

# TeSys circuit-breakers

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

GV2-ME, GV2-P, GV3-ME 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/EN 60947-2 and IEC/EN 60947-4-1.

## Connection

These circuit-breakers are designed for connection by screw clamp terminals. Circuit-breaker GV2-ME can be supplied with **spring terminal** connections.

These ensure secure, permanent and durable clamping that is resistant to harsh environments, vibration and impact and is even more effective when conductors without cable ends are used. Each connection can take two independent conductors.

## Operation



GV2-ME with screw clamp connections



GV2-ME with spring terminal connections



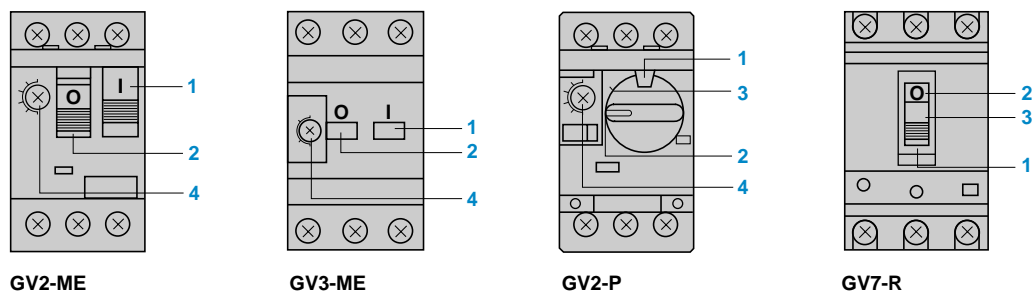
GV2-P



GV3-ME



GV7-R



GV2-ME

GV3-ME

GV2-P

GV7-R

GV2-ME and GV3-ME: 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: control by rotary knob.

GV7-R: control by rocker lever.

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 switch to position "O".

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.

## 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 about 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.

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 3 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.

## Coordination (according to standard IEC/EN 60947-4-1)

The standard defines the degree of acceptable damage to the equipment following a short-circuit. Standard IEC/EN 60947-4-1 (motor-starters) defines 2 types

Type 1 coordination	Damage to motor-starter components is accepted.	The fault current has been successfully interrupted. No damage has been caused to persons or to installations.
Type 2 coordination	Welding of the contactor or motor-starter contacts is accepted providing they can be easily separated.	

Coordination table for GV2 + contactors: see the Technical & Application guide at [www.schneider.co.uk](http://www.schneider.co.uk).

- $I_q$  = rated conditional short-circuit current (kA)
- that the circuit-breaker can interrupt
  - that the associated motor-starter components can withstand without damage.

## Suitability for isolation

According to standard IEC/EN 60947-1, sub-clause 7-1-6 (additional safety requirements for equipment suitable for isolation):

Equipment suitable for isolation shall provide in the open position and isolating distance in accordance with the requirements necessary to satisfy the isolating function and shall be fitted with an indicating device indicating the position of the moving contacts. This position indicator shall be connected to the moving contacts in a reliable way; the handle may form such an indicator, providing it cannot indicate the open position when released unless all the moving contacts are in the open position.

## Breaking capacity (according to standard IEC/EN 60947-2)

### **I<sub>cu</sub>: Rated ultimate short-circuit breaking capacity**

Breaking capacity for which the prescribed conditions according to a specified test sequence do not include the capability of the circuit-breaker to carry its rated current continuously following the sequence of operations O-t-CO.

### **I<sub>cs</sub>: Rated service short-circuit breaking capacity**

Breaking capacity for which the prescribed conditions according to a specified test sequence include the capability of the circuit-breaker to carry its rated current continuously following the sequence of operations O-t-CO-t-CO.

It is expressed as a percentage of  $I_{cu}$  (25, 50, 75 or 100%).

In operational conditions, the short-circuit currents normally encountered rarely exceed 25 to 50% of the prospective short-circuit current at the point of installation of the circuit-breaker.

## Other definitions

### **Discrimination (selectivity)**

Discrimination of protective devices requires that protection against a fault arising at any point of the network is effected by the nearest device on the supply side of the fault.

Discrimination may be total or partial. In the latter case the overcurrent limit must be defined. See pages 3/20 to 3/24.

### **Cascading**

Where two separate protective devices in series operate at the same time under short circuit fault conditions, the breaking capacity  $I_{cu}$  of the downstream device is increased. See page 3/20.

### **Current limiting**

By the use of additional poles operating in series with the main poles, the overall breaking capacity  $I_{cu}$  of a motor circuit-breaker is substantially increased. A single current limiting block may be used in conjunction with a number of motor circuit-breakers up to the 63 A thermal limit. See page 3/6.

### **Sensitivity to phase loss (according to standard IEC/EN 60947-4-1, sub-clause 7.2.1.5.2)**

Limits of operation of 3-pole thermal overload relays energised on two poles: With the overload relay energised on two poles at 1.0 times the current setting ( $I_r$ ) and on one pole at 0.9  $I_r$ , tripping shall not occur in less than 2 hours starting from the cold state at 20 °C.

When the value  $I_r$  flowing in two poles is increased to 1.15  $I_r$  and the third pole is de-energised, tripping shall occur in less than 2 hours. See curves, pages 3/8 to 3/10.

# TeSys circuit-breakers

Thermal-magnetic motor circuit-breakers  
types GV2-ME and GV2-P

(Also applies to GV2-RT. Use GV2-ME table  
eg: for GV2-RT14 use GV2-ME14 data)

## Breaking capacity of GV2-ME and GV2-P

Circuit-breaker type			GV2-										GV2-											
			ME01 to ME06	ME07	ME08	ME10	ME14	ME16	ME20	ME21 and ME22	ME32	P01 to P06	P07	P08	P10	P14	P16	P20	P21 and P22	P32				
<b>Rating</b>			A	0.1 to 1.6	2.5	4	6.3	10	14	18	23 and 25	32	0.1 to 1.6	2.5	4	6.3	10	14	18	23 and 25	32			
<b>Breaking capacity</b> conforming to IEC/EN 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	4	4	
		Ics % (1)		★	75	75	75	75	75	75	75	75	★	100	100	100	100	100	100	100	100	100	100	
	<b>Associated fuses (if required)</b> if I <sub>sc</sub> > breaking capacity I <sub>cu</sub> conforming to IEC/EN 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
			gG	A	★	★	★	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	50		
		gG	A	★	20	32	40	40	50	50	50	50	★	25	32	50	50	63	63	63	63	63		

★ > 100 kA.  
(1) As % of I<sub>cu</sub>.

# TeSys circuit-breakers

Thermal-magnetic motor circuit-breakers  
types GV2-ME and GV2-P  
(Also applies to GV2-RT. Use GV2-ME table  
eg: for GV2-RT14 use GV2-ME14 data)

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

Circuit-breaker type	GV2-		ME01 to ME06	ME07	ME08	ME10	ME14	ME16	ME20	ME21	ME22	ME32
<b>Rating</b>	<b>A</b>		<b>0.1...1.6</b>	<b>2.5</b>	<b>4</b>	<b>6.3</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>23</b>	<b>25</b>	<b>32</b>
<b>Breaking capacity</b> conforming to IEC/EN 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
<b>Circuit-breaker type</b>	<b>GV2-</b>		<b>P01 to P06</b>	<b>P07</b>	<b>P08</b>	<b>P10</b>	<b>P14</b>	<b>P16</b>	<b>P20</b>	<b>P21</b>	<b>P22</b>	<b>P32</b>
<b>Rating</b>	<b>A</b>		<b>0.1...1.6</b>	<b>2.5</b>	<b>4</b>	<b>6.3</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>23</b>	<b>25</b>	<b>32</b>
<b>Breaking capacity</b> conforming to IEC/EN 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
<b>Circuit-breaker type</b>	<b>GV2-</b>		<b>ME01 to ME06</b>	<b>ME07</b>	<b>ME08</b>	<b>ME10</b>	<b>ME14</b>	<b>ME16</b>	<b>ME20</b>	<b>ME21</b>	<b>ME22</b>	<b>ME32</b>
<b>Rating</b>	<b>A</b>		<b>0.1...1.6</b>	<b>2.5</b>	<b>4</b>	<b>6.3</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>23</b>	<b>25</b>	<b>32</b>
<b>Cable protection against thermal stress in the event of short-circuit (PVC insulated copper cables)</b>												
Minimum c.s.a. protected at 40 °C at Isc max.	1 mm <sup>2</sup>		●	●	●	≤ 10 kA	≤ 6 kA	(2)	(2)	(2)	(2)	(2)
	1.5 mm <sup>2</sup>		●	●	●	≤ 20 kA	≤ 10 kA	(2)	(2)	(2)	(2)	(2)
	2.5 mm <sup>2</sup>		●	●	●	●	●	●	●	●	●	(2)
	4...6 mm <sup>2</sup>		●	●	●	●	●	●	●	●	●	●

★ > 100 kA.  
(1) As % of Icu.

