV2 P04	0.350
0.18	★	★	-	-	-	-	-	-	0.40...0.63	8	GV2 ME04	0.260
											or GV2 P04	0.350
0.25	★	★	-	-	-	0.55	★	★	0.63...1	13	GV2 ME05	0.260
											or GV2 P05	0.350
0.37	★	★	0.37	★	★	-	-	-	1...1.6	22.5	GV2 ME06	0.260
											or GV2 P06	0.350
0.55	★	★	0.55	★	★	0.75	★	★	1...1.6	22.5	GV2 ME06	0.260
											or GV2 P06	0.350
-	-	-	0.75	★	★	1.1	★	★	1...1.6	22.5	GV2 ME06	0.260
											or GV2 P06	0.350
0.75	★	★	1.1	★	★	1.5	3	75	1.6...2.5	33.5	GV2 ME07	0.260
0.75	★	★	1.1	★	★	1.5	8	100	1.6...2.5	33.5	GV2 P07	0.350
1.1	★	★	1.5	★	★	2.2	3	75	2.5...4	51	GV2 ME08	0.260
1.1	★	★	1.5	★	★	2.2	8	100	2.5...4	51	GV2 P08	0.350
1.5	★	★	2.2	★	★	3	3	75	2.5...4	51	GV2 ME08	0.260
1.5	★	★	2.2	★	★	3	8	100	2.5...4	51	GV2 P08	0.350
2.2	★	★	3	50	100	4	3	75	4...6.3	78	GV2 ME10	0.260
2.2	★	★	3	★	★	4	6	100	4...6.3	78	GV2 P10	0.350
3	★	★	4	10	100	5.5	3	75	6...10	138	GV2 ME14	0.260
3	★	★	4	50	100	5.5	6	100	6...10	138	GV2 P14	0.350
4	★	★	5.5	10	100	7.5	3	75	6...10	138	GV2 ME14	0.260
4	★	★	5.5	50	100	7.5	6	100	6...10	138	GV2 P14	0.350
5.5	15	50	7.5	6	75	9	3	75	9...14	170	GV2 ME16	0.260
5.5			7.5	42	75	9	6	100	9...14	170	GV2 P16	0.350
-	-	-	-	-	-	11	3	75	9...14	170	GV2 ME16	0.260
-	-	-	-	-	-	11	6	100	9...14	170	GV2 P16	0.350
7.5	15	50	9	6	75	15	3	75	13...18	223	GV2 ME20	0.260
7.5	50	50	9	10	75	15	4	100	13...18	223	GV2 P20	0.350
9	15	40	11	4	75	18.5	3	75	17...23	327	GV2 ME21	0.260
9	50	50	11	10	75	18.5	4	100	17...23	327	GV2 P21	0.350
11	15	40	15	4	75	-	-	-	20...25	327	GV2 ME22	0.260
11	50	50	15	10	75	-	-	-	20...25	327	GV2 P22	0.350
15	10	50	18.5	4	75	22	3	75	24...32	416	GV2 ME32	0.260
15	35	50	18.5	10	75	22	4	100	24...32	416	GV2 P32	0.350

★ > 100 kA.

(1) As % of I_{cu}.
佔 I_{cu} 的百分比。

TeSys motor circuit breaker 電動機斷路器

Thermal-magnetic motor circuit breakers

熱磁電動機斷路器

GV3 P, GV3 ME80 and GV7 R

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GV3 P65

Thermal magnetic circuit breakers GV3 P and GV3 ME80 熱磁電動機斷路器

GV3 P: control by rotary knob 轉換開關控制

Standard power ratings of 3-phase motors
50/60 Hz in category AC-3
三相電動機標準額定功率
50/60 Hz, AC-3 類

Setting range
of thermal
trips
熱脫扣設定範圍

Magnetic
tripping current
磁脫扣電流
 $I_d \pm 20\%$

Reference
型號

Weight
重量

400/415 V			500 V			690 V			A	A	kg	
P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)				
kW	kA	%	kW	kA	%	kW	kA	%				
5.5	100	50	7.5	12	50	11	6	50	9...13	182	GV3 P13	1.000
7.5	100	50	9	12	50	15	6	50	12...18	252	GV3 P18	1.000
11	100	50	15	12	50	18.5	6	50	17...25	350	GV3 P25	1.000
15	100	50	18.5	12	50	22	6	50	23...32	448	GV3 P32	1.000
18.5	50	50	22	10	50	37	5	60	30...40	560	GV3 P40	1.000
22	50	50	30	10	50	45	5	60	37...50	700	GV3 P50	1.000
30	50	50	45	10	50	45	5	60	48...65	910	GV3 P65	1.000

GV3 ME80: pushbutton control 按鈕控制

37	15	50	45	4	100	55	2	100	56...80	GV3 ME80 (2)	0.700
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Thermal magnetic circuit breakers GV7 R with screw clamp terminals
熱磁電動機斷路器，帶螺釘夾緊端子

GV7 R: control by rocker lever 使用撥動式進行控制

Standard power ratings of 3-phase motors
50/60 Hz in category AC-3
三相電動機標準額定功率
50/60 Hz, AC-3 類

Setting range
of thermal
trips
熱脫扣設定範圍

Reference
型號

Weight
重量

400/415 V			500 V			660/690 V			A	kg	
P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)			
kW	kA	%	kW	kA	%	kW	kA	%			
18.5	70	100	18.5	50	100	22	10	100	25...40	GV7 RS40	2.010
22	70	700	30	50	100	30	10	100	30...50	GV7 RS50	2.015
37	70	100	45	50	100	55	10	100	48...80	GV7 RS80	2.040
			55	50	100						
55	70	100	75	50	100	90	10	100	90...150	GV7 RS150	2.020
75	70	100	90	50	100	110	10	100			
90	70	100	110	50	100	160	10	100	132...220	GV7 RS220	2.350
110	70	100	132	50	100	200	10	100			
			160	50	100						

(1) As % of I_{cu}.
佔 I_{cu} 的百分比。

(2) Recommended for use in association with a contactor.
建議與接觸器一同使用。



GV7 RS220

TeSys motor circuit breaker 電動機斷路器

Magnetic motor circuit breakers

電磁電動機斷路器

GV2 LE, GV3 L and GK3 EF80



GV2 LE



GV3 L



GV3 EF80

Magnetic motor circuit breakers 電磁電動機斷路器 0.06 - 15kW

GV2 LE: control by rotary lever, connection by screw clamp terminal 使用撥動式進行控制，用螺釘夾緊端子進行連接

Standard power ratings of 3-phase motors
50/60 Hz in category AC-3
三相電動機標準額定功率
50/60 Hz，AC類

Magnetic protection rating
磁保護定額

Tripping current
磁脫扣電流
Id ± 20 %

Use in association with terminal overload relay
與熱過載繼電器一同使用

Reference 型號

Weight 重量

400/415 V			500 V			690 V			A	A		Reference 型號	Weight 重量
P	Icu	Ics (1)	P	Icu	Ics (1)	P	Icu	Ics (1)					
kW	kA	%	kW	kA	%	kW	kA	%	A	A			kg
0.75	★	★	1.1	★	★	1.5	3	75	2.5	33.5	LRD 07	GV2 LE07	0.330
1.1	★	★	-	-	-	-	-	-	2.5	33.5	LRD 07	GV2 LE07	0.330
1.5	★	★	1.5	★	★	3	3	75	4	51	LRD 08	GV2 LE08	0.330
-	★	-	2.2	★	★	-	-	-	4	51	LRD 08	GV2 LE08	0.330
2.2	★	★	3	50	100	4	3	75	6.3	78	LRD 10	GV2 LE10	0.330
3	★	★	4	10	100	5.5	3	75	10	138	LRD 14	GV2 LE14	0.330
4	★	★	5.5	10	100	-	-	-	10	138	LRD 14	GV2 LE14	0.330
-	-	-	-	-	-	7.5	3	75	10	138	LRD 14	GV2 LE14	0.330
-	-	-	-	-	-	9	3	75	14	170	LRD 16	GV2 LE16	0.330
5.5	15	50	7.5	6	75	11	3	75	14	170	LRD 16	GV2 LE16	0.330
7.5	15	50	9	6	75	15	3	75	18	223	LRD 21	GV2 LE20	0.330
9	15	40	11	4	75	18.5	3	75	25	327	LRD 22	GV2 LE22	0.330
11	15	40	15	4	75	-	-	-	25	327	LRD 22	GV2 LE22	0.330
15	10	50	18.5	4	75	22	3	75	32	416	LRD 32	GV2 LE32	0.330

Magnetic motor circuit breakers 電磁電動機斷路器 0.09 - 37kW

GV3 L: control by rotary knob, connection by Everlink® BTR screw connector 使用旋鈕控制，用 Everlink® BTR 螺釘連接器進行連接

Standard power ratings of 3-phase motors
50/60 Hz in category AC-3
三相電動機標準額定功率
50/60 Hz，AC-3類

Magnetic protection rating
磁保護定額

Tripping current
磁脫扣電流
Id ± 20 %

Use in association with terminal overload relay
與熱過載繼電器一同使用

Reference 型號

Weight 重量

400/415 V			500 V			690 V			A	A		Reference 型號	Weight 重量
P	Icu	Ics (2)	P	Icu	Ics (2)	P	Icu	Ics					
kW	kA	%	kW	kA	%	kW	kA	%	A	A			kg
11	100	50	15	12	50	18.5	6	50	25	350	LRD 325	GV3 L25	1.000
15	100	50	18.5	12	50	22	6	50	32	448	LRD 332	GV3 L32	1.000
18.5	50	50	22	10	50	37	5	60	40	560	LRD 340	GV3 L40	1.000
22	50	50	30	10	50	45	5	60	50	700	LRD 350	GV3 L50	1.000
30	50	50	37	10	50	55	5	60	65	910	LRD 365	GV3 L65	1.000

GK3: control by rotary knob, connection by screw clamp terminals 使用旋鈕控制，用螺釘夾緊端子進行連接

37	35	25	55	15	30	-	-	-	80	1040	LRD 3363	GK3 EF80	0.795
----	----	----	----	----	----	---	---	---	----	------	----------	----------	-------

★ > 100 kA.

(1) As % of Icu.
佔 Icu 的百分比。

(2) As % of Icu. Associated current limiter or fuses, where required.
佔 Icu 的百分比。在必要時與限流器或非士一同使用。

TeSys motor circuit breaker 電動機斷路器

Thermal-magnetic motor circuit breakers

熱磁電動機斷路器

Accessories 附件

(Not suitable for 不適用於 GV3ME & GK3EF)

1

Contact blocks 觸點模塊 (for GV2/GV3)

Description 說明	Mounting 安裝	Maximum number 最大數量	Type of contacts 觸點類型	Sold in lots of 批量	Reference 型號	Weight 重量 kg
Instantaneous auxiliary contacts 瞬時輔助觸頭	Front 前面	1	N/O or N/C (1)	10	GV AE1	0.015
			N/O + N/C	10	GV AE11	0.020
			N/O + N/O	10	GV AE20	0.020
	Side (LH) 側面 (左)	2	N/O + N/C	1	GV AN11	0.050
			N/O + N/O	1	GV AN20	0.050
Fault signalling contact + instantaneous auxiliary contact 故障信號觸頭 + 瞬時輔助觸頭	Side (2) (LH) 側面 (2) (左)	1	N/O (fault 故障) + N/O	1	GV AD1010	0.055
			+ N/C	1	GV AD1001	0.055
			N/C (fault 故障) + N/O	1	GV AD0110	0.055
			+ N/C	1	GV AD0101	0.055
Short-circuit signaling contact 短路訊號觸頭	Side (LH) 側面 (左)	1	C/O common point C/O 公共端	1	GV AM11	0.045

Accessories 配件 (for GV2/GV3)

Description 說明	Application 應用	For circuit breaker 斷路器	Pitch 間距 mm	Reference 型號	Weight 重量 kg
Set of 3-pole busbars 三極母排 63A	2 tap-offs 抽頭	GV2●	45	GV2 G245	0.036
			54	GV2 G254	0.038
			72	GV2 G272	0.042
	3 tap-offs 抽頭	GV2●	45	GV2 G345	0.058
			54	GV2 G354	0.060
			72	GV2 G372	0.064
	4 tap-offs 抽頭	GV2●	45	GV2 G445	0.077
			54	GV2 G454	0.085
			72	GV2 G472	0.094
			54	GV2 G554	0.100
Set of 3-pole busbars 三極母排 115A	2 tap-offs 抽頭	GV3●	64	GV3 G264	0.150
	3 tap-offs 抽頭	GV3●	64	GV3 G364	0.250

Accessories 配件 (for GV2)

Description 說明	Application 應用	Sold in lots of 批量	Reference 型號	Weight 重量 kg
Protective end cover 末端保護蓋	For unused busbar outlets 用於未使用母線輸出	5	GV1 G10	0.005
Terminal block 端子排	Connection from the top 從頂部連接	1	GV1 G09	0.040
for supply to one or more GV2 G busbar sets 向一個或多個 GV2 G 提供母線	Can be fitted with current limiter GV1 L3 可與限流器 GV1 L3 匹配 (GV2 ME and GV2 P)	1	GV2 G05	0.115
Cover for terminal block 端子排蓋板	For mounting in modular panels 安裝到模塊化面板上	10	LA9 E07	0.005
Flexible 3-pole connection 三極軟連接	Centre distance between mounting rails: 安裝導軌中心距： 100...120 mm	10	GV1 G02	0.013
for connecting a GV2 to a contactor LC1-D09...D25 用於將 GV2 連接到 LC1-D09...D25 接觸器				
Clip-in marker holders (supplied with each circuit breaker) 夾緊式標記托架 (與各個斷路器一同提供)	For GV2 P, GV2 L, GV2 LE and GV2 RT GV2 P, GV2 L, GV2 LE 及 GV2 RT 用 (8 x 22 mm)	100	LA9 D92	0.001

(1) Choice of N/C or N/O contact operation, depending on which way round the reversible block is mounted.

N/C 或 N/O 觸點操作的選擇，取決於可逆模塊的安裝方式。

(2) The GVAD is always mounted next to the circuit breaker.

GVAD 緊靠著斷路器安裝。

TeSys motor circuit breaker 電動機斷路器

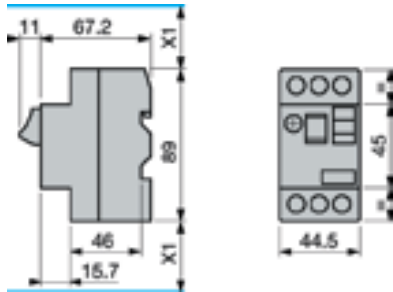
Thermal-magnetic motor circuit breakers

熱磁電動機斷路器

GV2 ME, GV2 P, GV3 P and GV7 R

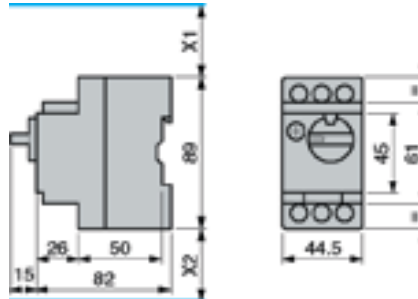
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GV2 ME



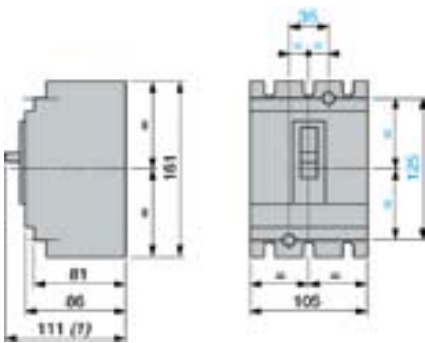
X1 Electrical clearance = 40 mm for $U_e \leq 690$ V
 在 $U_e \leq 690$ V 時，最大 X1 電氣間距 = 40 mm

GV2 P



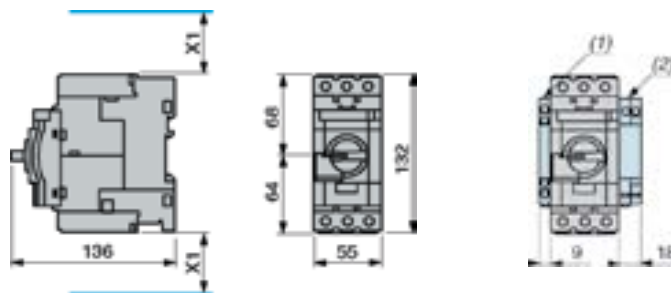
X1 Electrical clearance = 40 mm for $U_e \leq 415$ V, or 80 mm for $U_e = 440$ V, or 120 mm for $U_e = 500$ and 690 V
 在 $U_e \leq 415$ V, 最大 X1 電氣間距 = 40 mm, 或 80 mm ($U_e = 440$ V), 或 120 mm ($U_e = 550$ 及 690 V)
 X2 = 40 mm

GV7 R



(1) 126 for GV7 RS220

GV3 P



(1) Block 模塊 GV3 A01...A07
 (2) Block 模塊 GV3 AU ●● and GV3AS ●●

TeSys motor circuit breaker 電動機斷路器

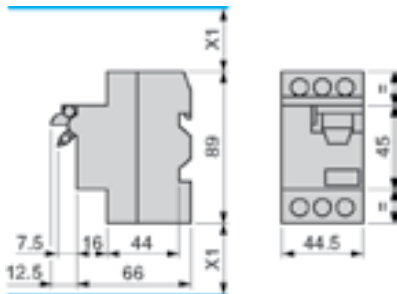
Magnetic motor circuit breakers

電磁電動機斷路器

GV2 LE, GK3 EF and GV3 L

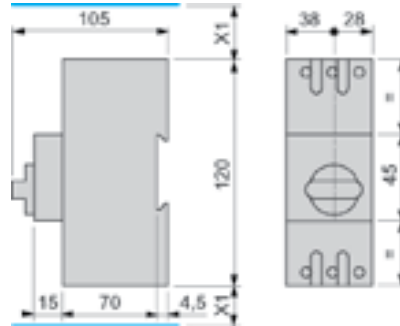
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GV2 LE



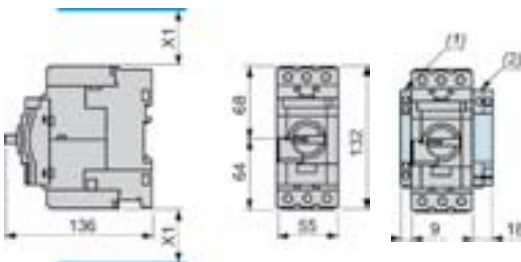
X1 Electrical clearance = 40 mm for $U_e \leq 690$ V
 在 $U_e \leq 690$ V 時，最大 X1 電氣間距 = 40 mm

GK3 EF



X1 Electrical clearance = 40 mm for $U_e \leq 690$ V
 在 $U_e \leq 690$ V 時，最大 X1 電氣間距 = 40 mm

GV3 L



(1) Block 模塊 GV AN●●, GV AD●● and GV AM11
 (2) Block 模塊 GV3AU●● and GV3AS●●

TeSys motor circuit breaker 電動機斷路器

Thermal-magnetic circuit breaker GB2 for the protection of industrial equipment control circuits

用於保護工業設備控制電路，熱磁電動機斷路器 GB2

1

Environment characteristics 工作環境		GB2 CB	GB2 CD
Circuit breaker type 斷路器類型			
Conforming to standards 符合標準		IEC 60947-1, 947-2, EN 60947-1, 60947-2	
Product certifications 產品認證		CSA, NEMKO, UL	NEMKO, UL
Degree of protection 保護級別	Conforming to IEC 60529 符合 IEC 60529 標準	IP 20	
Shock resistance 抗沖擊性能	Conforming to IEC 60068-2-27 符合 IEC 60068-2-27 標準	22 gn for 20 ms	
Vibration resistance 抗振性能	Conforming to IEC 60068-2-6 符合 IEC 60068-2-6 標準	5 gn (5...110 Hz)	
Ambient air temperature 環境溫度	Storage 貯存	°C	- 40...+ 80
	Operation 工作	°C	- 20...+ 60
Flame resistance 阻燃性能	Conforming to IEC 60695-2-1 符合 IEC 60695-2-1 標準	°C	960
Maximum operating altitude 最大運作海拔		m	3000
Tightening torque 緊固扭矩		N.m	1.2

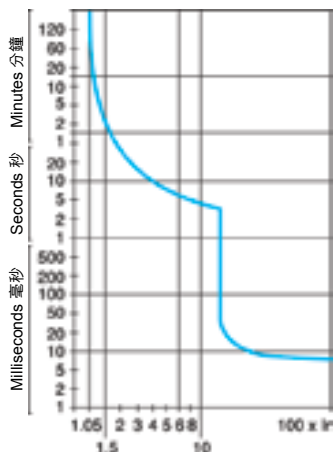
Technical characteristics 技術特性											
Utilisation category 使用類別	Conforming to IEC 60947-2 符合 IEC 60947-2 標準		A							A	
Rated operational voltage 額定運作電壓 (Ue)	Conforming to IEC 60947-2 符合 IEC 60947-2 標準	V	415 (1)							250	
	Conforming to CSA C22-2 Nr 14 and UL 1077 符合 CSA C22-2 Nr 14及 UL 1077 標準	V	277							-	
Rated operational frequency 額定運作頻率	Conforming to IEC 60947-2 符合 IEC 60947-2 標準	Hz	50/60							50/60	
Rated impulse withstand voltage 額定沖擊耐受電壓 (U imp)	Conforming to IEC 60947-2 符合 IEC 60947-2 標準	kV	4							4	
Total power dissipated per pole 每極總耗散功率		W	2							2	
Mechanical and electrical durability 機械及電氣壽命 (C.O.: Closing 閉合, Opening 斷開)		C.O.	8000							8000	
Operational current correction coefficient (~ or -) 運作電流更改系數	According to the permissible ambient temperature 按允許的環境溫度 Correction coefficient 更改系數	°C	-20	-10	0	+10	+20	+30	+40	+50	+60
			1.2	1.15	1.1	1.05	1	0.95	0.90	0.85	0.80
Tripping threshold 脫扣電流值	Of the magnetic trips 電磁脫扣		12...16 In							12...16 In	

(1) One GB2 circuit breaker on each line conductor. 每個帶電的接觸器帶一只GB2 斷路器。

Tripping curves 脫扣曲線

Average operating time at 20°C without prior current flow (cold state) 無電流通過 (冷狀態) 的情況下，於20°C的一般運行時間

GB2 CB, GB2 CD



TeSys motor circuit breaker 電動機斷路器

Thermal-magnetic circuit breaker GB2 for the protection of industrial equipment control circuits

用於保護工業設備控制電路，熱磁電動機斷路器 GB2

1

Circuit breaker type 斷路器類型				GB2											
				CB05	CB06	CB07	CB08	CB09	CB10	CB12	CB14	CB16	CB20	CB21	CB22
Rating 額定電流	A	0.5	1	2	3	4	5	6	8	10	12	16	20		
Breaking capacity conforming to IEC 60947-2 分斷能力 符合 IEC 60947-2 標準 ~50/60 Hz	110V	l _{cu}	kA	50	50	15	10	6	3	3	3	2	2	2	2
		l _{cs} % (1)		100	50	50	50	50	75	75	75	75	75	75	75
	230/240V	l _{cu}	kA	50	50	15	3	3	2	1.5	1.5	1.5	1.5	1.5	1.5
		l _{cs} % (1)		25	25	25	50	50	75	75	75	75	75	75	75
	440/415V	l _{cu}	kA	50	50	15	3	3	2	1.5	1.5	1.5	1.5	1.5	1.5
		l _{cs} % (1)		25	25	25	50	50	75	75	75	75	75	75	75

Circuit breaker type 斷路器類型				GB2											
				CD06	CD07	CD08	CD09	CD10	CD12	CD14	CD16	CD20	CD21	CD22	
Rating 額定電流	A	1	2	3	4	5	6	8	10	12	16	20			
Breaking capacity conforming to IEC 60947-2 分斷能力 符合 IEC 60947-2 標準 ~50/60 Hz	110V	l _{cu}	kA	50	15	10	6	3	3	3	2	2	2	2	
		l _{cs} % (1)		50	50	50	50	75	75	75	75	75	75	75	
	230/240V	l _{cu}	kA	50	15	3	3	2	1.5	1.5	1.5	1.5	1.5	1.5	
		l _{cs} % (1)		25	25	50	50	75	75	75	75	75	75	75	

(1) As % of I_{cu}.
佔 I_{cu} 的百分比。

TeSys motor circuit breaker 電動機斷路器

Thermal-magnetic circuit breaker GB2 for the protection of industrial equipment control circuits

用於保護工業設備控制電路，熱磁電動機斷路器 GB2



GB2 CB ●●



GB2 CD ●●

Circuit breakers with magnetic tripping threshold: 12 to 16 In 斷路器帶磁脫扣和電流限：12 至 16 In

Single-pole 單極

Conventional rated thermal current 約定發熱電流 (1) Ith	Magnetic tripping current 磁脫扣電流 I _d ± 20%	Sold in lots of 批量	Reference 型號	Weight 重量
A				kg
0.5	6.6	6	GB2 CB05	0.060
1	14	6	GB2 CB06	0.060
2	26	6	GB2 CB07	0.060
3	40	6	GB2 CB08	0.060
4	52	6	GB2 CB09	0.060
5	66	6	GB2 CB10	0.060
6	83	6	GB2 CB12	0.060
8	108	6	GB2 CB14	0.060
10	138	6	GB2 CB16	0.060
12	165	6	GB2 CB20	0.060
16	220	6	GB2 CB21	0.060
20	270	6	GB2 CB22	0.060

Single-pole + neutral 單極 + 中線

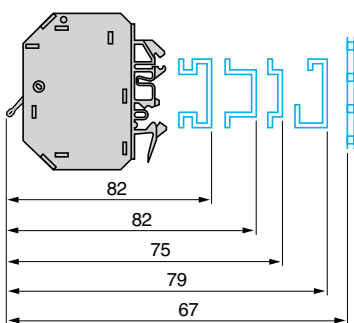
Conventional rated thermal current 約定發熱電流 (1) Ith	Magnetic tripping current 磁脫扣電流 I _d ± 20%	Sold in lots of 批量	Reference 型號	Weight 重量
A				kg
1	14	6	GB2 CD06	0.070
2	26	6	GB2 CD07	0.070
3	40	6	GB2 CD08	0.070
4	52	6	GB2 CD09	0.070
5	66	6	GB2 CD10	0.070
6	83	6	GB2 CD12	0.070
8	108	6	GB2 CD14	0.070
10	138	6	GB2 CD16	0.070
12	165	6	GB2 CD20	0.070
16	220	6	GB2 CD21	0.070
20	270	6	GB2 CD22	0.070

(1) Conforming to IEC 60947-1.
符合 IEC 60947-1 標準。

Dimension 尺寸

GB2 CB ●●

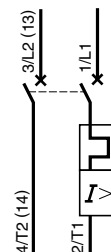
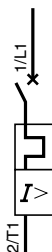
GB2 CD ●●



