


# TeSys

Open pre-cabled motor starters


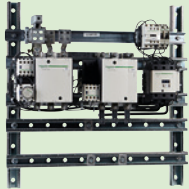





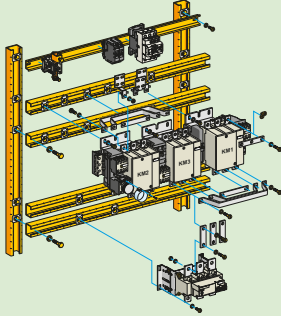
**Direct-on-line and reversing starters**

Composition	Range		Page
Motor circuit breaker + contactor (direct-on-line) Coordination type 1	Up to 5.5 kW		A2/2
Motor circuit breaker + 2 contactors (reversing) Coordination type 1	Up to 5.5 kW		A2/3
Motor circuit breaker + contactor (direct-on-line) Coordination type 1	Up to 15 kW		A2/4
Motor circuit breaker + 2 contactors (reversing) Coordination type 1	Up to 15 kW		A2/5
Motor circuit breaker + contactor (direct-on-line) Coordination type 2	Up to 30 kW		A2/6
Motor circuit breaker + 2 contactors (reversing) Coordination type 2	Up to 30 kW		A2/7

Open  
pre-cabled  
motor  
starters**Star-delta starters**

3 contactors + 1 time delay aux. block	Up to 132 kW		A2/8
3 contactors + 1 time delay aux. block + 1 control relay	Up to 315 kW		A2/9

**Star-delta starters for customer assembly**

Separated components and mounting kits for suggested motor starter components combinations - on plate or mounting rail	Up to 132 kW		A2/10
Separated components for suggested motor starter combinations - on chassis	Up to 315 kW		A2/14

Technical Data for Designers

A2/19

Open pre-cabled motor starters

### D.O.L. starters, non-reversing, from 0.37 to 5.5 kW at 400/415 V, type 1 coordination

This pre-assembled combination comprises:

- 1 motor circuit breaker GV2ME,
- 1 3-pole contactor LC1K,
- 1 combination block GV2AF01.

#### Characteristics

Starter type		GV2	ME06K1	ME07K1	ME08K1	ME10K1	ME14K1	ME16K1
Breaking capacity (Iq) <sup>(1)</sup>	Conforming to IEC 60947-4-1	400/415 V	kA	50	50	50	50	15
		440 V	kA	50	50	50	50	15
		500 V	kA	50	50	50	50	10 (4 kW) 6 (5.5 kW)

#### References



#### D.O.L. starters, non-reversing

Standard power ratings of 3-phase motors 50/60 Hz in AC-3			Setting range of thermal trips	Fixed magnetic tripping current 13 Irth	For customer assembly		Pre-assembled	Weight
400/415 V	440 V	500 V			Motor circuit-breaker Reference	Contactor Reference to be completed <sup>(2)</sup>		
kW	kW	kW	A	A				kg
0.37	0.37	0.37	1...1.6	22.5	GV2ME06	LC1K06	GV2ME06K1●●	0.460
0.55	0.55	0.55						
–	–	0.75						
0.75	0.75	–	1.6...2.5	33.5	GV2ME07	LC1K06	GV2ME07K1●●	0.460
–	1.1	1.1						
1.1	–	1.5	2.5...4	51	GV2ME08	LC1K06	GV2ME08K1●●	0.460
1.5	1.5	2.2						
2.2	2.2	–	4...6.3	78	GV2ME10	LC1K06	GV2ME10K1●●	0.460
–	3	3						
3	–	4	6...10	138	GV2ME14	LC1K09	GV2ME14K1●●	0.460
4	4	5.5						
5.5	5.5	7.5	9...14	170	GV2ME16	LC1K12	GV2ME16K1●●	0.460

#### Add-on blocks

Description	Sold in lots of	Unit reference
Combination block between circuit breaker and contactor	10	GV2AF01

<sup>(1)</sup> The breaking performance of circuit breakers **GV2ME** can be increased by adding a current limiter **GV1L3**, see page B6/21.

<sup>(2)</sup> Please consult your Regional Sales Office.

<sup>(3)</sup> Standard control circuit voltages (for other voltages, please consult your Regional Sales Office):

Volts	24	110	220/230	230	230/240	380/400
~ 50/60 Hz	B7	F7	M7	P7	U7	Q7
--- <sup>(4)</sup>	BW3	–	–	–	–	–

<sup>(4)</sup> Coil: low consumption (1.5 W), wide range (0.7...1.3 U<sub>c</sub>) with integral suppression device as standard.

### D.O.L. starters, reversing, from 0.37 to 5.5 kW at 400/415 V, type 1 coordination

This pre-assembled combination comprises:

- 1 motor circuit breaker GV2ME,
- 1 3-pole reversing contactor LC2K,
- 1 combination block GV2AF01.

#### Characteristics

Starter type		GV2	ME06K2	ME07K2	ME08K2	ME10K2	ME14K2	ME16K2
Breaking capacity (Iq) <sup>(1)</sup>	Conforming to IEC 60947-4-1	400/415 V	kA	50	50	50	50	15
		440 V	kA	50	50	50	50	15
		500 V	kA	50	50	50	50	10 (4 kW) 6 (5.5 kW)

#### References



GV2ME10K2●●

#### D.O.L. starters, reversing

Standard power ratings of 3-phase motors 50/60 Hz in AC-3			Setting range of thermal trips	Fixed magnetic tripping current 13 Irth	For customer assembly		Pre-assembled	Weight
400/415 V	440 V	500 V			Motor circuit-breaker Reference	Contactor Reference to be completed <sup>(2)</sup>		
0.37	0.37	0.37	1...1.6	22.5	GV2ME06	LC2K06	GV2ME06K2●●	0.460
0.55	0.55	0.55						
–	–	0.75						
0.75	0.75	–	1.6...2.5	33.5	GV2ME07	LC2K06	GV2ME07K2●●	0.460
–	1.1	1.1						
1.1	–	1.5	2.5...4	51	GV2ME08	LC2K06	GV2ME08K2●●	0.460
1.5	1.5	2.2						
2.2	2.2	–	4...6.3	78	GV2ME10	LC2K06	GV2ME10K2●●	0.460
–	3	3						
3	–	4	6...10	138	GV2ME14	LC2K09	GV2ME14K2●●	0.460
4	4	5.5						
5.5	5.5	7.5	9...14	170	GV2ME16	LC2K12	GV2ME16K2●●	0.460

#### Add-on blocks

Description	Sold in lots of	Unit reference
Combination block between circuit breaker and contactor	10	GV2AF01

<sup>(1)</sup> The breaking performance of circuit breakers **GV2ME** can be increased by adding a current limiter **GV1L3**, see page B6/21.

<sup>(2)</sup> Please consult your Regional Sales Office.

<sup>(3)</sup> Standard control circuit voltages (for other voltages, please consult your Regional Sales Office):

Volts	24	110	220/230	230	230/240	380/400
~ 50/60 Hz	B7	F7	M7	P7	U7	Q7
--- <sup>(4)</sup>	BW3	–	–	–	–	–

<sup>(4)</sup> Coil: low consumption (1.5 W), wide range (0.7...1.3 U<sub>c</sub>) with integral suppression device as standard.

**Note:** The combinations are valid for IE2 motors and IE3 with maximum starting current = 7.5 x motor rating current (see pages A6/4 and A6/5).



