
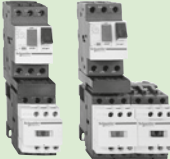



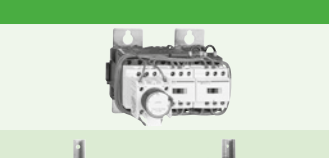

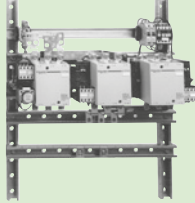


## Direct-on-line and reversing starters

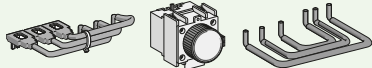
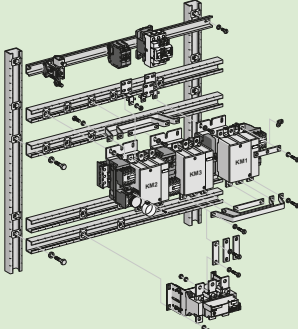
Composition	Range		Page
Motor circuit breaker + contactor (direct-on-line) Coordination type 1	Up to 5.5 kW		A2/2
Motor circuit breaker + 2 contactors (reversing) Coordination type 1	Up to 5.5 kW		A2/3
Motor circuit breaker + contactor (direct-on-line) Coordination type 1	Up to 15 kW		A2/4
Motor circuit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

## For customer star-delta 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

## Motor starters - open version

Combination automatic motor starters with overload protection built into the circuit breaker

### 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 GV2 ME,
- 1 3-pole contactor LC1 K,
- 1 combination block GV2 AF01.

Open pre-cabled motor starters

Characteristics		GV2	ME06K1	ME07K1	ME08K1	ME10K1	ME14K1	ME16K1
<b>Starter type</b>		400/415 V						
<b>Breaking capacity (I<sub>q</sub>)</b> (1)	Conforming to IEC 60947-4-1	kA	50	50	50	50	50	15
	440 V	kA	50	50	50	50	15	8
	500 V	kA	50	50	50	50	10 (4 kW) 6 (5.5 kW)	6

### 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 (2)			Basic reference, to be completed by adding the voltage code (3)
kW	kW	kW	A	A				kg	
0.37	0.37	0.37	1...1.6	22.5	GV2 ME06	LC1 K06	GV2ME06K1●●	0.460	
0.55	0.55	0.55							
-	-	0.75							
0.75	0.75	-	1.6...2.5	33.5	GV2 ME07	LC1 K06	GV2ME07K1●●	0.460	
-	1.1	1.1							
1.1	-	1.5	2.5...4	51	GV2 ME08	LC1 K06	GV2ME08K1●●	0.460	
1.5	1.5	2.2							
2.2	2.2	-	4...6.3	78	GV2 ME10	LC1 K06	GV2ME10K1●●	0.460	
-	3	3							
3	-	4	6...10	138	GV2 ME14	LC1 K09	GV2ME14K1●●	0.460	
4	4	5.5							
5.5	5.5	7.5	9...14	170	GV2 ME16	LC1 K12	GV2ME16K1●●	0.460	

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

(1) The breaking performance of circuit breakers GV2 ME can be increased by adding a current limiter GV1 L3, see page B6/11.

(2) Please consult your Regional Sales Office.

(3) 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
☰ (4)	BW3	-	-	-	-	-

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

## Motor starters - open version

Combination automatic motor starters with overload protection built into the circuit breaker

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

This pre-assembled combination comprises:

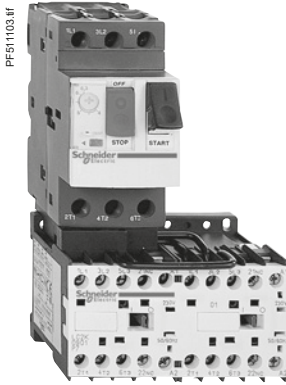
- 1 motor circuit breaker GV2 ME,
- 1 3-pole reversing contactor LC2 K,
- 1 combination block GV2 AF01.

Open pre-cabled motor starters

#### 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	8
		500 V	kA	50	50	50	50	10 (4 kW) 6 (5.5 kW)	6

#### References



GV2 ME10K2●●

#### 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
0.37	0.37	0.37	1...1.6	22.5	GV2 ME06	LC2 K06	GV2ME06K2●●	0.460
0.55	0.55	0.55						
–	–	0.75						
0.75	0.75	–	1.6...2.5	33.5	GV2 ME07	LC2 K06	GV2ME07K2●●	0.460
–	1.1	1.1						
1.1	–	1.5	2.5...4	51	GV2 ME08	LC2 K06	GV2ME08K2●●	0.460
1.5	1.5	2.2						
2.2	2.2	–	4...6.3	78	GV2 ME10	LC2 K06	GV2ME10K2●●	0.460
–	3	3						
3	–	4	6...10	138	GV2 ME14	LC2 K09	GV2ME14K2●●	0.460
4	4	5.5						
5.5	5.5	7.5	9...14	170	GV2 ME16	LC2 K12	GV2ME16K2●●	0.460

#### Add-on blocks

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

(1) The breaking performance of circuit breakers **GV2 ME** can be increased by adding a current limiter **GV1 L3**, see page B6/11.

(2) Please consult your Regional Sales Office.

(3) 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	–	–	–	–	–

(4) Coil: low consumption (1.5 W), wide range (0.7...1.3 Uc) 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).

## References - Direct-on-line and reversing

### Motor starters - open version

Combination automatic motor starters with overload protection built into the circuit breaker

#### 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 GV2 ME,
- 1 3-pole contactor LC1 D,
- 1 combination block GV2 AF3.

#### Characteristics

Starter type		GV2	DM 102 to DM 110	DM 114	DM 116	DM 120	DM 121	DM 122	DM 132
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	4	4	4

#### References

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GV2 DM102●●

#### 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	–	–	–	–	–	–	–
–	–	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 GV2 ME can be increased by adding a current limiter GV1 L3, see page B6/11.

(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 GV2 DM. 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).

## Motor starters - open version

Combination automatic motor starters with overload protection built into the circuit breaker

### 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 (Iq) <sup>(1)</sup>	Conforming to IEC 60947-4-1	400/415 V	kA	50	50	15	15	15	15	10	
		440 V	kA	50	15	8	8	6	6	6	
		500 V	kA	50	10	6	6	4	4	4	

### References

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GV2 DM202●●

#### 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
400/415 V	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	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 B6/11.

(2) Type 2 coordination also possible, see page A6/5.

(3) See page B8/2.

(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).

# References - Direct-on-line and reversing

## Motor starters - open version

Combination automatic motor starters with overload protection built into the circuit breaker

### 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 GV2 P,
- 1 3-pole contactor LC1 D,
- 1 combination block GV2 AF3.

#### Characteristics

Starter type	GV2	DP102 to DP110	DP114	DP116	DP120	DP121	DP122	DP132	
Breaking capacity (Iq) <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	GV3 P401 <sup>(4)</sup>	LC1D50A●●	–	1.725
–	18.5	22	30...40	560	GV3 P401 <sup>(4)</sup>	LC1D65A●●	–	1.730
22	–	–	37...50	700	GV3 P501 <sup>(4)</sup>	LC1D50A●●	–	1.725
–	22	30	37...50	700	GV3 P501 <sup>(4)</sup>	LC1D65A●●	–	1.730
30	37	–	48...65	910	GV3 P651 <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 GV2 P can be increased by adding a current limiter GV1 L3, see page B6/11.  
 (2) See page B8/2.  
 (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 GV3 P circuit breaker with terminal blocks and the GV3S set of S-shape busbars (see page B8/29).

(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).