Schemes 圖解

GB2 CB ●●

GB2 CD ●●



Marking: up to twelve AB1 R clip-in markers.
標記：最多12個 AB1 R 連扣標記。

Environment Characteristics 工作環境

Conforming to standards 符合標準			IEC 60947, NF C 63-110, VDE 0660, BS 5424		
Product certifications 產品認證	LC● and LP●K06 to K09		UL, CSA		
Connection 連接			Min. 最小	Max. 最大	Max. to 最大至 IEC 60947
Screw clamp terminals 螺釘夾緊端子	Solid conductor 硬質導體	mm ²	1 x 1.5	2 x 4	1 x 4 + 1 x 2.5
	Flexible conductor without cable end 無線纜端的軟線	mm ²	1 x 0.75	2 x 4	2 x 2.5
	Flexible conductor with cable end 帶線纜端的軟線	mm ²	1 x 0.34	1 x 1.5 + 1 x 2.5	1 x 1.5 + 1 x 2.5
Spring terminals 彈簧端子	Solid conductor 硬質導體	mm ²	1 x 0.75	1 x 1.5	2 x 1.5
	Flexible conductor without cable end 無線纜端的軟線	mm ²	1 x 0.75	1 x 1.5	2 x 1.5
Faston connectors 快速連接器	Clip 夾鉗	mm	2 x 2.8 or 1 x 6.35		
Solder pins for printed circuit board 用於印刷電路板的 焊接引腳	With locating device between power and control circuits 帶電源和控制電路之間的 定位裝置		4 mm x 35 microns		
Tightening torque 緊固扭矩	Philips head n° 2 and Ø 6 十字頭 n° 2 直徑為 Ø 6	N.m	0.8...1.3		
Terminal referencing 端子型號	Conforming to standards EN 50005 and EN 50012 符合 EN 50005 及 EN 50012 標準		Up to 5 contact, depending on model 按不同型號，最多為五個觸點		
Rated insulation voltage 額定絕緣電壓 (Ui)	Conforming to IEC 60947 符合 IEC 60947 標準	V	690		
	Conforming to VDE 0110 gr C 符合 VDE 0110 gr C 標準	V	750		
	Conforming to BS 5424, NF C 20-040 符合 BS 5424, NF C 20-040 標準	V	690		
	Conforming to CSA 22-2 n° 14, UL 508 符合 CSA 22-2 n° 14, UL 508 標準	V	600		
Rated impulse withstand voltage 額定耐受沖擊電壓 (Uimp)		kV	8		
Degree of protection 保護級別	Conforming to VDE 0106 符合 VDE 0106 標準		Protection against direct finger contact 防止手指直接接觸		
Ambient air temperature around the device 設備周圍環境溫度	Storage 貯存	°C	- 50...+ 80		
	Operation 運作	°C	- 50...+ 80		
Maximum operating altitude 最大運作海拔	Without derating 不降容	m	2000		
Vibration resistance 抗振能力 5...300 Hz	Contactors open 接觸器斷開		2 gn		
	Contactors closed 接觸器閉合		4 gn		
Flame resistance 阻燃性能	Conforming to UL 94 符合 UL 94 標準		Self-extinguishing materials V1 自熄材料 V1		
	Conforming to NF F 16-101 and 16-102 符合 NF F 16-101 及 16-102 標準		Conforming to requirement 2 符合要求 2		
Shock resistance 1/2 sine wave = 11 ms 抗沖擊性能 1/2 正弦波 = 11 ms	Contactors open 接觸器斷開		On X axis 於 X 軸 : 6 gn On Y and Z axes 於 Y 及 Z 軸: 10 gn		
	Contactors closed 接觸器閉合		On X axis 於 Y 軸 : 10 gn On Y and Z axes 於 Y 及 Z 軸: 15 gn		
Safe separation of circuits 電路安全分離	Conforming to VDE 0106 and IEC 60536 符合 VDE 0106 及 IEC 60536 標準		SELV (Safety Extra Low Voltage), up to 400 V SELV (安全特低電壓)，最高為 400V		

Pole characteristics 主極特性							
Type 類型	LC● or LP●		K06	K09			
Conventional thermal current 約定發熱電流 (Ith)	For ambient temperature ≤50°C 環境溫度 ≤50°C 的情況	A	20				
Rated operational frequency 額定運作頻率		Hz	50/60				
Frequency limits of the operational current 運作電流的頻率限制		Hz	Up to 最高 400				
Rated operational voltage 額定運作電壓 (Ue)		V	690				
Rated making capacity 額定接通能力	I rms conforming to NF C 63 110 and IEC 60947 I rms 符合 NF C 63 110 及 IEC 60947 標準	A	110	110			
Rated breaking capacity 額定分斷能力	I rms conforming to NF C 63 110 and IEC 60947	A	110	110			
	220/230 V	A	110	110			
	380/400 V	A	110	110			
	415 V	A	110	110			
	440 V	A	110	110			
	符合 NF C 63 110 及 IEC 60947 標準	A	80	80			
	500 V	A	80	80			
	660/690 V	A	70	70			
Permissible short time rating 短時允許耐受電流	In free air for a time "t" from cold state (θ ≤ 50°C) 自由空氣中，從冷態開始 (θ ≤ 50°C)	1 s	A	90	90		
		5 s	A	85	85		
		10 s	A	80	80		
		30 s	A	60	60		
		1 min	A	45	45		
		3 min	A	40	40		
		≥ 15 min	A	20	20		
Short-circuit protection 短路保護	gG fuse U ≤ 440V gG 菲士 U ≤ 440V	A	25				
Average impedance per pole 每極的平均阻抗	At Ith and 50 Hz 於 Ith 和 50 Hz 條件下	mΩ	3				
Use in category AC-1 resistive circuits, heating, lighting 在 AC-1 類別下使用 電阻電路、加熱、照明 (Ue ≤ 440V)	Maximum rated operational current for a temperature ≤ 50°C 最大額定運作電流溫度 ≤ 50°C	A	20				
	Maximum rated operational current for a temperature ≤ 70°C 最大額定運作電流溫度 ≤ 70°C	A	16 for Ue only 16 (僅適於 Ue)				
Rated operational current limits in relation to the on-load factor and operating 與功率因數和運作頻率有關的額定運作電流限制	On-load factor 功率因數			90%	60%	30%	
	300 operating cycles/hour 工作週期/小時	A		13	15	18	
	120 operating cycles/hour 工作週期/小時	A		15	18	19	
30 operating cycles/hour 工作週期/小時	A			19	20	20	
Increase in rated operational current by paralleling of poles 通過開聯主極提高運作電流				Apply the following coefficients to the above currents; these coefficients take into account an often unbalanced distribution of current between the poles 將以下系數乘以上面給定的電流值，這將考慮到極間通常的不平衡的電流分佈			
Use in category AC-3 squirrel cage motors 在 AC-3 類別下使用 鼠籠式電機	Operational power according to the voltage.	115 V single-ph. 單相 220 V single-ph. 單相 220/230 V 3-ph. 三相	kW	0.37	0.55		
			kW	0.75	1.1		
			kW	1.5	2.2		
	Voltage 50 or 60 Hz	380/415 V 3-ph. 三相	kW	2.2	4		
	根據電壓的運作功率	440/480 V 3-ph. 三相	kW	3	4		
	電壓 50 或 60 Hz	500/600 V 3-ph. 三相	kW	3	4		
		660/690 V 3-ph. 三相	kW	3	4		
Maximum operating rate (in operating cycles/hour in relation to % of rated power) 最大操作額率 (按運作週期/小時表示和額定功率的%相關)				Op. cycles/h 每小時運作週期 Power 功率	600 100%	900 75%	1200 50%

2

Control circuit characteristics 控制電路特性				
Type 類型		LC1	LC2	LP1
Rated control circuit voltage 額定控制電路電壓 (Uc)	V	~12...690 (1)	~12...690 (1)	~12...250 (1)
Control voltage limits single voltage coil 控制電壓極限值 單電壓線圈 (≤ 50°C)	Operation 運作	0.8...1.15 Uc	0.8...1.15 Uc	0.8...1.15 Uc
	Drop-out 貯存	≥ 0.20 Uc	≥ 0.20 Uc	≥ 0.10 Uc
Average consumption at 20°C and at Uc 平均功耗 在 20°C 和在 Uc 下	Inrush 吸合	30 VA	30 VA	3 W
	Sealed 保持	4.5 VA	4.5 VA	3 W
Heat dissipation 熱耗散	W	1.3	1.3	3
Operating time at 20°C and at Uc 運作時間在 20°C 和在 Uc 下				
Between coil energisation and: 在線圈得電和以下之間：				
- opening of the N/C contacts - N/C 觸點斷開	ms	5...15	5...15	25...35
- closing of the N/O contacts - N/O 觸點閉合	ms	10...20	10...20	30...40
Between coil de-energisation and: 在線圈失電和以下之間：				
- opening of the N/O contacts - N/O 觸點斷開	ms	10...20	10...20	10
- closing of the N/C contacts - N/C 觸點閉合	ms	15...25	15...25	15
Maximum immunity to microbreaks 最大抗微斷能力	ms	2	2	2
Maximum operating rate 最大運作速率	In operating cycles per hour 每小時運作次數	3600	3600	3600
Mechanical durability at Uc In millions of operating cycles Uc 下機械壽命 百萬次運作週期	50/60 Hz coil 50/60 Hz 線圈	10	5	—
	— coil 線圈	—	—	10
	Wide range coil, Low consumption 寬電壓範圍，低功耗	—	—	—

(1) For mains supplies with a high level of interference, use a suppressor module LA4K●, see page 20.

於供電于很強的情況下，請使用抑流器模塊，見20頁。

Auxiliary contact characteristics of contactors and instantaneous contact blocks 接觸器輔助觸點和瞬時輔助觸點模塊的特性

Number of auxiliary contacts 輔助觸點數	On LC●K or LP●K 3-pole On LA1K		1 2 or 4
Rated operational voltage 額定運作電壓 (Ue)	Up to 最高為	V	690
Rated insulation voltage 額定絕緣電壓 (Ui)	Conforming to BS 5424 符合 BS 5424 標準	V	690
	Conforming to IEC 60947 符合 IEC 60947 標準	V	690
	Conforming to VDE 0110 group C 符合 VDE 0110 C 組標準	V	750
	Conforming to CSA C 22-2 n° 14 符合 CSA C 22-2 n° 14 標準	V	600
Conventional thermal current 約定發熱電流 (Ith)	For ambient temperature <50°C 環境溫度 <50°C 的情況	A	10
Frequency of the operational current 運作電流頻率		Hz	Up to 400 最高為400
Minimum switching capacity 最小切換容量	U min (DIN 19 240)	V	17
	I min	mA	5
Short-circuit protection 短路保護	Conforming to IEC 60947 and VDE 0660, gG fuse 符合 IEC 60947 及 VDE 0660, gG fuse 標準	A	10
Rated making capacity 額定接通能力	I rms conforming to IEC 60947 I rms 符合 IEC 60947 標準	A	110
Short-time rating 過載電流	Permissible for 1 s 允許	A	80
	500 ms	A	90
	100 ms	A	110
Insulation resistance 絕緣電阻		MΩ	>10
Non-overlap distance 不重疊距離	LA1 K: linked contacts conforming to INRS, BIA and CNA specifications LA1-K: 連接到符合 INRS, BIA 和 CNA 規範的觸點	mm	0.5

Operational power of contacts
conforming to IEC 60947
觸點運作功率
符合 IEC 60947 標準

a.c. supply, categories AC-15
Electrical durability (valid for up to 3600 operating cycles/hour) on an inductive load such as the coil of an electromagnet: making current (cos φ 0.7) = 10 times the power broken (cos φ 0.4).
交流供電，AC-15 類別
電氣壽命 (每小時達到 3600 次運作週期)
在感性負載下，如電磁線圈：
接通功率 (cos φ 0.7) = 10 倍分斷功率 (cos φ 0.4)。

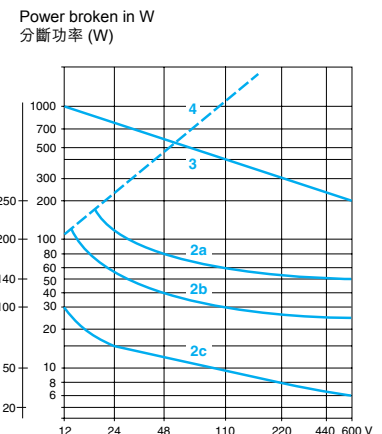
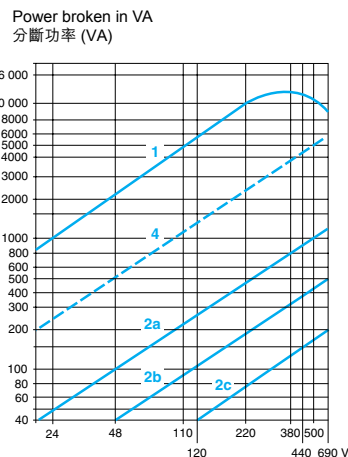
d.c. supply, category DC-13
Electrical durability (valid for up to 1200 operating cycles/hour) on an inductive load such as the coil of an electromagnet, without economy resistor, the time constant increasing with the load.
直流供電，DC-13 類別
電氣壽命 (每小時達到 1200 次運作週期)
在感性負載下，如電磁線圈：
沒有節電變阻器，時間常數將隨負載增加。

1 million operating cycles 一百萬次運作週期	3 million operating cycles 三百萬次運作週期	10 million operating cycles 一千萬次運作週期	Occasional making capacity 偶發接通能力
-------------------------------------	-------------------------------------	--------------------------------------	-----------------------------------

V	24	48	110/127	220/230	380/400	440/480	600/690
VA	48	96	240	440	800	880	1200
VA	17	34	86	158	288	317	500
VA	7	14	36	66	120	132	200
VA	1000	2050	5000	10 000	14 000	13 000	9000

V	24	48	110	220	440	600
W	120	80	60	52	51	50
W	55	38	30	28	26	25
W	15	11	9	8	7	6
W	720	600	400	300	230	200

- Breaking limit of contacts valid for:
 - maximum of 50 operating cycles at 10 s intervals (power broken = making current x cos φ 0.7)
 - Electrical durability of contacts for:
 - 1 million operating cycles (2a)
 - 3 million operating cycles (2b)
 - 10 million operating cycles (2c)
 - Breaking limit of contacts valid for:
 - maximum of 20 operating cycles at 10 s intervals with current passing for 0.5 s per operating cycle.
 - Thermal limit
- 1 分斷能力限制
- 在間隔為 10 秒時，最大 50 運作週期
(分斷電流 = 接通電流 x cos φ 0.7)
- 2 接觸的電氣壽命：
- 一百萬運作週期(2a)
- 三百萬運作週期(2b)
- 一千萬運作週期(2c)
- 3 分斷能力限制
- 在間隔為 10 秒，每運作週期電流通過時間為 0.5 秒時，最大 20 個運作週期
- 4 發熱限制



TeSys contactors 接觸器

TeSys K contactors and reversing contactors

K 型接觸器和可逆接觸器

Control circuit: a.c.

控制電路：交流

2



LC1 K0910 ●●

3-Pole contactors, control circuit: a.c. 三極接觸器，控制電路：交流						
Standard power ratings of 3-phase motors 50-60 Hz in category AC-3 三相電動機標準額定功率 50/60 Hz，A-3 類			Rated operational current in category AC-3 440 V up to AC-3 440 V 電源時 額定運作電流最高為	Instantaneous auxiliary contacts 瞬時輔助觸點	Basic reference, to be completed by adding the voltage code 基本型號，完整型號包括控制電壓代號 (1)	Weight 重量
220 V	380 V	440/500 V	AC-3 440 V 電源時 額定運作電流最高為			
230 V	415 V	660/690 V				
kW	kW	kW	A			kg
Screw clamp connections 螺釘夾緊接線方式						
1.5	2.2	3	6	1 -	LC1 K0610 ●●	0.180
				- 1	LC1 K0601 ●●	0.180
2.2	4	4	9	1 -	LC1 K0910 ●●	0.180
				- 1	LC1 K0901 ●●	0.180



LC2 K0910 ●●

3-Pole reversing contactors, control circuit: a.c. 三極可逆接觸器，控制電路：交流						
Standard power ratings of 3-phase motors 50-60 Hz in category AC-3 三相電動機標準額定功率 50/60 Hz，A-3 類			Rated operational current in category AC-3 440 V up to AC-3 440 V 電源時 額定運作電流最高為	Instantaneous auxiliary contacts 瞬時輔助觸點	Basic reference, to be completed by adding the voltage code 基本型號，完整型號包括控制電壓代號 (1)	Weight 重量
220 V	380 V	440/500 V	AC-3 440 V 電源時 額定運作電流最高為			
230 V	415 V	660/690 V				
kW	kW	kW	A			kg
Screw clamp connections 螺釘夾緊接線方式						
1.5	2.2	3	6	1 -	LC2 K0610 ●●	0.390
				- 1	LC2 K0601 ●●	0.390
2.2	4	4	9	1 -	LC2 K0910 ●●	0.390
				- 1	LC2 K0901 ●●	0.390



LC1 K09004 ●●

4-Pole contactors, control circuit: a.c. 四極接觸器，控制電路：交流						
Non-inductive loads Category AC-1 Maximum current at $\theta < 50^{\circ}\text{C}$ 非電感性負載 AC-1 類 最大電流 $\theta < 50^{\circ}\text{C}$	Number of poles 極數		Instantaneous auxiliary contacts 瞬時輔助觸點	Basic reference, to be completed by adding the voltage code 基本型號，完整型號包括控制電壓代號 (1)	Weight 重量	
						kg
Screw clamp connections 螺釘夾緊接線方式						
20	4	-	-	-	LC1 K09004 ●●	0.180
	2	2	-	-	LC1 K09008 ●●	0.180

(1) For other voltages, please consult Schneider Electric (HK) Ltd.
請向香港施耐德電氣查詢其他電壓。

a.c. supply 交流電源						
Volts 伏 (50/60 Hz)	24	48	110	220/230	240	380/400
Code 代碼	B7	E7	F7	M7	U7	Q7

TeSys contactors 接觸器

TeSys K contactors and reversing contactors

K 型接觸器和可逆接觸器

Control circuit: d.c.

控制電路：直流



LP1 K0910 ●●

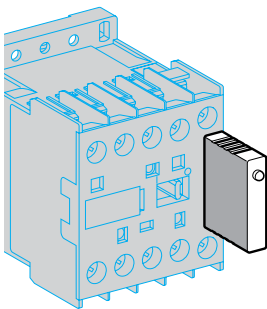
3-Pole contactors control circuit: d.c. 三極接觸器，控制電路：直流					
Standard power ratings of 3-phase motors 50-60 Hz in category AC-3 三相電動機標準額定功率 50/60 Hz, A-3 類	Rated operational current in category AC-3 440 V up to AC-3 440 V 電源時額定運作電流最高為	Instantaneous auxiliary contacts 瞬時輔助觸點 	Basic reference, to be completed by adding the voltage code 基本型號，完整型號包括控制電壓代號 (1)	Weight 重量	
220 V 230 V	380 V 415 V	440/500 V 660/690 V			
kW	kW	kW	A		kg
Screw clamp connections 螺釘夾緊接線方式					
1.5	2.2	3	6	1 - - 1	LP1 K0610 ●● LP1 K0601 ●●
2.2	4	4	9	1 - - 1	LP1 K0910 ●● LP1 K0901 ●●
d.c. supply 直流電源					
Volts 伏	24	48	110	220	
Code 代碼	BD	ED	FD	MD	

Accessories 附件

Instantaneous auxiliary contact blocks 瞬時輔助觸點模塊

Recommended for standard applications. Clip-on front mounting, 1 block per contactor
建議用於標準應用。正面夾持安裝，每個接觸器一個模塊

Connection 接線方式	For use on contactors 用於接觸器上	Composition 觸點排列	Reference 型號	Weight 重量
				kg
Screw clamp terminals 螺釘夾緊端子	All products with screw clamp terminals 所有產品都帶有螺釘夾緊端子	2 - - 2 1 1	LA1 KN20 LA1 KN02 LA1 KN11	0.045 0.045 0.045
	All products with screw clamp terminals except low consumption 除低功耗外，所有產品都帶有螺釘夾緊端子	4 - 3 1 2 2 1 3 - 4	LA1 KN40 LA1 KN31 LA1 KN22 LA1 KN13 LA1 KN04	0.045 0.045 0.045 0.045 0.045



LA4 K ●●

Suppressor modules references 抑流器模塊型號

Mounting and connection 安裝和連接	Type 類型	For voltages 適用電壓	Sold in lots of 批量	Reference 型號	Weight 重量
Clip-on fixing on the front of contactor LC1 and LP1, with locating device. No tools required. 使用定位器夾接在接觸器 LC1 和 LP1 的正面。無需使用工具。	Varistor (2)	~ and = 12...24 V ~ and = 32...48 V ~ and = 130...250 V	5 5 5	LA4 KE1B LA4 KE1E LA4 KE1UG	0.010 0.010 0.010
	RC (3)	~ 110...250 V	5	LA4 KA1U	0.010

- (1) For other voltages, please consult Schneider Electric (HK) Ltd.
請向香港施耐德電氣查詢其他型號。
- (2) 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).
通過限制最大為 2 Uc 的瞬間電壓來實現保護功能。最大限度削減瞬間電壓峰值。關斷時輕微延時 (1.1 倍至 1.5 倍的額定時間)。
- (3) Protection by limiting the transient voltage to 3 Uc max. and limitation of the oscillating frequency. Slight increase in drop-out time (1.2 to 2 times the normal time).
通過限制最大為 3 Uc 的瞬間電壓和限制振蕩頻率來實現保護功能。關斷時輕微延時 (1.2 倍至 2 倍的額定時間)。

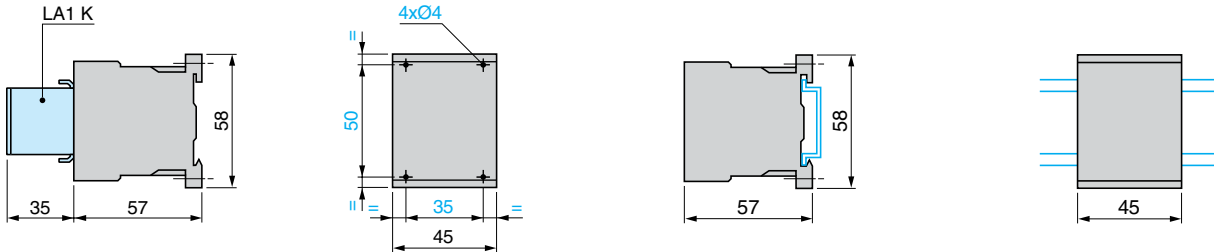
Contactors 接觸器

LC1 K, LP1 K

On panel 在面板上的安裝

On mounting rail AM1 DP200 or AM1 DE200 (35mm)

在導軌 AM1 DP200 或 AM1 DE200 (35mm) 上安裝



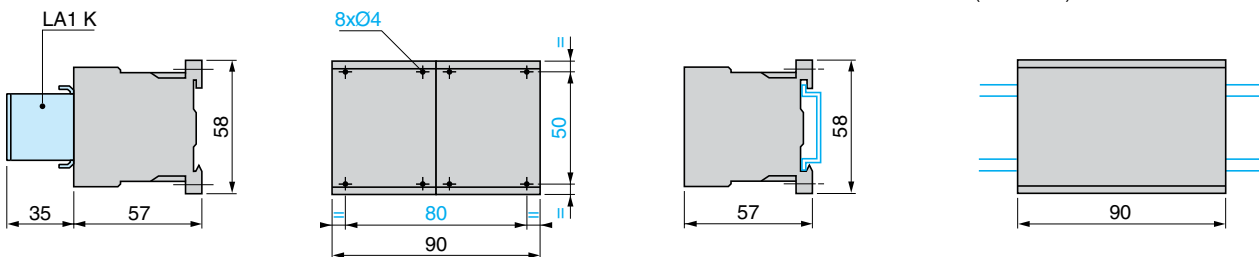
Reversing contactors 可逆接觸器

LC2 K

On panel 在面板上的安裝

On mounting rail AM1 DP200 or AM1 DE200 (35mm)

在導軌 AM1 DP200 或 AM1 DE200 (35mm) 上安裝



TeSys contactors 接觸器

TeSys D contactors

D 型接觸器

Contactor type 接觸器類型	LC1	D09...D18 DT25	D25...D38 DT40	D40A...D65A DT60A and DT80A	D80...D95	D115 and D150	
Environment 工作環境							
Rated insulation voltage 額定絕緣電壓 (Ui)	Conforming to IEC 60947-4-1, overvoltage category III, degree of pollution: 3 符合 IEC 60947-4-1 標準，過壓類別 III，污染等級：3	V	690			1000	
	Conforming to UL, CSA 符合 UL, CSA 標準	V	600				
Rated impulse withstand voltage 額定沖擊耐受電壓 (Uimp)	Conforming to IEC 60947 符合 IEC 60947 標準	kV	6			8	
	Conforming to standards 符合標準		IEC/EN 60947-4-1, IEC/EN 60947-5-1, UL 508, CSA C22.2 n°14.				
Product certifications 產品證書			UL, CSA. CCC, GL, DNV, RINA, BV, LROS				
Degree of protection (front face only) 保護級別 (僅適用於前面)	Conforming to VDE 0106 and IEC 60529 符合 VDE 0106 及 IEC 60529 標準						
	Power circuit connections 電源連接		Protection against direct finger contact IP 2X 避免手指直接接觸 IP 2X				
	Coil connection 線圈連接		Protection against direct finger contact IP 2X 避免手指直接接觸 IP 2X				
Ambient air temperature around the device 環境溫度設備周圍	Storage 貯存	°C	- 60...+ 80				
	Operation 工作	°C	- 5...+ 60				
	Permissible 允許	°C	- 40...+ 70, for operation at Uc 在 Uc 下運作				
Maximum operating altitude 最大運作海拔	Without derating 不降容	m	3000				
Flame resistance 阻燃性能	Conforming to UL 94 符合 UL 94 標準		V1				
	Conforming to IEC 60695-2-1 符合 IEC 60695-2-1 標準	°C	850				
Shock resistance 1/2 sine wave = 11 ms 抗沖擊性能 1/2 正弦波 = 11 ms	Contactor open 接觸器斷開		10 gn	8 gn	10 gn	8 gn	6 gn
	Contactor closed 接觸器閉合		15 gn	15 gn	15 gn	10 gn	15 gn
Vibration resistance 抗振性能 5...300 Hz	Contactor open 接觸器斷開		2 gn				
	Contactor closed 接觸器閉合		4 gn	4 gn	4 gn	3 gn	4 gn



Contactor type 接觸器類型		LC1	D09 (3P)	D12 (3P)	DT25 DT128	D18 (3P)	D25 (3P)	DT40 D258
Pole characteristics 主觸點特性								
Rated operational current 額定運作電流 (Ie) (Ue ≤ 440 V)	In AC-3, θ ≤ 60°C In AC-3, θ ≤ 60°C	A	9 25	12 25	12 25	18 32	25 40	25 40
Rated operational voltage 額定運作電壓 (Ue)	Up to 最高	V	690	690	690	690	690	690
Frequency limits 頻率範圍	Of the operational current 運作電流下	Hz	25...400	25...400	25...400	25...400	25...400	25...400
Conventional thermal current 約定發熱電流 (Ith)	θ ≤ 60 °C	A	25	25	25	32	40	40
Rated making capacity 額定接通能力 (440 V)	Conforming to IEC 60947 符合 IEC 60947 標準	A	250	250	250	300	450	450
Rated breaking capacity 額定分斷能力 (440 V)	Conforming to IEC 60947 符合 IEC 60947 標準	A	250	250	250	300	450	450
Permissible short time rating No current flowing for preceding 15 minutes with θ ≤ 40 °C 短時允許耐受電流 從冷態開始，周圍溫度 θ ≤ 40°C， 且無電流時間持續 15 分鐘	1 s 10 s 1 min 10 min	A	210 105 61 30	210 105 61 30	210 105 61 30	240 145 84 40	380 240 120 50	380 240 120 50
Fuse protection against short-circuits 通過非士保護 防止短路 (U ≤ 690 V)	Without thermal overload relay, gG fuse 無熱過載繼電器 gG 非士	type 1 type 2 A	25 20	40 25	40 25	50 35	63 40	63 40
Average impedance per pole 每極平均阻抗	At Ith and 50 Hz 於 Ith 和 50 Hz 條件下	mΩ	2.5	2.5	2.5	2.5	2	2
Power dissipation per pole for the above operational currents 每極耗散功率 (以上運作電流)	AC-3 AC-1	W	0.20 1.56	0.36 1.56	0.36 1.56	0.8 2.5	1.25 3.2	1.25 3.2
Control circuit characteristics, a.c. supply 交流控制電路特性								
Rated control circuit voltage 額定控制電壓 (Uc)	50/60 Hz	V	12...690					
Control voltage limits 控制電壓限額								
50 or 60 Hz coils 線圈	Operation 運作 Drop-out 釋放		— —					
50/60 Hz coils 線圈	Operation 運作		0.8...1.1 Uc at 50 Hz and 0.85...1.1 Uc at 60 Hz and at 60°C					
	Drop-out 釋放		0.3...0.6 Uc at 60°C					
Average consumption ~50 Hz at 20°C and at Uc 20°C 及 Uc 下 平均功耗	Inrush 起動 50 Hz coil 線圈	VA	— 0.75					
	Sealed 吸持 50 Hz coil 線圈	VA	70 — 0.3					
	Sealed 吸持 50/60 Hz coil 線圈	VA	7 — 0.75					
	~60 Hz Inrush 起動 60 Hz coil 線圈	VA	— 0.75					
	Sealed 吸持 60 Hz coil 線圈	VA	70 — 0.3					
	Sealed 吸持 50/60 Hz coil 線圈	VA	7.5					
Heat dissipation 熱散耗	50/60 Hz	W	2...3					
Operating time 運作時間	Closing 閉合 "C" Opening 打開 "O"	ms	12...22 4...19					
Mechanical durability in millions of operating cycles 機械壽命 百萬運作次數	50 or 60 Hz coil 線圈 50/60 Hz coil 線圈 on 50 Hz		— 15					
Maximum operating rate at ambient temperature ≤ 60°C 最大運作頻率 環境溫度 ≤ 60°C	In operating cycles per hour 每小時運作週期		3600					

