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3 - TeSys protection components: motor circuit-breakers

TeSys protection components
Thermal-magnetic motor circuit-breakers

Applications	Protection of motors against short-circuits and overloads			
				
Tripping threshold on short-circuit	13 In			
Standard motor power ratings in AC-3, 415 V	Up to 15 kW		Up to 30 kW	37 kW
Operational current at 415 V	0.1…32 A		9…65 A	56…80 A
Breaking capacity at 415 V (Icu) to IEC 60947-2	10…100 kA	35…100 kA	50…100 kA	15 kA
Door interlock mechanism	Without	With	With	Without
Circuit-breaker type	**GV2 ME**	**GV2 P**	**GV3 P**	**GV3 ME80**
Pages	3/46 and 3/47	3/48	3/48	3/48

		Protection of motors with high current peak on starting
		
		20 In
7.5…110 kW		Up to 11 kW
12…220 A		0.25…23 A
35 and 36 kA	70 kA	15…100 kA
With		With
GV7 RE	**GV7 RS**	**GV2 RT**
3/49		3/50 and 3/51

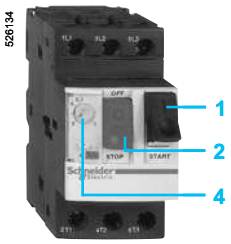
TeSys protection components
Magnetic motor circuit-breakers

Applications	**Protection of motors** **Magnetic circuit-breakers provide short-circuit protection. They must be combined with thermal overload relays to provide motor overload protection.**	
		

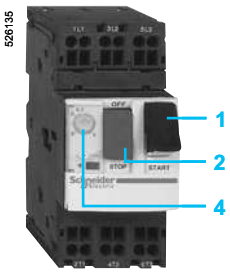
Tripping threshold on short-circuit	13 In	
Standard motor power ratings in AC-3, 415 V	Up to 15 kW	
Operational current at 415 V	0.4…32 A	
Breaking capacity at 415 V (Icu) to IEC 60947-2	10…100 kA	35…100 kA
Door interlock mechanism	With	
Circuit-breaker type	**GV2 LE**	**GV2 L**
Pages	3/52	3/53

		6…14 In	8…13 In	6.3…12.5 In
Up to 30 kW	37 kW	0.37…250 kW		
25…65 A	80 A	1.5…500 A		
50…100 kA	35 kA	25.7 and 150 kA	35.7…150 kA	45.7…150 kA
With	With	With		
GV3 L	**GK3 EF80**	**NS 80**	**NS 100 to NS 250**	**NS 400 and NS 630**
3/53	3/53	Please consult the Schneider Electric catalogue - Low Voltage Distribution		

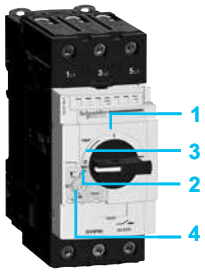
TeSys protection components
Thermal-magnetic motor circuit-breakers GV2, GV3 and GV7



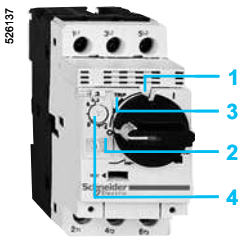
GV2 ME with screw clamp terminals



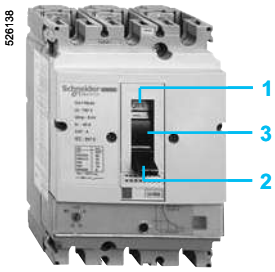
GV2 ME with spring terminals connections



GV3 P



GV2 P



GV7 R

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 **Ever**Link® 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.

Characteristics: pages 3/8 to 3/23
References: pages 3/46 to 3/51
Dimensions: pages 3/66 to 3/75
Schemes: pages 3/76 and 3/77

Presentation (continued)

Protection of motors and personnel

Motor protection is provided by the thermal-magnetic protection elements incorporated in the motor circuit-breaker.

The **magnetic** elements (short-circuit protection) have a non-adjustable tripping threshold, which is equal to 13 times the maximum setting current of the thermal trips.

The **thermal** elements (overload protection) include automatic compensation for ambient temperature variations.
The rated operational current of the motor is displayed by means of a graduated knob 4.
Personnel protection is also provided. All live parts are protected against direct finger contact from the front panel.

The addition of an undervoltage trip allows the circuit-breaker to be de-energised in the event of an undervoltage condition. The user is therefore protected against sudden starting of the machine when normal voltage is restored, since the Start button “I” has to be pressed to restart the motor.

With the addition of a shunt trip, de-energisation of the unit can be remotely controlled.
The operators on both open-mounted and enclosed motor circuit-breakers can be locked in the Stop position “O” by up to 4 padlocks.

Because they are suitable for isolation, these circuit-breakers, in the open position, provide an adequate isolation distance and indicate the actual position of the moving contacts by the position of the operators.

Special features

These motor circuit-breakers are easily installed in any configuration thanks to their universal fixing arrangement: screw fixing or clip-on mounting on symmetrical, asymmetrical or combination rails.

TeSys protection components
Thermal-magnetic motor circuit-breakers

Environment

Circuit-breaker type				GV2 ME	GV2 P	GV3 P	GV3 ME80	GV7 R
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, CEBEC, 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

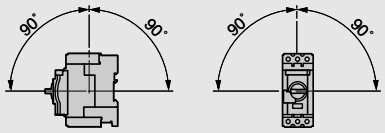
Circuit-breaker type			GV2 ME	GV2 P	GV2 RT	GV3 P	GV3 ME80	GV7 R●20... R●100	GV7 R●150	GV7 R●220
Utilisation category	Conforming to IEC 60947-2		A			A	A	A		
	Conforming to IEC 60947-4-1		AC-3			AC-3	AC-3	AC-3		
Rated operational voltage (Ue)	Conforming to IEC 60947-2	**V**	690			690	690	690		
Rated insulation 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.

References: pages 3/46 to 3/51
Dimensions: pages 3/66 to 3/75
Schemes: pages 3/76 and 3/77

Mounting characteristics

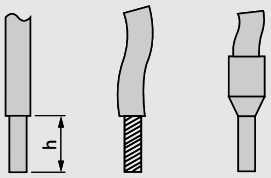
Operating position
Without derating, in relation to normal vertical mounting plane *(1)*



Connection characteristics

Connection to screw clamp terminals or spring terminals

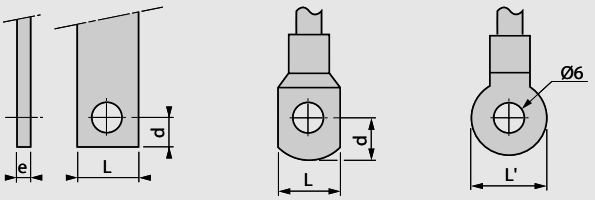
Bare cables



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.)			**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
	Solid cable	**mm²**	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	**mm²**	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	**mm²**	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 mm² 8: 35 mm²	5	5
Connection to spring terminals Number of conductors x c.s.a.	Solid cable	**mm²**	2 x 1 *(3)*	2 x 6	–	–	–	–	–	–
	Flexible cable without cable end	**mm²**	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	35
	With spreaders	**mm**	–	–	45	45	45
Bars or cables with lugs	e	**mm**	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6
	L	**mm**	≤ 9.5	≤ 13.5	≤ 25	≤ 25	≤ 25
	L'	**mm**	≤ 9.5	≤ 16.5	–	–	–
	d	**mm**	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
Screws			M4	M6	M6	M8	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.	**mm²**	–	–	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, **Ever**Link® 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.*

References:
pages 3/46 to 3/51

Dimensions:
pages 3/66 to 3/75

Schemes:
pages 3/76 and 3/77

TeSys protection components
Thermal-magnetic motor circuit-breakers
GV2 ME and GV2 P

Breaking capacity of GV2 ME and GV2 P

Circuit-breaker type				GV2 ME									GV2 P								
				01 to 06	07	08	10	14	16	20	21 & 22	32	01 to 06	07	08	10	14	16	20	21 & 22	32
Rating			**A**	**0.1 to 1.6**	**2.5**	**4**	**6.3**	**10**	**14**	**18**	**23 & 25**	**32**	**0.1 to 1.6**	**2.5**	**4**	**6.3**	**10**	**14**	**18**	**23 & 25**	**32**
Breaking capacity conforming to IEC 60947-2	230/240 V	Icu	**kA**	★	★	★	★	★	★	★	50	50	★	★	★	★	★	★	★	★	★
		Ics % *(1)*		★	★	★	★	★	★	★	100	100	★	★	★	★	★	★	★	★	★
	400/415 V	Icu	**kA**	★	★	★	★	★	15	15	15	10	★	★	★	★	★	★	50	50	50
		Ics % *(1)*		★	★	★	★	★	50	50	40	50	★	★	★	★	★	★	50	50	50
	440 V	Icu	**kA**	★	★	★	50	15	8	8	6	6	★	★	★	★	★	50	20	20	20
		Ics % *(1)*		★	★	★	100	100	50	50	50	50	★	★	★	★	★	75	75	75	75
	500 V	Icu	**kA**	★	★	★	50	10	6	6	4	4	★	★	★	★	50	42	10	10	10
		Ics % *(1)*		★	★	★	100	100	75	75	75	75	★	★	★	★	100	75	75	75	75
	690 V	Icu	**kA**	★	3	3	3	3	3	3	3	3	★	8	8	6	6	6	4	4	4
		Ics % *(1)*		★	75	75	75	75	75	75	75	75	★	100	100	100	100	100	100	100	100
Associated fuses (if required) if Isc > breaking capacity Icu conforming to IEC 60947-2	230/240 V	aM	**A**	★	★	★	★	★	★	★	80	80	★	★	★	★	★	★	★	★	★
		gG	**A**	★	★	★	★	★	★	★	100	100	★	★	★	★	★	★	★	★	★
	400/415 V	aM	**A**	★	★	★	★	★	63	63	80	80	★	★	★	★	★	★	100	100	100
		gG	**A**	★	★	★	★	★	80	80	100	100	★	★	★	★	★	★	125	125	125
	440 V	aM	**A**	★	★	★	50	50	50	50	63	63	★	★	★	★	★	50	63	80	80
		gG	**A**	★	★	★	63	63	63	63	80	80	★	★	★	★	★	63	80	100	100
	500 V	aM	**A**	★	★	★	50	50	50	50	50	50	★	★	★	★	50	50	50	50	50
		gG	**A**	★	★	★	63	63	63	63	63	63	★	★	★	★	63	63	63	63	63
	690 V	aM	**A**	★	16	25	32	32	40	40	40	40	★	20	25	40	40	50	50	50	50
		gG	**A**	★	20	32	40	40	50	50	50	50	★	25	32	50	50	63	63	63	63

★ > 100 kA.
(1) As % of Icu.

References: pages 3/46 to 3/48
Dimensions: pages 3/66 to 3/69
Schemes: page 3/76

Breaking capacity of GV2 ME and GV2 P (used in association with current limiter GV1 L3)

Circuit-breaker type				GV2 ME									
				01 to 06	07	08	10	14	16	20	21	22	32
Rating			**A**	**0.1 to 1.6**	**2.5**	**4**	**6.3**	**10**	**14**	**18**	**23**	**25**	**32**
Breaking capacity conforming to IEC 60947-2	230/240 V	Icu	**kA**	★	★	★	★	★	★	★	★	★	★
		Ics % *(1)*		★	★	★	★	★	★	★	★	★	★
	400/415 V	Icu	**kA**	★	★	★	★	★	100	100	100	100	100
		Ics % *(1)*		★	★	★	★	★	50	50	40	40	40
	440 V	Icu	**kA**	★	★	★	★	★	50	20	20	20	20
		Ics % *(1)*		★	★	★	★	★	75	75	75	75	75
	500 V	Icu	**kA**	★	★	★	★	50	42	10	10	10	10
		Ics % *(1)*		★	★	★	★	100	100	75	75	75	75

Circuit-breaker type				GV2 P									
				01 to 06	07	08	10	14	16	20	21	22	32
Rating			**A**	**0.1 to 1.6**	**2.5**	**4**	**6.3**	**10**	**14**	**18**	**23**	**25**	**32**
Breaking capacity conforming to IEC 60947-2	230/240 V	Icu	**kA**	★	★	★	★	★	★	★	★	★	★
		Ics % *(1)*		★	★	★	★	★	★	★	★	★	★
	400/415 V	Icu	**kA**	★	★	★	★	★	★	★	★	★	★
		Ics % *(1)*		★	★	★	★	★	★	★	★	★	★
	440 V	Icu	**kA**	★	★	★	★	★	100	100	100	100	100
		Ics % *(1)*		★	★	★	★	★	50	50	50	50	50
	500 V	Icu	**kA**	★	★	★	★	100	100	100	100	100	100
		Ics % *(1)*		★	★	★	★	50	50	50	50	50	50
	690 V *(3)*	Icu = Ics	**kA**	★	50	50	50	50	50	50	50	50	50

Circuit-breaker type				GV2 ME									
				01 to 06	07	08	10	14	16	20	21	22	32
Rating			**A**	**0.1 to 1.6**	**2.5**	**4**	**6.3**	**10**	**14**	**18**	**23**	**25**	**32**
Cable protection against thermal stress in the event of short-circuit (PVC insulated copper cables)	Minimum c.s.a. protected at 40 °C at Isc max.	1 mm²		●	●	●	≤ 10 kA	≤ 6 kA	*(2)*	*(2)*	*(2)*	*(2)*	*(2)*
		1.5 mm²		●	●	●	≤ 20 kA	≤ 10 kA	*(2)*	*(2)*	*(2)*	*(2)*	*(2)*
		2.5 mm²		●	●	●	●	●	●	●	●	●	*(2)*
		4…6 mm²		●	●	●	●	●	●	●	●	●	●

★ > 100 kA
● Cable c.s.a. protected
(1) As % of Icu
(2) Cable c.s.a. not protected
(3) With limiter LA9 LB920

References: pages 3/46 to 3/48
Dimensions: pages 3/66 to 3/69
Schemes: page 3/76

TeSys protection components
Thermal-magnetic motor circuit-breakers
GV3 P and GV3 ME80

Breaking capacity of GV3 P and GV3 ME80

Motor circuit-breaker type				GV3 P							GV3 ME80
				13	18	25	32	40	50	65	
Rating			**A**	**13**	**18**	**25**	**32**	**40**	**50**	**65**	**80**
Breaking capacity conforming to IEC 60947-2	230/240 V	Icu	**kA**	100	100	100	100	100	100	100	100
		Ics % *(1)*		100	100	100	100	100	100	100	100
	400/415 V	Icu	**kA**	100	100	100	100	50	50	50	15
		Ics % *(1)*		100	100	100	100	100	100	100	50
	440 V	Icu	**kA**	50	50	50	50	50	50	50	10
		Ics % *(1)*		100	100	100	100	100	100	100	60
	500 V	Icu	**kA**	12	12	12	12	12	12	12	4
		Ics % *(1)*		50	50	50	50	50	50	50	100
	690 V	Icu	**kA**	6	6	6	6	6	6	6	2
		Ics % *(1)*		50	50	50	50	50	50	50	100
Associated fuses, if required if Isc > breaking capacity Icu	230/240 V	aM	**A**	★	★	★	★	★	★	★	★
		gG	**A**	★	★	★	★	★	★	★	★
	415 V	aM	**A**	★	★	★	★	125	125	125	315
		gG	**A**	★	★	★	★	160	160	160	400
	440 V	aM	**A**	63	80	125	125	125	125	125	315
		gG	**A**	80	100	160	160	160	160	160	400
	500 V	aM	**A**	63	63	63	63	80	80	80	200
		gG	**A**	80	80	80	80	100	100	100	250
	690 V	aM	**A**	50	50	50	50	63	63	63	200
		gG	**A**	63	63	63	63	80	80	80	250

★ *Fuse not required: breaking capacity Icn > Isc.*
(1) As % of Icu.

References: page 3/48
Dimensions: pages 3/71 and 3/72
Schemes: pages 3/76 and 3/77

TeSys protection components
Thermal-magnetic motor circuit-breakers
GV7 R

Breaking capacity of GV7 R

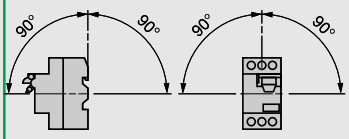
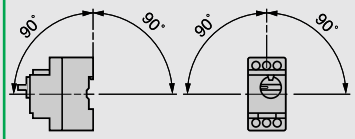
Circuit-breaker type				GV7					
				RE20…RE100	RS20…RS100	RE150	RS150	RE220	RS220
Rating			**A**	**12…20 to 60…100**		**90…150**	**90…150**	**132…220**	**132…220**
Breaking capacity conforming to IEC 60947-2	230/240 V	Icu	**kA**	85	100	85	100	85	100
		Ics % *(1)*		100	100	100	100	100	100
	400/415 V	Icu	**kA**	36	70	35	70	35	70
		Ics % *(1)*		100	100	100	100	100	100
	440 V	Icu	**kA**	36	65	35	65	35	65
		Ics % *(1)*		100	100	100	100	100	100
	500 V	Icu	**kA**	18	50	30	50	30	50
		Ics % *(1)*		100	100	100	100	100	100
	690 V	Icu	**kA**	8	10	8	10	8	10
		Ics % *(1)*		100	100	100	100	100	100
Cable protection against thermal stress in the event of short-circuit (PVC insulated copper cables)	Minimum c.s.a. protected at 40 °C at Isc max.	4 mm²		≤ 6 kA	≤ 6 kA	*(2)*	*(2)*	*(2)*	*(2)*
		6 mm²		●	≤ 25 kA	*(2)*	*(2)*	*(2)*	*(2)*
		10…50 mm²		●	●	●	●	●	●

(1) As % of Icu.
● Cable c.s.a. protected.
(2) Cable c.s.a. not protected.

3

TeSys protection components
Magnetic motor circuit-breakers
GV2 LE and GV2 L

Environment

Circuit-breaker type			GV2 LE		GV2 L	
Conforming to standards			IEC 60947-1, 60947-2, EN 60204, NF C 63-650, NF C63-120, 79-130, VDE 0113, 0660.			
Product certifications			CSA, CCC		CSA, CCC, BV, DNV, GL, LROS, RINA	
Protective treatment			"TH"		"TH"	
Shock resistance	Conforming to IEC 60068-2-27		30 gn		30 gn	
Vibration resistance	Conforming to IEC 60068-2-6		5 gn (5 to 150 Hz)		5 gn (5 to 150 Hz)	
Ambient air temperature	Storage	**°C**	- 40…+ 80		- 40…+ 80	
	Operation	**°C**	- 20…+ 60		- 20…+ 60	
Flame resistance	Conforming to IEC 60695-2-1	**°C**	960		960	
Maximum operating altitude		**m**	2000		2000	
Operating position						
Connection (Max. number of conductors x c.s.a)			**Min.**	**Max.**	**Min.**	**Max.**
	Solid cable	**mm²**	2 x 1	2 x 6	2 x 1	2 x 6
	Flexible cable without cable end	**mm²**	2 x 1.5	2 x 6	2 x 1.5	2 x 6
	Flexible cable with cable end	**mm²**	2 x 1	2 x 4	2 x 1	2 x 4
Tightening torque		**N.m**	1.7		1.7	
Suitable for isolation	Conforming to IEC 60947-1 § 7-1-6		Yes		Yes	
Resistance to mechanical impact		**J**	0.5		0.5	

Technical characteristics

Utilisation category	Conforming to IEC 60947-2		A	A
	Conforming to IEC 60947-4-1		AC-3	AC-3
Rated operational voltage (Ue)	Conforming to IEC 60947-2	**V**	690	690
Rated insulation voltage (Ui)	Conforming to IEC 60947-2	**V**	690	690
Rated operational frequency	Conforming to IEC 60947-2	**Hz**	50/60	50/60
Rated impulse withstand voltage (U imp)	Conforming to IEC 60947-2	**kV**	6	6
Total power dissipated per pole		**W**	1.8	1.8
Mechanical durability (C.O.: Closing, Opening)	For AC-3 duty	**C.O.**	100 000	100 000
Electrical durability for AC-3/415V duty (C.O.: Closing, Opening)		**C.O.**	100 000	100 000
Duty class (maximum operating rate)		**C.O./h**	40	40
Rated duty	Conforming to IEC 60947-4-1		Continuous duty	Continuous duty

References: pages 3/52 and 3/53
Dimensions: pages 3/78 to 3/80
Schemes: page 3/83

TeSys protection components
Magnetic motor circuit-breakers
GV2 LE and GV2 L

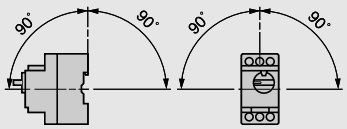
Circuit-breaker type				GV2 LE									GV2 L							
				03 to 06	07	08	10	14	16	20	22	32	03 to 05	06 & 07	08	10	14	16	20	22	32
Rating			**A**	0.4 to 1.6	2.5	4	6.3	10	14	18	25	32	0.4 to 1	1.6 to 2.5	4	6.3	10	14	18	25	32
Breaking capacity conforming to IEC 60947-2	230/240 V	Icu	**kA**	★	★	★	★	★	★	★	50	50	★	★	★	★	★	★	★	50	50
		Ics % *(1)*		★	★	★	★	★	★	★	100	100	★	★	★	★	★	★	★	100	100
	400/415 V	Icu	**kA**	★	★	★	★	★	15	15	15	10	★	★	★	★	★	50	50	50	50
		Ics % *(1)*		★	★	★	★	★	50	50	40	50	★	★	★	★	★	50	50	50	50
	440 V	Icu	**kA**	★	★	★	50	15	8	8	6	6	★	★	★	★	20	20	20	20	20
		Ics % *(1)*		★	★	★	100	100	50	50	50	50	★	★	★	★	75	75	75	75	75
	500 V	Icu	**kA**	★	★	★	50	10	6	6	4	4	★	★	★	★	10	10	10	10	10
		Ics % *(1)*		★	★	★	100	100	75	75	75	75	★	★	★	★	100	75	75	75	75
	690 V	Icu	**kA**	★	3	3	3	3	3	3	3	3	★	4	4	4	4	4	4	4	4
		Ics % *(1)*		★	75	75	75	75	75	75	75	75	★	100	100	100	100	100	100	100	100
Associated fuses (if required) if Isc > breaking capacity Icu conforming to IEC 60947-2 amendment 1	230/240 V	aM	**A**	★	★	★	★	★	★	★	80	80	★	★	★	★	★	★	★	100	100
		gG	**A**	★	★	★	★	★	★	★	100	100	★	★	★	★	★	★	★	125	125
	400/415 V	aM	**A**	★	★	★	★	★	63	63	80	80	★	★	★	★	★	80	100	100	100
		gG	**A**	★	★	★	★	★	80	80	100	100	★	★	★	★	★	100	125	125	125
	440 V	aM	**A**	★	★	★	50	50	50	50	63	63	★	★	★	★	50	63	80	80	80
		gG	**A**	★	★	★	63	63	63	63	80	80	★	★	★	★	63	80	100	100	100
	500 V	aM	**A**	★	★	★	50	50	50	50	50	50	★	★	★	★	50	50	50	50	50
		gG	**A**	★	★	★	63	63	63	63	63	63	★	★	★	★	63	63	63	63	63
	690 V	aM	**A**	★	16	25	32	32	40	40	40	40	★	20	25	40	40	50	50	50	50
		gG	**A**	★	20	32	40	40	50	50	50	50	★	25	32	50	50	63	63	63	63
Cable protection against thermal stress in the event of short-circuit (PVC insulated copper cables) Minimum c.s.a. protected at 40 °C and at Isc max.	1 mm²		**kA**	●	●	●	⩽10	⩽6	*(2)*	*(2)*	*(2)*	*(2)*	●	●	●	⩽10	⩽6	*(2)*	*(2)*	*(2)*	*(2)*
	1.5 mm²		**kA**	●	●	●	⩽20	⩽10	*(2)*	*(2)*	*(2)*	*(2)*	●	●	●	⩽20	⩽10	*(2)*	*(2)*	*(2)*	*(2)*
	2.5 mm²			●	●	●	●	●	●	●	●	*(2)*	●	●	●	●	●	●	●	●	*(2)*
	4…6 mm²			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

★ > 100 kA
● Cable c.s.a. protected
(1) As % of Icu
(2) Cable c.s.a. not protected

References: pages 3/52 and 3/53
Dimensions: pages 3/78 to 3/80
Schemes: page 3/83

TeSys protection components
Magnetic motor circuit-breakers
GV3 L and GK3 EF80

Environment

Circuit-breaker type			GV3 L		GK3 EF80	
Conforming to standards			IEC/EN 60947-1, 60947-2		IEC 60947-2, EN 60204	
Protective treatment			"TH"		"TC"	
Degree of protection	Conforming to IEC 60529		IP 20		IP 20	
Shock resistance	Conforming to IEC 60068-2-27		On : 15 gn -11 ms Off : 30 gn -11 ms		22 gn -20 ms	
Vibration resistance	Conforming to IEC 60068-2-6		4 gn (5…300 Hz)		2.5 gn (0…25 Hz)	
Flame resistance	Conforming to IEC 60695-2-1	**°C**	960		960	
Ambient air temperature	Storage	**°C**	- 40…+ 80		- 40…+ 80	
	Operation	**°C**	- 20…+ 60 *(1)*		- 20…+ 70 open mounted	
Maximum operating altitude		**m**	3000		3000	
Operating position Without derating, in relation to normal vertical mounting plane *(2)*					Any position	
Connection (Max. number of conductors x c.s.a)			**Min.**	**Max.**	**Min.**	**Max.**
	Solid cable	**mm²**	2 x 1	1 x 25 1 x 35	1 x 2.5	1 x 35
	Flexible cable without cable end	**mm²**	2 x 1	1 x 25 1 x 35	1 x 2.5 or 2 x 2.5	1 x 25 or 2 x 16
	Flexible cable with cable end	**mm²**	2 x 1	1 x 25 1 x 35	1 x 2.5 or 2 x 2.5	1 x 25 or 2 x 16
Tightening torque		**N.m**	5	5 : 25 mm² 8 : 35 mm²	5	
Suitable for isolation conforming to IEC 60947-1 § 7-1-6			Yes		Yes	

Technical characteristics

Rated insulation voltage (Ui)	Conforming to IEC 60947-2	**V**	690	750
Rated impulse withstand voltage (U imp)	Conforming to IEC 60947-2	**kV**	6	10
Rated operational voltage (Ue)	Conforming to IEC 60947-2	**V**	690	690
Rated operational frequency		**Hz**	50/60	50…60
Electrical durability for AC-3/415V duty (C.O.: Close - Open)		**C.O.**	50 000	1500
Mechanical durability (C.O.: Closing, Opening)		**C.O.**	50 000	20 000
Maximum operating rate		**C.O./h**	25	40
Operating threshold of magnetic trips			14 I max	3363
Utilisation category	Conforming to IEC 60947-2		A	A

(1) 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.
(2) When mounting on a vertical rail, fit a stop to prevent any slippage.

References: page 3/53
Dimensions: pages 3/81 and 3/82
Schemes: page 3/83

Breaking capacity of GV3 L and GK3 EF80

Type				GV3 L25	GV3 L32	GV3 L40	GV3 L50	GV3 L65	GK3 EF80
Breaking capacity of the circuit-breaker only or of the circuit-breaker combined with a thermal overload relay	230/240 V	Icu	**kA**	100	100	100	100	100	50
		Ics % *(1)*		100	100	100	100	100	40
	400/415 V	Icu	**kA**	100	100	50	50	50	35
		Ics % *(1)*		100	100	100	100	100	25
	440 V	Icu	**kA**	50	50	50	50	50	25
		Ics % *(1)*		100	100	100	100	100	30
	500 V	Icu	**kA**	12	12	12	12	12	15
		Ics % *(1)*		50	50	50	50	50	30
	690 V	Icu	**kA**	6	6	6	6	6	6
		Ics % *(1)*		50	50	50	50	50	50
Associated fuses (if required) for use with circuit-breaker only or circuit-breaker combined with a thermal overload relay if Isc > breaking capacity	230/240 V	aM	**A**	★	★	★	★	★	200
		gG	**A**	★	★	★	★	★	315
	415 V	aM	**A**	★	★	★	★	125	200
		gG	**A**	★	★	★	★	160	250
	440 V	aM	**A**	63	80	125	125	125	160
		gG	**A**	80	100	160	160	160	250
	500 V	aM	**A**	63	63	63	63	80	160
		gG	**A**	80	80	80	80	100	200
	690 V	aM	**A**	50	50	50	50	63	125
		gG	**A**	63	63	63	63	80	160
Use of circuit-breakers without fuses				Minimum cable length (in metres) limiting the maximum short-circuit current to 35 kA maximum, so enabling breakers **GK3 EF80** to be used without fuses					
Cable c.s.a.			**mm²**	**≤ 25**	**35**	**50**	**70**	**95**	**120**
Isc (rms) 3-phase, incoming (Ue = 415 V)		50 kA	**m**	5	6	8	10	13	15
		45 kA	**m**	5	5	7	8	10	12
		40 kA	**m**	5	5	5	5	8	9
		37 kA	**m**	5	5	5	5	5	5

★ *Fuse not required: breaking capacity Icn > Isc.*

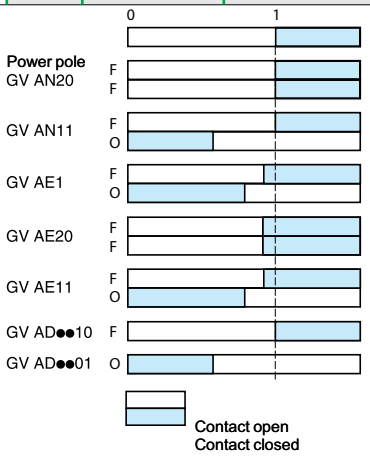
(1) As % of Icu

References: page 3/53
Dimensions: pages 3/82 and 3/82
Schemes: page 3/83

TeSys protection components
Thermal-magnetic motor circuit-breakers GV2, GV3 P and GV3 L
Auxiliary contacts

Type of contacts			Instantaneous auxiliary GV AN, GV AD							Fault signalling GV AD, GV AM11 *(1)*				Instantaneous auxiliary GV AE			
Rated insulation voltage (Ui) (associated insulation coordination)	Conforming to IEC 60947-1	**V**	690							690				250 (690 in relation to main circuit)			
	Conforming to CSA C22-2 n° 14 and UL 508	**V**	600							300				300			
Conventional thermal current (Ith)	Conforming to IEC 60947-5-1	**A**	6							2.5				2.5			
	Conforming to CSA C22-2 n° 14 and UL 508	**A**	5							1				1			
Mechanical durability (C.O.: Close - Open)		**C.O.**	100 000							1000				100 000			
Operational power and current conforming to IEC 60947-5-1. a.c. operation			AC-15/100 000 C.O.							AC-14/1000 C.O.				AC-15/100 000 C.O.			
	Rated operational voltage (Ue)	**V**	**48**	**110 127**	**230 240**	**380 415**	**440**	**500**	**690**	**24**	**48**	**110 127**	**230 240**	**24**	**48**	**110 127**	**230 240**
	Operational power, normal conditions	**VA**	300	500	720	850	650	500	400	36	48	72	72	48	60	120	120
	Occasional breaking and making capacities, abnormal conditions	**kVA**	3	7	13	15	13	12	9	0.22	0.3	0.45	0.45	0.48	0.6	1.27	2.4
	Rated operational current (Ie)	**A**	6	4.5	3.3	2.2	1.5	1	0.6	1.5	1	0.5	0.3	2	1.25	1	0.5
Operational power and current conforming to IEC 60947-5-1. d.c. operation			DC-13/100 000 C.O.							DC-13/1000 C.O.				DC-13/100 000 C.O.			
	Rated operational voltage (Ue)	**V**	**24**	**48**	**60**	**110**	**240** *(2)*	**–**	**–**	**24**	**48**	**60**	**–**	**24**	**48**	**60**	**–**
	Operational power, normal conditions	**W**	140	240	180	140	120	–	–	24	15	9	–	24	15	9	–
	Occasional breaking and making capacities, abnormal conditions	**W**	240	360	240	210	180	–	–	100	50	50	–	100	50	50	–
	Rated operational current (Ie)	**A**	6	5	3	1.3	0.5	–	–	1	0.3	0.15	–	1	0.3	0.15	–
Low power switching reliability of contact			**GV AE**: Number of failures for “n” million operating cycles (17 V-5 mA): = 10^{-6}														
Minimum operational conditions d.c. operation		**V**	17														
		mA	5														
Short-circuit protection			By **GB2 CB●●** circuit-breaker (rating according to operational current for Ue ⩽ 415 V) or by gG fuse 10 A max											**GB2 CB06** or gG fuse 10 A max			
Cabling, screw clamp terminals	Number of conductors		**1**			**2**											
	Solid cable	**mm²**	1…2.5			1…2.5											
	Flexible cable without cable end	**mm²**	0.75…2.5			0.75…2.5											
	Flexible cable with cable end	**mm²**	0.75…1.5			0.75…1.5											
	Tightening torque	**N.m**	1.4 max			1.4 max											
Cabling, spring terminal connections	Flexible cable without cable end	**mm²**	**GV AN** only 0.75…2.5			0.75…2.5				–				0.75…1.5			

Operation of instantaneous auxiliary contacts



Operation of fault signalling contacts

GV AM11
Change of state following tripping on short-circuit.

