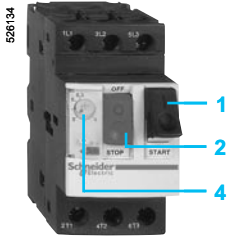
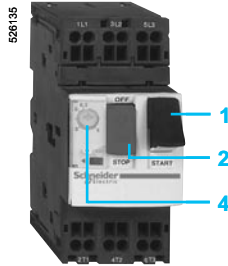


TeSys protection components

Thermal-magnetic motor circuit-breakers GV2, GV3 and GV7



GV2 ME
with screw clamp
terminals



GV2 ME
with spring terminals
connections

Presentation

GV2 ME, GV2 P, GV3 ME, GV3 P and GV7 R motor circuit-breakers are 3-pole thermal-magnetic circuit-breakers **specifically designed for the control and protection of motors**, conforming to standards IEC 60947-2 and IEC 60947-4-1.

Connection

GV2

GV2 ME and GV2 P circuit-breakers are designed for connection by screw clamp terminals.
Circuit-breaker GV2 ME can be supplied with lugs or spring terminal connections. Spring terminal connections ensure secure, permanent and durable clamping that is resistant to harsh environments, vibration and impact and are even more effective when conductors without cable ends are used. Each connection can take two independent conductors.

GV3

GV3 circuit-breakers feature connection by BTR screws (hexagon socket head), tightened using a n° 4 Allen key.
This type of connection uses the **EverLink®** system with creep compensation (1) (Schneider Electric patent).
This technique makes it possible to achieve accurate and durable tightening torque, in order to avoid cable creep.

GV3 circuit-breakers are also available with connection by lugs. This type of connection meets the requirements of certain Asian markets and is suitable for applications subject to strong vibration, such as railway transport.

GV7

GV7 circuit-breakers: with connection by screw clamp terminals (for bars and lugs) and by clip-on connectors.

Operation

Control is manual and local when the motor circuit-breaker is used on its own.
Control is automatic and remote when it is associated with a contactor.

GV2 ME and GV3 ME80

Pushbutton control.
Energisation is controlled manually by operating the Start button "I" 1.
De-energisation is controlled manually by operating the Stop button "O" 2, or automatically by the thermal-magnetic protection elements or by a voltage trip attachment.

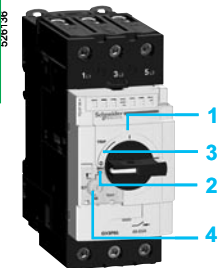
GV2 P, GV3 P and GV7 R

- Control by rotary knob: for GV2 P and GV3 P
- Control by rocker lever: for GV7 R.

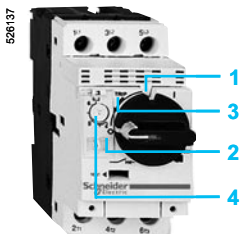
Energisation is controlled manually by moving the knob or rocker lever to position "I" 1.
De-energisation is controlled manually by moving the knob or rocker lever to position "O" 2.
De-energisation due to a fault automatically places the knob or rocker lever in the "Trip" position 3.
Re-energisation is possible only after having returned the knob or rocker lever to position "O".

(1) Creep: normal crushing phenomenon of copper conductors, that is accentuated over time.