Open pre-cabled motor starters



GV2 DP102●●



GV3 P651 + LC1 D65A●●

# Motor starters - open version

Combination automatic motor starters with overload protection built into the circuit breaker

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

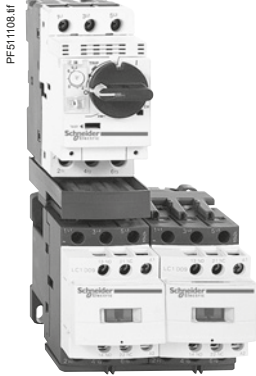
This pre-assembled combination comprises:

- 1 motor circuit breaker GV2 P,
- 1 3-pole reversing contactor LC2 D,
- 1 combination block GV2 AF3.

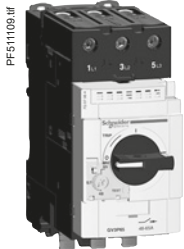
### Characteristics

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



GV2 DP202●●



GV3 P651 + LC2 D65A●●

#### 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	–	–	–	–	–	–
–	0.55	0.55	–	–	–	–	–	–
–	–	0.75	–	–	–	–	–	–
0.75	0.75	–	2.5...4	51	GV2P08	LC2D09●●	GV2DP208●●	1.073
–	1.1	1.1	–	–	–	–	–	–
1.1	–	1.5	4...6.3	78	GV2P10	LC2D09●●	GV2DP210●●	1.153
1.5	1.5	2.2	–	–	–	–	–	–
2.2	2.2	–	6...10	138	GV2P14	LC2D09●●	GV2DP214●●	1.153
–	3	3	–	–	–	–	–	–
3	–	4	9...14	170	GV2P16	LC2D25●●	GV2DP216●●	1.163
4	4	5.5	–	–	–	–	–	–
5.5	5.5	7.5	13...18	223	GV2P20	LC2D25●●	GV2DP220●●	1.153
–	7.5	9	17...23	327	GV2P21	LC2D25●●	GV2DP221●●	1.163
7.5	9	–	20...25	327	GV2P22	LC2D25●●	GV2DP222●●	1.163
9	11	11	24...32	416	GV2P32	LC2D32●●	GV2DP232●●	1.163
11	–	15	30...40	560	GV3 P401 <sup>(4)</sup>	LC2D50A●●	–	2.750
15	15	18.5	30...40	560	GV3 P401 <sup>(4)</sup>	LC2D65A●●	–	2.760
18.5	–	–	37...50	700	GV3 P501 <sup>(4)</sup>	LC2D50A●●	–	2.750
–	18.5	22	37...50	700	GV3 P501 <sup>(4)</sup>	LC2D65A●●	–	2.760
22	–	–	48...65	910	GV3 P651 <sup>(4)</sup>	LC2D65A●●	–	2.760
–	22	30	–	–	–	–	–	–
–	30	–	–	–	–	–	–	–

#### 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 GV2 P can be increased by adding a current limiter GV1 L3, see page B6/11.  
 (2) See page B8/2.  
 (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 GV3 P circuit breaker with terminal blocks and the GV3S set of S-shape busbars (see page B8/29).

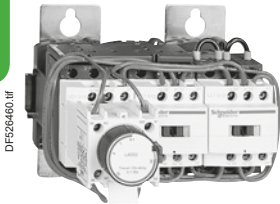
(5) Coil with integral suppression device as standard.

**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).

# Motor starters - open version

Star-delta starters for motor control up to 132 kW <sup>(1)</sup>, without isolating device, pre-assembled

Open pre-cabled motor starters



LC3 D32A●●

Plate mounted starters												
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)												
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 LC3 K06 and K09

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

Star-delta starters LC3 D090A...D150, LC3 D090A...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 LAD N can also be fitted, see page B8/23.

<sup>(4)</sup> These starters consist of contactors LC1 D115 or D150 without connectors.



## References - Star-delta

### Motor starters - open version

Star-delta starters for motor control, up to 315 kW <sup>(1)</sup>,  
without isolating device, pre-assembled

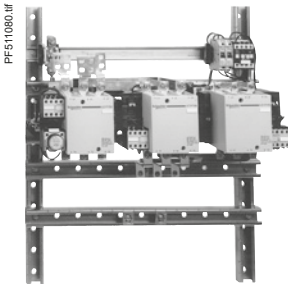
#### Pre-assembled starters

Maximum operating rate: 12 starts/hour.  
Maximum starting time:  
LC3 F●●●●●: 20 seconds,  
LC3 F●●●●●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				
kW	kW	kW	kW									kg
90	160	160	185	1	2	2	1	1	1	Without	LC3F185●●	16.500
										With	LC3F185●●A64	16.625
100	200	200	220	1	2	2	1	1	1	Without	LC3F225●●	16.500
										With	LC3F225●●A64	16.625
110	220	220	250	1	2	2	1	1	1	Without	LC3F265●●	27.300
										With	LC3F265●●A64	27.425
160	280	280	315	1	2	2	1	1	1	Without	LC3F330●●	37.000
										With	LC3F330●●A64	37.125
185	315	355	375	1	2	2	1	1	1	Without	LC3F400●●	37.000
										With	LC3F400●●A64	37.125



LC3 F●●●●●A64

<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:

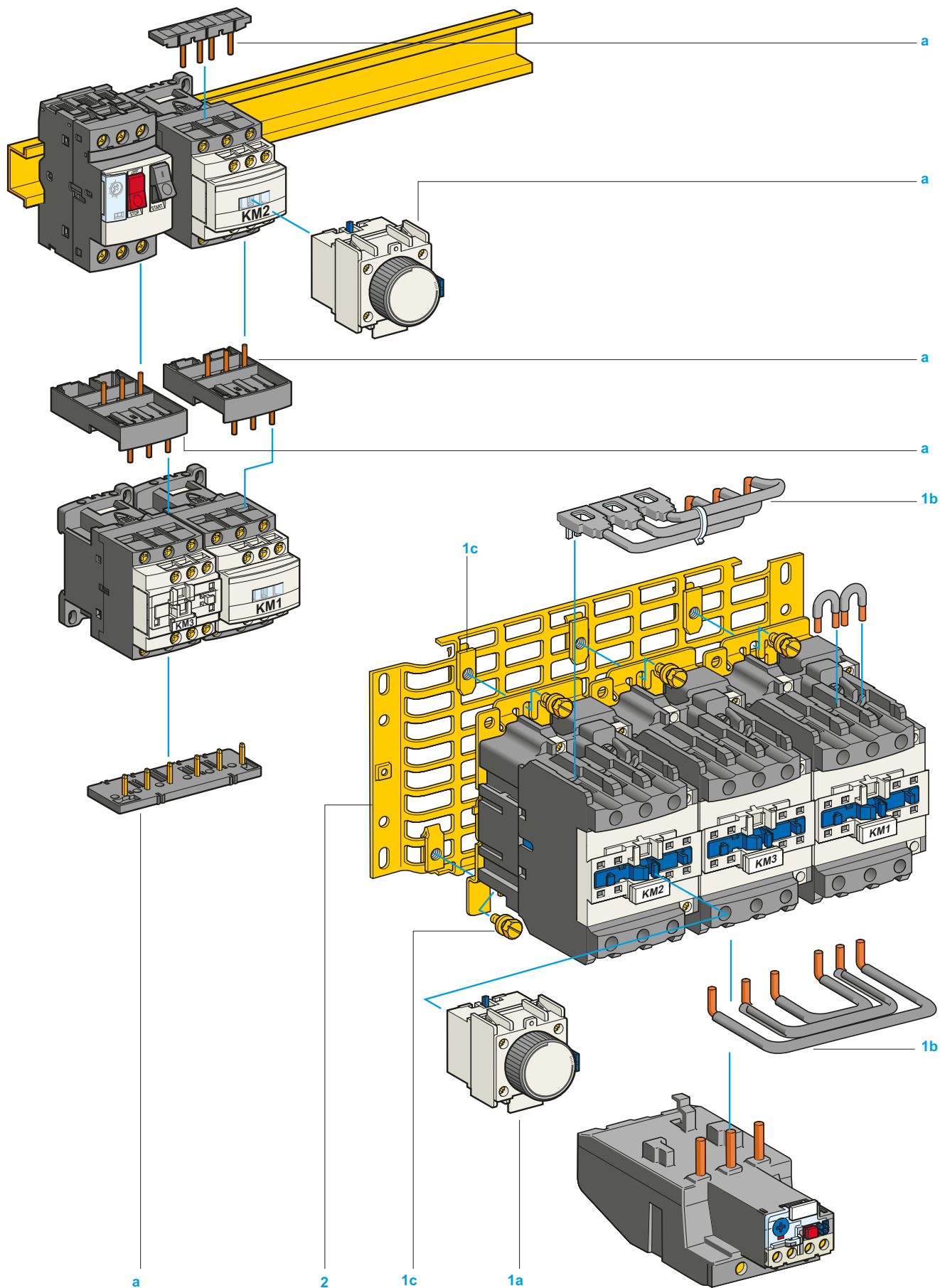
Volts ~ 50/60 Hz	48	110	115	220/230	230	240	380/400	400	415
Code	E7	F7	FE7	M7	P7	U7	Q7	V7	N7

