












TeSys

Enclosed starters



Direct-on-line					
Enclosure main composition	Direct	Reversing	Range		Page
Rotary switch Add-on modules, UL versions TeSys Vario	☑		Up to 45 kW		A1/2
Motor circuit breaker TeSys GV	☑		Up to 11 kW		A1/7
Motor circuit breaker TeSys GV	☑		Up to 30 kW		A1/8
Contactor + Overload relay TeSys LE1, LE2	☑	☑	Up to 37 kW		A1/10
Motor circuit breaker + Contactor + Overload relay TeSys LE1GV	☑		Up to 7.5 kW		A1/13
Fuse switch-disconnector + Contactor + Overload relay TeSys LE4, LE8	☑	☑	Up to 15 kW		A1/14
Star-delta					
3 contactors + Overload relay TeSys LE3	☑		Up to 30 kW		A1/16
Fuse switch-disconnector + 3 contactors + Overload relay TeSys LE6	☑		Up to 22 kW		A1/18
Replacement parts					A1/19
For safety application					
Motor circuit breaker + Emergency stop push button TeSys GV	☑		Up to 11 kW		A1/21
Motor circuit breaker + Contactor + Emergency stop switch TeSys LG1	☑		Up to 9 kW		A1/22
Motor circuit breaker + Contactor + Emergency stop push button TeSys LG7, LG8, LJ7, LJ8	☑	☑	Up to 9 kW		A1/24
Replacement parts					A1/28

Technical Data for Designers

A1/31

Selection software to download Enclosed Motor Starter Solution Guide

The software to help you to select intuitively
your enclosed motor starter solution*.

The new Enclosed Motor Starter Solution Guide software
is available for both PC and iPad.

*TeSys LE enclosures still selectable but no longer commercialized.



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to download





VCF 0GE



VCF 3GE



VCF 5GEN



VCFN 12GE

Enclosed switch-disconnectors for high performance applications

- 3-pole rotary switch-disconnectors, 10 to 140 A, conforming to IEC 60947-4-1 and IEC 60204.
- Marking on operator $\text{O} \downarrow$.
- Padlockable operating handle (padlocks not included).
- IP 65 degree of protection enclosures, sealable and lockable.
- Cover lockable in position "I" (ON) up to 63 A rating.
- Ground plate for shielded cable continuity ($\text{Ø}11$ to 14 mm) on enclosed switch-disconnectors "GP" version.

3-pole main and Emergency Stop switch-disconnectors ⁽¹⁾

Operator Handle	Front plate Dimensions	Ithe	Power AC-23 at 400 V	Incorporated switch body	Possible attachments ⁽²⁾	With ground plate	Reference ⁽³⁾	Weight
	mm	A	kW					kg
Red, standard, padlockable with up to 3 padlocks ($\text{Ø}4$ to $\text{Ø}8$ shank)	Yellow 60 x 60	10	4	V02	2	No	VCF02GE	0.400
		16	5.5	V01	2	Yes	VCF02GEGP	0.460
		20	7.5	V0	2	No	VCF01GE	0.400
		25	11	V1	2	Yes	VCF01GEGP	0.460
		32	15	V2	2	No	VCF02GE	0.500
		50	22	V3	3	No	VCF3GE	0.930
Red, long, padlockable with up to 3 padlocks ($\text{Ø}4$ to $\text{Ø}8$ shanks)	Yellow 90 x 90	100	37	V5	1	No	VCF5GEN	2.190
		140	45	V6	1	No	VCF6GEN	2.190

3-pole main switch-disconnectors ⁽¹⁾

Black, standard, padlockable with up to 3 padlocks ($\text{Ø}4$ to $\text{Ø}8$ shank)	Black 60 x 60	10	4	V02	2		VBF02GE	0.500
		16	5.5	V01	2		VBF01GE	0.500
		20	7.5	V0	2		VBF0GE	0.500
		25	11	V1	2		VBF1GE	0.500
		32	15	V2	2		VBF2GE	0.500
		50	22	V3	3		VBF3GE	0.930
Black, long, padlockable with up to 3 padlocks ($\text{Ø}4$ to $\text{Ø}8$ shank)	Black 90 x 90	100	37	V5	1		VBF5GEN	2.190
		140	45	V6	1		VBF6GEN	2.190

Enclosed switch-disconnectors for standard applications

- 3-pole rotary switch-disconnectors, 10 to 32 A, conforming to IEC 60947-4-1.
- Degree of protection IP 55.

3-pole main and Emergency Stop switch-disconnectors ⁽¹⁾

Operator Handle	Front plate Dimensions	Ithe	Power AC-23 at 400 V	Incorporated switch body	Possible attachments ⁽²⁾	Reference ⁽³⁾	Weight
	mm	A	kW				kg
Red padlockable, either by 1 ($\text{Ø}8$ shank) or by 3 padlocks ($\text{Ø}6$ shank)	Yellow 60 x 60	10	4	VN 12	2	VCFN12GE ⁽²⁾	0.422
		16	5.5	VN 20	2	VCFN20GE ⁽²⁾	0.422
		20	7.5	V0	0	VCFN25GE	0.512
		25	11	V1	0	VCFN32GE	0.512
		32	15	V2	0	VCFN40GE	0.512

⁽¹⁾ For characteristics of switch-disconnectors, please consult your Regional Sales Office.

⁽²⁾ For VCF and VBF enclosures, see page A1/4. For VCFN enclosures, see page A1/5.

⁽³⁾ Enclosure not suitable in atmosphere contaminated with harsh substances (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).

Note: For VCF and VBF enclosures from 02GE to 2GE, only one auxiliary contact block VZ7 or VZ20 can be mounted.



VBFX GE2

Empty enclosures

IP65 enclosure with red padlockable handle operator and yellow front plate
(for mounting a main or Emergency Stop switch-disconnector)

For switch body	Ithe	Possible attachments ⁽¹⁾	Reference ⁽²⁾	Weight
A				
VN12, VN20 V02...V2	10...32	2	VCFXGE1	0.340
V02...V2	10...32	4	VCFXGE4	0.660
V3 - V4	50 ... 63	3	VCFXGE2	0.660
V5 - V6	100.... 140	1	VCFXGE6	1.04

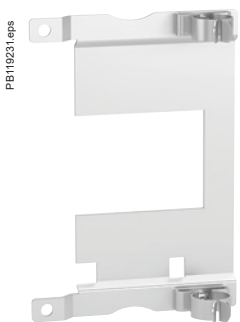
IP65 enclosure with black padlockable handle and black front plate
(for mounting a main switch-disconnector)

VN12, VN20 V02...V2	10...32	2	VBFXGE1	0.340
V02...V2	10...32	4	VBFXGE4	0.660
V3-V4	50...63	3	VBFXGE2	0.660
V5 - V6	100.... 140	1	VBFXGE6	1.04

Ground plate and accessories

Metallic ground plate, for shielded cables connection. To be installed between back of enclosure and switch disconnector, 2 fixing screws. Cable shield grounding ensured by 2 clamps, clamping from Ø11 to 14 mm (for VCF02GE, VCF01GE, VCF0GE, VCF1GE Vario enclosed switch-disconnectors)

Ground plate + 2 clamps + 2 screws	VGP1	0.07
2 clamps + 2 screws	VGPCLIP1	0.01



VGP1

Switch bodies for standard applications ⁽³⁾

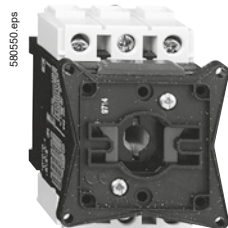
Description	Rating	Reference	Weight
A			
3-pole switch-disconnectors	10	VN12	0.110
	16	VN20	0.110

Switch bodies for high performance applications ⁽³⁾

Description	Rating	Reference	Weight
A			
3-pole switch-disconnectors	10	V02	0.200
	16	V01	0.200
	20	V0	0.200
	25	V1	0.200
	32	V2	0.200
	50	V3	0.200
	63	V4	0.200



VGPCLIP1



V0

(1) See pages A1/4, and A1/5.
 (2) Enclosure not suitable in atmosphere contaminated with harsh substances (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).
 (3) For characteristics of switch-disconnectors, please consult your Regional Sales Office.