● Cable c.s.a. protected.  
(2) Cable c.s.a. not protected. (3) With limiter LA9-LB920.

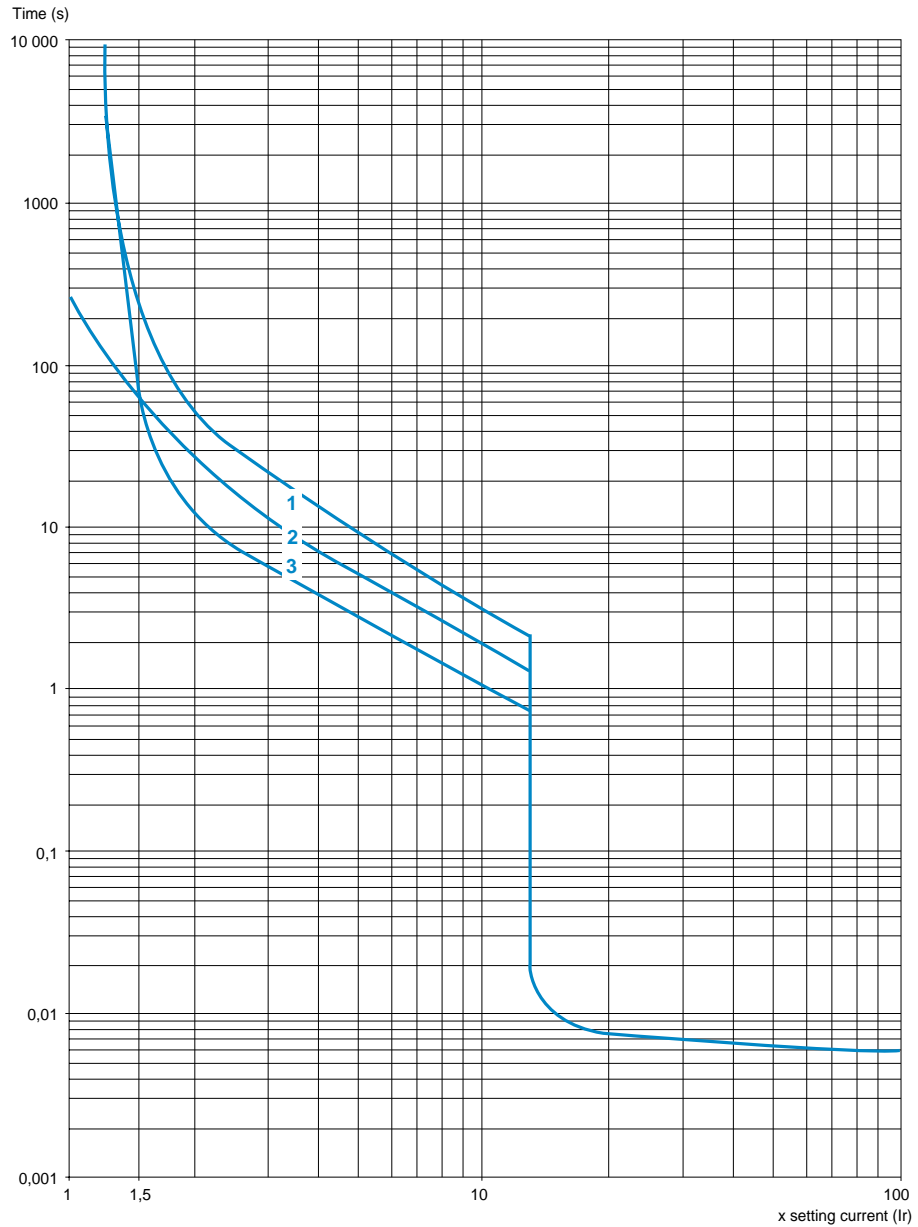
## Breaking capacity of GV2-LE and GV2-L

Type			GV2-										GV2-								
			A	LE03 to LE06	LE07	LE08	LE10	LE14	LE16	LE20	LE22	LE32	L03 to L06	L07	L08	L10	L14	L16	L20	L22	L32
<b>Rating</b>			A	0.4 to 1.6	2.5	4	6.3	10	14	18	25	32	0.4 to 1	2.5	4	6.3	10	14	18	25	32
<b>Breaking capacity to IEC/EN 60947-2</b>	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
<b>Associated fuses (if required) If Isc &gt; breaking capacity Icu to IEC/EN 60947-2</b>																					
	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
<b>Cable protection against thermal stress in the event of short-circuit (PVC insulated copper cables)</b>																					
Minimum c.s.a. protected at 40 °C and at Isc max	1 mm <sup>2</sup>	kA	●	●	●	≤ 10	≤ 6	(2)	(2)	(2)	(2)	●	●	●	≤ 10	≤ 6	(2)	(2)	(2)	(2)	
	1.5 mm <sup>2</sup>	kA	●	●	●	≤ 20	≤ 10	(2)	(2)	(2)	(2)	●	●	●	≤ 20	≤ 10	(2)	(2)	(2)	(2)	
	2.5 mm <sup>2</sup>		●	●	●	●	●	●	●	●	(2)	●	●	●	●	●	●	●	●	●	
	4...6 mm <sup>2</sup>		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

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

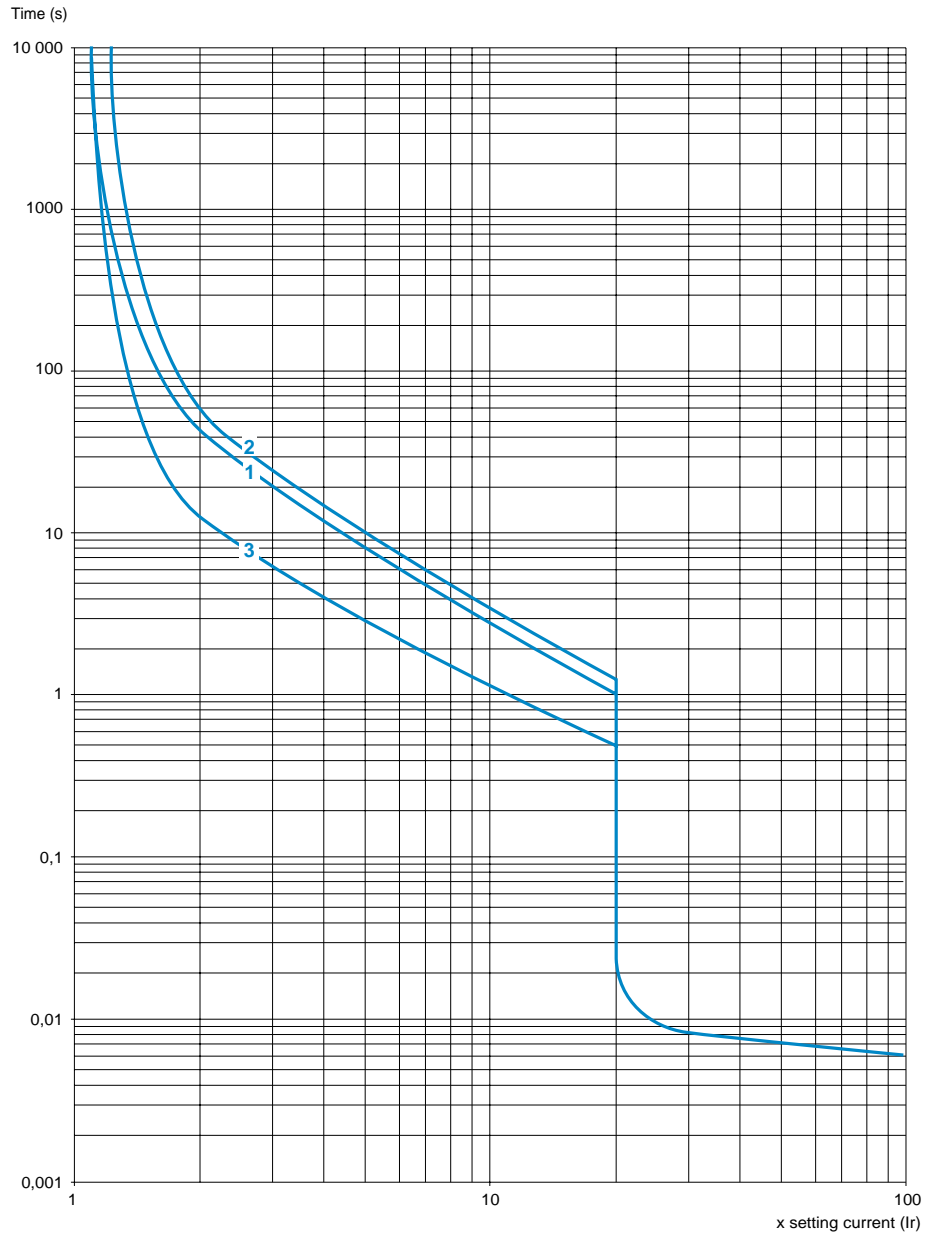
## Thermal-magnetic tripping curves for GV2-ME and GV2-P