D32	D38	D40A	DT60A	D50A	D65A	DT80A	D80	D95	D115	D150
32	38	40	–	50	65	–	80	95	115	150
50 (1)	50	60	60	80	80	80	125	125	200	200
690	690	690	690	690	690	690	1000	1000	1000	1000
25...400	25...400	25...400	25...400	25...400	25...400	25...400	25...400	25...400	25...400	25...400
50	50	60	60	80	80	80	125	125	200	200
550	550	800	800	900	1000	1000	1100	1100	1260	1660
550	550	800	800	900	1000	1000	1100	1100	1100	1400
430	430	720	720	810	900	900	990	1100	1100	1400
260	310	320	320	400	520	520	640	800	950	1200
138	150	165	165	208	260	260	320	400	550	580
60	60	72	72	84	110	110	135	135	250	250
63	63	80	80	100	125	125	200	200	250	315
63	63	80	80	100	125	125	160	160	200	250
2	2	1.5	1.6	1.5	1.5	1.6	0.8	0.8	0.6	0.6
2	3	2.4	–	3.7	6.3	–	5.1	7.2	7.9	13.5
5	5	5.4	5.8	9.6	9.6	10.2	12.5	12.5	24	24
12...690	12...690								24...500	
–	–						0.85...1.1 Uc at 55°C			
–	–						0.3...0.6 Uc at 55°C		0.3...0.5 Uc at 55°C	
0.8...1.1 Uc on 50 Hz and 0.85...1.1 Uc on 60 Hz at 60°C	0.8...1.1 Uc on 50 Hz and 0.85...1.1 Uc on 60 Hz at 60°C						0.8...1.1 Uc on 50 Hz and 0.85...1.1 Uc on 60 Hz at 55°C		0.8...1.15 Uc on 50/60 Hz at 55°C	
0.3...0.6 Uc at 60°C	0.3...0.6 Uc at 60°C						0.3...0.6 Uc at 55°C		0.3...0.5 Uc at 55°C	
–	–						200		300	
0.75	0.75						0.75		0.8	
70	160						245		280...350	
–	–						20		22	
0.3	0.3						0.3		0.3	
7	15						26		2...18	
–	–						220		300	
0.75	0.75						0.75		0.8	
70	140						245		280...350	
–	–						22		22	
0.3	0.3						0.3		0.3	
7.5	13						26		2...18	
2...3	4...5						6...10		3...8	
12...22	12...26	12...26	12...26	12...26	12...26	12...26	20...35	20...35	20...50	20...35
4...19	4...19	4...19	4...19	4...19	4...19	4...19	6...20	6...20	6...20	40...75
–	–						10		8	
15	6	6	6	6	6	6	4	4	8	8
3600	3600	3600	3600	3600	3600	3600	3600	3600	2400	1200

TeSys contactors 接觸器

TeSys D contactors

D 型接觸器

2

Contactor type 接觸器類型		LC1 D09...D38 LC1 DT25...DT40	LC1 D40A..D65A LC1 DT60A and DT80A	LC1 or LP1 D80 LC1 D95	LC1 D115 and LC1 D150
d.c. control circuit characteristics 直流控制電路特性					
Rated control circuit voltage 額定控制電路電壓 (Uc)	∞	V	12...440	12...440	12...440
Rated insulation voltage 額定絕緣電壓	Conforming to IEC 60947-1 符合 IEC 60947-1 標準	V	690		
	Conforming to UL, CSA 符合 UL, CSA 標準	V	600		
Control voltage limits 控制電壓限額	Operation 運作 Standard coil 標準線圈 Wide range coil 寬範圍電壓線		0.7...1.25 Uc at 60°C	0.75...1.25 Uc at 60°C	0.85...1.1 Uc at 55°C
			–	–	0.75...1.2 Uc at 55°C
	Drop-out 釋放		0.1...0.25 Uc at 60°C	0.1...0.3 Uc at 60°C	0.1...0.3 Uc at 55°C
Average consumption at 20°C and at Uc 20°C 及 Uc 下 平均功耗	Inrush 起動	W	5.4	19	22
	Sealed 吸特	W	5.4	7.4	22
Operating time average at Uc Uc 下平均運作時間 (1)	Closing 閉合 "C"	ms	63 ± 15 %	50 ± 15%	95...130
	Opening 打開 "O"	ms	20 ± 20 %	20 ± 20%	20...35
Note: The arcing time depends on the circuit switched by the poles. For all normal 3-phase applications, the arcing time is less than 10 ms. The load is isolated from the supply after a time equal to the sum of the opening time and the arcing time. 註：滅弧時間取決於觸頭分斷電路的時間。在通常三相使用情況下，滅弧時間小於10ms。負載與電源隔離的時間等於觸頭打開時間與滅弧時間的總和。					
Time constant 時間常數 (L/R)		ms	28	34	75
Mechanical durability at Uc UC 下的機械壽命	In millions of operating cycles 百萬次運作週期		30	10	10
Maximum operating rate at ambient temperature ≤60°C 最大運作頻率 環境溫度 ≤60°C	In operating cycles per hour 每小時運作週期		3600	3600	3600

Low consumption control circuit characteristics 低功耗控制電路特性					
Rated insulation voltage 額定絕緣電壓	Conforming to IEC 60947-1 符合 IEC 60947-1 標準	V	690	–	
	Conforming to UL, CSA 符合 UL, CSA 標準	V	600	–	
Maximum voltage 最大電壓	Of the control circuit on ∞ 直流控制電路, ∞	V	250	–	
Average consumption d.c. at 20°C and at Uc 直流電於 20°C 及 Uc 下 平均功耗	Wide range coil 寬電壓範圍線圈	W	2.4	–	
	Inrush 起動 Sealed 吸特 (0.7...1.25 Uc)	W	2.4	–	
Operating time at Uc and at 20°C 20°C 及 Uc 下運作時間 (1)	Closing 閉合 "C"	ms	77 ± 15 %	–	
	Opening 打開 "O"	ms	25 ± 20 %	–	
Voltage limits of the control circuit 控制電路電壓限額 (θ ≤ 60°C)	Operation 運行		0.8 to 1.25 Uc	–	
	Drop-out 釋放		0.1...0.3 Uc	–	
Time constant 時間常數 (L/R)		ms	40	–	
Mechanical durability 機械壽命	In millions of operating cycles 百萬次運作次數		30	–	
Maximum operating rate at ambient temperature ≤60°C 最大運作頻率 環境溫度 ≤60°C	In operating cycles per hour 每小時運作次數		3600	–	

(1) The operating times depend on the type of contactor electromagnet and its control mode.
The closing time "C" is measured from the moment the coil supply is switched on to initial contact of the main poles.
The opening time "O" is measured from the moment the coil supply is switched off to the moment the main poles separate.
動作時間取決於接觸器電磁體類型及其控制模式。
閉合時間 "C" 的計算，是從給線圈開始供電到主觸點開始接觸時為止。
打開時間 "O" 的計算，是從給線圈開始斷電到主觸點開始分離時為止。

TeSys contactors 接觸器

TeSys D contactors

D 型接觸器

2

Characteristics of auxiliary contacts incorporated in the contactor 接觸器自帶輔助觸點特性

Mechanically linked contacts 機械連接觸點	Conforming to IEC 60947-5-1 符合 IEC 60947-5-1 標準		Each contactor has 2 N/O and N/C contacts mechanically linked on the same movable contact holder. 每個接觸器均有一個 N/O 和一個 N/C 觸點，這些觸點通過同一個可移動的觸點支架，以機械方式連接在一起。
Mirror contact 鏡像觸點	Conforming to IEC 60947-4-1 符合 IEC 60947-4-1 標準		The N/C contact on each contactor represents the state of the power contacts and can be connected to a PREVENTA safety module. 每個接觸器上的 N/C 觸點與主軸頭的狀態成鏡像，並可與 PREVENTA 安全模塊連接。
Rated operational voltage 額定工作電壓 (Ue)	Up to 最高	V	690
Rated insulation voltage 額定絕緣電壓 (Ui)	Conforming to IEC 60947-1 符合 IEC 60947-1 標準	V	690
	Conforming to UL, CSA 符合 UL, CSA 標準	V	600
Conventional thermal current 約定發熱電流 (Ith)	For ambient temperature ≤ 60°C 環境溫度 ≤ 60°C	A	10
Frequency of the operational current 運作電流頻率		Hz	25...400
Minimum switching capacity 最小切換容量 λ = 10 ⁻⁸	U min	V	17
	I min	mA	5
Short-circuit protection 短路保護	Conforming to IEC 60947-5-1 符合 IEC 60947-5-1 標準		gG fuse: 10 A gG 菲士: 10 A
Rated making capacity 額定接通能力	I rms conforming to IEC 60947-5-1 I rms 符合 IEC 60947-5-1	A	~: 140, ∞: 250
Short-time rating 短時耐受電流	Permissible for 1 s 允許	A	100
	500 ms	A	120
	100 ms	A	140
Insulation resistance 絕緣電阻		MΩ	> 10
Non-overlap time 不重疊時間	Guaranteed between N/C and N/O contacts 確保 N/C 和 N/O 觸點之間	ms	1.5 (on energisation and on de-energisation) 1.5 (在得電和失電時)

Operational power of contacts
conforming to IEC 60947-5-1
觸點運作功率
符合 IEC 60947-5-1 標準

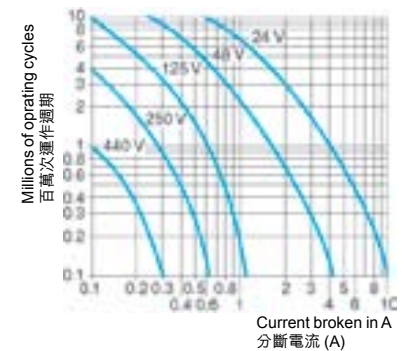
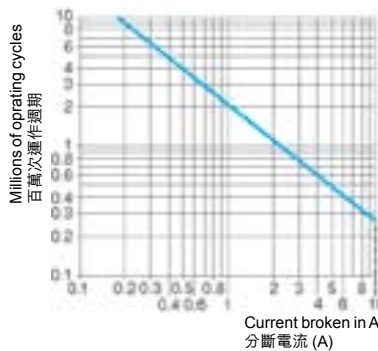
a.c. supply, categories AC-15
Electrical durability (valid for up to 3600 operating cycles/hour) on an inductive load such as the coil of an electromagnet: making current (cos φ 0.7) = 10 times the power broken (cos φ 0.4).
交流供電，AC-15 類別
電氣壽命 (每小時達到 3600 次運作週期)
在感性負載下，如電磁線圈：
接通功率 (cos φ 0.7) = 10 倍分斷功率 (cos φ 0.4)。

d.c. supply, category DC-13
Electrical durability (valid for up to 1200 operating cycles/hour) on an inductive load such as the coil of an electromagnet, without economy resistor, the time constant increasing with the load.
直流供電，DC-13 類別
電氣壽命 (每小時達到 1200 次運作週期)
在感性負載下，如電磁線圈：
沒有節電變阻器，時間常數將隨負載增加。

1 million operating cycles	一百萬次運作週期
3 million operating cycles	三百萬次運作週期
10 million operating cycles	一千萬次運作週期

V	24	48	115	230	400	440	600
VA	60	120	280	560	960	1050	1440
VA	16	32	80	160	280	300	420
VA	4	8	20	40	70	80	100

V	24	48	125	250	440
W	96	76	76	76	44
W	48	38	38	32	-
W	14	12	12	-	-



TeSys contactors 接觸器

TeSys D 3-pole contactors

D 型三極接觸器

Control circuit: a.c. or d.c.

控制電路：交流或直流



LC1 D09 ●●



LC1 D25 ●●



LC1 D65A ●●



LC1 D95 ●●



LC1 D115 ●●

3-pole contactors 三極接觸器

Standard power ratings of 3-phase motors
50/60 Hz in category AC-3
三相電動機標準額定功率

50-60 Hz (AC-3) ($\theta \leq 60^\circ\text{C}$)

220 V 380 V 660 V
230 V 400 V 415 V 440 V 500 V 690 V 1000 V

kW kW kW kW kW kW kW A

Connection by screw clamp terminals 螺釘夾緊端子連接

2.2	4	4	4	5.5	5.5	-	9	1	1	LC1 D09 ●●	0.320
3	5.5	5.5	5.5	7.5	7.5	-	12	1	1	LC1 D12 ●●	0.325
4	7.5	9	9	10	10	-	18	1	1	LC1 D18 ●●	0.330
5.5	11	11	11	15	15	-	25	1	1	LC1 D25 ●●	0.370
7.5	15	15	15	18.5	18.5	-	32	1	1	LC1 D32 ●●	0.375
9	18.5	18.5	18.5	18.5	18.5	-	38	1	1	LC1 D38 ●●	0.380

Power connections by EverLink BTR screw connectors and control by spring terminals EverLink® BTR 螺釘夾緊端子連接及彈簧端子控制

11	18.5	22	22	22	30	-	40	1	1	LC1 D40A ●●	0.850
15	22	25	30	30	33	-	50	1	1	LC1 D50A ●●	0.855
18.5	30	37	37	37	37	-	65	1	1	LC1 D65A ●●	0.860

Connections by screw clamp terminals or connectors 螺釘夾緊端子或連接器連接

22	37	45	45	55	45	45	80	1	1	LC1 D80 ●●	1.590
25	45	45	45	55	45	45	95	1	1	LC1 D95 ●●	1.610
30	55	59	59	75	80	65	115	1	1	LC1 D115 ●●	2.500
40	75	80	80	90	100	75	150	1	1	LC1 D150 ●●	2.500

Component parts 元件

Auxiliary contact blocks and add-on modules 輔助觸點及附加模塊: see pages 31 to 35

- (1) LC1 D09 to D65A: clip-on mounting on 35 mm \sim rail AM1 DP or screw fixing.
LC1 D80 to D95 \sim : clip-on mounting on 35 mm \sim rail AM1 DP or 75 mm \sim rail AM1 DL or screw fixing.
LC1 D80 to D95 \sim : clip-on mounting on 75 mm \sim rail AM1 DL or screw fixing.
LC1 D115 and D150: clip-on mounting on 2 x 35 mm \sim rails AM1 DP or screw fixing.
LC1 D90 至 D65A: 夾持安裝在 35mm \sim 的導軌 AM1 DP 上或螺釘固定。
LC1 D80 至 D95 \sim : 夾持安裝在 35mm \sim 或 75mm \sim 的導軌 AM1 DL 上或螺釘固定。
LC1 D80 至 D95 \sim : 夾持安裝在 75mm \sim 的導軌 AM1 DL 上或螺釘固定。
LC1 D115 至 D150: 夾持安裝在 2 x 35mm \sim 的導軌 AM1 DP 上或螺釘固定。

- (2) For other voltages, please consult Schneider Electric (HK) Ltd.
請向香港施耐德電氣查詢其他電壓。

a.c. supply 交流電源

Volts 伏 24 48 110 220 240 380

LC1 D09...D150 (D115 and D150 coils with built-in suppression as standard, by bi-directional peak limiting diode D115 及 D150 線圈內置抑流模塊)

50/60 Hz B7 E7 F7 M7 U7 Q7

d.c. supply 直流電源

Volts 伏 24 48 110 220

LC1 D09...D65A (coils with integral suppression device fitted as standard 線圈帶有標配的抑流模塊)

U 0.7...1.25 Uc BD ED FD MD

LC1 D80...D95

U 0.85...1.1 Uc BD ED FD MD

LC1 D115...D150 (coils with integral suppression device fitted as standard 線圈帶有標配的抑流模塊)

U 0.75...1.2 Uc BD ED FD MD

- (3) The weights indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.160 kg from LC1 D09 to D38, 0.100kg from LC1 D40A to D65A and 1 kg for contactors LC1 D80 and D95.

此乃交流控制電路接觸器之重量。對於直流或低功耗控制電路，LC1 D09 至 D38 接觸器須增加 0.160kg，LC1 D40A 至 D65A 加 0.100kg，另 LC1 D80 至 D95 加 1kg。

TeSys contactors 接觸器

TeSys D 3-pole reversing contactors

D 型三極可逆接觸器

Horizontally mounted, pre-assembled, control circuit: a.c. or d.c.

水平安裝，已接線，控制電路：交流或直流



LC2 D12 ●●



LC2 D65A ●●



LC2 D115 ●●

3-pole reversing contactors 三極可逆接觸器

Pre-wired power connections 已接線電源連接

Standard power ratings of 3-phase motors 三相電動機標準額定功率							Rated operational current 額定運作電流	Instantaneous auxiliary contact 瞬時輔助觸點	Contactors supplied with coils Basic reference, to be completed by adding the voltage code 基本型號，完整型號包括控制電壓代碼 (2)	Weight 重量 (3)
50-60 Hz (AC-3) (θ < 60°C)							AC-3 440 V up to 最高		Fixing 安裝 (1)	kg
220 V	380 V	660 V								
230 V	400 V	415 V	440 V	500 V	690 V	1000 V				
kW	kW	kW	kW	kW	kW	kW	A			

With mechanical interlock, without electrical interlocking, for connection by screw clamp terminals or connections
帶機械互鎖，無電氣互鎖，用於螺絲夾緊端子或連接器連接

2.2	4	4	4	5.5	5.5	-	9	1	1	LC2 D09 ●●	0.687
3	5.5	5.5	5.5	7.5	7.5	-	12	1	1	LC2 D12 ●●	0.697
4	7.5	9	9	10	10	-	18	1	1	LC2 D18 ●●	0.707
5.5	11	11	11	15	15	-	25	1	1	LC2 D25 ●●	0.787
7.5	15	15	15	18.5	18.5	-	32	1	1	LC2 D32 ●●	0.797
9	18.5	18.5	18.5	18.5	18.5	-	38	1	1	LC2 D38 ●●	0.807
11	18.5	22	22	22	30	-	40	1	1	LC2 D40A ●●	1.870
15	22	25	30	30	33	-	50	1	1	LC2 D50A ●●	1.880
18.5	30	30	30	37	37	-	65	1	1	LC2 D65A ●●	1.890
22	37	45	45	55	45	-	80	1	1	LC2 D80 ●●	3.200
25	45	45	45	55	45	-	95	1	1	LC2 D95 ●●	3.200

With mechanical interlock, and electrical interlocking, for connection by screw clamp terminals or connections
帶機械及電氣互鎖，用於螺絲夾緊端子或連接器連接

30	55	59	59	75	80	65	115	1	1	LC2 D115 ●●	6.350
40	75	80	80	90	100	75	150	1	1	LC2 D150 ●●	6.400

Component parts 元件

Auxiliary contact blocks and add-on modules 輔助觸點及附加模塊: see pages 31 to 35.

- (1) LC2 D09 to D38: clip-on mounting on 35 mm rail AM1 DP or screw fixing.
LC2 D40 to D95: clip-on mounting on 35 mm rail AM1 DP or 75 mm rail AM1 DL or screw fixing.
LC2 D115 to D150: clip-on mounting on 35 mm rail AM1 DP or screw fixing.
LC2 D09 至 D38: 夾持安裝在 35mm 的導軌 AM1 DP 上或螺釘固定。
LC2 D40 至 D95: 夾持安裝在 35mm 或 75mm 的導軌 AM1 DL 上或螺釘固定。
LC2 D115 至 D150: 夾持安裝在 2 x 35mm 的導軌 AM1 DP 上或螺釘固定。

- (2) For other voltages, please consult Schneider Electric (HK) Ltd.
請向香港施耐德電氣查詢其他電壓。

a.c. supply 交流電源	Volts 伏					
	24	48	110	220	240	380
LC1 D09...D150 (D115 and D150 coils with integral suppression device fitted as standard D115 及 D150 線圈帶有標配的抑流模塊)						
50/60 Hz	B7	E7	F7	M7	U7	Q7

d.c. supply 直流電源	Volts 伏			
	24	48	110	220
LC1 D09...D65A (coils with integral suppression device fitted as standard 線圈帶有標配的抑流模塊)				
U 0.7...1.25 Uc	BD	ED	FD	MD

- (3) The weight indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.330kg for LC2 D90 to D38, 0.200 kg for LC1 D40A to D65A.
此乃交流控制電路接觸器之重量。對於直流或低功耗控制電路，LC2 D09 至 D38 須增加 0.330kg，LC1 D40A 至 65A 加 0.200kg。

TeSys contactors 接觸器



TeSys D 4-pole contactors

D 型四極接觸器

Control circuit: a.c. or d.c.

控制電路：交流或直流

4-pole contactors for connectin by screw clamp terminals or connectors 四極接觸器

Non inductive loads Maximum current 非感性負載 ($\theta \leq 60^\circ\text{C}$) Utilisation category AC-1 最大電流 AC-1	Number of poles 極數	Instantaneous auxiliary contact 瞬時輔助觸點	Basic reference, to be completed by adding the voltage code 基本型號 控制電路電壓的代碼組成一個 完整型號 (1) Fixing 安裝 (2)	Weight 重量 (3)
				
A				kg
25	4 – 2 2	1 1	LC1 DT25 ●● LC1 DT128 ●●	0.365 0.365
40	4 – 2 2	1 1	LC1 DT40 ●● LC1 D258 ●●	0.425 0.425
60	4 – 2 2	1 1 – –	LC1 DT60A ●● LC1 D40008 ●● or LP1 D40008 ●●	1.090 1.440 2.210
80	4 – 2 2	1 1 – –	LC1 DT80A ●● LC1 D65008 ●● or LP1 D65008 ●●	1.150 1.450 2.220
125	4 – 2 2	– – – –	LC1 D80004 ●● or LP1 D80004 ●● LC1 D80008 ●● or LP1 D80008 ●●	1.760 2.685 1.840 2.910
200	4 –	– –	LC1 D115004 ●●	2.860

(1) For other voltages, please consult Schneider Electric (HK) Ltd.
請向香港施耐德電氣查詢其他電壓。

a.c. supply 交流電源

Volts 伏 24 48 110 220 240 380

LC1 D09...D150 and LC1 DT20...DT40 (coils with integral suppression device fitted as standard 線圈帶有標配的抑流模塊)

50/60 Hz B7 E7 F7 M7 U7 Q7

d.c. supply 直流電源

Volts 伏 24 48 110 220

LC1 D09...D65A and LC1 DT20...DT80A (coils with integral suppression device fitted as standard 線圈帶有標配的抑流模塊)

U 0.7...1.25 Uc BD ED FD MD

LC1 or LP1 D80

U 0.85...1.1 Uc BD ED FD MD

LC1 D115 (coils with integral suppression device fitted as standard 線圈帶有標配的抑流模塊)

U 0.75...1.2 Uc BD ED FD MD

(2) LC1 D09 to D38 and LC1 DT20 to DT40: clip-on mounting on 35 mm rail AM1 DP or screw fixing.

LC1 D40 to D95 ~: clip-on mounting on 35 mm rail AM1 DP or 75 mm rail AM1 DL or screw fixing.

LC1 or LP1 D40 to D95 ~: clip-on mounting on 75 mm rail AM1 DPL or screw fixing.

LC1 D115 and D150: clip-on mounting on 2 x 35 mm rails AM1 DP or screw fixing.

LC1 D09 至 D38 及 LC1 DT20 至 DT40: 夾持安裝在 35mm 的導軌 AM1 DP 上或螺釘固定。

LC1 D40 至 D95 ~: 夾持安裝在 35mm 的導軌 AM1 DP 或 75mm 的導軌 AM1 DL 上或螺釘固定。

LC1 或 LP1 D40 至 D95 ~: 夾持安裝在 75mm 的導軌 AM1 DPL 上或螺釘固定。

LC1 D115 及 D150: 夾持安裝在 2 x 35mm 的導軌 AM1 DP 上或螺釘固定。

(3) The weights indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.160 kg from LC1 D09 to D38, 0.785 kg from LC1 D40 to D65 and 1kg for LC1 D80 and D95.

此乃交流控制電路接觸器之重量。對於直流或低功耗控制電路，LC1 D09 至 D38 須增加 0.160kg，LC1 D40 至 D65 加 0.785kg 及 LC1 D80 及 D95 加 1kg。



LC1 DT25 ●●



LC1 DT80 ●●



LC1 D65008 ●●

TeSys contactors 接觸器

TeSys D 4-pole changeover contactor pairs

for control in category AC-1

D 型四極電源轉換接觸器，用於 AC-1 類負載控制
20 to 200A



LC2 DT20

Pre-assembled. Pre-wired power connections. 四極電源切換接觸器組，螺釘夾緊端子接線方式

For connection by screw clamp terminals or connectors 預接線電路連接

LC2 DT20 to LC2 DT40: mechanical interlock without electrical interlocking.

LC2 D80004: order separately 2 auxiliary contact blocks LAD N●1 to obtain electrical interlocking between the 2 contactors (see page 33). For electrical interlocking incorporated in the mechanical interlock, please consult Schneider Electric (HK) Ltd.

LC2 D115004: mechanical interlock with integral, pre-wired electrical interlocking.

LC2 DT20 至 LC2 DT40 機械互鎖，無電氣互鎖。

LC2 D80004：需要單獨訂購2個輔助觸點模塊 LAD N●1，以實現兩個接觸器之間的電氣互鎖(有關詳情請參閱33頁)。有關機械互鎖和電氣互鎖結合使用，請向香港施耐德電氣查詢。

LC2 D115004：機械互鎖集成有預接線電氣互鎖。

Utilisation category AC-1 Non-inductive loads Maximum rated operational current 非感性負載最大額定工作電流 使用類別 AC-1 ($\theta \leq 60^\circ\text{C}$)	Instantaneous auxiliary contacts per contactor 瞬時輔助觸點 (每個接觸器)	Contactors supplied with coil 帶有線圈的接觸器 Basic reference, to be completed by adding the voltage code 基本型號，組成一個完整型號表示控制電路 電壓的代碼 (1) Fixing 安裝 (2)	Weight 重量
A			kg
20	1 1	LC2 DT20●●	0.730
25	1 1	LC2 DT25●●	0.730
32	1 1	LC2 DT32●●	0.850
40	1 1	LC2 DT40●●	0.850
125	- -	LC2 D80004●●	3.200
200	- -	LC2 D115004●●	7.400

For customer assembly.

For connection by screw clamp terminals or connectors 預接線電路連接

60	1 1	LC1 DT60A●●(3)	-
80	1 1	LC1 DT80A●●(3)	-

Component parts 元件

Auxiliary contact blocks and add-on modules 輔助觸點及附加模塊: see pages 31 to 35

(1) For other voltages, please consult Schneider Electric (HK) Ltd.
請向香港施耐德電氣查詢其他電壓。

a.c. supply 交流電源 Volts 伏	24	48	110	220	240	380
LC2 DT20...DT40, LC1 DT60...DT80						
50/60 Hz	B7	E7	F7	M7	U7	Q7
LC2 D80004...D115004						
50 HZ	B5	E5	F5	M5	U5	Q5
d.c. supply 直流電源 Volts 伏	24	48	110	220		
LC2 DT20...DT40, LC1 DT60...DT80						
U 0.7...1.25 U _c	BD	ED	FD	MD		

(2) LC2 DT20 to LC2 DT80: clip-on mounting on 35 mm rail AM1 DP or screw fixing.

LC2 D80: clip-on mounting on 35 mm rail AM1 DP or 75 mm rail AM1 DL or screw fixing.

LC2 D115: clip-on mounting on 2 x 35 mm rails AM1 DP or screw fixing.