Open pre-cabled motor starters

### D.O.L. starters, non-reversing, from 0.06 to 15 kW at 400/415 V, type 1 coordination

This pre-assembled combination comprises:

- 1 motor circuit breaker GV2ME,
- 1 3-pole contactor LC1D,
- 1 combination block GV2AF3.

#### Characteristics

Starter type	GV2	DM102 to DM110	DM114	DM116	DM120	DM121	DM122	DM132	
Breaking capacity (I <sub>q</sub> ) <sup>(1)</sup>	Conforming to IEC 60947-4-1	400/415 V	kA	50	50	15	15	15	10
		440 V	kA	50	15	8	8	6	6
		500 V	kA	50	6	6	6	4	4

#### References

##### D.O.L. starters, non-reversing

Standard power ratings of 3-phase motors 50/60 Hz in AC-3			Setting range of thermal trips	Fixed magnetic tripping current 13 Irth	For customer assembly		Pre-assembled	Weight
400/415 V	440 V	500 V			Motor circuit-breaker Reference	Contactor Reference to be completed <sup>(2)</sup>		
kW	kW	kW	A	A				kg
0.06	0.06	–	0.16...0.25	2.4	GV2ME02	LC1D09●●	GV2DM102●● <sup>(3)</sup>	0.596
0.09	0.09	–	0.25...0.40	5	GV2ME03	LC1D09●●	GV2DM103●● <sup>(3)</sup>	0.596
–	0.12	–	–	–	–	–	–	–
0.12	–	–	0.40...0.63	8	GV2ME04	LC1D09●●	GV2DM104●● <sup>(3)</sup>	0.596
0.18	0.18	–	–	–	–	–	–	–
0.25	0.25	–	0.63...1	13	GV2ME05	LC1D09●●	GV2DM105●● <sup>(3)</sup>	0.596
–	0.37	–	–	–	–	–	–	–
–	–	0.37	1...1.6	22.5	GV2ME06	LC1D09●●	GV2DM106●● <sup>(3)</sup>	0.596
0.55	0.55	0.55	–	–	–	–	–	–
–	–	0.75	–	–	–	–	–	–
0.75	0.75	–	1.6...2.5	33.5	GV2ME07	LC1D09●●	GV2DM107●● <sup>(3)</sup>	0.596
–	1.1	1.1	–	–	–	–	–	–
1.1	–	1.5	2.5...4	51	GV2ME08	LC1D09●●	GV2DM108●● <sup>(3)</sup>	0.596
1.5	1.5	2.2	–	–	–	–	–	–
2.2	2.2	–	4...6.3	78	GV2ME10	LC1D09●●	GV2DM110●● <sup>(3)</sup>	0.596
–	3	3	–	–	–	–	–	–
3	–	4	6...10	138	GV2ME14	LC1D09●●	GV2DM114●● <sup>(3)</sup>	0.596
4	4	5.5	–	–	–	–	–	–
5.5	5.5	7.5	9...14	170	GV2ME16	LC1D12●●	GV2DM116●●	0.601
7.5	7.5	–	13...18	223	GV2ME20	LC1D18●●	GV2DM120●●	0.606
–	9	9	–	–	–	–	–	–
9	11	11	17...23	327	GV2ME21	LC1D25●●	GV2DM121●●	0.646
11	–	15	20...25	327	GV2ME22	LC1D25●●	GV2DM122●●	0.646
15	15	18.5	24...32	416	GV2ME32	LC1D32●●	GV2DM132●●	0.651

##### Add-on blocks

Description	Mounting of GV2	Sold in lots of	Unit reference
Combination block between circuit breaker and contactor	┌ rail	10	GV2AF3
	Mounting plate LAD 311	10	GV2AF4

(1) The breaking performance of circuit breakers GV2ME can be increased by adding a current limiter GV1L3, see page B6/21.

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

Volts	24	220	230
~ 50/60 Hz	B7	M7	P7
— <sup>(4)</sup>	BD	–	–

(3) Type 2 coordination also possible, see page A6/10.

(4) Only available for GV2DM. Coil with integral suppression device as standard.

**Note:** The combinations are valid for IE2 motors and IE3 with maximum starting current = 7.5 x motor rating current (see pages A6/4 and A6/5).

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GV2DM102●●

### D.O.L. starters, reversing, from 0.06 to 15 kW at 400/415 V, type 1 coordination

This pre-assembled combination comprises:

- 1 motor circuit breaker GV2 ME,
- 1 3-pole reversing contactor LC2 D,
- 1 combination block GV2AF3.

#### Characteristics

Starter type	GV2	DM202 to DM210	DM214	DM216	DM220	DM221	DM222	DM232	
Breaking capacity (I <sub>q</sub> ) <sup>(1)</sup>	Conforming to IEC 60947-4-1	400/415 V	kA	50	50	15	15	15	10
		440 V	kA	50	15	8	8	6	6
		500 V	kA	50	10	6	6	4	4

#### References

##### D.O.L. starters, reversing<sup>(2)</sup>

Standard power ratings of 3-phase motors 50/60 Hz in AC-3			Setting range of thermal trips	Fixed magnetic tripping current 13 Irth	For customer assembly		Pre-assembled	Weight
400/415V	440 V	500 V			Motor circuit-breaker Reference	Contactor Reference to be completed <sup>(3)</sup>		
kW	kW	kW	A	A				kg
0.06	0.06	–	0.16...0.25	2.4	GV2ME02	LC2D09●●	GV2DM202●●	0.963
0.09	0.09	–	0.25...0.40	5	GV2ME03	LC2D09●●	GV2DM203●●	0.963
–	0.12	–	–	–	–	–	–	–
0.12	–	–	0.40...0.63	8	GV2ME04	LC2D09●●	GV2DM204●●	0.963
0.18	0.18	–	–	–	–	–	–	–
0.25	0.25	–	0.63...1	13	GV2ME05	LC2D09●●	GV2DM205●●	0.963
0.37	0.37	–	–	–	–	–	–	–
–	–	0.37	1...1.6	22.5	GV2ME06	LC2D09●●	GV2DM206●●	0.963
0.55	0.55	0.55	–	–	–	–	–	–
–	–	0.75	–	–	–	–	–	–
0.75	0.75	–	1.6...2.5	33.5	GV2ME07	LC2D09●●	GV2DM207●●	0.963
–	1.1	1.1	–	–	–	–	–	–
1.1	–	1.5	2.5...4	51	GV2ME08	LC2D09●●	GV2DM208●●	0.963
1.5	1.5	2.2	–	–	–	–	–	–
2.2	2.2	–	4...6.3	78	GV2ME10	LC2D09●●	GV2DM210●●	0.963
–	3	3	–	–	–	–	–	–
3	–	4	6...10	138	GV2ME14	LC2D09●●	GV2DM214●●	0.963
4	4	5.5	–	–	–	–	–	–
5.5	5.5	7.5	9...14	170	GV2ME16	LC2D12●●	GV2DM216●●	0.973
7.5	7.5	–	13...18	223	GV2ME20	LC2D18●●	GV2DM220●●	0.983
–	9	9	–	–	–	–	–	–
9	11	11	17...23	327	GV2ME21	LC2D25●●	GV2DM221●●	1.063
11	–	15	20...25	327	GV2ME22	LC2D25●●	GV2DM222●●	1.063
15	15	18.5	24...32	416	GV2ME32	LC2D32●●	GV2DM232●●	1.073

##### Add-on blocks

Description	Mounting of GV2	Sold in lots of	Unit reference
Combination block between circuit breaker and contactor	┌ rail	10	GV2AF3
	Mounting plate LAD 311	10	GV2AF4

(1) The breaking performance of circuit breakers GV2ME can be increased by adding a current limiter GV1L3, see page B6/21.