Average operating time at 20 °C according to multiples of the setting current



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

## Thermal-magnetic tripping curves for GV2-RT



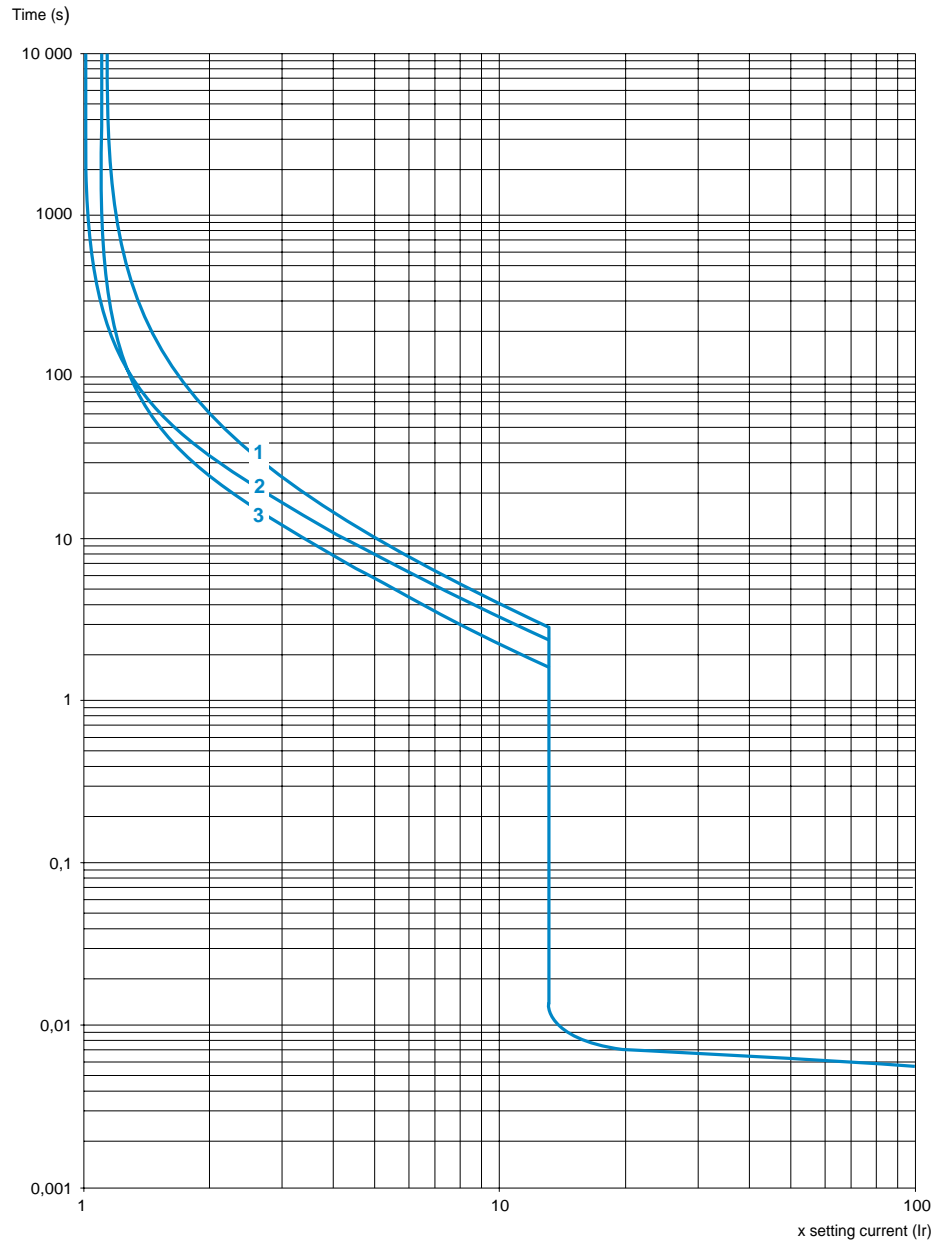
- 1 3 poles from cold state
- 2 2 poles from cold state
- 3 3 poles from hot state