LC2 DT20 至 LC2 DT80：夾持安裝在 35mm 的導軌 AM1 DP 上或螺釘固定。

LC2 D80：夾持安裝在 35mm 的導軌 AM1 DP 上或 75mm 的導軌 AM1 DL 上或螺釘固定。

LC2 D115：夾持安裝在 2 x 35mm 的導軌 AM1 DP 上或螺釘固定。

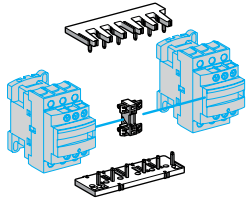
(3) For these operational currents, order 2 identical contactors and a mechanical interlock LAD 4CM (see page 31)
對此工作電流，請購買兩個相同的接觸器和一個機械互鎖 LAD 4CM (見31頁)。

TeSys contactors 接觸器

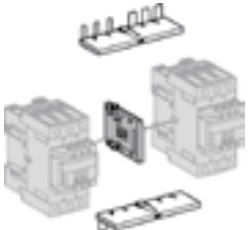
Component parts for assembling reversing contactors for motor control or low speed - high speed starters

用於電動機控制的可逆接觸器組裝元件

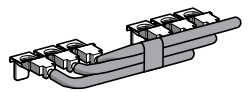
2



LAD 9R1



LAD 9R3



LA9 D8069

For 3-pole reversing contactors for motor control 三極電動機可逆接觸器

Contactors with screw clamp terminals or connectors. Horizontally mounted, assembled by customer
接觸器帶螺釘夾緊端子或連接器。水平安裝，由用戶組裝

Description 說明	For contactors (2 identical contactors) 用於接觸器 (1) (兩個相同接觸器)	Reference 型號	Weight 重量 kg
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Kits for assembly of reversing contactors 可逆轉接觸器組裝組件

Kit comprising 內含: ■ a mechanical interlock 機械互鎖 LAD 9V2 with electrical interlocking 帶電動互鎖 LAD 9V1 ■ a set of power connections 電源接駁組合 LAD 9V5 (parallel) and LAD 9V6 (reversing)	LC1 D09 to D38	LAD 9R1V	0.045
Kit comprising 內含: ■ a mechanical interlock 機械互鎖 LAD 9V2 without electrical interlock 不帶電動互鎖 ■ a set of power connections LAD 9V5 (parallel) and LAD 9V6 (reversing)	LC1 D09 to D38	LAD 9R1	0.045
Kit comprising 內含: ■ a mechanical interlock 機械互鎖 LAD 4CM ■ a set of power connections 電源接駁組合 LAD D65A69	LC1 D40A to D65A	LAD 9R3	0.170

Mechanical interlocks 機械互鎖

Mechanical interlocks with integral electrical interlocking 機械互鎖帶電動互鎖	LC1 D80 and D95 (~)	LA9 D4002	0.170
	LC1 D80 and D95 (≡)	LA9 D8002	0.170
	LC1 D115 and D150	LA9 D11502	0.290
Mechanical interlocks without integral electrical interlocking 機械互鎖不帶電動互鎖	LC1 D09 to D38	LAD 9V2	0.040
	LC1 D40A to D65A	LAD 4CM	0.040
	LC1 D80 and D95 (~)	LA9 D50978	0.170
	LC1 D80 and D95 (≡)	LA9 D80978	0.170

Sets of power connections 電源接駁組合

Comprising 內含: ■ a set of parallel bars, ■ a set of reverser bars.	LC1 D90 to D38 with screw clamp terminals or connections	LAD 9V5 + LAD 9V6	-
	LC1 D90...D32 with spring terminal connections	LAD 9V12 + LAD 9V13	-
	LC1 D40A to D65A	LA9 D65A69	0.130
	LC1 D80 and D95 (~)	LA9 D8069	0.490
	LC1 D80 and D95 (≡)	LA9 D8069	0.490
	LC1 D115 and D150	LA9 D11569	1.450

For low speed - high speed starter 用於低速/高速起動器

Description 說明	For contactors with connections 用於帶連接的接觸器	Reference 型號	Weight 重量 kg
Connection kit enabling reversing of low and high speed directions, using a reversing contactor and a 2N/O + 2N/C main pole contactor 通過連接組件，使用可逆接觸器和 2N/O + 2N/C 四極接觸器，可用於雙速電機高速和低速的換向控制	Screw clamps or connectors 螺釘夾緊端子或連接器	LAD 9PVG V	0.016
	Power connection module with spring terminal connections 電源連接模塊，帶彈簧端子接線	LAD 3PVG V	0.034
	Outgoing terminal block with spring terminal connections 輸出端子模塊，帶彈簧端子接線	LAD 3PVG V10	0.034

(1) To order the 2 contactors: see page 27
如欲訂購兩個接觸器：見27頁

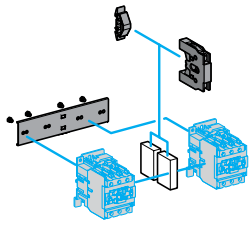
TeSys contactors 接觸器

Component parts for assembling changeover contactor pairs for distribution

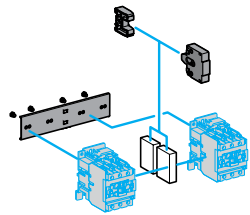
用於電源切換接觸器組裝元件

For 4-pole changeover contactor pairs 四極電源切換接觸器組 (三相+中性線)

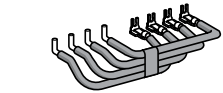
Contactors with screw clamp terminals or connectors. Horizontally mounted, assembled by customer
接觸器帶螺釘夾緊端子或連接器。水平安裝，由用戶組裝



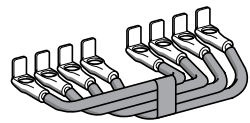
LA9 D4002



LA9 D50978



LA9 D6570



LA9 D8070

Description 說明	For contactors (2 identical contactors) 用於接觸器 (1) (兩個相同接觸器)	Reference 型號	Weight 重量 kg
Kits for assembly of changeover contactors pairs 電源切換接觸器組裝組件			
Kit comprising 內含: ■ a mechanical interlock 機械互鎖 LAD 9V2 with electrical interlocking 帶電動互鎖 LAD 9V ■ a set of power connections 電源接駁組合 (changover) LAD 9V71	LC1 DT20 to DT40 with screw clamps or connectors LC1 DT20 至 DT40帶螺釘夾緊端子或連接器	LAD T9R1V	0.045
Kit comprising 內含: ■ a mechanical interlock 機械互鎖 LAD 9V2 without electrical interlocking 不帶電動互鎖 ■ a set of power connections 電源接駁組合 (changover) LAD 9V7	LC1 DT20 to DT40 with screw clamps or connectors LC1 DT20 至 DT40帶螺釘夾緊端子或連接器	LAD T9R1	0.045

Using 2 identical contactors 使用兩個相同的接觸器 (1)	Set of power connections 電源接駁組合	Mechanical interlock 機械互補	Weight 重量 kg
	Reference 型號	Kit reference 組件型號	
Including mechanical interlock with integral electrical interlocking 包括機械互鎖，帶電氣互鎖			
LC1 D65004	LA9 D6570	0.150	LA9 D4002 0.170
LC1 D80004	LA9 D8070	0.280	LA9 D4002 0.170
LP1 D80004	LA9 D8070	0.280	LA9 D8002 0.170
LC1 D115004	LA9 D11570	1.100	LA9 D11502 0.280

Including mechanical interlock without electrical interlocking 包括機械互鎖，無電氣互鎖			
LC1 DT60A and DT80A	-	-	LAD 4CM 0.040
LC1 D80004	LA9 D8070 (2)	0.280	LA9 D50978 0.155
LP1 D80004	LA9 D8070 (2)	0.280	LA9 D80978 0.180

For 3 pole changeover contactor pairs 用於三極電源切換接觸器組

Including mechanical interlock with integral electrical interlocking 包括機械互鎖與電氣互鎖			
LC1 D115 and D150	LA9 D11571	0.960	LA9 D11502 0.280

(1) To order the 2 contactors: see pages 29.
如欲訂購兩個接觸器：見29頁。

(2) Order 2 contact blocks **LAD N●1** to build the electrical interlock, see page 33.
訂購兩個觸點模塊 **LAD N●1** 組成電氣互鎖置，見33頁。

TeSys contactors 接觸器

For use with TeSys D contactors and reversing contactors

可供 D 型接觸器和可逆接觸器用

Instantaneous auxiliary contact blocks

瞬時輔助觸點模塊

Instantaneous auxiliary contact blocks for connection by screw clamp terminals
輔助觸點模塊，螺絲夾緊端子連接用

For use in normal operating environments

In order to mount an LAD 8N on an LC1 D80 to D95, a set of shims LA9 D511 must be ordered separately

用於正常運作環境

要在 LC1 D80 至 D95 上安裝 LAD 8N，須單獨訂購一組薄墊片 LA9 D511

Clip-on mounting 夾持安裝 (1)	Number of contacts per block 每個模塊的觸點數量	Composition 觸點排列	Reference 型號	Weight 重量
Front 正裝	1	– – – 1 –	LAD N10	0.020
		– – – – 1	LAD N01	0.020
	2	– – – 1 1	LAD N11	0.030
		– – – 2 –	LAD N20	0.030
		– – – – 2	LAD N02	0.030
		– – – 2 2	LAD N22	0.050
	4	– – – 1 3	LAD N13	0.050
		– – – 4 –	LAD N40	0.050
		– – – – 4	LAD N04	0.050
		– – – 3 1	LAD N31	0.050
4 incl. 1 N/O & 1 N/C make before break		– – – 2 2	LAD C22	0.050
Side 側裝	2	– – – 1 1	LAD 8N11 (2)	0.030
		– – – 2 –	LAD 8N20 (2)	0.030
		– – – – 2	LAD 8N02 (2)	0.030

(1) Maximum number of auxiliary contacts that can be fitted:

最多可加輔助觸點：

Contactors 接觸器		Instantaneous auxiliary contact 瞬時輔助觸點			Time delay Front mounted 延時正裝		
Type 類型	Number of poles and size 極數及尺寸	Side mounted 側裝	Front mounted 正裝				
			1 contact 一觸點	2 contacts 兩觸點	4 contacts 四觸點		
~	3P LC1 D09...D38	1 on LH side	and	–	1	or 1	or 1
		1 on each side	or	2	and 1	or 1	or 1
		1 on LH or 1 on RH side	and	–	1	or 1	or 1
		1 on each side	and	2	and 1	or 1	or 1
		1 on LH side	and	–	1	or 1	or 1
	4P LC1 DT20...DT40	1 on LH side	and	–	1	or 1	or 1
		1 on LH side or 1 on RH side	and	–	1	or 1	or 1
		1 on each side	and	1	or 1	or 1	or 1
		–	–	–	1	or 1	or 1
		–	–	–	1	or 1	or 1
≡	3P LC1 D09...D38	–	–	–	1	or 1	or 1
		–	–	–	1	or 1	or 1
		–	–	1	or 1	or 1	or 1
		1 on LH side	and	–	1	or 1	or 1
		–	–	–	1	or 1	or 1
	4P LC1 DT20...DT40	–	–	–	1	or 1	or 1
		–	–	–	1	or 1	or 1
		–	–	–	1	or 1	or 1
		1 on each side	–	–	and 1	or 1	or 1
		–	–	–	1	–	–
LC	3P LC1 D09...D38	–	–	–	1	–	–
	4P LC1 DT20...DT40	–	–	–	1	–	–

(2) Not compatible with LC1 D40A - LC1 D95 d.c. contactors.

不適用於 LC1 D40A 至 LC1 D95 直流接觸器。

TeSys contactors 接觸器

For use with TeSys D contactors and reversing contactors

可供 D 型接觸器和可逆接觸器用

Time delay auxiliary contact blocks 延時輔助觸點模塊

Mechanical latch blocks 機械閉鎖模塊

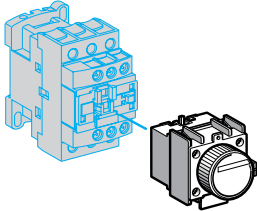
Time delay auxiliary contact blocks for connection by screw clamp terminals 延時輔助觸點模塊，螺絲夾緊端子連接用

LAD T: with extended scale from 0.1 to 0.6 s.

帶伸延刻度由 0.1 至 0.6 秒。

LAD S2: with switching time of 40 ms ± 15 ms between opening of the N/C contact and closing of the N/O contact.

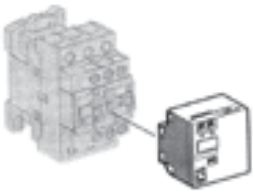
在 N/C 觸點的打開和 N/O 觸點的閉合之間的等待時間為 40 ms ± 15 ms。



LAD T ●

Clip-on mounting 夾持安裝	Number of contacts per block 每個模塊的觸點數量	Time delay 延時類型		Reference 型號	Weight 重量 kg
		Type 類型	Setting range 設置範圍		
Front 正裝	1 N/O + 1 N/C	On-delay 通電延時	0.1...3 s	LAD T0	0.060
			0.1...30 s	LAD T2	0.060
			10...180 s	LAD T4	0.060
			1...30 s	LAD S2	0.060

Mechanical latch blocks 機械閉鎖模塊 (1)



LA6DK

Clip-on mounting 夾持安裝	Unlatching 解鎖控制	For use on contactor 用於接觸器	Basic reference, to be completed by adding the voltage code 基本型號，完整型號包括控制電壓代碼 (2)	Weight 重量 kg
Front 正裝	Manual or electric 手動或電動	LC 1 D90...D38 (~or ~)	LAD 6K10 ●	0.070
		LC 1 DT20...DT40 (~or ~)		
		LC1 D40A...D65A (3 P~or ~)	LAD 6K10 ●	0.070
Front 正裝	Manual or electric 手動或電動	LC1 DT60A and DT80A (4 P~or ~)	LA6 DK20 ●	0.090
		LC1 D80...D150 (3P~)		
		LC1 D80 and D115 (3P~)		
		LC1 D80 (4P~)		
		LC1 D80 and D115 (4P~)		
LP1 D80 and LC1 D115 (4P~)				

(1) The mechanical latch block must not be powered up at the same time as the contactor.

The duration of the control signal for the mechanical latch block and the contactor should be:

> 100 ms for a contactor operating on an a.c. supply,

> 250 ms for a contactor operating on a d.c. supply.

Maximum impulse duration for the LAD 6K10●mechanical latch block: 10 seconds.

機械閉鎖模塊不得和接觸器同時通電。機械閉鎖模塊和接觸器的控制信號間隔時間應為：

> 100 ms 交流供電的接觸器，

> 250 ms 直流供電的接觸器。

(2) For other voltages, please consult Schneider Electric (HK) Ltd.

請向香港施耐德電氣查詢其他電壓。

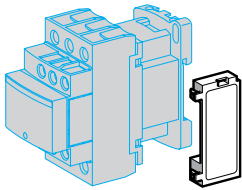
Volts 伏 50/60 Hz, ~	24	42/48	110/127	220/240	380/415
Code 代碼	B	E	F	M	Q

TeSys contactors 接觸器

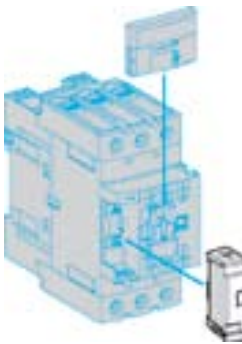
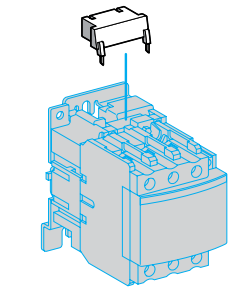
For use with TeSys D contactors and reversing contactors
可供 D 型接觸器和可逆接觸器用

Suppressor modules
線圈電流抑制器模塊

2



LAD 4 ●●

LAD 4RC3 ●
LAD 4V3 ●

LA4 D ●

RC circuits (Resistor-Capacitor) RC 電路 (阻容)

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).

有效保護對“高頻”干擾較為敏感的電路。用於正弦電壓波形，即總的諧波失真低於 5% 的情況。最高電壓限定為 3 Uc，最大振盪頻率限定為 400Hz。斷開時間略有增加（正常時間的 1.2 至 2 倍）。

Mounting 安裝	For use with contactor 配合使用的接觸器 (1)	Reference 型號		Weight 重量 kg	
		Rating 規格			
		Type 類型			
		V~	VDC		
Clip-on side mounting 旁邊夾緊 (3)	D09...D38 (3P)	24...48	–	LAD 4RCE	0.012
	DT20...DT40	110...240	–	LAD 4RCU	0.012
Clip-on front mounting 前面夾緊 (3)	D40A...D65A (3P)	24...48	–	LAD 4RC3E	0.020
	DT60A...DT80A (4P)	110...240	–	LAD 4RC3U	0.020
Screw fixing 螺絲固定 (4)	D80...D150 (3P)	24...48	–	LA4 DA2E	0.018
	D40...D115 (4P)	110...240	–	LA4 DA2U	0.018

Varistors (peak limiting) 變阻器 (限制峰值)

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).

通過將瞬態電壓限制為 2 Uc 來達到保護效果。最大限度地減少瞬時電壓峰值。斷開時間略有增加（正常時間的 1.1 至 1.5 倍）。

Mounting 安裝	For use with contactor 配合使用的接觸器 (1)	Reference 型號		Weight 重量 kg	
		Rating 規格			
		Type 類型			
		V~	VDC		
Clip-on side mounting 旁邊夾緊 (3)	D09...D38 (3P)	24...48	–	LAD 4VE	0.012
	DT20...DT40	110...250	–	LAD 4VU	0.012
Clip-on front mounting 前面夾緊 (3)	D40A...D65A (3P)	24...48	24...48	LAD 4V3E	0.020
	DT60A...DT80A (4P)	110...250	110...250	LAD 4V3U	0.020
Screw fixing 螺絲固定 (4)	D80...D115 (3P)	24...48	–	LA4 DE2E	0.018
	D40...D115 (4P)	110...250	–	LA4 DE2U	0.018
	D80...D95 (3P)	–	24...48	LA4 DE3E	0.018
	D80 (4P)	–	110...250	LA4 DE3U	0.018

(1) For satisfactory protection, a suppressor module must be fitted across the coil of each contactor.
為滿足保護要求，電流抑制器模塊必須穿過接觸器的線圈。

(2) From LC1 D09 to D65A and from LC1 DT20 to DT80A, d.c. and low consumption 3-pole contactors are fitted with a built-in bidirectional peak limiting diode suppressor as standard.
從 LC1 D09 到 D65A 以及從 LC1 DT20 到 DT80A，直流和低功耗三極接觸器均內置了相向限制峰值二級管抑流器作為標準模塊。

(3) Clipping-on makes the electrical connection. The overall size of the contactor remains unchanged.
直接夾持即可接通電路。接觸器的整體尺寸不會改變。

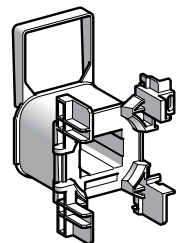
(4) Mounting at the top of the contactor on coil terminals A1 and A2.
安裝在接觸器頂部的線圈端子 A1 和 A2 上。

TeSys contactors 接觸器

a.c. coils

for 3 or 4-pole contactors LC1 D

用於三或四極接觸器 LC1 D 的交流電線圈



LXD 1●●

Control circuit voltage 控制電路電壓 Uc V	Average resistance 平均電阻 at 20°C ± 10% Ω	Inductance of closed circuit 閉合電路電感 H	Reference 型號 (1)	Weight 重量 kg
For ~ contactors 用於接觸器 LC1 D09...D38 and LC1 DT20...DT40				
24	6.19	0.26	LXD 1B7	0.070
48	25	1	LXD 1E7	0.070
110	130	5.5	LXD 1F7	0.070
220	539	22	LXD 1M7	0.070
240	645	25	LXD 1U7	0.070
380	1580	60	LXD 1Q7	0.070

Specifications

Average consumption at 20°C:

- inrush (cos φ = 0.75) 70 VA

- sealed (cos φ = 0.3) 50 Hz: 7 VA, 60 Hz: 7.5 VA

Operating range (θ ≤ 60°C): 50 Hz: 0.8...1.1 Uc, 60 Hz: 0.85...1.1 Uc

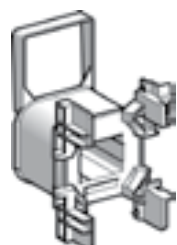
規格

20°C 時平均消耗：

- 吸合 (cos φ = 0.75) 70 VA

- 保持 (cos φ = 0.3) 50 Hz: 7 VA, 60 Hz: 7.5 VA

運作範圍 (θ ≤ 60°C): 50 Hz: 0.8...1.1 Uc, 60 Hz: 0.85...1.1 Uc



LXD 3●●

Control circuit voltage 控制電路電壓 Uc V	Average resistance 平均電阻 at 20°C ± 10% Ω	Inductance of closed circuit 閉合電路電感 H	Reference 型號 (1)	Weight 重量 kg
For ~ contactors 用於接觸器 LC1 D40A...D65A, LC1 DT60A and LC1 DT80A				
24	1.98	0.12	LXD 3B7	0.070
48	7.97	0.48	LXD 3E7	0.070
110	42.28	2.50	LXD 3F7	0.070
220	182	10	LXD 3M7	0.070
240	202	11.9	LXD 3U7	0.070
380	512	29.9	LXD 3Q7	0.070

Specifications

Average consumption at 20°C:

- inrush (cos φ = 0.75) 70 VA

- sealed (cos φ = 0.3) 50 Hz: 7 VA, 60 Hz: 7.5 VA

Operating range (θ ≤ 60°C): 50 Hz: 0.8...1.1 Uc, 60 Hz: 0.85...1.1 Uc

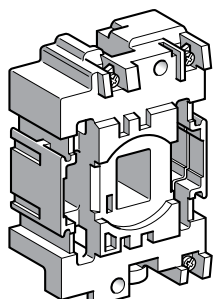
規格

20°C 時平均消耗：

- 吸合 (cos φ = 0.75) 70 VA

- 保持 (cos φ = 0.3) 50 Hz: 7 VA, 60 Hz: 7.5 VA

運作範圍 (θ ≤ 60°C): 50 Hz: 0.8...1.1 Uc, 60 Hz: 0.85...1.1 Uc



LX1 D6●●

Control circuit voltage 控制電路電壓 Uc V	Average resistance 平均電阻 at 20°C ± 10% Ω	Inductance of closed circuit 閉合電路電感 H	Reference 型號 (1)	Weight 重量 kg
For 3 or 4-pole contactors 用於三或四極接觸器 LC1 D40, D50, D65, D80, D95				
24	1.22	0.08	LX1 D6B7	0.280
48	5	0.32	LX1 D6E7	0.280
110	26	1.7	LX1 D6F7	0.280
220/230	102	6.7	LX1 D6M7	0.280
230/240	131	8.3	LX1 D6U7	0.280
380/400	310	20	LX1 D6Q7	0.280

Specifications

Average consumption at 20°C:

- inrush (cos φ = 0.75) 50/60 Hz: 245 VA at 50 Hz

- sealed (cos φ = 0.3) 50/60 Hz: 26 VA at 50 Hz

Operating range (θ ≤ 55°C): 0.85...1.1 Uc

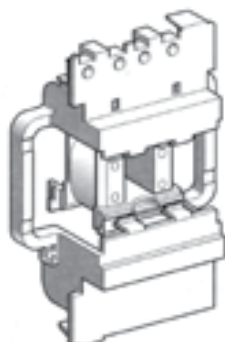
規格

20°C 時平均消耗：

- 吸合 (cos φ = 0.75) 50/60 Hz: 245 VA at 50 Hz

- 保持 (cos φ = 0.3) 50/60 Hz: 26 VA at 50 Hz

運作範圍 (θ ≤ 55°C): 0.85...1.1 Uc



LX1 D8●●

Control circuit voltage 控制電路電壓 Uc V	Average resistance 平均電阻 at 20°C ± 10% Ω	Inductance of closed circuit 閉合電路電感 H	Reference 型號 (1)	Weight 重量 kg
For 3 or 4-pole contactors 用於三或四極接觸器 LC1 D115, D150				
24	147	3.03	LX1 D8B7	0.290
48	1061	24.19	LX1 D8E7	0.290
110	4377	109.69	LX1 D8F7	0.290
220	9895	210.72	LX1 D8M7	0.290
240	9895	210.72	LX1 D8U7	0.290
380	21 011	482.42	LX1 D8Q7	0.290

Specifications

Average consumption at 20°C:

- inrush cos φ = 0.9 -280 to 350 VA

- sealed cos φ = 0.9 -2 to 18 VA

Operating range (θ ≤ 55°C): 0.8...1.15 Uc

Coils with integral suppression device fitted as standard, class B.

規格

20°C 時平均消耗：

- 吸合 cos φ = 0.9 -280 至 350

- 保持 cos φ = 0.9 -2 至 18 VA

運作範圍 (θ ≤ 55°C): 0.85...1.5 Uc

線圈帶有標配的抑流模塊，B 等級。

(1) The last 2 digits in the reference represent the voltage code. 型號末端的兩個字代表電壓代碼。

TeSys contactors 接觸器

TeSys D contactors

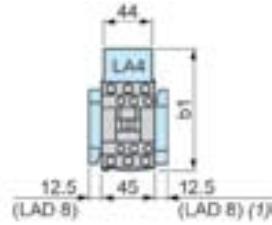
D 型接觸器

Control circuit: a.c.

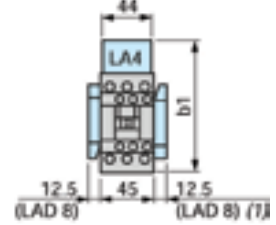
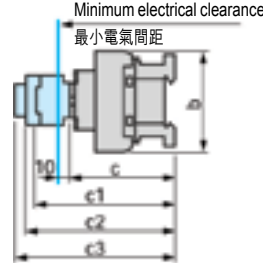
控制電路：交流

2

LC1 D09...D18 (3-pole 極)



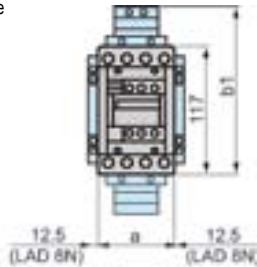
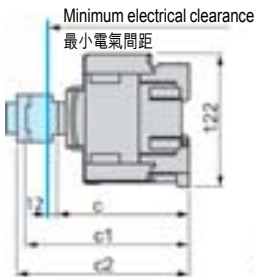
LC1 D25...D38 (3-pole 極), LC1 DT20...DT40 (4-pole 極)



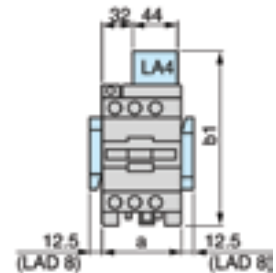
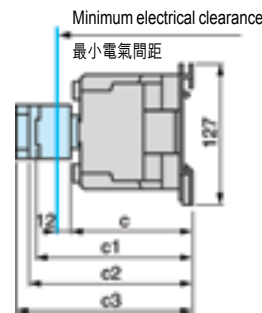
LC1	D09...D18	D093... D123	D099... D129	D25... D38	D183... D323	DT20 &... DT25	DT203 & DT253	DT32 & DT40	DT323 & DT40
b without add-on blocks	77	99	80	85	99	85	99	91	105
b1 with LAD 4BB	94	107	95.5	98	107	98	-	-	-
with LA4 D●2	110 (1)	123 (1)	111.5 (1)	114 (1)	123 (1)	114	-	-	-
with LA4 DF, DT	119 (1)	132 (1)	120.5 (1)	123 (1)	132 (1)	129	-	-	-
with LA4 DW, DL	126 (1)	139 (1)	127.5 (1)	130 (1)	139 (1)	190	-	-	-
c without cover or add-on blocks	84	84	84	90	90	90	90	97	97
with cover, without add-on blocks	86	86	86	92	92	92	92	99	99
c1 with LAD N or C (2 or 4 contacts)	117	117	117	123	123	123	123	131	131
c2 with LA6 DK10, LAD 6K10	129	129	129	135	135	135	135	143	143
c3 with LAD T, R, S	137	137	137	143	143	143	143	151	151
with LAD T, R, S and sealing cover	141	141	141	147	147	147	147	155	155

(1) Including LAD 4BB

LC1 D40A...D65A (3-pole 極), LC1 DT60A...DT80A (4-pole 極)



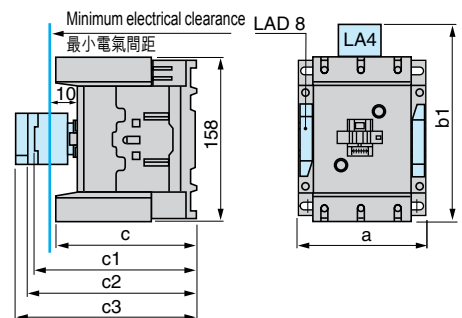
**LC1 D80 & D95 (3-pole 極), LC1 D80004 & D80008 (4-pole 極),
LC1 D65004, D40008 and D65008 (4-pole 極)**



LC1	D40A...D65A	DT60A...DT80A	D40008	D80, D65004	D95, D65008	D80004	D80008
a	55	70	85	85	85	96	96
b1 with LA4 D●2	-	-	135	135	135	135	135
with LA4 DB3 or LAD 4BB3	136	-	-	135	-	-	-
with LA4 DF, DT	157	-	142	142	142	142	142
with LA4 DM, DW, DL	166	-	150	150	150	150	150
c without cover or add-on blocks	118	118	125	125	125	125	140
with cover, without add-on blocks	120	120	-	130	130	-	-
c1 with LAD N (1 contact)	-	-	139	150	150	150	150
with LAD N or C (2 or 4 contacts)	150	150	147	158	158	158	158
c2 with LAD 6K10 or LA6 DK	163	163	159	170	170	170	170
c3 with LAD T, R, S	171	171	167	178	178	178	178
with LAD T, R, S and sealing cover	175	175	171	182	182	182	182

LC1 D115 and D150 (3-pole 極), LC1 D115004 (4-pole 極)