TeSys enclosed starters

VARIO enclosed switch-disconnectors

Add-on modules

Enclosed starters



VZ 0



VZ 11



VZ 15



VZ 20

Add-on modules for enclosures VCF and VBF

Description	Rating	Reference
	A	
Main pole module (mounted in enclosure)	10	VZ02
	16	VZ01
	20	VZ0
	25	VZ1
	32	VZ2
	50 63	VZ3 VZ4
Neutral pole modules with early make and late break contacts	10 to 32	VZ11
	50 and 63	VZ12
	100 and 140	VZ13
Earthing modules	10 to 32	VZ14
	50 and 63	VZ15
	100 and 140	VZ16
Description	Type of contacts	Reference
Auxiliary contact block modules with 2 auxiliary contacts	N/O + N/C ⁽¹⁾	VZ7
	N/O + N/O	VZ20

Note: The add-on modules mounted next to the switch body are main pole modules.
Maximum of 3 main pole modules per switch body.

(1) Late make N/O, early break N/C contacts.

TeSys enclosed starters

VARIO enclosed switch-disconnectors

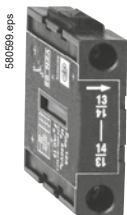
Add-on modules



VZN 11



VZN 14



VZN 05

Add-on modules for enclosures VCFN 12GE and 20GE

Description	Rating	Reference
Main pole modules	10	VZN12
	16	VZN20
Neutral pole module with early make and late break contacts	10 and 16	VZN11
Earthing module	10 and 16	VZN14

Description	Type of contacts	Reference
Auxiliary contact block modules	1 N/O late make contact	VZN05
	1 N/C early break contact	VZN06

Enclosed starters

TeSys enclosed starters

VARIO enclosed switch-disconnectors for the North American market, conforming to UL and CSA standards

Enclosed starters



VC1 GUN



VC3 GUN



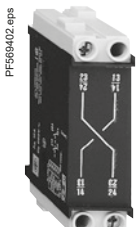
VC5 GUN



VZ 11



VZ 15



VZ 20

Enclosed switch-disconnectors for high performance applications

- 3-pole rotary switch-disconnectors, 25 to 140 A, conforming to IEC 60947-4-1, IEC 60204, UL 508 and CSA 22.2 n° 14.
- Marking on operator
- Padlockable operating handle (padlocks not included).
- NEMA type 1 and type 12 enclosures, IP65 degree of protection, sealable and lockable.

3-pole main and Emergency stop switch-disconnectors ⁽¹⁾

Operator Handle	Front plate Dimensions mm	Rating		Standard power ratings of UL motors			Incorporated switch body	Possible attachments	Reference ⁽²⁾	Weight kg	
		IEC (lth)	UL	600 V	240 V	480 V					600 V
		A	A	HP	HP	HP					
Red, standard, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Yellow 60 x 60	32	20	5	10	10	V1	2	VC1GUN	0.500	
		40	25	5	10	15	V2	2	VC2GUN	0.500	
		63	45	10	20	30	V3	2	VC3GUN	0.930	
		80	63	15	30	40	V4	2	VC4GUN	0.930	
Red, long, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Yellow 90 x 90	125	100	25	50	50	V5	1	VC5GUN	2.190	
		175	115	30	50	60	V6	1	VC6GUN	2.190	

Add-on modules for VC enclosure

Description	Rating A	Reference
Main pole module (mounted in enclosure)	25	VZ1
	32	VZ2
	50	VZ3
	63	VZ4
Neutral pole module with early make and late break contacts	10 to 32	VZ11
	50 and 63	VZ12
	100 and 140	VZ13
Earthing modules	10 to 32	VZ14
	50 and 63	VZ15
	100 and 140	VZ16
Description	Type of contacts	Reference
Auxiliary contact block modules with 2 auxiliary contacts	N/O + N/C ⁽³⁾	VZ7
	N/O + N/O	VZ20

⁽¹⁾ For characteristics of switch-disconnectors, please consult your Regional Sales Office.

⁽²⁾ Enclosure not suitable in atmosphere contaminated with harsh substances (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).

⁽³⁾ Late make N/O, early break N/C contacts.

TeSys enclosed starters

D.O.L. starters, manual control, with GV2ME thermal magnetic circuit breaker



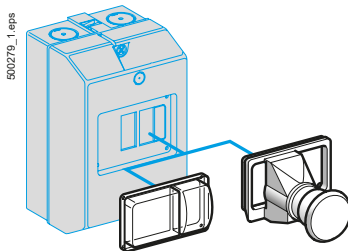
GV2 MC



GV2 MP



GV2 CP21



GV2 K011

Characteristics ⁽¹⁾

Conforming to standards	IEC 60947-2, IEC 60947-4-1
Operational voltage Ue	690 V
Material	Polycarbonate ⁽²⁾

GV2	ME 01	ME 02	ME 03	ME 04	ME 05	ME 06	ME 07	ME 08	ME 10	ME 14	ME 16	ME 20	ME 21	ME 22
lthe in enclosure (A)	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	9	13	17	21	23

References

Enclosures for thermal-magnetic circuit breakers GV2 ME ⁽³⁾

Type	Degree of protection	Possible no. of side mounting auxiliary contact blocks on GV2 ME		Reference	Weight kg
		LH side	RH side		
Surface mounting, double insulated with protective conductor. Sealable cover	IP41	1	1	GV2MC01	0.290
	IP55	1	1	GV2MC02	0.300
				or GV2MCK04 ⁽⁴⁾	0.420
IP55 for temperature < +5 °C	1	1	GV2MC03	0.300	
Flush mounting, with protective conductor	IP41 (front face)	1	1	GV2MP01	0.115
	IP41 (front face reduced – flush mounting)	–	1	GV2MP03	0.115
	IP55 (front face)	1	1	GV2MP02	0.130
	IP55 (front face reduced flush mounting)	–	1	GV2MP04	0.130

Front plate

Description		Reference	Weight kg
For direct control, through a panel, of a chassis mounted GV2 ME	IP55	GV2CP21	0.800

Accessories common to all enclosures (to be ordered separately)

Description		Sold in lots of	Unit reference	Weight kg	
Padlocking device ⁽⁵⁾ for GV2 ME operator (padlocking is only possible in the "O" position)	1 to 3 padlocks Ø 4 to 8 mm	1	GV2V01	0.075	
Mushroom head pushbutton Ø 40 mm, red, IP55	Spring return ⁽⁵⁾	1	GV2K011	0.052	
Emergency stop Latching ⁽⁵⁾	Key release, key n° 455	1	GV2K021	0.160	
	Turn to release	1	GV2K031	0.115	
		1	GV2K04 ⁽³⁾	0.120	
Sealing kit	For enclosures and front plate	IP 55 for temperature between +5 °C and +40 °C	10	GV2E01	0.012
		IP 55 for temperature between -20 °C and +40 °C	10	GV2E02	0.012
Neutral terminal		100	NSYTRV62BL	0.015	
Partition		50	NSYTRAC22BL	0.003	

⁽¹⁾ Characteristics of GV2ME circuit breakers and additives: see chapter B6 "Circuit breakers".

⁽²⁾ Enclosure not suitable in atmosphere contaminated with harsh substances (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).

⁽³⁾ Circuit breaker to be ordered separately. Commercial references of GV2ME01 to M22: see chapter B6 "Circuit breakers".

⁽⁴⁾ Enclosure GV2 MCK04 is fitted with a GV2 K04 mushroom head Emergency stop pushbutton as standard.

⁽⁵⁾ Supplied with IP55 GV2 E01 sealing kit. To be fitted with enclosure GV2 M●01.

⁽⁶⁾ Padlockable in "O" position using Ø 4 to 8 mm shank padlocks.

TeSys enclosed starters

D.O.L. starters manual control, with magnetic circuit breaker GV2 L or thermal-magnetic GV2 P



GV2 PC

PB112219_L32.eps

Characteristics ⁽¹⁾	
Conforming to standards	IEC 60947-2, IEC 60947-4-1 (GV2 P only)
Degree of protection conforming to IEC 60529	IP65 / IK08
Operational voltage Ue	690 V
Material	Polycarbonate ⁽²⁾

GV2	L/P 01	L/P 02	L/P 03	L/P 04	L/P 05	L/P 06	L/P 07	L/P 08	L/P 10	L/P 14	L/P 16	L/P 20	L/P 21	L/P 22
lthe in enclosure (A)	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	9	13	17	21	23

References

Enclosures fitted with padlockable rotary handle, for GV2P/L circuit breakers ⁽³⁾

Composition	Type	Reference
<ul style="list-style-type: none"> ■ Insulating enclosure ■ Black handle, padlockable in ON/OFF position 	Surface mounting	GV2PC01
<ul style="list-style-type: none"> ■ Insulating enclosure ■ Red handle on yellow background, padlockable in OFF position 	Surface mounting	GV2PC02

⁽¹⁾ Circuit breaker characteristics:

GV2 L: see chapter B6 "Circuit breakers".