# TeSys protection components

Magnetic motor circuit-breakers  
types GV2-L and GV2-LE

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

Average operating time at 20°C according to multiples of the setting current



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

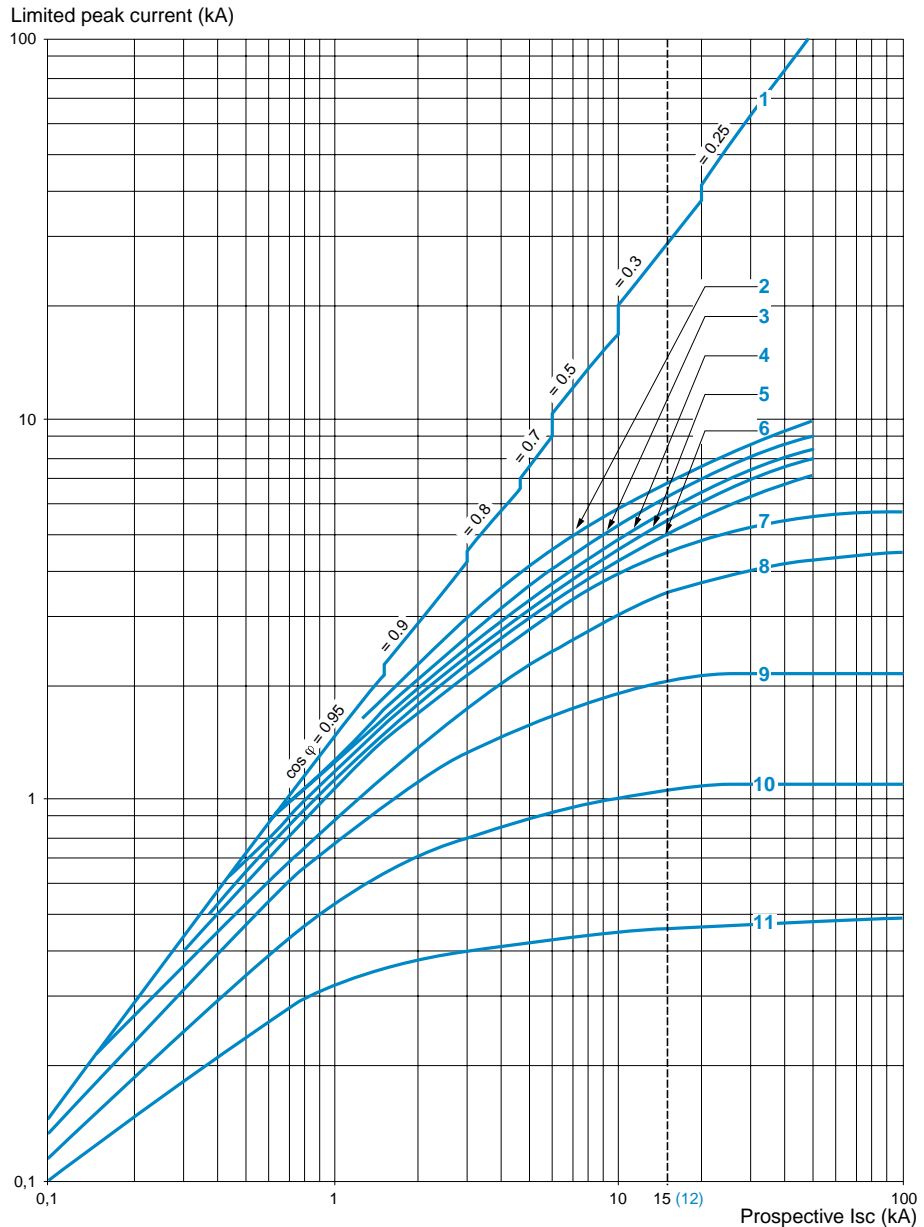


## Current limitation on short-circuit for GV2-ME and GV2-P

3-phase 400/415 V

### Dynamic stress

$I_{peak} = f(\text{prospective } I_{sc}) \text{ at } 1.05 U_e = 435 \text{ V}$



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

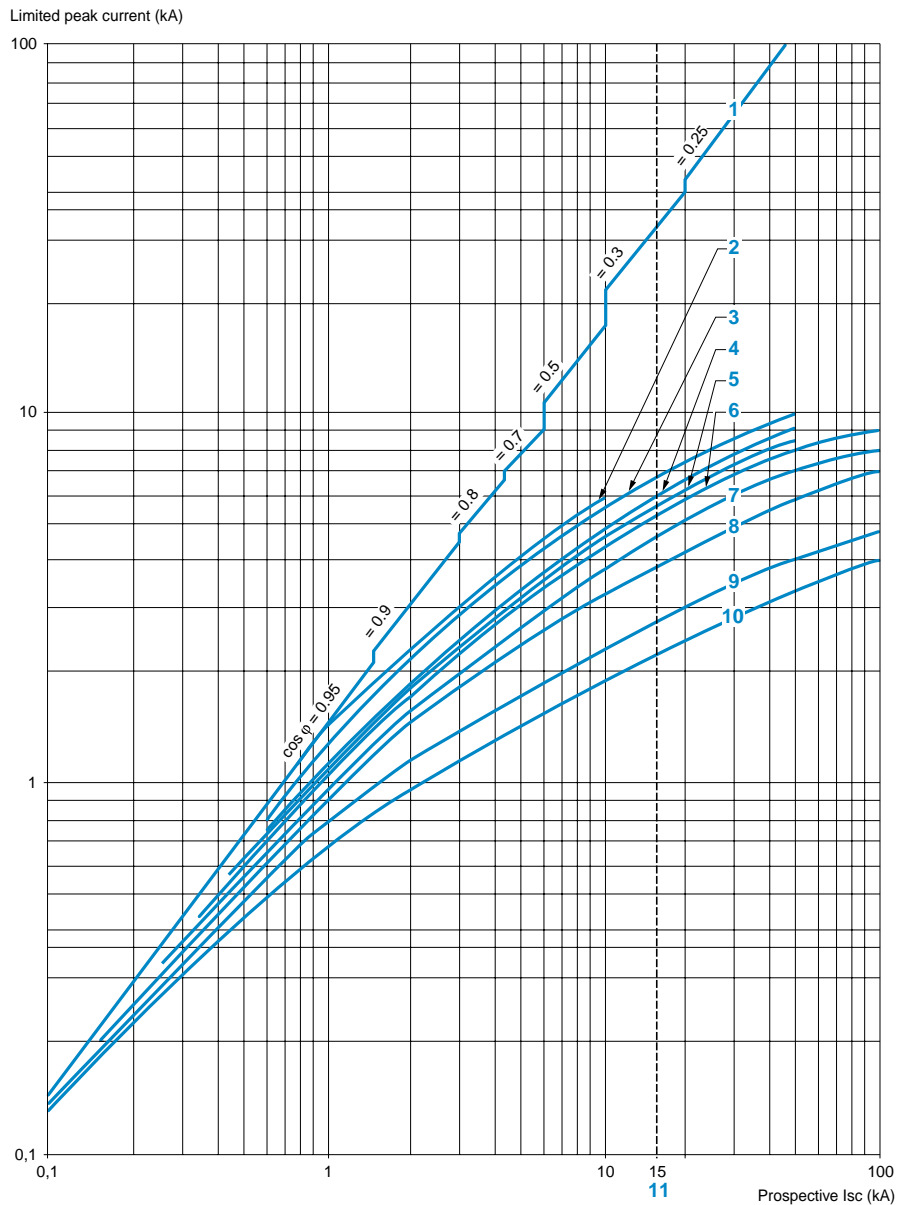
## Current limitation on short-circuit

For GV2-L and GV2-LE only

3-phase 400/415 V

Dynamic stress

$I_{peak} = f(\text{prospective } I_{sc})$  at  $1.05 U_e = 435 \text{ V}$



