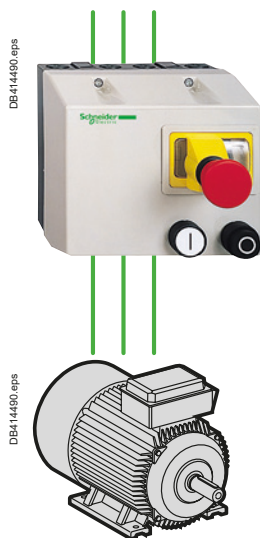


TeSys

TeSys enclosed safety starters

Introduction & selection table



Range of pre-assembled safety motor starters, with mushroom pushbuttons, protection and control components in a robust casing

They can be fixed on a wall, on a panel, or on the chassis of a machine. They provide the operator with safety machine controls complying with IEC 60204-1.

With numerous advantages to meet OEM's most common needs

- IEC
- Multiple ratings and sizes
- IP55
- IK07
- Pre-wired

Safety starters

They provide similar functions as standard starters but also include emergency stops to comply with IEC 60204-1 machine safety standards.

Enclosed starters

Selection in 2 steps

- 1 Identify your need (on a single line) in the **Selection criteria** area (example: Load 5 kW – Visible circuit isolation, ON/OFF control with short circuit / overload protection)

- 2 Choose your **Solutions** by adding column contents, note the radical of the product references (example: LG1D)

Selection criteria						
Load Power (kW) / 400 V supply	Direct starter ON/OFF	Reverser ON/REVERSE/OFF	Short circuit / overload protection	Power circuit isolation	Visible isolation by rotary switch	Isolated control circuit by transfo
0.06...4	•		•	•		
4 ... 9						
0.06... 4	•		•	•	•	
4... 9						
0.06... 4	•		•	•		•
0.06... 5.5		•	•	•		
0.06 ... 4		•	•	•		•
0.06 ... 15	•		•	•		

Solutions					
LG7K					
LG7D					
	LG1K				
	LG1D				
		LJ7K			
			LG8K		
				LJ8K	
					GV2MCK04 GV2ME GV2AX

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LG7K06



LG7K09, LG7D●●



For Control + Isolation + Short circuit / Overload Protection

Enclosed safety motor starters complying with IEC 60204-1 "Safety of machinery" standards.

- ON/OFF motor starters: 1-way rotation control of 3-phase motor
- Emergency stop
- Electrical circuit isolation, lockable (from LG7K09) with up to 3 padlocks
- Short circuit protection
- Overload protection
- Undervoltage protection (LG7K06: with additional undervoltage release module). Switching back on power supply after tripping must be a deliberate action.

Range:

- 12 pre-equipped enclosed safety starters from 0.06 to 9 kW.

Enclosures characteristics:

- Conforming to IEC 60947-1, IEC 60204-1
- Degree of protection according IEC 60529: IP55, IK07
- Ambient air temperature in operation -5 to +40°C
- Operational voltage (Ue) 690 V
- Operating position: same that as contactors
- Material: polycarbonate ⁽¹⁾.

Included:

- 1 GV2ME thermal magnetic circuit breaker (with mushroom emergency stop with LG7K06) ⁽²⁾
- 1 LC1K or LC1D pre-wired contactor
- 1 Harmony emergency stop pushbutton (from LG7K09)
- 2 Harmony XB5 pushbuttons.
- 1 GVAX undervoltage release module (from LG7K09).

Additional GVAX●● undervoltage release module for LG7K06 – to be ordered separately.

Additional GV2SN●● Indicator light – to be ordered separately.