GV AD10●● and **GV AD01●●**
Change of state following tripping on short-circuit, overload or undervoltage.

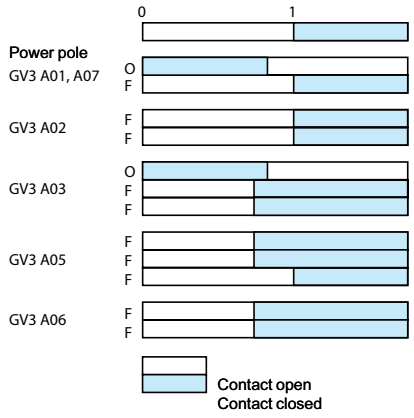
(1) For application example of fault signalling contact and short-circuit signalling contact, see page 3/76.
*(2) Add an RC circuit type **LA4 D** to the load terminals, see page 5/81.*

References: page 3/55
Dimensions, schemes: pages 3/66 to 3/83

TeSys protection components
Thermal-magnetic motor circuit-breakers
GV3 ME80
Auxiliary contacts

Type of contacts			Instantaneous auxiliary contacts GV3 A01…A07							Fault signalling contacts GV3 A08 and A09						
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	**V**	690							690						
	Conforming to CSA C22-2 n° 14, UL 508	**V**	600 (B600)							600 (B600)						
Conventional rated thermal current (Ith)	Conforming to IEC 60947-5-1	**A**	6							6						
	Conforming to CSA C22-2 n° 14, UL 508	**A**	5 (B600)							5 (B600)						
Mechanical durability (C.O.: Close - Open)		**C.O.**	100 000							1000						
Operational power and current conforming to IEC 60947-5-1 a.c. operation	Rated operational voltage (Ue)	**V**	**48**	**110 127**	**220 240**	**380 415**	**440**	**500**	**690**	**48**	**110 127**	**220 240**	**380 415**	**440**	**500**	**690**
	Operational power		AC-11/100 000 C.O.							AC-11/1000 C.O.						
		VA	350	500	800	850	700	700	400	240	460	800	850	450	450	200
	Occasional breaking and making capacities	**kVA**	4	12	20	20	15	15	10	2.4	8	12	15	12	12	8
	Operational current (Ie)	**A**	6	4.5	3.5	2.2	1.5	1.5	0.6	5	3.6	3.5	2.2	1	1	0.3
Operational power and current conforming to IEC 60947-5-1 d.c. operation	Rated operational voltage (Ue)	**V**	**24**	**48**	**60**	**110**	**220**			**24**	**48**	**60**	**110**	**220**		
	Operational power		DC-11/100 000 C.O.							DC-11/1000 C.O.						
		W	180	240	180	140	120			120	120	90	70	60		
	Occasional breaking and making capacities	**W**	240	360	240	210	180			180	180	135	105	90		
	Operational current (Ie)	**A**	6	5	3	1.3	0.5			5	2.5	1.5	0.7	0.3		
Short-circuit protection			By **GB2 CB08** circuit-breaker or gG fuse, 6A max													
Connection	Number of conductors		**1**			**2**										
	Solid cable	**mm²**	1…2.5			1…2.5										
	Flexible cable without cable end	**mm²**	0.75…2.5			0.75…2.5										
	Flexible cable with cable end	**mm²**	0.75…2.5			0.75…1.5										

Contact operation



GV3 A08 and **A09** change state following tripping on short-circuit or overload

References: page 3/61
Schemes: page 3/77

TeSys protection components
Thermal-magnetic motor circuit-breakers
GV7
Auxiliary contacts

Auxiliary contact characteristics

Type of contacts				GV7 AE11							GV7 AB11						
Rated insulation voltage(Ui) (associated insulation coordination)	Conforming to IEC 60947-1		**V**	690							690						
Conventional thermal current (Ith)	Conforming to IEC 60947-5-1		**A**	6							6						
Mechanical durability (C.O.: Close - Open)			**C.O.**	50 000							50 000						
Operational current conforming to IEC 60947-5-1 a.c. operation				AC-12 or AC-15. 50 000 C.O.							AC-12 or AC-15. 50 000 C.O.						
	Rated operational voltage (Ue)		**V**	**24**	**48**	**110**	**230/ 240**	**380/ 415**	**440**	**690**	**24**	**48**	**110**	**230/ 240**	**380/ 415**	**440**	**690**
	Rated operational current (Ie)	AC-12	**A**	6	6	6	6	6	6	6	5	5	5	5	5	5	5
		AC-15	**A**	6	6	5	4	3	3	0.1	5	5	4	3	2.5	2.5	0.1
Operational current conforming to IEC 60947-5-1 d.c. operation				DC-12 or DC-14. 50 000 C.O.							DC-12 or DC-14. 50 000 C.O.						
	Rated operational voltage (Ue)		**V**	**24**		**48**		**110**		**250**	**24**		**48**		**110**		**250**
	Rated operational current (Ie)	DC-12	**A**	2.5		2.5		0.8		0.3	2		2		0.5		–
		DC-14	**A**	1		0.2		0.5		0.03	0.5		0.1		0.25		–
Minimum operational conditions d.c. operation			**V**	17							12						
			mA	5							5						
Short-circuit protection				By **GB2 CB●●** circuit-breaker (rating according to operational current for Ue ≤ 415 V) or gG fuse, 10 A max.													
Cabling	Solid cable		**mm²**	1 x 1.5 conductor							1 x 1.5 conductor						
	Flexible cable without cable end		**mm²**	1 x 1.5 conductor							1 x 1.5 conductor						
	Flexible cable with cable end		**mm²**	1 x 1.5 conductor							1 x 1.5 conductor						

References: page 3/63
Schemes: page 3/77

TeSys protection components
Magnetic motor circuit-breakers
GK3 EF80
Auxiliary contacts

Characteristics of Start-Stop and fault signalling contacts

Rated insulation voltage (Ui)	Conforming to IEC 60947-1	**V**	500					
Rated operational voltage (Ue)	Conforming to IEC 60947-1	**V**	500					
Conventional thermal current (Ith)	Conforming to IEC 60947-5-1	**A**	6					
Operational power and current conforming to IEC 60947-5-1 a.c. operation (C.O.: Close - Open)			AC-15. 20 000 C.O.					
	Rated operational voltage (Ue)	**V**	**48**	**110/127**	**220/240**	**380/415**	**440**	**500**
	Operational power	**VA**	360	500	800	850	700	700
	Occasional breaking and making capacities	**VA**	4000	12 000	20 000	20 000	15 000	15 000
	Rated operational current (Ie)	**A**	6	4.5	3.5	2.2	1.5	1.5
Operational power and current conforming to IEC 60947-5-1 d.c. operation (C.O.: Close - Open)			DC-13. 1000 C.O.					
	Rated operational voltage (Ue)	**V**	**24**	**48**	**60**	**110**	**220**	
	Operational power	**W**	180	240	180	140	120	
	Occasional breaking and making capacities	**W**	240	280	240	210	180	
	Rated operational current (Ie)	**A**	6	5	3	1.3	0.5	
Short-circuit protection	Conforming to IEC 60947-5-1		By **GB2 CB08** circuit-breaker or gG fuse, 6A max					
Cabling	Solid cable	**mm²**	1 x 1…4 conductor					
	Flexible cable without cable end	**mm²**	1 x 2.5 conductor					
	Flexible cable with cable end	**mm²**	1 x 1…2.5 conductor or 2 x 1…2.5 conductors					
Tightening torque		**N.m**	0.8					

References:
page 3/61

Dimensions:
page 3/82

TeSys protection components
Thermal-magnetic motor circuit-breakers
Electric trips

Characteristics of electric trips

Circuit-breaker type			GV2 ME, GV2 P GV3 P, GV3 L		GV2 ME only	GV3 ME80		GV7 R	
Type of trip			**GV AU**	**GV AS**	**GV AX** *(1)*	**GV3 B**	**GV3 D**	**GV7 AU**	**GV7 AS**
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	**V**	690	690	500	690	690	690	690
	Conforming to CSA C22-2 n° 14, UL 508	**V**	600	600	–	600 (B600)	600 (B600)	600	600
Operational voltage	Conforming to IEC 60947-1	**V**	0.85… 1.1 Un	0.7… 1.1 Un	0.85… 1.1 Un	0.8…1.1 Un		0.85… 1.1 Un	0.7… 1.1 Un
Drop-out voltage		**V**	0.7… 0.35 Un	0.75… 0.2 Un	0.7… 0.35 Un	0.7…0.35 Un		0.35… 0.7 Ue	0.2… 0.75 Ue
Inrush consumption	~	**VA**	12	14	12	12		< 10	
	⎓	**W**	8	10.5	8	7		< 5	
Sealed consumption	~	**VA**	3.5	5	3.5	7		< 5	
	⎓	**W**	1.1	1.6	1.1	2.5		< 5	
Operating time	Conforming to IEC 60947-1		From the moment the voltage reaches its operational value until opening of the circuit-breaker.						
		ms	10…15			10	15	< 50	
On-load factor			100 %			100 %		100 %	
Cabling	Number of conductors		2 or 4			1 or 2		1	
	Solid cable	**mm²**	1…2.5			1…2.5		1.5	
	Flexible cable without cable end	**mm²**	0.75…2.5			0.75…2.5		1.5	
	Flexible cable with cable end	**mm²**	0.75…1.5			0.75…2.5		1	
Tightening torque		**N.m**	1.4 max			1.2		1.2	
Mechanical durability (C.O.: Close - Open)		**C.O.**	30 000 (GV2 ME and GV2 P) 10 000 (GV3 P and GV3 L)			50 % of the mechanical durability of the circuit-breaker			

*(1) Wiring scheme of undervoltage trip for dangerous machines (conforming to INRS) on **GV2 ME** only, see page 3/76.*

References: page 3/63
Schemes: pages 3/76 and 3/77

TeSys protection components
Thermal-magnetic and magnetic motor circuit-breakers GV2 and GV3
Accessories

Characteristics of 3-pole busbars GV2 G●●● and GV3 G●64

			GV2 G●●●	GV3 G●64
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	**V**	690	690
Conventional thermal current (Ith)	Conforming to IEC 60439-1	**A**	63	115
Permissible peak current (I peak)		**kA**	11	20
Permissible thermal limit (I^2t)		**kA²s**	104	300
Degree of protection	Conforming to IEC 60529		IP 20	IP 20
Terminal block			Yes	–

Characteristics of terminal blocks GV2 G05 and GV1 G09 (for GV2 ME and GV2 P)

Rated insulation voltage (Ui)	Conforming to IEC 60947-1	**V**	690
Conventional thermal current (Ith)	Conforming to IEC 60439-1	**A**	63
Degree of protection	Conforming to IEC 60529		IP 20
Connection	Solid cable	**mm²**	1 x 1.5 to 25 conductor or 2 x 1.5 to 6 conductors
	Flexible cable without cable end	**mm²**	1 x 1.5 to 16 conductor or 2 x 2.5 to 4 conductors
	Flexible cable with cable end	**mm²**	1 x 1.5 to 10 conductor or 2 x 1.5 to 2 conductors
	Flexible or solid cable AWG		1 AWG 4
Tightening torque	Connector	**N.m**	2.2
	Screw clamp terminals	**N.m**	1.7

Characteristics of current limiters (GV2 ME and GV2 P)

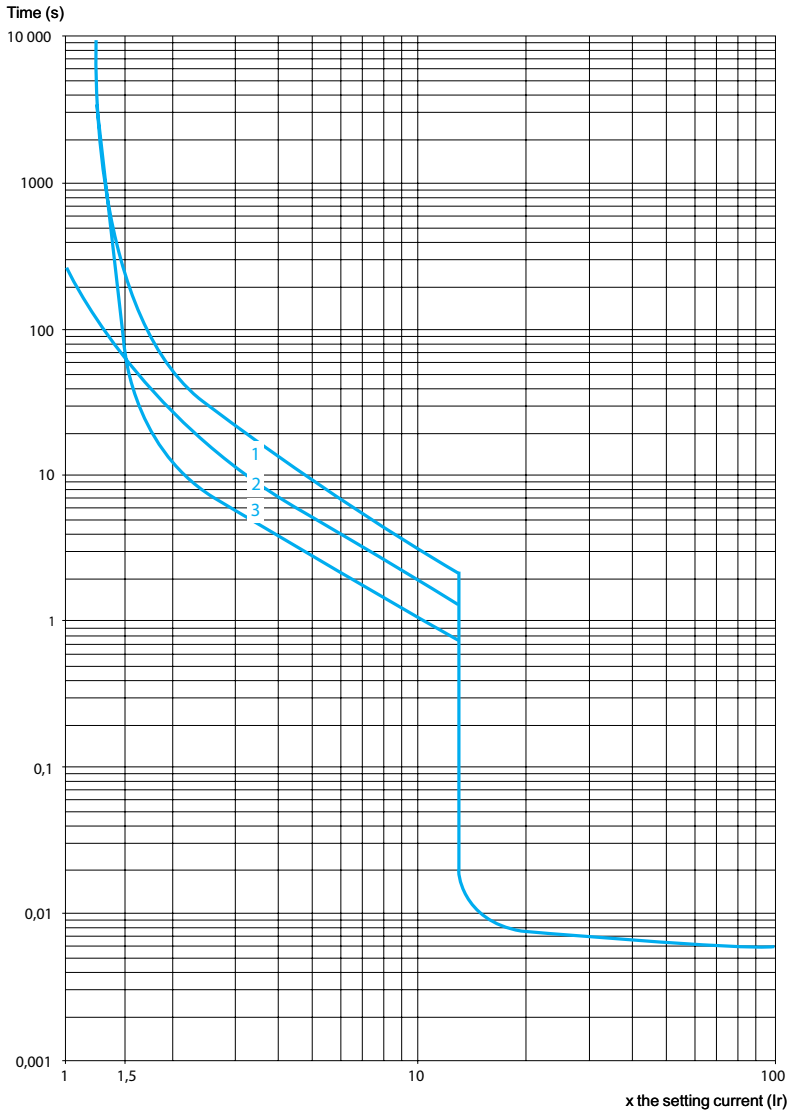
Type			**GV1 L3**		**LA9 LB920**	
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	**V**	690		690	
Conventional thermal current (Ith)	Conforming to IEC 60947-1	**A**	63		63	
Operating threshold	rms current	**A**	1500 (non adjustable threshold)		1000 (non adjustable threshold)	
Connection			**1 conductor**	**2 conductors**	**1 conductor**	**2 conductors**
	Solid cable	**mm²**	1.5…25	1.5…10	1.5…25	1.5…10
	Flexible cable without cable end	**mm²**	1.5…25	2.5…10	1.5…25	1.5…10
	Flexible cable with cable end	**mm²**	1.5…16	1.5… 4	1.5…16	1.5… 4
Tightening torque		**N.m**	2.2			

References:
page 3/57

TeSys protection components
Thermal-magnetic motor circuit-breakers
GV2 ME and GV2 P

Thermal-magnetic tripping curves for GV2 ME and GV2 P

Average operating times at 20 °C related to multiples of the setting current



1 3 poles from cold state
2 2 poles from cold state
3 3 poles from hot state

References:
pages 3/47 and 3/48

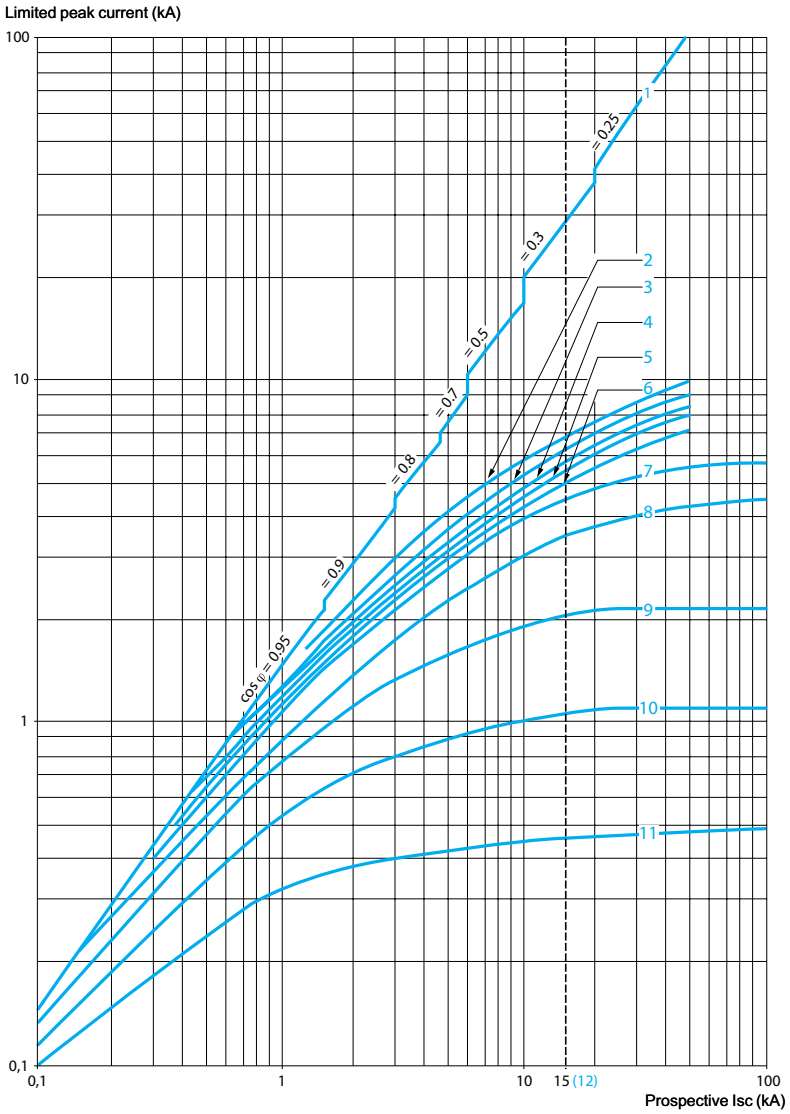
Dimensions:
pages 3/66 to 3/69

Schemes:
page 3/76

Current limitation on short-circuit for GV2 ME and GV2 P (3-phase 400/415 V)

Dynamic stress

I peak = f (prospective Isc) at 1.05 Ue = 435 V



1 Maximum peak current
2 24 -32 A
3 20 -25 A
4 17 -23 A
5 13 -18 A
6 9 -14 A
7 6 -10 A
8 4 -6.3 A
9 2.5 -4 A
10 1.6 -2.5 A
11 1 -1.6 A
12 Limit of rated ultimate breaking capacity on short-circuit of GV2 ME (14, 18, 23 and 25 A ratings)

References:
pages 3/47 and 3/48

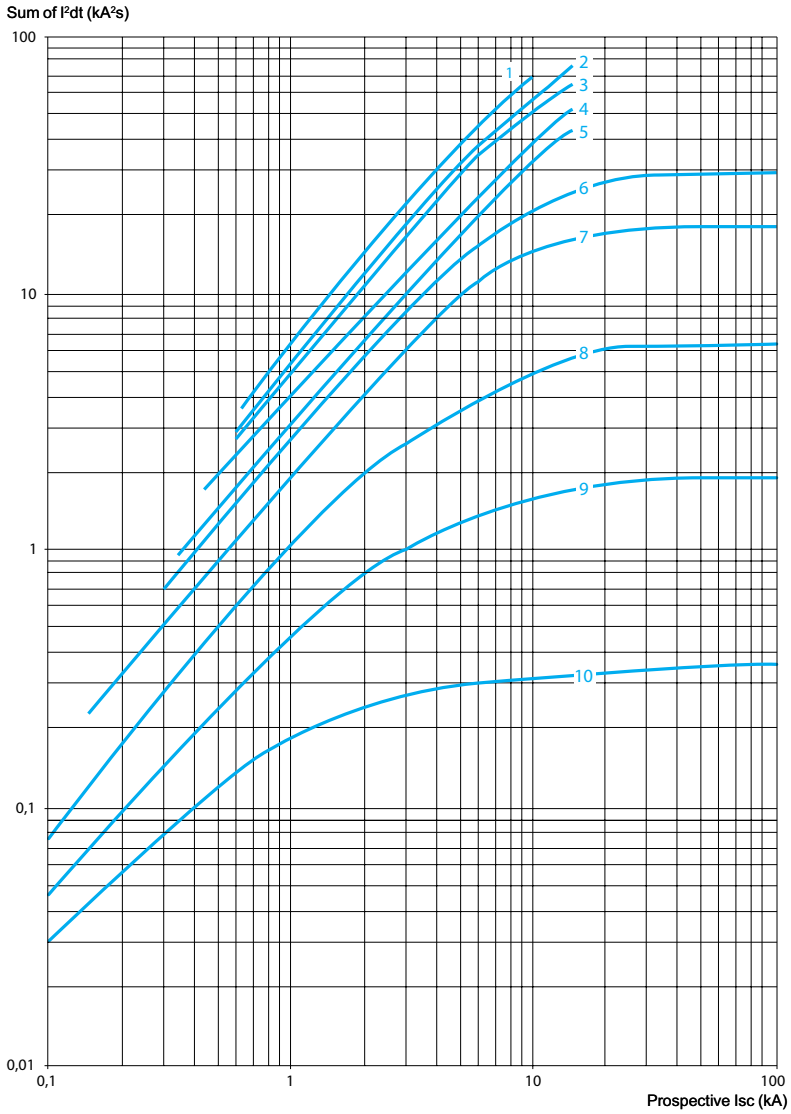
Dimensions:
pages 3/66 to 3/69

Schemes:
page 3/76

Thermal limit on short-circuit for GV2 ME

Thermal limit in kA²s in the magnetic operating zone

Sum of I²dt = f (prospective Isc) at 1.05 Ue = 435 V



1 24 -32 A
2 20 -25 A
3 17 -23 A
4 13 -18 A
5 9 -14 A
6 6 -10 A
7 4 -6.3 A
8 2.5 -4 A
9 1.6 -2.5 A
10 1 -1.6 A

References:
pages 3/46 and 3/47

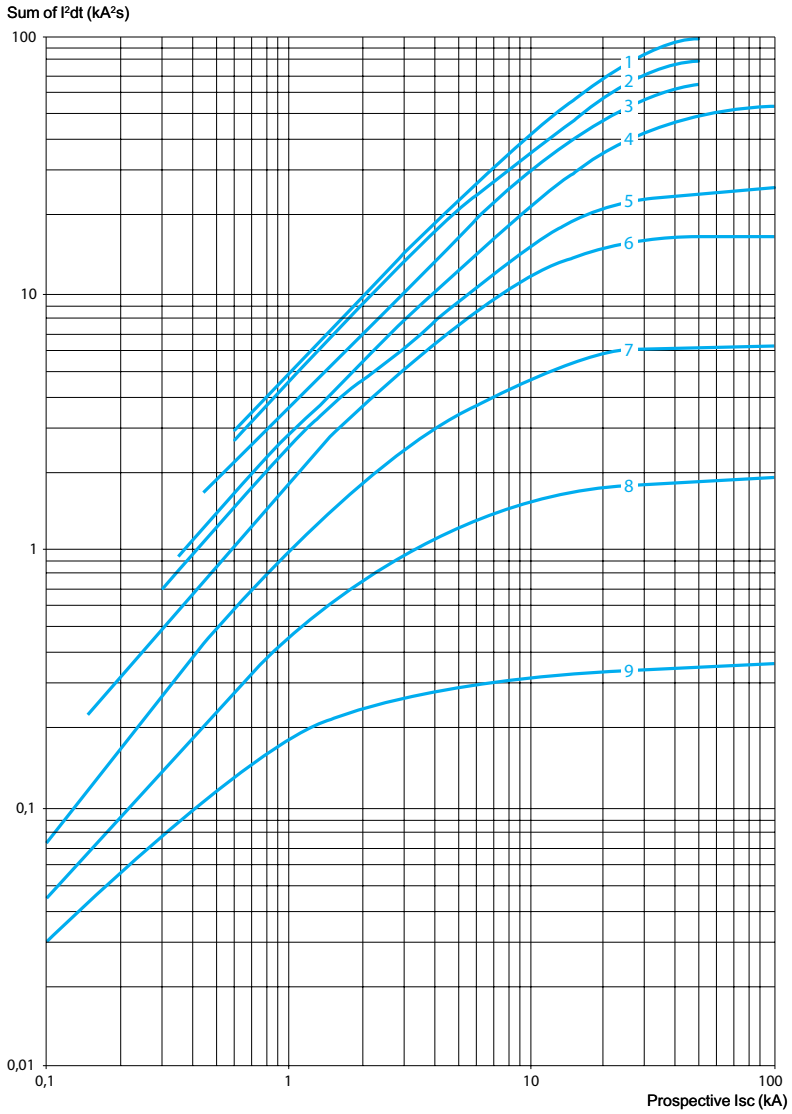
Dimensions:
pages 3/66 to 3/69

Schemes:
page 3/76

Thermal limit on short-circuit for GV2 P

Thermal limit in kA²s in the magnetic operating zone

Sum of I²dt = f (prospective Isc) at 1.05 Ue = 435 V



1 24 -32 A
1 20 -25 A
2 17 -23 A
3 13 -18 A
4 9 -14 A
5 6 -10 A
6 4 -6.3 A
7 2.5 -4 A
8 1.6 -2.5 A
9 1 -1.6 A

References:
page 3/48

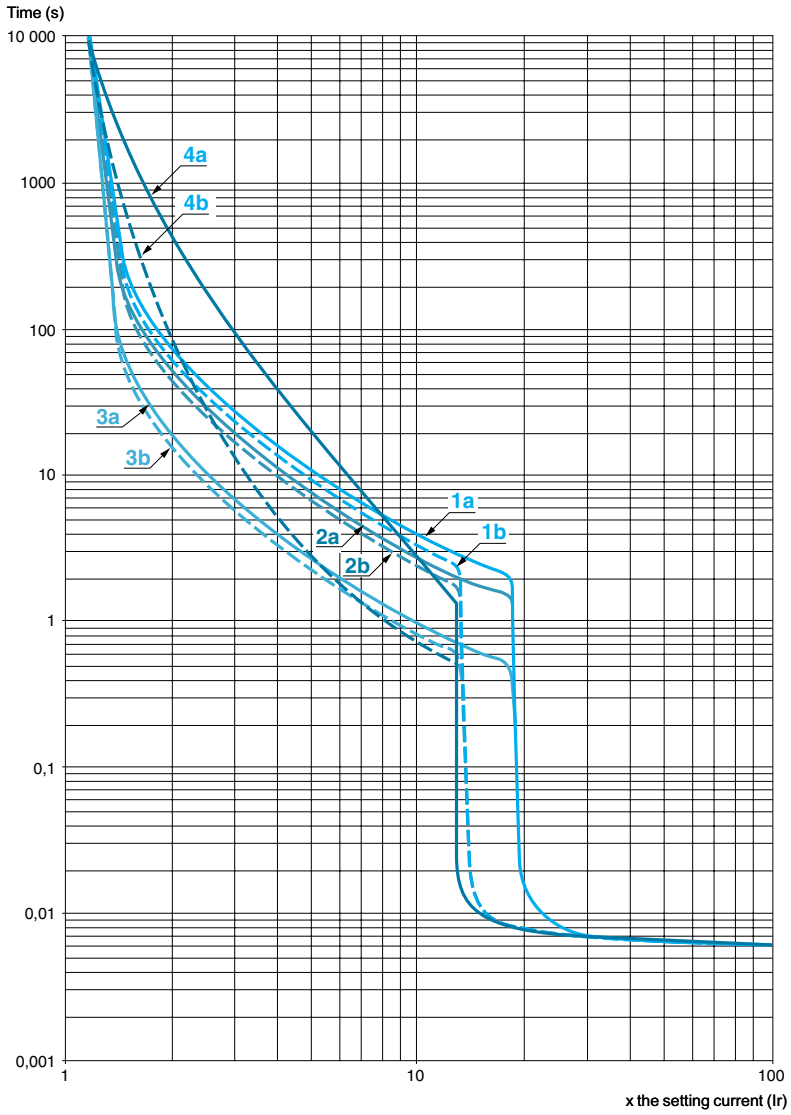
Dimensions:
pages 3/66 to 3/69

Schemes:
page 3/76

TeSys protection components
Thermal-magnetic motor circuit-breakers
GV3 P and GV3 ME80

Thermal-magnetic tripping curves

Average operating times at 20 °C related to multiples of the setting current



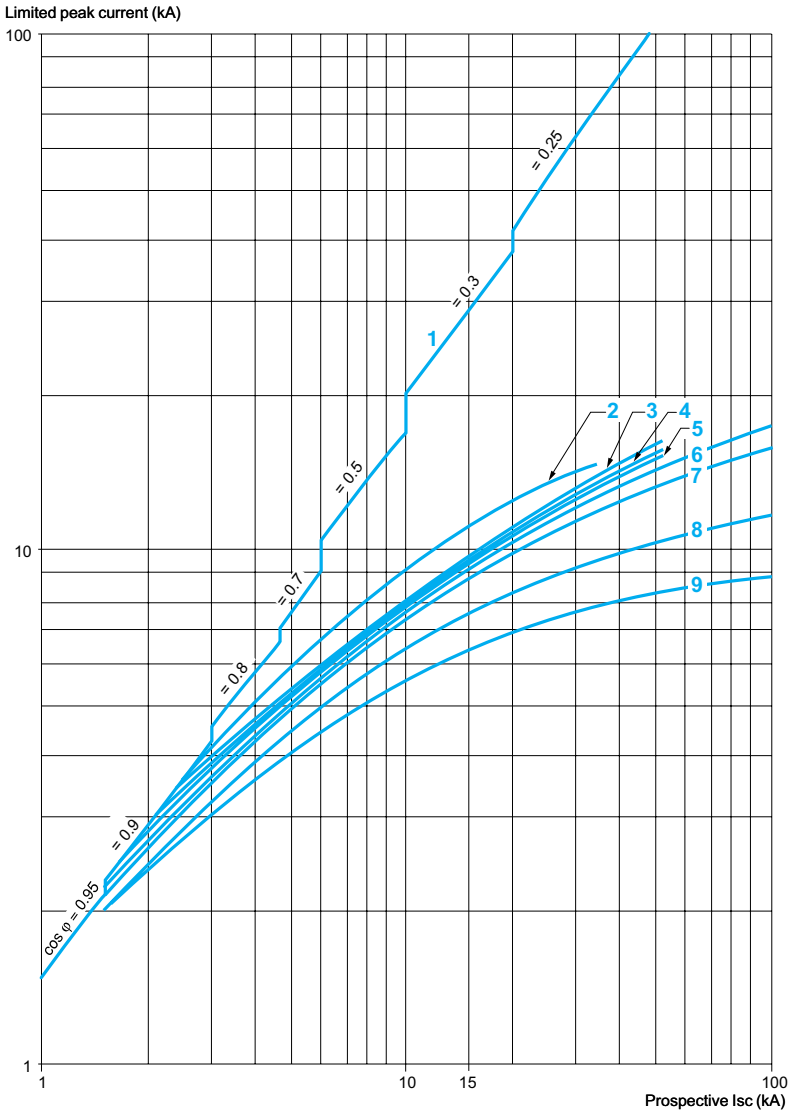
1a 3 poles from cold state (Ir mini.) : GV3 P
1b 3 poles from cold state (Ir maxi.) : GV3 P
2a 2 poles from cold state (Ir mini.) : GV3 P
2b 2 poles from cold state (Ir maxi.) : GV3 P
3a 3 poles from hot state (Ir mini.) : GV3 P
3b 3 poles from hot state (Ir maxi.) : GV3 P
4a 3 poles from hot state (Ir mini.) : GV3 ME80
4b 3 poles from hot state (Ir maxi.) : GV3 ME80

References:
page 3/48
Dimensions:
pages 3/71 and 3/72
Schemes:
pages 3/76 and 3/77

Current limitation on short-circuit (3-phase 400/415 V)