LC1	D115, D150	D115004	D115006	D150006	D1150046
a	120	150	120	120	155
b1 with LA4 DA2	174	174	174	174	174
with LA4 DF, DT	185	185	185	185	185
with LA4 DM, DL	188	188	188	188	188
with LA4 DW	188	188	188	-	188
c without cover or add-on blocks	132	132	115	115	115
with cover, without add-on blocks	136	-	-	-	-
c1 with LAD N or C (2 or 4 contacts)	150	150	150	150	150
c2 with LA6 DK20	155	155	155	155	155
c3 with LAD T, R, S	168	168	168	168	168
with LAD T, R, S and sealing cover	172	172	172	172	172



TeSys contactors 接觸器

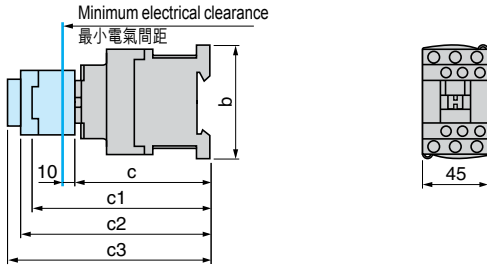
TeSys D contactors

D 型接觸器

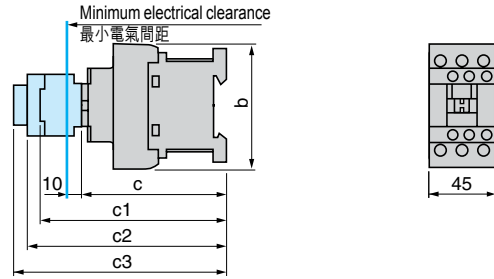
Control circuit: d.c. or low consumption

控制電路：直流或低功耗

LC1 D09...D18 (3-pole 極)

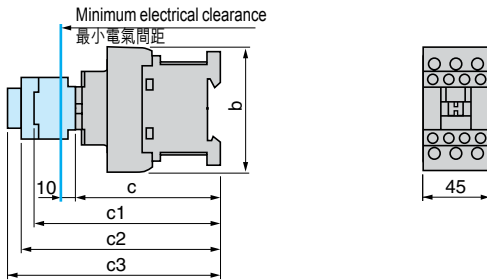


LC1 D25...D38 (3-pole 極)



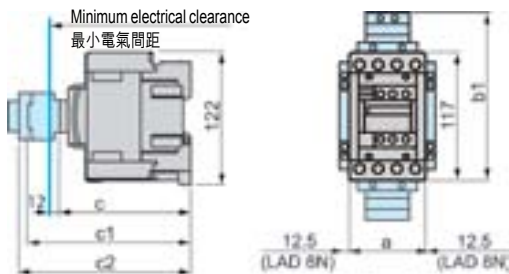
LC1	D09...D18	D093...D123	D099...D129	D25...D38	D183...D323
b	77	99	80	85	99
c without cover or add-on blocks	93	93	93	99	99
with cover, without add-on blocks	95	95	95	101	101
c1 with LAD N or C (2 or 4 contacts)	126	126	126	132	132
c2 with LA6 DK 10	138	138	138	144	144
c3 with LAD T, R, S	146	146	146	152	152
with LAD T, R, S and sealing cover	150	150	150	156	156

LC1 DT20 to DT40 (4-pole 極)

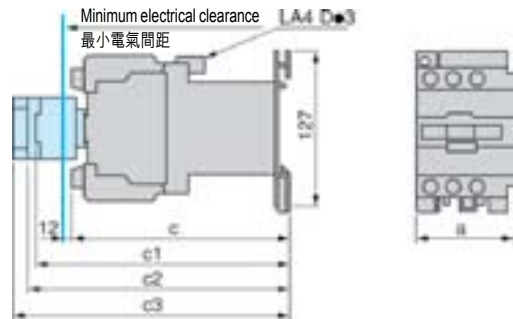


	DT20 & DT25 D098 & D128	DT203 & DT253 D0983 & D1283	DT32 & DT40 D188...D258	DT323 & DT403 D1883 & D2583
b	85	99	91	105
c with cover	99	99	107	107
c1 with LAD N or C (2 or 4 contacts)	123	123	131	131
c2 with LA6 DK10	135	135	143	143
c3 with LAD T, R, S	143	143	151	151
with LAD T, R, S and sealing cover	147	147	155	155

LC1 D40A...D65A (4-pole 極)



LC1 D80...D95 (3-pole 極), LP1 D80004, LP1 D80008 (4-pole 極), LP1 D40008 & D65008 (4-pole 極)



	LC1 D40A...D65A	LP1 D65004	LP1 D40008 & D65008	LC1 D80 & D95	LP1 D80004	LP1 D80008
a	70	85	85	96	96	96
b1 with LAD 4BB3	136	-	-	-	-	-
with LA4 DF, DT	157	-	-	-	-	-
c without cover or add-on blocks	118	171	182	181	181	196
with cover, without add-on blocks	120	-	-	186	-	-
c1 with LAD N (1 contact)	-	196	196	204	204	204
with LAD N or C (2 or 4 contacts)	150	202	202	210	210	210
c2 with LA6 DK10	163	213	213	221	221	221
c3 with LAD T, R, S	171	221	221	229	229	229
with LAD T, R, S and sealing cover	175	225	225	233	233	233

LC1 D115 ●●● and LC1 D150 ●●● with ---coil: see page 36.

TeSys contactors 接觸器

TeSys F contactors (115 - 800A)

F 型接觸器

Control circuit: a.c. or d.c.

控制電路：交流或直流

Environment specification 工作環境

Type 類型		LC1 F115	LC1 F150	LC1 F185
Rated insulation voltage 額定絕緣電壓 (Ui)	Conforming to IEC 60947-4-1 符合 IEC 60947-4-1 標準	V 1000	1000	1000
	Conforming to VDE 0110 gr C 符合 VDE 0110 gr C 標準	V 1500	1500	1500
Rated impulse withstand voltage 額定沖擊耐電壓 (Uimp)	Coil not connected to the power circuit 未接主回路時的線圈	kV 8	8	8
Conforming to standards 符合標準		EN 60947-1, EN 60947-4-1, IEC 60947-1, IEC 60947-4-1, JEM 1038		
Product certifications 產品認證		CSA, UL, BV, GL, DNV, RINA, RMROS, LROS, CCC		
Degree of protection 保護等級	Conforming to IEC 60529 符合 IEC 60529 標準	IP 2X front face with shrouds LA9 F 前側帶有防護罩 LA9 F 時為 IP 2X		
	Conforming to VDE 0106 符合 VDE 0106 標準	Front face protected against direct finger contact with shrouds LA9 F 前側帶防護罩 LA9 F 時為可防手指直接觸摸		
Ambient air temperature around the device 設備周圍運作環境空氣溫度	Storage 貯存	°C -60...+80		
	Operation 運作	°C -5...+55		
	Permissible at Uc 允許溫度範圍 (1)	°C -40...+70		
Maximum operating altitude 最大運作海拔	Without derating 無降容	m 3000		
Shock resistance 1/2 sine wave = 11 ms 抗沖擊性能 (2) 1/2 正弦波 = 11 ms	Contacteur open 接觸器打開	9 gn	9 gn	7 gn
	Contacteur closed 接觸器閉合	15 gn	15 gn	15 gn
Vibration resistance 抗震性能 (2) 5...300 Hz	Contacteur open 接觸器打開	2 gn	2 gn	2 gn
	Contacteur closed 接觸器閉合	6 gn	6 gn	5 gn

(1) In these conditions, it is recommended that LX9 F coils be used for contactor sizes F115 to F225.
在這些條件中，建議 F115 至 F225 型號的接觸器採用 LX9 F 線圈。

(2) In the least favourable direction, without change of contact state (coil at Uc). Where higher resistance to mechanical shock is required, select shock-proof contactors. Please consult Schneider Electric (HK) Ltd.
在最惡劣的情況下，不改變觸點狀態 (線圈電壓 Uc)。對於需要更高抗機械震動的運作情況，推薦使用抗震接觸器。有關事宜，請向香港施耐德電氣查詢。

LC1 F225	LC1 F265	LC1 F330	LC1 F400	LC1 F500	LC1 F630	LC1 F780	LC1 F800
1000	1000	1000	1000	1000	1000	1000	1000
1500	1500	1500	1500	1500	1500	1500	1500
8	8	8	8	8	8	8	8
EN 60947-1, EN 60947-4-1, IEC 60947-1, IEC 60947-4-1, JEM 1038							
CSA, UL, BV, GL, DNV, RINA, RMROS, LROS, CCC							UL, CSA, GL, LROS
IP 2X front face with shrouds LA9 F 前側帶有防護罩 LA9 F 時為 IP 2X Front face protected against direct finger contact with shrouds LA9 F 前側帶防護罩 LA9 F 時為可防手指直接觸摸							
-60...+80							-60...+80
-5...+55							-5...+55
-40...+70							-5...+55
3000							
7 gn	6 gn	6 gn	6 gn	9 gn	6 gn	5 gn	6 gn
15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn
2 gn	2 gn	2 gn	1.5 gn	2 gn	2 gn	2.5 gn	2 gn
5 gn	5 gn	5 gn	5 gn	4 gn	4 gn	5.5 gn	4 gn

TeSys contactors 接觸器

TeSys F contactors (115 - 800A)

F 型接觸器

Control circuit: a.c. or d.c.

控制電路：交流或直流

2

Pole characteristics 極特性					
Type 類型			LC1 F115	LC1 F150	LC1 F185
Number of poles 極數			3 / 4	3 / 4	3 / 4
Rated operational current 額定運作電流 (Ie) (Ue ≤ 440V)	In AC-3, θ ≤ 55°C In AC-1, θ ≤ 40°C	A	115 200	150 250	185 275
Rated operational voltage 額定運作電壓 (Ue)	Up to 最高	V	1000	1000	1000
Frequency limits 頻率限制	Of the operational current 運作電流 (I)	Hz	16 ^{2/3} ...200	16 ^{2/3} ...200	16 ^{2/3} ...200
Conventional thermal current 約定發熱電流	θ ≤ 40°C	A	220	250	275
Rated making capacity 額定接通能力	I rms conforming to IEC 60947-4-1 I rms 符合 IEC 60947-4-1 標準	A	Making current 接通電流: 10 x I in AC-3 / 12 x I in AC-4		
Rated breaking capacity 額定分斷能力	I rms conforming to IEC 60947-4-1 I rms 符合 IEC 60947-4-1 標準	A	Making and breaking current 接通及分斷電流: 8 x I in AC-3 / 10 x I in AC-4		
Maximum permissible current 最大耐受電流	For 10 s	A	1100	1200	1500
	No current flowing for preceding 60 minutes with θ ≤ 40°C	A	640	700	920
	For 1 min	A	520	600	740
	For 3 min	A	400	450	500
	For 10 min	A	320	350	400
Short-circuit protection by fuses 通過非士提供短路保護 U ≤ 440V	Motor circuit (type aM) 電動機電路 (aM 類型)	A	125	160	200
	With thermal overload relay (type gG) 帶有熱過載繼電器 (gG 類型)	A	200	200	315
	gG fuses gG 非士	A	200	250	315
Average impedance per pole 每極平均阻抗	At Ith and 50 Hz	mΩ	0.37	0.35	0.33
Power dissipation per pole for the above operational currents 每極耗散功率 於上述運作電流下	AC-3	W	5	8	12
	AC-1	W	15	22	25
Connection 連接/配線	Bar 線排	Number of bars 線排數目		2	2
		Size of bars 排數尺寸	mm	20 x 3	25 x 3
	Cable with lug 帶有接線片的線纜		mm²	95	120
	Cable with connection 帶有連接器線纜		mm²	95	120
	Bolt diameter 螺釘直徑		mm	Ø 6	Ø 8
Tightening torque 緊固扭矩	Power circuit connections 電路連接	N.m	10	18	18

(1) Sine wave without interference. Above these values, please consult Schneider Electric (HK) Ltd.
無干擾的正弦波形。有關以上值的詳細信息，請向香港施耐德電氣查詢。

LC1 F225	LC1 F265	LC1 F330	LC1 F400	LC1 F500	LC1 F630		LC1 F780	LC1 F800
3 / 4	3 / 4	3 / 4	2 / 3 / 4	2 / 3 / 4	2 / 3 / 4		3 / 4	3
225	265	330	400	500	630		780	800
315	350	400	500	700	1000	1250	1600	1000
1000	1000	1000	1000	1000	1000		1000	1000
16 ^{2/3} ...200	16 ^{2/3} ...200	16 ^{2/3} ...200	16 ^{2/3} ...200	16 ^{2/3} ...200	16 ^{2/3} ...200		16 ^{2/3} ...200	16 ^{2/3} ...200
315	350	400	500	700	1000	1250	1600	1000
Making current 接通電流: 10 x I in AC-3 / 12 x I in AC-4								
Making and breaking current 接通及分斷電流: 8 x I in AC-3 / 10 x I in AC-4								
1800	2200	2650	3600	4200	5050		6250	5500
1000	1230	1800	2400	3200	4400		5600	4600
850	950	1300	1700	2400	3400		4600	3600
560	620	900	1200	1500	2200		3000	2600
440	480	750	1000	1200	1600		2200	1700
250	315	400	400	500	630		800	800
315	500	500	630	800	800		1000	1000
315	400	500	500	800	1000		2 x 800 (2)	1000
0.32	0.3	0.28	0.26	0.18	0.12		0.10	0.12
16	21	31	42	45	48		60	77
32	37	44	65	88	120		250	120
2	2	2	2	2	2	3	2	2
32 x 4	32 x 4	30 x 5	30 x 5	40 x 5	60 x 5	60 x 5	100 x 5	60 x 5
185	240	240	2 x 150	2 x 240	-		-	-
185	240	-	-	-	-		-	-
ø 10	ø 10	ø 10	ø 10	ø 10	ø 12		2 x ø 12	ø 12
35	35	35	35	35	58		58	58

(2) Paralleling of poles must be carried out only in accordance with the fuse manufacturer's recommendations.
主極並聯須根據菲士的製造廠商建議進行。

TeSys contactors 接觸器

TeSys F contactors (115 - 800 A)

F 型接觸器

Control circuit: a.c. supply

控制電路：交流供電

Control circuit characteristics with LX1 or LX9 coil LX1 或 LX9 線圈的控制電路特性

Type 類型			LC1 F115	LC1 F150	LC1 F185	
Rated control circuit voltage 額定控制電壓 (Uc)	50 or 60 Hz	V	24...1000			
Control voltage limits 控制電壓範圍 ($\theta < 55^{\circ}\text{C}$)	50 or 60 Hz Coils 線圈	Operation 運作	0.85...1.1 Uc			
		Drop-out 釋放	0.35...0.55 Uc			
	40...400 Hz Coils 線圈	Operation 運作	—			
		Drop-out 釋放	—			
Average consumption at 20°C and at Uc 平均功耗 20°C 及 Uc 下	~50 Hz Inrush 吸合	50 Hz coil 線圈	VA 500	550	805	
		40...400 Hz coil 線圈	VA —	—	—	
		Cos φ	0.3	0.3	0.3	
	Sealed 保持	50 Hz coil 線圈	VA 45	45	55	
		40...400 Hz coil 線圈	VA —	—	—	
		Cos φ	0.3	0.3	0.3	
	~60 Hz Inrush 吸合	60 Hz coil 線圈	VA 660	660	970	
		40...400 Hz coil 線圈	VA —	—	—	
		Cos φ	0.3	0.3	0.3	
	Sealed 保持	60 Hz coil 線圈	VA 55	55	66	
		40...400 Hz coil 線圈	VA —	—	—	
		Cos φ	0.3	0.3	0.3	
Heat dissipation 熱耗散		W	12...16	12...16	18...24	
Operating time 運作時間 (1)	Closing 閉合 "C"	ms	23...35	23...35	20...35	
	Opening 打開 "O"	ms	5...15	5...15	7...15	
Mechanical durability at Uc Uc 下的機械壽命	In millions of operating cycles 百萬次運作週期		10	10	10	
Maximum operating rate at ambient temperature $\leq 55^{\circ}\text{C}$ 最大運作頻率 環境溫度 $\leq 55^{\circ}\text{C}$	In operating cycles per hour 每小時運作週期		2400	2400	2400	
Connection 配線	Flexible conductor without cable end 不帶接線端子的軟導線	1 or 2 conductors 一或兩根導線	mm²	Min/max c.s.a 最小/最大截面積 1/4	1/4	1/4
	Flexible conductor with cable end 帶接線端子的軟導線	1 conductor 一根導線	mm²	1/4	1/4	1/4
		2 conductors 兩根導線	mm²	1/2.5	1/2.5	1/2.5
	Solid cable without cable end 不帶接線端子的硬導線	1 or 2 conductors 一或兩根導線	mm²	1/4	1/4	1/4
Tightening torque 緊固扭矩		N.m.	1.2	1.2	1.2	
Mechanical latching 機械閉鎖			Mechanical latch blocks LA6 DK must not be fitted on LC1 F contactors. For similar type of operation, use magnetic latching contactors CR1 F. 由於其額定值的限制，LC1 F 的接觸器不能與 LA6 DK 附加機械閉鎖模塊配合使用。 對於此類操作，使用磁閉鎖接觸器 CR1 F。			

(1) The closing time "C" is measured from the moment the coil supply is switched on to initial contact of the main poles. The opening time "O" is measured from the moment the coil supply is switched off to the moment the main poles separate.

閉合時間 "C" 是從給線圈開始供電時起到主觸點接觸為止。

打開時間 "O" 是從給線圈斷電開始時起到主觸點分開為止。

LC1 F225	LC1 F265	LC1 F330	LC1 F400	LC1 F500	LC1 F630	LC1 F780	LC1 F800
24...1000			48...1000		48...1000	110...500	110...400
0.85...1.1 Uc	-						
0.35...0.55 Uc	-						
-	0.85...1.1 Uc		0.85...1.1 Uc		0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc
-	0.35...0.55 Uc		0.3...0.5 Uc		0.25...0.5 Uc	0.2...0.4 Uc	0.3...0.5 Uc
805	-	-	-	-	-	-	-
-	650	650	1075	1100	1650	2100	1700
0.3	0.9	0.9	0.9	0.9	0.9	0.9	0.9
55	-	-	-	-	-	-	-
-	10	10	15	18	22	50	12
0.3	0.9	0.9	0.9	0.9	0.9	0.9	-
970	-	-	-	-	-	-	-
-	650	650	1075	1100	1650	2100	1700
0.3	0.9	0.9	0.9	0.9	0.9	0.9	0.9
66	-	-	-	-	-	-	-
-	10	10	15	18	22	50	12
0.3	0.9	0.9	0.9	0.9	0.9	0.9	-
18...24	8	8	14	18	20	2 x 22	25
20...35	40...65	40...65	40...75	40...75	40...80	40...80	60...80
7...15	100...170	100...170	100...170	100...170	100...200	130...230	150...180
10	10	10	10	10	5	5	5
2400	2400	2400	2400	2400	1200	600	600
Min/max c.s.a 最小/最大截面積 1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/2.5	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5
1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2

Mechanical latch blocks LA6 DK must not be fitted on LC1 F contactors.

For similar type of operation, use magnetic latching contactors CR1 F.

由於其額定值的限制，LC1 F 的接觸器不能與 LA6 DK 附加機械閉鎖模塊配合使用。

對於此類操作，使用磁閉鎖接觸器 CR1 F。

TeSys contactors 接觸器

TeSys F contactors (115 - 800 A)

F 型接觸器

Control circuit: d.c. supply

控制電路：直流供電

2

Control circuit characteristics with LX4 coil LX4線圈的控制電路特性					
Type 類型		LC1 F115	LC1 F150	LC1 F185	
Rated control circuit voltage 額定控制電壓 (Uc) $\bar{\bar{=}}$	V	24...460	24...460	24...460	
Control voltage limits 控制電壓範圍 ($\theta \leq 55^\circ\text{C}$)	Operation 工作	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	
	Drop-out 釋放	0.15...0.2 Uc	0.15...0.2 Uc	0.15...0.2 Uc	
Average consumption at 20°C and at Uc 平均功耗 20°C 及 Uc 下	Inrush 吸合	W 560	560	800	
	Sealed 保持	W 4.5	4.5	5	
Average operating time at Uc Uc 下的平均動作時間 (1)	Closing "C" 閉合	ms 30...40	30...40	30...40	
	Opening "O" 斷開	ms 30...50	30...50	30...50	
Note : The arcing time depends on the circuit switched by the poles. For all normal 3-phase applications, the arcing time is less than 10 ms. The load is isolated from the supply after a time equal to the sum of the opening time and the arcing time. 注意：電弧時間取決於觸點斷開電路的時間。對於正常的三相應用，電弧時間通常小於 10 ms。負載在打開時間和電弧時間累計和之後與供電源隔離。					
Mechanical durability at Uc Uc 下的機械壽命	In millions of operating cycles 百萬次運作週期	10	10	10	
Maximum operating rate at ambient temperature $\leq 55^\circ\text{C}$ 最大運作頻率 環境溫度 $\leq 55^\circ\text{C}$	In operating cycles per hour 每小時運作週期	2400	2400	2400	
Connection 配線	Flexible conductor without cable end 不帶接線端子的軟導線	1 conductor 一根導線	mm ² 1/4	1/4	1/4
		2 conductors 兩根導線	mm ² 1/4	1/4	1/4
	Flexible conductor with cable end 帶接線端子的軟導線	1 conductor 一根導線	mm ² 1/4	1/4	1/4
		2 conductors 兩根導線	mm ² 1/2.5	1/2.5	1/2.5
	Solid cable without cable end 不帶接線端子的硬導線	1 conductor 一根導線	mm ² 1/4	1/4	1/4
		2 conductors 兩根導線	mm ² 1/4	1/4	1/4
Tightening torque 緊固扭矩		N.m. 1.2	1.2	1.2	
Mechanical latching 機械閉鎖		Mechanical latch blocks LA6 DK must not be fitted on LC1 F contactors. For similar type of operation, use magnetic latching contactors CR1 F. 由於其額定值的限制，LC1 F 的接觸器不能與 LA6 DK 附加機械閉鎖模塊配合使用。 對於此類操作，使用磁閉鎖接觸器 CR1 F。			

(1) The operating times depend on the type of contactor electromagnet and its control mode. The closing time "C" is measured from the moment the coil supply is switched on to initial contact of the main poles. The opening time "O" is measured from the moment the coil supply is switched off to the moment the main poles separate.

工作時間取決於接觸器電磁體類型及其控制模式。
閉合時間 "C" 是從給線圈開始供電時起至主觸點接觸時為止。
斷開時間 "O" 是從給線圈開始斷電時起至主觸點分開時為止。

LC1 F225	LC1 F265	LC1 F330	LC1 F400	LC1 F500	LC1 F630	LC1 F780	LC1 F800
24...460	24...460	24...460	48...440	48...440	48...440	110...440	110...440
0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc
0.15...0.2 Uc	0.15...0.2 Uc	0.15...0.2 Uc	0.2...0.35 Uc	0.2...0.35 Uc	0.2...0.35 Uc	0.2...0.4 Uc	0.3...0.5 Uc
800	750	750	1000	1100	1600	2 x 1000	1900
5	5	5	6	6	9	2 x 21	12
30...40	40...50	40...50	50...60	50...60	60...70	70...80	60...80
30...50	40...65	40...65	45...60	45...60	40...50	100...130	40...50

Note : The arcing time depends on the circuit switched by the poles. For all normal 3-phase applications, the arcing time is less than 10 ms. The load is isolated from the supply after a time equal to the sum of the opening time and the arcing time.

注意：電弧時間取決於觸點斷開電路的時間。對於正常的三相應用，電弧時間通常小於10 ms。負載在打開時間和電弧時間累計和之後與供電源隔離。

10	10	10	10	10	5	5	5
2400	2400	2400	2400	2400	1200	600	600
Min/max c.s.a. 最小/最大截面積 1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/2.5	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5
1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2

Mechanical latch blocks LA6 DK must not be fitted on LC1 F contactors.

For similar type of operation, use magnetic latching contactors CR1 F.

由於其額定值的限制，LC1 F 的接觸器不能與 LA6 DK 附加機械閉鎖模塊配合使用。

對於此類操作，使用磁閉鎖接觸器 CR1 F。

TeSys contactors 接觸器

TeSys F 3-pole contactors

F 型三極接觸器

Control circuit: a.c. or d.c.

控制電路：交流或直流

2



LC1 F225



LC1 F630

3-pole contactors 三極接觸器

Standard power ratings of 3-phase motors 三相電動機標準額定功率								Rated operational current 額定運作電流 (AC-3)	Basic reference, to be completed by adding the voltage code 基本型號，由控制電路電壓的 代碼組成完整的型號 (2) Screw fixing, cabling 螺釘固定，配線 (1)	Weight 重量
50-60 Hz (AC-3)								440 V up to 最高		
220 V	380 V	660 V			440 V					
230 V	400 V	415 V	440 V	500 V	690 V	1000 V	up to 最高			
kW	kW	kW	kW	kW	kW	kW	A			kg
30	55	59	59	75	80	65	115	LC1 F115 ●●		3.430
40	75	80	80	90	100	65	150	LC1 F150 ●●		3.430
55	90	100	100	110	110	100	185	LC1 F185 ●●		4.650
63	110	110	110	129	129	100	225	LC1 F225 ●●		4.750
75	132	140	140	160	160	147	265	LC1 F265 ●●		7.440
100	160	180	200	200	220	160	330	LC1 F330 ●●		8.600
110	200	220	250	257	280	185	400	LC1 F400 ●●		9.100
147	250	280	295	355	335	335	500	LC1 F500 ●●		11.350
200	335	375	400	400	450	450	630	LC1 F630 ●●		18.600
220	400	425	425	450	475	450	780	LC1 F780 ●●		39.500
250	450	450	450	450	475	450	800	LC1 F800 ●●		18.750

Note : auxiliary contact blocks, modules and accessories: see page 50.

註：輔助觸點模塊和附件：見50頁。

(1) Power terminals can be protected against direct finger contact by the addition of shrouds, to be ordered separately, except on contactors LC1 F780.

接觸 LC1 F780 可單獨提供電源端子保護罩。

(2) For other voltages, please consult Schneider Electric (HK) Ltd.

請向香港施耐德電氣查詢其他電壓。

Volts 伏 ~	24	48	110	220	240	380
LC1 F115...F225						
50 Hz (coil 線圈 LX1)	B5	E5	F5	M5	U5	Q5
LC1 F265...F350						
40...400 Hz (coil 線圈 LX1)	B7	E7	F7	M7	U7	Q7
LC1 F400...F630						
40...400 Hz (coil 線圈 LX1)	-	E7	F7	M7	U7	Q7
LC1 F780						
40...400 Hz (coil 線圈 LX1)	-	-	F7	M7	U7	Q7
Volts 伏 =	24	48	110	220		
LC1 F115...F330						
(coil 線圈 LX4F)	BD	ED	FD	MD		
LC1 F400...F630						
(coil 線圈 LX4F)	-	ED	FD	MD		
LC1 F780						
(coil 線圈 LX4F)	-	-	FD	MC		
Volts 伏 ~/=	24	48	110	220		
LC F800						
(coil 線圈 LX4F)	-	-	FW	MW		

TeSys contactors 接觸器

TeSys F 4-pole contactors

F 型四極接觸器

Control circuit: a.c. or d.c.

控制電路：交流或直流



LC1 F1854



LC1 F4004



LC1 F6304

2 or 4-pole contactors 二或四極接觸器

Maximum current in AC-1 ($\theta \leq 40^\circ\text{C}$)	Number of poles 極數	Basic reference, to be completed by adding the voltage code 基本型號，由控制電路電壓的 代碼組成完整的型號 (2) Screw fixing, cabling 螺釘固定，配線 (2)	Weight 重量
			kg
200	4	LC1 F1154 ●●	3.830
250	4	LC1 F1504 ●●	3.830
275	4	LC1 F1854 ●●	5.450
315	4	LC1 F2254 ●●	5.550
350	4	LC1 F2654 ●●	8.540
400	4	LC1 F3304 ●●	9.500
500	2	LC1 F4002 ●●	8.000
	4	LC1 F4004 ●●	10.200
700	2	LC1 F5002 ●●	9.750
	4	LC1 F5004 ●●	12.950
1000	2	LC1 F6302 ●●	15.500
	4	LC1 F6304 ●●	21.500
1600	4	LC1 F7804 ●●	48.000

Note : auxiliary contact blocks, modules and accessories: see pages 50.

註：輔助觸點模塊和附件：見50頁。

(1) Power terminals can be protected against direct finger contact by the addition of shrouds, to be ordered separately, except on contactors LC1 F780.