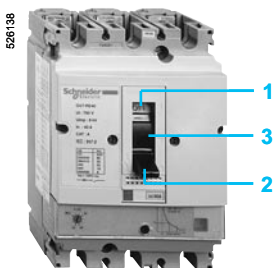
3



GV3 P



GV2 P



GV7 R

3

Environment			GV2 ME	GV2 P	GV3 P	GV3 ME80	GV7 R	
Circuit-breaker type								
Conforming to standards			IEC 60947-1, 60947-2, 60947-4-1, EN 60204, UL 508, CSA C 22.2 n° 14-05, NF C 63-650, 63-120, 79-130, VDE 0113, 0660		IEC/EN 60947-1, 60947-2, 60947-4-1, UL 508 type E, CSA C 22.2 n° 14-05 type E	IEC/EN, NF EN, BS EN, DIN EN 60947-2, 60947-4-1	IEC 60947-1, 60947-2, 60947-4-1, EN 60947-1, 60947-2, EN 60947-4-1, NF C 63-650, NF C 63-120, 79-130, VDE 0113, 0660	
Product certifications			UL, CSA, CCC, CEBC, GOST, TSE, BV, GL, LROS, DNV, PTB, EZU, SETI, RINA, ATEX	UL (1), CSA, PTB, EZU, GOST, TSE, DNV, LROS, GL, BV, RINA, CCC, ATEX	UL, CSA, CCC (pending), GOST, ATEX (pending)	UL, CSA, LROS	UL, DNV, CCC	
Protective treatment			"TH"		"TH"	"TC"	"TC"	
Degree of protection	Conforming to IEC 60529	Open mounted	IP 20		IP 20	IP 20	IP 405 with terminal shrouds	
		In enclosure	GV2 M●01: IP 41 GV2 M●02: IP 55	–	GV3 PC01 and GV3 PC02: IP 55	GV3 CE01: IP 55	–	
Shock resistance	Conforming to IEC 60068-2-27		30 gn -11 ms		On: 15 gn -11 ms Off: 30 gn -11 ms	22 gn - 20 ms	15 gn -11 ms	
Vibration resistance	Conforming to IEC 60068-2-6		5 gn (5...150 Hz)		4 gn (5...300 Hz)	2.5 gn (0...25 Hz)	2.5 gn (25 Hz)	
Ambient air temperature	Storage	°C	-40...+80	-40...+80	-40...+80	-40...+80	-55...+95	
	Operation	Open mounted	°C	-20...+60	-20...+60	-20...+60 (2)	-20...+60	-25...+70
		In enclosure	°C	-20...+40	-20...+40	-20...+40	-20...+40	–
Temperature compensation		Open mounted	°C	-20...+60	-20...+60	-20...+60	-20...+60	-25...+55 (3)
		In enclosure	°C	-20...+40	-20...+40	-20...+40	-20...+40	–
Flame resistance	Conforming to IEC 60695-2-1	°C	960		960	960	960	
Maximum operating altitude		m	2000		3000	3000	2000	
Suitable for isolation	Conforming to IEC 60947-1 § 7-1-6		Yes		Yes	–	Yes	
Resistance to mechanical impact		J	0.5	0.5	10	0.5	0.5	
			IK 04		IK 09 (in enclosure)	–	–	
Sensitivity to phase failure			Yes, conforming to IEC 60947-4-1 § 7-2-1-5-2					

Technical characteristics			GV2 ME	GV2 P	GV2 RT	GV3 P	GV3 ME80	GV7 R●20... R●100	GV7 R●150	GV7 R●220
Circuit-breaker type										
Utilisation category	Conforming to IEC 60947-2		A			A	A	A		
	Conforming to IEC 60947-4-1		AC-3			AC-3	AC-3	AC-3		
Rated operational voltage (Ue)	Conforming to IEC 60947-2	V	690			690	690	690		
Rated insulation voltage (Ui)	Conforming to IEC 60947-2	V	690			690	690	750		
Rated voltage	Conforming to CSA C22-2 n° 14, UL 508	V	600			600	600 (B600)	600		
Rated operational frequency	Conforming to IEC 60947-4-1 UL, CSA	Hz	50/60			50/60	50/60	50/60		
Rated impulse withstand voltage (U imp)	Conforming to IEC 60947-2	kV	6			6	6	8		
Total power dissipated per pole		W	2.5			8	8	5	8.7	14.5
Mechanical durability (C.O.: Close, Open)		C.O.	100 000			50 000	30 000	50 000	40 000	20 000
Electrical durability for AC-3 duty	440 V In/2	C.O.	100 000			–	30 000	50 000	40 000	20 000
	440 V In	C.O.	–			50 000	–	30 000	20 000	10 000
Duty class (maximum operating rate)		C.O./h	25			25	25	25		
Maximum conventional rated thermal current (Ith)	Conforming to IEC 60947-4-1	A	0.16... 32	0.16... 32	0.40... 23	13... 65	80	12... 100	150	220
Rated duty	Conforming to IEC 60947-4-1		Continuous duty							

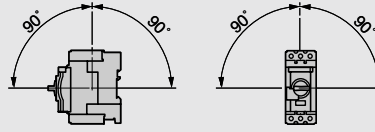
(1) UL 508 type E for **GV2 P●●H7**

(2) Leave a space of 9 mm between 2 circuit-breakers: either an empty space, or side mounting add-on contact blocks. Side by side mounting is possible up to 40 °C.