Dynamic stress

I peak = f (prospective Isc) at 1.05 Ue = 435 V



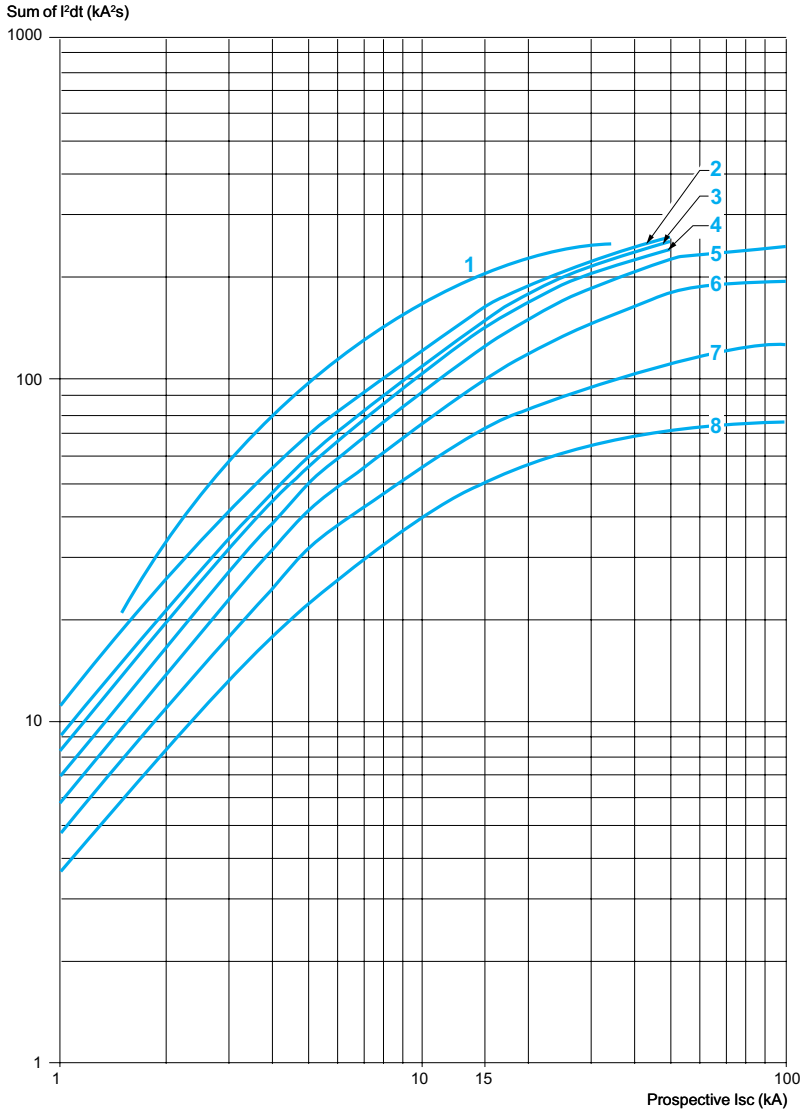
1 Maximum peak current
2 56 -80 A
3 48 -65 A
4 37 -50 A
5 30 -40 A
6 23 -32 A
7 17 -25 A
8 12 -18 A
9 9 -13 A

References: page 3/48
Dimensions: pages 3/71 and 3/72
Schemes: pages 3/76 and 3/77

Maximum thermal limit on short-circuit

Thermal limit in kA²s in the magnetic operating zone

Sum of I²dt = f (prospective Isc) at 1.05 Ue = 435 V



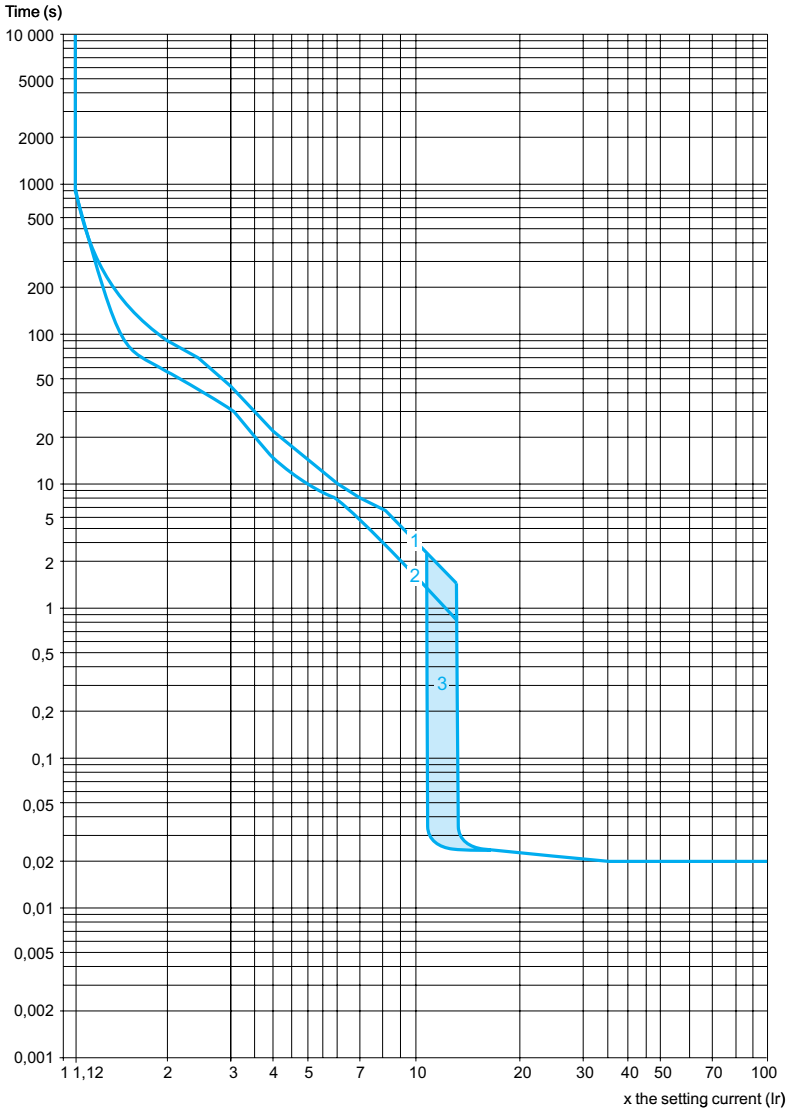
1 56-80 A (GV3 ME80)
2 48-65 A (GV3 P65)
3 37-50 A (GV3 P50)
4 30-40 A (GV3 P40)
5 23-32 A (GV3 P32)
6 17-25 A (GV3 P25)
7 12-18 A (GV3 P18)
8 9-13 A (GV3 P13)

References: page 3/48
Dimensions: pages 3/71 and 3/72
Schemes: pages 3/76 and 3/77

TeSys protection components
Thermal-magnetic motor circuit-breakers
GV7 R

Thermal-magnetic tripping curves for GV7 R

Average operating times at 20 °C related to multiples of the setting current



1 Cold state curve
2 Cold state curve
3 12…14 Ir
In the event of total phase failure, tripping occurs after 4 s ± 20 %

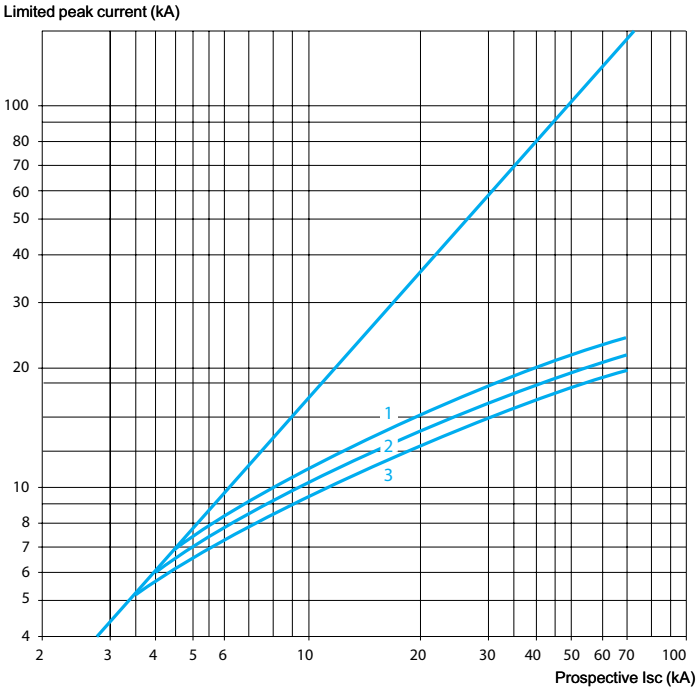
References: page 3/49
Dimensions: pages 3/73 to 3/75
Schemes: page 3/77

Current limitation on short-circuit (3-phase 400/415 V)

Dynamic stress

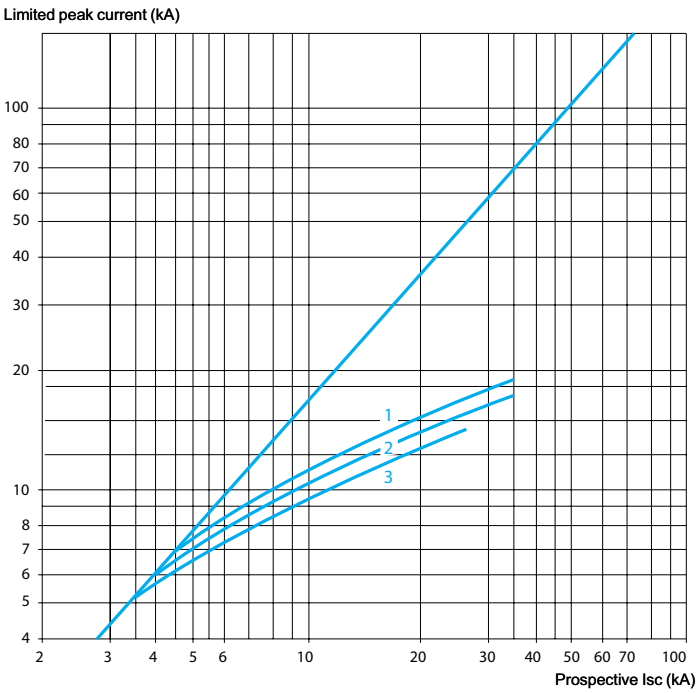
I peak = f (prospective Isc)

For GV7 RE only



1 GV7 RE220
2 GV7 RE150
3 GV7 RE100

For GV7 RS only



1 GV7 RS220
2 GV7 RS150
3 GV7 RS100

References:
page 3/49

Dimensions:
pages 3/73 to 3/75

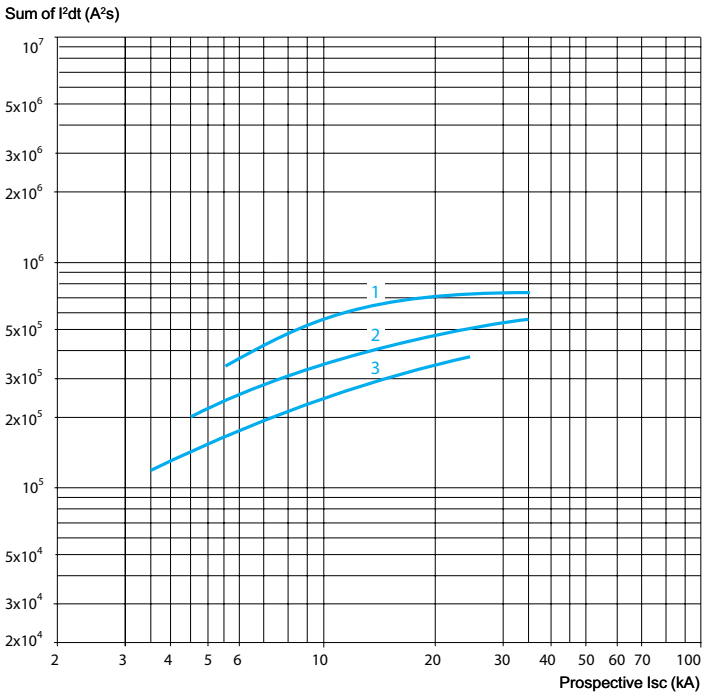
Schemes:
page 3/77

Thermal limit (3-phase 400/415 V)

Thermal limit

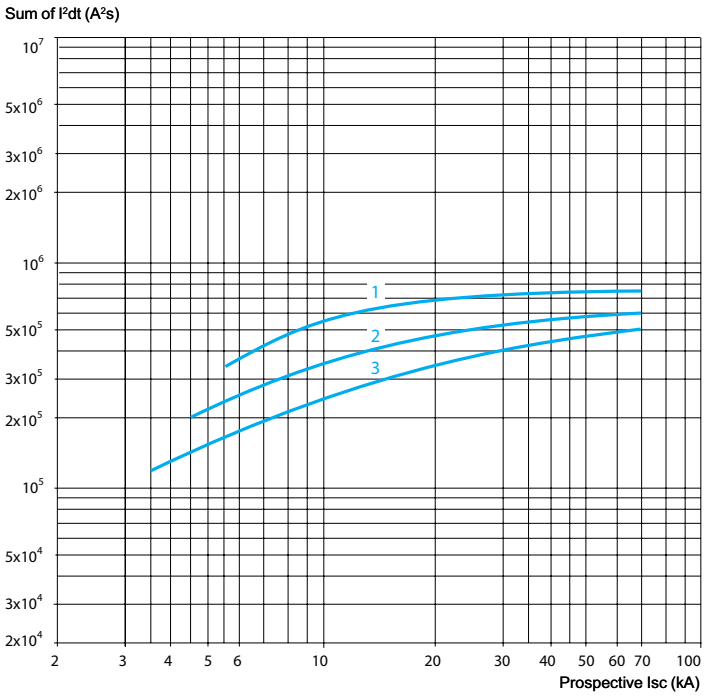
Sum of I^2dt = f (prospective Isc)

For GV7 RE only



1 GV7 RE220
2 GV7 RE150
3 GV7 RE100

For GV7 RS only



1 GV7 RS220
2 GV7 RS150
3 GV7 RS100

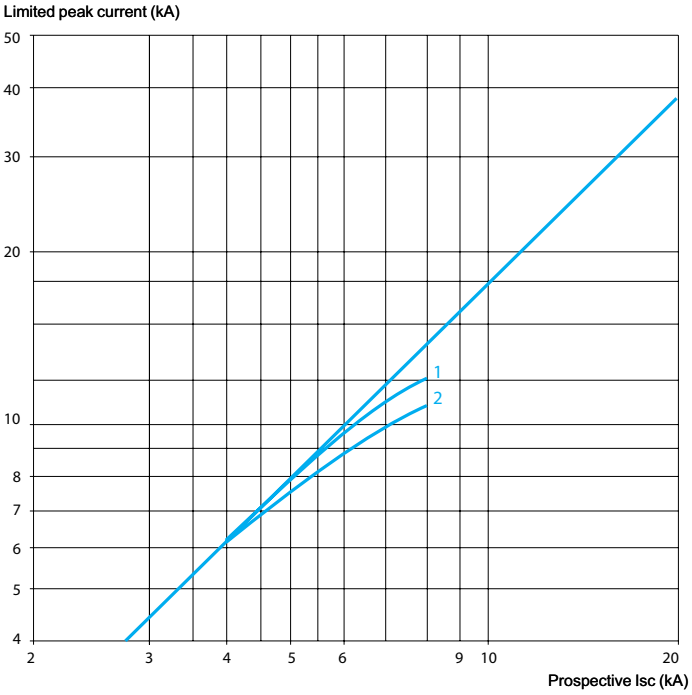
References: page 3/49
Dimensions: pages 3/73 to 3/75
Schemes: page 3/77

Current limitation on short-circuit (3-phase 690 V)

Dynamic stress

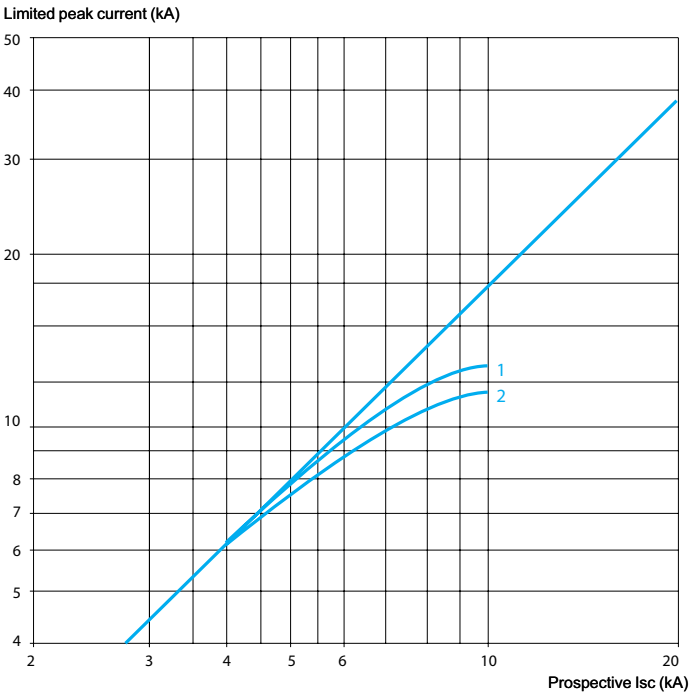
I peak = f (prospective Isc)

For GV7 RE only



1 GV7 RE220
2 GV7 RE150 and GV7 RE100

For GV7 RS only



1 GV7 RS220
2 GV7 RS150 and GV7 RS100

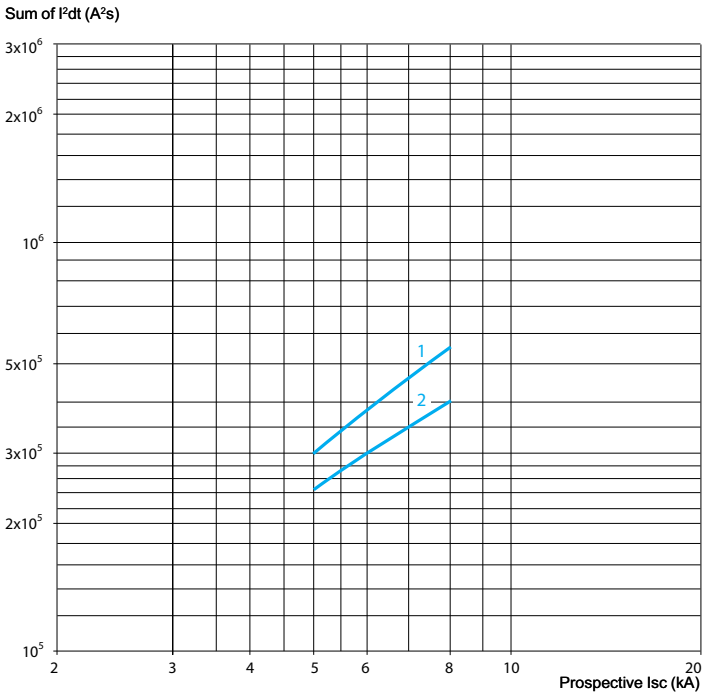
References: page 3/49
Dimensions: pages 3/73 to 3/75
Schemes: page 3/77

Thermal limit on short-circuit (3-phase 690 V)

Thermal limit

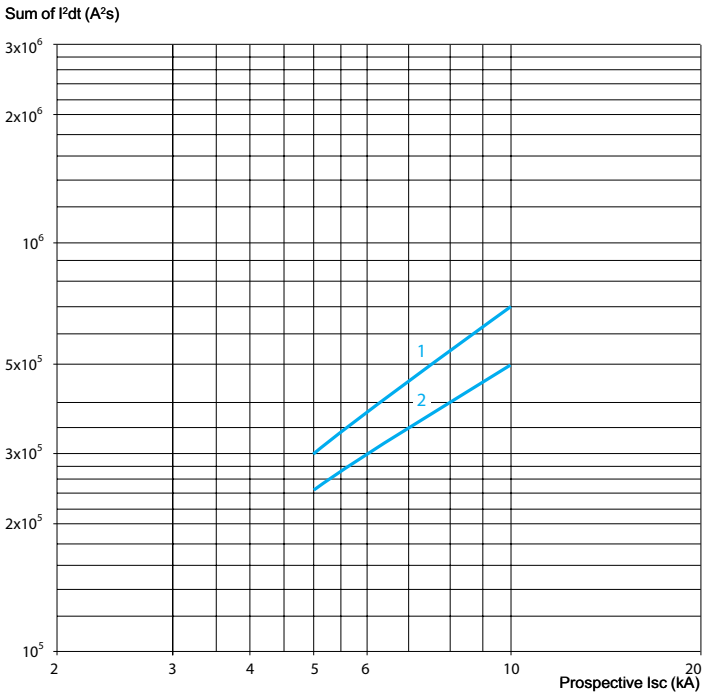
Sum of I^2dt = f (prospective Isc)

For GV7 RE only



1 GV7 RE220
2 GV7 RE150 and GV7 RE100

For GV7 RS only

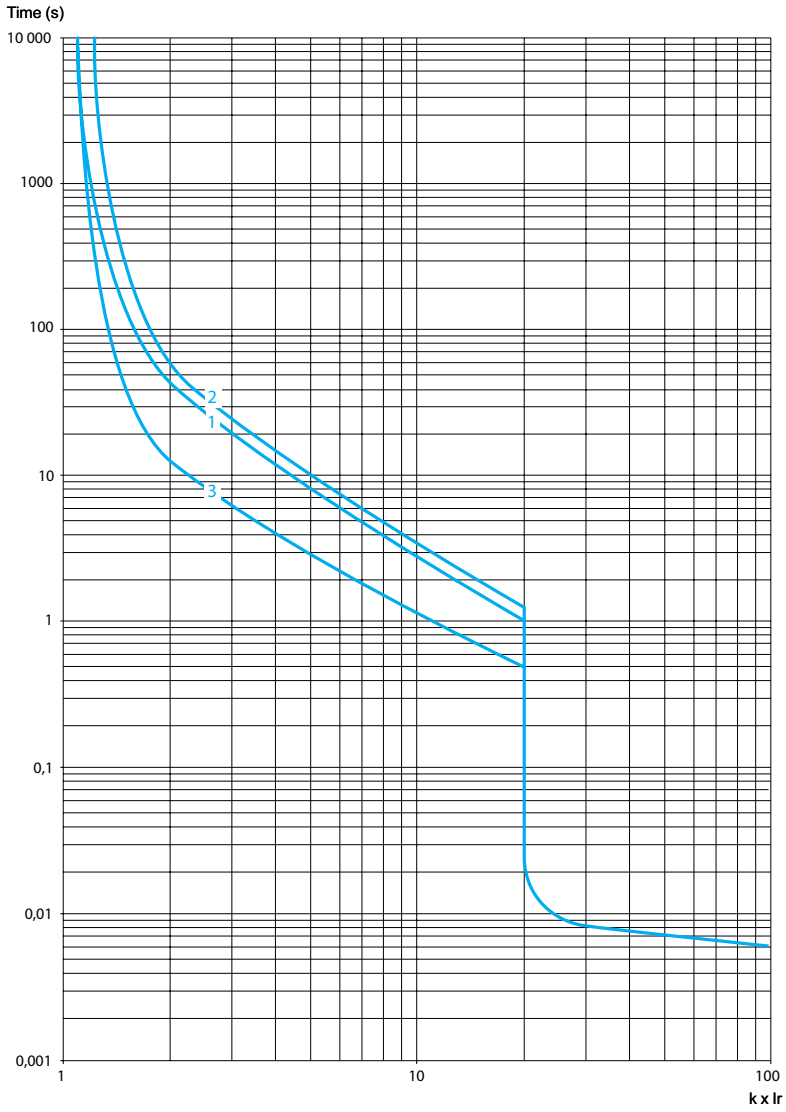


1 GV7 RS220
2 GV7 RS150 and GV7 RS100

References: page 3/49
Dimensions: pages 3/73 to 3/75
Schemes: page 3/77

TeSys protection components
Thermal-magnetic motor circuit-breakers
GV2 RT

Thermal-magnetic tripping curves for GV2 RT



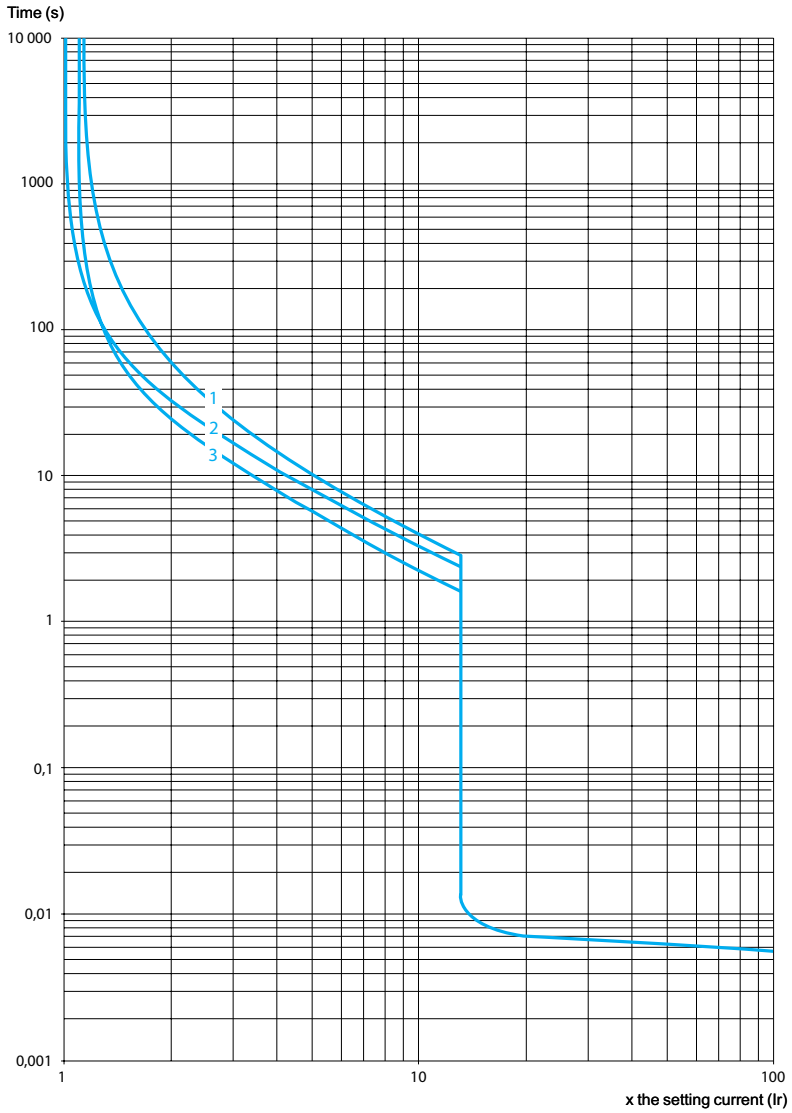
1 3 poles from cold state
2 2 poles from cold state
3 3 poles from hot state

References: page 3/50
Dimensions: page 3/70
Schemes: page 3/76

TeSys protection components
Magnetic motor circuit-breakers
GV2 L and GV2 LE

Tripping curves for GV2 L or LE combined with thermal overload relay LRD or LR2 K

Average operating times at 20 °C related to multiples of the setting current



1 3 poles from cold state
2 2 poles from cold state
3 3 poles from hot state

References:
pages 3/52 and 3/53

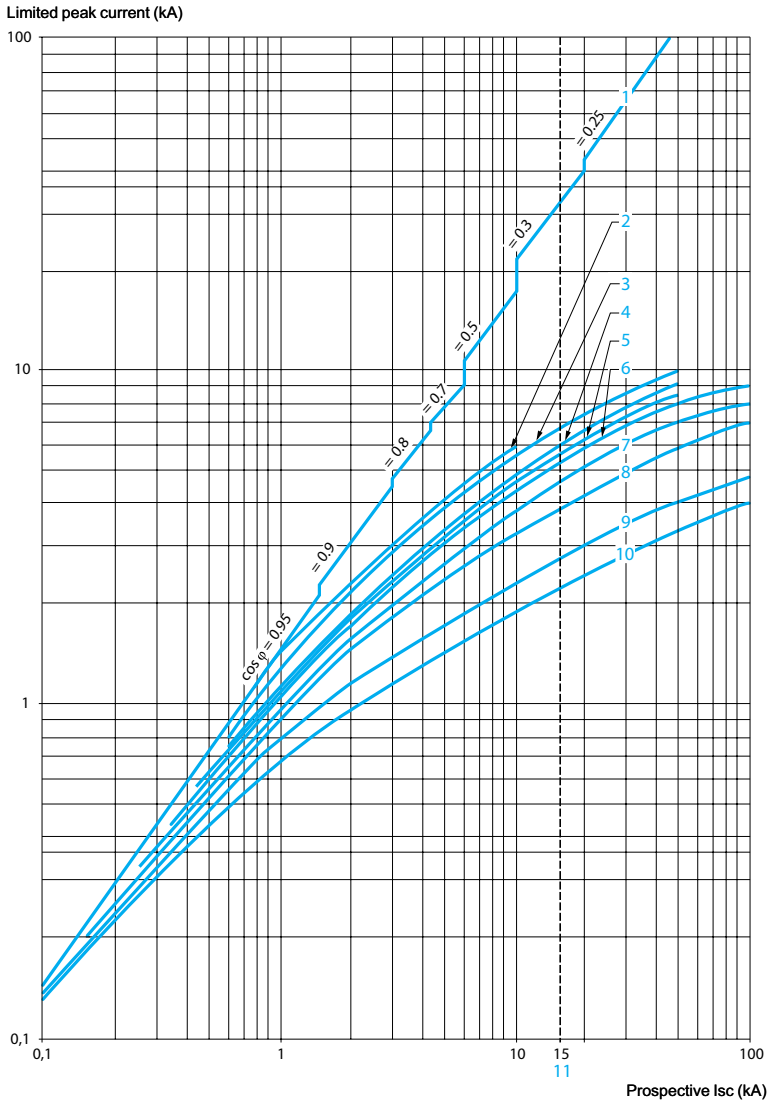
Dimensions:
pages 3/78 to 3/80

Schemes:
page 3/83

Current limitation on short-circuit for GV2 L and GV2 LE only (3-phase 400/415 V)

Dynamic stress

I peak = f (prospective Isc) at 1.05 Ue = 435 V



1 Maximum peak current
2 32 A
3 25 A
4 18 A
5 14 A
6 10 A
7 6.3 A
8 4 A
9 2.5 A
10 1.6 A
11 Limit of rated ultimate breaking capacity on short-circuit of GV2 LE (14, 18, 23 and 25 A ratings).

References:
pages 3/52 and 3/53

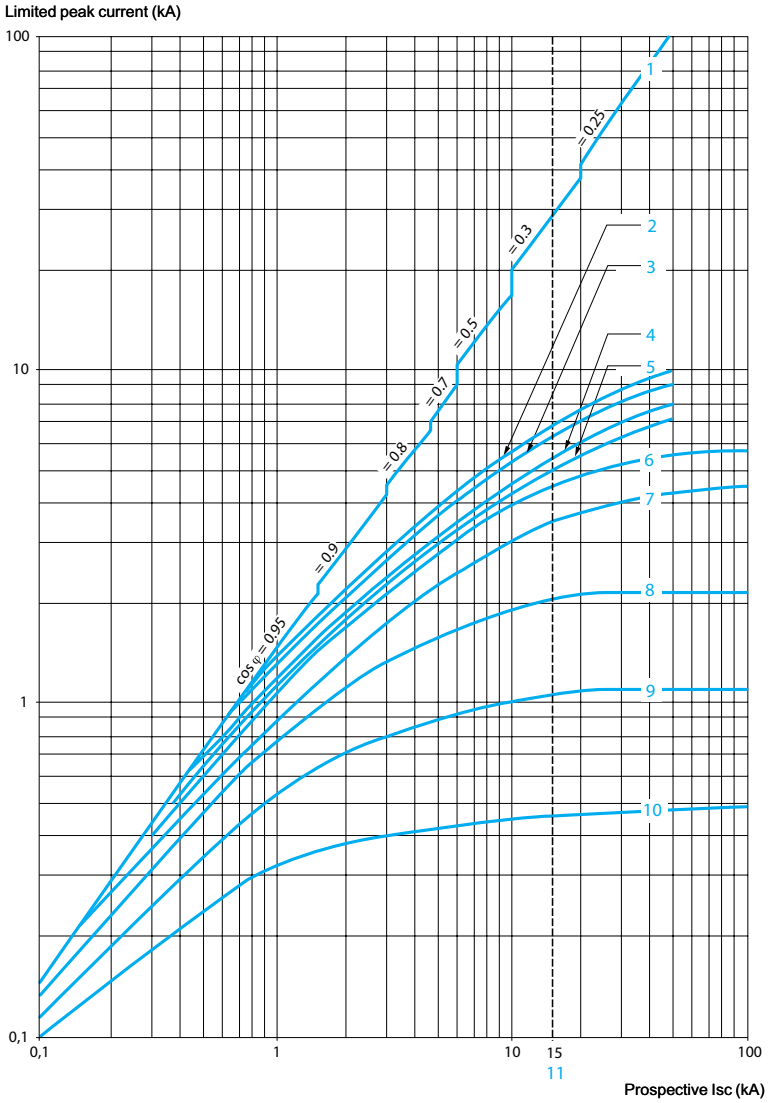
Dimensions:
pages 3/78 to 3/80

Schemes:
page 3/83

Current limitation on short-circuit for GV2 L and GV2 LE + thermal overload relay LRD or LR2 K (3-phase 400/415 V)

Dynamic stress

I peak = f (prospective Isc) at 1.05 Ue = 435 V

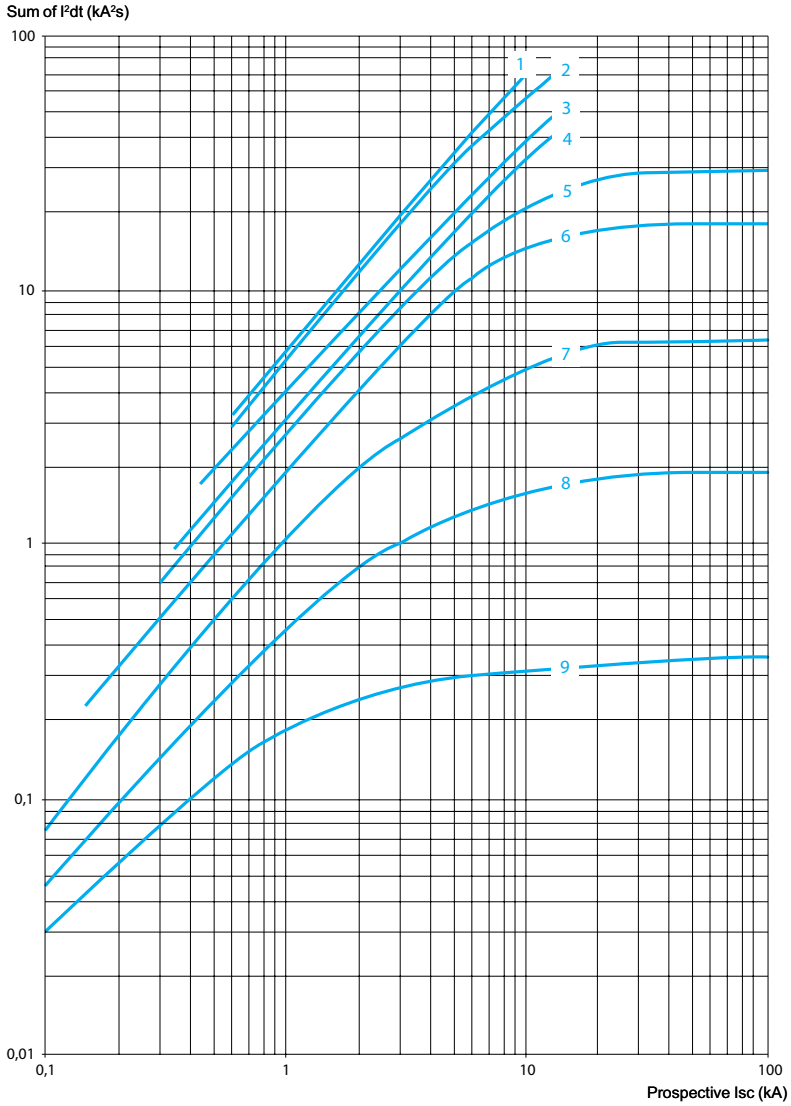


1 Maximum peak current
2 32 A
3 25 A
4 18 A
5 14 A
6 10 A
7 6.3 A
8 4 A
9 2.5 A
10 1.6 A
11 Limit of rated ultimate breaking capacity on short-circuit of GV2 LE (14, 18, 23 and 25 A ratings).