(2) Type 2 coordination also possible, see page B6/21.

(3) See page B8/8.

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

Volts	24	220	230
~ 50/60 Hz	B7	M7	P7
--- <sup>(5)</sup>	BD	–	–

(5) Coil with integral suppression device as standard.

**Note:** The combinations are valid for IE2 motors and IE3 with maximum starting current = 7.5 x motor rating current (see pages A6/4 and A6/5).

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GV2DM202●●

Open pre-cabled motor starters



Open pre-cabled motor starters

**D.O.L. starters, non-reversing, from 0.06 to 30 kW at 400/415 V, type 2 coordination**

This pre-assembled combination comprises:

- 1 motor circuit breaker GV2P,
- 1 3-pole contactor LC1D,
- 1 combination block GV2AF3.

**Characteristics**

Starter type	GV2	DP102 to DP110	DP114	DP116	DP120	DP121	DP122	DP132
Breaking capacity (I <sub>q</sub> ) <sup>(1)</sup> Conforming to IEC 60947-4-1	400/415 V	kA	130	130	130	50	50	50
	440 V	kA	130	130	50	20	20	20
	500 V	kA	130	50	42	10	10	10

**References**

**D.O.L. starters, non-reversing**

Standard power ratings of 3-phase motors 50/60 Hz in AC-3			Setting range of thermal trips	Fixed magnetic tripping current 13 Irth	For customer assembly		Pre-assembled	Weight
400/415 V	440 V	500 V			Motor circuit-breaker Reference	Contactor Reference to be completed <sup>(2)</sup>		

kW	kW	kW	A	A				kg
0.06	0.06	–	0.16...0.25	2.4	GV2P02	LC1D09●●	GV2DP102●●	0.686
–	0.09	–	0.25...0.40	5	GV2P03	LC1D09●●	GV2DP103●●	0.686
0.09	0.12	–	–	–	–	–	–	–
0.12	–	–	0.40...0.63	8	GV2P04	LC1D09●●	GV2DP104●●	0.686
0.18	0.18	–	–	–	–	–	–	–
0.25	0.25	–	0.63...1	13	GV2P05	LC1D09●●	GV2DP105●●	0.686
0.37	0.37	–	–	–	–	–	–	–
–	–	0.37	1...1.6	22.5	GV2P06	LC1D09●●	GV2DP106●●	0.686
0.55	0.55	0.55	–	–	–	–	–	–
–	–	0.75	–	–	–	–	–	–
0.75	0.75	–	1.6...2.5	33.5	GV2P07	LC1D09●●	GV2DP107●●	0.686
–	1.1	1.1	–	–	–	–	–	–
1.1	–	1.5	2.5...4	51	GV2P08	LC1D09●●	GV2DP108●●	0.696
1.5	1.5	2.2	–	–	–	–	–	–
2.2	2.2	–	4...6.3	78	GV2P10	LC1D09●●	GV2DP110●●	0.736
–	3	3	–	–	–	–	–	–
3	–	4	6...10	138	GV2P14	LC1D09●●	GV2DP114●●	0.736
4	4	5.5	–	–	–	–	–	–
5.5	5.5	7.5	9...14	170	GV2P16	LC1D25●●	GV2DP116●●	0.741
–	7.5	9	–	–	–	–	–	–
7.5	9	–	13...18	223	GV2P20	LC1D25●●	GV2DP120●●	0.736
9	11	11	17...23	327	GV2P21	LC1D25●●	GV2DP121●●	0.741
11	–	15	20...25	327	GV2P22	LC1D25●●	GV2DP122●●	0.741
15	15	18.5	24...32	416	GV2P32	LC1D32●●	GV2DP132●●	0.741
18.5	–	–	30...40	560	GV3P401 <sup>(4)</sup>	LC1D50A●●	–	1.725
–	18.5	22	30...40	560	GV3P401 <sup>(4)</sup>	LC1D65A●●	–	1.730
22	–	–	37...50	700	GV3P501 <sup>(4)</sup>	LC1D50A●●	–	1.725
–	22	30	37...50	700	GV3P501 <sup>(4)</sup>	LC1D65A●●	–	1.730
30	37	–	48...65	910	GV3P651 <sup>(4)</sup>	LC1D65A●●	–	1.730

**Add-on blocks**

Description	Mounting of GV2	Sold in lots of 10	Unit reference
Combination block between circuit breaker and contactor	└┘ rail	10	GV2AF3

(1) The breaking performance of circuit breakers GV2P can be increased by adding a current limiter GV1L3, see page B6/11.  
 (2) See page B8/8.  
 (3) Standard control circuit voltages (for other voltages, please consult your Regional Sales Office):

Volts	24	220	230
~ 50/60 Hz	B7	M7	P7
— <sup>(5)</sup>	BD	–	–

(4) Circuit breaker supplied without downstream EverLink® power terminal block, which is required for vertical mounting. For side by side mounting, use a GV3P circuit breaker with terminal blocks and the GV3S set of S-shape busbars (see page B8/28).  
 (5) Coil with integral suppression device as standard.

**Note:** The combinations are valid for IE2 motors and IE3 with maximum starting current = 7.5 x motor rating current (see pages A6/4 and A6/5).

PB114212.eps



GV2DP102●●

PB10337.eps



GV3P651 + LC1D65A●●

PB121239.eps





### D.O.L. starters, reversing, from 0.06 to 30 kW at 400/415 V, type 2 coordination

This pre-assembled combination comprises:

- 1 motor circuit breaker GV2P,
- 1 3-pole reversing contactor LC2D,
- 1 combination block GV2AF3.

#### Characteristics

Starter type		GV2	DP202 to DP210	DP214	DP216	DP220	DP221	DP222	DP232	
Breaking capacity (I <sub>q</sub> ) <sup>(1)</sup>	Conforming to IEC 60947-4-1	400/415 V	kA	130	130	130	50	50	50	50
		440 V	kA	130	130	50	20	20	20	20
		500 V	kA	130	50	42	10	10	10	10