(3) For operation up to 70 °C, please consult your Regional Sales Office.

Mounting characteristics

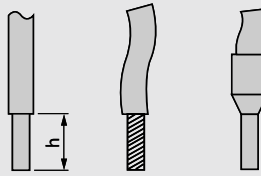
Operating position
Without derating, in relation to normal vertical mounting plane (1)



Connection characteristics

Connection to screw clamp terminals or spring terminals

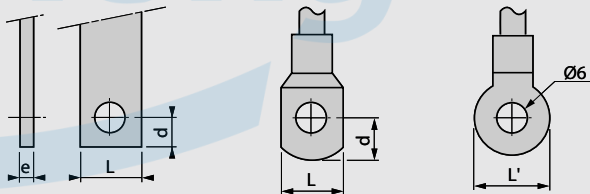
Bare cables



Circuit-breaker type		GV2 ME		GV2 P		GV3 P		GV3 ME80	
Connection to screw clamp terminals (2) (Max. number of conductors x c.s.a.)		mm ²	mm ²	mm ²	mm ²	mm ²	mm ²	mm ²	mm ²
Solid cable		2 x 1	2 x 6	2 x 1	2 x 6	2 x 1	1 x 25 and 1 x 35	1 x 2.5	1 x 35
	Flexible cable without cable end	2 x 1.5	2 x 6	2 x 1.5	2 x 6	2 x 1	1 x 25 and 1 x 35	1 x 2.5	2 x 16
	Flexible cable with cable end	2 x 1	2 x 4	2 x 1	2 x 4	2 x 1	1 x 25 and 1 x 35	1 x 2.5	2 x 16
Tightening torque		N.m							
		1.7	1.7	1.7	1.7	5	5: 25 mm ² 8: 35 mm ²	5	5
Connection to spring terminals									
Number of conductors x c.s.a.									
Solid cable		2 x 1 (3)	2 x 6	–	–	–	–	–	–
	Flexible cable without cable end	2 x 1.5 (3)	2 x 4	–	–	–	–	–	–

Connection by bars or lugs

Bars or lugs



Circuit-breaker type		GV2 ME●●6	GV3 P●●6	GV7 R●20...R●100	GV7 R●150	GV7 R●220	
Pitch	Without spreaders	mm	13.5	17.5	35	35	
	With spreaders	mm	–	–	45	45	
Bars or cables with lugs	e	mm	≤ 6	≤ 6	≤ 6	≤ 6	
	L	mm	≤ 9.5	≤ 13.5	≤ 25	≤ 25	
	L'	mm	≤ 9.5	≤ 16.5	–	–	
	d	mm	≤ 10	≤ 10	≤ 10	≤ 10	
Screws			M4	M6	M6	M8	
	Tightening torque	N.m	1.7	6	10	15	15
Bare cables (copper or aluminium) with connectors	Height (h)	mm	–	–	20	20	20
	C.s.a.	mm ²	–	–	1.5...95	1.5...95	1.5...185
	Tightening torque	N.m	–	–	15	15	15

(1) When mounting on a vertical rail, fit a stop to prevent any slippage.
 (2) For motor circuit-breakers **GV3 P**: BTR hexagon socket head screws, **EverLink®** system. Require use of an insulated Allen key, in compliance with local electrical wiring regulations.
 (3) For cross-sections 1 to 1.5 mm², the use of an **LA9 D99** cable end reducer is recommended.