接觸 LC1 F780 可單獨提供電源端子保護罩。

(2) For other voltages, please consult Schneider Electric (HK) Ltd.

請向香港施耐德電氣查詢其他電壓。

Volts 伏 ~	24	48	110	220	240	380
LC1 F115...F225						
50 Hz (coil 線圈 LX1)	B5	E5	F5	M5	U5	Q5
LC1 F265...F350						
40...400 Hz (coil 線圈 LX1)	B7	E7	F7	M7	U7	Q7
LC1 F400...F630						
40...400 Hz (coil 線圈 LX1)	—	E7	F7	M7	U7	Q7
LC1 F780						
40...400 Hz (coil 線圈 LX1)	—	—	F7	M7	U7	Q7
Volts 伏 ∩	24	48	110	220		
LC1 F115...F330						
(coil 線圈 LX4F)	BD	ED	FD	MD		
LC1 F400...F630						
(coil 線圈 LX4F)	—	ED	FD	MD		
LC1 F780						
(coil 線圈 LX4F)	—	—	FD	MC		
Volts 伏 ~/∩	24	48	110	220		
LC F800						
(coil 線圈 LX4F)	—	—	FW	MW		

TeSys contactors 接觸器

Components for assembling 3-pole reversing contactors and 4-pole changeover contactor pairs

組裝三極可逆接觸器和四極電源轉換接觸器的組件

Reversers assembled using 2 contactors of identical rating
使用具有相同額定值的接觸器組裝可逆接觸器

Type (1) 類型	Set of power connections 電源連接排	Mechanical interlock 機械互鎖		
	Reference 型號	Weight 重量 kg	Kit reference 組件型號	Weight 重量 kg

For assembly of 3-pole reversing contactors for motor control 可用電動機控制的三極可逆接觸器的組裝

Horizontally mounted 水平安裝

LC1 F115	LA9 FF976	0.600	LA9 FF970	0.060
LC1 F150	LA9 F15076	0.600	LA9 FF970	0.060
LC1 F185	LA9 FG976	0.780	LA9 FG970	0.060
LC1 F225	LA9 F22576	1.500	LA9 FG970	0.060
LC1 F265	LA9 FH976	1.500	LA9 FJ970	0.140
LC1 F330	LA9 FJ976	2.100	LA9 FJ970	0.140
LC1 F400	LA9 FJ976	2.100	LA9 FJ970	0.140
LC1 F500	LA9 FK976	2.350	LA9 FJ970	0.140
LC1 F630 or F800	LA9 FL976	3.800	LA9 FL970	0.150

Vertically mounted 垂直安裝

LC1 F115 or F150	(2)	–	LA9 FF4F	0.345
LC1 F185	(2)	–	LA9 FG4G	0.350
LC1 F225	(2)	–	LA9 FG4G	0.350
LC1 F265 or F330	(2)	–	LA9 FH4H	1.060
LC1 F400	(2)	–	LA9 FJ4J	1.200
LC1 F500	(2)	–	LA9 FK4K	1.200
LC1 F630 or F800	(2)	–	LA9 FL4L	1.220
LC1 F780	(3)	–	LA9 FX970 (3)	6.100

For assembly of 4-pole changeover contactor pairs 組裝四極電源轉換接觸器組

Horizontally mounted 水平安裝

LC1 F1154	LA9 FF977	0.460	LA9 FF970	0.060
LC1 F1504	LA9 F15077	0.460	LA9 FF970	0.060
LC1 F1854	LA9 FG977	0.610	LA9 FG970	0.060
LC1 F2254	LA9 F22577	1.200	LA9 FG970	0.060
LC1 F2654	LA9 FH977	1.200	LA9 FJ970	0.140
LC1 F3304	LA9 FJ977	1.800	LA9 FJ970	0.140
LC1 F4004	LA9 FJ977	1.800	LA9 FJ970	0.140
LC1 F5004	LA9 FK977	2.300	LA9 FJ970	0.140
LC1 F6304	LA9 FL977	3.400	LA9 FL970	0.150

Vertically mounted 垂直安裝

LC1 F115 or F150	(2)	–	LA9 FF4F	0.345
LC1 F185	(2)	–	LA9 FG4G	0.350
LC1 F225	(2)	–	LA9 FG4G	0.350
LC1 F265 or F330	(2)	–	LA9 FH4H	1.060
LC1 F400	(2)	–	LA9 FJ4J	1.200
LC1 F500	(2)	–	LA9 FK4K	1.200
LC1 F630 or F800	(2)	–	LA9 FL4L	1.220
LC1 F780	(3)	–	LA9 FX971 (3)	7.800

(1) To order the 2 contactors: see pages 47 & 48. For the 2 auxiliary contact blocks LAD N●1 required to obtain electrical interlocking between the 2 contactors.

要訂購兩個接觸器：見47及48頁。輔助觸點模塊 LAD N●1 可以實現兩個接觸器之間的電氣互鎖。

(2) With the exception of contactors LC1 F780, all power connections are to be made by the customer.

除了接觸器 LC1 F780 外，所有電源連接均由用戶完成。

(3) Double mechanical interlock mechanism with 2 interlock connecting rods and 3 power connecting links.

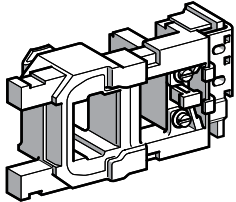
雙機械互鎖裝置，帶有兩個互鎖連杆和三個電源連接裝置。

TeSys contactors 接觸器

TeSys LC1 F

a.c. coils
交流線圈

2



LX1 FF●●●

Control circuit voltage 控制電路電壓		Average resistance at 20°C ± 10%	Inductance of closed circuit	Voltage code 電壓代碼	Reference 型號	Weight 重量
Uc - 50 Hz	Uc - 60Hz	20°C ± 10% 下平均電阻	閉合電路電感			
V	V	Ω	H			kg
For contactors LC1 F115 and LC1 F150 用於 LC1 F115 和 LC1 F150 接觸器						
24	–	0.27	0.04	B5	LX1 FF024	0.430
48	–	1.17	0.16	E5	LX1 FF048	0.430
110	–	6.38	0.86	F5	LX1 FF110	0.430
220	265/277	28.1	3.44	M5	LX1 FF220	0.430
240	–	31.1	4.1	U5	LX1 FF240	0.430
380	460/480	86.9	10.3	Q5	LX1 FF380	0.430

Specifications

Average consumption at 20°C:

- inrush 50 Hz: 550 VA; 60 Hz: 660 VA
- sealed 50 Hz: 45 VA; 60 Hz: 55 VA, $\cos \varphi = 0.3$

Heat dissipation: 12...16 W

Operating time at Uc: closing = 23...35 ms, opening = 5...15 ms

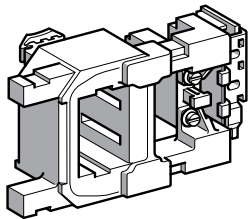
規格

20°C 下的平均功耗：

- 吸合 50 Hz：550 VA；60 Hz：660 VA
- 保持 50 Hz：45 VA；60 Hz：55 VA， $\cos \varphi = 0.3$

熱耗散：12...16 W

Uc 下的運作時間：閉合 = 23...35 ms，斷開 = 5...15 ms



LX1 FG●●●

Control circuit voltage 控制電路電壓 Uc		Average resistance at 20°C ± 10%	Inductance of closed circuit	Voltage code 電壓代碼	Reference 型號	Weight 重量
Uc - 50 Hz	Uc - 60Hz	20°C ± 10% 下平均電阻	閉合電路電感			
V	V	Ω	H			kg
For contactors LC1 F185 and LC1 F225 用於 LC1 F185 和 LC1 F225 接觸器						
24	–	0.18	0.03	B5	LX1 FG024	0.550
48	–	0.71	0.12	E5	LX1 FG048	0.550
110	–	4.18	0.65	F5	LX1 FG110	0.550
220	265/277	16.5	2.59	M5	LX1 FG220	0.550
240	–	20.1	3.09	U5	LX1 FG240	0.550
380	460/480	51.3	7.75	Q5	LX1 FG380	0.550

Specifications

Average consumption at 20°C:

- inrush 50 Hz: 805 VA; 60 Hz: 970 VA
- sealed 50 Hz: 55 VA; 60 Hz: 66 VA, $\cos \varphi = 0.3$

Heat dissipation: 18...24 W

Operating time at Uc: closing = 20...35 ms, opening = 7...15 ms

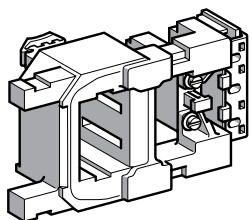
規格

20°C 下的平均功耗：

- 吸合 50 Hz：805 VA；60 Hz：970 VA
- 保持 50 Hz：55 VA；60 Hz：66 VA， $\cos \varphi = 0.3$

熱耗散：18...24 W

Uc 下的運作時間：閉合 = 20...35 ms，斷開 = 7...15 ms



LX1 FH●●●2

Control circuit voltage 控制電路電壓 Uc		Average resistance at 20°C ± 10%		Inductance of closed circuit	Voltage code 電壓代碼	Reference 型號	Weight 重量
Uc		Inrush 吸合	Sealed 保持	閉合電路電感			
V	V	Ω	Ω	H			kg
For contactors LC1 F265 and LC1 F330 用於 LC1 F265 和 LC1 F330 接觸器							
24	–	0.8	20	(1)	B7	LX1 FH0242	0.750
48	–	2.96	67	(1)	E7	LX1 FH0482	0.750
110	–	18.7	440	(1)	F7	LX1 FH1102	0.750
220	–	70.6	1578	(1)	M7	LX1 FH2202	0.750
240	–	87.94	1968	(1)	U7	LX1 FH2402	0.750
380	–	217	4631	(1)	Q7	LX1 FH3802	0.750

SpecificationsAverage consumption at 20°C for 50 or 60 Hz and $\cos \varphi = 0.9$:

- inrush: 600...700 VA
- sealed: 8...10 VA

Heat dissipation: 8 W

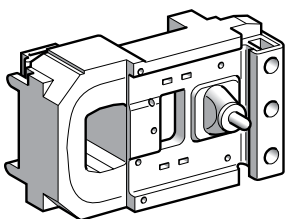
Operating time at Uc: closing = 40...65 ms, opening = 100...170 ms

規格20°C 下的平均功耗，或 50/60 Hz 和 $\cos \varphi = 0.9$ ：

- 吸合：600...700 VA
- 保持：8...10 VA

熱耗散：8 W

Uc 下的運作時間：閉合 = 40...65 ms，斷開 = 100...170 ms



LX1 FJ●●●

Control circuit voltage 控制電路電壓 Uc		Average resistance at 20°C ± 10%	Inductance of closed circuit	Voltage code 電壓代碼	Reference 型號	Weight 重量
Uc - 50 Hz	Uc - 60Hz	20°C ± 10% 下平均電阻	閉合電路電感			
V	V	Ω	H			kg
For contactors LC1 F400 用於 LC1 F400 接觸器						
48	–	1.6	29.5	E7	LX1 FJ048	1.000
110/120	–	9.8	230	F7	LX1 FJ110	1.000
220	–	37	1030	M7	LX1 FJ220	1.000
240	–	47.5	1320	U7	LX1 FJ240	1.000
380	–	120	3310	Q7	LX1 FJ380	1.000

SpecificationsAverage consumption at 20°C for 50 or 60 Hz and $\cos \varphi = 0.9$:

- inrush: 1000...1150 VA
- sealed: 12...18 VA

Heat dissipation: 14 W

Operating time at Uc: closing = 40...75 ms, opening = 100...170 ms

規格20°C 下的平均功率，或 50/60 Hz 和 $\cos \varphi = 0.9$ ：

- 吸合：1000...1150 VA
- 保持：12...18 VA

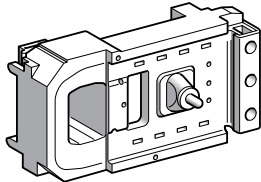
熱耗散：14 W

Uc 下的動作時間：閉合 = 40...75 ms，斷開 = 100...170 ms

TeSys contactors 接觸器

TeSys LC1 F

a.c. coils
交流線圈



LX1 FK ●●●

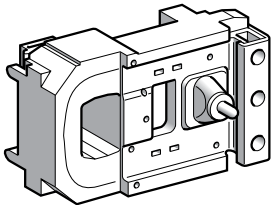
Control circuit voltage 控制電路電壓 U _c	Average resistance at 20°C ± 10% 20°C ± 10% 下平均電阻		Inductance of closed circuit 閉合電路電感	Voltage code 電壓代碼	Reference 型號	Weight 重量
	Inrush 吸合	Sealed 保持				
V	Ω	Ω	H			kg
For contactors LC1 F500 用於 LC1 F500 接觸器						
48	1.9	33.5	0.19	E7	LX1 FK048	1.150
110/120	9.55	260	1.25	F7	LX1 FK110	1.150
220	35.5	915	4.55	M7	LX1 FK220	1.150
240	44.5	1160	5.75	U7	LX1 FK240	1.150
380	112	2980	14.7	Q7	LX1 FK380	1.150

Specifications

Average consumption at 20°C for 50 or 60 Hz and cos φ = 0.9:
 - inrush: 1050...1150 VA
 - sealed: 16...20 VA
 Operating cycles/hour (θ ≤ 55°C): ≤ 2400
 Heat dissipation: 18 W
 Operating time at U_c: closing = 40...75 ms, opening = 100...170 ms

規格

20°C 下的平均功率，或 50/60 Hz 和 cos φ = 0.9：
 - 吸合：1050...1150 VA
 - 保持：16...20 VA
 運作週期/小時 (θ ≤ 55°C)：≤ 2400
 熱耗散：18 W
 U_c 下的運作時間：閉合 = 40...75 ms，斷開 = 100...170 ms



LX1 FL ●●●

For contactors LC1 F630 用於 LC1 F630 接觸器						
48	1.1	17.1	0.09	E7	LX1 FL048	1.500
110/120	6.45	165	1.85	F7	LX1 FL110	1.500
220	25.5	730	3.35	M7	LX1 FL220	1.500
240	25.5	730	3.35	U7	LX1 FL220	1.500
380	78	2360	10.5	Q7	LX1 FL380	1.500

Specifications

Average consumption at 20°C for 50 or 60 Hz and cos φ = 0.9:
 - inrush: 1500...1730 VA
 - sealed: 20...25 VA
 Operating cycles/hour (θ ≤ 55°C): 1200
 Heat dissipation: 20 W
 Operating time at U_c: closing = 40...80 ms, opening = 100...200 ms

規格

20°C 下的平均功率，或 50/60 Hz 和 cos φ = 0.9：
 - 吸合：1500...1730 VA
 - 保持：20...25 VA
 運作週期/小時 (θ ≤ 55°C)：1200
 熱耗散：20 W
 U_c 下的運作時間：閉合 = 40...80 ms，斷開 = 100...200 ms

For contactors LC1 F780 用於 LC1 F780 接觸器						
110/120	4.95	230	0.21	F7	LX1 FX110	3.000
220	19.5	920	0.82	M7	LX1 FX220	3.000
240	19.5	920	0.82	U7	LX1 FX220	3.000
380	60.9	2780	2.3	Q7	LX1 FX380	3.000

Specifications

Average consumption at 20°C for 50 or 60 Hz and cos φ = 0.9:
 - inrush: 1900...2300 VA
 - sealed: 44...55 VA
 Operating cycles/hour (θ ≤ 55°C): 600
 Heat dissipation: 2 x 22 W
 Operating time at U_c: closing = 40...80 ms, opening = 130...230 ms

規格

20°C 下的平均功耗，或 50/60 Hz 和 cos φ = 0.9：
 - 吸合：1900...2300 VA
 - 保持：44...55 VA
 運作週期/小時 (θ ≤ 55°C)：600
 熱耗散：2 x 22 W
 U_c 下的運作時間：閉合 = 40...80 ms，斷開 = 130...230 ms

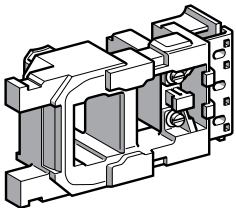
TeSys contactors 接觸器

TeSys LC1 F

d.c. coils

直流線圈

2



LX4 FF ●●●

Control circuit voltage 控制電路電壓 U _c	Average resistance at 20°C ± 10% 20°C ± 10% 下平均電阻		Inductance of closed circuit 閉合電路電感	Voltage code 電壓代碼	Reference type 型號	Weight 重量
	Inrush 吸合	Sealed 保持				
V	Ω	Ω	H			kg
For contactors LC1 F115 and LC1 F150 用於 LC1 F115 和 LC1 F150 接觸器						
24	1.12	177	11	BD	LX4 FF024	0.430
48	4.52	715	42.7	ED	LX4 FF048	0.430
110	21.7	2940	179	FD	LX4 FF110	0.430
220/230	84	11 100	704	MD	LX4 FF220	0.430

Specifications

Average consumption:

- inrush: 543...665 W
- sealed: 3.94...4.83 W

Operating time at U_c: closing = 30...40 ms, opening = 30...50 ms

規格

平均功耗：

- 吸合：543...665 W
- 保持：3.94...4.83 W

U_c 下的動作時間：閉合 = 30...40 ms，斷開 = 30...50 ms**For contactors LC1 F185 and LC1 F225 用於 LC1 F185 和 LC1 F225 接觸器**

24	0.79	169	14.9	BD	LX4 FG024	0.550
48	3.2	662	55.3	ED	LX4 FG048	0.550
110	14.9	2810	241	FD	LX4 FG110	0.550
220/230	57.7	10 200	890	MD	LX4 FG220	0.550

Specifications

Average consumption:

- inrush: 737...902 W
- sealed: 4.13...5.07 W

Operating time at U_c: closing = 30...40 ms, opening = 30...50 ms

規格

平均功耗：

- 吸合：737...902 W
- 保持：4.13...5.07 W

U_c 下的動作時間：閉合 = 30...40 ms，斷開 = 30...50 ms**For contactors LC1 F265 and LC1 F330 用於 LC1 F265 和 LC1 F330 接觸器**

24	0.9	192	26.3	BD	LX4 FH024	0.740
48	3.49	707	92.9	ED	LX4 FH048	0.740
110	16.8	3180	424	FD	LX4 FH110	0.740
220/230	65.7	11 500	1590	MD	LX4 FH220	0.740

Specifications

Average consumption:

- inrush: 655...803 W
- sealed: 3.68...4.53 W

Operating time at U_c: closing = 40...50 ms, opening = 40...65 ms

規格

平均功耗：

- 吸合：655...803 W
- 保持：3.68...4.53 W

U_c 下的動作時間：閉合 = 40...50 ms，斷開 = 40...65 ms**For contactors LC1 F400 用於 LC1 F400 接觸器**

48	2.5	558	56	ED	LX4 FJ048	0.970
110	12.7	2660	270	FD	LX4 FJ110	0.970
220	47	8820	910	MD	LX4 FJ220	0.970

Specifications

Average consumption:

- inrush: 902...1140 W
- sealed: 4...7.5 W

Operating time at U_c: closing = 50...60 ms, opening = 45...60 ms

規格

平均功耗：

- 吸合：920...1140 W
- 保持：4...7.5 W

U_c 下的動作時間：閉合 = 50...60 ms，斷開 = 45...60 ms**For contactors LC1 F115 and LC1 F150 用於 LC1 F115 和 LC1 F150 接觸器**

48	2.35	515	67	ED	LX4 FK048	1.080
110	11.5	2450	280	FD	LX4 FK110	1.080
220	44	8150	1080	MD	LX4 FK220	1.080

Specifications

Average consumption:

- inrush: 990...1220 W
- sealed: 4.54...8 W

Operating cycles/hour (θ ≤ 55°C): ≤ 2400

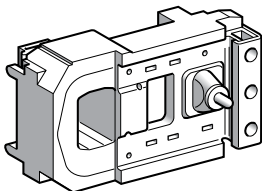
Operating time at U_c: closing = 50...60 ms, opening = 45...60 ms

規格

平均功耗：

- 吸合：990...1220 W
- 保持：4.54...8 W

運作週期/小時 (θ ≤ 55°C): ≤ 2400

U_c 下的動作時間：閉合 = 50...60 ms，斷開 = 45...60 ms

LX4 FK ●●●

TeSys contactors 接觸器

TeSys LC1 F

d.c. coils
直流線圈

Control circuit voltage 控制電路電壓 U _c	Average resistance at 20°C ± 10% 20°C ± 10% 下平均電阻		Inductance of closed circuit 閉合電路電感	Voltage code 電壓代碼	Reference 型號	Weight 重量
	Inrush 吸合	Sealed 保持				
V	Ω	Ω	H			kg
For contactors LC1 F630 用於 LC1 F630 接觸器						
48	1.7	353	40.5	ED	LX4 FL048	1.450
110	8.1	1680	180	FD	LX4 FL110	1.450
220	31	5160	650	MD	LX4 FL220	1.450

Specifications

Average consumption:

- inrush: 1420...1920 W

- sealed: 6.5...12.5 W

Operating cycles/hour (θ ≤ 55°C): 1200

Operating time at U_c: closing = 60...70 ms, opening = 40...50 ms

規格

平均功耗：

- 吸合：1420...1920 W

- 保持：6.5...12.5 W

運作週期/小時 (θ ≤ 55°C)：1200

U_c 下的運作時間：閉合 = 60...70 ms，斷開 = 40...50 ms

For contactors LC1 F780 用於 LC1 F780 接觸器

110	6.1	280	0.26	FD	LX4 FX110	3.000
220	24.6	1100	1	MD	LX4 FX220	3.000

Specifications

Average consumption:

- inrush: 1960...2420 W

- sealed: 42...52 W

Operating cycles/hour (θ ≤ 55°C): 600

Operating time at U_c: closing = 70...80 ms, opening = 100...130 ms

規格

平均功耗：

- 吸合：1960...2420 W

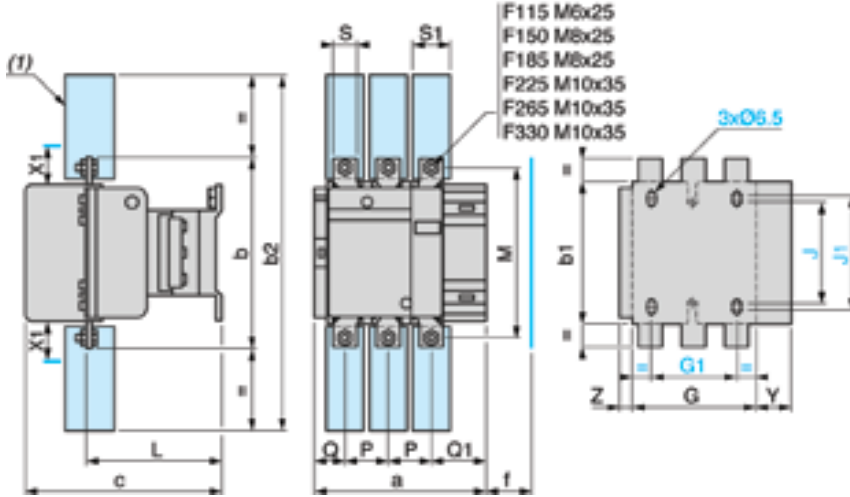
- 保持：42...52 W

運作週期/小時 (θ ≤ 55°C)：600

U_c 下的運作時間：閉合 = 70...80 ms，斷開 = 100...130 ms

2

LC1 F115 - F330



X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity
按運作電壓及分斷能力的最小電氣間距

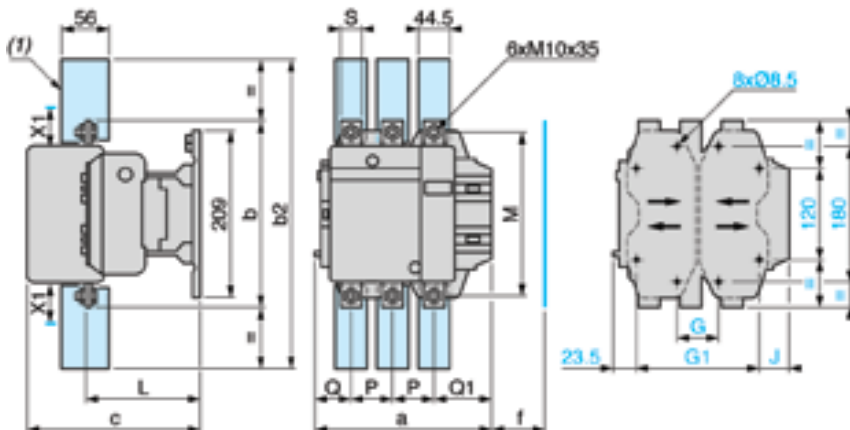
LC1	200...500 V	600...1000 V
F115, F150	10	15
F185	10	15
F225, F265	10	15
F330	10	15

(1) Power terminal protection shroud
電源接口保護罩

LC1	a	b	b1	b2	c	f	G	G1	J	J1	L	M	P	Q	Q1	S	S1	Y	Z	
F115	3P	163.5	162	137	265	171	131	106	80	106	120	107	147	37	29.5	60	20	26	44	13.5
	4P	200.5	162	137	265	171	131	143	80	106	120	107	147	37	29.5	60	20	26	44	13.5
F150	3P	163.5	170	137	301	171	131	106	80	106	120	107	150	40	26	57.5	20	34	44	13.5
	4P	200.5	170	137	301	171	131	143	80	106	120	107	150	40	26	55.5	20	34	44	13.5
F185	3P	168.5	174	137	305	181	130	111	80	106	120	113.5	154	40	29	59.5	20	34	44	13.5
	4P	208.5	174	137	305	181	130	151	80	106	120	113.5	154	40	29	59.5	20	34	44	13.5
F225	3P	168.5	197	137	364	181	130	111	80	106	120	113.5	172	48	21	51.5	25	44.5	44	13.5
	4P	208.5	197	137	364	181	130	151	80	106	120	113.5	172	48	17	47.5	25	44.5	44	13.5
F265	3P	201.5	203	145	375	213	147	142	96	106	120	141	178	48	39	66.5	25	44.5	38	21.5
	4P	244.5	203	145	375	213	147	190	96	106	120	141	178	48	34	66.5	25	44.5	38	21.5
F330	3P	213	206	145	375	219	147	154.5	96	106	120	145	181	48	43	74	25	44.5	38	20.5
	4P	261	206	145	375	219	147	202.5	96	106	120	145	181	48	43	74	25	44.5	38	20.5

f = minimum distance required for coil removal
移除線圈的最短需要距離

LC1 F400 and F500



X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity
按運作電壓及分斷能力的最小電氣間距

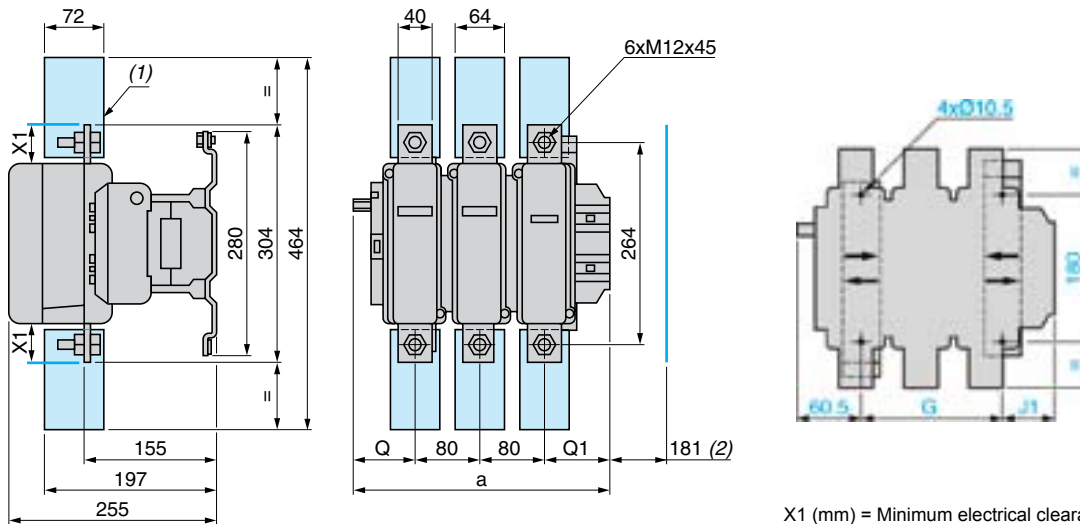
LC1	200...500 V	600...1000 V
F400	15	20
F500	15	20