#### References

##### D.O.L. starters, reversing

Standard power ratings of 3-phase motors 50/60 Hz in AC-3			Setting range of thermal trips	Fixed magnetic tripping current 13 Irth	For customer assembly		Pre-assembled	Weight
400/415 V	440 V	500 V			Motor circuit-breaker Reference	Contactor Reference to be completed <sup>(2)</sup>		
kW	kW	kW	A	A				kg
0.06	0.06	–	0.16...0.25	2.4	GV2P02	LC2D09●●	GV2DP202●●	1.053
–	0.09	–	0.25...0.40	5	GV2P03	LC2D09●●	GV2DP203●●	1.053
0.09	0.12	–	0.40...0.63	8	GV2P04	LC2D09●●	GV2DP204●●	1.053
0.12	–	–	0.63...1	13	GV2P05	LC2D09●●	GV2DP205●●	1.053
0.18	0.18	–	–	–	–	–	–	–
0.25	0.25	–	1...1.6	22.5	GV2P06	LC2D09●●	GV2DP206●●	1.053
0.37	0.37	–	1.6...2.5	33.5	GV2P07	LC2D09●●	GV2DP207●●	1.053
–	–	0.37	2.5...4	51	GV2P08	LC2D09●●	GV2DP208●●	1.073
–	0.55	0.55	4...6.3	78	GV2P10	LC2D09●●	GV2DP210●●	1.153
–	–	0.75	6...10	138	GV2P14	LC2D09●●	GV2DP214●●	1.153
0.75	0.75	–	9...14	170	GV2P16	LC2D25●●	GV2DP216●●	1.163
–	1.1	1.1	13...18	223	GV2P20	LC2D25●●	GV2DP220●●	1.153
1.1	–	1.5	17...23	327	GV2P21	LC2D25●●	GV2DP221●●	1.163
1.5	1.5	2.2	20...25	327	GV2P22	LC2D25●●	GV2DP222●●	1.163
2.2	2.2	–	24...32	416	GV2P32	LC2D32●●	GV2DP232●●	1.163
–	3	3	30...40	560	GV3P401 <sup>(4)</sup>	LC2D50A●●	–	2.750
3	–	4	30...40	560	GV3P401 <sup>(4)</sup>	LC2D65A●●	–	2.760
4	4	5.5	37...50	700	GV3P501 <sup>(4)</sup>	LC2D50A●●	–	2.750
5.5	5.5	7.5	37...50	700	GV3P501 <sup>(4)</sup>	LC2D65A●●	–	2.760
–	7.5	9	48...65	910	GV3P651 <sup>(4)</sup>	LC2D65A●●	–	2.760

##### Add-on blocks

Description	Mounting of GV2	Sold in lots of	Unit reference
Combination block between circuit breaker and contactor	└┘ rail	10	GV2AF3

(1) The breaking performance of circuit breakers GV2P can be increased by adding a current limiter GV1L3, see page B6/11.

(2) See page B8/8.

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

Volts	24	220	230
~ 50/60 Hz	B7	M7	P7
— <sup>(5)</sup>	BD	–	–

(4) Circuit breaker supplied without downstream EverLink® power terminal block, which is required for vertical mounting. For side by side mounting, use a GV3P circuit breaker with terminal blocks and the GV3S set of S-shape busbars (see page B8/28).

(5) Coil with integral suppression device as standard.

**Note:** The combinations are valid for IE2 motors and IE3 with maximum starting current = 7.5 x motor rating current (see pages A6/4 and A6/5).



GV2DP202●●



GV3P651 + LC2D65A●●

Open pre-cabled motor starters



Open pre-cabled motor starters

102867\_SE.eps



LC3D32A●●



### Plate mounted starters without isolating device

Maximum operating rate: 30 starts/hour. Maximum starting time: 30 seconds.												
Standard power ratings of squirrel cage motors				Auxiliary contacts available on each contactor						Star delta mechanical interlock	Basic reference, to be completed by adding the voltage code <sup>(2)</sup>	Weight
Mains voltage - delta connection				line	delta		star					
220/230 V	380/400 V	415 V	440 V	KM2	KM3	KM1						
kW	kW	kW	kW								kg	
4	7.5	7.5	7.5	-	-	-	- <sup>(3)</sup>	-	1	With	LC3D09A●●	1.530
5.5	11	11	11	-	-	-	- <sup>(3)</sup>	-	1	With	LC3D12A●●	1.530
11	18.5	22	22	-	-	-	- <sup>(3)</sup>	-	1	With	LC3D18A●●	1.730
15	25	30	30	-	-	-	- <sup>(3)</sup>	-	1	With	LC3D32A●●	2.030
37	75	75	75	-	1	1	- <sup>(3)</sup>	-	- <sup>(3)</sup>	Without	LC3D80●●	5.200
										With	LC3D80●●A64	5.400
63	110	110	110	-	1	1	- <sup>(3)</sup>	-	- <sup>(3)</sup>	Without	LC3D115●● <sup>(4)</sup>	11.800
										With	LC3D115●●A64 <sup>(4)</sup>	12.100
75	132	132	147	-	1	1	- <sup>(3)</sup>	-	1 <sup>(3)</sup>	Without	LC3D150●● <sup>(4)</sup>	12.100
										With	LC3D150●●A64 <sup>(4)</sup>	12.100

### Rail mounted starters (35 mm rail) without isolating device

Maximum operating rate: 12 starts/hour. Maximum starting time: 30 seconds.												
Standard power ratings of squirrel cage motors				Auxiliary contacts available on each contactor						Star delta mechanical interlock	Basic reference, to be completed by adding the voltage code <sup>(2)</sup>	Weight
Mains voltage - delta connection				line	delta		star					
220/230 V	380/400 V	415 V	440 V	KM2	KM3	KM1						
kW	kW	kW	kW								kg	
3	5.5	5.5	5.5	-	-	-	-	-	1	With	LC3K06●●	0.740
4	7.5	7.5	7.5	-	-	-	-	-	1	With	LC3K09●●	0.740
Maximum operating rate: 30 starts/hour. Maximum starting time: 30 seconds												
4	7.5	7.5	7.5	-	-	-	- <sup>(3)</sup>	-	1	With	LC3D090A●●	1.530
5.5	11	11	11	-	-	-	- <sup>(3)</sup>	-	1	With	LC3D120A●●	1.530
11	18.5	22	22	-	-	-	- <sup>(3)</sup>	-	1	With	LC3D180A●●	1.730
15	25	30	30	-	-	-	- <sup>(3)</sup>	-	1	With	LC3D320A●●	2.030

<sup>(1)</sup> Protection must be provided by the addition of a thermal overload relay, to be ordered separately. Select appropriate overload relay for setting at 0.58 of the full load rated motor current (see pages B11/4 and B11/5).

<sup>(2)</sup> Standard control circuit voltages:

Volts ~ 50/60 Hz	24	36	42	48	110	220	230	240	380	400	415	440
------------------	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----

#### Star-delta starters LC3K06 and K09

Code	B7	C7	D7	E7	F7	M7	P7	U7	-	-	-	-
------	----	----	----	----	----	----	----	----	---	---	---	---

#### Star-delta starters LC3D09A...D150, LC3D090A...D320A

Code	B7	-	D7	E7	F7	M7	P7	U7	Q7	V7	N7	R7
------	----	---	----	----	----	----	----	----	----	----	----	----

For other voltages, please consult your Regional Sales Office.

<sup>(3)</sup> One auxiliary contact block type LADN can also be fitted, see page B8/22.

<sup>(4)</sup> These starters consist of contactors LC1D115 or D150 without connectors.

#### Pre-assembled starters without isolating device

Maximum operating rate: 12 starts/hour.

Maximum starting time:

LC3F●●●●●: 20 seconds,

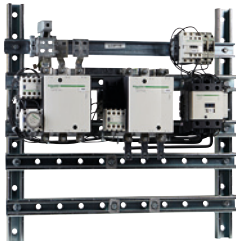
LC3F●●●●●A64: 30 seconds (3 identical contactors).

Composition of starters without mechanical interlock, see pages A2/14, A2/15.