TeSys protection components

Thermal-magnetic motor circuit-breakers

GV2 ME

528134



GV2 ME10

3

Motor circuit-breakers from 0.06 to 15 kW / 400 V, with screw clamp terminals												
GV2 ME with pushbutton control												
Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range of thermal trips (2)	Magnetic tripping current I _d ± 20 %	Reference	Weight
400/415 V			500 V			690 V						
P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)	A	A		kg
kW	kA	%	kW	kA	%	kW	kA	%				
–	–	–	–	–	–	–	–	–	0.1...0.16	1.5	GV2 ME01	0.260
0.06	*	*	–	–	–	–	–	–	0.16...0.25	2.4	GV2 ME02	0.260
0.09	*	*	–	–	–	–	–	–	0.25...0.40	5	GV2 ME03	0.260
0.12	*	*	–	–	–	0.37	*	*	0.40...0.63	8	GV2 ME04	0.260
0.18	*	*	–	–	–	–	–	–				
0.25	*	*	–	–	–	0.55	*	*	0.63...1	13	GV2 ME05	0.260
0.37	*	*	0.37	*	*	–	–	–	1...16	22.5	GV2 ME06	0.260
0.55	*	*	0.55	*	*	0.75	*	*				
–	–	–	–	–	–	0.75	*	*				
0.75	*	*	1.1	*	*	1.5	3	75	1.6...2.5	33.5	GV2 ME07	0.260
1.1	*	*	1.5	*	*	2.2	3	75	2.5...4	51	GV2 ME08	0.260
1.5	*	*	2.2	*	*	3	3	75				
2.2	*	*	3	50	100	4	3	75	4...6.3	78	GV2 ME10	0.260
3	*	*	4	10	100	5.5	3	75	6...10	138	GV2 ME14	0.260
4	*	*	5.5	10	100	7.5	3	75				
5.5	15	50	7.5	6	75	9	3	75	9...14	170	GV2 ME16	0.260
–	–	–	–	–	–	11	3	75				
7.5	15	50	9	6	75	15	3	75	13...18	223	GV2 ME20	0.260
9	15	40	11	4	75	18.5	3	75	17...23	327	GV2 ME21	0.260
11	15	40	15	4	75	–	–	–	20...25	327	GV2 ME22 (3)	0.260
15	10	50	18.5	4	75	22	3	75	24...32	416	GV2 ME32	0.260

Motor circuit-breakers from 0.06 to 15 kW / 400 V, with lugs

To order thermal magnetic circuit-breakers with connection by lugs, add the digit **6** to the end of reference selected above.

Example: **GV2 ME08** becomes **GV2 ME086**.

Thermal magnetic circuit-breakers GV2 ME with built-in auxiliary contact block

With instantaneous auxiliary contact block (composition, see page 3/55):

- GV AE1, add suffix **AE1TQ** to the motor circuit-breaker reference selected above.
Example: **GV2 ME01AE1TQ**.
- GV AE11, add suffix **AE11TQ** to the motor circuit-breaker reference selected above.
Example: **GV2 ME01AE11TQ**.
- GV AN11, add suffix **AN11TQ** to the motor circuit-breaker reference selected above.
Example: **GV2 ME01AN11TQ**.

These circuit-breakers with built-in contact block are sold in lots of 20 units in a single pack.

(1) As % of I_{cu}.
 (2) The thermal trip setting must be within the range marked on the graduated knob.
 (3) Maximum rating which can be mounted in enclosures **GV2 MC** or **MP**, please consult your Regional Sales Office.
 * > 100 kA.