Thermal limit on short-circuit for GV2 LE only

Thermal limit in kA²s in the magnetic operating zone

Sum of I²dt = f (prospective Isc) at 1.05 Ue = 435 V

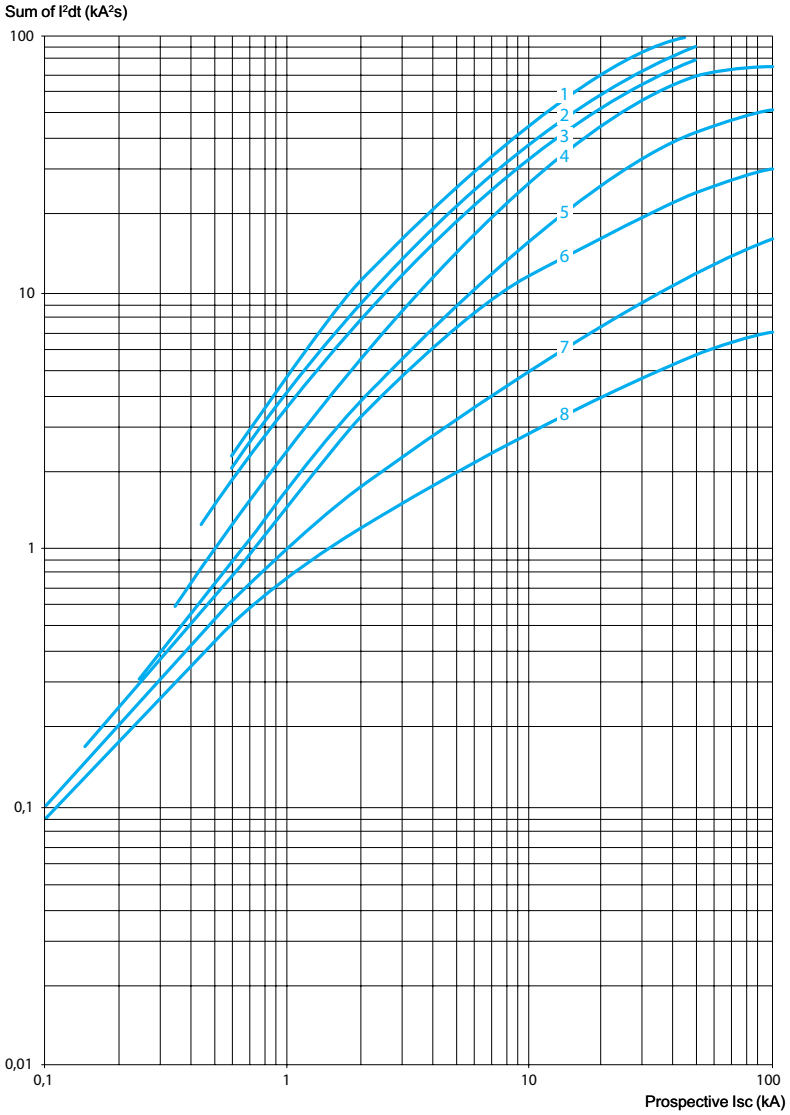


1 32 A
2 25 A
3 18 A
4 14 A
5 10 A
6 6.3 A
7 4 A
8 2.5 A
9 1.6 A

Thermal limit on short-circuit for GV2 L only

Thermal limit in kA²s in the magnetic operating zone

Sum of I^2dt = f (prospective Isc) at 1.05 Ue = 435 V

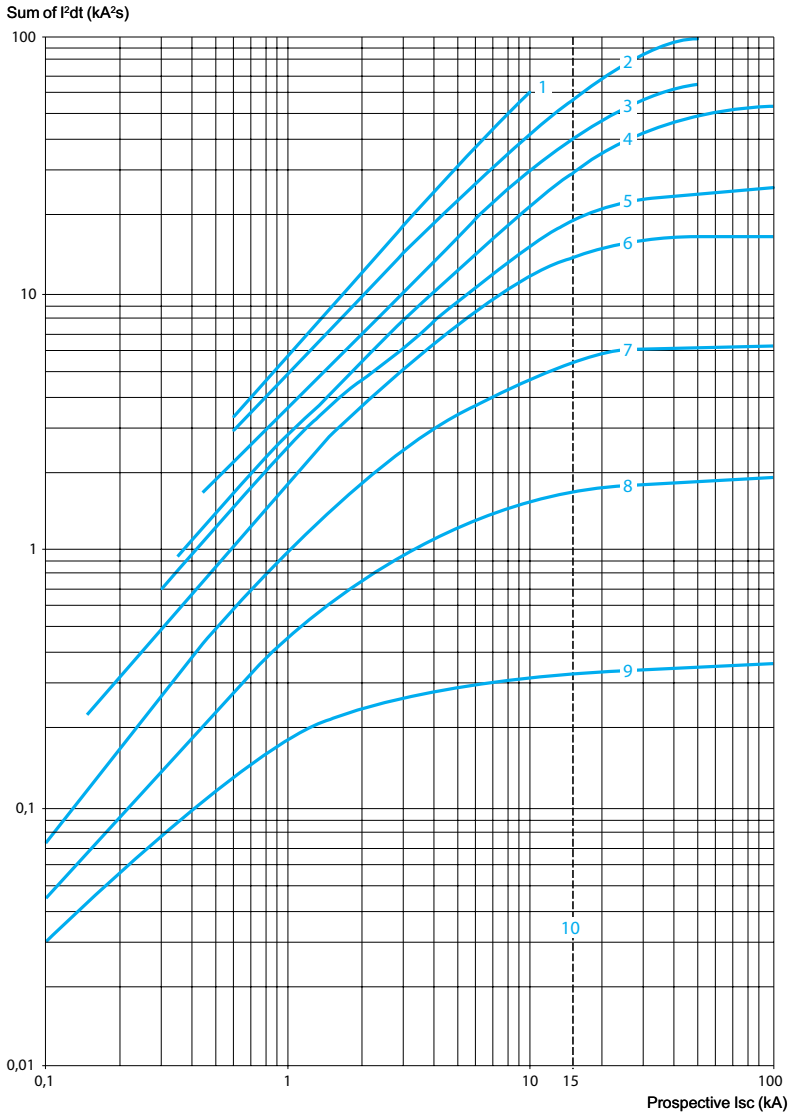


1 25 A and 32 A
2 18 A
3 14 A
4 10 A
5 6.3 A
6 4 A
7 2.5 A
8 1.6 A

Thermal limit on short-circuit for GV2 L and GV2 LE + thermal overload relay LRD or LR2 K

Thermal limit in kA²s in the magnetic operating zone

Sum of I²dt = f (prospective Isc) at 1.05 Ue = 435 V



1 32 A (GV2 LE32)
2 25 A and 32 A (GV2 L32)
3 18 A
4 14 A
5 10 A
6 6.3 A
7 4 A
8 2.5 A
9 1.6 A
10 Limit of rated ultimate breaking capacity on short-circuit of GV2 LE (14, 18, 23 and 25 A ratings).

References:
pages 3/52 and 3/53

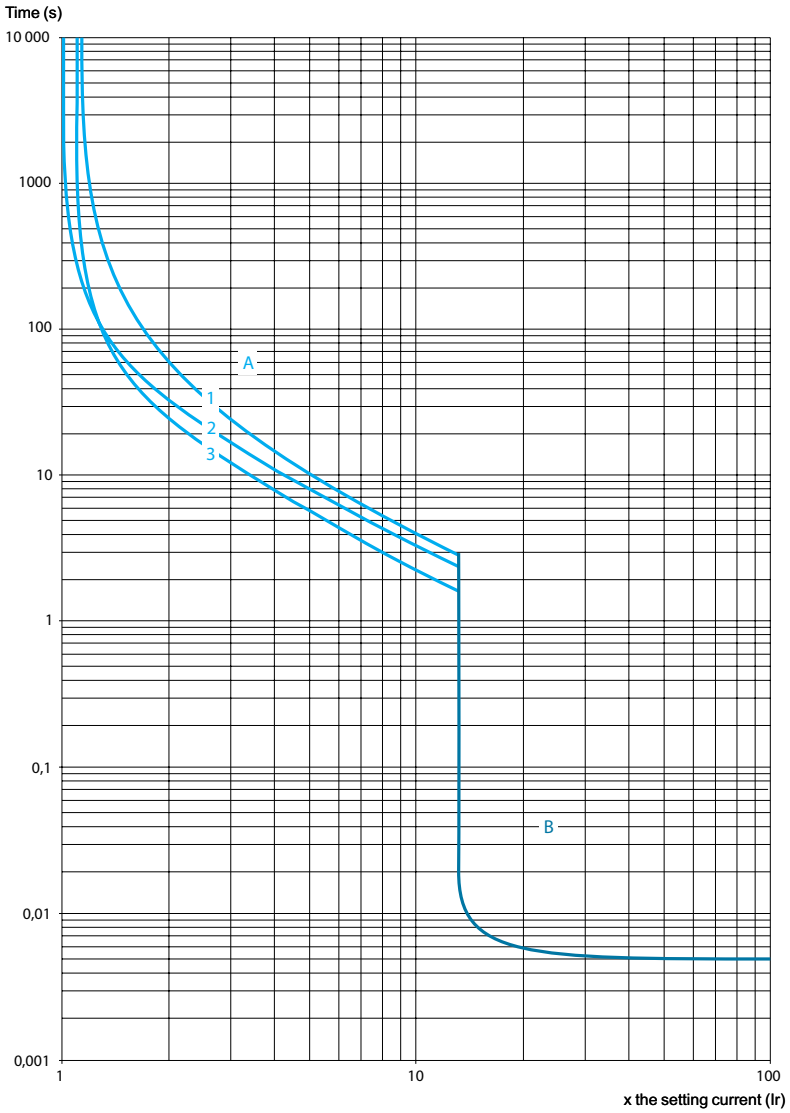
Dimensions:
pages 3/78 to 3/80

Schemes:
page 3/83

TeSys protection components
Magnetic motor circuit-breakers
GV3 L and GK3 EF80

Tripping curves for GV3 L and GK3 EF80 combined with thermal overload relay LRD 33

Average operating time at 20 °C without prior current flow



1 3 poles from cold state
2 2 poles from cold state
3 3 poles from hot state

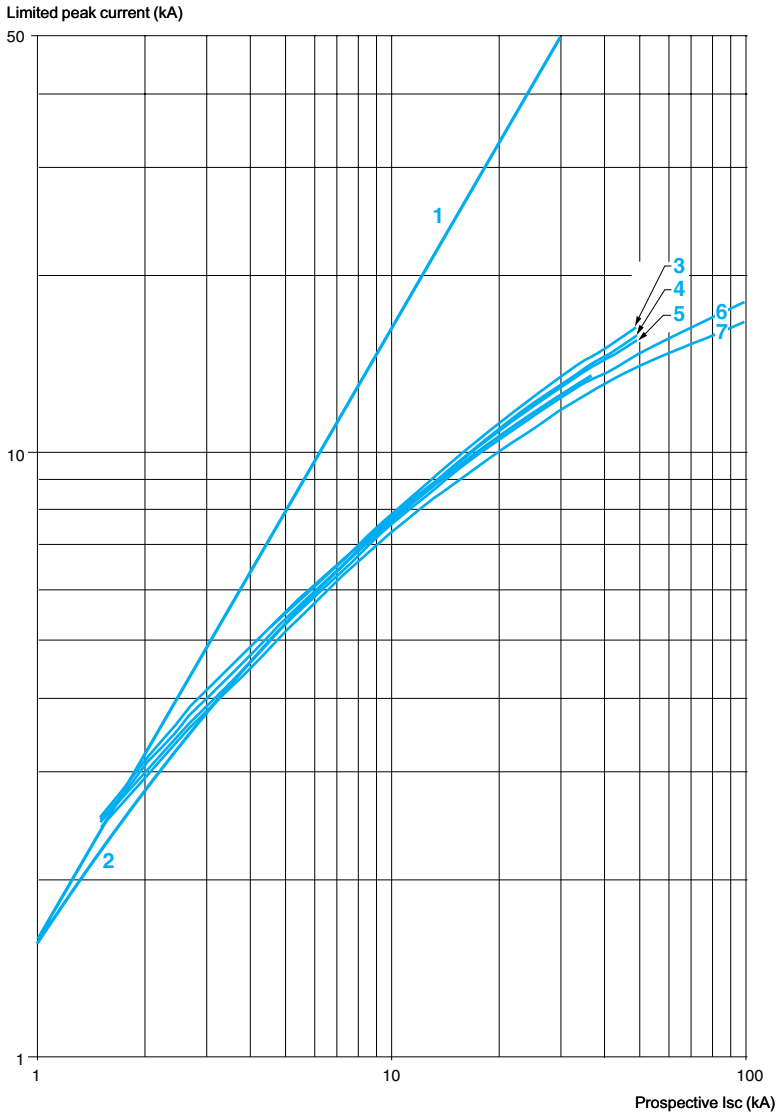
A Thermal overload relay protection zone
B GK3 EF80 and GV3 L protection zone

References: page 3/53
Dimensions: pages 3/81 and 3/82
Schemes: page 3/83

Current limitation on short-circuit for GV3 L and GK3 EF80 (3-phase 400/415 V)

Dynamic stress

I peak = f (prospective Isc) at 1.05 Ue = 435 V



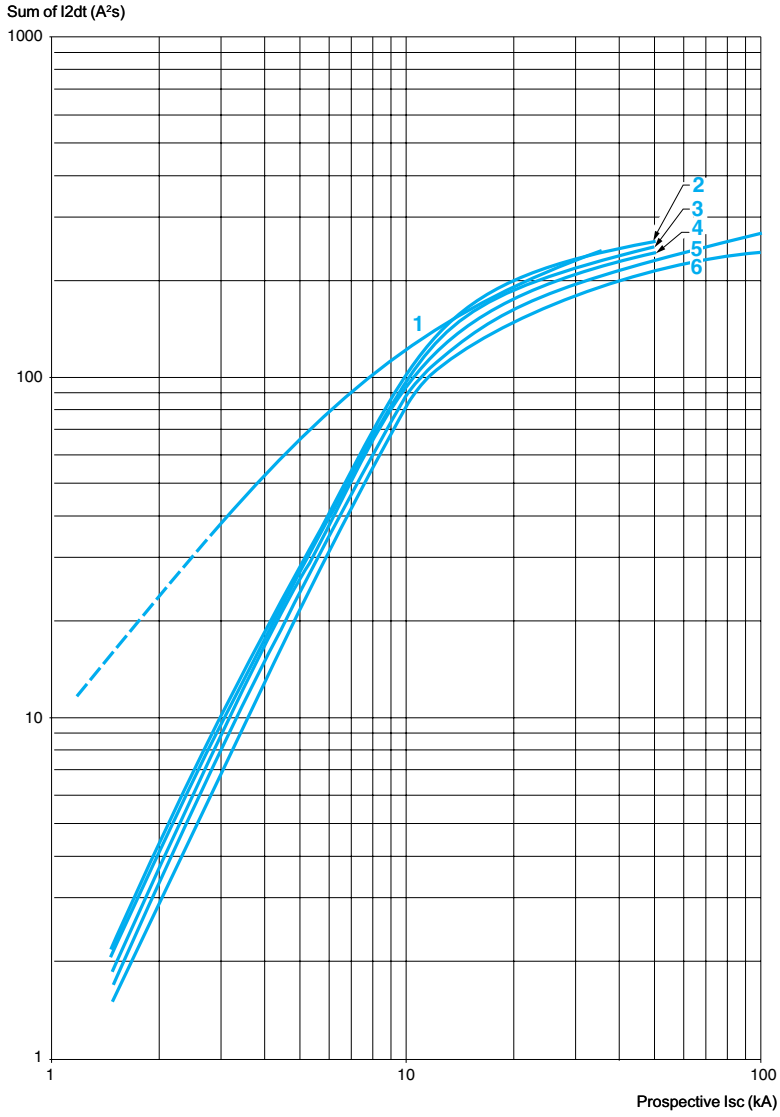
1 Maximum peak current
2 GK3 EF80
3 GV3 L65
4 GV3 L50
5 GV3 L40
6 GV3 L32
7 GV3 L25

References: page 3/53
Dimensions: pages 3/81 and 3/82
Schemes: page 3/83

Thermal limit on short-circuit for GV3 L and GK3 EF80

Thermal limit in A^2s

Sum of I^2dt = f (prospective Isc) at 1.05 Ue = 435 V



1 GK3 EF80
2 GV3 L65
3 GV3 L50
4 GV3 L40
5 GV3 L32
6 GV3 L25

References: page 3/53
Dimensions: pages 3/81 and 3/82
Schemes: page 3/83

TeSys protection components
Thermal-magnetic motor circuit-breakers
GV2 ME

GV2 ME10

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 Id ± 20 %	Reference	Weight
400/415 V			500 V			690 V						
P	Icu	Ics *(1)*	P	Icu	Ics *(1)*	P	Icu	Ics *(1)*				
kW	kA	%	kW	kA	%	kW	kA	%	A	A		kg
–	–	–	–	–	–	–	–	–	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**	★	★	**1.1**	★	★				
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 Icu.
(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.*

Characteristics: pages 3/8 to 3/11
Dimensions: pages 3/66 to 3/69
Schemes: page 3/76

TeSys protection components
Thermal-magnetic motor circuit-breakers
GV2 ME

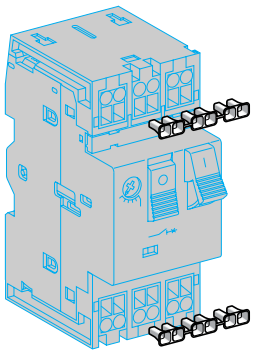
526135

GV2 ME●●3

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

GV2 ME *(1)* **with pushbutton control**

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



LA9 D99

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 mm²	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.

Characteristics: pages 3/8 to 3/11
Dimensions: pages 3/66 to 3/69
Schemes: page 3/76

TeSys protection components
Thermal-magnetic motor circuit-breakers
GV2 P, GV3 P and GV3 ME80


526137

GV2 P10


526139

GV3 P65


526140

GV3 P651

Motor circuit-breakers from 0.06 to 30 kW / 400 V

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range of thermal trips (2)	Magnetic tripping current Id ± 20 %	Reference	Weight
400/415 V			500 V			690 V						
P	Icu	Ics (1)	P	Icu	Ics (1)	P	Icu	Ics (1)				
kW	kA	%	kW	kA	%	kW	kA	%	A	A		kg
GV2 P: control by rotary knob												
Screw clamp terminals												
–	–	–	–	–	–	–	–	–	0.1…0.16	1.5	**GV2 P01**	0.350
0.06	★	★	–	–	–	–	–	–	0.16…0.25	2.4	**GV2 P02**	0.350
0.09	★	★	–	–	–	–	–	–	0.25…0.40	5	**GV2 P03**	0.350
0.12	★	★	–	–	–	**0.37**	★	★	0.40…0.63	8	**GV2 P04**	0.350
0.18	★	★	–	–	–	–	–	–				
0.25	★	★	–	–	–	**0.55**	★	★	0.63…1	13	**GV2 P05**	0.350
0.37	★	★	**0.37**	★	★	–	–	–	1…1.6	22.5	**GV2 P06**	0.350
0.55	★	★	**0.55**	★	★	**0.75**	★	★				
0.75	★	★	**1.1**	★	★	**1.5**	8	100	1.6…2.5	33.5	**GV2 P07**	0.350
1.1	★	★	**1.5**	★	★	**2.2**	8	100	2.5…4	51	**GV2 P08**	0.350
2.2	★	★	**3**	★	★	**4**	6	100	4…6.3	78	**GV2 P10**	0.350
3	★	★	**5**	50	100	**5.5**	6	100	6…10	138	**GV2 P14**	0.350
5.5	★	★	**7.5**	42	75	**9**	6	100	9…14	170	**GV2 P16**	0.350
–	–	–	–	–	–	**11**	6	100				
7.5	50	50	**9**	10	75	**15**	4	100	13…18	223	**GV2 P20**	0.350
9	50	50	**11**	10	75	**18.5**	4	100	17…23	327	**GV2 P21**	0.350
11	50	50	**15**	10	75	–	–	–	20…25	327	**GV2 P22**	0.350
15	35	50	**18.5**	10	75	**22**	4	100	24…32	416	**GV2 P32**	0.350
GV3 P: control by rotary knob												
Connection by EverLink® BTR screw connectors *(3)*												
5.5	100	100	**7.5**	12	50	**11**	6	50	9…13	182	**GV3 P13**	0.960
7.5	100	100	**9**	12	50	**15**	6	50	12…18	252	**GV3 P18**	0.960
11	100	100	**15**	12	50	**18.5**	6	50	17…25	350	**GV3 P25**	0.960
15	100	100	**18.5**	12	50	**22**	6	50	23…32	448	**GV3 P32**	0.960
18.5	50	100	**22**	12	50	**37**	6	50	30…40	560	**GV3 P40**	0.960
22	50	100	**30**	12	50	**45**	6	50	37…50	700	**GV3 P50**	0.960
30	50	100	**45**	12	50	**55**	6	50	48…65	910	**GV3 P65**	0.960
37	15	50	**45**	4	100	**55**	2	100	56…80		**GV3 ME80** *(4)*	0.700

Connection by EverLink® BTR screw connectors, for assembly with a contactor

To assemble a **GV3 P13** to **P65** circuit-breaker with an **LC1 D40A** to **D65A** contactor, it is possible to use the circuit-breaker supplied without downstream EverLink® power terminal block. To order this product, add the digit **1** to the end of the references selected above. Example: **GV3 P65** becomes **GV3 P651**.

Connection by lugs

To order thermal magnetic circuit-breakers with connection by lugs, add the digit **6** to the end of reference selected above. Example: **GV3 P18** becomes **GV3 P186**.

Motor circuit-breakers up to 50 hp / 600 V, UL 508 type E

GV2 *(5)*

To obtain a GV2 **P** motor circuit-breaker, UL 508 type E, combine:
- a circuit-breaker **GV2 P●●H7** (except 32 A),
- and a "Large Spacing" adapter **GV2 GH7.**

GV3 *(6)*

To obtain a motor-circuit-breaker GV3 **P**, UL 508 type E, use the following with the circuit-breaker:
- a "Large Spacing" cover **GV3 G66**,
- a short-circuit signalling contact **GV AM11**.

GV3 with connection by lugs *(6)*

To obtain a motor-circuit-breaker GV3 **P**, UL 508 type E, with connection by lugs, add the digit **6** to the end of reference selected above and use the following with the circuit-breaker:
- two IP 20 covers **LAD 96570**,
- a short-circuit signalling contact **GV AM11**.

(1) As % of Icu.
(2) The thermal trip setting must be within the range marked on the graduated knob.
(3) BTR screws: hexagon socket head. Require use of an insulated Allen key, in compliance with local wiring regulations.
(4) Recommended for use in association with a contactor.
(5) Accessory: see page 3/63.
(6) Accessories: see page 3/57.
★ > 100 kA.

Characteristics: pages 3/8 to 3/13
Dimensions: pages 3/66 to 3/72

TeSys protection components
Thermal-magnetic motor circuit-breakers
GV7 R

526138

GV7 RE40

526141

GV7 RS220

Thermal-magnetic circuit-breakers GV7 R with screw clamp terminals

Control by rocker lever

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range of thermal trips	Reference	Weight
400/415 V			500 V			660/690 V					
P	Icu	Ics *(1)*	P	Icu	Ics *(1)*	P	Icu	Ics *(1)*			
kW	kA	%	kW	kA	%	kW	kA	%	A		kg
7.5 **9**	36 36	100 100	**9** **11**	18 18	100 100	**11** **15**	8 8	100 100	12…20	**GV7 RE20**	2.010
7.5 **9**	70 70	100 100	**9** **11**	50 50	100 100	**11** **15**	10 10	100 100	12…20	**GV7 RS20**	2.010
9 **11**	36 36	100 100	**11** **15**	18 18	100 100	**15** **18.5**	8 8	100 100	15…25	**GV7 RE25**	2.010
9 **11**	70 70	100 100	**11** **15**	50 50	100 100	**15** **18.5**	10 10	100 100	15…25	**GV7 RS25**	2.010
18.5	36	100	**18.5** **22**	18 18	100 100	**22**	8	100	25…40	**GV7 RE40**	2.010
18.5	70	100	**18.5**	50	100	**22**	10	100	25…40	**GV7 RS40**	2.010
22	36	100	**30**	18	100	**30**	8	100	30…50	**GV7 RE50**	2.015
22	70	100	**30**	50	100	**30**	10	100	30…50	**GV7 RS50**	2.015
37	36	100	**45** **55**	18 18	100 100	**55**	8	100	48…80	**GV7 RE80**	2.040
37	70	100	**45** **55**	50 50	100 100	**55**	10	100	48…80	**GV7 RS80**	2.040
45	36	100	–	18	100	**75**	8	100	60…100	**GV7 RE100**	2.040
45	70	100	–	50	100	**75**	10	100	60…100	**GV7 RS100**	2.040
55 **75**	35 35	100 100	**75** **90**	30 30	100 100	**90** **110**	8 8	100 100	90…150	**GV7 RE150**	2.020
55 **75**	70 70	100 100	**75** **90**	50 50	100 100	**90** **110**	10 10	100 100	90…150	**GV7 RS150**	2.020
90 **110**	35 35	100 100	**110** **132** **160**	30 30 30	100 100 100	**160** **200**	8 8	100 100	132…220	**GV7 RE220**	2.350
90 **110**	70 70	100 100	**110** **132** **160**	50 50 50	100 100 100	**160** **200**	10 10	100 100	132…220	**GV7 RS220**	2.350

(1) As % of Icu

Characteristics: page 3/13
Dimensions: page 3/73
Schemes: page 3/77

TeSys protection components
Thermal-magnetic circuit-breakers
GV2 RT

526142

GV2 RT

For motors with high current peak on starting

Control by rocker lever

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3					Setting range of thermal trips *(1)*	Magnetic tripping current Id ± 20 %	Reference	Weight
220/ 230 V	400/ 415 V	440 V	500 V	690 V				
kW	kW	kW	kW	kW	A	A		kg
0.06	0.09	0.09 0.12	–	–	0.25…0.40	8	**GV2 RT03**	0.350
–	0.12 0.18	0.18	–	0.37	0.40…0.63	13	**GV2 RT04**	0.350
0.09 0.12	0.25 0.37	0.25 0.37	0.37	0.55	0.63…1	22	**GV2 RT05**	0.350
0.18 0.25	0.37 0.55	0.37 0.55	0.37 0.55 0.75	0.75 1.1	1…1.6	33	**GV2 RT06**	0.350
0.37	0.75	0.75 1.1	1.1	1.5	1.6…2.5	51	**GV2 RT07**	0.350
0.55 0.75	1.1 1.5	1.5	1.5 2.2	2.2 3	2.5…4	78	**GV2 RT08**	0.350
1.1	2.2	2.2 3	3	4	4…6.3	138	**GV2 RT10**	0.350
1.5 2.2	3 4	4	4 5.5	5.5 7.5	6…10	200	**GV2 RT14**	0.350
2.2 3	5.5	5.5 7.5	7.5	9 11	9…14	280	**GV2 RT16**	0.350
4	7.5	7.5 9	9	15	13…18	400	**GV2 RT20**	0.350
5.5	9 11	11	11	18.5	17…23	400	**GV2 RT21**	0.350

(1) The thermal trip setting must be within the range marked on the graduated knob.

Characteristics: pages 3/8 to 3/23
Dimensions: page 3/70
Schemes: page 3/76

TeSys protection components
Thermal-magnetic circuit-breakers
GV2 RT

526142

GV2 RT

For primaries of 3-phase transformers

Control by rocker lever

Standard power ratings					Setting range of thermal trips *(1)*	Magnetic tripping current Id ± 20 %	Reference	Weight
230/240 V	400/415 V	440 V	500 V	690 V				
kW	kW	kW	kW	kW	A	A		kg
–	–	–	–	–	0.25…0.40	8	**GV2 RT03**	0.350
–	–	–	–	–	0.40…0.63	13	**GV2 RT04**	0.350
–	–	0.63	0.63	1	0.63…1	22	**GV2 RT05**	0.350
0.4	0.63	1	1	–	1…1.6	33	**GV2 RT06**	0.350
0.63	1	–	1.6	1.6 2	1.6…2.5	51	**GV2 RT07**	0.350
1	1.6 2	1.6 2	2 2.5	2.5	2.5…4	78	**GV2 RT08**	0.350
1.6 2	2.5	2.5 4	4	4 5 6.3	4…6.3	138	**GV2 RT10**	0.350
2.5	4 5	5	5 6.3	–	6…10	200	**GV2 RT14**	0.350
4	6.3	6.3	–	10 12.5	9…14	280	**GV2 RT16**	0.350
5 6.3	10	10	10 12.5	10	13…18	400	**GV2 RT20**	0.350

Accessory *(2)*

Description	Reference	Weight kg
Padlockable external operator (IP 54) black handle, blue legend plate	**GV2 AP03**	0.280

(1) The thermal trip setting must be within the range marked on the graduated knob.

(2) Other accessories such as mounting, cabling and marking accessories are identical to those used for GV2 ME motor circuit-breakers, see page 3/57.