#### Star-delta starters

Standard power ratings of squirrel cage motors				Auxiliary contacts available on each contactor						Star delta mechanical interlock	Basic reference, to be completed by adding the voltage code <sup>(2)</sup>	Weight
Mains voltage - delta connection				line		delta		star				
220/230 V	380/400 V	415 V	440 V	KM2		KM3		KM1				
<b>kW</b>	<b>kW</b>	<b>kW</b>	<b>kW</b>						<sup>(3)</sup>			
90	160	160	185	1	2	2	1	1	1	Without	<b>LC3F185●●</b>	16.500
										With	<b>LC3F185●●A64</b>	16.625
100	200	200	220	1	2	2	1	1	1	Without	<b>LC3F225●●</b>	16.500
										With	<b>LC3F225●●A64</b>	16.625
110	220	220	250	1	2	2	1	1	1	Without	<b>LC3F265●●</b>	27.300
										With	<b>LC3F265●●A64</b>	27.425
160	280	280	315	1	2	2	1	1	1	Without	<b>LC3F330●●</b>	37.000
										With	<b>LC3F330●●A64</b>	37.125
185	315	355	375	1	2	2	1	1	1	Without	<b>LC3F400●●</b>	37.000
										With	<b>LC3F400●●A64</b>	37.125

PE12/240.eps



LC3F115M7

Open pre-cabled motor starters



<sup>(1)</sup> Protection must be provided by the addition of a thermal overload relay, to be ordered separately. Select appropriate overload relay for setting at 0.58 of the full load rated motor current, see pages B11/11 and B11/12.

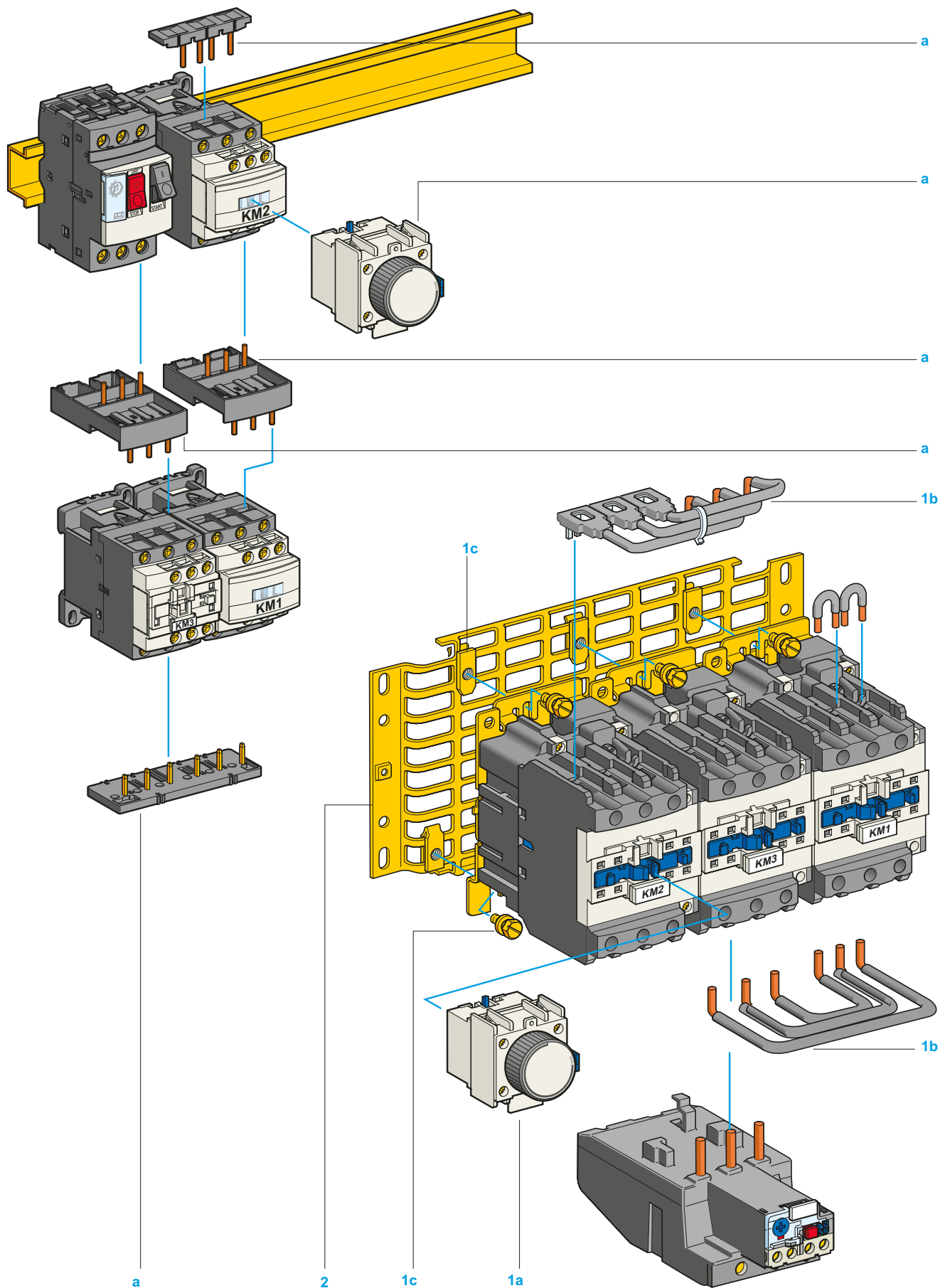
<sup>(2)</sup> Standard control circuit voltages:

Volts ~ 50/60 Hz	48	110	115	220/230	230	240	380/400	400	415
<b>Code</b>	E7	F7	FE7	M7	P7	U7	Q7	V7	N7

For other voltages, please consult your Regional Sales Office.

<sup>(3)</sup> One auxiliary contact block type **LADN** can be fitted.

Open pre-cabled motor starters



**Star-delta starters without mechanical interlock, for customer assembly on plate or on mounting rail <sup>(2)</sup>**

**Starters for direct combination with a circuit breaker**

**Maximum operating rate: 30 starts/hour. Maximum starting time: 30 seconds**

Standard power ratings of squirrel cage motors <sup>(3)</sup>		Thermal-magnetic motor circuit breaker <i>References in italics are available in CEE zone only</i>	Contactors (basic references, to be completed by adding the voltage code) <sup>(4)</sup>		
Mains voltage-delta connection			line	delta	star
400/415 V	440 V				
kW	kW		KM2	KM3	KM1
7.5	7.5	GV2ME20 or GV2ME20AP	LC1D09●●	LC1D09●●	LC1D09●●
–	9	GV2ME20 or GV2ME20AP	LC1D12●●	LC1D12●●	LC1D09●●
9	11	GV2ME21 or GV2ME21AP	LC1D12●●	LC1D12●●	LC1D09●●
11	–	GV2ME22 or GV2ME22AP	LC1D12●●	LC1D12●●	LC1D09●●
15	15	GV2ME32 or GV2ME32AP	LC1D18●●	LC1D18●●	LC1D09●●

**Separate component**

Description	Illustration item no.	Reference
Mounting kit comprising: power circuit connections and 1 time delay contact block LADS2	a	LAD912GV