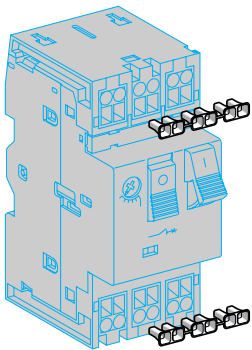
TeSys protection components

Thermal-magnetic motor circuit-breakers

GV2 ME



GV2 ME●●3



LA9 D99

Motor circuit-breakers from 0.06 to 11 kW, with spring terminal connections

GV2 ME (1) with pushbutton control							Setting range of thermal trips (3)	Magnetic tripping current Id ± 20 %	Reference	Weight
Standard power ratings of 3-phase motors 50/60 Hz in category AC-3										
400/415 V			500 V							
P	Icu	Ics (2)	P	Icu	Ics (2)	A	A		kg	
kW	kA	%	kW	kA	%					
-	-	-	-	-	-	0.1...0.16	1.5	GV2 ME013	0.280	
0.06	*	*	-	-	-	0.16...0.25	2.4	GV2 ME023	0.280	
0.09	*	*	-	-	-	0.25...0.40	5	GV2 ME033	0.280	
0.12	*	*	-	-	-	0.40...0.63	8	GV2 ME043	0.280	
0.18	*	*	-	-	-	0.63...1	13	GV2 ME053	0.280	
0.25	*	*	0.37	*	*	0.63...1	13	GV2 ME053	0.280	
0.37	*	*	0.37	*	*	1...1.6	22.5	GV2 ME063	0.280	
0.55	*	*	0.55	*	*	1...1.6	22.5	GV2 ME063	0.280	
0.75	*	*	0.75	*	*	1.6...2.5	33.5	GV2 ME073	0.280	
1.1	*	*	1.1	*	*	1.6...2.5	33.5	GV2 ME073	0.280	
1.5	*	*	1.5	*	*	2.5...4	51	GV2 ME083	0.280	
2.2	*	*	2.2	*	*	2.5...4	51	GV2 ME083	0.280	
3	*	*	3	50	100	4...6.3	78	GV2 ME103	0.280	
4	*	*	4	10	100	4...6.3	78	GV2 ME103	0.280	
5.5	15	50	5.5	10	100	6...10	138	GV2 ME143	0.280	
7.5	15	50	7.5	6	75	6...10	138	GV2 ME143	0.280	
9	15	40	9	6	75	9...14	170	GV2 ME163	0.280	
11	15	40	11	4	75	9...14	170	GV2 ME163	0.280	
11	15	40	11	4	75	13...18	223	GV2 ME203	0.280	
11	15	40	11	4	75	17...23	327	GV2 ME213	0.260	
11	15	40	11	4	75	20...25	327	GV2 ME223	0.260	

Contact blocks						
Description	Mounting	Maximum number	Type of contacts	Sold in lots of	Unit reference	Weight kg
Instantaneous auxiliary contacts	Front	1	N/O + N/C	10	GV AE113	0.030
			N/O + N/O	10	GV AE203	0.030
	LH side	2	N/O + N/C	1	GV AN113	0.060
			N/O + N/O	1	GV AN203	0.060

Accessory				
Description	Application	Sold in lots of	Unit reference	Weight kg
Cable end reducer	For connection of conductors from 1 to 1.5 mm ²	20	LA9 D99	-

(1) For connection of conductors from 1 to 1.5 mm², the use of an LA9 D99 cable end reducer is recommended.
 (2) Maximum rating which can be mounted in enclosures GV2 MC or MP, please consult your Regional Sales Office
 (3) The thermal trip setting must be within the range marked on the graduated knob.
 * > 100 kA.

TeSys protection components

Thermal-magnetic and magnetic motor circuit-breakers GV2 with screw clamp connections

Accessories

Accessories				
Description	Application	Sold in lots of	Unit reference	Weight kg
Adapter plates	For mounting a GV2 ME or GV2 LE by screw fixing	10	GV2 AF02	0.021
	For mounting a GV2 ME or GV2 P and contactor LC1 D09...D38 with front faces aligned	1	LAD 311	0.040
Height compensation plate	7,5 mm	10	GV1 F03	0.003
Combination blocks	Between GV2 and contactor LC1 K or LP1 K	10	GV2 AF01	0.020
	Between GV2 and contactor LC1 D09...D38	10	GV2 AF3	0.016
	Between GV2 mounted on LAD 311 and contactor LC1 D09...D38	10	GV2 AF4	0.016
Motor starter adapter plate	With 3-pole connection for mounting a GV2 and a contactor LC1 D09...D25	1	GK2 AF01	0.120

Description	Application	Pitch mm	Reference	Weight kg
Sets of 3-pole 63 A busbars	2 tap-offs	45	GV2 G245	0.036
		54	GV2 G254	0.038
		72	GV2 G272	0.042
	3 tap-offs	45	GV2 G345	0.058
		54	GV2 G354	0.060
		72	GV2 G454	0.085
	4 tap-offs	45	GV2 G445	0.077
		54	GV2 G454	0.085
		72	GV2 G472	0.094
	5 tap-offs	54	GV2 G554	0.100