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

3

3.1

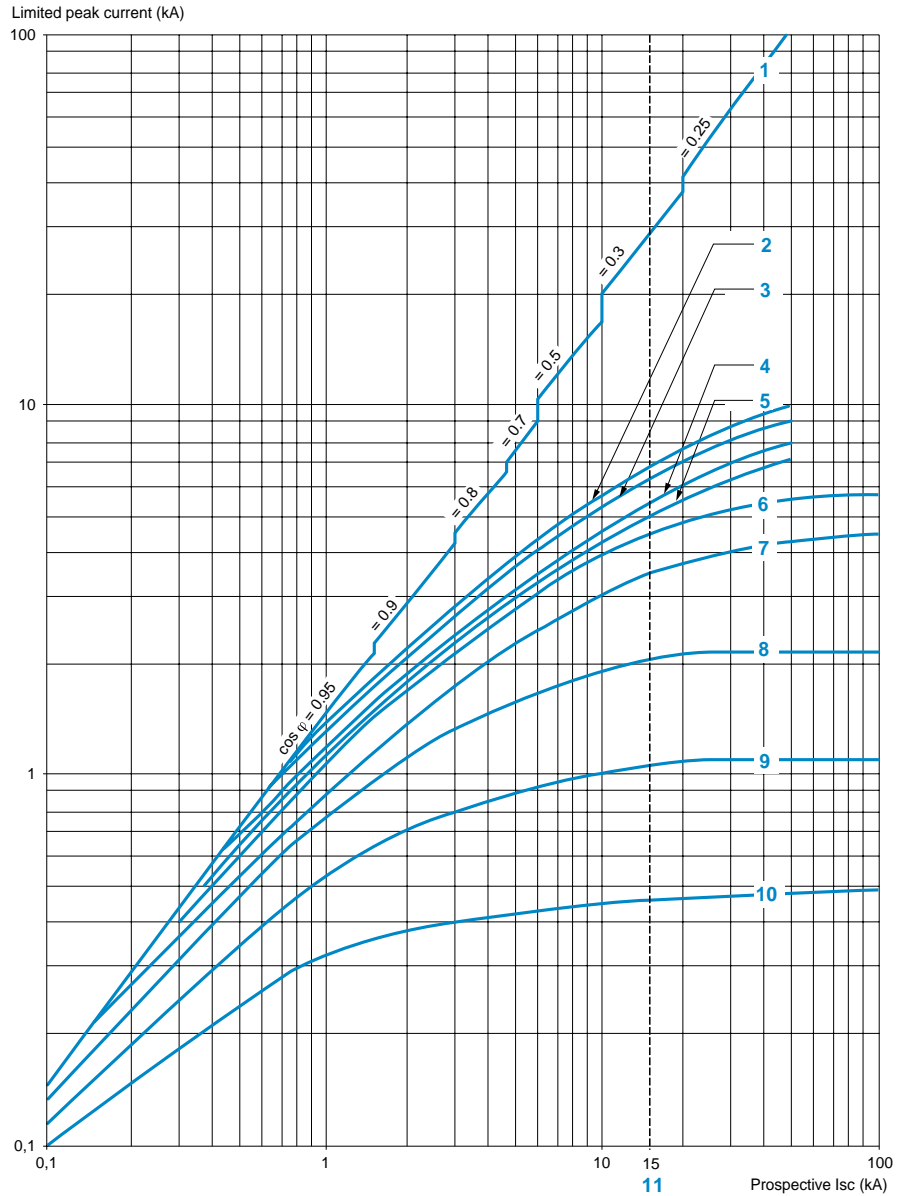
### Current limitation on short-circuit

For GV2-L and GV2-LE + thermal overload relay LRD or LR2-K

3-phase 400/415 V

#### Dynamic stress

$I_{peak} = f(\text{prospective } I_{sc}) \text{ at } 1.05 U_e = 435 \text{ V}$

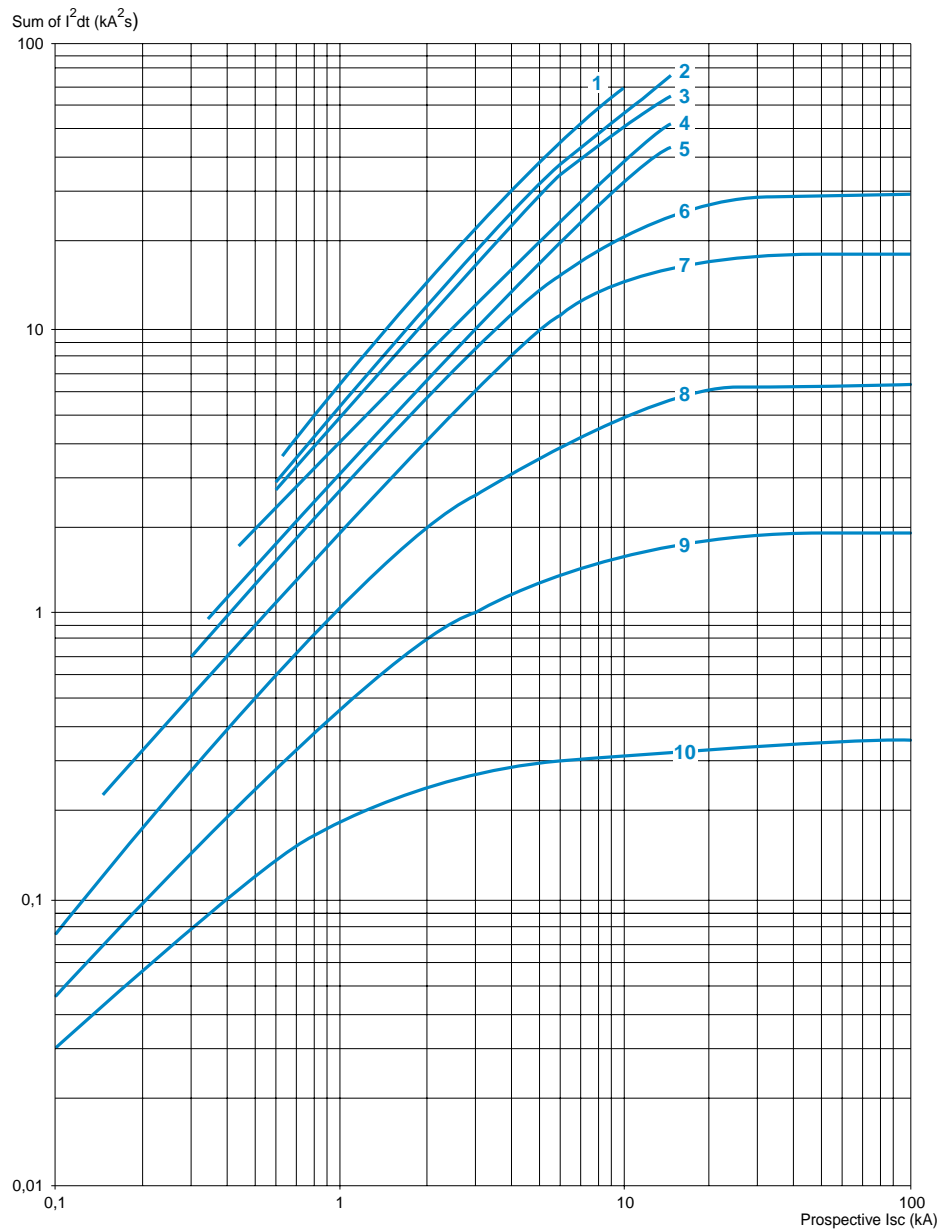


- |   |                      |    |  |
|---|----------------------|----|--|
| 1 | Maximum peak current | 6  | 10 A   |
| 2 | 32 A                 | 7  | 6.3 A  |
| 3 | 25 A                 | 8  | 4 A  |
| 4 | 18 A                 | 9  | 2.5 A  |
| 5 | 14 A                 | 10 | 1.6 A  |
|   |      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