GV2 P: see chapter B6 "Circuit breakers".

⁽²⁾ Avoid placing this material in contact with harsh substances (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).

⁽³⁾ Circuit breaker to be ordered separately.

References **GV2 L01 to L22:** see chapter B6 "Circuit breakers".

References **GV2 P01 to P22:** see chapter B6 "Circuit breakers".

TeSys enclosed starters

D.O.L. starters, manual control, with GV3P thermal magnetic or GV3L magnetic circuit breaker

PB11221_L32.eps



GV3 PC

Characteristics ⁽¹⁾

Conforming to standards	IEC 60947-2, IEC 60947-4-1 (GV3 P only)
Degree of protection conforming to IEC 60529	IP65/IK09
Operational voltage Ue	690 V
Material	Steel sheet

GV3	L40 P40	L50 P50	L65 P65
lthe in enclosure (A)	35	41	55

References

Enclosures fitted with a padlockable rotary handle for GV3P/L circuit breakers ^{(2) (3)}

Composition ⁽⁴⁾	Type	Référence	Masse kg
<ul style="list-style-type: none"> ■ Metal enclosure ■ Black handle, padlocking in ON/OFF position ■ Circuit breaker/handle adapter 	Surface mounting	GV3PC01	2,000
<ul style="list-style-type: none"> ■ Metal enclosure ■ Red handle, padlocking in OFF position ■ Circuit breaker/handle adapter 	Surface mounting	GV3PC02	2,000

⁽¹⁾ Circuit breakers characteristics:

GV3L: see chapter B6 "Circuit breakers".

GV3P: see chapter B6 "Circuit breakers".

⁽²⁾ Circuit breakers to be ordered separately:

GV3L40 to 65: see chapter B6 "Circuit breakers".

GV3P40 to 65: see chapter B6 "Circuit breakers".

⁽³⁾ Assembling possibility: 1 GV3 P or GV3 L alone circuit breaker + 1 LC1D●●A●● contactor + GV3 S S-shape busbar.

⁽⁴⁾ Components for customer assembly.

TeSys enclosed starters

D.O.L. starters ⁽¹⁾

without isolating device

Enclosed starters



LE1 D●●



LE1 D●●A●●



LE2 D●●



LE2 D●●A●●

Characteristics

Conforming to standards	IEC 60947-4-1
Degree of protection conforming to IEC 60529	LE2 K: IP65 / IK09 LE● D09...D35: IP65 / IK07 LE● D40A...D65A: IP65 / IK09
Ambient air temperature	Operation: - 5...+ 40 °C
Operating positions	Same as that of the contactors
Material	LE2 K and LE● D09...D35: Polycarbonate ⁽²⁾ LE● D40A...D65A: Sheet steel

References

Non-reversing starters

Standard power ratings of 3-phase motors 50-60 Hz in category AC-3							Maximum current I _{th} up to	Basic reference, to be completed by adding the voltage code ⁽³⁾	Weight
220 V	380 V	415 V	440 V	500 V	660 V	690 V			
230 V	400 V						A		kg
2.2	4	4	4	5.5	5.5		9	LE1D09●●	0.920
3	5.5	5.5	5.5	7.5	7.5		12	LE1D12●●	0.920
4	7.5	9	9	10	10		18	LE1D18●●	1.015
5.5	11	11	11	15	15		25	LE1D25●●	1.015
7.5	15	15	15	18.5	18.5		35	LE1D35●●	4.320
11	18.5	22	22	22	30		40	LE1D40A●●	4.820
15	22	25	30	30	33		50	LE1D50A●●	4.850
18.5	30	37	37	37	37		65	LE1D65A●●	4.850

Reversing starters

1.5	2.2	2.2	3	-	-		6	LE2K065●●	1.080
2.2	4	4	4	-	-		9	LE2K095●●	1.080
-	-	-	-	5.5	5.5		9	LE2D09●● ⁽⁴⁾	2.100
-	-	-	-	5.5	5.5		9	LE2D09●●	2.100
3	5.5	5.5	5.5	7.5	7.5		12	LE2D12●●	2.100
4	7.5	9	9	10	10		18	LE2D18●●	2.410
5.5	11	11	11	15	15		25	LE2D25●●	2.570
7.5	15	15	15	18.5	18.5		35	LE2D35●●	4.100
11	18.5	22	22	22	30		40	LE2D40A●●	5.270
15	22	25	30	30	33		50	LE2D50A●●	5.470
18.5	30	37	37	37	37		65	LE2D65A●●	5.470

⁽¹⁾ Overload protection must be provided by a thermal overload relay, to be ordered separately, see chapter B11 "Overload relays".

⁽²⁾ Avoid placing this material in contact with harsh substances (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).

⁽³⁾ Standard control circuit voltages:

Volts	24	48	110	115	120	220	230	240	380	400	415	440
~ 50/60 Hz												
LE1 D09 to D35	B7	E7	F7	FE7	G7	M7	P7	U7	Q7	V7	N7	R7
LE1 D40A to D65A, LE2 D40A to D65A	-	-	-	FE7	-	-	P7	-	Q7	-	-	-
LE2 D09 to D35	B7	-	-	-	-	M7	P7	U7	Q7	V7	N7	-
LE2 K	-	-	-	-	-	M7	P7	U7	Q7	V7	-	-

⁽⁴⁾ Selection according to the dimensions and the number of operating cycles, please consult your Regional Sales Office.

TeSys enclosed starters

D.O.L. starters ⁽¹⁾

without isolating device



LE1 D●●A04



LE1 D●●A05



LE1 D●●A09



LE1 D●●A13

Description

Standard versions comprise:

- For non-reversing starters:
 - LE1 D09...D65A:
 - 1 green Start button "I",
 - 1 red Stop/Reset button "O".

- For reversing starters:
 - LE2 K:
 - 1 Start button ↑,
 - 1 Start button ↓,
 - 1 red Stop/Reset button.
 - LE2 D09...D65A:
 - 1 2-position spring return selector switch "I"- "II",
 - 1 red Stop/Reset button "O",

For supply voltages between 380 and 440 V (codes Q7, V7, N7 or R7) the control circuit is pre-wired between phases. For other supply voltages, the control circuit must be wired by the customer.

Variants (pre-assembled)

Description	Available variants for starter ⁽²⁾	Suffix to be added to the starter reference ⁽³⁾
No pushbuttons on cover	LE1 D09...D65A●● LE2 D40A...D65A●●	A04
1 blue Reset button "R"	LE1 D09...D65A●● LE2 D40A...D65A●●	A05
1 3-position stay put selector switch ("I"- "O"- "II") ("I": Automatic Start; "O": Stop; "II": Manual Start) 1 blue Reset button "R"	LE1 D09...D25●●	A09
1 2-position stay put selector switch "O"- "I" ("O": Stop; "I": Manual Start) 1 blue Reset button "R"	LE1 D09...D25●●	A13
Mounting of an LC1 D09 contactor in an enclosure identical to LE1 D18	LE1 D09P7 LE1 D09P7A13	T

For LE1D09 à D35 and LE2 D09 à D35 starters:
A04, A29 and A39 versions can also be made from parts.
Empty enclosures, contactor and circuit breaker must be ordered separately.
A customer assembly.

DE1DS / DE2DS empty enclosures: see page A1/20.
LC1D / LC2D contactors: see chapter B8 "Contactors".
LRD thermal relays: see chapter B11 "Overload relays".

⁽¹⁾ See previous page.

⁽²⁾ Standard control circuit voltages:

Volts ~ 50/60 Hz	220	230	240	380	400	415
LE1 D09 to D35	M7	P7	U7	Q7	V7	N7
LE1 D40A to D65A, LE2 D40A to D65A	-	P7	-	Q7	-	-

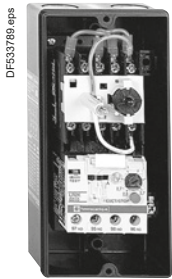
⁽³⁾ Example: **LE1 D09P7A04**.