**Starters for mounting separately from upstream protection**

**Maximum operating rate: 30 starts/hour. Maximum starting time: 30 seconds.**

Standard power ratings of squirrel cage motors <sup>(3)</sup>				Contactors (basic references, to be completed by adding the voltage code) <sup>(4)</sup>			Separate components (see below)
Mains voltage - delta connection				line	delta	star	
220/230 V	380/400 V	415 V	440 V	KM2	KM3	KM1	Component types
4	7.5	7.5	7.5	LC1D09●●	LC1D09●●	LC1D09●●	D09
5.5	11	11	11	LC1D18●● <sup>(6)</sup>	LC1D12●●	LC1D09●●	D12
11	18.5	22	22	LC1D25●● <sup>(7)</sup>	LC1D25●● <sup>(7)</sup>	LC1D09●●	D18
15	25	30	30	LC1D32●●	LC1D32●●	LC1D18●●	D32
18.5	37	37	37	LC1D40A●●	LC1D40A●●	LC1D40A●●	D40
30	55	59	59	LC1D50A●●	LC1D50A●●	LC1D40A●●	D50
37	75	75	75	LC1D80●●	LC1D80●●	LC1D50A●●	D80
63	110	110	110	LC1D115●●	LC1D115●●	LC1D80●●	D115 <sup>(5)</sup>
75	132	132	147	LC1D150●●	LC1D150●●	LC1D115●●	D150 <sup>(5)</sup>

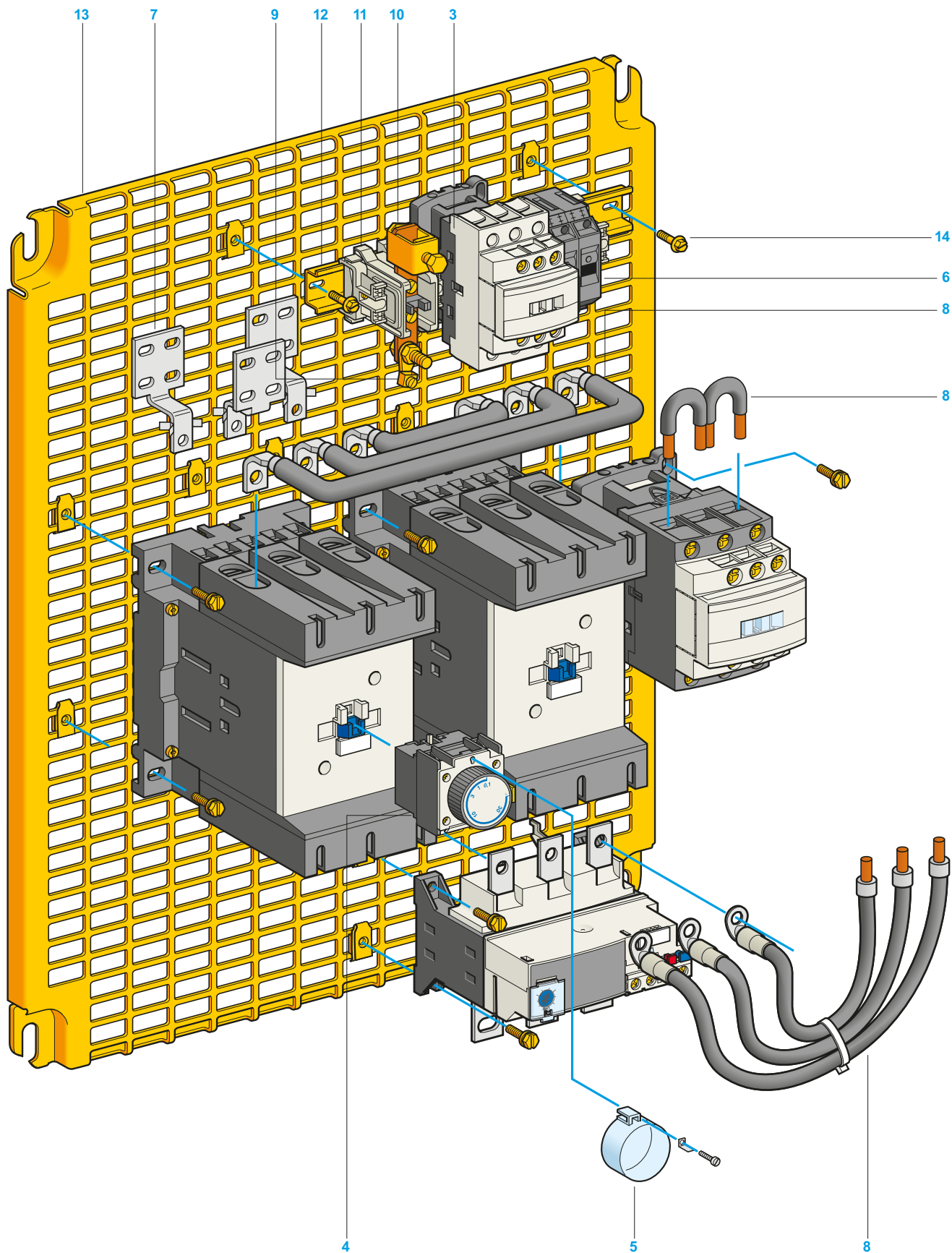
**Separate components**

Description	Illustration item no.	For components type <sup>(5)</sup>	Reference	Without timer LADS2
Mounting kit comprising: - 1 time delay contact block LADS2 (D09...D80) <sup>(3)</sup> , - power circuit connections (D09...D80), - screws and clamps for fixing contactors to the plate (D40...D80).	1 a	LC1D09 to D38 <sup>(8)</sup>	LAD91217	LAD91218
	1 b	LC1D09 to D38 <sup>(9)</sup>	LAD93217	LAD93218
	1 c	D40 and D50	LA9D5017	–
	1 c	D80	LA9D8017	–
Equipment mounting plates	2	LC1D09 to D38	LA9D12974	
		D40 and D50	LA9D40973	
		D80	LA9D80973	

<sup>(1)</sup> Protection must be provided by the addition of a thermal overload relay, to be ordered separately. Select appropriate overload relay for setting at 0.58 of the full load rated motor current, see pages B11/4 and B11/5.  
<sup>(2)</sup> For mounting, assembly and cabling: please refer to installation instructions supplied with the equipment.  
<sup>(3)</sup> See comments on page A2/24.  
<sup>(4)</sup> See page B8/8.  
<sup>(5)</sup> For D115 and D150 components, see illustration and separate parts on pages A2/12 and A2/13.  
<sup>(6)</sup> A D12 component is adequate for the application, but use of a D18 is recommended. (connection capacity, correct use of power connection kit and connections).  
<sup>(7)</sup> A D18 component is adequate for the application, but use of a D25 is recommended. (connection capacity, correct use of power connection kit and connections).  
<sup>(8)</sup> For assembly of 3 contactors of the same physical size (depth).  
<sup>(9)</sup> For assembly of 3 contactors with star contactor physically smaller (depth).