For other voltages, please consult your Regional Sales Office.

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

Open pre-cabled motor starters

Open pre-cabled motor starters



## Motor starters - open version

Star-delta starters, for motor control, up to 132 kW <sup>(1)</sup>, without mechanical interlock, for customer assembly (on plate or on mounting rail) <sup>(2)</sup>

Open pre-cabled motor starters

### 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> Mains voltage - delta connection		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>		
400/415 V	440 V		line	delta	star
kW	kW		KM2	KM3	KM1
7.5	7.5	<i>GV2ME20</i> or <i>GV2ME20AP</i>	LC1D09●●	LC1D09●●	LC1D09●●
–	9	<i>GV2ME20</i> or <i>GV2ME20AP</i>	LC1D12●●	LC1D12●●	LC1D09●●
9	11	<i>GV2ME21</i> or <i>GV2ME21AP</i>	LC1D12●●	LC1D12●●	LC1D09●●
11	–	<i>GV2ME22</i> or <i>GV2ME22AP</i>	LC1D12●●	LC1D12●●	LC1D09●●
15	15	<i>GV2ME32</i> or <i>GV2ME32AP</i>	LC1D18●●	LC1D18●●	LC1D09●●

### Separate component

Description	Illustration item no.	Reference
Mounting kit comprising: power circuit connections and 1 time delay contact block LAD S2	a	LAD912GV

### Starters for mounting separately from upstream protection

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

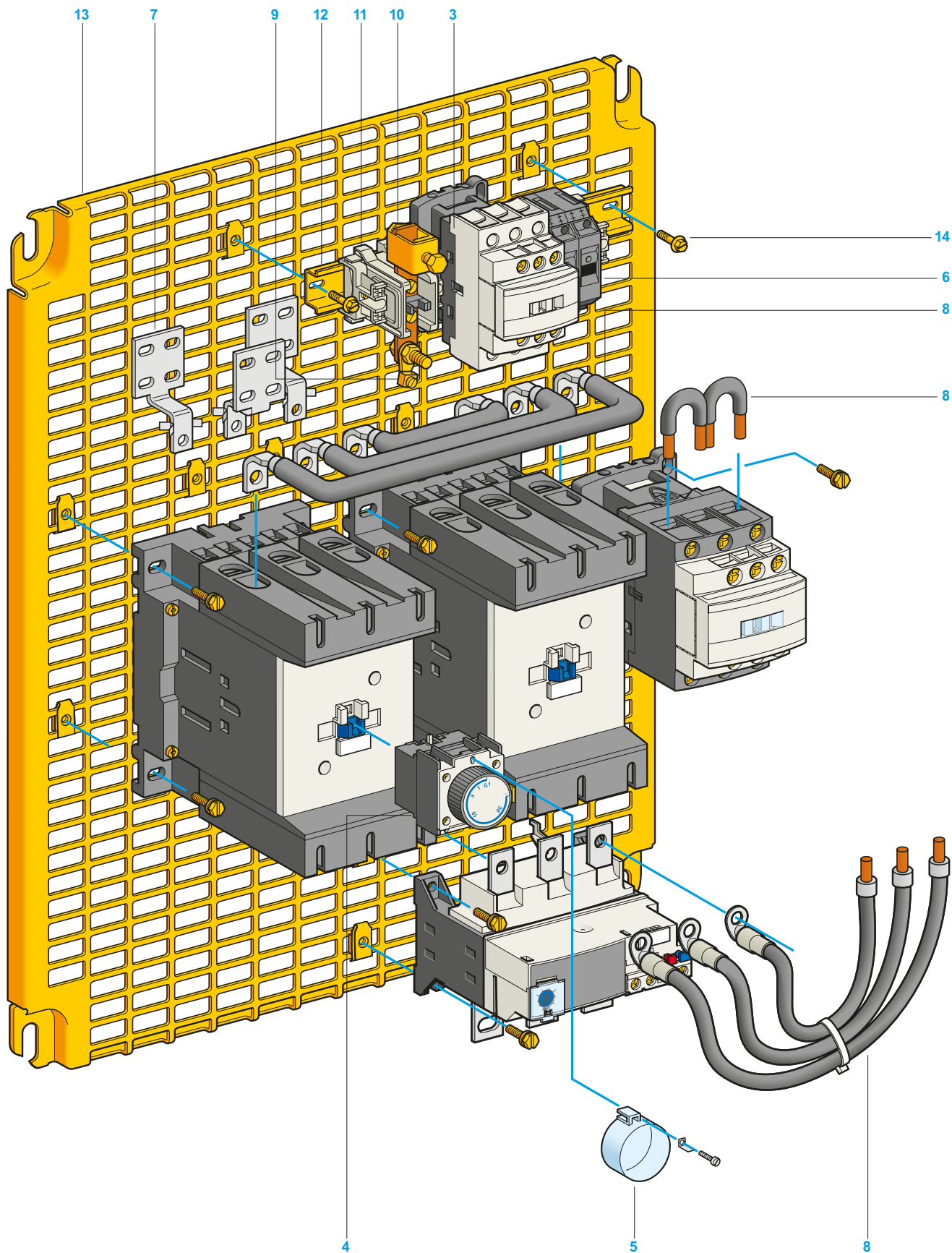
Standard power ratings of squirrel cage motors <sup>(3)</sup> Mains voltage - delta connection				Contactors (basic references, to be completed by adding the voltage code) <sup>(4)</sup>			Separate components (see below)
220/230 V	380/400 V	415 V	440 V	line	delta	star	Component types
kW	kW	kW	kW	KM2	KM3	KM1	
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 LAD S2 (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>(6)</sup>	LAD91217	LAD91218
	1 b	LC1D09 to D38 <sup>(9)</sup>	LAD93217	LAD93218
	1 c	D40 and D50	LA9D5017	–
Equipment mounting plates	2	D80	LA9D8017	–
		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 B8/2.
- <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