TeSys enclosed starters

D.O.L. starters

with 3-phase thermal overload relay with 3 protected phases

Enclosed starters



LE1 M35●●●●●

Characteristics ⁽¹⁾	
Conforming to standards	IEC 60947-4-1
Degree of protection conforming to IEC 60529	IP 65
Ambient air temperature	Operation: - 5 to + 40 °C
Operating positions	Same as for the TeSys K contactors
Material	Self-extinguishing ABS

References

Non-reversing starters

Starter LE1 M, combined with short-circuit protection components, provides type 1 or type 2 coordination, depending on the type of devices used.

Standard power ratings of 3-phase motors 50-60 Hz in category AC-3				Setting range of thermal overload relay LR2 K ⁽²⁾	Basic reference, to be completed by adding the voltage code ⁽³⁾
220 V 230 V	240 V	380 V 400 V	415 V		
kW	kW	kW	kW	A	
0.12	0.12	0.25	0.25	0.54...0.8	LE1M35●●05
0.18	0.18	0.37	0.37	0.8...1.2	LE1M35●●06
0.25	0.25	0.55	0.55	1.2...1.8	LE1M35●●07
0.37	0.37	1.1	0.75	1.8...2.6	LE1M35●●08
0.55	0.55	1.5	1.5	2.6...3.7	LE1M35●●10
1.1	0.75	2.2	2.2	3.7...5.5	LE1M35●●12
1.5	1.1	3	3	5.5...8	LE1M35●●14
2.2	2.2	4	4	8...11.5	LE1M35●●16
3	3	5.5	5.5	10...14	LE1M35●●21
3.7	4	7.5	7.5	12...16	LE1M35●●22

- The standard version comprises:
 - 1 TeSys contactor LC1 K●●,
 - 1 TeSys thermal overload relay LR2 K,
 - 1 green Start button "I",
 - 1 red Stop/Reset button "O/R",
 - 1 yellow operating indicator.
- For supply voltages between 380 and 440 V (codes Q7, V7, N7 or R7) the control circuit is pre-wired between phases. For other supply voltages, the control circuit must be wired by the customer.
- Control may be pulsed or maintained.
- An earth terminal and a neutral terminal are provided on the bottom of the enclosure.
- For safety applications, see enclosed starters:
 - GV2 MC, LG1 K, LG1 D, LG7 K, LG7 D, LJ7 K, LG8 K and LJ8 K.

Variant

Starter without thermal overload relay LR2 K

Example: LE1 M35●●

Replacement part

Description	Basic reference, to be completed by adding the voltage code ⁽³⁾
Contactor	LC1K●●A80

⁽¹⁾ For characteristics of contactor, LC1 K, see chapter B8 "Contactors".
 For characteristics of TeSys thermal overload relay LR2 K, see chapter B11 "Overload relays".

⁽²⁾ Thermal overload relay fitted as standard.

⁽³⁾ Standard control circuit voltages:

Volts ~ 50/60 Hz	24	110	220	230	240	380	400	415	440
Code	B7	F7	M7	P7	U7	Q7	V7	N7	R7

TeSys enclosed starters

D.O.L. starters

with thermal magnetic circuit breaker and contactor



LE1 GVMEK

PB112286_L32.eps

Characteristics

Conforming to standards	IEC 60947-4-1
Degree of protection conforming to IEC 60529	IP 55
Ambient air temperature	Operation: - 5 to + 40 °C
Operating positions	Same as for the TeSys K contactors
Material	Polycarbonate ⁽¹⁾

References

Enclosures for GV2ME thermal magnetic circuit breakers and LC1K contactors ⁽²⁾

Composition	Reference
Insulating enclosure with GV2E01 sealing device	LE1GVMEK
Insulating enclosure with GV2E01 sealing device, neutral terminal	LE1GVMEKA59

Accessories (to be ordered separately)

Description		Sold in lots of	Unit reference
Padlocking device ⁽³⁾ for GV2 ME operator (padlocking is only possible in the "O" position)	1 to 3 padlocks Ø 4 to 8 mm	1	GV2V01
Mushroom head "Stop" pushbutton Ø 40 mm, red	Spring return ⁽³⁾	1	GV2K011
	Lockable	1	GV2K021
	Emergency Stop. IP55 ⁽³⁾	1	GV2K031
	Key release, key n° 455	1	GV2K04 ⁽⁴⁾
	Turn to release	1	GV2K04 ⁽⁴⁾
Sealing kit	IP 55 for temperature between +5 °C and +40 °C	10	GV2E01
	IP 55 for temperature between -20 °C and +40 °C	10	GV2E02

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 current 13 Irth	For customer assembly	
400/415 V	440 V	500 V			Motor circuit breaker Reference	Contactor Reference to be completed with the reference voltage ⁽⁵⁾
kW	kW	kW	A	A		
0.37	0.37	0.37	1...1.6	22.5	GV2ME06	LC1K0610
0.55	0.55	0.55				
-	-	0.75				
0.75	0.75	-	1.6...2.5	33.5	GV2ME07	LC1K0610
-	1.1	1.1				
1.1	-	1.5	2.5...4	51	GV2ME08	LC1K0610
1.5	1.5	2.2				
2.2	2.2	-	4...6.3	78	GV2ME10	LC1K0610
-	3	3				
3	-	4	6...10	138	GV2ME14	LC1K0910
4	4	5.5				
5.5	5.5	7.5	9...14	170	GV2ME16	LC1K1210

⁽¹⁾ Avoid placing this material in contact with harsh substances (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).

⁽²⁾ Starter to be ordered separately. Commercial references of motor starters: see chapter A6 "Complementary technical information: coordination and standards".

⁽³⁾ Supplied with IP 55 GV2 E01 sealing kit.

⁽⁴⁾ Padlockable in position "O" using Ø 4 to 8 mm shank padlocks

⁽⁵⁾ Standard control circuit voltages:

Volts	24	110	220/230	230	230/240	380/400
~ 50/60 Hz	B7	F7	M7	P7	U7	Q7
--- ⁽⁶⁾	BW3	-	-	-	-	-

⁽⁶⁾ Coil: low consumption (1.5 W), wide range (0.7...1.3 Uc) with integral suppression device as standard.

TeSys enclosed starters

D.O.L. starters ⁽¹⁾

with isolating device

Enclosed starters



LE4 D●●



LE8 D●●

Characteristics	
Conforming to standards	IEC 60947-4-1
Degree of protection conforming to IEC 60529	LE●K : IP65/IK09 LE●D09...D35 : IP65/IK07
Ambient air temperature	Operation: -5...+40 °C
Operating positions	Same as that of the contactors
Material	Polycarbonate ⁽²⁾

References

Non-reversing starters

Standard power ratings of 3-phase motors 50-60 Hz in category AC-3						Maximum current I _l the up to	Fuses to be fitted by the customer		Basic reference, to be completed by adding the voltage code ⁽³⁾	Weight
220 V	380 V	415 V	440 V	500 V	660 V		Size	Type aM		
230 V	400 V				690 V					
kW	kW	kW	kW	kW	kW	A	A		kg	
1.5	2.2	2.2	3	-	-	6	10 x 38	10	LE4K065●●	1.450
2.2	4	4	4	-	-	9	10 x 38	12	LE4K095●●	1.450
									or LE4D09●● ⁽⁴⁾	1.960
2.2	4	4	4	5.5	-	9	10 x 38	12	LE4D09●●	1.960
3	5.5	5.5	5.5	7.5	-	12	10 x 38	16	LE4D12●●	1.960
4	7.5	9	9	10	-	18	10 x 38	20	LE4D18●●	2.200
5.5	11	11	11	15	-	25	10 x 38	25	LE4D25●●	2.200
7.5	15	15	15	18.5	18.5	35	14 x 51	32	LE4D35●●	5.190

Reversing starters

1.5	2.2	2.2	3	-	-	6	10 x 38	10	LE8K065●●	1.600
2.2	4	4	4	-	-	9	10 x 38	12	LE8K095●●	1.600
									or LE8D09●● ⁽⁴⁾	3.550
-	-	-	-	5.5	-	9	10 x 38	12	LE8D09●●	3.550
3	5.5	5.5	5.5	7.5	-	12	10 x 38	16	LE8D12●●	3.550
4	7.5	9	9	10	-	18	10 x 38	20	LE8D18●●	3.700
5.5	11	11	11	15	-	25	10 x 38	25	LE8D25●●	4.670
7.5	15	15	15	18.5	18.5	35	14 x 51	32	LE8D35●●	5.800

- ⁽¹⁾ Overload protection must be provided by a thermal overload relay, to be ordered separately. References **LRD**: see chapter B11 "Overload relays".
- ⁽²⁾ Avoid placing this material in contact with harsh substances (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).
- ⁽³⁾ Standard control circuit voltages.