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 ⁽³⁾	Weight	Overall dimensions ⁽⁴⁾ WxHxD
220/230 V	400/415 V	440 V			kg	
kW	kW	kW	A			
–	0.06	0.06	0.16...0.25	LG7K06●●02	1.300	175x165x177
0.06	0.09	0.12	0.25...0.40	LG7K06●●03	1.300	175x165x177
–	0.18	0.18	0.40...0.63	LG7K06●●04	1.300	175x165x177
0.12	0.25	0.37	0.63...1	LG7K06●●05	1.300	175x165x177
0.25	0.55	0.55	1...1.6	LG7K06●●06	1.300	175x165x177
0.37	0.75	1.1	1.6...2.5	LG7K06●●07	1.300	175x165x177
0.75	1.5	1.5	2.5...4	LG7K06●●08	1.300	175x165x177
1.1	2.2	3	4...6.3	LG7K06●●10	1.300	175x165x177
1.5	4	4	6...10	LG7K09●●14	1.450	175x165x177
3	5.5	5.5	9...14	LG7D12●●16	1.600	175x165x177
4	7.5	9	13...18	LG7D18●●20	1.630	175x165x177
4	9	9	17...23	LG7D18●●21	1.630	175x165x177

Voltage codes ⁽³⁾

Volts ~ 50/60 Hz	24	220/230	230	380/400	400	400/415 for LG7K)
LG7K, LG7D	B7	M7	P7	Q7	V7	N7

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

⁽²⁾ LG7K09, D12, D18: the Emergency Stop function is performed by an undervoltage trip module acting on the circuit breaker. This circuit breaker is always pre-wired for use on 380/400/415 V 50 Hz supply.

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

⁽³⁾ Some combinations of variants / control voltage may not be available. Please consult us.

⁽⁴⁾ Dimensions of standard versions, comprising (if any) handle, pushbutton, indicator light.



LG1K065

For Control + Visible Isolation + Short circuit / Overload Protection

Enclosed safety motor starters complying with IEC 60204-1 "Safety of machinery" standards.

- ON/OFF motor starters: 1-way rotation control of 3-phase motor
 - Emergency stop
 - Electrical circuit isolation, lockable with up to 3 padlocks
 - Short circuit protection
 - Overload protection
 - Undervoltage protection (with additional undervoltage release module).
- Switching back on power supply after tripping must be a deliberate action.

Range:

- 12 pre-equipped enclosed safety starters from 0.06 to 9 kW.

Enclosures characteristics:

- Conforming to IEC 60947-1, IEC 60204-1
- Degree of protection according IEC 60529 : IP55, IK07
- Ambient air temperature in operation -5 to + 40°C
- Operational voltage (U_e) 690 V
- Operating position: same that as contactors
- Material: polycarbonate ⁽¹⁾
- Enclosure cannot be opened when energized in position "I".

Included:

- 1 GV2ME thermal magnetic circuit breaker
- 1 LC1K (LG1K starters) or LC1D (LG1D starters) pre-wired contactor
- Switch with rotary red/yellow handle for isolation and emergency
- 2 Harmony XB5 pushbuttons.

Additional GVAX●● undervoltage release module – to be ordered separately.

Additional GV2SN●● indicator light – to be ordered separately.

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	Overall dimensions ⁽³⁾ WxHxD
220/ 230 V	400/ 415 V	440 V			kg	
kW	kW	kW	A			
–	0.06	0.06	0.16...0.25	LG1K065●●02	0.970	175x165x165
0.06	0.09	0.12	0.25...0.40	LG1K065●●03	0.970	175x165x165
–	0.18	0.18	0.40...0.63	LG1K065●●04	0.970	175x165x165
0.12	0.25	0.25	0.63...1	LG1K065●●05	0.970	175x165x165
0.25	0.55	0.55	1...1.6	LG1K065●●06	0.970	175x165x165
0.37	0.75	1.1	1.6...2.5	LG1K065●●07	0.970	175x165x165
0.75	1.5	1.5	2.5...4	LG1K065●●08	0.970	175x165x165
1.1	2.2	3	4...6.3	LG1K065●●10	0.970	175x165x165
1.5	4	4	6...10	LG1K095●●14	1.120	175x165x165
3	5.5	5.5	9...14	LG1D122●●16	1.270	175x165x165
4	7.5	9	13...18	LG1D182●●20	1.290	175x165x165
4	9	9	17...23	LG1D182●●21	1.290	175x165x165

Voltage codes ⁽²⁾

Volts ~ 50/60 Hz	220/ 230	230	380/ 400	400	400/415 (for LG1K)
LG1K, LG1D	M7	P7	Q7	V7	N7

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

⁽²⁾ Some combinations of variants / control voltage may not be available. Please consult us.