(1) Power terminal protection shroud
電源接口保護罩

LC1	a	b	b2	c	f	G supplied	G min.	G max.	G1 supplied	G1 min.	G1 max.	J	L	M	P	Q	Q1	S	
F400	2P	213	206	375	219	146	80	66	102	170	156	192	19.5	145	181	48	69	96	25
	3P	213	206	375	219	146	80	66	102	170	156	192	19.5	145	181	48	43	74	25
	4P	261	206	375	219	146	80	66	150	170	156	240	67.5	145	181	48	43	74	25
F500	2P	233	238	400	232	150	80	66	120	170	156	210	39.5	146	208	55	76	102	30
	3P	233	238	400	232	150	80	66	120	170	156	210	39.5	146	208	55	46	77	30
	4P	288	238	400	232	150	140	66	175	230	156	265	34.5	146	208	55	46	77	30

f = minimum distance required for coil removal
移除線圈的最短需要距離

LC1 F630 and F800



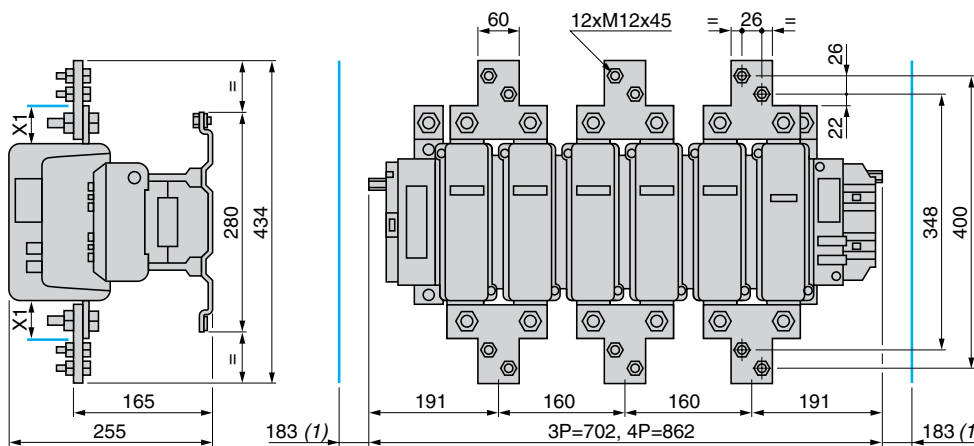
X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity
按運作電壓及分斷能力的最小電氣間距

LC1	a	G supplied	G min.	G max.	J1	Q	Q1
F630	3P 309	180	100	195	68.5	102	127
F630, F800	3P 309	180	100	195	68.5	60	89
F630	4P 389	240	150	275	68.5	60	89

Voltage	200...500 V	690...1000 V	200...690 V	1000 V
LC1 F630	20	30	-	-
LC1 F800	-	-	10	20

(1) Power terminal protection shroud 電源接口保護罩
(2) Minimum distance required for coil removal 最小移除線圈距離

LC1 F780

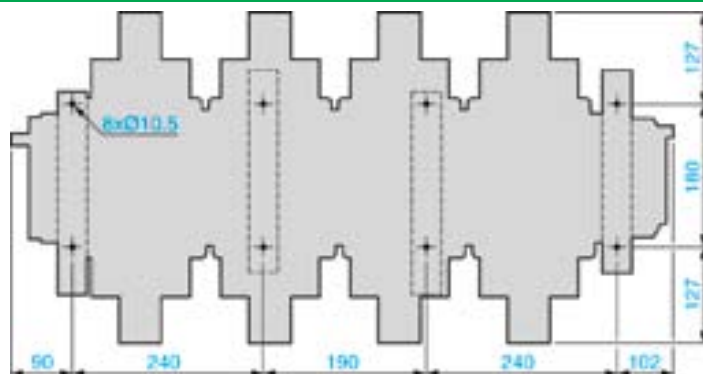


X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity 按運作電壓及分斷能力的最小電氣間距

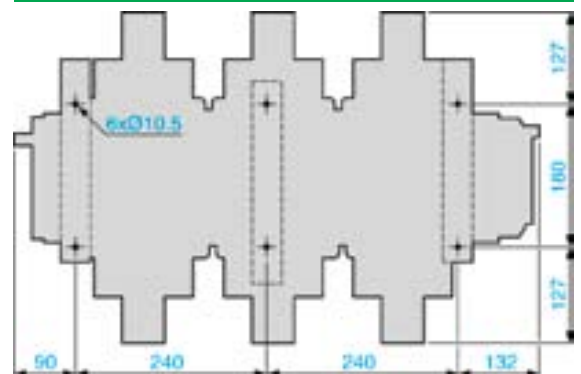
(1) Minimum distance required for removal of each coil
移除線圈的最短需要距離

Voltage	200...500 V	690...1000 V
X1 (mm)	30	35

Fixing centres of LC1 F780



Fixing centres of LC1 F630

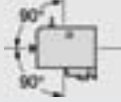
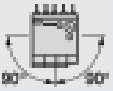


TeSys thermal overload relays

熱過載繼電器

K thermal overload relays

K 型熱過載繼電器

Environment 環境					
Conforming to standards 符合標準		IEC 60947, NF C 63-650, VDE 0660, BS 4941			
Product certifications 產品認證		UL, CSA			
Protective treatment 保護措施	Conforming to IEC 60068 (DIN 50016) 符合 IEC 60068 標準 (DIN 50016)	"TC" (Klimafest, Climateproof)			
Degree of protection 保護級別	Conforming to VDE 0106 符合 VDE 0106 標準	Protection against direct finger contact 防止手指直接接觸			
Ambient air temperature around the device 環境溫度 週圍環境	Storage 貯存	°C	- 40...+ 70		
	For normal operation 正常工作 (IEC 60947)	°C	- 20...+ 55 (without derating 無降容)		
	Operating limit 最大允許	°C	- 30...+ 60 (with derating 降容) (1)		
Maximum operating altitude 最高工作海拔	Without derating 不降容	m	2000		
Operating positions 操作位置		Vertical axis 縱軸	Horizontal axis 橫軸		
					
		Without derating 不降容	with derating 降容 (1)		
Flame resistance 阻燃性能	Conforming to UL 94 符合 UL 94 標準	Self-extinguishing material V1 自熄材料 V1			
	Conforming to NF F 16-101 and 16-102 符合 NF F 16-101 及 16-102 標準	Conforming to requirement 2 符合要求 2			
Shock resistance, hot state 1/2 sine wave, 11 ms 抗沖擊性能，熱態 1/2 正弦波，11 ms	Conforming to IEC 60068, N/C contact 符合 IEC 60068 標準，N/C 觸點	10 gn			
	Conforming to IEC 60068, N/O contact 符合 IEC 60068 標準，N/O 觸點	10 gn			
Vibration resistance, hot state 抗振性能，熱態 5 - 300 Hz	Conforming to IEC 60068, N/C contact 符合 IEC 60068 標準，N/C 觸點	2 gn			
	Conforming to IEC 60068, N/O contact 符合 IEC 60068 標準，N/O 觸點	2 gn			
Safe separation of circuits 電路安全分離	Conforming to VDE 0106 and IEC 60536 符合 VDE 0106 及 IEC 60536 標準	VLSV (2), up to 最高為 400V			
Cabling Screw clamp terminals 配線 螺釘夾緊端子	Solid cable 硬質線纜	mm²	Minimum 最小值 1 x 1.5	Maximum 最大值 2 x 4	Maximum to 最大值至 IEC 60947 1 x 4 + 1 x 2.5
	Flexible cable without cable end 無線纜端子的軟線	mm²	1 x 0.75	2 x 4	2 x 2.5
	Flexible cable with cable end 帶線纜端子的軟線	mm²	1 x 0.34	1 x 1.5 + 1 x 2.5	1 x 1.5 + 1 x 2.5
			N.m	0.8	
Tightening torque 緊固力扭	Philips head n° 2 - Ø 6 十字頭，n° 2，直徑為 - Ø 6				
Mounting 安裝		Directly under the contactor or reversing contactor 緊靠接觸器或可逆接觸器下面			
Connections 接線		Made automatically when mounted under the contactor, as follows: <ul style="list-style-type: none"> ■ contactor terminal A2 connected to overload relay terminal 96 on all products, ■ contactor terminal 14 connected to overload relay terminal 95 on products with 3P + N/O. when using 3P + N/C, or 4P contactors, or the N/O auxiliary contact marked 13-14, at a voltage other than the coil voltage, break off the link marked 14. 當安裝在接觸器下面時自動貼合，如下： <ul style="list-style-type: none"> ■ 在所有產品上，接觸器端子 A2 連接到過載繼電器端子 96 上， ■ 在所有帶 3P + N/O 的產品上，接觸器端子 14 連接到過載繼電器端子 95 上。 當使用 3P + N/C 或 4P 接觸器，或標記 13-14 的 N/O 輔助觸點時，在不等於線圈電壓的電壓下，斷開標記為 14 的連接。			

Auxiliary contact characteristics 輔助觸點特性			
Number of contacts 觸點數		1 N/C + 1 N/O	
Conventional thermal current 約定發熱電流	A	6	
Short-circuit protection 短路保護	Conforming to IEC 60947, VDE 0660. gG fuse or circuit breaker GB2 CB●● 符合 IEC 60947, VDE 0660.gG 菲士 或 斷路器 GB2 CB●● 標準	A	6 max. 最大
Maximum power of the controlled contactor coils (sealed) (Occasional operating cycles of contact 95-96) 最大功率 受控接觸器線圈(保持) (觸點 95-96 偶發動作週期)	a.c. 交流	V	24 48 110 220/230 400 415/440 600/690
		VA	100 200 400 600 600 600 600
	d.c 直流	V	24 48 110 220 250 - -
		W	100 100 50 45 35 - -
	a.c., category 交流，類型 AC-15	V	Max. 最大 690
	d.c., category 直流，類型 DC-13	V	Max. 最大 250

(1) Please consult Schneider Electric (HK) Ltd. 請向香港施耐德電氣查詢。
 (2) Very low safety voltage. 極低安全電壓。

TeSys thermal overload relays

熱過載繼電器

K thermal overload relays

K 型熱過載繼電器

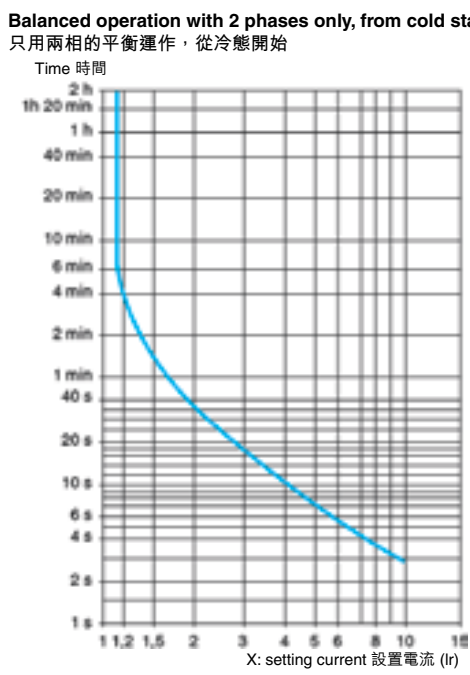
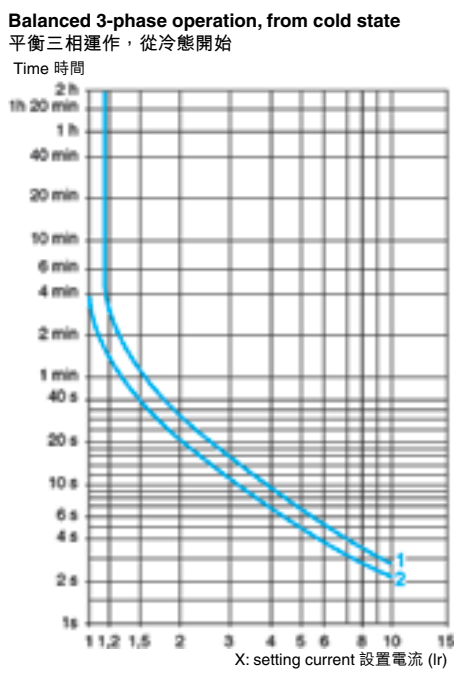
Electrical characteristics of the power circuit 動力電路的電氣特性			
Rated operational voltage 額定工作電壓 (Ue)	Up to 最高	V	690
Rated insulation voltage 額定絕緣電壓 (Ui)	Conforming to BS 4941 符合 BS 4941 標準	V	690
	Conforming to IEC 60947 符合 IEC 60947 標準	V	690
	Conforming to VDE 0110 group C 符合 VDE 0110 C 組標準	V	750
	Conforming to CSA C 22-2 n° 14 符合 CSA C 22-2 n° 14 標準	V	600
Rated impulse withstand voltage 額定承受沖擊電壓 (Uimp)		kV	6
Frequency limits of the operational current 工作電流頻率限制		Hz	Up to 最高為 400
Power dissipated per pole 每極的功率消耗		W	2

Operating characteristics 運作特性			
Sensitivity to phase failure 缺相靈敏度	Conforming to IEC 60947 符合 IEC 60947 標準		Yes 是
Reset 復位	Manual or automatic 手動或自動		Selected by means of a lockable and sealable switch on the front of the relay 通過繼電器正面可鎖封鎖定的開關進行選擇
Signaling 信號指示	On front of relay 在繼電器前面		Trip indicator 脫扣指示燈
Reset-Stop function 復位 - 停止功能			Pressing the Reset-Stop button: - Actuates the N/C contact - has no effect on the N/O contact 按“復位 - 停止”按鈕： - 啟動 N/C 觸點 - 對 N/O 觸點沒有影響
Test function 脫扣測試	By pushbutton 通過按鈕		Pressing the Test button enables: - checking of the control circuit wiring - simulation of overload tripping (actuation of both N/C and N/O contacts, and of the trip indicator) 按“測試”按鈕，可以： - 檢查控制電路連線 - 模擬過載脫扣(啟動 N/C 和 N/O 觸點及脫扣指示燈)



Tripping curves 脫扣曲線

Average operating time related to multiples of the current setting (Class 10 A) 平均運作時間與設定電流的倍數相關 (等級 10 A)



1. Setting: at lower end of scale
設置：在數值範圍的下限
2. Setting: at upper end of scale
設置：在數值範圍的上限

TeSys thermal overload relays 熱過載繼電器

K thermal overload relays, adjustable from 0.36 to 8 A
K 型熱過載繼電器，調整範圍 0.36 - 8 A

3-pole relays with screw clamp terminals 帶螺釘夾緊端子的三極繼電器

These overload relays are designed for the protection of motors. They are compensated and phase failure sensitive. Resetting can either be manual or automatic.

這些過載繼電器是保護電動機而設的。採取了溫度自動補償措施，並對缺相十分敏感。可以進行手動式自動復位。

Class 10 A (the standard specifies a tripping time of between 2 and 10 seconds at 7.2 In) 等級 10 A (標準規定 7.2 倍 In 時脫扣時間在 2 和 10 秒之間)

Relay setting range 繼電器設置範圍	Fuses to be used with selected relay Maximum rating Type 用於所選繼電器的菲士 最大額定值 類型			Reference 型號	Weight 重量 kg
	aM	gG	BS88		
0.36...0.54	1	1.6	–	LR2 K0304	0.145
0.54...0.8	1	2	–	LR2 K0305	0.145
0.8...1.2	2	4	6	LR2 K0306	0.145
1.2...1.8	2	6	6	LR2 K0307	0.145
1.8...2.6	4	8	10	LR2 K0308	0.145
2.6...3.7	4	10	16	LR2 K0310	0.145
3.7...5.5	6	16	16	LR2 K0312	0.145
5.5...8	8	20	20	LR2 K0314	0.145



LR2 K0310



LA7 K0064

Accessory 附件

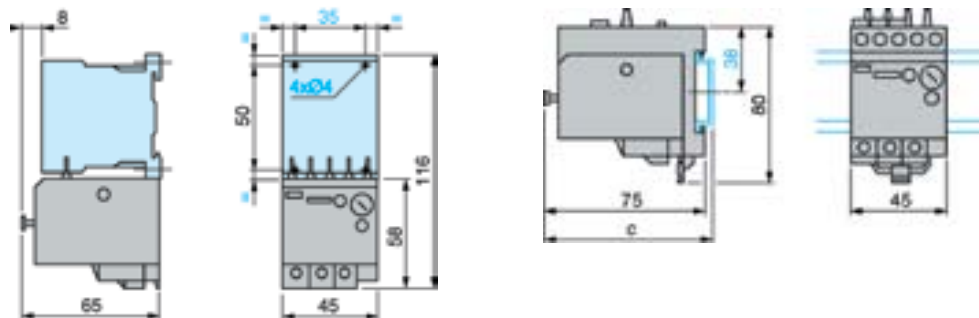
Description 說明	Type of connection 接線類型	Reference 型號	Weight 重量 kg
Terminal block for separate clip-on mounting of the overload relay on 35 mm rail 35mm 導軌用於過載繼電器單獨夾裝的端子模塊	Screw clamp 螺釘夾緊	LA7 K0064	0.100

Dimension, mounting 尺寸，安裝

LC2 K

Direct mounting beneath the contactor

Separate mounting with terminal block LA7 K0064 on 35mm rail (AM1 DP200 or AM1 DE200)



AM1	c
DP200	78.5
DE200	86

TeSys thermal overload relays

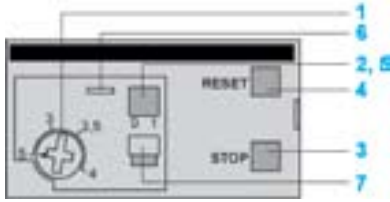
熱過載繼電器

D thermal overload relays

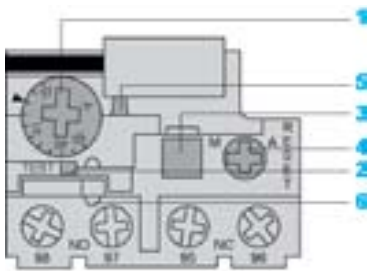
D 型熱過載繼電器

Model LRD

Description 說明



LRD 01...35 and LRD 313...LRD 365



LRD 3361...4369, LR2 D

TeSys D 3-pole thermal overload relays are designed to protect a.c. circuit and motors against overload, phase failure, long starting times and prolonged stalling of the motor.

- 1 Adjustment dial I_r.
- 2 Test button.
Operation of the Test button allows:
 - checking of control circuit wiring.
 - simulation of relay tripping (actuates both the N/O and N/C contacts).
- 3 Stop button. Actuates the N/C contact; does not affect the N/O contact.
- 4 Reset button.
- 5 Trip indicator.
- 6 Setting locked by sealing the cover.
- 7 Selector for manual or automatic reset.

LRD 01 to 35 relays are supplied with the selector in the manual position, protected by a cover. Deliberate action is required to move it to the automatic position.

D 型三極熱過載繼電器設計用於保護交流電路，避免電動機過載、缺相、起動時間過長和堵轉時間過長。

- 1 I_r 設定表盤
- 2 測試按鈕
測試按鈕可以用來：
 - 檢查控制電路接線；
 - 模擬繼電器脫扣（使 N/O 和 N/C 觸點動作）。
- 3 停止按鈕。使 N/C 觸點動作，不影響 N/O 觸點。
- 4 復位按鈕。
- 5 脫扣指示器。
- 6 前蓋鉛封掛勾，用於鎖定設定值。
- 7 手動或自動復位選擇開關。

繼電器 LRD 01 至 35 的選擇器，在手動位置提供保護蓋。將其設定到自動位置時務必謹慎。

Environment 工作環境

Conforming to standards 符合標準		IEC/EN 60947-4-1, IEC/EN 60947-5-1, UL 508, CSA C22.2n° 14. ATEX directive 94/9/EC
Product certifications 產品認證		UL, CSA, CCC, GL, DNV, RINA, BV, LROS, ATEX INERIS
Degree of protection 防護等級	Conforming to VDE 0106 符合 VDE 0106 標準	Protection against direct finger contact IP 2X 避免手指直接接觸 IP 2X
Ambient air temperature around the device 設備周圍工作環境溫度	Storage 貯存	°C - 60...+ 70
	Normal operation, without derating (IEC 60947-4-1) 正常運作，不降容 (IEC 60947-4-1)	°C - 20...+ 60
	Min. and max. operating temperature (with derating) 最低和最高運作溫度 (有降容)	°C - 40...+ 70
Shock resistance 抗沖擊性能	Permissible acceleration conforming to IEC 60068-2-7 符合 IEC 60068-2-7 標準的允許加速度	15 gn - 11 ms
Vibration resistance 抗震性能	Permissible acceleration conforming to IEC 60068-2-6 符合 IEC 60068-2-6 標準的允許加速度	6 gn
Dielectric strength at 50Hz 50Hz 時的絕緣性能	Conforming to IEC 60255-5 符合 IEC 60255-5 標準	kV 6
Surge withstand 沖擊耐受電壓	Conforming to IEC 60801-5 符合 IEC 60801-5 標準	kV 6

Auxiliary contact characteristics 輔助觸點特性

Conventional thermal current 約定發熱電流	A							
Maximum sealed current consumption of controlled contactor coils (Occasional operating cycles of contact 95-96) 最大功耗 控制接觸器線圈 (間歇運作循環，觸點 95-96)	a. c. supply 交流供電， AC-15	V	120	240	380	480	500	600
	d. c. supply 交流供電， DC-13	A	3	1.5	0.95	0.75	0.72	0.12
Short-circuit protection 短路保護	By gG, BS fuses. Max. rating or by GB2 circuit breaker 採用 gG 或 BS 菲士。最大額定值或通過 GB2 斷路器	A	5					

TeSys thermal overload relays

熱過載繼電器

D thermal overload relays

D 型熱過載繼電器

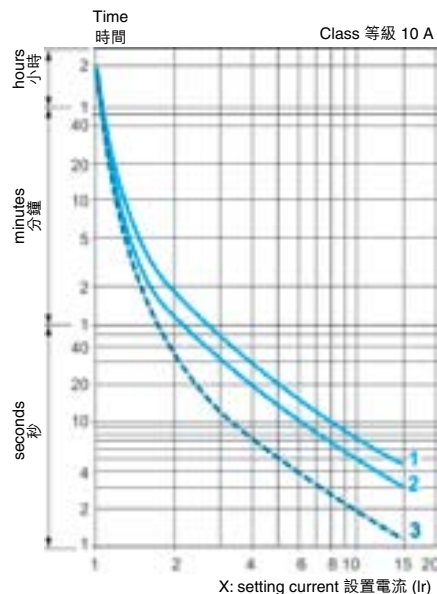
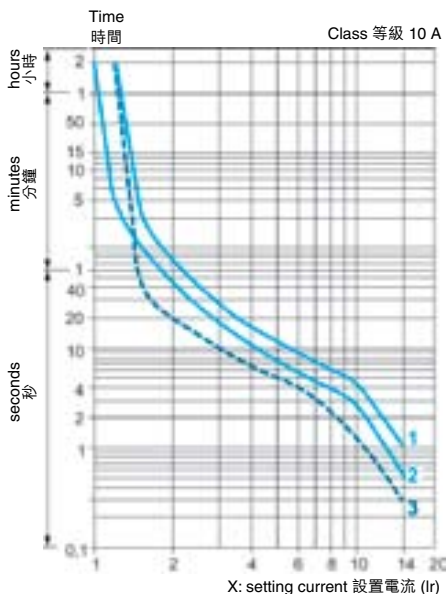
Model LRD

Electrical characteristics of power circuit 供電電路的電氣特性						
Relay type 繼電器類型		LRD 01 ...16	LRD 21 ...35	LRD 313 ...365	LRD 3361 ...3365	LRD 4365 ...4369
Tripping class 脫扣等級	Conforming to UL 508, IEC 60947-4-1 符合 UL 508, IEC 60947-4-1 標準	10A	10A	10A	10A	10A
Rated insulation voltage 額定絕緣電壓 (Ui)	Conforming to IEC 60947-4-1 符合 IEC 60947-4-1 標準	V 690	V 690	V 690	V 1000	V 1000
	Conforming to UL, CSA 符合 UL, CSA 標準	V 600	V 600	V 600	V 600	V 600 ex. LRD4369
Rated impulse withstand voltage 額定沖擊耐受電壓 (Uimp)		kV 6	kV 6	kV 6	kV 6	kV 6
Frequency limits 頻率限制	Of the operational current 運作電流頻率	Hz 0...400	Hz 0...400	Hz 0...400	Hz 0...400	Hz 0...400
Setting range 電流設定範圍	Depending on model 取決於型號	A 0.1...13	A 12...38	A 9...65	A 17...104	A 80...104
Connection to screw clamp terminals (Min/max c.s.a.) 螺釘夾緊端子接線 (最小/最大截面積)						
Flexible cable without cable end 不帶接線端子的軟導線	1 conductor 一根導線	mm ² 1.5/10	mm ² 1.5/10	mm ² 1/35	mm ² 4/35	mm ² 4/50
Flexible cable with cable end 帶接線端子的軟導線	1 conductor 一根導線	mm ² 1/4	mm ² 1/6 ex. LRD21: 1/4	mm ² 1/35	mm ² 4/35	mm ² 4/35
Solid cable without cable end 不帶接線端子的硬導線	1 conductor 一根導線	mm ² 1/6	mm ² 1.5/10 ex. LRD21: 1/6	mm ² 1/35	mm ² 4/35	mm ² 4/50
Tightening torque 緊固扭矩		N.m 1.7	N.m 2.5	N.m 1/25:5 35:8	N.m 9	N.m 9

Operating characteristics 運作特性						
Relay type 繼電器類型		LRD 01 ...16	LRD 21 ...35	LRD 313 ...365	LRD 3361 ...3365	LRD 4365 ...4369
Temperature compensation 溫度補償		°C -20...+60	°C -30...+60	°C -20...+60	°C -30...+60	°C -20...+60
Tripping threshold 脫扣閾值	Conforming to EC 60947-4-1 符合 EC 60947-4-1 標準	A 1.14 ± 0.06 Ir				
Sensitivity to phase failure 缺相敏感性	Conforming to EC 60947-4-1 符合 EC 60947-4-1 標準	Tripping current 30% of Ir on one phase, the others at Ir. 脫扣電流單相 30% Ir, 其餘 Ir。				

LRD 3 tripping curves 脫扣曲線

Average operating time related to multiples of the current setting 平均運作時間與設定電流的倍數相關



- Balanced operation, 3-phase, from cold state.
平衡運作, 三相, 從冷態開始。
- 2-phase operation, from cold state.
兩相, 從冷態開始。
- Balanced operation, 3-phase, after a long period at the set current (hot state).
平衡運作, 三相, 在長期處於設置電流 (熱態) 之後。

TeSys thermal overload relays

熱過載繼電器

D thermal overload relays

D 型熱過載繼電器

Model LRD

Differential thermal overload relays 差動熱過載繼電器
 for use with fuses or magnetic circuit breaker GV2 L and GV3 L 可配合非士或電動斷路器 GV2 L 及 GV3 L 使用

- Compensated relays with manual or automatic reset
- with relay trip indicator
- for a.c. or d.c.
- 帶有手動或自動復位功能的補償繼電器
- 帶有繼電器脫扣指示器
- 交流或直流



LRD 08 ●●



LRD 21 ●●



LRD 3 ●●

Relay setting range 繼電器設置範圍 (A)	Fuses to be used with selected relay 用於所選繼電器的非士			For use with contactor LC1 配合使用的 接觸器 LC1	Reference 型號	Weight 重量 kg
	aM (A)	gG (A)	BS88 (A)			

Class 10 A for connection by screw clamp terminals or connectors
 等級 10 A，用於螺絲夾緊端子或連接器

0.10...0.16	0.25	2	–	D09...D38	LRD 01	0.124
0.16...0.25	0.5	2	–	D09...D38	LRD 02	0.124
0.25...0.40	1	2	–	D09...D38	LRD 03	0.124
0.40...0.63	1	2	–	D09...D38	LRD 04	0.124
0.63...1	2	4	–	D09...D38	LRD 05	0.124
1...1.6	2	4	6	D09...D38	LRD 06	0.124
1.6...2.5	4	6	10	D09...D38	LRD 07	0.124
2.5...4	6	10	16	D09...D38	LRD 08	0.124
4...6	8	16	16	D09...D38	LRD 10	0.124
5.5...8	12	20	20	D09...D38	LRD 12	0.124
7...10	12	20	20	D09...D38	LRD 14	0.124
9...13	16	25	25	D12...D38	LRD 16	0.124
12...18	20	35	32	D18...D38	LRD 21	0.124
16...24	25	50	50	D25...D38	LRD 22	0.124
23...32	40	63	63	D25...D38	LRD 32	0.124
30...38	40	80	80	D32 and D38	LRD 35	0.124

Class 10 A for connection by Everlink® BTR screw connectors
 等級 10 A，用於 Everlink® BTR 螺絲連接器

9...13	16	25	25	D40A...D65A	LRD 313	0.375
12...18	20	32	35	D40A...D65A	LRD 318	0.375
17...25	25	50	50	D40A...D65A	LRD 325	0.375
23...32	40	63	63	D40A...D65A	LRD 332	0.375
30...40	40	80	80	D40A...D65A	LRD 340	0.375
37...50	63	100	100	D40A...D65A	LRD 350	0.375
48...65	63	100	100	D50A...D65A	LRD 365	0.375

Class 10 A for connection by screw clamp terminals or connectors
 等級 10 A，用於螺絲夾緊端子或連接器連接器

50...70	80	125	125	D50...D95	LRD 3361	0.510
63...80	80	125	125	D65...D95	LRD 3363	0.510
80...104	100	160	160	D80 and D95	LRD 3365	0.510
80...104	125	200	160	D115 and D150	LRD 4365	0.900
95...120	125	200	200	D115 and D150	LRD 4367	0.900
110...140	160	250	200	D150	LRD 4369	0.900



TeSys thermal overload relays

熱過載繼電器

D thermal overload relays

D 型熱過載繼電器

Accessories 附件 (for model LRD)

Separate components for relays 單獨訂購

Description 說明	For use with 用於	Sold in lots of 批量	Reference 型號	Weight 重量 kg
Pre-wiring kit allowing direct connection of the N/C contact of relay LRD 01...35 or LR3 D01...D35 to the contactor 已接線組件，可將 LRD 01...35 或 LR3 D01...D35 繼電器的 N/C 觸點直接連接到接觸器	LC1 D09...D18	10	LAD 7C1 (1)	0.002
	LC1 D25...D38	10	LAD 7C2 (1)	0.003
Terminal block (2) for clip-on mounting on 35 mm rail (AM1 DP200) or screw fixing; for fixing centre 端子排 (2) 用於 35 mm 導軌 (AM1 DP200) 安裝或螺釘固定，用於固定中心	LRD D01...35	1	LAD 7B106	0.100
	LRD 3 ●●●	1	LA7 D3064	0.370
Everlink® terminal block for independent mounting 獨立安裝用的 Everlink® 端子模塊	LRD 3 ●●	1	LAD 96560	0.087
Size 4 Allen key, insulated, 1000V 尺寸 4 的 Allen 匙，絕緣，1000V	LRD 3 ●●	5	LAD ALLEN4	0.026
Terminal block adapter for mounting a relay beneath an LC1 D115 or D150 contactor 端子排適配器 用於接觸器 LC1 D115 或 D150 之下安裝繼電器	LRD 3 ●●	1	LA7 D3058	0.080
Mounting plates for screw fixing on 110 mm centres 安裝板，用於螺釘固定，中心距 110 mm	LRD 01...35	10	DX1 AP25	0.065
	LRD 3 ●●●	1	LA7 D902	0.130
Remote stop or electrical reset device 遠程停止或電氣復位裝置	LRD 01...35, LR3 D01...D35 and LRD 313...LRD 365	1	LAD 703 ● (3)	0.090
Remote tripping or electrical reset device 遠程脫扣或電氣復位設備	All relays except LRD 01...35, LR3 D01...D35, LRD 3 ●●, LRD 3 ●●L and LR3 D3 ●●	1	LA7 D03 ● (3)	0.090
Block of insulated terminals 絕緣端子排	LR9 D	2	LA9 F103 ● (3)	0.560

(1) These pre-wiring kits cannot be used with reversing contactors.