## Motor starters - open version

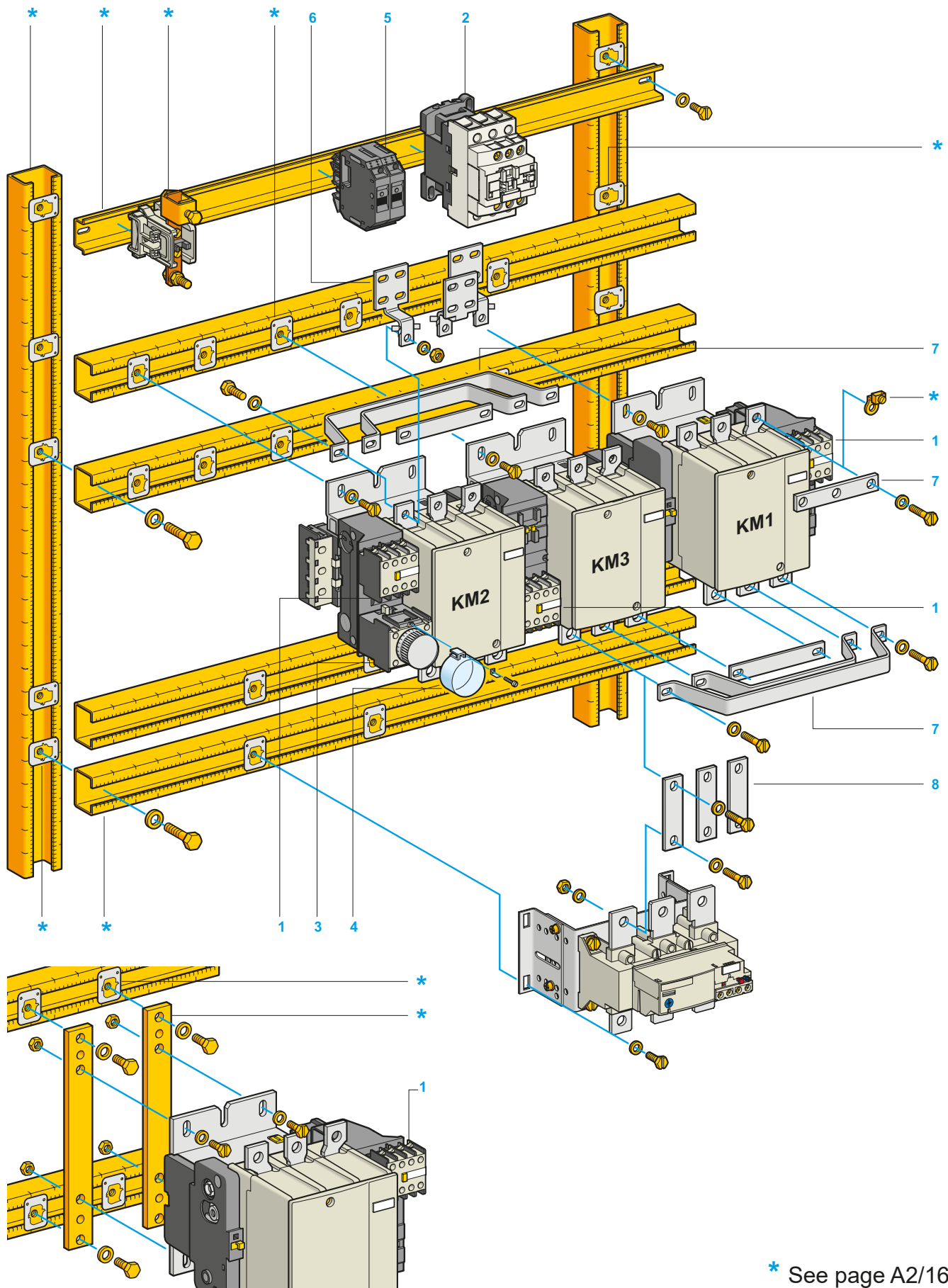
Star-delta starters, for motor control, up to 132 kW <sup>(1)</sup>, without mechanical interlock, for customer assembly (on plate or on mounting rail) <sup>(2)</sup>

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>(3)</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	AM1ED021	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



\* See page A2/16

## Motor starters - open version

Star-delta starters for motor control, up to 315 kW <sup>(1)</sup>, for customer assembly (on chassis)

Contactors							
Maximum operating rate: 12 starts/hour. Maximum starting time: 20 seconds <sup>(3)</sup>							
Standard power ratings of squirrel cage motors				Contactors <sup>(2)</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> 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 B9/32 to B9/41.

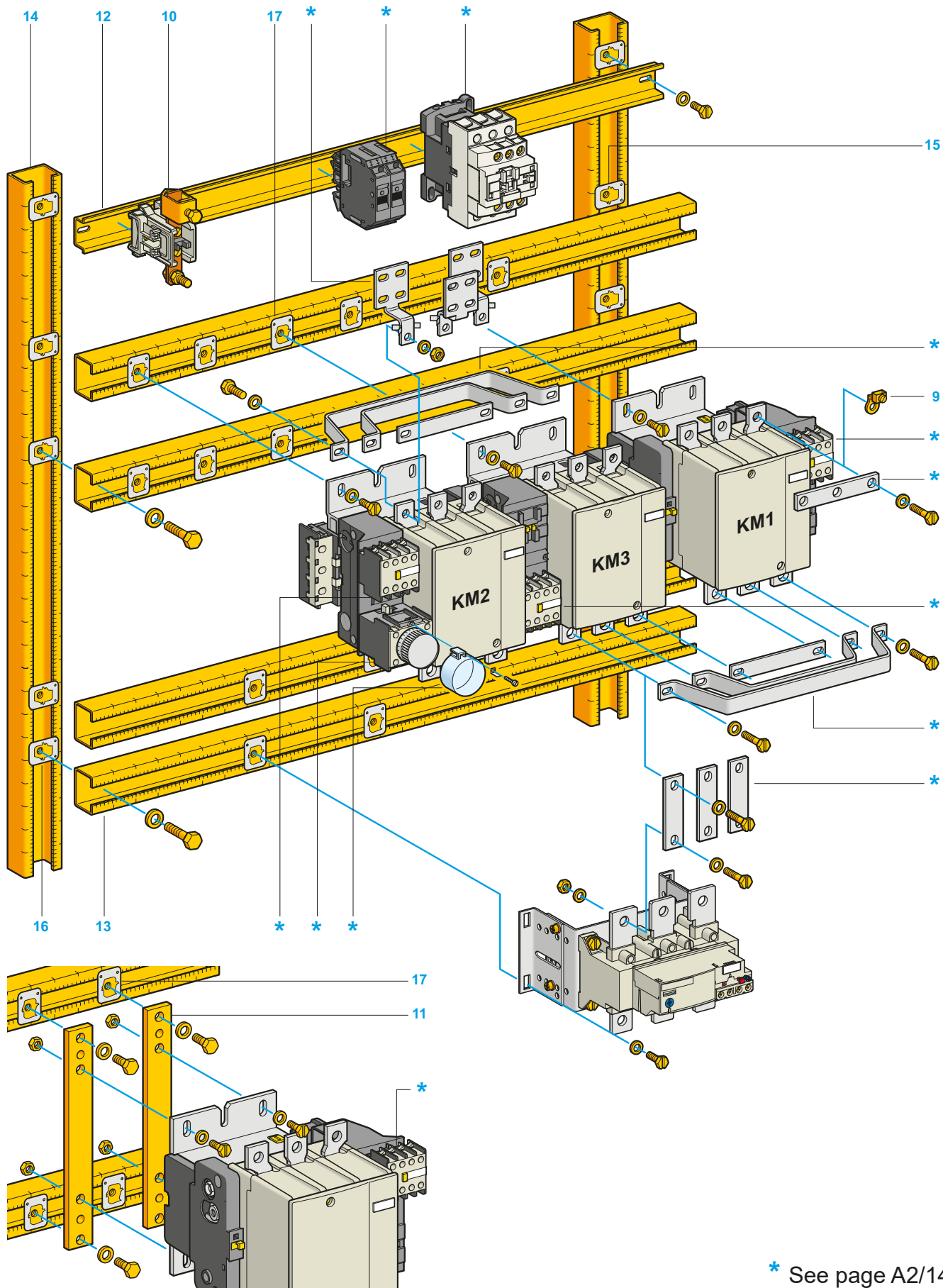
<sup>(3)</sup> For longer starting times, please consult your Regional Sales Office.