## Thermal limit on short-circuit for GV2-ME

Thermal limit in KA<sup>2</sup> s in the magnetic operating zone

Sum of  $I^2dt = f$  (prospective  $I_{sc}$ ) at 1.05 U<sub>e</sub> = 435 V



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

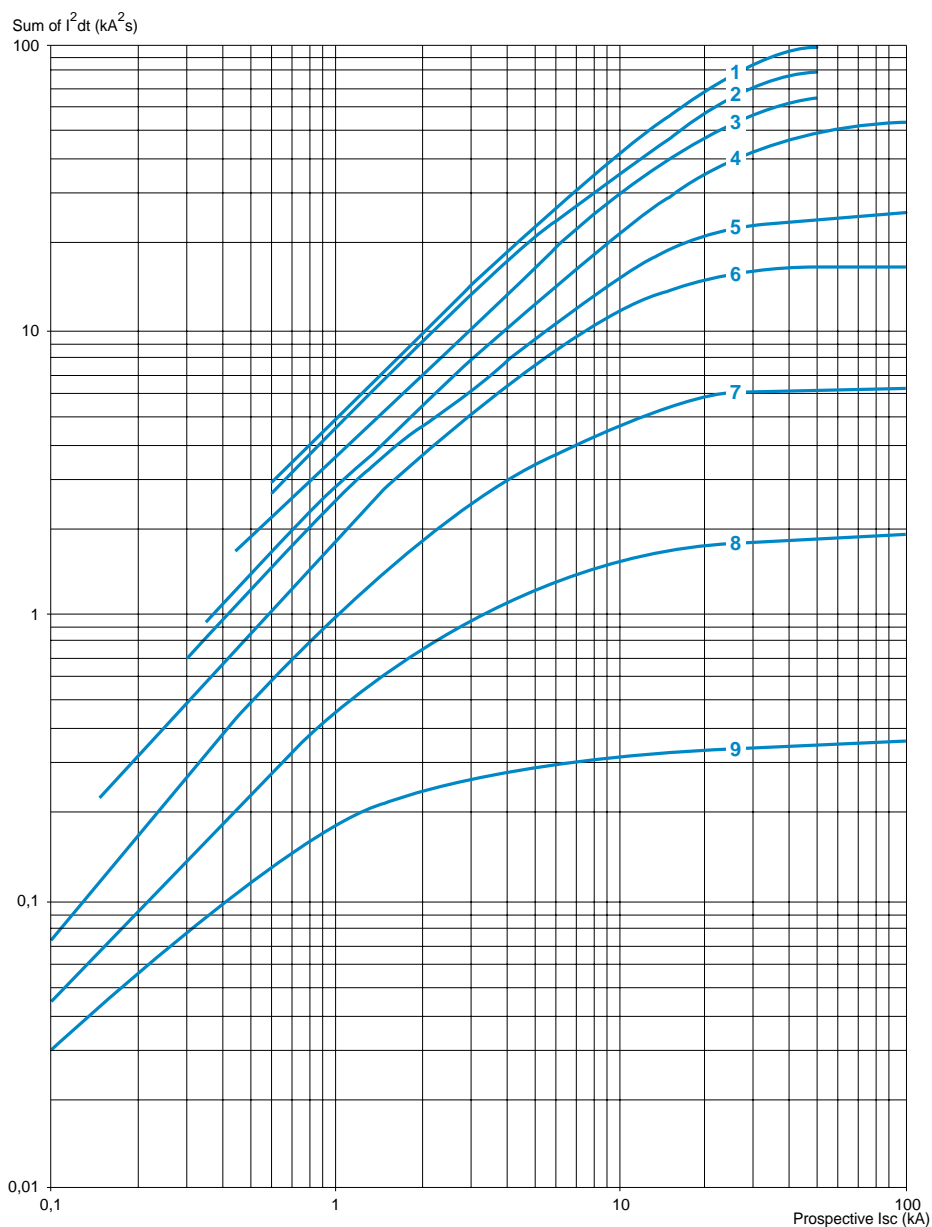
3

3.1

## Thermal limit on short-circuit for GV2-P

Thermal limit in  $kA^2 s$  in the magnetic operating zone

Sum of  $I^2dt = f$  (prospective  $I_{sc}$ ) at  $1.05 U_e = 435 V$

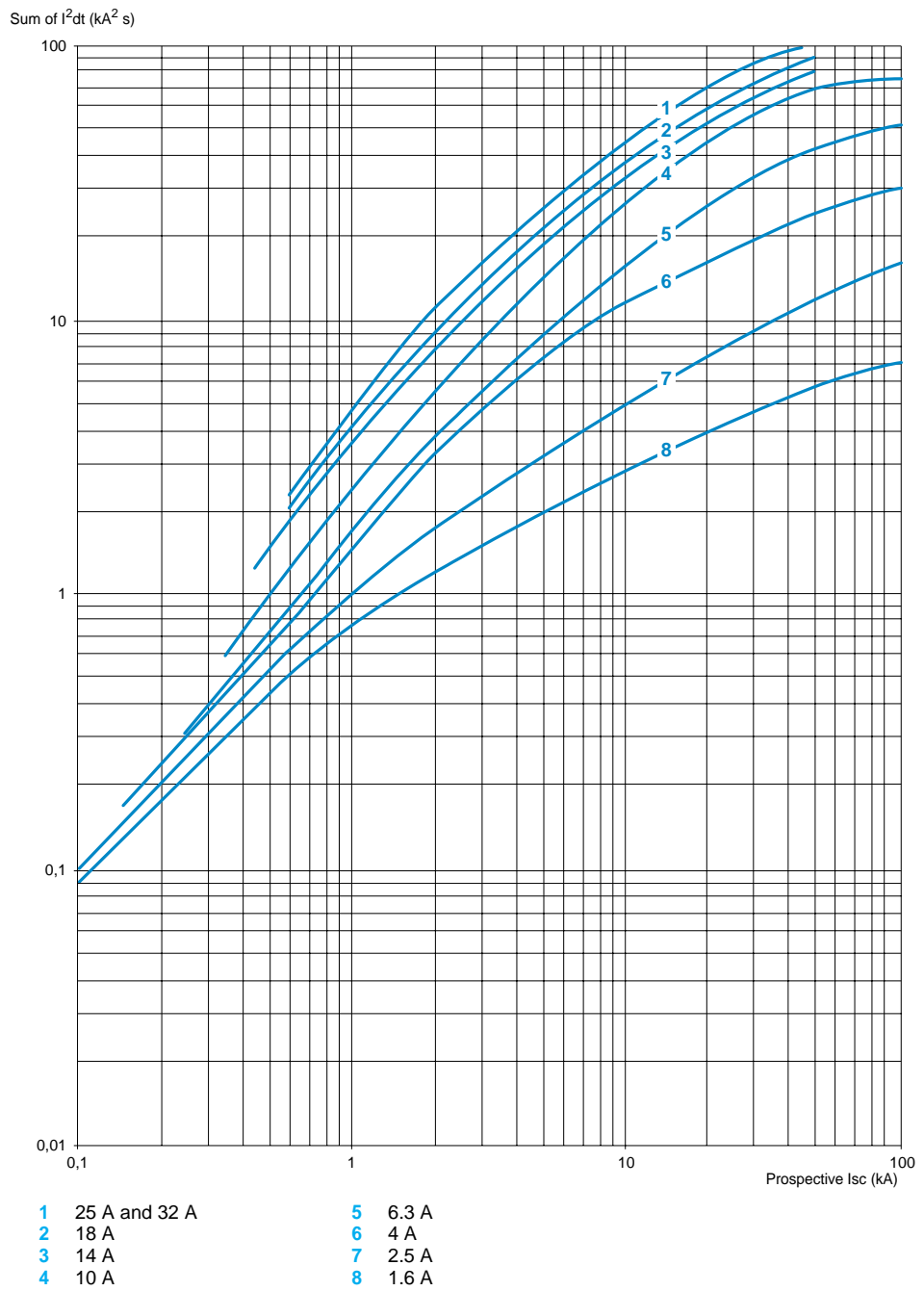


- |           |             |
|-----------|-------------|
| 1 24-32 A | 6 6-10 A    |
| 2 20-25 A | 7 4-6.3 A   |
| 3 17-23 A | 8 2.5-4 A   |
| 4 13-18 A | 9 1.6-2.5 A |
| 5 9-14 A  | 10 1-1.6 A  |

## Thermal limit on short-circuit for GV2-L only

Thermal limit in  $kA^2 s$  in the magnetic operating zone

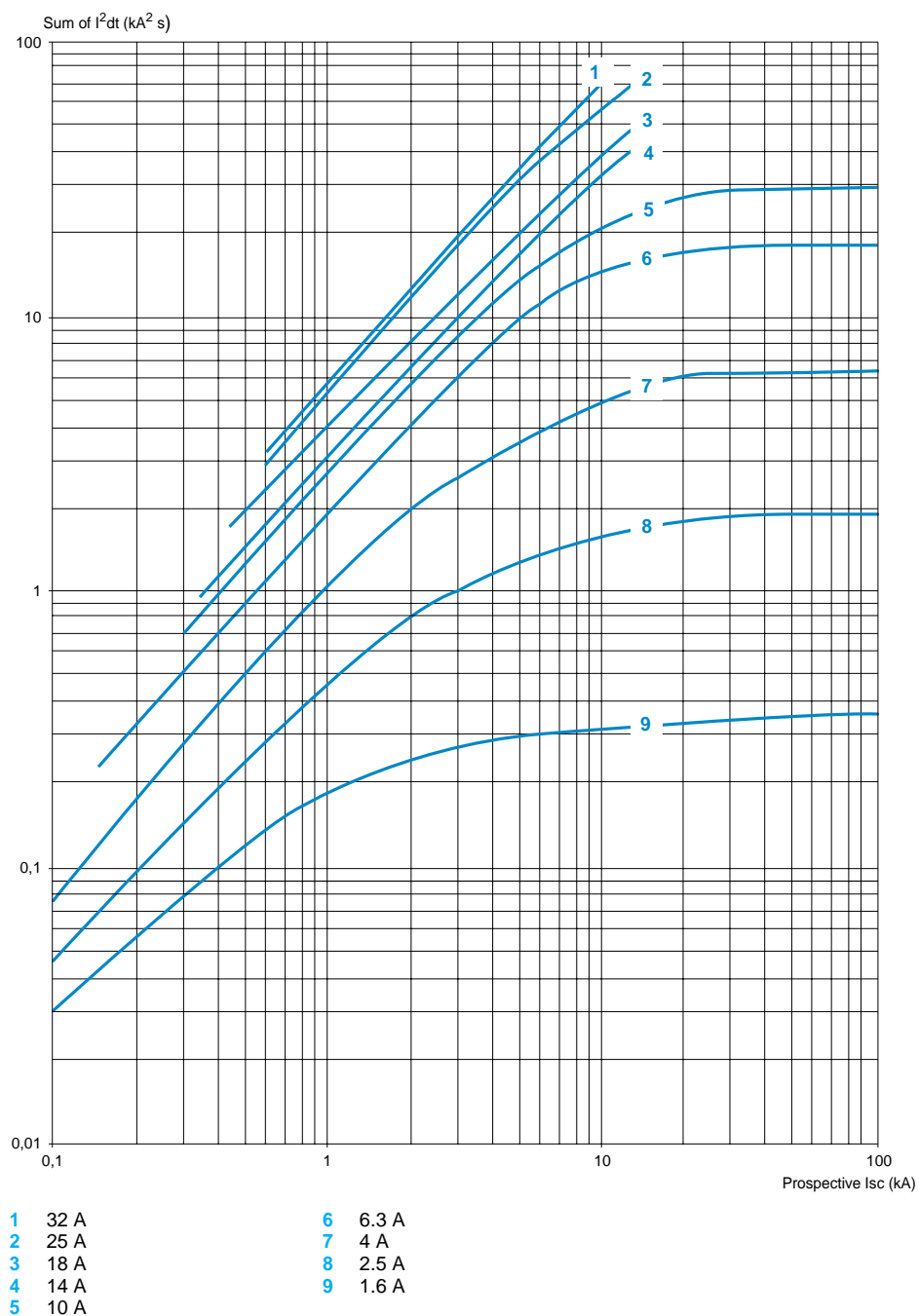
Sum of  $I^2dt = f$  (prospective  $I_{sc}$ ) at  $1.05 U_e = 435 V$