Characteristics: pages 3/8 to 3/23
Dimensions: page 3/70
Schemes: page 3/76

TeSys protection components
Magnetic motor circuit-breakers
GV2 LE

526144

GV2 LE10

3

Magnetic motor circuit-breakers from 0.06 to 15 kW

GV2 L: control by rocker lever, connection by screw clamp terminals

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Magnetic protection rating	Tripping current Id ± 20 %	Use in association with thermal overload relay	Reference	Weight
400/415 V			500 V			690 V							
P	Icu	Ics *(1)*	P	Icu	Ics *(1)*	P	Icu	Ics *(1)*					
kW	kA		kW	kA		kW	kA		A	A			kg
0.06	★	★	–	–	–	–	–	–	0.4	5	LR2 K0302	**GV2 LE03**	0.330
0.09	★	★	–	–	–	–	–	–	0.4	5	LR2 K0304	**GV2 LE03**	0.330
0.12	★	★	–	–	–	**0.37**	★	★	0.63	8	LR2 K0304	**GV2 LE04**	0.330
0.18	★	★	–	–	–	–	–	–	0.63	8	LR2 K0305	**GV2 LE04**	0.330
–	–	–	–	–	–	**0.55**	★	★	1	13	LR2 K0305	**GV2 LE05**	0.330
0.25	★	★	–	–	–	–	–	–	1	13	LR2 K0306	**GV2 LE05**	0.330
–	–	–	–	–	–	**0.75**	★	★	1	13	LR2 K0306	**GV2 LE05**	0.330
0.37	★	★	**0.37**	★	★	–	–	–	1	13	LR2 K0306	**GV2 LE05**	0.330
0.55	★	★	**0.55**	★	★	**1.1**	★	★	1.6	22.5	LR2 K0307	**GV2 LE06**	0.330
–	–	–	**0.75**	★	★	–	–	–	1.6	22.5	LR2 K0307	**GV2 LE06**	0.330
0.75	★	★	**1.1**	★	★	**1.5**	3	75	2.5	33.5	LR2 K0308	**GV2 LE07**	0.330
1.1	★	★	–	–	–	–	–	–	2.5	33.5	LR2 K0308	**GV2 LE07**	0.330
1.5	★	★	**1.5**	★	★	**3**	3	75	4	51	LR2 K0310	**GV2 LE08**	0.330
–	–	–	**2.2**	★	★	–	–	–	4	51	LR2 K0312	**GV2 LE08**	0.330
2.2	★	★	**3**	50	100	**4**	3	75	6.3	78	LR2 K0312	**GV2 LE10**	0.330
3	★	★	**4**	10	100	**5.5**	3	75	10	138	LR2 K0314	**GV2 LE14**	0.330
4	★	★	**5.5**	10	100	–	–	–	10	138	LR2 K0316	**GV2 LE14**	0.330
–	–	–	–	–	–	**7.5**	3	75	10	138	LRD 14	**GV2 LE14**	0.330
–	–	–	–	–	–	**9**	3	75	14	170	LRD 16	**GV2 LE16**	0.330
5.5	15	50	**7.5**	6	75	**11**	3	75	14	170	LR2 K0321	**GV2 LE16**	0.330
7.5	15	50	**9**	6	75	**15**	3	75	18	223	LRD 21	**GV2 LE20**	0.330
9	15	40	**11**	4	75	**18.5**	3	75	25	327	LRD 22	**GV2 LE22**	0.330
11	15	40	**15**	4	75	–	–	–	25	327	LRD 22	**GV2 LE22**	0.330
15	10	50	**18.5**	4	75	**22**	3	75	32	416	LRD 32	**GV2 LE32**	0.330

(1) As % of Icu.
★ *> 100 kA.*

Characteristics: pages 3/14 and 3/17
Dimensions: page 3/78
Schemes: page 3/83

TeSys protection components
Magnetic motor circuit-breakers
GV2 L, GV3 L and GK3 EF80


526145

GV2 L10


526146

GV3 L65


526147

GK3 EF80

Motor circuit-breakers from 0.09 to 30 kW

GV2 L: Control by rotary knob, connection by screw clamp terminals

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Magnetic protection rating	Tripping current Id ± 20 %	Use in association with thermal overload relay (class 10 A)	Reference	Weight
400/415 V			500 V			690 V							
P	Icu	Ics (1)	P	Icu	Ics (1)	P	Icu	Ics (1)					
kW	kA		kW	kA		kW	kA		A	A			kg
0.09	★	★	–	–	–	–	–	–	0.4	5	LRD 03	**GV2 L03**	0.330
0.12	★	★	–	–	–	0.37	★	★	0.63	8	LRD 04	**GV2 L04**	0.330
0.18	★	★	–	–	–	–	–	–	0.63	8	LRD 04	**GV2 L04**	0.330
–	–	–	–	–	–	0.55	★	★	1	13	LRD 05	**GV2 L05**	0.330
0.25	★	★	–	–	–	–	–	–	1	13	LRD 05	**GV2 L05**	0.330
–	–	–	–	–	–	0.75	★	★	1	13	LRD 06	**GV2 L05**	0.330
0.37	★	★	0.37	★	★	–	–	–	1	13	LRD 05	**GV2 L05**	0.330
0.55	★	★	0.55	★	★	1.1	★	★	1.6	22.5	LRD 06	**GV2 L06**	0.330
–	–	–	0.75	★	★	–	–	–	1.6	22.5	LRD 06	**GV2 L06**	0.330
0.75	★	★	1.1	★	★	1.5	4	100	2.5	33.5	LRD 07	**GV2 L07**	0.330
1.1	–	–	–	–	–	–	–	–			LRD 08	**GV2 L08**	0.330
1.5	★	★	1.5	★	★	3	4	100	4	51	LRD 08	**GV2 L08**	0.330
–	–	–	–	–	–	–	–	–			LRD 08	**GV2 L08**	0.330
2.2	★	★	3	★	★	4	4	100	6.3	78	LRD 10	**GV2 L10**	0.330
3	★	★	4	10	100	5.5	4	100	10	138	LRD 12	**GV2 L14**	0.330
4	–	–	–	–	–	–	–	–			LRD 14	**GV2 L14**	0.330
–	–	–	–	–	–	7.5	4	100	10	138	LRD 14	**GV2 L14**	0.330
–	–	–	–	–	–	9	4	100	14	170	LRD 16	**GV2 L16**	0.330
5.5	50	50	7.5	10	75	11	4	100	14	170	LRD 16	**GV2 L16**	0.330
7.5	50	50	9	10	75	15	4	100	18	223	LRD 21	**GV2 L20**	0.330
9	50	50	11	10	75	18.5	4	100	25	327	LRD 22	**GV2 L22**	0.330
11	50	50	15	10	75	–	–	–	25	327	LRD 22	**GV2 L22**	0.330
15	35	50	18.5	10	75	22	4	100	32	416	LRD 32	**GV2 L32**	0.330

GV3 L: control by rotary knob, connection by EverLink® BTR screw connectors

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Magnetic protection rating	Tripping current Id ± 20 %	Use in association with thermal overload relay (class 10 A)	Reference	Weight
400/415 V			500 V			690 V							
P	Icu	Ics (1)	P	Icu	Ics (1)	P	Icu	Ics (1)					
kW	kA		kW	kA		kW	kA		A	A			kg
11	100	100	15	12	50	18.5	6	50	25	350	LRD 325	**GV3 L25**	0.960
15	100	100	18.5	12	50	22	6	50	32	448	LRD 332	**GV3 L32**	0.960
18.5	50	100	22	12	50	37	6	50	40	560	LRD 340	**GV3 L40**	0.960
22	50	100	30	12	50	45	6	50	50	700	LRD 350	**GV3 L50**	0.960
30	50	100	37	12	50	55	6	50	65	910	LRD 365	**GV3 L65**	0.960

Connection by EverLink® BTR screw connectors, for assembly with a contactor

To assemble a **GV3 L25** to **L65** circuit-breaker with an **LC1 D40A** to **D65A** contactor, it is possible to use the circuit-breaker supplied without downstream EverLink® power terminal block. To order this product, add the digit **1** to the end of the references selected above. Example: **GV3 L65** becomes **GV3 L651**.

Connection by lugs

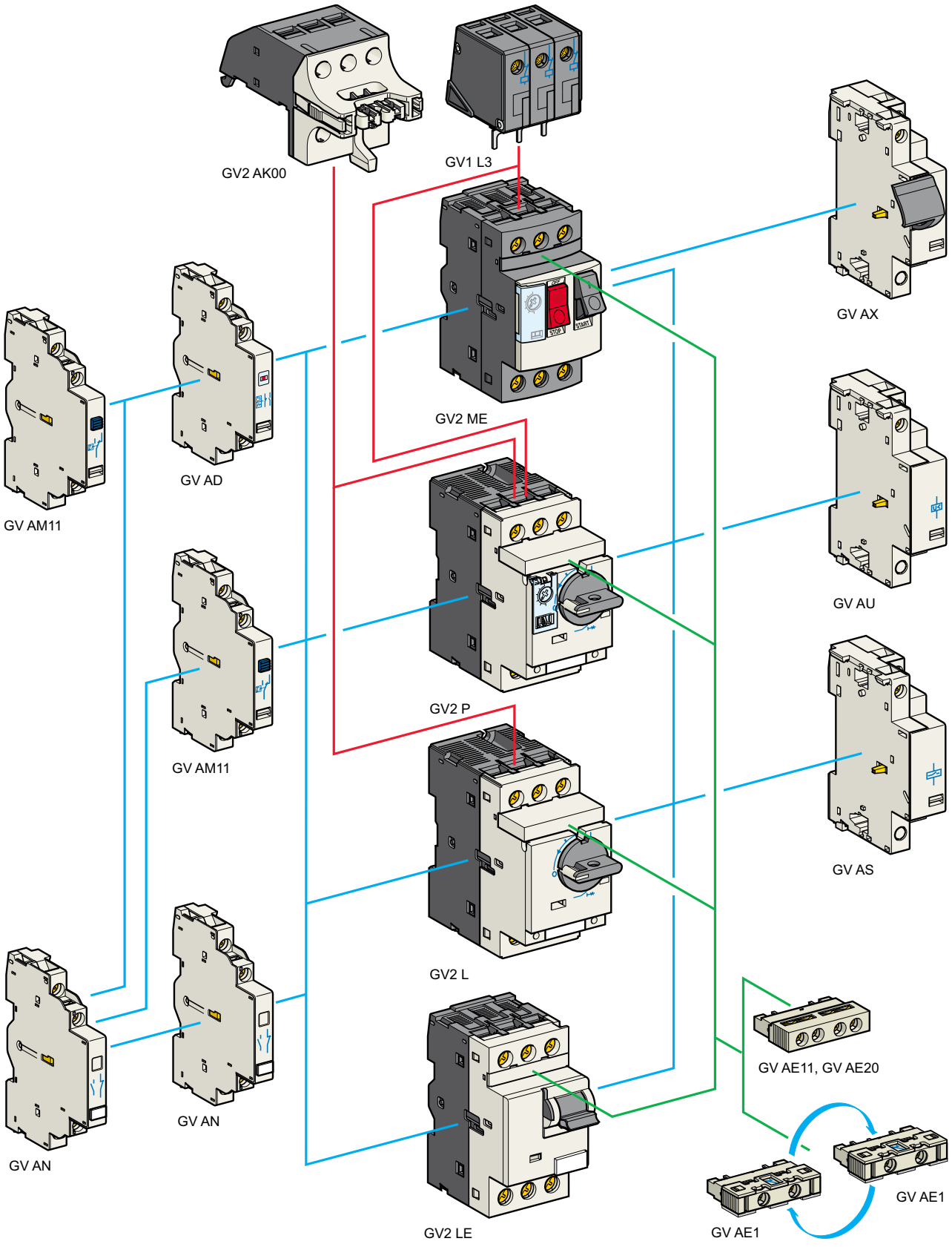
To order these circuit-breakers with connection by lugs, add the digit **6** to the end of reference selected above. Example: **GV3 L32** becomes **GV3 L326**.

GK3: control by rotary knob, connection by screw clamp terminals

37	35	25	**55**	15	30	–	–	–	80	1040	LRD 3363	**GK3 EF80**	0.795

(1) As % of Icu. Associated current limiter or fuses, where required. See characteristics page 3/17.
★ *> 100 kA.*

Characteristics: pages 3/14 to 3/17
Dimensions: pages 3/78 to 3/83
Schemes: page 3/83


GV2 AK00
GV1 L3
GV AX
GV2 ME
GV AD
GV AM11
GV AU
GV2 P
GV AM11
GV AS
GV2 L
GV AE11, GV AE20
GV AN
GV AN
GV2 LE
GV AE1
GV AE1

TeSys protection components

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

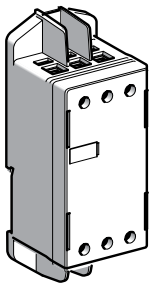
Add-on blocks and accessories

Contact blocks

Description	Mounting	Maximum number	Type of contacts		Sold in lots of	Unit reference	Weight kg
Instantaneous auxiliary contacts	Front *(1)*	1	N/O or N/C *(2)*		10	**GV AE1**	0.015
			N/O + N/C		10	**GV AE11**	0.020
			N/O + N/O		10	**GV AE20**	0.020
	Side (LH)	2	N/O + N/C		1	**GV AN11**	0.050
			N/O + N/O		1	**GV AN20**	0.050
Fault signalling contact + instantaneous auxiliary contact	Side *(3)* (LH)	1	N/O (fault)	+ N/O	1	**GV AD1010**	0.055
				+ N/C	1	**GV AD1001**	0.055
			N/C (fault)	+ N/O	1	**GV AD0110**	0.055
				+ N/C	1	**GV AD0101**	0.055
Short-circuit signalling contact	Side (LH)	1	C/O common point		1	**GV AM11**	0.045

Electric trips

Mounting	Voltage		Reference	Weight kg
Undervoltage or shunt trips *(4)*				
Side (1 block on RH side of circuit-breaker)	24 V	50 Hz	**GV A●025**	0.105
		60 Hz	**GV A●026**	0.105
	48 V	50 Hz	**GV A●055**	0.105
		60 Hz	**GV A●056**	0.105
	100 V	50 Hz	**GV A●107**	0.105
	100…110 V	60 Hz	**GV A●107**	0.105
	110…115 V	50 Hz	**GV A●115**	0.105
		60 Hz	**GV A●116**	0.105
	120…127 V	50 Hz	**GV A●125**	0.105
	127 V	60 Hz	**GV A●115**	0.105
	200 V	50 Hz	**GV A●207**	0.105
	200…220 V	60 Hz	**GV A●207**	0.105
	220…240 V	50 Hz	**GV A●225**	0.105
		60 Hz	**GV A●226**	0.105
	380…400 V	50 Hz	**GV A●385**	0.105
		60 Hz	**GV A●386**	0.105
	415…440 V	50 Hz	**GV A●415**	0.105
	415 V	60 Hz	**GV A●416**	0.105
	440 V	60 Hz	**GV A●385**	0.105
	480 V	60 Hz	**GV A●415**	0.105
	500 V	50 Hz	**GV A●505**	0.105
	600 V	60 Hz	**GV A●505**	0.105
Undervoltage trip, INRS (can only be mounted on GV2 ME) Safety device for dangerous machines conforming to INRS and VDE 0113				
Side (1 block on RH side of circuit-breaker GV2 ME)	110…115 V	50 Hz	**GV AX115**	0.110
		60 Hz	**GV AX116**	0.110
	127 V	60 Hz	**GV AX115**	0.110
	220…240 V	50 Hz	**GV AX225**	0.110
		60 Hz	**GV AX226**	0.110
	380…400 V	50 Hz	**GV AX385**	0.110
		60 Hz	**GV AX386**	0.110
	415…440 V	50 Hz	**GV AX415**	0.110
	440 V	60 Hz	**GV AX385**	0.110



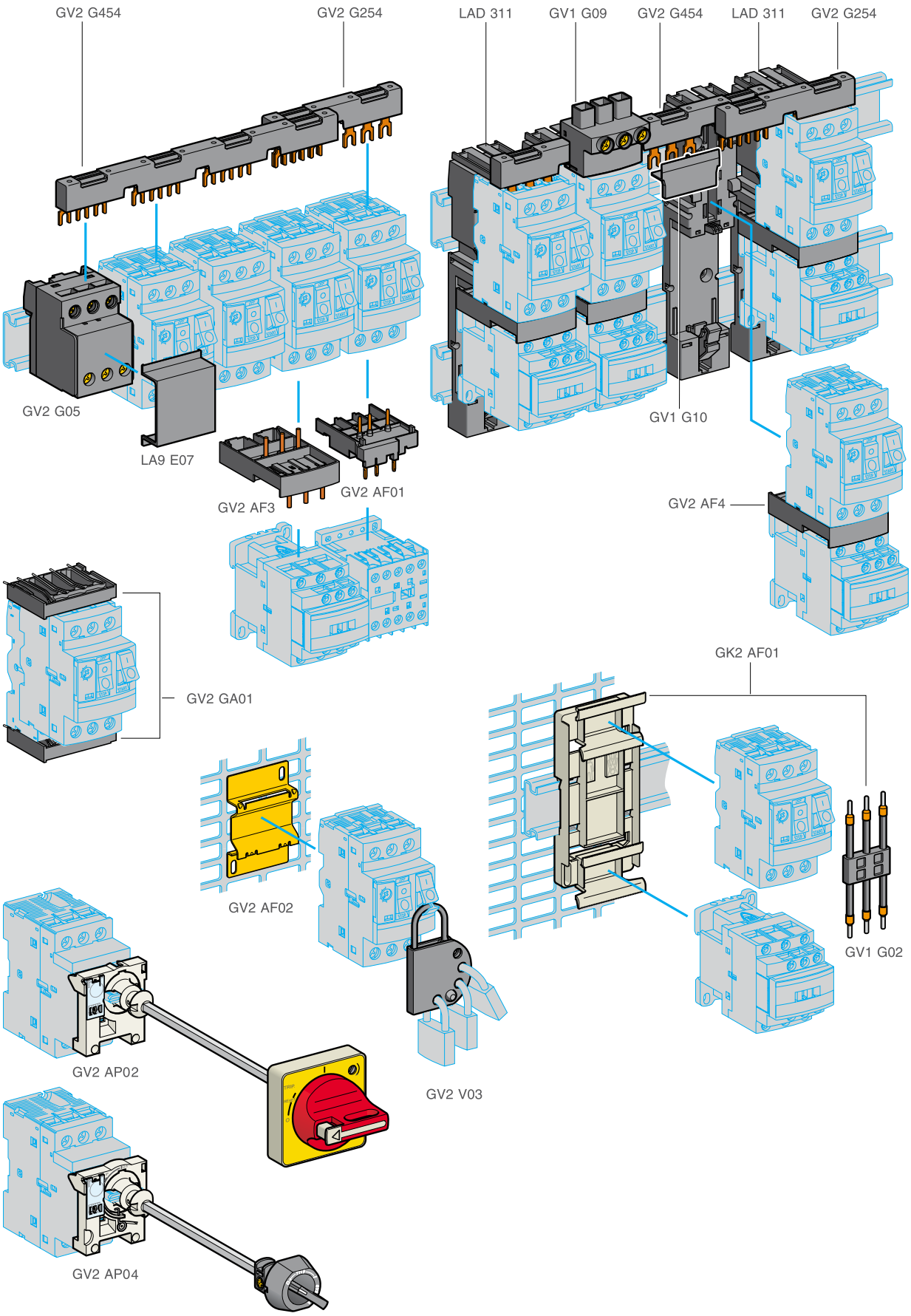
LA9 LB920

Add-on contact blocks

Description	Mounting	Maximum number	Reference	Weight kg
Visible isolation block *(5)*	Front *(1)*	1	**GV2 AK00**	0.150
Limiters	At top (GV2 ME and GV2 P)	1	**GV1 L3**	0.130
	Independent	1	**LA9 LB920**	0.320

*(1) Mounting of a **GV AE** contact block or a **GV2 AK00** visible isolation block on **GV2 P** and **GV2 L**.*
(2) Choice of N/C or N/O contact operation, depending on which way round the reversible block is mounted.
*(3) The **GV AD** is always mounted next to the circuit-breaker.*
*(4) To order an undervoltage trip: replace the dot (●) in the reference with a **U**, example: **GV AU025**.*
*To order a shunt trip: replace the dot (●) in the reference with an **S**, example: **GV AS025**.*
*(5) Visible isolation of the 3 poles upstream of circuit-breaker **GV2 P** and **GV2 L**.*
*Visible isolation block **GV2 AK00** cannot be used with motor circuit-breakers GV2 P32 and GV2 L32 (Ith max = 25 A).*

Characteristics: pages 3/18 to 3/23
Dimensions, schemes: pages 3/66 to 3/83


GV2 G454
GV2 G254
LAD 311
GV1 G09
GV2 G454
LAD 311
GV2 G254
GV2 G05
LA9 E07
GV2 AF3
GV2 AF01
GV1 G10
GV2 AF4
GV2 GA01
GK2 AF01
GV2 AF02
GV1 G02
GV2 AP02
GV2 V03
GV2 AP04

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
	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

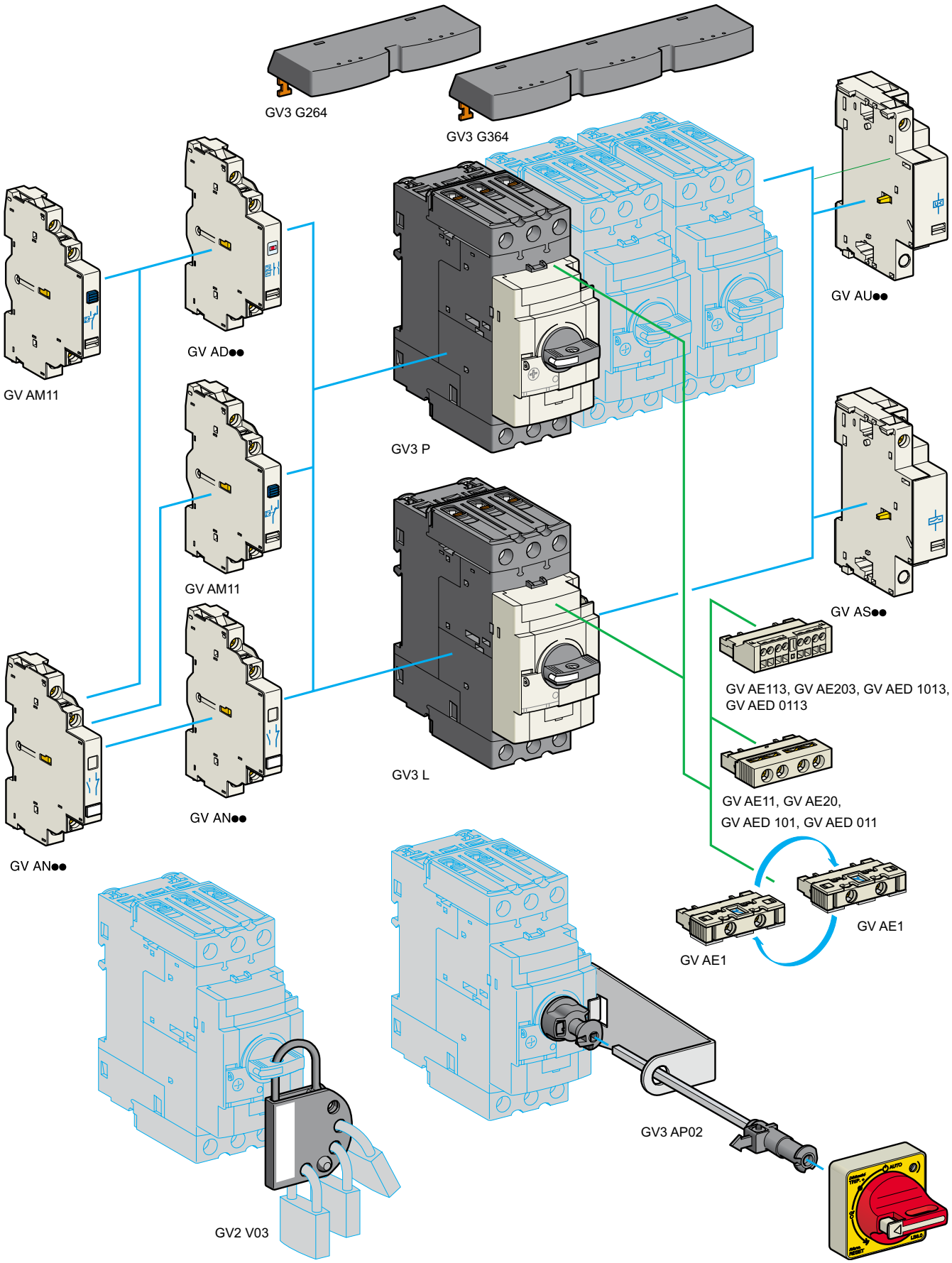
External operators

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" positon. 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

Dimensions:
pages 3/66 to 3/83


GV3 G264
GV3 G364
GV AM11
GV AD●●
GV3 P
GV AU●●
GV AM11
GV3 L
GV AS●●
GV AE113, GV AE203, GV AED 1013,
GV AED 0113
GV AE11, GV AE20,
GV AED 101, GV AED 011
GV AN●●
GV AN●●
GV AE1
GV AE1
GV3 AP02
GV2 V03

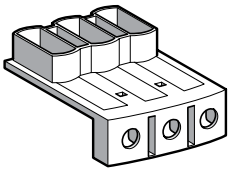
TeSys protection components
Thermal-magnetic motor circuit-breakers GV3 P and GV3 L
Add-on blocks and accessories

Contact blocks

Description	Mounting	Maximum number	Type of contacts		Sold in lots of	Unit reference	Weight kg
Instantaneous auxiliary contacts	Front	1	N/O or N/C *(1)*		10	**GV AE1**	0.015
			N/O + N/C		10	**GV AE11** *(2)*	0.020
			N/O + N/O		10	**GV AE20** *(2)*	0.020
	Side (LH)	2	N/O + N/C		1	**GV AN11** *(2)*	0.050
			N/O + N/O		1	**GV AN20** *(2)*	0.050
Fault signalling contact + instantaneous auxiliary contact	Front	1	N/O (fault)	+ N/O	1	**GV AED101** *(2)*	0.020
			N/O (fault)	+ N/C	1	**GV AED011** *(2)*	0.020
	Side *(3)* (LH)	1	N/O (fault)	+ N/O	1	**GV AD1010**	0.055
				+ N/C	1	**GV AD1001**	0.055
			N/C (fault)	+ N/O	1	**GV AD0110**	0.055
				+ N/C	1	**GV AD0101**	0.055
Short-circuit signalling contact	Side (LH)	1	C/O common point		1	**GV AM11**	0.045

Electric trips - undervotlage or shunt *(4)*

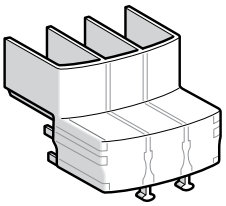
Mounting	Voltage		Reference	Weight kg
Side (1 block on RH side of circuit-breaker)	24 V	50 Hz	**GV A●025**	0.105
		60 Hz	**GV A●026**	0.105
	48 V	50 Hz	**GV A●055**	0.105
		60 Hz	**GV A●056**	0.105
	100	50 Hz	**GV A●107**	0.105
	100…110 V	60 Hz	**GV A●107**	0.105
	110…115 V	50 Hz	**GV A●115**	0.105
		60 Hz	**GV A●116**	0.105
	120…127 V	50 Hz	**GV A●125**	0.105
	127 V	60 Hz	**GV A●115**	0.105
	200 V	50 Hz	**GV A●207**	0.105
	200…220 V	60 Hz	**GV A●207**	0.105
	220…240 V	50 Hz	**GV A●225**	0.105
		60 Hz	**GV A●226**	0.105
	380…400 V	50 Hz	**GV A●385**	0.105
		60 Hz	**GV A●386**	0.105
	415…440 V	50 Hz	**GV A●415**	0.105
	415 V	60 Hz	**GV A●416**	0.105
	440 V	60 Hz	**GV A●385**	0.105
	480 V	60 Hz	**GV A●415**	0.105
	500 V	50 Hz	**GV A●505**	0.105
	600 V	60 Hz	**GV A●505**	0.105



GV3 G66

Padlockable external operators for GV3 P and GV3 L

Description		Reference	Weight kg
External operators comprising: an LU9 AP1● handle, a shaft (max. length: 260 mm), a bracket and an adaptor.	Padlocking in “On” and “Off” position Black handle, blue front plate, IP 54	**GV3 AP01**	0.294
	Padlocking in “Off” position Red handle, yellow front plate, IP 54	**GV3 AP02**	0.294
Handles only	Black handle, blue front plate, IP 54	**LU9 AP11**	0.105
	Red handle, yellow front plate, IP 54	**LU9 AP12**	0.105

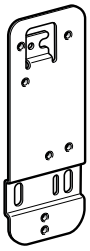


LAD 96570

Accessories

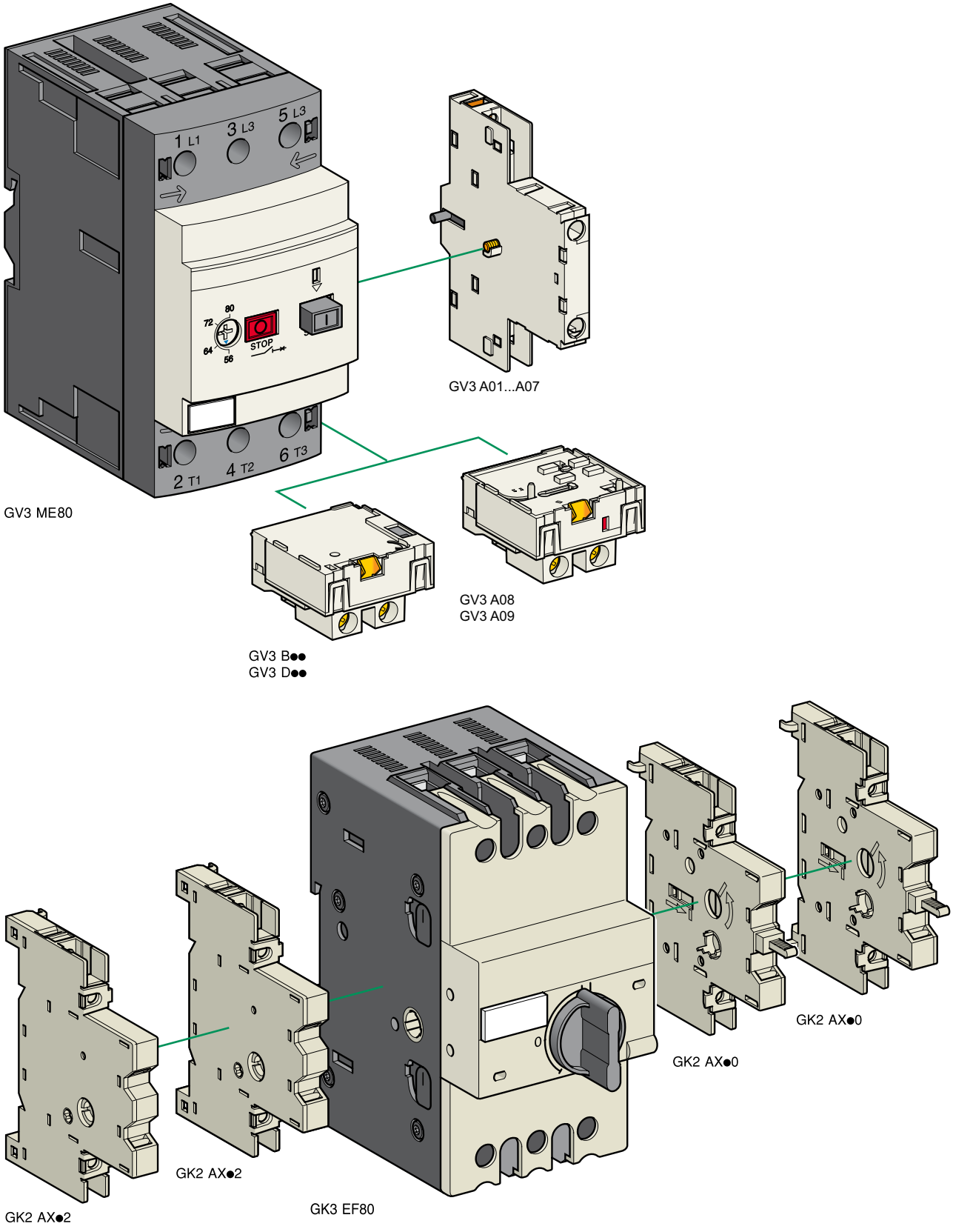
Description	For circuit-breakers		Reference	Weight kg
Sets of 3-pole 115 A busbars Pitch: 64 mm	2 tap-off	GV3 P●● and GV3 L●●	**GV3 G264**	0.150
	3 tap-off	GV3 P●● and GV3 L●●	**GV3 G364**	0.250
Cover “Large Spacing” UL 508 type E (Only one cover required on supply side)		GV3 P●●	**GV3 G66**	0.020
IP 20 cover (Two covers required per breaker)		GV3 P●●6 and GV3 L●●6	**LAD 96570**	0.021
IP 20 cover for use when mounted with circuit-breakers		GV3 P●●6 and GV3 L●●6	**LAD 96575**	0.010
Size 4 Allen key, insulated, 1000 V		GV3 P●● and GV3 L●●	**LAD ALLEN4** *(5)*	0.026
Padlocking device for use with up to 4 padlocks (not supplied) Ø 6 mm shank max.		GV3 P●● and GV3 L●● GV3 P●●6 and GV3 L●●6	**GV2 V03**	0.092
Retrofit plate for screw fixing	Replacement of GV3 ME with GV3 P●● or GV2 P●●		**LAD 7X3**	0.150

LAD 96575



LAD 7X3

(1) Choice of N/C or N/O contact operation, depending on which way round the reversible block is mounted.
*(2) Contact blocks available in version with spring terminal connections. Add a figure **3** at the end of the references selected above. Example: **GV AED101** becomes **GV AED1013**.*
*(3) The **GV AD●●** is always mounted next to the circuit-breaker.*
*(4) To order an undervoltage trip: replace the dot (●) in the reference with a **U**, example: **GV AU025**. To order a shunt trip: replace the dot (●) in the reference with an **S**, example: **GV AS025**.*
(5) Sold in lots of 5.