<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



\* See page A2/14



## Motor starters - open version

Star-delta starters for motor control, up to 315 kW <sup>(1)</sup>, for customer assembly (on chassis)

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 AM1 DE	15	F185...F400	2	10	NSYSNM6	0.020
				100	AF1VA618	0.006
1/4 turn sliding clip nuts and corresponding bolts for rails AM1 DE	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.



# Technical Data for Designers

## Contents

Direct-on-line / Reversing starters ..... A2/20 to A2/23

Star-delta starters ..... A2/24 to A2/28

# Dimensions, mounting - Direct-on-line and reversing

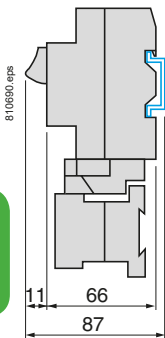
## Motor starters - open version

### Combination automatic motor starters

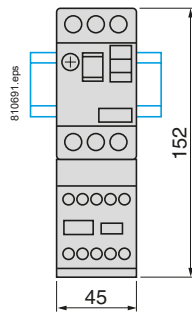
Open pre-cabled motor starters

#### GV2 ME●●K●●

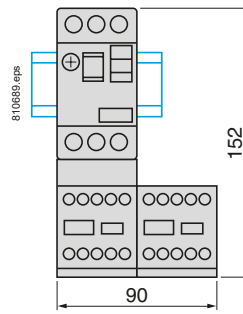
On mounting rail AM1 DE200



GV2 ME●●K1●●

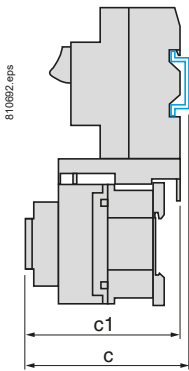


GV2 ME●●K2●●

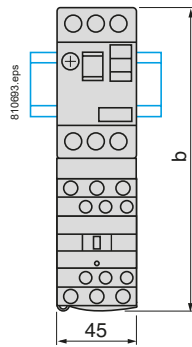


#### GV2 DM●●●●

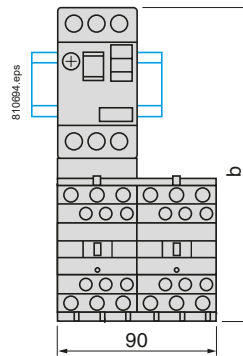
On mounting rail AM1 DE200



GV2 DM1●●●●



GV2 DM2●●●●

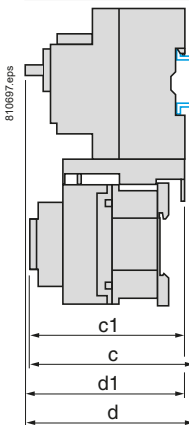


GV2DM●●●● contactor with AC or DC coil on mounting rail AM1DE200

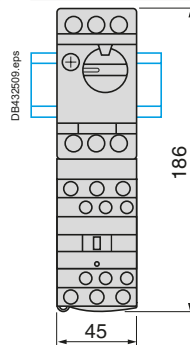
GV2	DM●02●● to DM●20●●	DM●21●● to DM●32●●
b	177	187
c	106	113
c1	96	103

#### GV2 DP●●●●

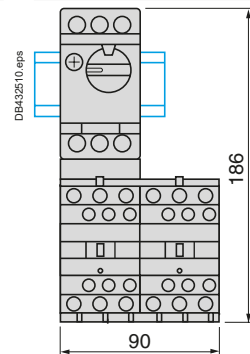
On mounting rail AM1 DE200



GV2 DP1●●●●



GV2 DP2●●●●



GV2DP●●●● contactor with AC or DC coil on mounting rail

GV2	DP●02●● to DP●08●●	DP●10●● to DP●32●●
b	178	188
c	111	118
c1	101	108
d	107	107
d1	97	97

References: pages A2/2 to A2/7

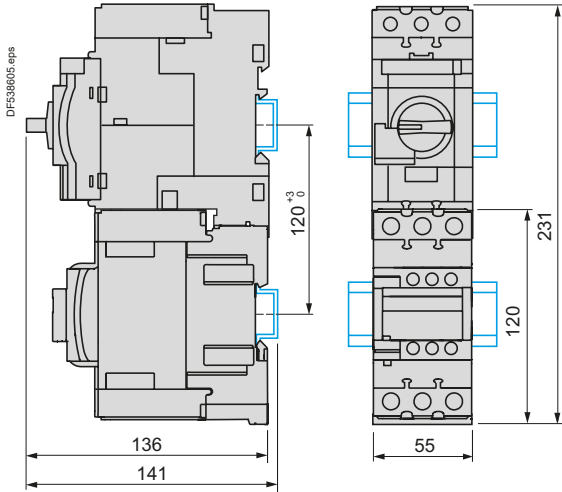
Schemes: pages A2/22 and A2/23

Motor starters - open version

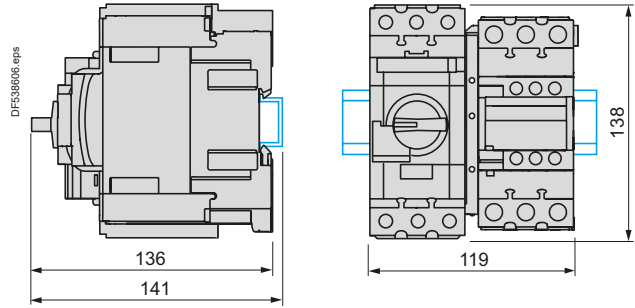
Combination automatic motor starters

**GV3 P●●1 + LC1 D40A...D65A (for customer assembly)**

Vertical mounting <sup>(1)</sup>

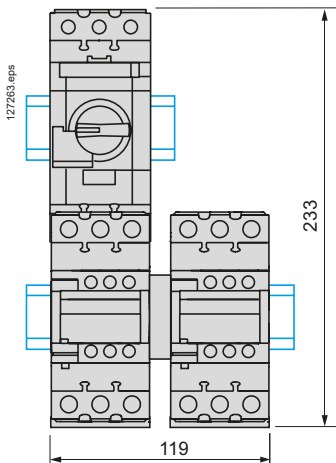


Side by side mounting with S-shape busbar system GV3 S <sup>(2)</sup>

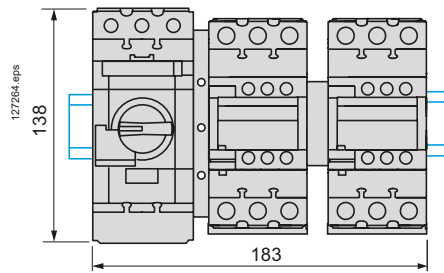


**GV3 P●●1 + LC2 D40A...D65A (for customer assembly)**

Vertical mounting <sup>(1)</sup>



Side by side mounting with S-shape busbar system GV3 S <sup>(2)</sup>



(1) For several side-by-side motor starters, the maximum current allowed is equal to the nominal current under 400 V.

Example: 55 A for a 30 kW motor under 400 V, for a GV3 P65 circuit breaker and a LC1 D65A contactor association.