Open pre-cabled motor starters



Starters for mounting separately from upstream protection						
Separate components (continued)						
Description	Illustration item no.	For use on	No.	Sold in lots of	Unit reference	Weight kg
Instantaneous auxiliary contact blocks 1 N/O	1	D115 (star)	1	1	LADN10	0.020
Control relay	3	D115, D150	1	1	CAD32 <sup>(2)</sup>	0.320
Time delay auxiliary contact blocks	4	D115, D150	1	1	LADT2	0.060
Lead sealing kit for time delay auxiliary contact blocks	5	D115, D150	1	1	LA9D901	0.005
Thermal magnetic circuit breaker for control circuit (200...415 V)	6	D115, D150	2	6	GB2CB05	0.060
Set of 3 connectors for wider terminations (optional)	7	D115, D150	1	1	LA9FG980	0.200
Set of power connections with fixing accessories	8	D115	1	1	LA9D11517	0.800
		D150	1	1	LA9D15017	1.050
Spare volt free terminals	9	D115, D150	1	10	DZ3HA3	0.007
			2	10	DZ3GA3	0.006
Lug-connector terminal block	10	D115, D150	1	10	AB1BC9535	0.236
End stop	11	D115, D150	3	100	AB1AB8M35	0.005
Mounting rail 35 mm	12	D115, D150	1	10	NSYDPR25	0.210
Pre-slotted mounting plate	13	D115, D150	1	1	AM3PA65	1.950
Screw with captive washer	14	D115, D150	12	100	AF1VA618	0.006
			2	100	AF1VA410	0.002

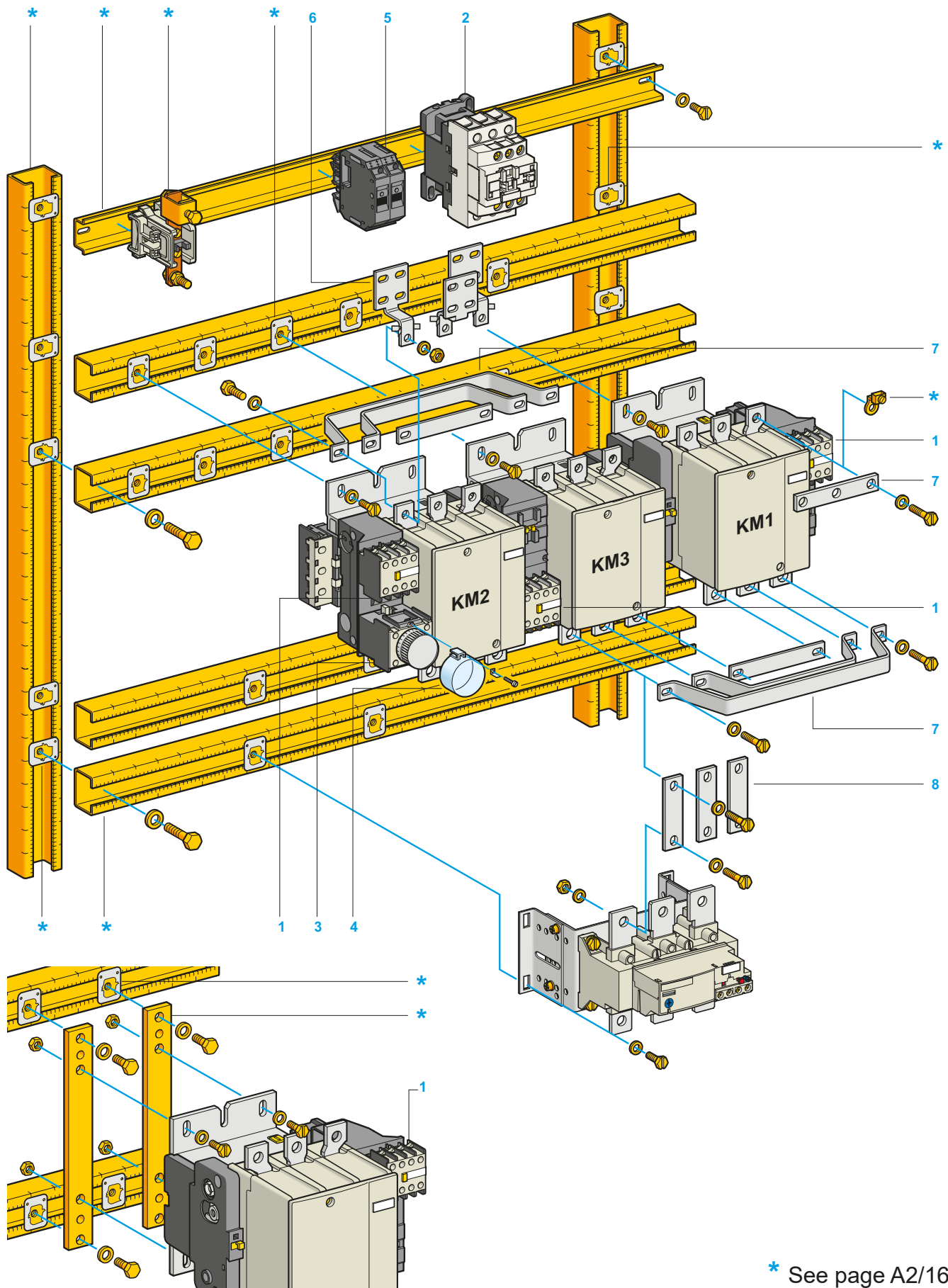
<sup>(1)</sup> Protection must be provided by the addition of a thermal overload relay, to be ordered separately. Select appropriate overload relay for setting at 0.58 of the full load rated motor current, see pages B11/4 and B11/5.

<sup>(2)</sup> For mounting, assembly and cabling: please refer to installation instructions supplied with the equipment.

Open pre-cabled motor starters



Open pre-cabled motor starters



\* See page A2/16



### Star-delta starters without mechanical interlock for customer assembly on chassis

Contactors							
Maximum operating rate: 12 starts/hour. Maximum starting time: 20 seconds <sup>(2)</sup>							
Standard power ratings of squirrel cage motors				Contactors <sup>(3)</sup>			Separate components (see below)
220/230V	380/400V	415V	440V	line	delta	star	
kW	kW	kW	kW	KM2	KM3	KM1	Component types
90	160	160	185	LC1F185●●	LC1F185●●	LC1D150●●	F185
100	200	200	220	LC1F225●●	LC1F225●●	LC1F185●●	F225
110	220	220	250	LC1F265●●	LC1F265●●	LC1F185●●	F265
160	280	280	315	LC1F330●●	LC1F330●●	LC1F265●●	F330
185	315	355	375	LC1F400●●	LC1F400●●	LC1F265●●	F400

Separate components <sup>(4)</sup>							
Description	Illustration item no.	For use on	No.	Sold in lots of	Unit reference	Weight kg	
Instantaneous auxiliary contact blocks 2 N/O + 2 N/C	1	F185 to F400	3	1	LADN22	0.050	
Control relay	2	F185 to F400	1	1	CAD32	0.580	
Time delay auxiliary contact blocks	3	F185 to F400	1	1	LADT2	0.060	
Sealing cover	4	F185 to F400	1	1	LA9D901	0.005	
Thermal magnetic circuit breaker for 5 A control circuit	5	F185 to F400	2	6	GB2CB10	0.050	
Sets of 3 connectors for wider terminations (optional)	6	F185	1	1	LA9FG980	0.200	
		F225 to F400	1	1	LA9FJ980	0.490	
Sets of power connections	7	F185	1	1	LA9F18517	0.800	
		F225	1	1	LA9F22510	1.400	
		F265	1	1	LA9FH610	1.400	
		F330 and F400	1	1	LA9FJ610	1.500	
Set of 3 busbars for thermal overload connections	8	F185 to F400	1	1	LA7F●●● (Selected according to size of thermal overload relay) see pages B11/11 and B11/12.		

<sup>(1)</sup> Protection must be provided by the addition of a thermal overload relay, to be ordered separately. Select appropriate overload relay for setting at 0.58 of the full load rated motor current, see pages B11/11 and B11/12.