⁽³⁾ Dimensions of standard versions, comprising (if any) handle, pushbutton, indicator light.





LJ7K06

Enclosed starters

For Control + Isolation + Short circuit / Overload Protection, with isolated 24 V control circuit

Enclosed safety motor starters complying with IEC 60204-1 "Safety of machinery" standards.

- ON/OFF motor starters: 1-way rotation control of 3-phase motor
 - Emergency stop ⁽¹⁾
 - Electrical circuit isolation, lockable on LJ7K09 with up to 3 padlocks
 - Short circuit protection
 - Overload protection
 - Protection against voltage drops for LJ7K09. For LJ7K06, a GVAX●● undervoltage trip may be added
 - Possible signaling with GV2SN●● indicator (to be ordered separately).
- Switching back on power supply after tripping must be a deliberate action.

Range:

- 9 pre-equipped enclosed safety starters from 0.06 to 4 kW.

Enclosures characteristics:

- Conforming to IEC 60947-1, IEC 60204-1
- Degree of protection according IEC 60529: IP55, IK07
- Ambient air temperature in operation -5 to +40°C
- Operational voltage (Ue) 690 V
- Operating position: same that as contactors
- Material: polycarbonate ⁽²⁾.

Included:

- 1 GV2ME thermal magnetic circuit breaker with mushroom emergency stop (release on ¼ turn),
 - 1 LC1K pre-wired contactor
 - 2 Harmony XB5 pushbuttons
 - 1 Integral transformer: 400/24 V, 25 VA
 - 1 GVAX undervoltage release module (with LJ7K09).
- Additional GVAX●● undervoltage release module for LJ7K06 - to be ordered separately.
- Additional GV2SN●● indicator light – to be ordered separately.
- Terminal allowing the connection of a volt-free contact, if required, in the control circuit.

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	Weight	Overall dimensions ⁽⁵⁾ WxHxD
380/400 V	Setting range of thermal trips	Reference ^{(3) (4)}	kg	
kW	A			
0.06	0.16...0.25	LJ7K06Q702	2.270	175x165x177
0.09	0.25...0.40	LJ7K06Q703	2.270	175x165x177
0.18	0.40...0.63	LJ7K06Q704	2.270	175x165x177
0.25	0.63...1	LJ7K06Q705	2.270	175x165x177
0.55	1...1.6	LJ7K06Q706	2.270	175x165x177
0.75	1.6...2.5	LJ7K06Q707	2.270	175x165x177
1.5	2.5...4	LJ7K06Q708	2.270	175x165x177
2.2	4...6.3	LJ7K06Q710	2.270	175x165x177
4	6...10	LJ7K09Q714	2.270	175x165x146

- ⁽¹⁾ LJ7K06: the mushroom head type Emergency Stop acts mechanically on the circuit breaker.
LJ7K09: the Emergency Stop function is performed by an undervoltage trip GVAX385, acting on the circuit breaker. This circuit breaker is always supplied pre-wired for use on 380/400 V 50 Hz.
- ⁽²⁾ Avoid placing this material in contact with harsh substances (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).
- ⁽³⁾ 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).
- ⁽⁴⁾ Some combinations of variants / control voltage may not be available. Please consult us.
- ⁽⁵⁾ Dimensions of standard versions, comprising (if any) handle, pushbutton, indicator light.
- ⁽⁶⁾ Example: LJ7K06Q705A04.
- ⁽⁷⁾ Delete the last 2 digits of the selected starter reference. Example: LJ7K06Q705 becomes LJ7K06Q7.
- ⁽⁸⁾ Circuit breaker to be ordered separately.
References GV2ME: see chapter B6 "Circuit breakers".