1 L1
3 L3
5 L3
2 T1
4 T2
6 T3
80
72
64
56
STOP
GV3 ME80
GV3 A01...A07
GV3 A08
GV3 A09
GV3 B●●
GV3 D●●
GK2 AX●2
GK2 AX●2
GK3 EF80
GK2 AX●0
GK2 AX●0

TeSys protection components
Motor circuit-breakers GV3 ME80 and GK3 EF80
Add-on blocks and accessories

For thermal-magnetic motor circuit-breakers GV3 ME80

Contact blocks

Description	Type of standard early break contacts	Reference	Weight kg
Instantaneous auxiliary contact blocks (1 per circuit-breaker)	N/C + N/O	**GV3 A01**	0,060
	N/O + N/O	**GV3 A02**	0.060
	N/C + N/O + N/O	**GV3 A03**	0.070
	N/O + N/O + N/O	**GV3 A05**	0.070
	N/O + N/O + 2 volt-free terminals	**GV3 A06**	0.070
	N/C + N/O + 2 volt-free terminals	**GV3 A07**	0.070
Fault signalling contacts *(1)*	N/C	**GV3 A08**	0.030
	N/O	**GV3 A09**	0.030

Electric trips

Description	Voltages 50 Hz	Voltages 60 Hz	Reference	Weight kg
Udervoltage trips *(1)*	110, 120, 127 V	120, 127 V	**GV3 B11**	0.070
	220, 240 V	277 V	**GV3 B22**	0.070
	380, 415 V	440 V, 480 V	**GV3 B38**	0.070
Shunt trips *(1)*	110, 120, 127 V	120, 127 V	**GV3 D11**	0.070
	220, 240 V	277 V	**GV3 D22**	0.070
	380, 415 V	440 V, 480 V	**GV3 D38**	0.070

Accessory

Description	Sold in lots of	Unit reference	Weight kg
Padlocking device, for locking the Start button (on open-mounted product)	5	**GV1 V02**	0.010

For magnetic circuit-breaker GK3 EF80

Contact blocks

Description	Number of poles	Reference	Weight kg
Auxiliary contact blocks for On-Off signalling and "control circuit test" function (1 or 2 blocks per device) mounted on RH side of GK3 EF80	N/O	**GK2 AX10**	0.025
	N/O + N/O	**GK2 AX20**	0.031
	N/C + N/O	**GK2 AX50**	0.031
Instantaneous fault signalling contact blocks (1 or 2 blocks per device) mounted on LH side of GK3 EF80	N/O	**GK2 AX12**	0.025
	N/O + N/O	**GK2 AX22**	0.031
	N/C + N/O	**GK2 AX52**	0.031

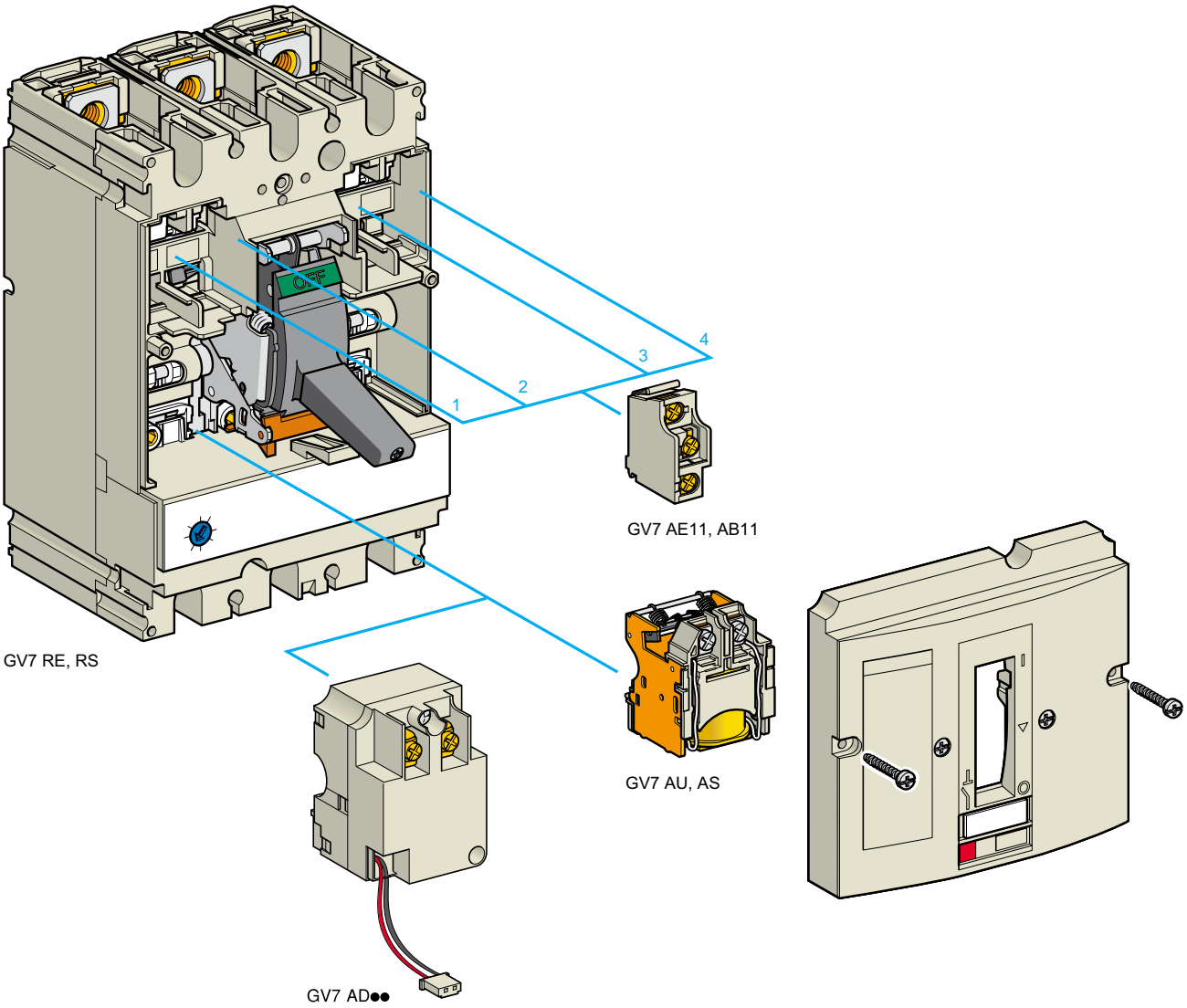
Accessories

Description	Reference	Weight kg
Padlocking device for padlocking the operator, using up to 3 padlocks (padlocks to be ordered separately)	**GK3 AV01**	0.020
External operator for mounting on enclosure door. Red Ø 40 knob on yellow plate, padlockable in position O (with up to 3 padlocks). Door locked when knob in position I, and when knob padlocked in position O.	**GK3 AP03**	0.300

*(1) 1 voltage trip **OR** 1 fault signalling contact to be fitted inside the motor circuit-breaker.*

Other versions 24 to 690 V, 50 or 60 Hz voltage trips for circuit-breakers **GV3 ME80**.
Please consult your Regional Sales Office.

Characteristics: pages 3/18 and 3/22
Dimensions: page 3/82


1
2
3
4
GV7 RE, RS
GV7 AE11, AB11
GV7 AU, AS
GV7 AD●●

TeSys protection components
Thermal-magnetic motor circuit-breakers
GV7 R with screw clamp connections
Add-on blocks and accessories

Add-on auxiliary contacts

These allow remote indication of the circuit-breaker contact states. They can be used for signalling, electrical locking, relaying, etc. They are available in two versions: standard and low level. They include a terminal block and the auxiliary circuits leave the circuit-breaker through a hole provided for this purpose.
They perform the following functions, depending on where they are located in the circuit-breaker:

Location	Function	Application
1 and/or 4	C/O contact	Indicates the position of the circuit-breaker poles
2	Trip indication	Indicates that the circuit-breaker has tripped due to an overload, a short-circuit, a differential fault or the operation of a voltage trip (undervoltage or shunt trip), or of the “push to trip” test button. It resets when the circuit-breaker is reset.
3	Electrical fault indication	Indicates that the circuit-breaker has tripped due to an overload, a short-circuit or a differential fault. It resets when the circuit-breaker is reset.

Type	Reference	Weight kg
Standard	**GV7 AE11**	0.015
Low level	**GV7 AB11**	0.015

Fault discrimination devices

These make it possible to:
- either differentiate a thermal fault from a magnetic fault,
- or open the contactor only in the event of a thermal fault.

Voltage	Reference	Weight kg
~ 24...48 and ⎓ 24…72 V	**GV7 AD111** *(1)*	0.100
≂ 110…240 V	**GV7 AD112** *(1)*	0.100

Electric trips

These allow the circuit-breaker to be tripped via an electrical control signal.

■ Undervoltage trip GV7 AU
□ Trips the circuit-breaker when the control voltage drops below the tripping threshold, which is between 0.35 and 0.7 times the rated voltage.
□ Circuit-breaker closing is only possible if the voltage exceeds 0.85 times the rated voltage.
Circuit-breaker tripping by a GV7 AU trip meets the requirements of IEC 60947-2.

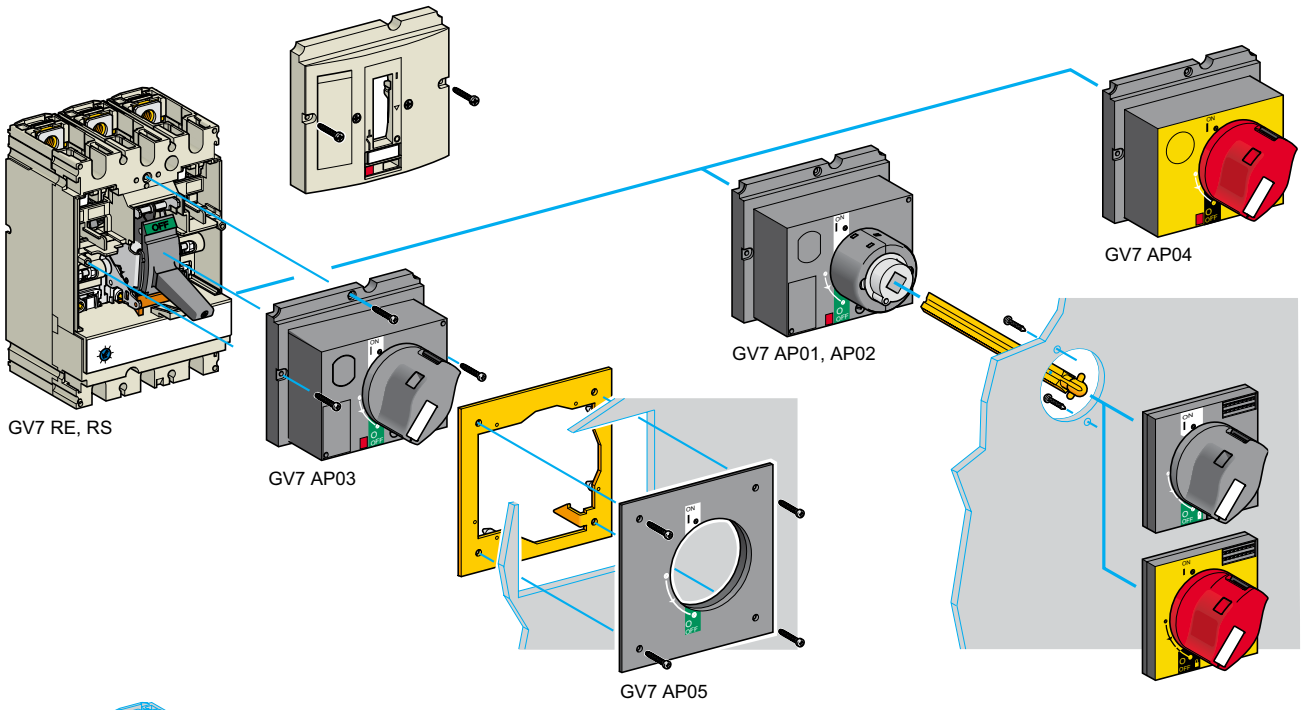
■ Shunt trip GV7 AS
Trips the circuit-breaker when the control voltage rises above 0.7 times the rated voltage.

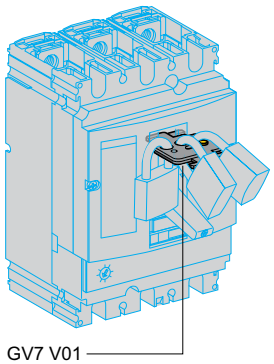
■ Operation (GV7 AU or GV7 AS)
□ When the circuit-breaker has been tripped by a GV7 AU or AS, it must be reset either locally or by remote control. (For remote control, please consult your Regional Sales Office).
□ Tripping has priority over manual closing: if a tripping instruction is present, manual action does not result in closing, even temporarily, of the contacts.
□ Durability: 50 % of the mechanical durability of the circuit-breaker.

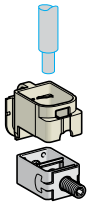
Type	Voltage	Reference	Weight kg
Undervoltage trip	48 V, 50/60 Hz	**GV7 AU055** *(1)*	0.105
	110…130 V, 50/60 Hz	**GV7 AU107** *(1)*	0.110
	200…240 V, 50/60 Hz	**GV7 AU207** *(1)*	0.110
	380…440 V, 50/60 Hz	**GV7 AU387** *(1)*	0.105
	525 V, 50 Hz	**GV7 AU525** *(1)*	0.100
Shunt trip	48 V, 50/60 Hz	**GV7 AS055** *(1)*	0.105
	110…130 V, 50/60 Hz	**GV7 AS107** *(1)*	0.110
	200…240 V, 50/60 Hz	**GV7 AS207** *(1)*	0.110
	380…440 V, 50/60 Hz	**GV7 AS387** *(1)*	0.105
	525 V, 50 Hz	**GV7 AS525** *(1)*	0.100

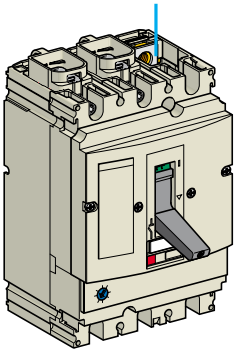
(1) For mounting of a GV7 AD or a GV7 AU or AS.

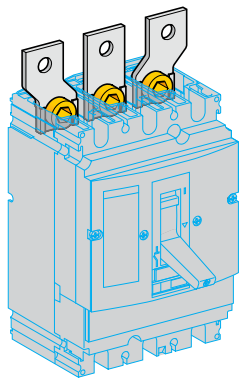
Characteristics: pages 3/20 and 3/22
Dimensions: pages 3/73 to 3/75
Schemes: page 3/75

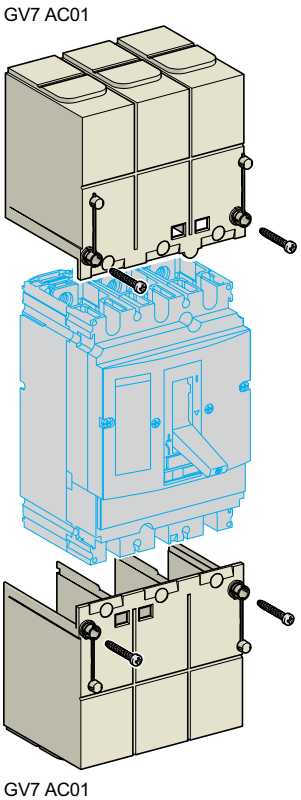

GV7 RE, RS
GV7 AP03
GV7 AP01, AP02
GV7 AP04
GV7 AP05

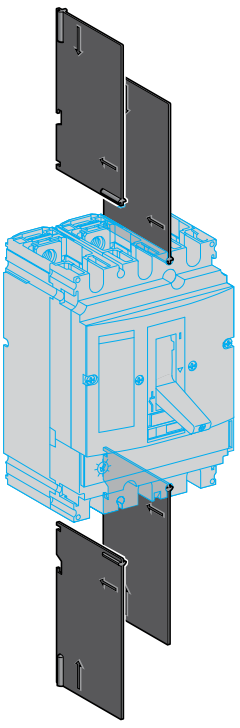

GV7 V01


GV7 AC02●

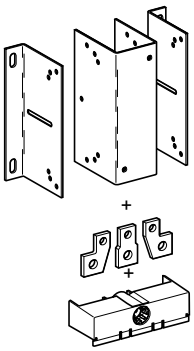

GV7 RE, RS


GV7 AC03

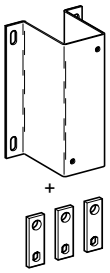

GV7 AC01
GV7 AC01


GV7 AC04
GV7 AC04

TeSys protection components
Thermal-magnetic motor circuit-breakers GV7 R with screw clamp connections
Accessories



GV7 AC07



GV7 AC08

Cabling accessories

Description	Application	For use on contactors	Sold in lots of	Unit reference	Weight kg
Clip-on connectors for GV7 R	Up to 150 A, 1.5…95 mm²	–	3	**GV7 AC021**	0.300
	Up to 220 A, 1.5…185 mm²	–	3	**GV7 AC022**	0.350
Spreader 3-pole *(1)*	To increase the pitch to 45 mm	–	1	**GV7 AC03**	0.180
Terminal shields IP 405 *(1)*	Supplied with sealing accessory	–	1	**GV7 AC01**	0.125
Phase barriers	Safety accessories used when fitting of shields is impossible	–	2	**GV7 AC04**	0.075
Insulating screens	Ensure insulation between the connections and the backplate	–	2	**GV7 AC05**	0.075
Kits for combination with contactor *(2)*	Allowing link between the circuit-breaker and the contactor. The cover provides protection against direct finger contact	LC1 F115…F185	1	**GV7 AC06**	0.550
		LC1 F225 and F265	1	**GV7 AC07**	0.550
		LC1 D115 and D150	1	**GV7 AC08**	0.550

Direct rotary handle

Replaces the circuit-breaker front cover; secured by screws. It includes a device for locking the circuit-breaker in the O (Off) position by means of up to 3 padlocks with a shank diameter of 5 to 8 mm (padlocks not included). A conversion accessory allows the direct rotary handle to be mounted on the enclosure door. In this case, the door cannot be opened if the circuit-breaker is in the “ON” position. Circuit-breaker closing is inhibited if the enclosure door is open.

Description	Type	Degree of protection	Reference	Weight kg
Direct rotary handle	Black handle, black legend plate	IP 40	**GV7 AP03**	0.205
	Red handle, yellow legend plate	IP 40	**GV7 AP04**	0.205
Adapter plate *(3)*	Four mounting direct rotary handle on enclosure door	IP 43	**GV7 AP05**	0.100

Extended rotary handle

Allows a circuit-breaker installed in the back of an enclosure to be operated from the front of the enclosure.
It comprises:
- a unit which screws onto the front cover of the circuit-breaker,
- an assembly (handle and front plate) to be fitted on the enclosure door,
- an extension shaft which must be adjusted (distance between the mounting surface and the door: 185 mm minimum, 600 mm maximum). It includes a device for locking the circuit-breaker in the O (Off) position by means of up to 3 padlocks with a shank diameter of 5 to 8 mm (padlocks not included). This prevents the enclosure door from being opened.

Description	Type	Degree of protection	Reference	Weight kg
Extended rotary handle	Black handle, black legend plate	IP 55	**GV7 AP01**	0.775
	Red handle, yellow legend plate	IP 55	**GV7 AP02**	0.775

Locking device

Allows circuit-breakers not fitted with a rotary handle to be locked in the O (Off) position by means of up to 3 padlocks with a shank diameter of 5 to 8 mm (padlocks not included).

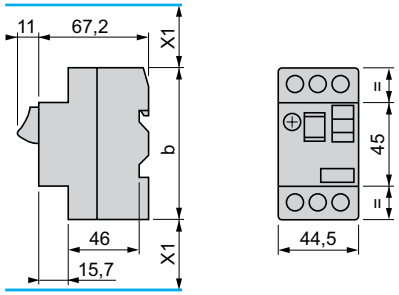
Description	Application	Reference	Weight kg
Locking device	For circuit-breaker not fitted with a rotary handle	**GV7 V01**	0.100

(1) Terminal shields cannot be used together with spreaders.
(2) The kit comprises links, a protective shield and a depth adjustable metal bracket for the breaker.
(3) This conversion accessory makes it impossible to open the door if the device is closed and prevents the device from being closed if the door is open.

Dimensions:
pages 3/73 to 3/75

Dimensions

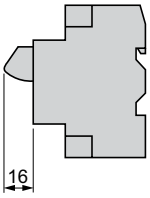
GV2 ME



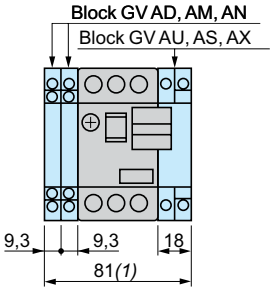
	b
GV2 ME●●	89
GV2 ME●●3	101

(1) Maximum
X1 Electrical clearance = 40 mm for Ue ≤ 690 V

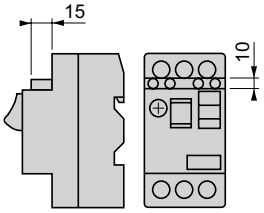
GV AX



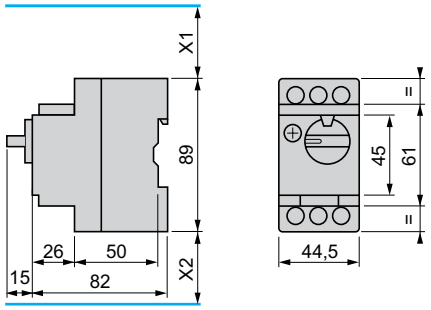
GV AD, AM, AN, AU, AS, AX



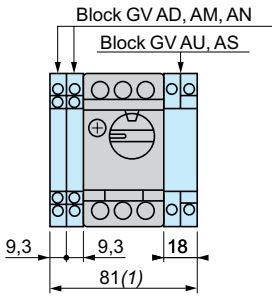
GV AE



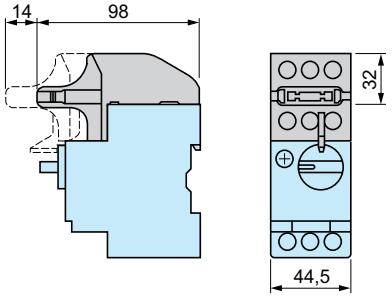
GV2 P



GV AD, AM, AN, AU, AS

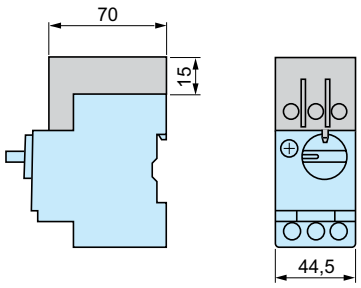


GV2 AK00



(1) Maximum
X1 Electrical clearance = 40 mm for Ue ≤ 415 V, or 80 mm for Ue = 440 V, or 120 mm for Ue = 500 and 690 V
X2 = 40 mm

GV2 GH7

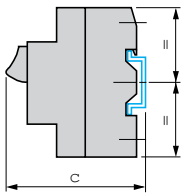


TeSys protection components
Thermal-magnetic motor circuit-breakers GV2 ME and GV2 P

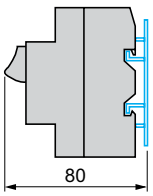
Mounting

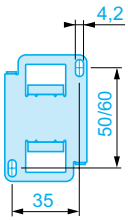
GV2 ME

On 35 mm ⊔ rail

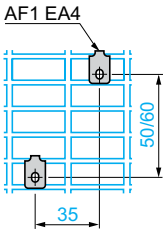


On panel with adapter plate GV2 AF02

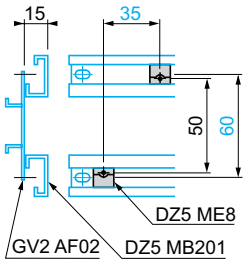




On pre-slotted plate AM1 PA



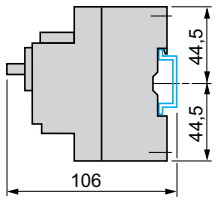
On rails DZ5 MB201



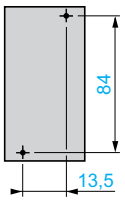
c = 78.5 on AM1 DP200 (35 x 7.5)
c = 86 on AM1 DE200, ED200 (35 x 15)

GV2 P

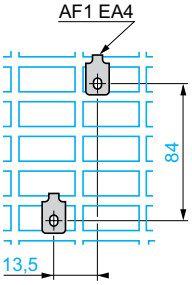
On rail AM1 DE200, ED200 (35 x 15)



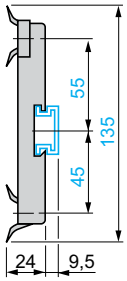
Panel mounted

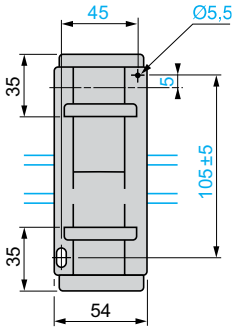


On pre-slotted plate AM1 PA



Adapter plate GK2 AF01

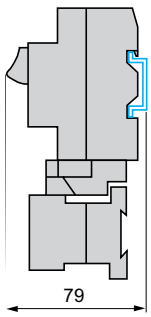


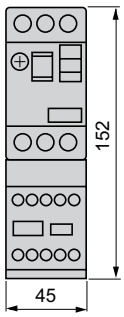


Dimensions

GV2 AF01

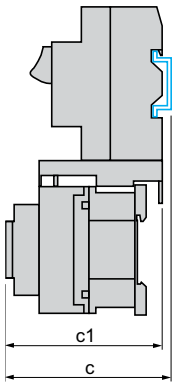
Combination GV2 ME + TeSys K contactor

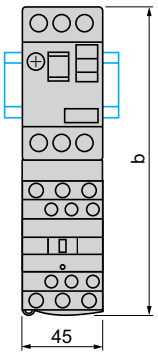




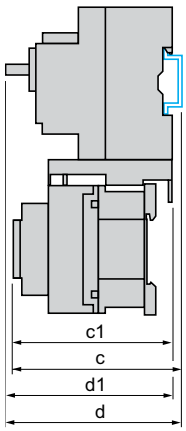
GV2 AF3

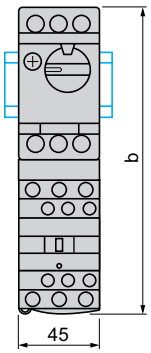
Combination GV2 ME + TeSys D contactor





Combination GV2 P + TeSys D contactor





GV2 ME +	LC1 D09 …D18	LC1 D25 and D32
b	176.4	186.8
c1	94.1	100.4
c	99.6	105.9

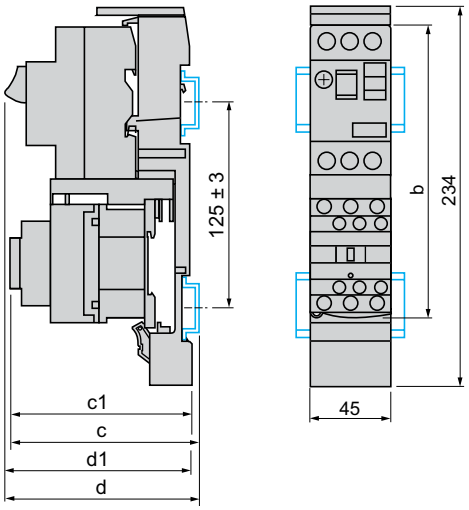
GV2 P +	LC1 D09 …D18	LC1 D25 and D32
b	176.4	186.8
c1	100.1	106.4
c	105.6	111.9
d1	95	95
d	100.5	100.5

3

Dimensions *(continued)*

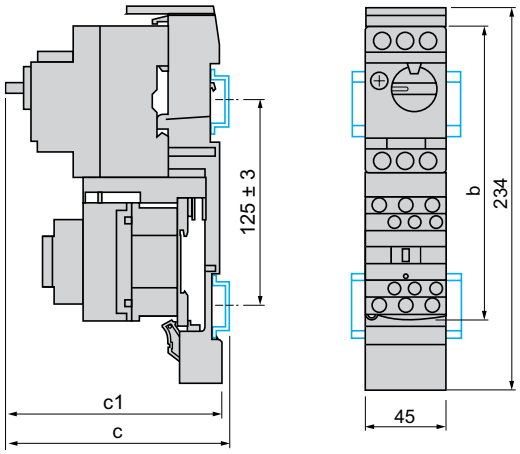
GV2 AF4 + LAD 311

Combination GV2 ME + TeSys D contactor



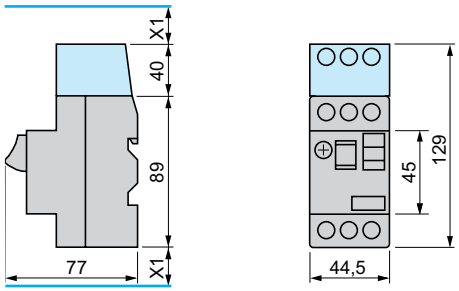
GV2 ME +	LC1 D09…D18	LC1 D25 and D32
b	176.4	186.8
c1	103.1	136.4
c	135.6	141.9
d1	107	107
d	112.5	112.5

Combination GV2 P + TeSys D contactor



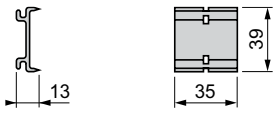
GV2 P +	LC1 D09…D18	LC1 D25 and D32
b	176.4	186.8
c1	136.5	142.4
c	141.6	147.9

GV2 ME + GV1 L3 (current limiter)



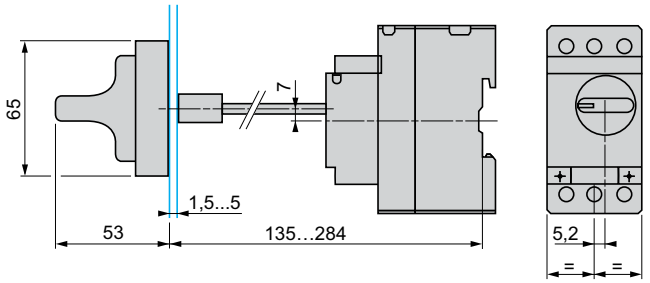
X1 = 10 mm for Ue = 230 V
or 30 mm for 230 V < Ue ≤ 690 V

7.5 mm height compensation plate GV1 F03

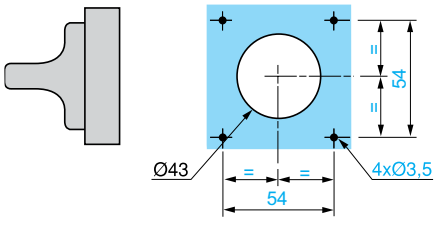


Mounting

Mounting of external operator GV2 AP01 or GV2 AP02 for motor circuit-breakers GV2 P

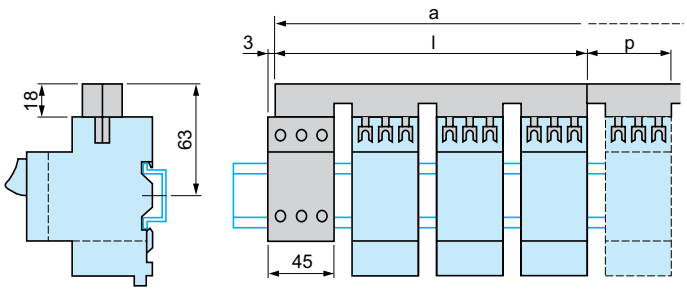


Door cut-out



GV2 ME, GV2 P

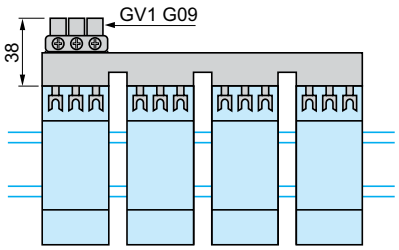
Sets of busbars GV2 G445, GV2 G454, GV2 G472, with terminal block GV2 G05



	l	p
GV2 G445 (4 x 45 mm)	179	45
GV2 G454 (4 x 54 mm)	206	54
GV2 G472 (4 x 72 mm)	260	72

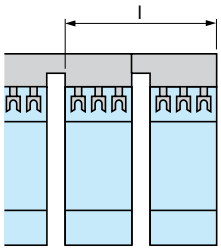
	a			
Number of tap-offs	**5**	**6**	**7**	**8**
GV2 G445	224	269	314	359
GV2 G454	260	314	368	422
GV2 G472	332	404	476	548