這些已接線的組件不能用於可逆接觸器。

(2) Thermal blocks are supplied with terminal protected against direct finger contact and screws in the open, "ready-to-tighten" position
隨端子盒提供了端子殼體，避免手指的意外接觸；螺釘退出到待旋緊位置。

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

For other voltages, please consult Schneider Electric (HK) Ltd.

完整的產品型號包括表示控制電路電壓的代碼。

請向香港施耐德電氣查詢其他型號。

Volts 伏	24	48	110	220/230	380/400
(50/60 Hz)					
Consumption, inrush and sealed: <100 VA	B	E	F	M	Q
...					
Consumption, inrush and sealed: <100 W	B	E	F	M	-

TeSys thermal overload relays

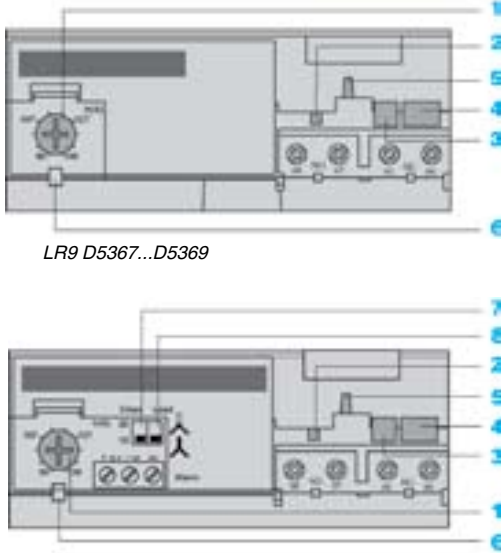
熱過載繼電器

D electronic thermal overload relays

D 型電子式熱過載繼電器

Model LR9 D

Description 說明



LR9 D5367...D5369

LR9 D67 and D69

LR9 D electronic thermal overload relays are designed for use with contactors LC1 D115 and D150.
LR9 D 電子式熱過載繼電器設計用於接觸器 LC1 D115 和 D150。

In addition to the protection provided by TeSys D thermal overload relays (see page 60), they offer the following special features:

- protection against phase imbalance,
- choice of starting class,
- protection of unbalanced circuits,
- protection of single-phase circuits,
- alarm function to avoid tripping by load shedding.

它不但提供TeSys D熱過載斷電器(見60頁)的保護功能，還提供以下特別功能：

- 不均衡電相保護
- 起動等級的選擇
- 非均衡線路保護
- 單相線路保護
- 警報功能

- 1 Adjustment dial Ir.
- 2 Test button.
- 3 Stop button.
- 4 Reset button.
- 5 Trip indicator.
- 6 Setting locked by sealing the cover.
- 7 Class 10/Class 20 selector switch.
- 8 Switch for balanced load / unbalanced load

- 1 設置表盤 Ir
- 2 測試按鈕
- 3 停止按鈕
- 4 復位按鈕
- 5 脫扣指示器
- 6 透明蓋加鉛封鎖定設置值
- 7 等級10/等級20選擇制
- 8 均衡負載 / 不均衡負載的按鈕

Environment 工作環境

Conforming to standards 符合標準		IEC 60947-4-1, 255-8, 255-17, VDE 0660 and EN 60947-4-1	
Product certifications 產品認證		UL 508, CSA 22-2	
Degree of protection 防護等級	Conforming to IEC 60529 and VDE 0106 符合 IEC 60529 及 VDE 0106 標準	IP 20 on front panel with protective covers LA9 D11570 or D11560 前面板上為 IP 20，帶有殼體 LA9 D11570 或 D11560	
Ambient air temperature around the device (Conforming to IEC 60255-8) 設備周圍工作環境溫度 (符合 IEC 60255-8 標準)	Storage 貯存	°C	- 40...+ 85
	Normal operation 正常運作	°C	- 20...+ 55 (1)
Shock resistance 抗沖擊性能	Permissible acceleration conforming to IEC 60068-2-7 允許加速度，符合 IEC 60068-2-7 標準		13 gn - 11 ms
Vibration resistance 抗震性能	Permissible acceleration conforming to IEC 60068-2-6 允許加速度，符合 IEC 60068-2-6 標準		2 gn - 5...300 Hz
Dielectric strength at 50Hz 50Hz 時的絕緣性能	Conforming to IEC 60255-5 符合 IEC 60255-5 標準	kV	6
Surge withstand 沖擊耐受電壓	Conforming to IEC 61000-4-5 符合 EC 61000-4-5 標準	kV	6
Resistance to electrostatic discharge 抗靜電放電能力	Conforming to IEC 61000-4-2 符合 EC 61000-4-2 標準	kV	8
Immunity to radiated radio-frequency disturbance 無線電傳導抗干擾能力	Conforming to IEC 61000-4-3 and NF C 46-022 符合 IEC 61000-4-3 及 NF C 46-022 標準	V/m	10
Immunity to fast transient currents 抗快速瞬間電流能力	Conforming to IEC 61000-4-4 符合 IEC 61000-4-4 標準	kV	2
Electromagnetic compatibility 電磁兼容性	Draft EN 50081-1 and 2, EN 50082-2 符合 EN 50081-1 和 2 草案及 EN 50082-2 標準		Meet requirements 符合要求

Electrical characteristics of auxiliary contacts 輔助觸點的電氣特性

Conventional thermal current 約定發熱電流	A	5						
Maximum sealed current consumption of controlled contactor coils (Occasional operating cycles of contact 95-96) 最大功耗 控制接觸器線圈 (間歇運作循環，觸點 95-96)	a. c. supply 交流供電	V	24	48	110	220	380	600
	d. c. supply 直流供電	VA	100	200	400	600	600	600
	Short-circuit protection 短路保護	V	24	48	110	220	440	—
		W	100	100	50	45	25	—
By gG or BS fuses or by circuit breaker GB2 通過 gG 或 BS 菲士氣或通過 GB2 斷路器	A	5						

TeSys thermal overload relays

熱過載繼電器

D electronic thermal overload relays
D 型三極電子式熱過載繼電器
Model LR9 D

Electrical characteristics of power circuit 主回路的電氣特性

Tripping class 繼電器類型	Conforming to UL 508, IEC 60947-4-1 符合 UL 508, IEC 60947-4-1 標準	A	10 or 20
Rated insulation voltage 額定絕緣 (Ui)	Conforming to IEC 60947-4-1 符合 IEC 60947-4-1 標準	V	1000
	Conforming to UL, CSA 符合 UL, CSA 標準	V	600
Rated impulse withstand voltage 額定絕緣沖擊耐受電壓(Uimp)		Hz	8
Frequency limits 頻率限制	Of the operating current 運作電流頻率	Hz	50...60
Setting range 整定電流	Depending on model 取決於型號	A	60...150
Power circuit connections 主回路接線	Width of terminal lug 端子接線片的寬度	mm	20
	Clamping screw 螺釘夾緊		M8
	Tightening torque 緊固扭矩	N.m	18

Operating characteristics 運作特性

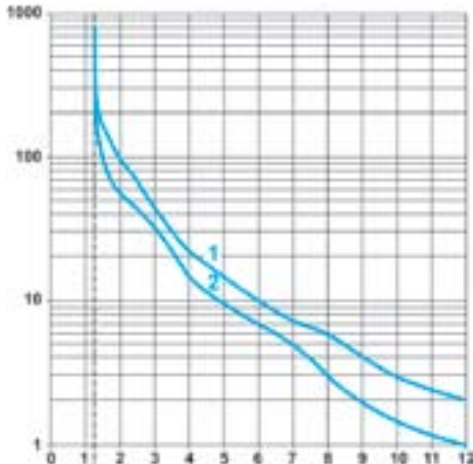
Temperature compensation 溫度補償		°C	-20...+70
Tripping thresholds 脫扣閾值	Conforming to IEC 60947-4-1 符合 IEC 60947-4-1 標準		
	Alarm 警報	A	1.05 ± 0.06 I _n
	De-energisation 脫扣	A	1.12 ± 0.06 I _n
Sensitivity to Phase failure 缺相敏感性	Conforming to IEC 60947-4-1 符合 IEC 60947-4-1 標準		Tripping in 4 s ± 20% in the event of phase failure 缺相時在 4 s ± 20% 時間內脫扣

Alarm circuit characteristics 警報電路特性

Rated supply voltage 額定供電電壓	d.c. supply 直流供電	V	24
Supply voltage limits 供電電壓限制		V	17...32
Current consumption 電流消耗	No-load 空載	mA	≤ 5
Switching capacity 切換能力		mA	0...150
Protection 保護	Short-circuit and overload 短路和過載		Self protected 自保護
Voltage drop 電壓降	Closed state 閉合狀態	V	≤ 2.5
Connection 配線	Flexible cable without cable end 不帶接線端子的軟導線	mm²	0.5...1.5
Tightening torque 緊固扭矩		N.m	0.45

LR9D tripping curves 脫扣曲線

Tripping time in seconds 脫扣時間 (秒)



Average operating time related to multiples of the setting current
對應電流設定值倍數的平均運作時間

1. Cold state curve
冷態曲線
2. Hot stage curve
熱態曲線

X: setting current 設置電流 (I_r)

TeSys thermal overload relays

熱過載繼電器

D electronic thermal overload relays

D 型三極電子式熱過載繼電器

Model LR9 D

Electronic differential thermal overload relays for use with fuses 與非士共用的電子差動熱過載繼電器

<ul style="list-style-type: none"> ■ Compensated relays with relay trip indicator ■ for a.c. or d.c. ■ for direct mounting on contactor or independent mounting 		<ul style="list-style-type: none"> ■ 帶有脫扣指示器的補償繼電器 ■ 交流或直流 ■ 直接安裝在接觸器上或單獨包裝 			
Relay setting range 繼電器設定範圍 (A)	Fuses to be used with selected relay 與繼電器配合使用的非士		For direct mounting beneath contactor LC1 用於接觸器 LC1 下的直接懸掛	Reference type 型號	Weight 重量
	aM (A)	gG (A)			
Class 10 or 10A with connection using bars or connectors 等級 10 或 10A，用母線或連接器實現連接					
60...100	100	160	D115 and D150	LR9 D5367	0.885
90...150	160	250	D115 and D150	LR9 D5369	0.885

Electronic thermal overload relays for use with balanced or unbalanced loads 與平衡或不平衡負載共用的電子熱過載繼電器

<ul style="list-style-type: none"> ■ Compensated relays ■ with separate outputs for alarm and tripping. 		<ul style="list-style-type: none"> ■ 補償繼電器 ■ 帶有不同輸出警示和差動 			
Relay setting range 繼電器設定範圍 (A)	Fuses to be used with selected relay 與繼電器配合使用的非士		For direct mounting beneath contactor LC1 用於接觸器 LC1 下的直接懸掛	Reference type 型號	Weight 重量
	aM (A)	gG (A)			
Class 10 or 20 selectable with connection using bars or connectors					
60...100	100	160	D115 and D150	LR9 D67	0.900
90...150	160	250	D115 and D150	LR9 D69	0.900



TeSys thermal overload relays

熱過載繼電器

F electronic thermal overload relays

F 型三極電子式熱過載繼電器

Model LR9 F

Environment 工作環境			
Conforming to standards 符合標準			IEC 60947-4-1, IEC 60255-8, IEC 60255-17, EN 60947-4-1 and VDE 0660
Product certifications 產品認證			UL 508, CSA 22-2
Degree of protection 防護等級	Conforming to VDE 0106 符合 VDE 0106 標準		IP 20
	Conforming to IEC 60529 符合 IEC 60529 標準		IP 20 on front of relay with accessories LA9 F103 or LA7 F70● IP20 位於繼電器前側，帶有附件 LA9 F103 或 LA7 F70●
Protective treatment 防護措施	Standard version 標準型號		"TH"
Ambient air temperature around the device (Conforming to IEC 60255-8) 設備周圍工作環境溫度 (符合 IEC 60255-8 標準)	Storage 貯存	°C	- 40...+ 85
	Normal operation 正常運作	°C	- 20...+ 55 (1)
Maximum operating altitude 最大運作海拔	Without derating 不降容	m	2000
Operating positions without derating 運作位置無降容	In relation to normal vertical mounting plane 和正常的垂直安裝板有關		Any position 任何位置
Shock resistance 抗沖擊性能	Permissible acceleration conforming to IEC 60068-2-7 允許加速度，符合 IEC 60068-2-7 標準		13 gn - 11 ms
Vibration resistance 抗震性能	Permissible acceleration conforming to IEC 60068-2-6 允許加速度，符合 IEC 60068-2-6 標準		2 gn - 5...300 Hz
Dielectric strength at 50Hz 50Hz 時的絕緣性能	Conforming to IEC 255-5 符合 IEC 255-5 標準	kV	6
Surge withstand 沖擊耐受電壓	Conforming to IEC 61000-4-5 符合 EC 61000-4-5 標準	kV	4
Resistance to electrostatic discharge 抗靜電放電能力	Conforming to IEC 61000-4-2 符合 EC 61000-4-2 標準	kV	8 (in air 空氣) 6 (in indirect mode 間接模式)
Resistance to radiated radio-frequency disturbance 抗射頻傳導干擾能力	Conforming to IEC 61000-4-3 符合 IEC 61000-4-3 標準	V/m	10
Resistance to fast transient currents 抗瞬間電流能力	Conforming to IEC 61000-4-4 符合 IEC 61000-4-4 標準	kV	2
Electromagnetic compatibility 電磁兼容性	EN 50081-1 and 2, EN 50082-2 符合 EN 50081-1 和 2, EN 50082-2 標準		Conforming 符合測試要求

(1) For operating temperature up to 70°C, please consult Schneider Electric (HK) Ltd.
對於高於 70°C 的運作溫度，請向香港施耐德電氣查詢。

TeSys thermal overload relays

熱過載繼電器

F electronic thermal overload relays

F 型三極電子式熱過載繼電器

Model LR9 F

Electrical characteristics of power circuit 主回路的電氣特性								
Relay type 繼電器類型		LR9	F5●57, F57	F5●63, F63 F5●67, F67 F5●69, F69	F5●75, F71	F7●75, F75 F7●79, F79	F7●81, F81	
Rated insulation voltage 額定絕緣電壓 (Ui)	Conforming to IEC 60947-4 符合 IEC 60947-4 標準	V	1000					
Rated operational voltage 額定運作電壓 (Ue)	Conforming to VDE 0110 gr C 符合 VDE 0110 gr C 標準	V	1000					
Rated impulse withstand voltage 額定絕緣沖擊耐受電壓 (Uimp)	Conforming to IEC 60947-1 符合 IEC 60947-1 標準	kV	6					
Rated operational current 額定運作電流 (Ie)		A	30 - 630					
Frequency limits 電流頻率範圍	Of the operating current 運作電流頻率	Hz	50...60. For other frequencies, please consult Schneider Electric (HK) Ltd. 50...60。有關其它頻率，請向香港施耐德電氣查詢。					
Power circuit connections 電路連接	Width of terminal lug 端子接線片的寬度	mm	20	25	25	30 LR9 F7●75 and LR9 F75 40 LR9 F7●79 and LR9 F79	40	
	Clamping screw 螺釘夾緊		M6	M8	M10	M10	M12	
	Tightening torque 緊固扭矩	N.m	10	18	35	35	58	

Auxiliary contact electrical characteristics 輔助觸點的電氣特性								
Conventional thermal current 約定發熱電流		A	5					
Short-circuit protection 短路保護	By gG, BS fuses or by circuit breaker GB2 CD10 採用 gG 或 BS 菲士或 GB2 CD10 斷路器	A	5					
Control circuit connections 控制電路接駁	Flexible cable with cable end 帶接線端子的 軟導線	1 conductor 一根導線	mm ²	1 x 0.75			1 x 2.5	
		2 conductors 兩根導線	mm ²	2 x 1			2 x 1.5	
	Flexible cable without cable end 不帶接線端子的 軟導線	1 conductor 一根導線	mm ²	1 x 0.75			1 x 4	
		2 conductors 兩根導線	mm ²	2 x 1			2 x 2.5	
	Solid cable 硬線	1 conductor 一根導線	mm ²	1 x 0.75			1 x 2.5	
		2 conductors 兩根導線	mm ²	2 x 1			-	
	Tightening torque 緊固扭矩	N.m	1.2					
Maximum sealed current consumption of the coils of associated contactors (occasional operating cycles of contact 95-96) 相應接觸器的線圈功耗 (間歇運作循環，觸點 95-96)	a.c. supply 交流控制	V	24	48	110	220	380	600
		VA	100	200	400	600	600	600
	d.c. supply 直流控制	V	24	48	110	220	440	-
		W	100	100	50	45	25	-

(1) For applications involving the use of these overload relays with soft starters or variable speed drive, please consult Schneider Electric (HK) Ltd.
有關過載繼電器與軟起動器或變頻器配合使用的應用方案，請向香港施耐德電氣查詢。



TeSys thermal overload relays

熱過載繼電器

F electronic thermal overload relays

F 型三極電子式熱過載繼電器

Model LR9 F

Operating characteristics 運作特性

Tripping class 脫扣級別	Conforming to IEC 60947-4-1 符合 IEC 60947-4-1 標準		10, 10A and 20
Temperature compensation 溫度補償		°C	- 20...+ 70
Reset 復位			Manual on front of relay 繼電器前側上的手動裝置
Fault indication 故障指示			On front of relay 繼電器前側
Test function 測試功能			On front of relay 繼電器前側
Stop function 停止功能			Action of N/C contact, without affecting N/O contact N/C 觸點打開，不影響 N/O 觸點
Tripping thresholds 脫扣閾值	Conforming to IEC 60947-4-1 符合 IEC 60947-4-1 標準	Alarm 警報	A 1.05 ± 0.06 I _n
		Tripping 脫扣	A 1.12 ± 0.06 I _n
Sensitivity to phase failure 缺相敏感性	Conforming to IEC 60947-4-1 符合 IEC 60947-4-1 標準		Tripping in 4 s ± 20% in the event of phase failure 缺相時在 4 s ± 20% 時間內脫扣
Adjustment (nominal motor current) 額定電流設置 (標稱電動機電流)			Setting dial on front of relay 繼電器前部的設定旋鈕
Security sealing 密封			Yes 是

3

Alarm circuit characteristics 警報電路特性

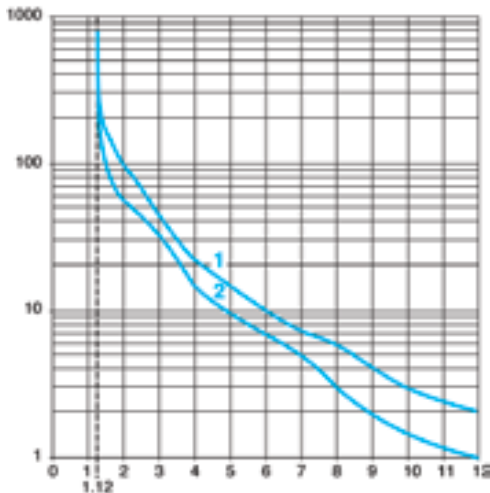
Rated supply voltage 額定電源電壓	d.c. supply 直流供電	V	24
Supply voltage limits 電源電壓範圍		V	17...32
Current consumption 電流消耗	No-load 空載	mA	≤ 5
Switching current 通斷電流		mA	0...150
Protection 保護	Short-circuit and overload 短路和過載		Auto-protected 自動保護
Voltage drop 電壓降	Closed state 閉合狀態	V	≤ 2.5
Connection 接線	Flexible cable without cable end 不帶接線端子的軟導線	mm²	0.5...1.5
Tripping thresholds 緊固扭矩		N.m	0.45

LR9 tripping curves 脫扣曲線

Average operating time depending on multiples of the setting current 平均運作時間取決於當前設置電流的倍數

Tripping time in seconds
脫扣時間 (秒)

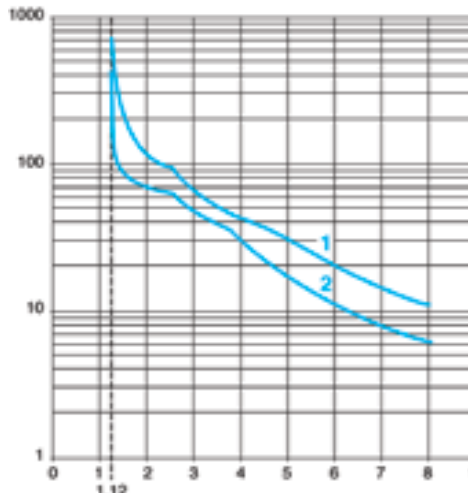
Class 等級 10



X: setting current 設置電流 (I_r)

Tripping time in seconds
脫扣時間 (秒)

Class 等級 20



X: setting current 設置電流 (I_r)

- 1. Cold state curve
冷態曲線
- 2. Hot stage curve
熱態曲線

TeSys thermal overload relays

熱過載繼電器

F electronic thermal overload relays

F 型三極電子式熱過載繼電器

Model LR9 F

Compensated and differential overload relays 溫度補償和差動過載繼電器

Thermal overload relays:

- compensated and differential
- with relay trip indicator
- for a.c.
- for direct mounting on contactor or independent mounting (1)

熱過載繼電器：

- 溫度補償和差動
- 帶繼電器脫扣顯示
- 交流電用
- 可直接懸掛於接觸器上或獨立懸掛 (1)

Relay setting range 繼電器設定範圍	Fuses to be used with selected relay 所選繼電器的配用菲士		For direct mounting beneath contactor LC1 直接安裝於 LC1 接觸器下	Reference 型號	Weight 重量
	aM	gG			
Class 等級 10					
30...50	50	80	F115...F185	LR9 F5357	0.885
48...80	80	125	F115...F185	LR9 F5363	0.900
60...100	100	200	F115...F185	LR9 F5367	0.900
90...150	160	250	F115...F185	LR9 F5369	0.885
132...220	250	315	F185...F400	LR9 F5371	0.950
200...330	400	500	F225...F500	LR9 F7375	2.320
300...500	500	800	F225...F500	LR9 F7379	2.320



LR9 F53 ●●



LR9 F73 ●●

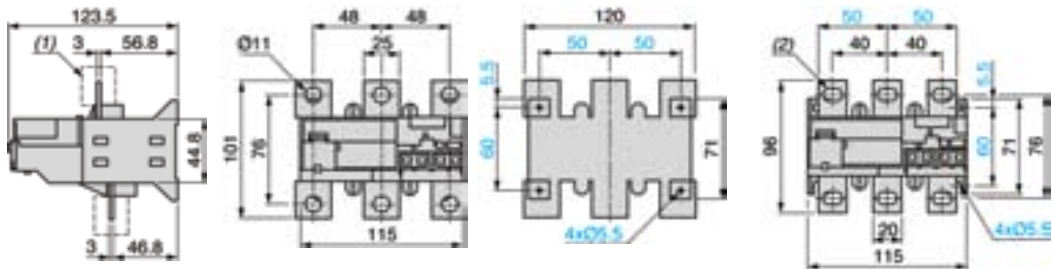
(1) When mounting overload relays up to size LR9 F5371 directly beneath the contactor, they may be additionally supported by a mounting plate LA7 F901. Above this size it is always necessary to use the mounting plate. Power terminals can be protected against direct finger contact by the addition of shrouds and/or insulated terminal blocks, to be ordered separately.

如果要將 LR9 F5371 過載繼電器直接安裝在接觸器之下，則需要附加的安裝板。超過一定尺寸，也需要使用安裝板。採用附加的蓋板和/或絕緣端子排，可以避免手指直接接觸電源端子。蓋板和絕緣端子需要單獨訂購。

Common side view

LR9 F5●71, F71

LR9 F5●57, F5●63, F5●67,
LR9 F5●69, F57, F63, F67, F69

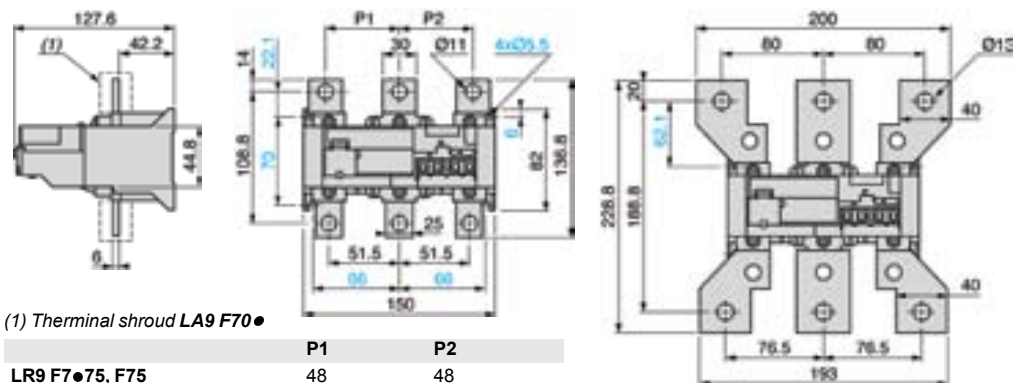


(1) Terminal shroud LA9 F70● (2) 6.5 x 13.5 for LR9 F5●57 and F57. 8.5 x 13.5 for LR9 F5●63, F5●67, F5●69, F67, F69

Common side view

LR9 F7●75, F7●79, F7●81,
LR9 F75, F79, F81

LR9 F7●81 (for mounting beneath LC1 F630 and F800),
LR9 F81



(1) Terminal shroud LA9 F70●

	P1	P2
LR9 F7●75, F75	48	48
LR9 F7●79, F7●81, F79, F81	55	55

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