Volts	24	48	110	115	120	220	230	240	380	400	415	440
~ 50/60 Hz												
LE4 D	B7	E7	F7	FE7	G7	M7	P7	U7	Q7	V7	N7	R7
LE4 K	-	-	-	-	-	M7	P7	U7	Q7	V7	-	-
LE8 K, LE8 D	-	-	-	-	-	-	P7	-	Q7	V7	-	-

⁽⁴⁾ Selection according to dimensions and the number of operating cycles, please consult your Regional Sales Office.

TeSys enclosed starters

D.O.L. starters ⁽¹⁾

with isolating device



LE4 D●●A04



LE4 D●●A05

Description

Standard versions comprise:

■ For non-reversing starters:

- LE4 K and LE4:
 - 1 green Start button "I",
 - 1 red Stop/Reset button "O".

■ For reversing starters:

- LE8 K:
 - 1 Start button ↑,
 - 1 Start button ↓,
 - 1 red Stop/Reset button.
- LE8 D:
 - 1 2-position spring return selector switch "I"- "II",
 - 1 red Stop/Reset button "O",

Protection	Power circuit	Control circuit
LE4 and LE8 K	1 3-pole isolating device	None
LE4 and LE8 D	1 3-pole isolating device	+ 1 additional pole

For supply voltages between 380 and 440 V (codes Q7, V7, N7 or R7) the control circuit is pre-wired between phases. For other supply voltages, the control circuit must be wired by the customer.

Variants (pre-assembled)

Description	Available variant for starter	Suffix to be added to the starter reference ⁽²⁾
No pushbuttons on cover	LE4 D09...D35 P7 (230 V), V7 (400 V)	A04
1 blue Reset button "R"	LE4 D09...D35 P7 (230 V), V7 (400 V)	A05

⁽¹⁾ See previous page

⁽²⁾ Example: **LE4 D09P7A04**.

TeSys enclosed starters

Star-delta starters

without isolating device ⁽¹⁾

LE3 D●●

Characteristics

Conforming to standards	IEC 60947-4-1
Degree of protection conforming to IEC 60529	IP65 / IK07
Ambient air temperature	Operation: -5 to +40 °C
Operating positions	Same as that of the contactors
Material	Polycarbonate ⁽²⁾

References

- Maximum operating rate: 30 starts/hour.
- Maximum starting time: 30 seconds.
- LE3 D: an LAD S2 timer imposes a delay of 40 ms ±15 ms on the delta contactor at the moment of changeover to ensure that the star contactor has sufficient breaking time.

Star-delta starters

Standard power ratings of squirrel cage motors Mains voltage - delta connection				Basic reference, to be completed by adding the voltage code ⁽³⁾	Weight kg
220 V kW	380/400 V kW	415 V kW	440 V kW		
4	7.5	7.5	7.5	LE3D09●●	3.650
5.5	11	11	11	LE3D12●●	3.650
11	18.5	22	22	LE3D18●●	3.750
15	30	30	30	LE3D35●●	5.160

⁽¹⁾ Overload protection must be provided by a thermal overload relay, to be ordered separately. Select appropriate overload relay for setting at 0.58 of the full load rated motor current. References **LRD**: see chapter B11 "Overload relays".

⁽²⁾ Avoid placing this material in contact with harsh substances (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).

⁽³⁾ Standard control circuit voltages:

Volts ~ 50/60 Hz	24	220	230	240	380	400	415
LE3 D	B7	M7	P7	U7	Q7	V7	N7

TeSys enclosed starters

Star-delta starters

without isolating device ⁽¹⁾



LE3 D●●A04

Description

The standard version comprises:

- LE3 D:
- 1 green Start button "I",
- 1 red Stop/Reset button "O".

For supply voltages between 380 and 415 V (codes Q7, V7 or N7) the control circuit is pre-wired between phases. For other supply voltages, the control circuit must be wired by the customer.

Variants (pre-assembled)

Description	Available variant for starter	Suffix to be added to the starter reference ⁽²⁾
No pushbuttons on cover	LE3 D09...D35 P7 (230 V) V7 (400 V)	A04

⁽¹⁾ Overload protection must be provided by a thermal overload relay, to be ordered separately. Select appropriate overload relay for setting at 0.58 of the full load rated motor current.

References **LRD**: see chapter B11 "Overload relays"

⁽²⁾ Starter references, see previous page - Example: **LE3D09P7A04**.

TeSys enclosed starters

Star-delta starters ⁽¹⁾

with isolating device

Enclosed starters



LE6 D●●

PB112289_L32R.eps

Characteristics

Conforming to standards	IEC 60947-4-1
Degree of protection conforming to IEC 60529	IP 65 / IK07
Ambient air temperature	Operation: - 5 to +40 °C
Operating positions	Same as that of the contactors
Material	Polycarbonate ⁽²⁾

References

- Maximum operating rate: 30 starts/hour.
- Maximum starting time: 30 seconds.
- An LA2 DS2 timer imposes a delay of 40 ms ±15 ms on the delta contactor at the moment of changeover to ensure that the star contactor has sufficient breaking time.

Standard power ratings of squirrel cage motors. Mains voltage - Delta connection				Fuses to be fitted by the customer		Basic reference, to be completed by adding the voltage code ⁽³⁾	Weight
220 V	380 V	415 V	440 V	Size	Type aM		
kW	kW	kW	kW	A			kg
4	7.5	7.5	7.5	10 x 38	20	LE6D09●●	3.900
5.5	11	11	11	10 x 38	25	LE6D12●●	3.900
11	18.5	22	22	14 x 51	40	LE6D18●●	4.850

⁽¹⁾ Overload protection must be provided by a thermal overload relay, to be ordered separately. Select appropriate overload relay for setting at 0.58 of the full load rated motor current. Reference LRD: see chapter B11 "Overload relays".

⁽²⁾ Avoid placing this material in contact with harsh substances (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).

⁽³⁾ Standard control circuit voltages.

Volts ~ 50/60 Hz	24	230	400
LE6 D	B7	P7	V7

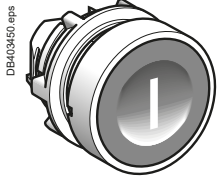
Description

The standard version comprises:

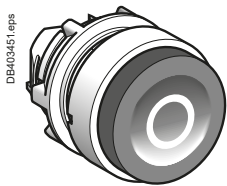
- LE6 D:
 - 1 green Start button "I",
 - 1 red Stop/Reset button "O".

For supply voltages between 380 and 415 V (codes Q7, V7 or N7) the control circuit is pre-wired between phases. For other supply voltages, the control circuit must be wired by the customer.