Sets of busbars GV2 G●●● with terminal block GV1 G09

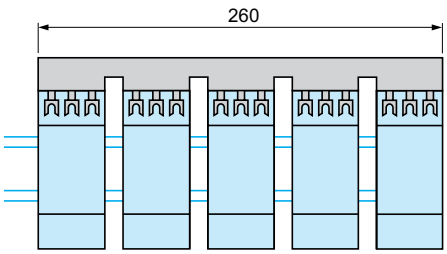


	l
GV2 G245 (2 x 45 mm)	89
GV2 G254 (2 x 54 mm)	98
GV2 G272 (2 x 72 mm)	116

Sets of busbars GV2 G245, GV2 G254, GV2 G272

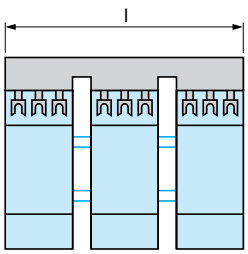


Sets of busbars GV2 G554



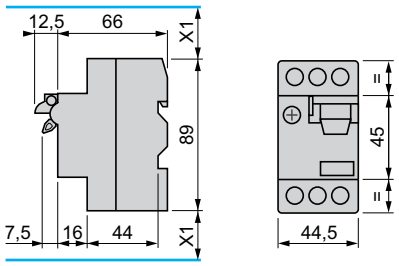
	l
GV2 G345 (3 x 45 mm)	134
GV2 G354 (3 x 54 mm)	152

Sets of busbars GV2 G345 and GV2 G354



GV2 RT

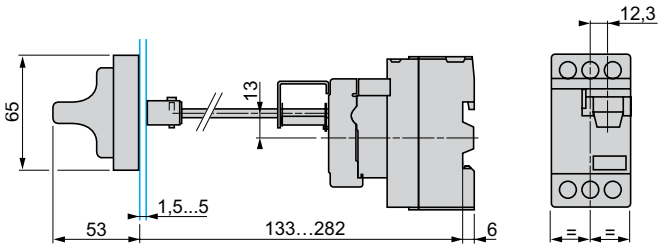
Dimensions



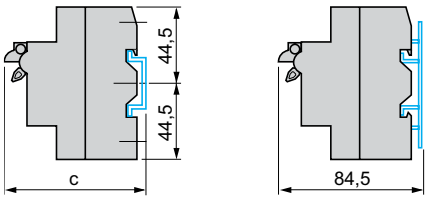
X1: Electrical clearance = 40 mm for Ue < 690 V

Mounting

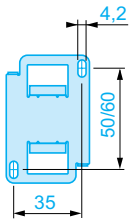
Mounting of external operator GV2 AP03



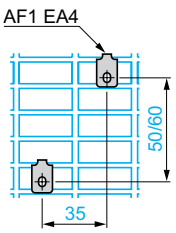
On 35 mm ⎓ rail



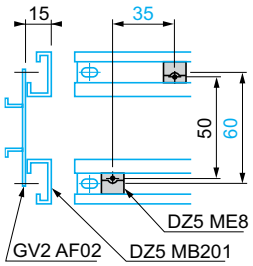
On panel with adapter plate GV2 AF02



On pre-slotted plate AM1 PA



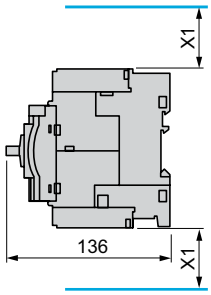
On rails DZ5 MB

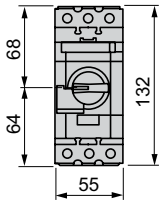


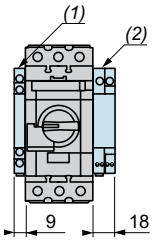
c = 80 on AM1 DP200 (35 x 7.5)
c = 88 on AM1 DE200, ED200 (35 x 15)

GV3 P

Dimensions







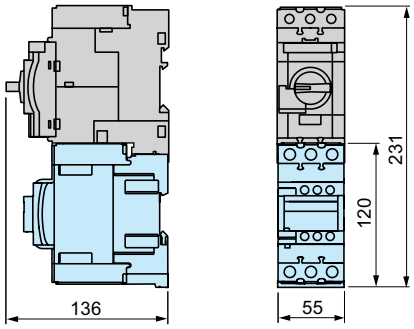
X1 = Electrical clearance (ISC max)
40 mm for Ue ≤ 500 V, 50 mm for Ue ≤ 690 V

(1) Blocks GV AN●● , GV AD●● and GV AM11
(2) Blocks GV3 AU●● and GV3 AS●●

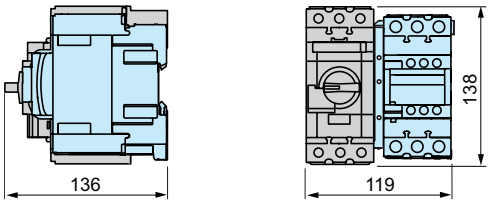
***Note:** Leave a gap of 9 mm between 2 circuit-breakers: either an empty space or side-mounting add-on contact blocks.*
Horizontal mounting is possible up to 40 °C

Mounting

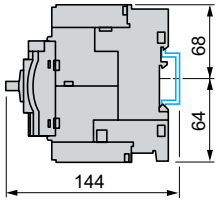
Mounting with TeSys contactor LC1 D40A…D65A



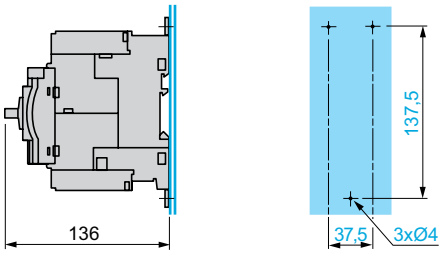
Side by side mounting with TeSys contactor LC1 D40A…D65A (S-shape busbar system GV3 S)



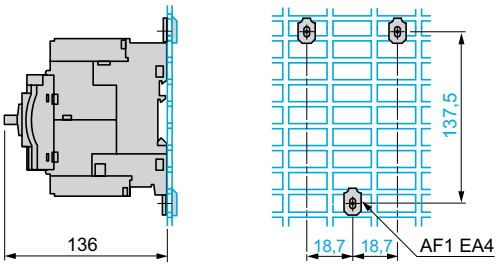
Mounting on rail AM1 DE200 or AM1 ED201



Panel mounting, using M4 screws



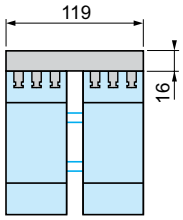
Mounting on pre-slotted plate AM1 PA



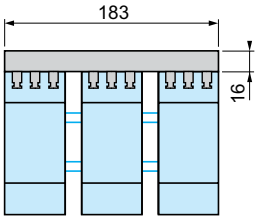
GV3 P *(continued)*

Busbar systems

Set of busbars GV3 G264



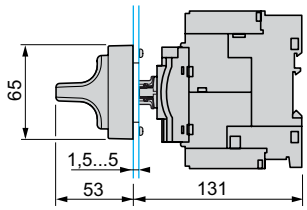
Set of busbars GV3 G364



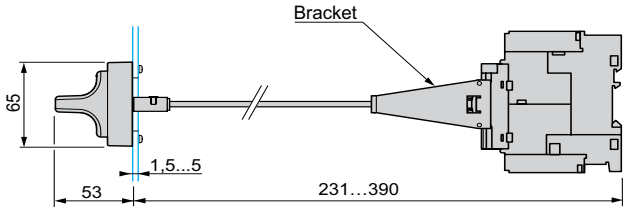
Note: *Leave a space of 9 mm between 2 circuit-breakers: either an empty space or side-mounting add-on contact blocks.*
Horizontal mounting is possible up to 40 °C.

Mounting of external operator GV3 AP01 or GV3 AP02

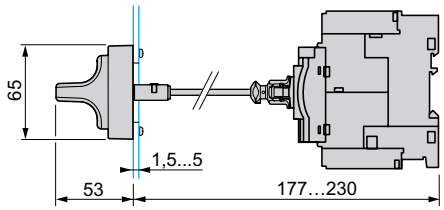
Depth 131 mm



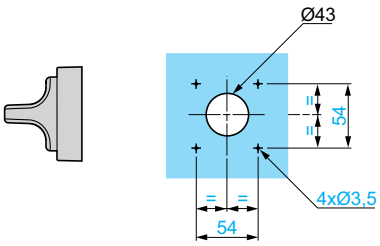
Depth 231 to 390 mm



Depth 177 to 230 mm

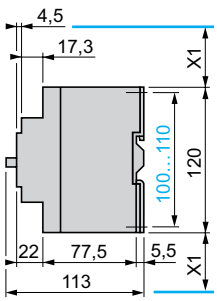


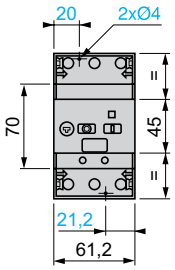
Door cut-out

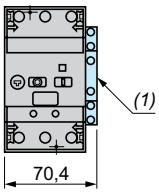


GV3 ME80

Dimensions





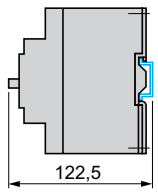


X1 = Electrical clearance (ISC max)
40 mm for Ue ⩽ 500 V, 50 mm for Ue ⩽ 690 V

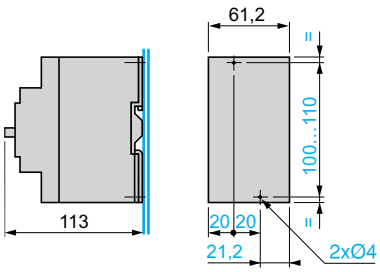
(1) Blocks GV3 A01...A07.

Mounting

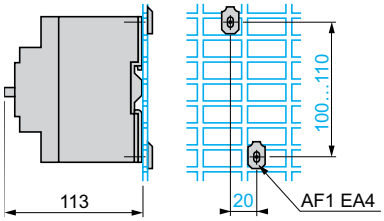
Mounting on rail AM1 DE200 or AM1 ED201



Panel mounting, using M4 screws

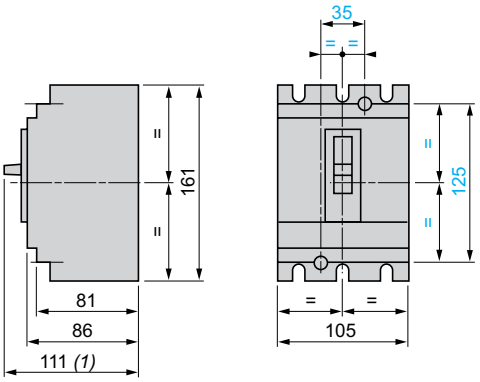


Mounting on pre-slotted plate AM1 PA



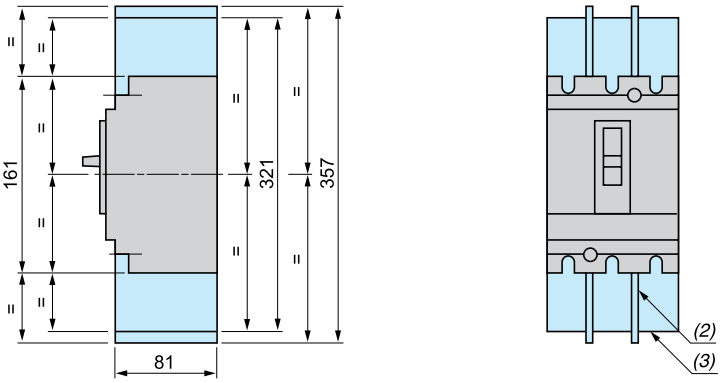
GV7 R

Dimensions



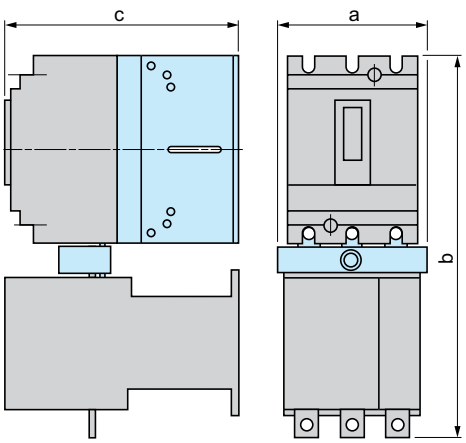
*(1) 126 for **GV7 R●220.***

Motor circuit-breakers with terminal shields or phase barriers GV7 R + GV7 AC01 or AC04



*(2) Phase barriers: **GV7 AC04***
*(3) Terminal shields: **GV7 AC01***

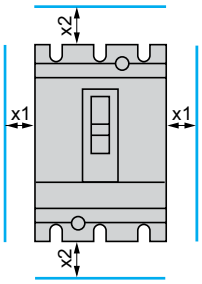
Combination of GV7 R and TeSys contactor LC1 F with kit GV7 AC0●



	a	b	c
GV7 R + LC1 F115 or F150 + GV7 AC06	119	334	181
GV7 R + LC1 F185 + GV7 AC06	119	338	188
GV7 R + LC1 F225 + GV7 AC07	131	358	188
GV7 R + LC1 F265 + GV7 AC07	131	364	215

Minimum distance between 2 circuit-breakers mounted side by side = 0

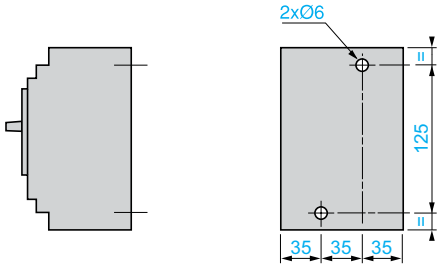
Minimum electrical clearance



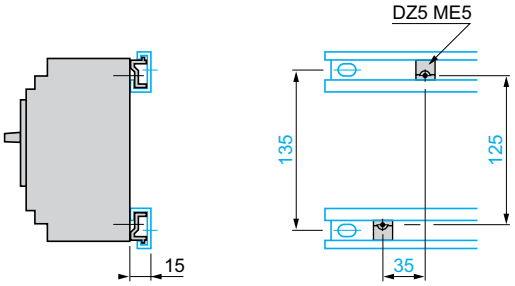
		x1	x2
Painted or insulated metal plate, insulation or insulated bar		0	30
Bare metal plate	U ⩽ 440 V	5	35
	440 V < U < 600 V	10	35
	U ⩾ 600 V	20	35

GV7 R

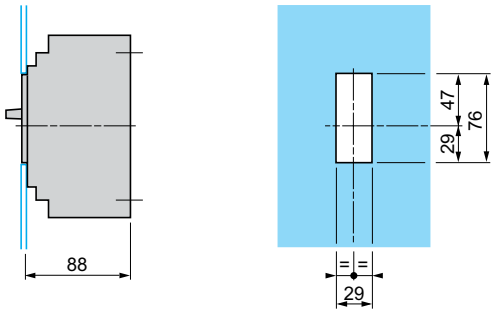
Panel mounting



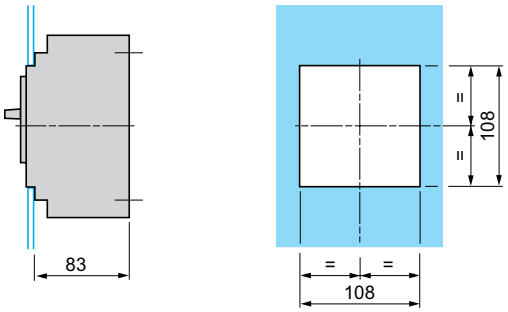
Mounting on 2 mounting rails DZ5 MB201



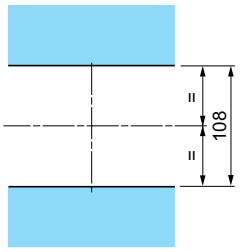
Flush-mounting



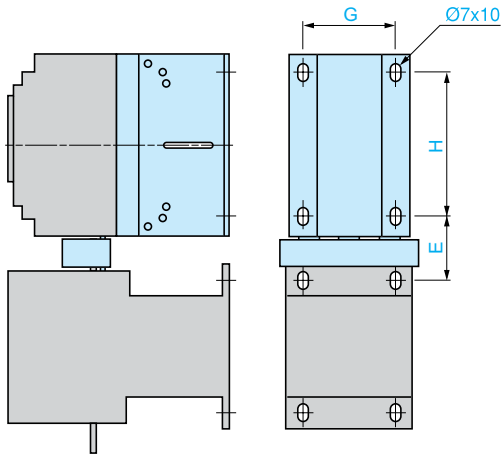
1 circuit-breaker GV7 R



n circuit-breakers GV7 R side by side



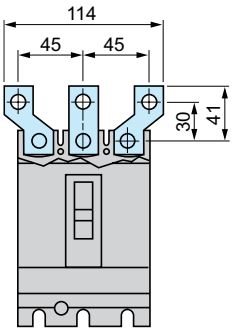
Combination of GV7 R and TeSys contactor LC1 F with kit GV7 AC0●



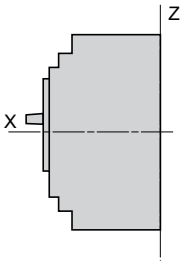
	E	G	H
GV7 R + LC1 F115 + GV7 AC06	44	85	120
GV7 R + LC1 F150 + GV7 AC06	46	85	120
GV7 R + LC1 F185 + GV7 AC06	48	85	120
GV7 R + LC1 F225 + GV7 AC07	57	85	120
GV7 R + LC1 F265 + GV7 AC07	60	85	120

GV7 R

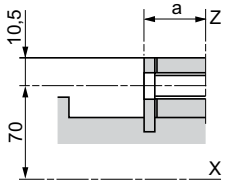
Spreaders GV7 AC03



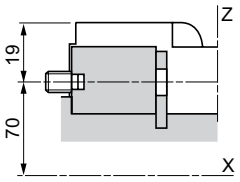
Connection



Smooth terminals

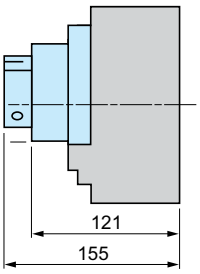


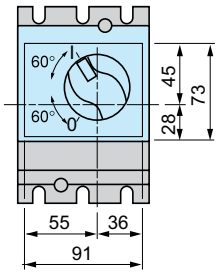
Connectors



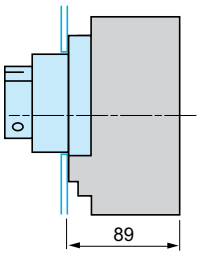
	a
GV7 R●40…R●150	19.5
GV7 R●220	21.5

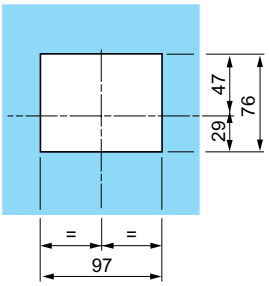
Direct rotary handle GV7 AP03, GV7 AP04



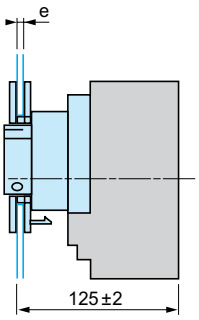


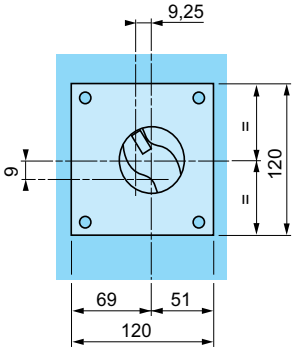
Flush-mounting



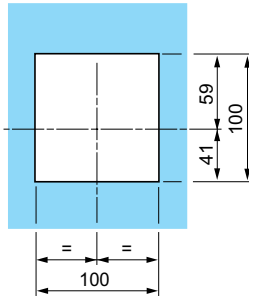


Direct rotary handle GV7 AP03 or GV7 AP04 with conversion accessory GV7 AP05

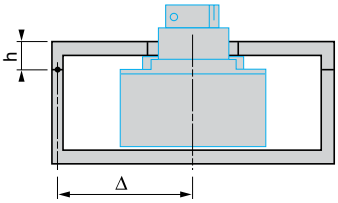




Front face cut-out



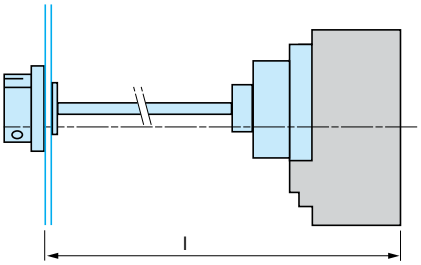
Enclosure viewed from top

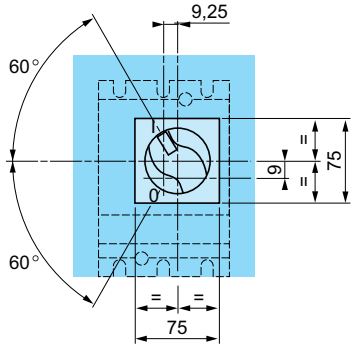


Door cut-outs require a minimum distance between the centre of the circuit-breaker and the door hinge point Δ ≥ 100 + (h x 5)

e = 1 to 3 max

Extended rotary handle GV7 AP01, GV7 AP02



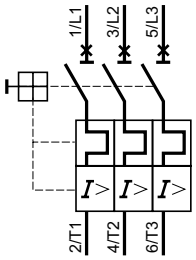


l : 185 min, 600 max
*The shaft of the extended rotary handle **GV7 AP01** or **GV7 AP02** must be cut to length: l – 126 mm.*

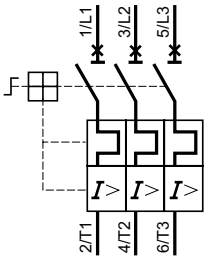
TeSys protection components
Thermal-magnetic motor circuit-breakers
GV2 ME, GV2 P, GV3 P and GV2 RT

Schemes

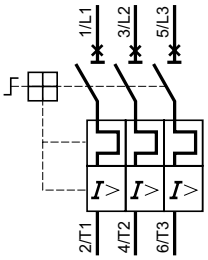
GV2 ME●● and GV2 RT



GV2 P●●

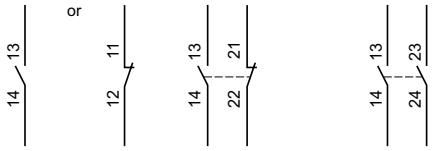


GV3 P●●



Front mounting add-on contact blocks
Instantaneous auxiliary contacts

GV AE1 | **GV AE11** | **GV AE20**



Front mounting add-on contact blocks
Instantaneous auxiliary contacts and fault signalling contacts

GV AED101 | **GV AED011**

Side mounting add-on contact blocks
Instantaneous auxiliary contacts and fault signalling contacts

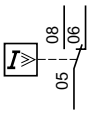
GV AD0110 | **GV AD0101** | **GV AD1010** | **GV AD1001**

Instantaneous auxiliary contacts

GV AN11 | **GV AN20**

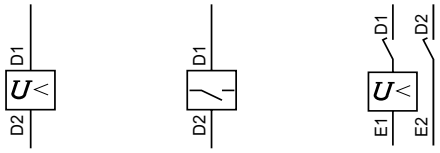
Short-circuit signalling contacts

GV AM11



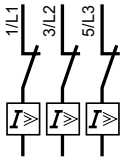
Voltage trips

GV AU●●● | **GV AS●●●** | **GV AX●●●**

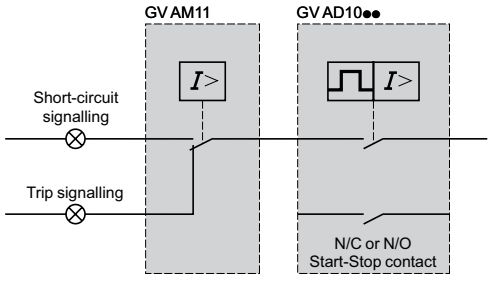


Current limiter

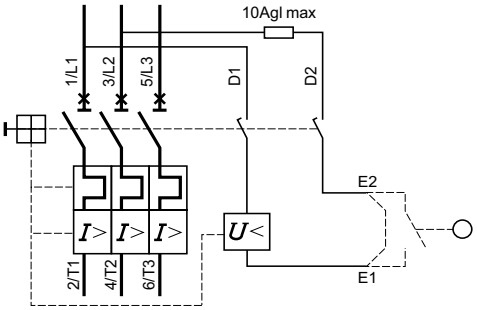
GV1 L3



Use of fault signalling contact and short-circuit signalling contact



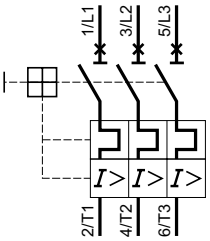
Connection of undervoltage trip for dangerous machines (conforming to INRS) on GV2 ME only



TeSys protection components
Thermal-magnetic motor circuit-breakers GV3 ME80 and GV7 R

Schemes

Motor circuit-breakers
GV3 ME80

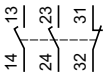


Auxiliary contact block modules

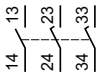
GV3 A01

GV3 A02

GV3 A03

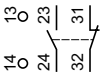


GV3 A05



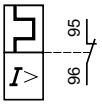
GV3 A06

GV3 A07

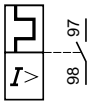


Fault signalling contacts

GV3 A08



GV3 A09

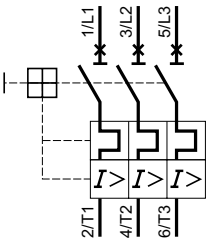


Voltage trips

GV3 B

GV3 D

Motor circuit-breakers
GV7 R



Add-on auxiliary contacts according to their location *(1)*
GV7 AE11, GV7 AB11

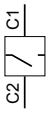
Location 1 C/O contact	Location 2 Trip indication	Location 3 Electrical fault indication	Location 4 C/O contact
			

A self-adhesive label, supplied with the contact, can be affixed to the front face of the circuit-breaker to allow personalised marking according to the function of the contact or contacts.

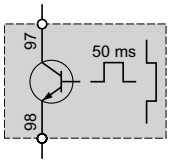
(1) See pages 3/20 and 3/61.

Electric trips
GV7 AU●●●

GV7 AS●●●

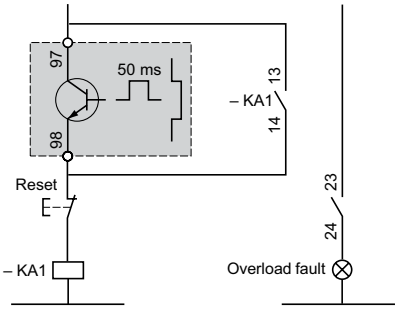


GV7 AD111, AD112



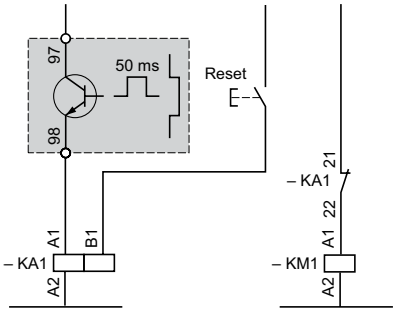
Recommended application schemes GV7 AD111, AD112

Fault indication



Associated components
KA1: CA2 KN or CAD N

Contactor opening on overload



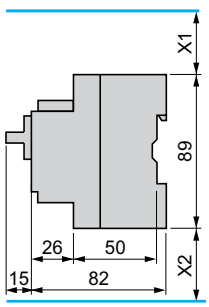
Associated components
KA1: CAD + LAD 6K10 or RHK
KM1: LC1 D or LC1 F

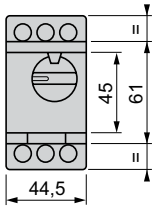
3

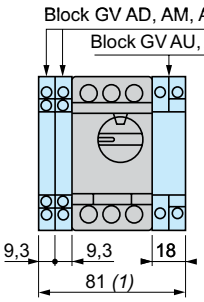
GV2 L

Dimensions

GV AD, AM, AN, AU, AS



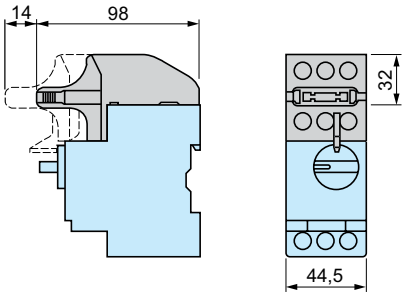




X1 Electrical clearance = 40 mm for Ue ≤ 415 V, or 80 mm for Ue = 440 V, or 120 mm for Ue = 500 and 690 V.
X2 = 40 mm.

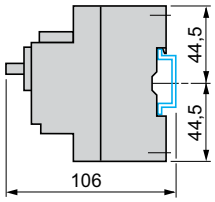
(1) Maximum

GV2 AK00

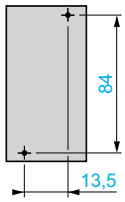


Mounting

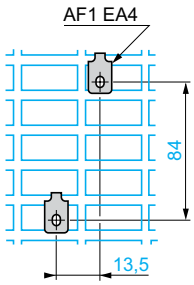
On rail AM1 DE200, AM1 ED200 (35 x 15)



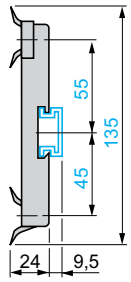
Panel mounted

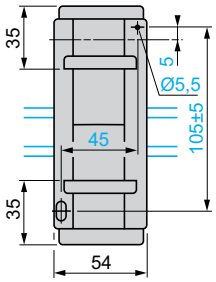


On pre-slotted mounting plate AM1 PA



Adapter plate GK2 AF01



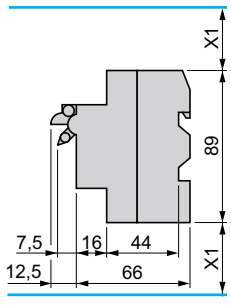


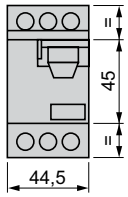
7.5 mm height compensation plate GV1 F03

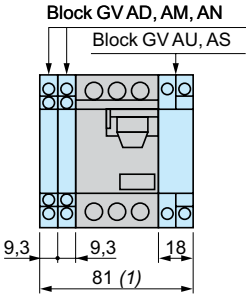
GV2 LE

Dimensions

GV AD, AM, AN, AU, AS



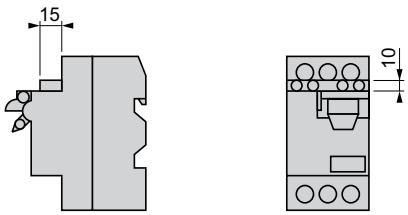




X1 Electrical clearance = 40 mm for Ue ≤ 690 V.