## Thermal limit on short-circuit for GV2-LE only

Thermal limit in  $\text{kA}^2 \text{ s}$  in the magnetic operating zone

Sum of  $I^2dt = f$  (prospective  $I_{sc}$ ) at  $1.05 U_e = 435 \text{ V}$



# TeSys protection components

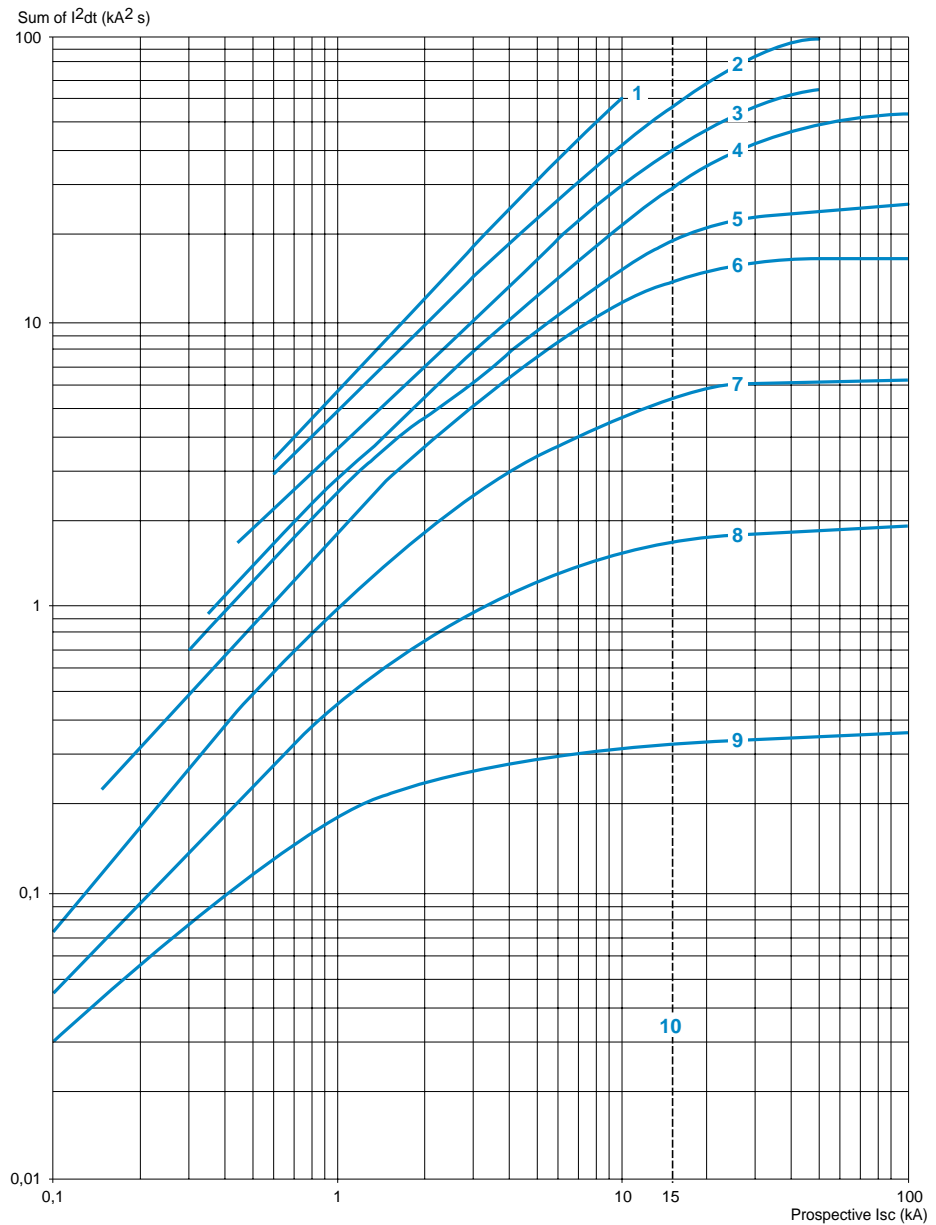
Magnetic motor circuit-breakers  
types GV2-L and GV2-LE

## Thermal limit on short-circuit

For GV2-L and GV2-LE + thermal overload relay LRD or LR2-K

Thermal limit in  $\text{kA}^2 \text{s}$  in the magnetic operating zone

Sum of  $I^2dt = f$  (prospective  $I_{sc}$ ) at  $1.05 U_e = 435 \text{ V}$



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



Maximum Earth Fault Loop Impedance  $Z_s$  for 0.4s disconnection time with  $U_0$  230V (1)

Reference	Thermal Adjustment Range $I_n$ (A)	Magnetic Tripping Current $I_m$ (A)	Tolerance $I_m+20\%$ (A)	Maximum Loop Impedance $Z_s$ ( $\Omega$ )
GV2-ME01	0.1...0.16	1.50	1.80	127.78
GV2-ME02	0.16...0.25	2.40	2.88	79.86
GV2-ME03	0.25...0.4	5.00	6.00	38.33
GV2-ME04	0.4...0.63	8.00	9.60	23.96
GV2-ME05	0.63...1	13.00	15.60	14.74
GV2-ME06	1...1.6	22.50	27.00	8.52
GV2-ME07	1.6...2.5	33.50	40.20	5.72
GV2-ME08	2.5...4	51.00	61.20	3.76
GV2-ME10	4...6.3	78.00	93.60	2.46
GV2-ME14	6...10	138.00	165.60	1.39
GV2-ME16	9...14	170.00	204.00	1.13
GV2-ME20	13...18	223.00	267.60	0.86
GV2-ME21	17...23	327.00	392.40	0.59
GV2-ME22	20...25	327.00	392.40	0.59
GV2-ME32	24...32	416.00	499.20	0.46
GV2-P01	0.1...0.16	1.50	1.80	127.78
GV2-P02	0.16...0.25	2.40	2.88	79.86
GV2-P03	0.25...0.4	5.00	6.00	38.33
GV2-P04	0.4...0.63	8.00	9.60	23.96
GV2-P05	0.63...1	13.00	15.60	14.74
GV2-P06	1...1.6	22.50	27.00	8.52
GV2-P07	1.6...2.5	33.50	40.20	5.72
GV2-P08	2.5...4	51.00	61.20	3.76
GV2-P10	4...6.3	78.00	93.60	2.46
GV2-P14	6...10	138.00	165.60	1.39
GV2-P16	9...14	170.00	204.00	1.13
GV2-P20	13...18	223.00	267.60	0.86
GV2-P21	17...23	327.00	392.40	0.59
GV2-P22	20...25	327.00	392.40	0.59
GV2-L03	0.4	5.00	6.00	38.33
GV2-L04	0.63	8.00	9.60	23.96
GV2-L05	1	13.00	15.60	14.74
GV2-L06	1.6	22.50	27.00	8.52
GV2-L07	2.5	33.50	40.20	5.72
GV2-L08	4	51.00	61.20	3.76
GV2-L10	6.3	78.00	93.60	2.46
GV2-L14	10	138.00	165.60	1.39
GV2-L16	14	170.00	204.00	1.13
GV2-L20	18	223.00	267.60	0.86
GV2-L22	25	327.00	392.40	0.59
GV2-LE03	0.4	5.00	6.00	38.33
GV2-LE04	0.63	8.00	9.60	23.96
GV2-LE05	1	13.00	15.60	14.74
GV2-LE06	1.6	22.50	27.00	8.52
GV2-LE07	2.5	33.50	40.20	5.72
GV2-LE08	4	51.00	61.20	3.76
GV2-LE10	6.3	78.00	93.60	2.46
GV2-LE14	10	138.00	165.60	1.39
GV2-LE16	14	170.00	204.00	1.13
GV2-LE20	18	223.00	267.60	0.86
GV2-LE22	25	327.00	392.40	0.59
GV2-LE32	32	416.00	499.20	0.46
GV2-RT03	0.25...0.4	8.00	9.60	23.96
GV2-RT04	0.4...0.63	13.00	15.60	14.74
GV2-RT05	0.63...1	22.00	26.40	8.71
GV2-RT06	1...1.6	33.00	39.60	5.81
GV2-RT07	1.6...2.5	51.00	61.20	3.76
GV2-RT08	2.5...4	78.00	93.60	2.46
GV2-RT10	4...6.3	138.00	165.60	1.39
GV2-RT14	6...10	200.00	240.00	0.96
GV2-RT16	9...14	280.00	336.00	0.68
GV2-RT20	13...18	400.00	480.00	0.48
GV2-RT21	17...23	400.00	480.00	0.48

(1) Whilst the IEE Regulations provide for a disconnection time of 5s for fixed equipment, the value of impedance obtained will limit the current to a level which may affect the starting characteristics of the motor.

## Cascading

Upstream circuit-breaker	NSC100N	NS100N	NS100H	NS100L
Breaking capacity kA rms	18	25	70	150
Downstream circuit-breaker	Breaking capacity (kA rms)			
GV2-ME $\geq 14$ A	18	25	50	50
GV2-L $\geq 18$ A			70	150
GV2-P $\geq 18$ A			70	150

## GV2-L or GV2-LE upstream circuit-breaker

Upstream circuit-breaker trip unit		L14 LE14	L16 LE16	L20 LE20	L22 LE22
Rating (A)		10	14	18	25
Downstream circuit-breaker	Rating (A)	Discrimination (A)			
GV2-ME01	0.16				
GV2-ME02	0.25				
GV2-ME03	0.4				
GV2-ME04	0.63				
GV2-ME05	1	10000			
GV2-ME06	1.6	150	300	400	900
GV2-ME07	2.5	100	150	200	400
GV2-ME08	4			150	200
GV2-ME10	6.3				
GV2-ME14	10				
GV2-ME16	14				
GV2-ME20	18				
GV2-ME21	23				
GV2-ME22	25				
GV2-ME32	32				
GV2-P01	0.16				
GV2-P02	0.25				
GV2-P03	0.4				
GV2-P04	0.63				
GV2-P05	1	10000			
GV2-P06	1.6	150	300	400	900
GV2-P07	2.5	100	150	200	400
GV2-P08	4			150	200
GV2-P10	6.3				
GV2-P14	10				
GV2-P16	14				
GV2-P20	18				
GV2-P21	23				
GV2-P22	25				
GV2-L03	0.4				
GV2-L04	0.63				
GV2-L05	1	10000			
GV2-L06	1.6	150	300	400	900
GV2-L07	2.5	100	150	200	400
GV2-L08	4			150	200
GV2-L10	6.3				
GV2-L14	10				
GV2-L16	14				
GV2-L20	18				
GV2-L22	25				
GV2-LE03	0.4				
GV2-LE04	0.63				
GV2-LE05	1	10000			
GV2-LE06	1.6	150	300	400	900
GV2-LE07	2.5	100	150	200	400
GV2-LE08	4			150	200
GV2-LE10	6.3				
GV2-LE14	10				
GV2-LE16	14				
GV2-LE20	18				
GV2-LE22	25				
GV2-LE32	32				