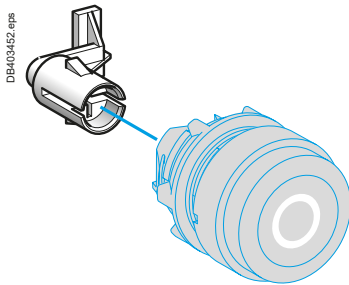
Protection	Power circuit	Control circuit
LE6 D09 and D12	1 3-pole isolating device	+ 1 additional pole
LE6 D18	1 3-pole isolating device	+ 1 circuit breaker GB2 CB08



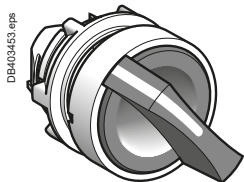
ZB5 AA331



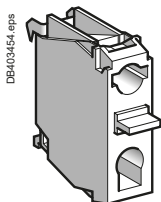
ZB5 AL432



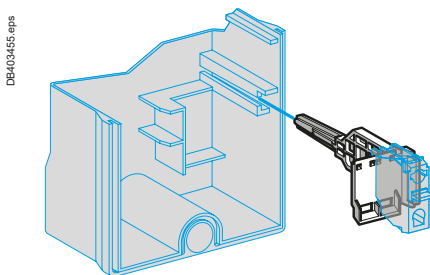
LAD 9091



ZB5 AD●



ZEN L1111



LAD 91809

Heads for Start and Stop/Reset pushbuttons

Description	For use on	Unit reference
Flush, green "I" ⁽¹⁾	LE1, LE3, LE4, LE6 D09...D35	ZB5AA331
Projecting, red "O" ⁽¹⁾	LE● D09...D35	ZB5AL432
Adaptation kit for head ZB5 AL432	LE1 D09 and D12	LAD9091
	LE1 D18...D35, LE2 D09...D35	LAD91810
	LE3, LE4, LE6 and LE8 D09...D35	LAD9T4

Heads for Reset pushbuttons

Flush, blue "R" ⁽²⁾	LE● D09...D35	ZB5AA0
		+ ZBA639 ⁽³⁾
Adaptation kit for head ZB5 AA0 + ZBA 639	LE1 D09 and D12	LAD9092
	LE1 D18...D35, LE2 D09...D35	LAD91810
	LE3, LE6, LE4 and LE8 D09...D35	LAD9T4

Heads for selector switches

3-position stay put	LE1 D09...D35●●A09	ZB5AD3
2-position stay put	LE1 D09...D35●●A13	ZB5AD2
3-position spring return to centre	LE2 D09...D35 LE8 D09...D35	ZB5AD5

Contact blocks

1 N/O spring return	LE● D09...D35	ZENL1111
1 N/C spring return	LE● D09...D35	ZENL1121
Mounting for contact block	LE1 D09 and D12	LAD90909
	LE1 D18...D35, LE2, LE3, LE4, LE6 and LE8 D09...D35	LAD91809

⁽¹⁾ Remember to order adaptation kit LAD 9091 or LAD 91810 or LAD 9T4, depending on size.

⁽²⁾ Remember to order adaptation kit LAD 9092 or LAD 91810 or LAD 9T4, depending on size.

⁽³⁾ Sold in lots of 10.

TeSys enclosed starters

Replacement parts for starters

Enclosed starters

PB11264_L32.eps



DE1 DS1A04

PB11266_L32.eps



DE1 DS1A05

PB11259_L32.eps



DE1 DS1

PB11275_L32.eps



DE1 DS1A13

Empty enclosures for starters without isolating device

Head(s) mounted on cover	Designed for use with	Reference
Without	LE1 D09 and D12	DE1DS1A04
	LE1 D18...D35	DE1DS2A04
	LE2 D09...D35	DE1DS2A04
1 flush blue head "R"	LE1 D09 and D12	DE1DS1A05
	LE1 D18...D35	DE1DS2A05
	LE2 D09...D35	DE1DS2A05
1 flush green head "I" 1 projecting red head "O"	LE1 D09 and D12	DE1DS1
	LE1 D18...D35	DE1DS2
1 flush blue head "R" 1 switch with 3 fixed positions	LE1 D09 and D12	DE1DS1A09
	LE1 D18...D35	DE1DS2A09
1 flush blue head "R" 1 switch with 2 fixed positions	LE1 D09 and D12	DE1DS1A13
	LE1 D18...D35	DE1DS2A13
1 flush blue head "R" 1 switch 3 positions with spring center	LE2 D09...D35	DE2DS2

References - For safety applications

TeSys enclosed starters

D.O.L. starters, manual control, with GV2ME thermal magnetic circuit breaker
Assembly of a safety enclosure



GV2 MC + GV2 K04

Assembly of a safety enclosure

(conforming to standards IEC 60974-4-1, IEC 60204-1)

Type of product	Page	Reference
Enclosure	A1/7	GV2MC●●
Circuit breaker	See chapter B6 "Circuit breakers"	GV2ME●●
Undervoltage trip or INRS trip ⁽¹⁾	See chapter B6 "Circuit breakers"	GV●A●●●● or GV●AX●●●
Mushroom head Emergency stop pushbutton Ø 40 mm, red	A1/7	GV2K021 or GV2K031 or GV2K04

⁽¹⁾ Safety device for dangerous machines conforming to INRS and VDE 0113.

TeSys enclosed starters

Safety starters

Conforming to standards: IEC 60204-1 "Safety of machinery - Electrical equipment of machines"

Enclosed starters



LG7 K06●●



LG7 D12●●

Characteristics

Conforming to standards	IEC 60947-4-1, IEC 60204-1
Material	Polycarbonate ⁽¹⁾

References

Non-reversing starters (with pushbutton control of isolation)

Standard power ratings of 3-phase motors 50-60 Hz in category AC-3			Circuit breaker Setting range of thermal trips	Dust & damp protected starter Basic reference, to be completed by adding the voltage code ⁽²⁾	Weight
220/230 V	400/415 V	440 V	A		kg
–	0.06	0.06	0.16...0.25	LG7K06●●02	1.300
0.06	0.09	0.12	0.25...0.40	LG7K06●●03	1.300
–	0.18	0.18	0.40...0.63	LG7K06●●04	1.300
0.12	0.25	0.37	0.63...1	LG7K06●●05	1.300
0.25	0.55	0.55	1...1.6	LG7K06●●06	1.300
0.37	0.75	1.1	1.6...2.5	LG7K06●●07	1.300
0.75	1.5	1.5	2.5...4	LG7K06●●08	1.300
1.1	2.2	3	4...6.3	LG7K06●●10	1.300
1.5	4	4	6...10	LG7K09●●14	1.450
3	5.5	5.5	9...14	LG7D12●●16	1.600
4	7.5	9	13...18	LG7D18●●20	1.630
4	9	9	17...23	LG7D18●●21	1.630

Specifications

Functions performed by the starter:

- isolation,
- locking of isolation fitted as standard as from LG7 K09,
- lockable Emergency Stop (1/4 turn) ⁽³⁾,
- short-circuit protection,
- overload protection,
- voltage drop protection from LG7 K09. For LG7 K06, a GVA X●● undervoltage trip may be added,
- pushbutton control: 1 white Start button "I" and 1 black Stop button "O",
- degree of protection of enclosure: IP55.

Switching back on of power supply after tripping must be by a deliberate action.

A GV2 SN●● indicator light may be added (to be assembled by customer), please consult your Regional Sales Office.

For supply voltages between 380 and 415 V (codes Q7, V7 or N7) the control circuit is pre-wired between phases. For other supply voltages, the control circuit must be wired by the customer.

Variants (pre-assembled)

See page A1/25.

⁽¹⁾ Avoid allowing the material to come into contact with strong bases (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).

⁽²⁾ Standard control circuit voltages:

LG7 K						
Volts ~ 50/60 Hz	24	220/230	230	380/400	400	400/415
Code	B7	M7	P7	Q7	V7	N7

LG7 D						
Volts ~ 50/60 Hz	24	220/230	230	380/400	400	415
Code	B7	M7	P7	Q7	V7	N7

⁽³⁾ **LG7 K06**: the mushroom head type Emergency Stop acts mechanically on the circuit breaker.
LG7 K09, D12, D18: the Emergency Stop function is performed by an undervoltage trip, acting on the circuit breaker. This circuit breaker is always supplied pre-wired for use on 380/400/415 V 50 Hz. For a 60 Hz supply, please consult your Regional Sales Office.