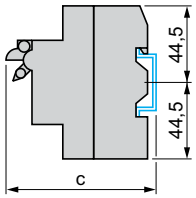
(1) Maximum

GV AE



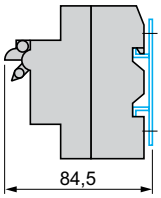
Mounting

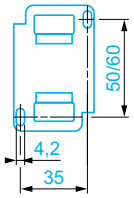
On 35 mm ⎓ rail



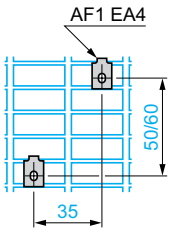
c = 80 on AM1 DP200 (35 x 7.5) and 88 on AM1 DE200, ED200 (35 x15)

On panel with adapter plate GV2 AF02

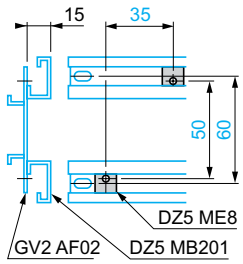




On pre-slotted plate AM1 PA

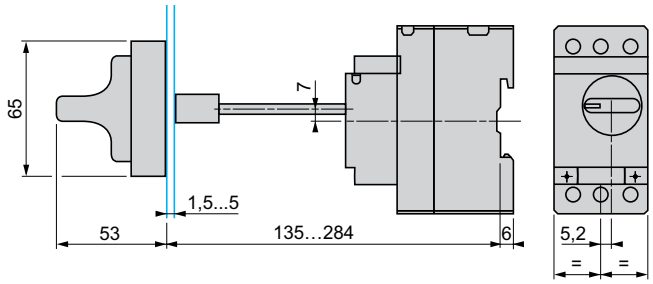


On rails DZ5 MB201

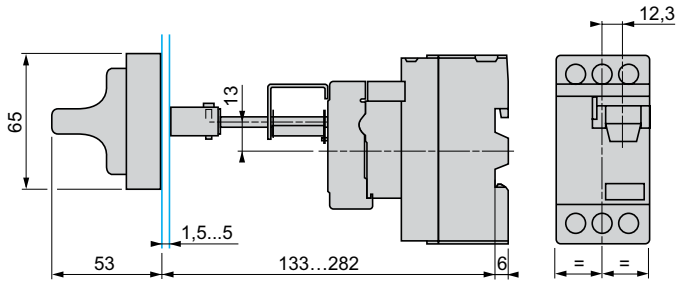


GV2 L and GV2 LE

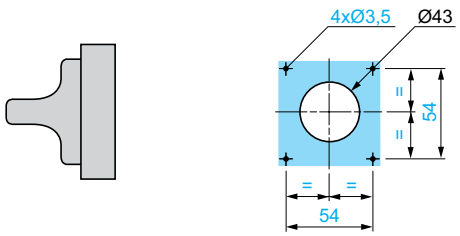
Mounting of external operator GV2 AP01 or GV2 AP02 for GV2 L



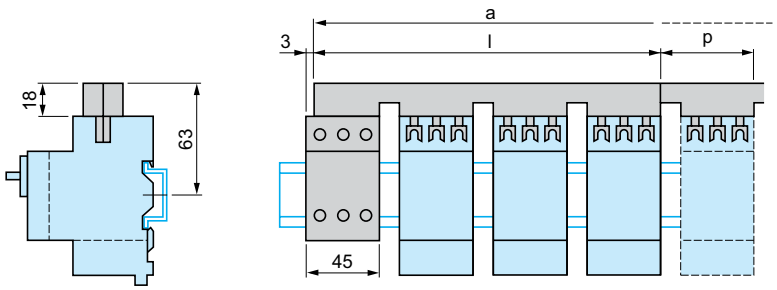
Mounting of external operator GV2 AP03 for GV2 LE



Door cut-out



Sets of busbars GV2 G445, GV2 G454, GV2 G472, with terminal block GV2 G05

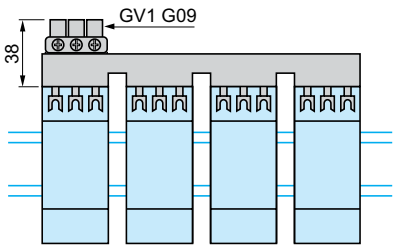


	l	p
GV2 G445 (4 x 45 mm)	179	45
GV2 G454 (4 x 54 mm)	206	54
GV2 G472 (4 x 72 mm)	260	72

	a			
Number of tap-offs	**5**	**6**	**7**	**8**
GV2 G445	224	269	314	359
GV2 G454	260	314	368	422
GV2 G472	332	404	476	548

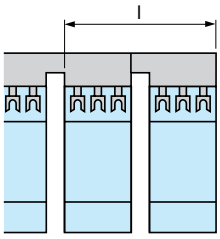
Sets of busbars for GV2 L and GV2 LE

Sets of busbars GV2 G●●● with term. block GV1 G09

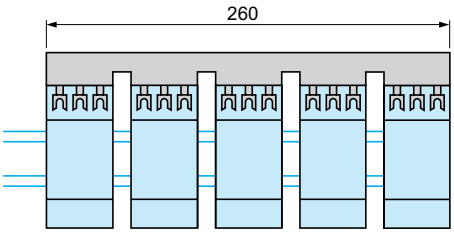


	l
GV2 G245 (2 x 45 mm)	89
GV2 G254 (2 x 54 mm)	98
GV2 G272 (2 x 72 mm)	116

Sets of busbars GV2 G245, GV2 G254, GV2 GR272

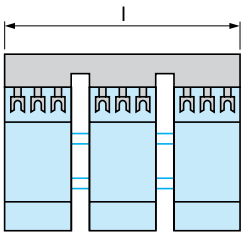


Set of busbars GV2 G554



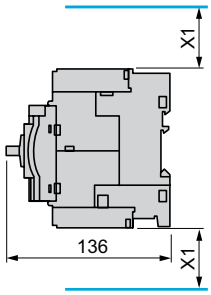
	l
GV2 G345 (3 x 45 mm)	134
GV2 G354 (3 x 54 mm)	152

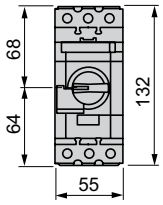
Sets of busbars GV2 G345 and GV2 G354

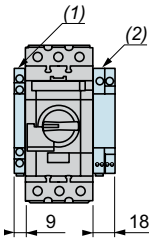


GV3 L

Dimensions







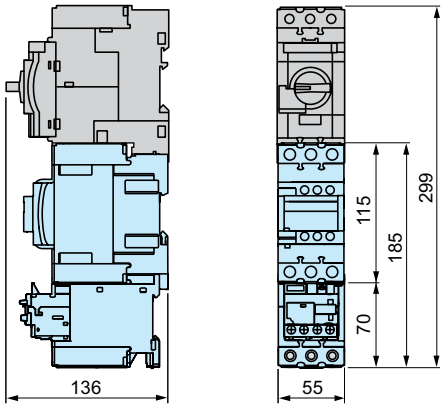
X1 = Electrical clearance (ISC max)
40 mm for Ue ≤ 500 V, 50 mm for Ue ≤ 690 V

(1) Blocks GV AN●● , GV AD●● and GV AM11
(2) Blocks GV3 AU●● and GV3 AS●●

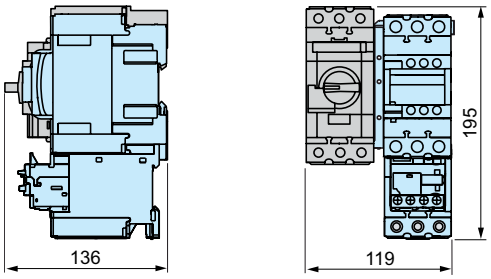
***Note:** Leave a space of 9 mm between 2 circuit-breakers: either an empty space or side-mounting add-on contact blocks.*
Side by side mounting is possible up to 40 °C.

Mounting

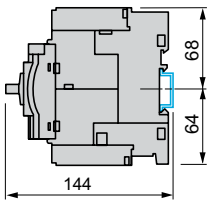
Mounting with Tesys contactor LC1 D40A…D65A and relay LR3 D313…365



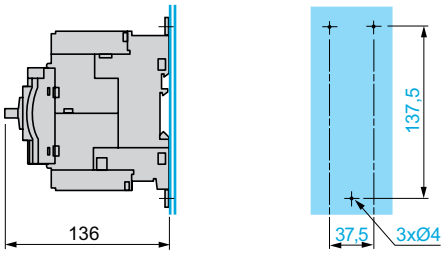
Side by side mounting with Tesys contactor LC1 D40A…D65A (S-shape busbar system GV3 S)



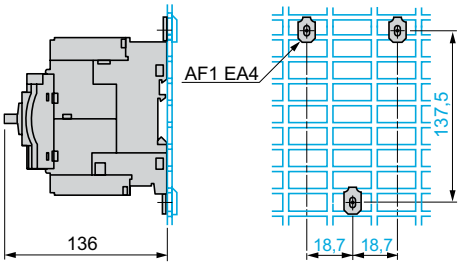
Mounting on rail AM1 DE200 or AM1 ED201



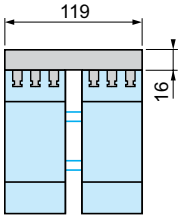
Panel mounting, using M4 screws



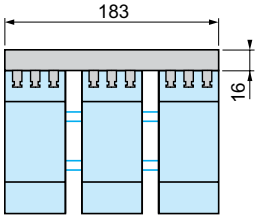
Mounting on pre-slotted plate AM1 PA



Set of busbars GV3 G264



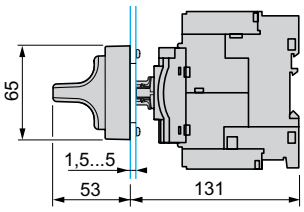
Set of busbars GV3 G364



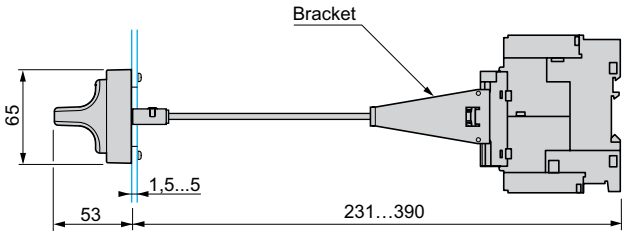
GV3 L *(continued)*

Mounting of external operator GV3 AP01 or GV3 AP02

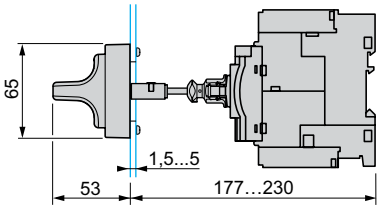
Depth 131 mm



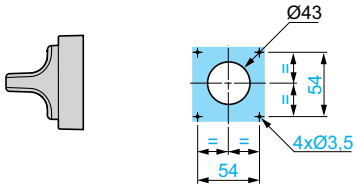
Depth 231 to 390 mm



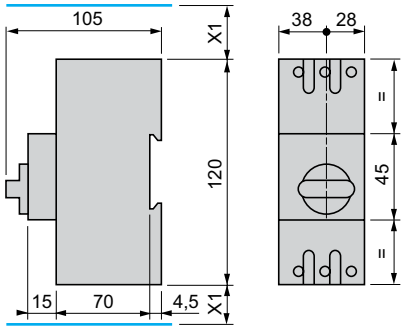
Depth 177 to 230 mm



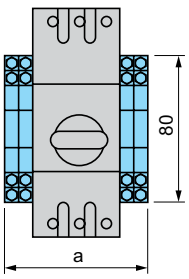
Door cut-out



GK3 EF80



GK3 EF80 + 4 GK2 AX

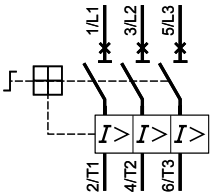


Number of GK2 AX					
	0	1	2	3	4
a	66	74.8	83.5	92.5	101

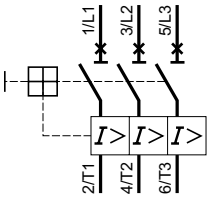
TeSys protection components
Magnetic motor circuit-breakers
GV2 L, GV2 LE, GV3 L and GK3 EF80

Magnetic motor circuit-breakers

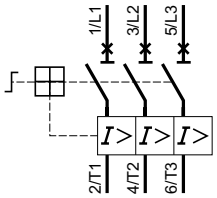
GV2 L●●



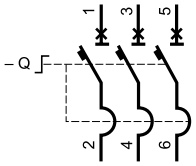
GV2 LE●●



GV3 L●●



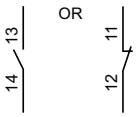
GK3 EF80



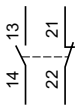
Accessories

Front mounting add-on contact blocks
Instantaneous auxiliary contacts

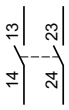
GV AE1



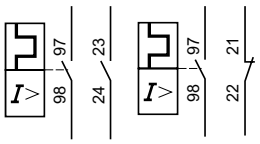
GV AE11



GV AE20

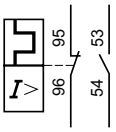


GV AED101 and GV AED011

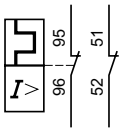


Side mounting add-on contact blocks
Instantaneous auxiliary contacts and fault signalling contacts

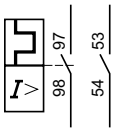
GV AD0110



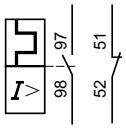
GV AD0101



GV AD1010

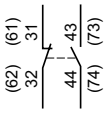


GV AD1001

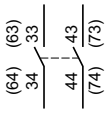


Instantaneous auxiliary contacts

GV AN11

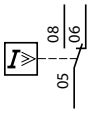


GV AN20



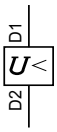
Short-circuit signalling contacts

GV AM11

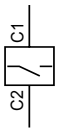


Voltage trips

GV AU●●●



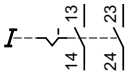
GV AS●●●



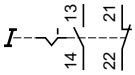
Start-Stop signalling contact blocks

GK2 AX10

GK2 AX20



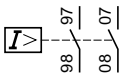
GK2 AX50



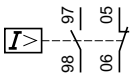
Fault signalling contact blocks

GK2 AX12

GK2 AX22



GK2 AX52



TeSys protection components

Thermal-magnetic circuit-breakers TeSys GB2 for the protection of control circuits, solenoid valves and transformers

Applications	**Protection of industrial equipment control circuits and of single-phase loads**		
			
Tripping threshold on short-circuit	5…7 In	12…16 In	
Operational current	0.5 and 1 A	0.5…20 A	
Maximum operational voltage	415 V		250 V
Number of poles	1		1 + neutral
Breaking capacity (Icu) conforming to IEC 60947-2	50 kA at 415 V	1.5…50 kA at 415 V	1.5…50 kA at 250 V
Device type	**GB2 C**	**GB2 CB**	**GB2 CD**
Pages	3/91	3/90	3/90

	Protection of transformers		
	Single-phase ≤ 5000 VA/415 V		3-phase ≤ 10 kVA/415 V
	Primary	Secondary	
			
			About 20 In
			0.25…23 A
415 V			690 V
2		1 + neutral	3
1.5…50 kA at 415 V		1.5…50 kA at 250 V	15…100 kA at 415 V
GB2 DB	**GB2 DB**	**GB2 CD**	**GV2 RT**
3/90	3/90	3/90	3/50

TeSys protection components

Thermal-magnetic circuit-breakers TeSys GB2 for the protection of industrial equipment control circuits

Presentation

GB2 thermal-magnetic circuit-breakers protect and isolate the control circuits of industrial equipment with contactor coils, transformers….
They protect and isolate single-phase auxiliary circuits such as solenoid valves, electro-brakes, battery chargers, supplied from the control circuit voltage.

GB2 CB, GB2 CD, GB2 DB

12 ratings are available, from 0.5 to 20 A, in single-pole (GB2 CB), single-pole + neutral (GB2 CD) and 2-pole (GB2 DB) versions.
They have a magnetic tripping threshold set at between 12 and 16 In to withstand the current peaks generated by many industrial components.

GB2 CS

2 ratings are available, 0.5 and 1 A, in single-pole version.
The magnetic tripping threshold is set between 5 and 7 In.

Functions, installation

Clip-on fixing onto all types of 35 mm ⊥ rails, on ⊏ rails and on Telequick mounting plates.
Upstream and downstream marking by means of AB1 clip-in markers.
Clear indication of “I” and “O” positions on the operator.
Tamper-proof device which requires no special maintenance (fixed magnetic and thermal tripping thresholds).

Selection for the protection of circuits supplied by transformers

Single-phase transformers.
Magnetising peak: 20 In.
Operation of magnetic trips: 13 In.

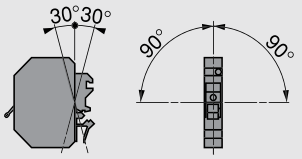
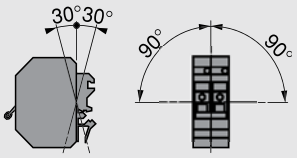
Power	Primary *(1)*		Secondary			
VA	220/240 V	380/415 V	24 V	48 V	110 V	220 V
40	GB2 DB05	GB2 DB05	GB2 CD07	GB2 CD06	GB2 CD05	GB2 CD05
63	GB2 DB05	GB2 DB05	GB2 CD08	GB2 CD07	GB2 CD06	GB2 CD05
100	GB2 DB06	GB2 DB05	GB2 CD10	GB2 CD07	GB2 CD06	GB2 CD05
160	GB2 DB07	GB2 DB06	GB2 CD14	GB2 CD09	GB2 CD07	GB2 CD06
250	GB2 DB07	GB2 DB06	GB2 CD16	GB2 CD12	GB2 CD08	GB2 CD07
400	GB2 DB08	GB2 DB07	GB2 CD22	GB2 CD14	GB2 CD09	GB2 CD07
630	GB2 DB10	GB2 DB08	–	GB2 CD21	GB2 CD12	GB2 CD08
1000	GB2 DB14	GB2 DB09	–	–	GB2 CD16	GB2 CD10
1600	GB2 DB20	GB2 DB14	–	–	–	GB2 CD14
2000	GB2 DB21	GB2 DB14	–	–	GB2 CD22	GB2 CD16
2500	GB2 DB22	GB2 DB20	–	–	–	GB2 CD20
3000	GB2 DB22	GB2 DB20	–	–	–	GB2 CD21
4000	–	GB2 DB21	–	–	–	GB2 CD22
5000	–	GB2 DB22	–	–	–	–

*(1) If the breaking capacity of the **GB2** is insufficient, use a **GV2 RT** with 2 poles connected in series, see page 3/50.*

Characteristics : pages 3/87 to 3/89
References : pages 3/90 and 3/91
Dimensions : page 3/91
Schemes : page 3/91

TeSys protection components

Thermal-magnetic circuit-breakers TeSys GB2 for the protection of industrial equipment control circuits

Circuit-breaker type			GB2 CB	GB2 CD	GB2 DB	GB2 CS
Environment						
Conforming to standards			IEC 60947-1, 947-2, EN 60947-1, 60947-2			
Product certifications			CSA, NEMKO, UL	NEMKO, UL	–	–
Protective treatment			"TC"			
Degree of protection	Conforming to IEC 60529		IP 20			
Shock resistance	Conforming to IEC 60068-2-27		22 gn for 20 ms			
Vibration resistance	Conforming to IEC 60068-2-6		5 gn (5…110 Hz)			
Ambient air temperature around the device	Storage	**°C**	- 40…+ 80			
	Operation	**°C**	- 20…+ 60			
Flame resistance	Conforming to IEC 60695-2-1	**°C**	960			
Maximum operating altitude		**m**	3000			
Operating position	In relation to normal vertical mounting plane		 **GB2 CB,CD, CS**		 **GB2 DB**	
Cabling			**Minimum c.s.a.**		**Maximum c.s.a.**	
	Solid cable	**mm²**	1 x 0.75		1 x 6 or 2 x 4	
	Flexible cable with cable end	**mm²**	1 x 0.75		1 x 4 or 2 x 2.5	
Tightening torque		**N.m**	1.2			

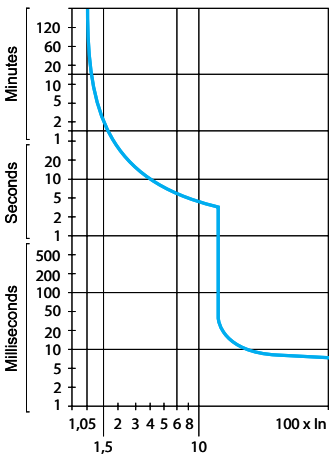
Technical characteristics											
Utilisation category	Conforming to IEC 60947-2		A		A		A			A	
Rated operational voltage (Ue)	Conforming to IEC 60947-2	**V**	415 *(1)*		250		415			415 *(1)*	
	Conforming to CSA C22-2 Nr 14 and UL 1077	**V**	277		–		277			–	
Rated operational frequency	Conforming to IEC 60947-2	**Hz**	50/60		50/60		50/60			50/60	
Rated impulse withstand voltage (U imp)	Conforming to IEC 60947-2	**kV**	4		4		4			4	
Total power dissipated per pole		**W**	2		2		2			1.9	
Mechanical and electrical durability	C.O.: Closing - Opening	**C.O.**	8000		8000		8000			8000	
Operational current correction coefficient (∿ or ⎓)	According to the permissible ambient temperature	**°C**	**- 20**	**- 10**	**0**	**+ 10**	**+ 20**	**+ 30**	**+ 40**	**+ 50**	**+ 60**
	Correction coefficient		1.2	1.15	1.1	1.05	1	0.95	0.90	0.85	0.80
Tripping threshold	Of the magnetic trips		12…16 In		12…16 In		12…16 In			5…7 In	

*(1) One **GB2** circuit-breaker on each live conductor.*

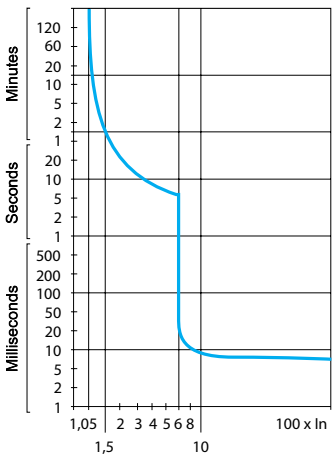
Tripping curves

Average operating time at 20 °C without prior current flow (cold state)

GB2 CB, GB2 CD, GB2 DB



GB2 CS



Presentation, selection : page 3/86
References : pages 3/90 and 3/91
Dimensions : page 3/91
Schemes : page 3/91

TeSys protection components

Thermal-magnetic circuit-breakers TeSys GB2 for the protection of industrial equipment control circuits

Circuit-breaker type				GB2											
				CB05	CB06	CB07	CB08	CB09	CB10	CB12	CB14	CB16	CB20	CB21	CB22
Rating			**A**	0.5	1	2	3	4	5	6	8	10	12	16	20
Breaking capacity conforming to IEC 60947-2 ∿ 50/60 Hz	110 V	Icu	**kA**	50	50	15	10	6	3	3	3	2	2	2	2
		Ics % *(1)*		100	50	50	50	50	75	75	75	75	75	75	75
	230/240 V	Icu	**kA**	50	50	15	3	3	2	1.5	1.5	1.5	1.5	1.5	1.5
		Ics % *(1)*		25	25	25	50	50	75	75	75	75	75	75	75
	400/415 V	Icu	**kA**	50	50	15	3	3	2	1.5	1.5	1.5	1.5	1.5	1.5
		Ics % *(1)*		25	25	25	50	50	75	75	75	75	75	75	75
Associated fuses, if required if Isc > breaking capacity Icu conforming to IEC 60947-2	110 V	aM	**A**	★	★	20	25	25	40	40	50	50	63	63	63
		gG	**A**	★	★	25	32	32	50	50	63	63	80	80	80
	230/240 V	aM	**A**	★	★	16	20	20	32	32	40	40	50	50	50
		gG	**A**	★	★	25	32	32	40	40	50	50	63	63	63
	400/415 V	aM	**A**	★	★	16	20	20	32	32	40	40	50	50	50
		gG	**A**	★	★	25	32	32	40	40	50	50	63	63	63

Circuit-breaker type				GB2											
				CD05	CD06	CD07	CD08	CD09	CD10	CD12	CD14	CD16	CD20	CD21	CD22
Rating			**A**	0.5	1	2	3	4	5	6	8	10	12	16	20
Breaking capacity conforming to IEC 60947-2 ∿ 50/60 Hz	110 V	Icu	**kA**	50	50	15	10	6	3	3	3	2	2	2	2
		Ics % *(1)*		100	50	50	50	50	75	75	75	75	75	75	75
	230/ 240 V	Icu	**kA**	50	50	15	3	3	2	1.5	1.5	1.5	1.5	1.5	1.5
		Ics % *(1)*		25	25	25	50	50	75	75	75	75	75	75	75
Associated fuses, if required if Isc > breaking capacity Icu conforming to IEC 60947-2	110 V	aM	**A**	★	★	20	25	25	40	40	50	50	63	63	63
		gG	**A**	★	★	25	32	32	50	50	63	63	80	80	80
	230/240 V	aM	**A**	★	★	16	20	20	32	32	40	40	50	50	50
		gG	**A**	★	★	25	32	32	40	40	50	50	63	63	63

Circuit-breaker type				GB2											
				DB05	DB06	DB07	DB08	DB09	DB10	DB12	DB14	DB16	DB20	DB21	DB22
Rating			**A**	0.5	1	2	3	4	5	6	8	10	12	16	20
Breaking capacity conforming to IEC 60947-2 ∿ 50/60 Hz	110 V	Icu	**kA**	50	50	15	10	6	3	3	3	2	2	2	2
		Ics % *(1)*		100	50	50	50	50	75	75	75	75	75	75	75
	230/240 V	Icu	**kA**	50	50	15	3	3	2	1.5	1.5	1.5	1.5	1.5	1.5
		Ics % *(1)*		25	25	25	50	50	75	75	75	75	75	75	75
	400/415 V	Icu	**kA**	50	50	15	3	3	2	1.5	1.5	1.5	1.5	1.5	75
		Ics % *(1)*		25	25	25	50	50	75	75	75	75	75	1.5	75
Associated fuses, if required if Isc > breaking capacity Icu conforming to IEC 60947-2	110 V	aM	**A**	★	★	20	25	25	40	40	50	50	63	63	63
		gG	**A**	★	★	25	32	32	50	50	63	63	80	80	80
	230/240 V	aM	**A**	★	★	16	20	20	32	32	40	40	50	50	50
		gG	**A**	★	★	25	32	32	40	40	50	50	63	63	63
	400/415 V	aM	**A**	★	★	16	20	20	32	32	40	40	50	50	50
		gG	**A**	★	★	25	32	32	40	40	50	50	63	63	63

(1) As % of Icu.
★ Fuse not required. Breaking capacity Icu > Isc.

TeSys protection components

Thermal-magnetic circuit-breakers TeSys GB2 for the protection of industrial equipment control circuits

Circuit-breaker type					GB2											
					●●05	●●06	●●07	●●08	●●09	●●10	●●12	●●14	●●16	●●20	●●21	●●22
Breaking capacity (Icu) conforming to IEC 60947-2 ⎓			24 V	kA	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
			48 V	kA	1	1	1	1	1	1	1	1	–	–	–	–
Operational current conforming to IEC 60947-5-1 ⎓		DC-12	24 V	A	0.5	1	2	3	4	5	6	8	10	12	16	20
			48 V	A	0.5	1	2	3	4	5	6	8	10	12	16	20
		DC-13	24 V	A	0.5	1	2	3	4	5	6	8	10	12	16	20
			48 V	A	0.5	1	2	3	4	5	6	8	–	–	–	–

Circuit-breaker type					GB2	
					CS05	CS06
Rating				A	0.5	1
Breaking capacity conforming to IEC 60947-2 ∿ 50/60 Hz		110 V	Icu	kA	50	50
			Ics % *(1)*		100	100
		230/240 V	Icu	kA	50	50
			Ics % *(1)*		25	25
		400/415 V *(2)*	Icu	kA	50	50
			Ics % *(1)*		25	25
Breaking capacity (Icu) conforming to IEC 60947-2 ⎓			24 V	kA	1.5	1.5
			48 V	kA	1	1
Operational current conforming to IEC 60947-5-1 ⎓		DC-12	24 V	A	0.5	1
			48 V	A	0.5	1
		DC-13	24 V	A	0.5	1
			48 V	A	0.5	1

Maximum permissible line length for star-delta starting (length of cable containing 2 or more conductors)												
	With contactors LC● D09 …D18	Operational voltage		V	**48**	**110**	**230**	**48**	**110**	**230**
		C.s.a.	060 mm²	m	*(3)*	31	365	6	85	230
			0.75 mm²	m	*(3)*	39	460	8	110	290
			1 mm²	m	*(3)*	52	610	10	145	380
			1.5 mm²	m	*(3)*	78	910	15	220	570
			2.5 mm²	m	*(3)*	130	1520	26	360	950
			4 mm²	m	*(3)*	200	2400	41	580	1500
	With contactors LC● D25…D32	Operational voltage		V	**48**	**110**	**230**	**48**	**110**	**230**
		C.s.a.	0.60 mm²	m	*(3)*	*(3)*	230	*(3)*	56	230
			0.75 mm²	m	*(3)*	*(3)*	290	*(3)*	70	290
			1 mm²	m	*(3)*	*(3)*	390	*(3)*	95	380
			1.5 mm²	m	*(3)*	*(3)*	580	*(3)*	140	570
			2.5 mm²	m	*(3)*	*(3)*	970	*(3)*	230	950
			4 mm²	m	*(3)*	*(3)*	1500	*(3)*	375	1500
	With contactors LC● D40…D80	Operational voltage		V	**48**	**110**	**230**	**48**	**110**	**230**
		C.s.a.	0.60 mm²	m	*(3)*	*(3)*	46	*(3)*	13	100
			0.75 mm²	m	*(3)*	*(3)*	60	*(3)*	17	130
			1 mm²	m	*(3)*	*(3)*	80	*(3)*	22	170
			1.5 mm²	m	*(3)*	*(3)*	120	*(3)*	34	250
			2.5 mm²	m	*(3)*	*(3)*	190	*(3)*	56	420
			4 mm²	m	*(3)*	*(3)*	310	*(3)*	90	680

(1) As % of Icu.
*(2) One **GB2 CS** circuit-breaker on each live conductor.*
(3) Use relays.

3

TeSys protection components

Thermal-magnetic circuit-breakers TeSys GB2 for the protection of industrial equipment control circuits

534268

GB2 CB●●

Circuit-breakers with magnetic tripping threshold: 12 to 16 In

Single-pole

Conventional rated thermal current Ith *(1)*	Magnetic tripping current Id ± 20 %	Sold in lots of	Unit reference	Weight
A	A			kg
0.5	6.6	6	**GB2 CB05**	0.060
1	14	6	**GB2 CB06**	0.060
2	26	6	**GB2 CB07**	0.060
3	40	6	**GB2 CB08**	0.060
4	52	6	**GB2 CB09**	0.060
5	66	6	**GB2 CB10**	0.060
6	83	6	**GB2 CB12**	0.060
8	108	6	**GB2 CB14**	0.060
10	138	6	**GB2 CB16**	0.060
12	165	6	**GB2 CB20**	0.060
16	220	6	**GB2 CB21**	0.060
20	270	6	**GB2 CB22**	0.060

534269

GB2 CD●●

Single-pole + neutral

Conventional rated thermal current Ith *(1)*	Magnetic tripping current Id ± 20 %	Sold in lots of	Unit reference	Weight
A	A			kg
0.5	6.6	6	**GB2 CD05**	0.070
1	14	6	**GB2 CD06**	0.070
2	26	6	**GB2 CD07**	0.070
3	40	6	**GB2 CD08**	0.070
4	52	6	**GB2 CD09**	0.070
5	66	6	**GB2 CD10**	0.070
6	83	6	**GB2 CD12**	0.070
8	108	6	**GB2 CD14**	0.070
10	138	6	**GB2 CD16**	0.070
12	165	6	**GB2 CD20**	0.070
16	220	6	**GB2 CD21**	0.070
20	270	6	**GB2 CD22**	0.070

534270

GB2 DB●●

2-pole

Conventional rated thermal current Ith *(1)*	Magnetic tripping current Id ± 20 %	Sold in lots of	Unit reference	Weight
A	A			kg
0.5	6.6	3	**GB2 DB05**	0.115
1	14	3	**GB2 DB06**	0.115
2	26	3	**GB2 DB07**	0.115
3	40	3	**GB2 DB08**	0.115
4	50	3	**GB2 DB09**	0.115
5	66	3	**GB2 DB10**	0.115
6	83	3	**GB2 DB12**	0.115
8	108	3	**GB2 DB14**	0.115
10	138	3	**GB2 DB16**	0.115
12	165	3	**GB2 DB20**	0.115
16	220	3	**GB2 DB21**	0.115
20	270	3	**GB2 DB22**	0.115

(1) Conforming to IEC 60947-1.

Presentation, selection : page 3/86
Characteristics : pages 3/87 to 3/89
Dimensions : page 3/91
Schemes : page 3/91

TeSys protection components

Thermal-magnetic circuit-breakers TeSys GB2 for the protection of industrial equipment control circuits

Circuit-breakers with magnetic tripping threshold: 5 to 7 In

Single-pole

534271

GB2 CS●●

Conventional rated thermal current Ith *(1)*	Magnetic tripping current Id ± 20 %	Sold in lots of	Unit reference	Weight
A	A			kg
0.5	3.3	6	**GB2 CS05**	0.055
1	6	6	**GB2 CS06**	0.055

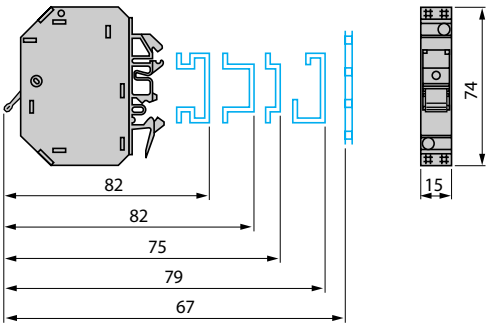
(1) Conforming to IEC 60947-1.

Accessories for circuit-breakers GB2-CB, DB and CS

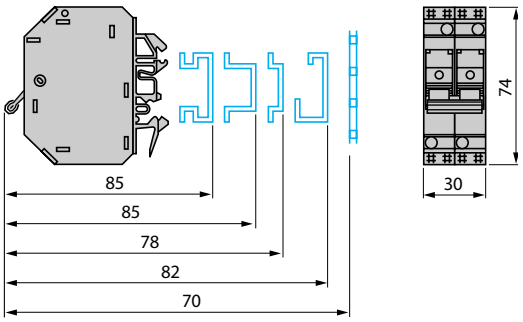
Description	Sold in lots of	Unit reference	Weight
			kg
Busbar set for supply to 10 GB2 DB or 20 GB2 CB or GB2 CS with 2 connectors	1	**GB2 G210**	0.100
Supply connector	10	**GB2 G01**	–

Dimensions

GB2 CB●●, GB2 CD●●, GB2 CS●●



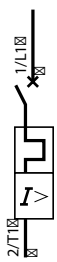
GB2 DB●●



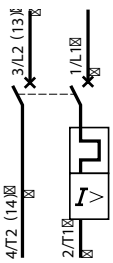
Marking: up to twelve AB1 R clip-in markers.

Schemes

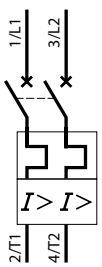
GB2 CB●●



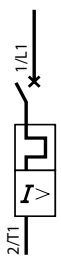
GB2 CD●●



GB2 DB●●



GB2 CS●●



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