(2) The maximum current allowed is equal to 90 % of maximum current. Example: 45 A for a LC1 D50A contactor.

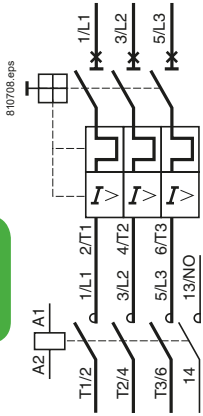
# Schemes - Direct-on-line and reversing

## Motor starters - open version

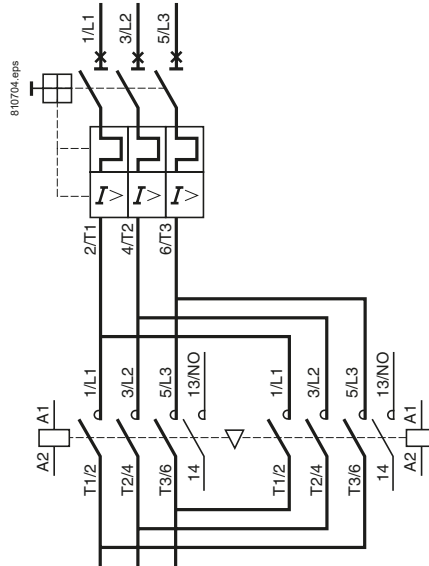
### Combination automatic motor starters

Open pre-cabled motor starters

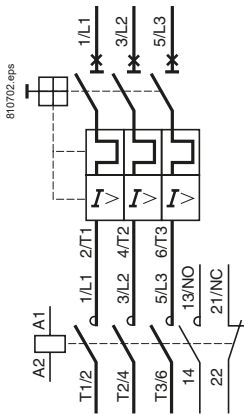
**GV2 ME●●K1●●**



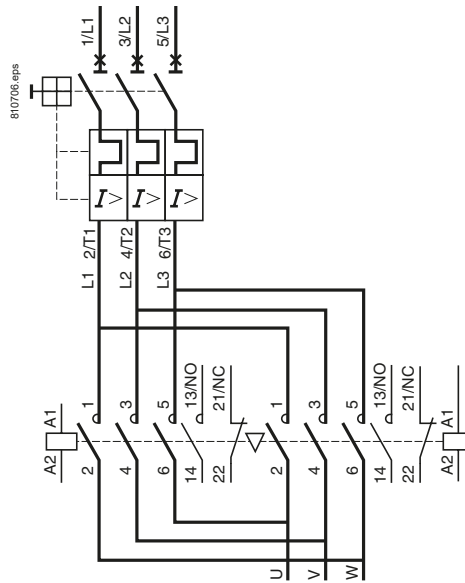
**GV2 ME●●K2●●**



**GV2 DM1●●●●**



**GV2 DM2●●●●**

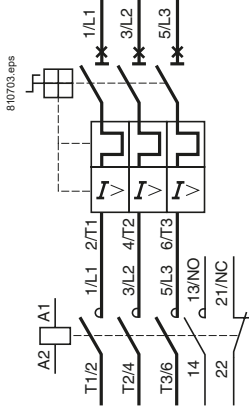


# Schemes - Direct-on-line and reversing

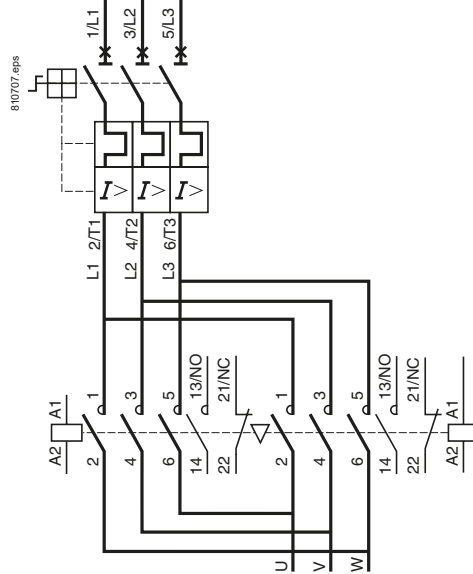
## Motor starters - open version

### Combination automatic motor starters

#### GV2 DP1

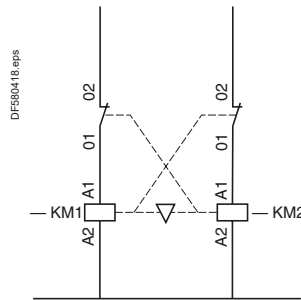
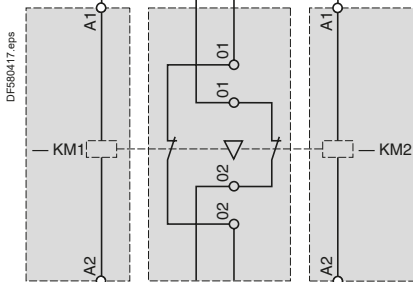


#### GV2 DP2

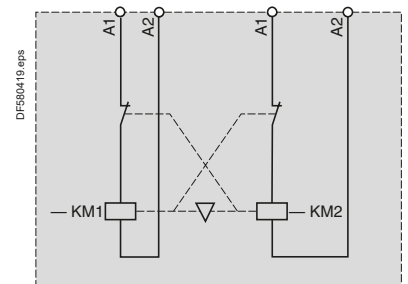


#### Mechanical interlock with integral electrical contacts

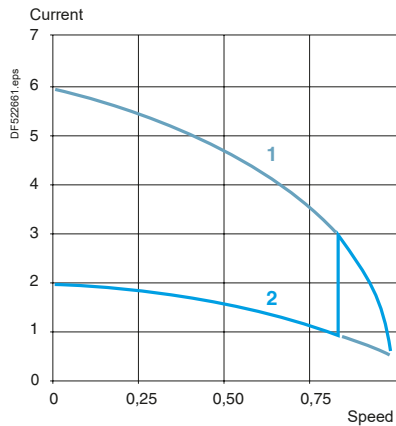
Control circuit ~



Control circuit - -



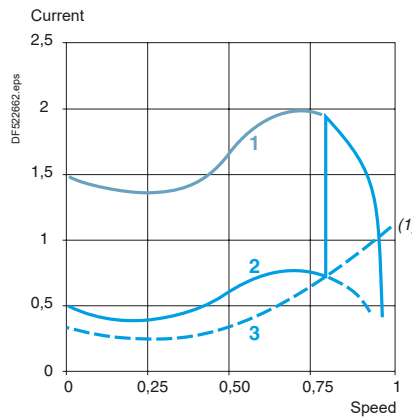
**Star-delta starting**



This method of starting is applicable to motors on which all 6 stator terminals are accessible and whose delta connection voltage corresponds to the mains voltage.

Star-delta starting should be used for motors starting on no-load or having a low load torque and gradual build-up:  
 - the starting torque in star connection is reduced to one third of the direct starting torque, i.e. about 50 % of the rated torque.  
 - the starting current in star connection is about 1.8 to 2.6 times the rated current.

- 1 Starting in direct delta connection
- 2 Starting in star connection



The transition from star to delta connection must occur when the machine has run up to speed. A too rapid build-up in load torque would cause the stabilised run-up speed to be too low and would therefore eliminate any advantage in this method of starting: this is the case with certain machines whose load torque depends on the machine speed (a characteristic of centrifugal machines, for example).

All star-delta starters are supplied with a special LAD S2 or LA2 KT2 time delay relay which imposes a delay on the delta contactor during the transition period in order to allow the star contactor sufficient breaking time.

- 1 Starting in direct delta connection
- 2 Starting in star connection
- 3 Resistive torque of the machine

For ratings D115 and D150, this function is performed by a time delay auxiliary contact block LAD T2 and a control relay.