TeSys enclosed starters

Safety starters

Conforming to standards: IEC 60204-1 "Safety of machinery - Electrical equipment of machines"



PE111993_L32Reps

LG1 K●●

Enclosed starters

Characteristics					
Conforming to standards			IEC 60947-4-1, IEC 60204-1		
Material			Polycarbonate ⁽¹⁾		
References					
Non-reversing starters (with rotary operator for control of isolation)					
Enclosure cannot be opened when energised in position "I".					
Standard power ratings of 3-phase motors 50-60 Hz in category AC-3			Circuit breaker Setting range of thermal trips	Dust & damp protected starter Basic reference, to be completed by adding the voltage code ⁽²⁾	Weight
220/230 V	400/415 V	440 V	A		kg
–	0.06	0.06	0.16...0.25	LG1K065●●02	0.970
0.06	0.09	0.12	0.25...0.40	LG1K065●●03	0.970
–	0.18	0.18	0.40...0.63	LG1K065●●04	0.970
0.12	0.25	0.25	0.63...1	LG1K065●●05	0.970
0.25	0.55	0.55	1...1.6	LG1K065●●06	0.970
0.37	0.75	1.1	1.6...2.5	LG1K065●●07	0.970
0.75	1.5	1.5	2.5...4	LG1K065●●08	0.970
1.1	2.2	3	4...6.3	LG1K065●●10	0.970
1.5	4	4	6...10	LG1K095●●14	1.120
3	5.5	5.5	9...14	LG1D122●●16	1.270
4	7.5	9	13...18	LG1D182●●20	1.290
4	9	9	17...23	LG1D182●●21	1.290

Specifications

Functions performed by the starter:

- isolation,
- locking of isolation,
- lockable Emergency Stop (red/yellow switch-disconnector),
- short-circuit protection,
- overload protection,
- pushbutton control: 1 white Start button "I" and 1 black Stop button "O",
- degree of protection of enclosure: IP55.

Switching back on of power supply after tripping must be by a deliberate action.

A GVA X●● undervoltage trip may be added.

A GV2 SN●● indicator light may be added (to be assembled by customer), please consult your Regional Sales Office.

For supply voltages between 380 and 415 V (codes Q7, V7 or N7) the control circuit is pre-wired between phases. For other supply voltages, the control circuit must be wired by the customer.

Variants (pre-assembled)

See page A1/25.

⁽¹⁾ Avoid allowing the material to come into contact with strong bases (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).

⁽²⁾ Standard control circuit voltages:

LG1 K					
Volts ~ 50/60 Hz	220/230	230	380/400	400	400/415
Code	M7	P7	Q7	V7	N7
LG1 D					
Volts ~ 50/60 Hz	220	230	380	400	415
Code	M7	P7	Q7	V7	N7

References

TeSys enclosed starters

Safety starters

Conforming to standards: IEC 60204-1 "Safety of machinery - Electrical equipment of machines"

Enclosed starters



LG8 K06●●



LG8 K09●●

Characteristics

Conforming to standards	IEC 60947-4-1, IEC 60204-1
Material	Polycarbonate ⁽¹⁾

References

Reversing starters (with pushbutton control of isolation)

Standard power ratings of 3-phase motors 50-60 Hz in category AC-3			Circuit breaker Setting range of thermal trips	Dust & damp protected starter Basic reference, to be completed by adding the voltage code ⁽²⁾	Weight
220/230 V	400/415 V	440 V	A		kg
–	0.06	0.06	0.16...0.25	LG8K06●●02	1.640
0.06	0.09	0.12	0.25...0.40	LG8K06●●03	1.640
–	0.18	0.18	0.40...0.63	LG8K06●●04	1.640
0.12	0.25	0.25	0.63...1	LG8K06●●05	1.640
0.25	0.55	0.55	1...1.6	LG8K06●●06	1.640
0.37	0.75	1.1	1.6...2.5	LG8K06●●07	1.640
0.75	1.5	1.5	2.5...4	LG8K06●●08	1.640
1.1	2.2	3	4...6.3	LG8K06●●10	1.640
1.5	4	4	6...10	LG8K09●●14	1.640
3	5.5	5.5	9...14	LG8K12●●16	1.640

Specifications

Functions performed by the starter:

- isolation,
- locking of isolation fitted as standard as from LG8 K09,
- lockable Emergency Stop (1/4 turn) ⁽³⁾,
- short-circuit protection,
- overload protection,
- voltage drop protection from LG8 K09. For LG8 K06, a GVA X●● undervoltage trip may be added,
- control by selector switch "I-II", position non maintained and Stop press button "O" (black),
- degree of protection of enclosure: IP55.

Switching back on of power supply after tripping must be by a deliberate action.

A GV2 SN●● indicator light may be added (to be assembled by customer), please consult your Regional Sales Office.

For supply voltages between 380 and 415 V (codes Q7, V7 or N7) the control circuit is pre-wired between phases. For other supply voltages, the control circuit must be wired by the customer.

Variants (pre-assembled)

See page A1/25.

⁽¹⁾ Avoid allowing the material to come into contact with strong bases (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).

⁽²⁾ Standard control circuit voltages:

Volts ~	220/	380/	400/
50/60 Hz	230	400	415
Code	M7	Q7	N7

⁽³⁾ **LG8 K06**: the mushroom head type Emergency Stop acts mechanically on the circuit breaker.

LG8 K09: the Emergency Stop function is performed by an undervoltage trip, acting on the circuit breaker.

This circuit breaker is always supplied pre-wired for use on 380/400/415 V 50 Hz.

For a 60 Hz supply, please consult your Regional Sales Office.

References

TeSys enclosed starters

Safety starters

Conforming to standards: IEC 60204-1 "Safety of machinery - Electrical equipment of machines"



LG7 ●●A04

Variants (pre-assembled)

Description	Variants available for starter	Suffix to be added to the starter reference ⁽¹⁾
With Emergency Stop No control pushbuttons	LG7 K06M705...K09M714 LG7 K06Q705...K09Q714	A04
With Emergency Stop, mushroom head ⁽²⁾	LG1 K06M705...K09M714 LG1 K06Q705...K09Q714	A37
With padlocking facility (fitted as standard from LG7 K09)	LG7 K06M705...K06M710	A29
Without circuit breaker ⁽³⁾ (or undervoltage release voltage)	LG1●●M7, LG1●●Q7, LG7●●M7, LG7●●Q7, LG8●●M7, LG8●●Q7	⁽⁴⁾

For LG7 starters: A04, A29 and A39 variants (Without Emergency Stop) can also be made from parts. Empty enclosures, contactor and circuit breaker must be ordered separately. A customer assembly.

DE1KS empty enclosures: see page A1/29.

LC1 K contactors: see chapter B8 "Contactors".

GV2 ME circuit breakers: see chapter B6 "Circuit breakers".

⁽¹⁾ Example: **LG7 D12M716A04**.

⁽²⁾ The mushroom head type Emergency Stop acts mechanically on the circuit breaker.

⁽³⁾ Order circuit breaker separately. References GV2 ME: see chapter B6 "Circuit breakers".

⁽⁴⁾ Delete the last 2 digits of the selected starter reference. Example: **LG1 K065●●08** becomes **LG1 K065●●**.

TeSys enclosed starters

Safety starters

Conforming to standards: IEC 60204-1 "Safety of machinery - Electrical equipment of machines"

PB11880_L32R.eps



LJ7 K06●●

Characteristics

Conforming to standards	IEC 60947-4-1, IEC 60204-1
Material	Polycarbonate ⁽¹⁾

References

Non-reversing motor starters with integral transformer, pre-wired for operation on a 3-phase 380 to 400 V 50 Hz supply (with pushbutton control of isolator function)

Standard power ratings of 3-phase motors 50 Hz in category AC-3	Circuit breaker	Dust and damp protected starter Reference ⁽²⁾	Weight
380/400 V	Setting range of thermal trips		kg
kW	A		
0.06	0.16...0.25	LJ7K06Q702	2.270
0.09	0.25...0.40	LJ7K06Q703	2.270
0.18	0.40...0.63	LJ7K06Q704	2.270
0.25	0.63...1	LJ7K06Q705	2.270
0.55	1...1.6	LJ7K06Q706	2.270
0.75	1.6...2.5	LJ7K06Q707	2.270
1.5	2.5...4	LJ7K06Q708	2.270
2.2	4...6.3	LJ7K06Q710	2.270
4	6...10	LJ7K09Q714	2.270

Specifications

Functions performed by the starter:

- isolation,
- locking of isolation fitted as standard on LJ7 K09,
- lockable Emergency Stop (1/4 turn) ⁽³⁾,
- short-circuit protection,
- overload protection,
- voltage drop protection from LJ7 K09. For LJ7 K06, a GVA X●● undervoltage trip may be added,
- pushbutton control: 1 white Start button "I" and 1 black Stop button "O",
- terminal allowing connection of a volt-free contact, if required, in the control circuit,
- degree of protection of enclosure: IP55.

Switching back on of power supply after tripping must be by a deliberate action.

A GV2 SN●● indicator light may be added (to be assembled by customer), please consult your Regional Sales Office.