Variants (pre-assembled) ⁽⁴⁾

Description	Variants available for starter	Suffix to be added to the starter reference ⁽⁶⁾
With Emergency Stop No control pushbuttons	LJ7K06Q705...K09Q714	A04
With padlocking facility (fitted as standard on LJ7 K09)	LJ7K06Q705...K06Q710	A29
Without circuit breaker ⁽⁸⁾ (or undervoltage release voltage)	LJ7	⁽⁷⁾
Without circuit breaker ⁽⁸⁾ With Emergency Stop No control pushbuttons	LJ7K09Q7	A04
Without circuit breaker ⁽⁸⁾ Without Emergency Stop (if the emergency stop is on the machine)	LJ7K09Q7	A39
Without circuit breaker ⁽⁸⁾ Without Emergency Stop No control pushbuttons	LJ7K09Q7	A04A39



LG8K06



LG8K09

For Control + Isolation + Short circuit / Overload Protection

For OEM, the enclosed safety motor reverser starters comply with IEC 60204-1 "Safety of machinery" standards.

- ON/REVERSE/OFF motor starters: 2-way rotation control of 3-phase motor
- Emergency stop ⁽¹⁾
- Electrical circuit isolation, lockable on LG8K09 and LG8K12 with up to 3 padlocks
- Short circuit protection (switching back on power supply after tripping must be a deliberate action)
- Overload protection
- Protection against voltage drops for LG8K09, LG8K12. For LG8K06, a GVAX●● undervoltage trip may be added.
- Possible signaling with GV2SN●● indicator (to be ordered separately).

Range:

- 10 pre-equipped enclosed safety inverter starters from 0.06 to 5.5 kW.

Enclosures characteristics:

- Conforming to IEC 60947-1, IEC 60204-1 ⁽¹⁾
- Degree of protection according IEC 60529: IP55, IK07
- Ambient air temperature in operation -5 to +40°C
- Operational voltage (Ue) 690 V
- Operating position: same that as contactors
- Material: polycarbonate ⁽²⁾

Included:

- 2 LC1K prewired contactors
- 1 GV2ME thermal magnetic circuit breaker with mushroom emergency stop (release on ¼ turn)
- 1 "Stop" black pushbutton + 1 2-position spring return selector switch "I – II"
- 1 GVAX undervoltage release module with LG8K09, LG8K12 (to be ordered separately for LG8K06).

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 ⁽³⁾	Weight	Overall dimensions ⁽⁴⁾ WxHxD
220/ 230 V	400/ 415 V	440 V			kg	
kW	kW	kW	A			
–	0.06	0.06	0.16...0.25	LG8K06●●02	1.640	175x165x177
0.06	0.09	0.12	0.25...0.40	LG8K06●●03	1.640	175x165x177
–	0.18	0.18	0.40...0.63	LG8K06●●04	1.640	175x165x177
0.12	0.25	0.25	0.63...1	LG8K06●●05	1.640	175x165x177
0.25	0.55	0.55	1...1.6	LG8K06●●06	1.640	175x165x177
0.37	0.75	1.1	1.6...2.5	LG8K06●●07	1.640	175x165x177
0.75	1.5	1.5	2.5...4	LG8K06●●08	1.640	175x165x177
1.1	2.2	3	4...6.3	LG8K06●●10	1.640	175x165x177
1.5	4	4	6...10	LG8K09●●14	1.640	175x165x177
3	5.5	5.5	9...14	LG8K12●●16	1.640	175x165x177

Voltage codes ⁽³⁾

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

⁽¹⁾ LG8K06: the mushroom head type Emergency Stop acts mechanically on the circuit breaker. LG8K09, LG8K12: 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.