Description	Application	Sold in lots of	Unit reference	Weight kg
Protective end cover	For unused busbar outlets	5	GV1 G10	0.005
Terminal block for supply to one or more GV2 G busbar sets	Connection from the top	1	GV1 G09	0.040
	Can be fitted with current limiter GV1 L3 (GV2 ME and GV2 P)	1	GV2 G05	0.115
Cover for terminal block	For mounting in modular panels	10	LA9 E07	0.005
Flexible 3-pole connection for connecting a GV2 to a contactor LC1-D09...D25	Centre distance between mounting rails: 100...120 mm	10	GV1 G02	0.013
Set of connections upstream/downstream	For connecting GV2 ME to a printed circuit board	10	GV2 GA01	0.045
"Large Spacing" adapter UL 508 type E	For GV2 P●●H7 (except 32 A)	1	GV2 GH7	0.040
Clip-in marker holders (supplied with each circuit-breaker)	For GV2 P, GV2 L, GV2 LE and GV2 RT (8 x 22 mm)	100	LA9 D92	0.001

External operators			
Description		Reference	Weight kg
For GV2 P and GV2 L (150 to 290 mm)	Padlocking in "On" and "Off" position Black handle, blue front plate, IP 54	GV2 AP01	0.200
	Padlocking in "Off" position Red handle, yellow front plate, IP 54	GV2 AP02	0.200
	Cannot be padlocked in "On" and "Off" positions Does not lock the door or drawer operator in the "On" position. Colour: RAL 7016, IP 42	GV2 AP04	0.104
For GV2 LE	Padlocking in "On" and "Off" position Black handle, blue front plate, IP 54	GV2 AP03	0.280

Padlocking device			
Description	Reference	Weight kg	
For all GV2 device	For use with up to 4 padlocks, Ø 6 mm shank max. (padlocks not included)	GV2 V03	0.092

TeSys protection components

Thermal-magnetic motor circuit-breakers

GV2 ME and GV2 P

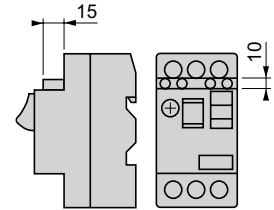
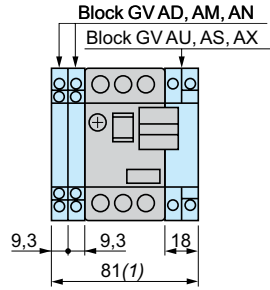
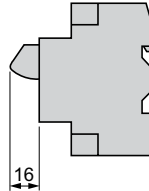
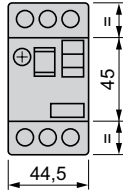
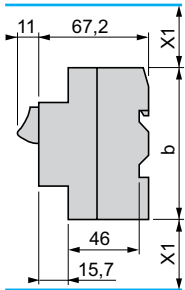
Dimensions

GV2 ME

GV AX

GV AD, AM, AN, AU, AS, AX

GV AE



b

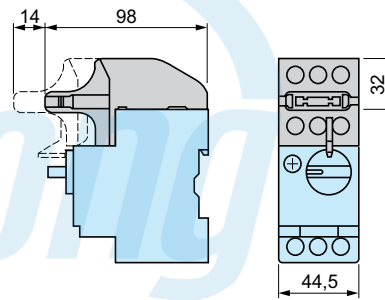
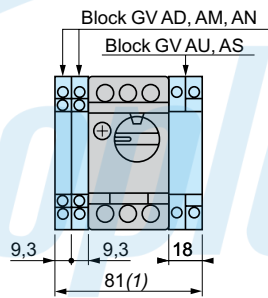
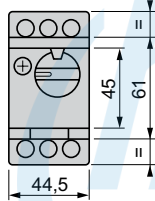
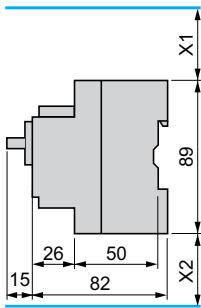
GV2 ME●●	89
GV2 ME●●3	101

(1) Maximum
X1 Electrical clearance = 40 mm for $U_e \leq 690$ V

GV2 P

GV AD, AM, AN, AU, AS

GV2 AK00



(1) Maximum
X1 Electrical clearance = 40 mm for $U_e \leq 415$ V, or 80 mm for $U_e = 440$ V, or 120 mm for $U_e = 500$ and 690 V
X2 = 40 mm

GV2 GH7