Integral transformer: 400/24 V, 25 VA.

Variants (pre-assembled)

Description	Variants available for starter	Suffix to be added to the starter reference ⁽⁴⁾
With Emergency Stop No control pushbuttons	LJ7 K06Q705...K09Q714	A04
With padlocking facility (fitted as standard on LJ7 K09)	LJ7 K06Q705...K06Q710	A29
Without circuit breaker ⁽⁶⁾ (or undervoltage release voltage)	LJ7	⁽⁵⁾
Without circuit breaker ⁽⁶⁾ With Emergency Stop No control pushbuttons	LJ7 K09Q7	A04
Without circuit breaker ⁽⁶⁾ Without Emergency Stop (if the emergency stop is on the machine)	LJ7 K09Q7	A39
Without circuit breaker ⁽⁶⁾ Without Emergency Stop No control pushbuttons	LJ7 K09Q7	A04A39

⁽¹⁾ Avoid placing this material in contact with harsh substances (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).

⁽²⁾ In the reference, the voltage code Q7 (380/400 V) indicates the power supply voltage to which the starter will be connected, it being assumed that the contactor has a ~ 24 V coil (see control circuit scheme).

⁽³⁾ LJ7 K06: the mushroom head type Emergency Stop acts mechanically on the circuit breaker.

⁽⁴⁾ LJ7 K09: the Emergency Stop function is performed by an undervoltage trip GV AX385, acting on the circuit breaker. This circuit breaker is always supplied pre-wired for use on 380/400 V 50 Hz.

⁽⁵⁾ Example: LJ7 K06Q705A04.

⁽⁶⁾ Delete the last 2 digits of the selected starter reference. Example: LJ7 K06Q705 becomes LJ7 K06Q7.

⁽⁷⁾ Circuit breaker to be ordered separately. References GV2 ME: see chapter B6 "Circuit breakers".

TeSys enclosed starters

Safety starters

Conforming to standards: IEC 60204-1 "Safety of machinery - Electrical equipment of machines"

Characteristics

Conforming to standards	IEC 60947-4-1, IEC 60204-1
Material	Polycarbonate ⁽¹⁾

References

Reversing motor starters with integral transformer, pre-wired for operation on a 3-phase 380 to 400 V 50 Hz supply (with pushbutton control of isolator function)

Standard power ratings of 3-phase motors 50 Hz in category AC-3	Circuit breaker	Dust and damp protected starter	Weight
380/400 V	Setting range of thermal trips	Reference ⁽²⁾	
kW	A		kg
0.06	0.16...0.25	LJ8K06Q702	2.650
0.09	0.25...0.40	LJ8K06Q703	2.650
0.18	0.40...0.63	LJ8K06Q704	2.650
0.25	0.63...1	LJ8K06Q705	2.650
0.55	1...1.6	LJ8K06Q706	2.650
0.75	1.6...2.5	LJ8K06Q707	2.650
1.5	2.5...4	LJ8K06Q708	2.650
2.2	4...6.3	LJ8K06Q710	2.650
4	6...10	LJ8K09Q714	2.650



LJ8 K06●●



LJ8 K09●●

Specifications

Functions performed by the starter:

- isolation,
- locking of isolation fitted as standard on LJ8 K09,
- lockable Emergency Stop (1/4 turn) ⁽³⁾,
- short-circuit protection,
- overload protection,
- voltage drop protection from LJ8 K09. For LJ8 K06, a GVA X●● undervoltage trip may be added,
- 1 spring return selector switch "I-II" for command, non-maintained positions and 1 Stop pushbutton control "O" (black),
- terminal allowing connection of a volt-free contact, if required, in the control circuit,
- degree of protection of enclosure: IP55.

Switching back on of power supply after tripping must be by a deliberate action.

A GV2 SN●● indicator light may be added (to be assembled by customer), please consult your Regional Sales Office.

Integral transformer: 400/24 V, 25 VA.

Variants (pre-assembled)

Description	Variants available for starter	Suffix to be added to the starter reference
Without circuit breaker ⁽⁵⁾ (or undervoltage release voltage)	LJ8	⁽⁴⁾

⁽¹⁾ Avoid placing this material in contact with harsh substances (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).⁽²⁾ In the reference, the voltage code Q7 (380/400 V) indicates the power supply voltage to which the starter will be connected, it being assumed that the contactor has a ~ 24 V coil (see control circuit scheme).⁽³⁾ LJ8 K06: the mushroom head type Emergency Stop acts mechanically on the circuit breaker.

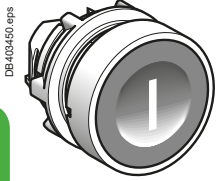
LJ8 K09: the Emergency Stop function is performed by an undervoltage trip GV AX385, acting on the circuit breaker. This circuit breaker is always supplied pre-wired for use on 380/400 V 50 Hz.

⁽⁴⁾ Delete the last 2 digits of the selected starter reference. Example: LJ8 K06Q702 becomes LJ8 K06Q7.⁽⁵⁾ Circuit breaker to be ordered separatel. References GV2 ME: see chapter B6 "Circuit breakers".

TeSys enclosed starters

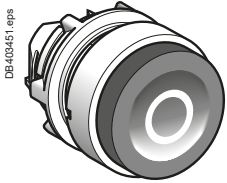
Replacement parts for starters

Enclosed starters



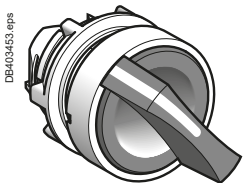
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ZB5 AA331



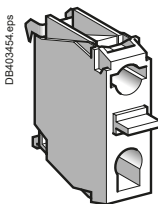
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ZB5 AL432



DB403453.eps

ZB5 AD5



DB403454.eps

ZEN L1111



8274_L32R.eps

GV2 K04



110396_L32R.eps

ZB5 AS834

Heads for Start and Stop/Reset pushbuttons

Description	For use on	Unit reference
Flush, green "I"	LG1, LG7, LJ7	ZB5AA331
Projecting, red "O"	LG1, LG7, LJ7, LG8, LJ8	ZB5AL432

Heads for selector switches

3-position stay put	LG8, LJ8	ZB5AD5
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Mushroom head pushbutton

Emergency stop, latching, turn to release, Ø 40 mm, red, IP55	LG1 ●A37, LG7 K06, LJ7 K06, LG8 K06, LJ8 K06	GV2K04 ^{(1) (2)}
	LG7 K09...D18, LJ7 K09, LG8 K09...K12, LJ8 K09	ZB5AS834

Contact blocks

1 N/O spring return	LG1, LG7, LJ7, LG8, LJ8	ZENL1111
1 N/C spring return	LG1, LG7, LJ7, LG8, LJ8	ZENL1121

Add-on blocks

Padlocking device ⁽²⁾ for GV2 ME operator (padlocking is only possible in the "O" position), 1 to 3 padlocks Ø 4 to 8 mm	LG1, LG7, LJ7, LG8, LJ8	GV2V01	
Sealing kit	IP 55 for temperature between +5 °C and +40 °C	LG1, LG7, LJ7, LG8, LJ8	GV2E01
	IP 55 for temperature between -20 °C and +40 °C	LG1, LG7, LJ7, LG8, LJ8	GV2E02

⁽¹⁾ Registration the "O" position by a padlock Ø4 to 8 mm.

⁽²⁾ Supplied with IP55 GV2 E01 sealing kit.

References - For safety applications

TeSys enclosed starters

Replacement parts for starters

PB111891_L32R.eps



DE1 KS217A06

PB111892R.eps



DE1 KS217A06A29

PB111896_L32R.eps



DE1 KS217A06A37

PB111899_L32R.eps



DE1 KS217A29A37

Empty enclosures for security starters

Designed for use with	Head(s) mounted on cover	Add-on blocks	Reference
LG7	Without		DE1KS217A04
	1 flush white head "I" 1 projecting black head "O"		DE1KS217A06
	1 flush white head "I" 1 projecting black head "O"	Padlocking devices	DE1KS217A06A29
	1 flush white head "I" 1 projecting black head "O" 1 head emergency stop	Padlocking devices	DE1KS217A06A37
	Without	Padlocking devices	DE1KS217A29
	1 head emergency stop		DE1KS217A37
	1 head emergency stop	Padlocking devices	DE1KS217A29A37

Enclosed starters