<sup>(2)</sup> For longer starting times, please consult your Regional Sales Office.

<sup>(3)</sup> Contactors supplied with coil. Complete the reference by adding the control circuit voltage code.

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

LC1D150											
Volts	48	110	115	120	220	230	240	380	400	415	
50/60 Hz	E7	F7	FE7	G7	M7	P7	U7	Q7	V7	N7	

LC1F185 to F400											
Volts	48	110	115	120	220	230	240	380	400	415	
40... 400 Hz <sup>(5)</sup>	E7 <sup>(6)</sup>	F7	FE7	G7	M7	P7	U7	Q7	V7	N7	

Standard voltages, see page B9/2.

For other voltages between 24 and 660 V, see pages B9/17 and B9/18.

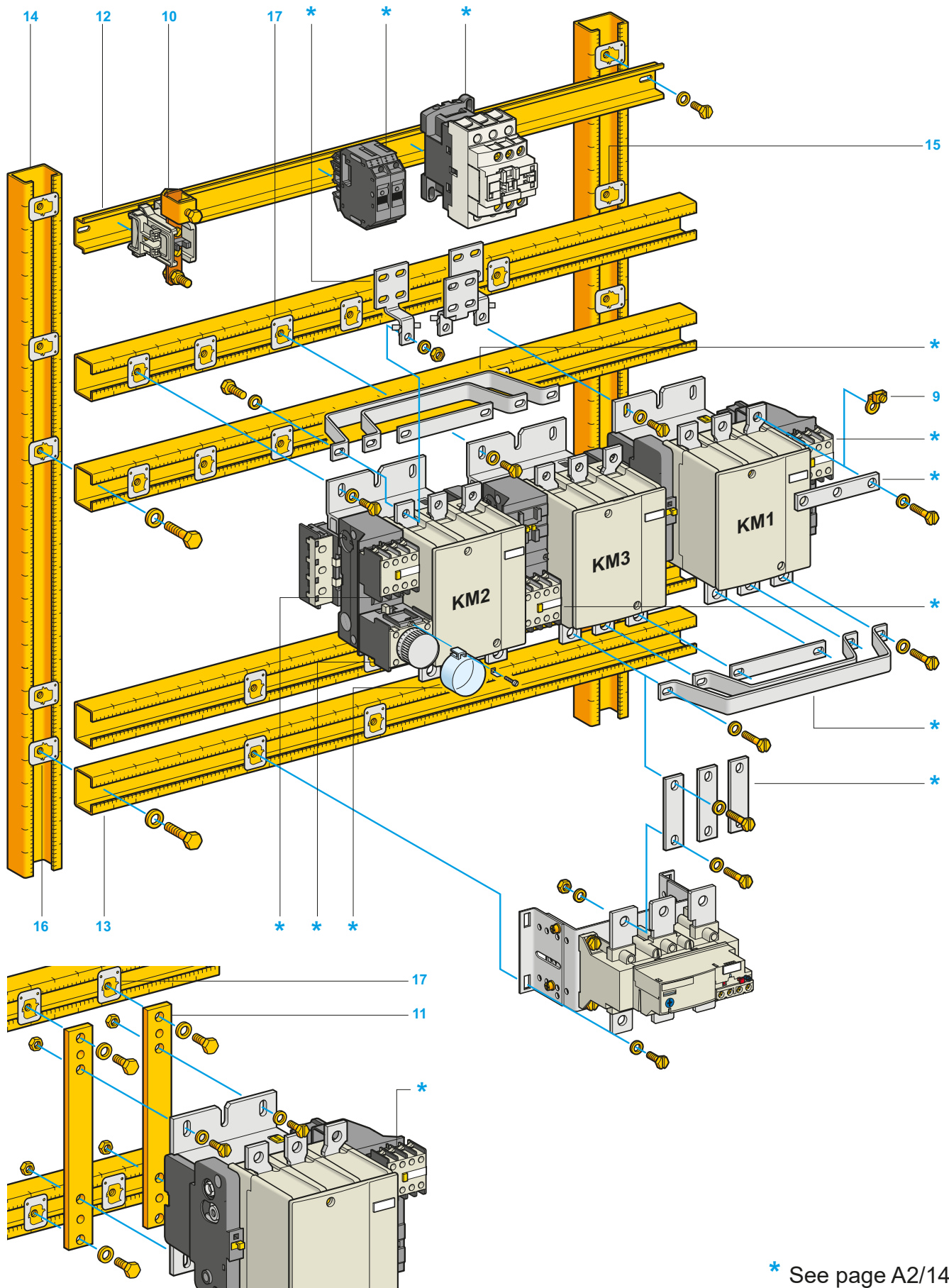
<sup>(4)</sup> Other separate components, see page A2/17.

<sup>(5)</sup> Coil LX1: LC1F265, F330 and F400. Coil LX9: LC1F185 and F225.

<sup>(6)</sup> Except for LC1F400.



Open pre-cabled motor starters



Separate components (continued from page A2/15)						
Description	Illustration item no.	For use on	No.	Sold in lots of	Unit reference	Weight kg
Spare volt free terminals	9	F185	3	10	DZ3GA3	0.006
		F225...F400	3	10	DZ3HA3	0.007
Neutral terminals with stop and spare volt free terminal (for control circuit)	10	F185	1	10	AB1BC9535	0.236
			2	100	AB1AB8P35	0.006
			1	10	DZ3HA3	0.007
		F225 and F265	1	10	AB1BC15035	0.277
			2	100	AB1AB8M35	0.007
			1	10	DZ3JA3	0.010
F330 and F400	1	10	AB1BC24035	0.287		
	2	100	AB1AB8M35	0.007		
	1	10	DZ3JA3	0.010		
Reducer bracket	11	F400	2	1	LA9F100	0.100
Mounting rails <sup>(2)</sup>	12	F185...F400	1	10	NSYSDR200	0.900
	13	F185...F400	1	4	AM1EC200	2.980
Uprights <sup>(2)</sup>	14	F115...F400	2	4	AM1EC200	2.980
1/4 turn sliding clip nuts and corresponding bolts for rails NSYSDR	15	F185...F400	2	10	NSYSNM6	0.020
				100	AF1VA618	0.006
1/4 turn sliding clip nuts and corresponding bolts for rails NSYSDR	16	F185...F400	8	10	NSYSNM8	0.020
				10	AF1VC820	0.024
1/4 turn sliding clip nuts and corresponding bolts for equipment fixing	17	F185...F330	15	10	AF1CD061	0.020
				100	AF1VA618	0.006
				F400	8	10
		10	AF1CD081	0.020		
		100	AF1VA618	0.006		
		10	AF1VC820	0.024		
Enclosures: metal, grey RAL 7032	-	F185...F225	1	1	ACMGV763	19.090
		F265	1	1	ACMGV973	33.310
		F330 and F400	1	1	ACMGV1084	54.000
Fixing lugs adjustable for enclosure ACM	-	-	4	4	AE3FX122	0.080

<sup>(1)</sup> Protection must be provided by the addition of a thermal overload relay, to be ordered separately. Select appropriate overload relay for setting at 0.58 of the full load rated motor current, see pages B11/11 and B11/12.

<sup>(2)</sup> Supplied in 2 m lengths. See page A2/27 for cutting to length.