(1) Motor manufacturers generally specify machine load torques.  
 Example: maximum resistive torque on completion of star-delta start (expressed as a proportion of the rated torque).

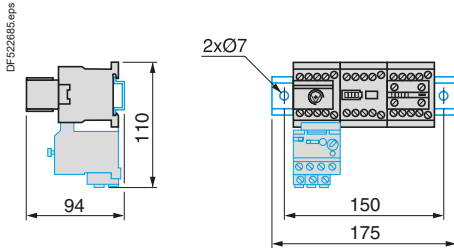


**Dimensions**

**Star-delta starters**

Plate mounted, pre-assembled

LC3 K

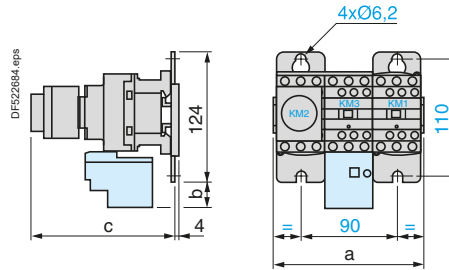


On starters LC3 D09A to D18A, a connection block is mounted on the upper part of contactor KM2, increasing the overall height of the product by 6.5 mm.

Pre-assembled:

LC3 D09A...D32A

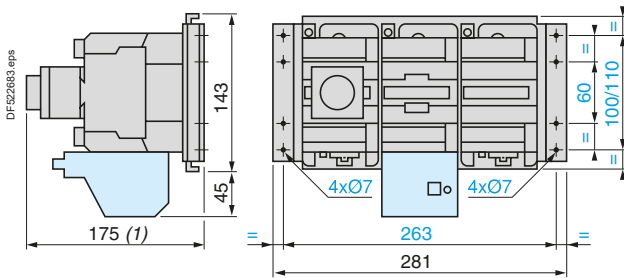
For customer assembly: 3 x LC1 D with components D09 to D32



LC3	D09A	D12A	D18A	D32A
a	143	143	144	165
b	26.5	26.5	26.5	32.5
c	with LAD S	139	139	145
	with LAD S and sealing cover	143	143	149

Pre-assembled: LC3 D80

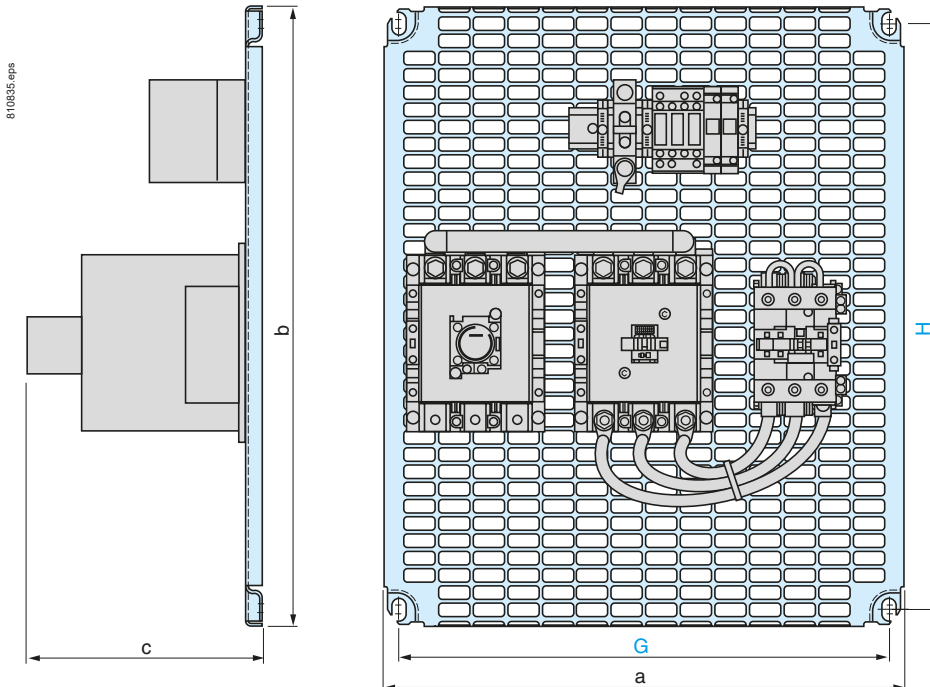
For customer assembly: 3 x LC1 D with components D80



(1) +4 mm with sealing cover

Pre-assembled: LC3 D115, D150

For customer assembly: 3 x LC1 D with components D115 or D150



		a	b	c	G	H
LC3 D115 or 3 x LC1 D with components	D115	450	555	205	425	525
LC3 D150 or 3 x LC1 D with components	D150	450	555	205	425	525

References:  
pages A2/8 to A2/13

Schemes:  
page A2/26

Open pre-cabled motor starters

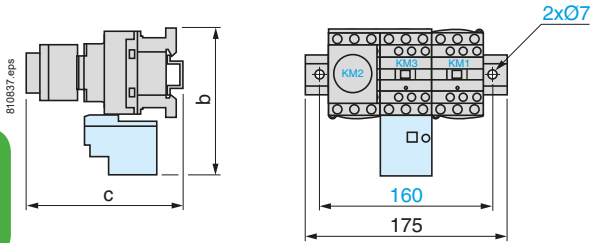
Open pre-cabled motor starters

**Dimensions**

**Star-delta starters**

On mounting rail AM1 DP, pre-assembled

LC3 D090A à D320A



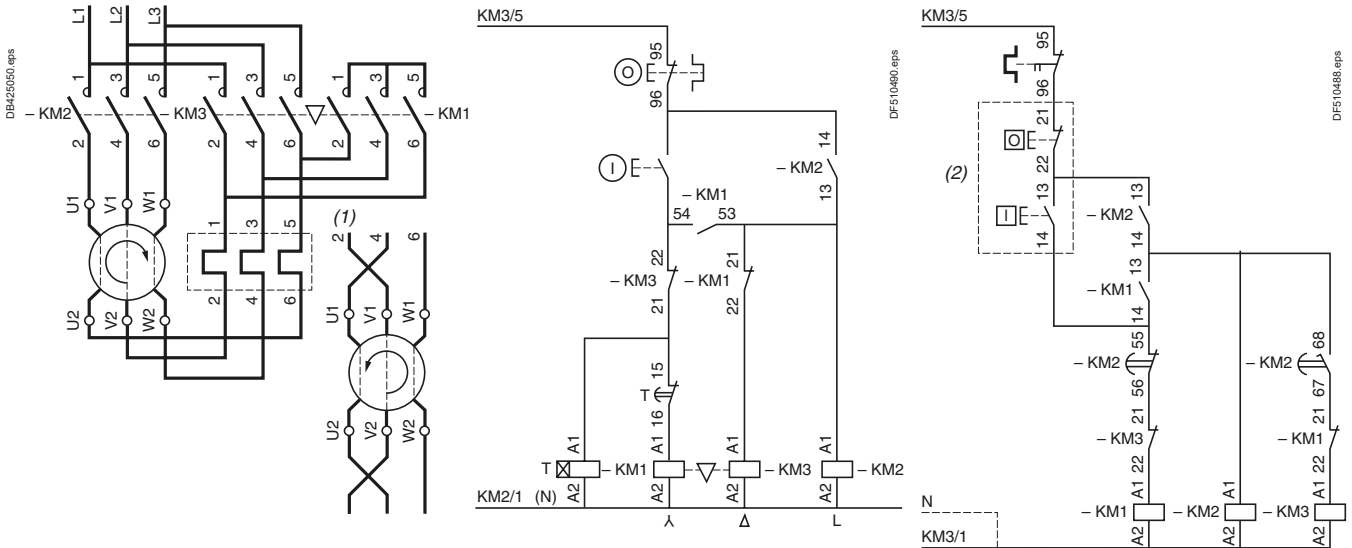
LC3	D090A à D180A	D320A
$b$	153	137
$c$	with LAD S	145
	with LAD S and sealing cover	149