⁽²⁾ Avoid allowing the material to come into contact with strong bases (detergents, chlorine solvents, ketones, alcohol, aromatic hydrocarbons).

⁽³⁾ Some combinations of variants / control voltage may not be available. Please consult us.

⁽⁴⁾ Dimensions of standard versions, comprising (if any) handle, pushbutton, indicator light.





LJ8K06



LJ8K09

For Control + Isolation + Short circuit /Overload Protection, with isolated 24 V control circuit

For OEM, the enclosed safety motor reverser starters comply with IEC 60204-1 "Safety of machinery" standards.

- ON/REVERSE/OFF motor starters: 2-way rotation control of 3-phase motor
- Emergency stop ⁽¹⁾
- Electrical circuit isolation, lockable on LJ8K09 with up to 3 padlocks
- Short circuit protection (switching back on power supply after tripping must be a deliberate action)
- Overload protection
- Protection against voltage drops for LJ8K09. For LJ8K06, a GVAX●● undervoltage trip may be added
- Possible signaling with GV2SN●● indicator (to be ordered separately).

Range:

- 9 pre-equipped enclosed safety inverter starters from 0.06 to 4 kW.

Enclosures characteristics:

- Conforming to IEC 60947-1, IEC 60204-1
- Degree of protection according IEC 60529: IP55, IK07
- Ambient air temperature in operation -5 to +40°C
- Operational voltage (U_e) 690 V
- Operating position: same that as contactors
- Material: polycarbonate ⁽²⁾.

Included:

- 2 LC1K prewired contactors
- 1 GV2ME thermal magnetic circuit breaker with mushroom emergency stop (release on ¼ turn)
- 1 Integral transformer: 400/24 V, 25 VA
- 1 "Stop" black pushbutton + 1 2-position spring return selector switch "I – II"
- 1 GVAX undervoltage release module with LJ8K09 (to be ordered separately for LJ8K06).
- Terminal allowing the connection of a volt-free contact, if required, in the control circuit.

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	Overall dimensions ⁽⁵⁾ WxHxD
380/400 V	Setting range of thermal trips	Reference ^{(3) (4)}		
kW	A		kg	
0.06	0.16...0.25	LJ8K06Q702	2.650	175x165x177
0.09	0.25...0.40	LJ8K06Q703	2.650	175x165x177
0.18	0.40...0.63	LJ8K06Q704	2.650	175x165x177
0.25	0.63...1	LJ8K06Q705	2.650	175x165x177
0.55	1...1.6	LJ8K06Q706	2.650	175x165x177
0.75	1.6...2.5	LJ8K06Q707	2.650	175x165x177
1.5	2.5...4	LJ8K06Q708	2.650	175x165x177
2.2	4...6.3	LJ8K06Q710	2.650	175x165x177
4	6...10	LJ8K09Q714	2.650	175x165x146

Variants (pre-assembled) ⁽⁴⁾

Description	Variants available for starter	Suffix to be added to the starter reference
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Without circuit breaker ⁽⁷⁾
(or undervoltage release voltage)

LJ8

⁽⁶⁾

⁽¹⁾ LJ8 K06: the mushroom head type Emergency Stop acts mechanically on the circuit breaker. LJ8K09: the Emergency Stop function is performed by an undervoltage trip GVAX385, acting on the circuit breaker. This circuit breaker is always supplied pre-wired for use on 380/400 V 50 Hz.

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

⁽³⁾ 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).

⁽⁴⁾ Some combinations of variants / control voltage may not be available. Please consult us.

⁽⁵⁾ Dimensions of standard versions, comprising (if any) handle, pushbutton, indicator light.

⁽⁶⁾ Delete the last 2 digits of the selected starter reference. Example: LJ8K06Q702 becomes LJ8K06Q7.

⁽⁷⁾ Circuit breaker to be ordered separately. References GV2ME: see chapter B6 "Circuit breakers".