**Schemes**

LC3 K, LC3 D09A to D80  
LC3 D090A to D320A

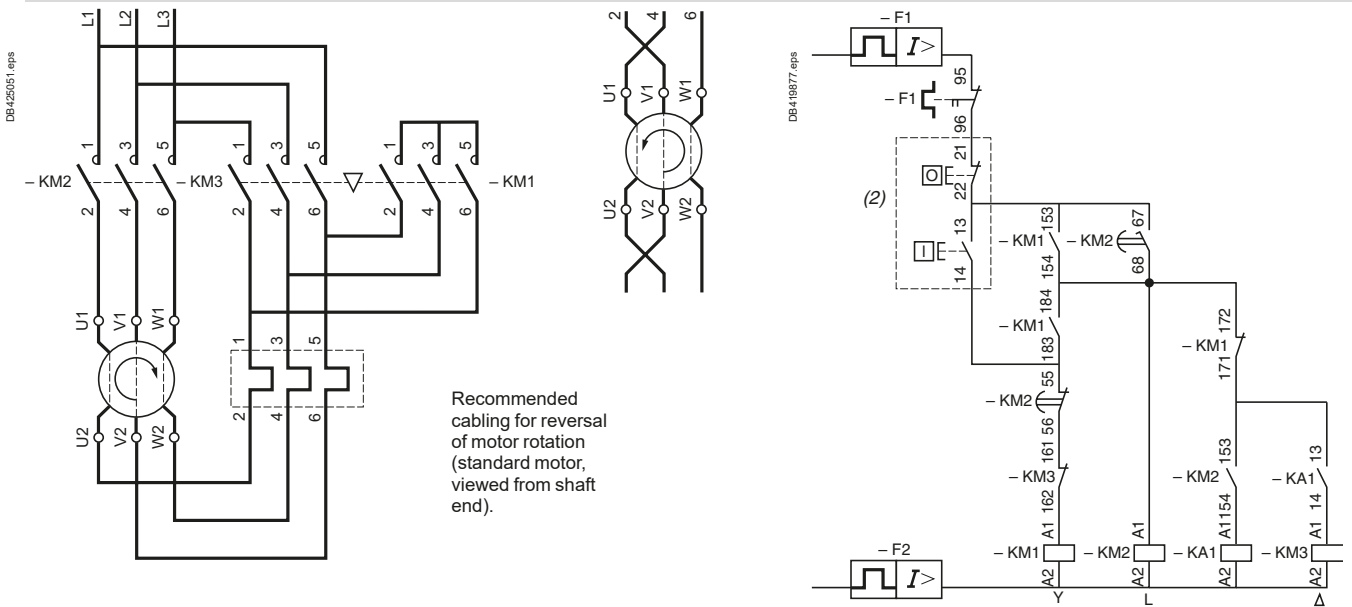
LC3 K

LC3 D



**Note:** LC3 D09A to D18A: Mechanical interlock between KM3 and KM1.

LC3 D115 and D150



Recommended cabling for reversal of motor rotation (standard motor, viewed from shaft end).

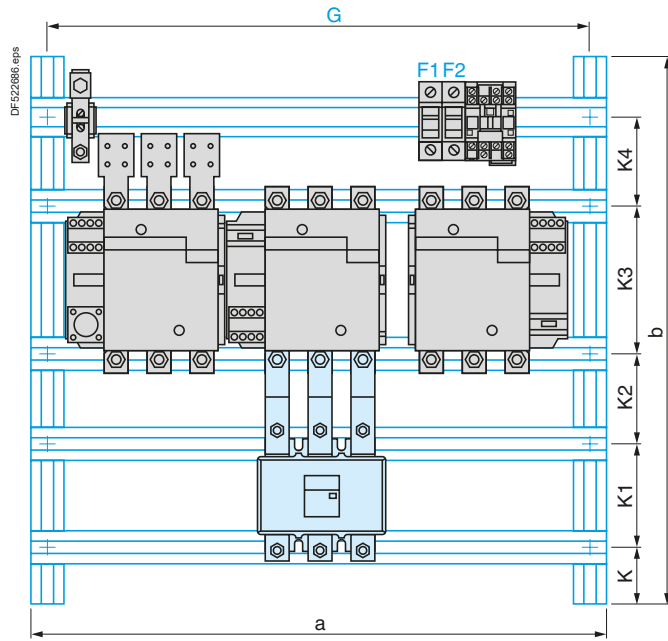
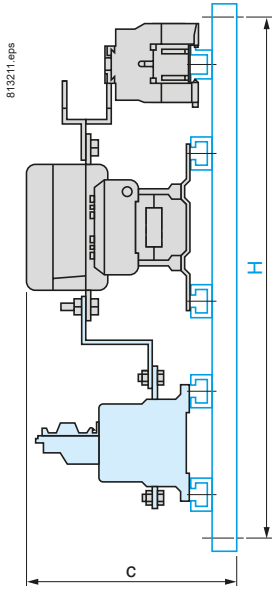
- (1) Recommended cabling for reversal of motor rotation (standard motor, viewed from shaft end).
- (2) Remote control.

**Dimensions**

**Chassis mounted starters**

Pre-assembled: **LC3 F185 to LC3 F400**

For customer assembly: **2 x LC1 F●●● and 1 x LC1 D150 or 3 x LC1 F●●●**



	a	b	c	G	H	K	K1	K2	K3	K4
<b>LC3 F185</b> or <b>2 x LC1 F●●● + 1 x LC1 D</b> with components F185	565	675	235	525	625	160	110	80	110	80
<b>LC3 F225</b> or <b>3 x LC1 F●●●</b> with components F225	565	675	235	525	625	160	110	80	110	80
<b>LC3 F265</b> or <b>3 x LC1 F●●●</b> with components F265	665	775	266	625	725	165	110	100	110	110
<b>LC3 F330</b> or <b>3 x LC1 F●●●</b> with components F330	765	975	276	725	825	195	140	100	110	180
<b>LC3 F400</b> or <b>3 x LC1 F●●●</b> with components F400	765	975	276	725	925	195	140	100	180	110

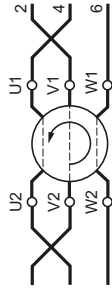
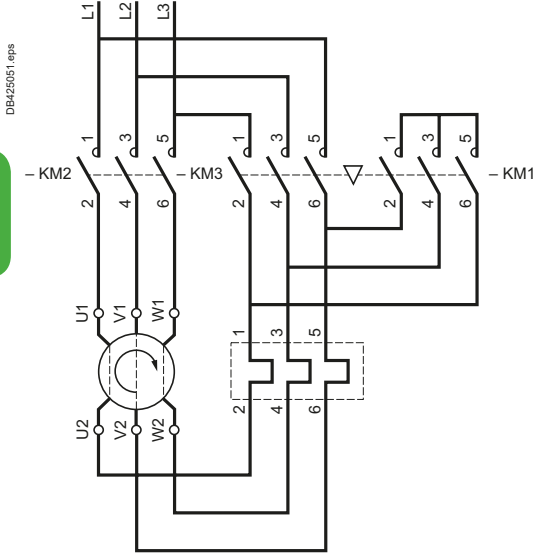
Open pre-cabled motor starters

Open pre-cabled motor starters

Schemes

Star-delta starters

LC3 F185 to F400



Recommended cabling for reversal of motor rotation (standard motor, viewed from shaft end).