- Total discrimination zone
- 150 Partial discrimination limited to 150 kA
- No discrimination

## Compact NS100 or NS160N/H/L upstream circuit-breaker with TM-D trip unit

Upstream circuit-breaker			NS100N/H/L				NS160N/H/L	
Trip unit			TM-D				TM-D	
Rating (A)			16	25	40	63	80	100
Downstream circuit-breaker	Thermal overload relay	Rating (A)	Discrimination (kA)					
GV2-ME01	Built-in	0.1...0.16						
GV2-ME02	Built-in	0.16...0.25						
GV2-ME03	Built-in	0.25...0.40						
GV2-ME04	Built-in	0.40...0.63						
GV2-ME05	Built-in	0.63...1						
GV2-ME06	Built-in	1...1.6						
GV2-ME07	Built-in	1.6...2.5						
GV2-ME08	Built-in	2.5...4	2	2	2	10		
GV2-ME10	Built-in	4...6.3		1	2	2		
GV2-ME14	Built-in	6...10			1	1		
GV2-ME16	Built-in	9...14				1		
GV2-ME20	Built-in	13...18					10	10
GV2-ME21	Built-in	17...23					5	6
GV2-ME22	Built-in	20...25					4	6
GV2-ME32	Built-in	24...32					3	5
GV2-P01	Built-in	0.1...0.16						
GV2-P02	Built-in	0.16...0.25						
GV2-P03	Built-in	0.25...0.40						
GV2-P04	Built-in	0.40...0.63						
GV2-P05	Built-in	0.63...1						
GV2-P06	Built-in	1...1.6						
GV2-P07	Built-in	1.6...2.5						
GV2-P08	Built-in	2.5...4	2	2	10	10		
GV2-P10	Built-in	4...6.3		1	2	2		
GV2-P14	Built-in	6...10			1	1		
GV2-P16	Built-in	9...14				1		
GV2-P20	Built-in	13...18				1	10	
GV2-P21	Built-in	17...23					5	10
GV2-P22	Built-in	20...25					4	6
GV2-L03	LRD03	0.25...0.4						
GV2-L04	LRD04	0.4...0.63						
GV2-L05	LRD05	0.63...1						
GV2-L06	LRD06	1...1.6						
GV2-L07	LRD07	1.6...2.5						
GV2-L08	LRD08	2.5...4	2	2	10	10		
GV2-L10	LRD10	4...6		1	2	2		
GV2-L14	LRD12	5.5...8			1	1		
GV2-L16	LRD16	9...13			1	1		
GV2-L20	LRD21	12...18				1	10	
GV2-L22	LRD22	17...25					4	6
GV2-LE03	LR2-K0302	0.16...0.23						
GV2-LE03	LR2-K0303	0.23...0.36						
GV2-LE03	LR2-K0304	0.36...0.54						
GV2-LE04	LR2-K0304	0.36...0.54						
GV2-LE04	LR2-K0305	0.54...0.80						
GV2-LE05	LR2-K0305	0.54...0.80						
GV2-LE05	LR2-K0306	0.8...1.2						
GV2-LE06	LR2-K0306	0.8...1.2						
GV2-LE06	LR2-K0307	1.2...1.8						
GV2-LE07	LR2-K0307	1.2...1.8						
GV2-LE07	LR2-K0308	1.8...2.6						
GV2-LE08	LR2-K0310	2.6...3.7	2	2	10	10		
GV2-LE08	LR2-K0312	3.7...5.5	2	2	10	10		
GV2-LE10	LR2-K0312	3.7...5.5		1	2	2		
GV2-LE10	LR2-K0314	5.5...8		1	2	2		
GV2-LE14	LR2-K0314	5.5...8			1	1		
GV2-LE14	LR2-K0316	8...11.5			1	1		
GV2-LE14	LR2-D1314	7...10			1	1		
GV2-LE16	LR2-D1316	9...13			1	1		
GV2-LE20	LR2-D1321	12...18				1	10	
GV2-LE22	LR2-D1322	17...25					4	6
GV2-LE32	LR2-D2353	23...32					3	5

- Total discrimination
- 6 Partial discrimination limited to 6 kA
- No discrimination

## Compact NS160 or 250N/H/L upstream circuit-breaker with TM-D trip unit

Upstream circuit-breaker			NS160N/H/L		NS250N/H/L		
Trip unit			TM-D		TM-D		
Rating (A)			125	160	160	200	250
Downstream circuit-breaker	Thermal overload relay	Rating (A)	Discrimination (kA)				
GV2-ME01	Built-in	0.1...0.16					
GV2-ME02	Built-in	0.16...0.25					
GV2-ME03	Built-in	0.25...0.40					
GV2-ME04	Built-in	0.40...0.63					
GV2-ME05	Built-in	0.63...1					
GV2-ME06	Built-in	1...1.6					
GV2-ME07	Built-in	1.6...2.5					
GV2-ME08	Built-in	2.5...4					
GV2-ME10	Built-in	4...6.3					
GV2-ME14	Built-in	6...10					
GV2-ME16	Built-in	9...14					
GV2-ME20	Built-in	13...18					
GV2-ME21	Built-in	17...23					
GV2-ME22	Built-in	20...25					
GV2-ME32	Built-in	24...32					
GV2-P01	Built-in	0.1...0.16					
GV2-P02	Built-in	0.16...0.25					
GV2-P03	Built-in	0.25...0.40					
GV2-P04	Built-in	0.40...0.63					
GV2-P05	Built-in	0.63...1					
GV2-P06	Built-in	1...1.6					
GV2-P07	Built-in	1.6...2.5					
GV2-P08	Built-in	2.5...4					
GV2-P10	Built-in	4...6.3					
GV2-P14	Built-in	6...10					
GV2-P16	Built-in	9...14					
GV2-P20	Built-in	13...18					
GV2-P21	Built-in	17...23					
GV2-P22	Built-in	20...25					
GV2-L03	LRD03	0.25...0.4					
GV2-L04	LRD04	0.4...0.63					
GV2-L05	LRD05	0.63...1					
GV2-L06	LRD06	1...1.6					
GV2-L07	LRD07	1.6...2.5					
GV2-L08	LRD08	2.5...4					
GV2-L10	LRD10	4...6					
GV2-L14	LRD12	5.5...8					
GV2-L16	LRD16	9...13					
GV2-L20	LRD21	12...18					
GV2-L22	LRD22	17...25					
GV2-LE03	LR2-K0302	0.16...0.23					
GV2-LE03	LR2-K0303	0.23...0.36					
GV2-LE03	LR2-K0304	0.36...0.54					
GV2-LE04	LR2-K0304	0.36...0.54					
GV2-LE04	LR2-K0305	0.54...0.80					
GV2-LE05	LR2-K0305	0.54...0.80					
GV2-LE05	LR2-K0306	0.8...1.2					
GV2-LE06	LR2-K0306	0.8...1.2					
GV2-LE06	LR2-K0307	1.2...1.8					
GV2-LE07	LR2-K0307	1.2...1.8					
GV2-LE07	LR2-K0308	1.8...2.6					
GV2-LE08	LR2-K0310	2.6...3.7					
GV2-LE08	LR2-K0312	3.7...5.5					
GV2-LE10	LR2-K0312	3.7...5.5					
GV2-LE10	LR2-K0314	5.5...8					
GV2-LE14	LR2-K0314	5.5...8					
GV2-LE14	LR2-K0316	8...11.5					
GV2-LE14	LR2-D1314	7...10					
GV2-LE16	LR2-D1316	9...13					
GV2-LE20	LR2-D1321	12...18					
GV2-LE22	LR2-D1322	17...25					
GV2-LE32	LR2-D2353	23...32					

- Total discrimination
- 6 Partial discrimination limited to 6 kA
- No discrimination

## Compact NS100N/H/L upstream circuit-breaker with STR22SE trip unit

Upstream circuit-breaker Trip unit			NS100N/H/L STR22SE			
Rating (A)			25	40	63	100
Downstream circuit-breaker	Thermal overload relay	Rating (A)	Discrimination (kA)			
GV2-ME01	Built-in	0.1...0.16				
GV2-ME02	Built-in	0.16...0.25				
GV2-ME03	Built-in	0.25...0.40				
GV2-ME04	Built-in	0.40...0.63				
GV2-ME05	Built-in	0.63...1				
GV2-ME06	Built-in	1...1.6				
GV2-ME07	Built-in	1.6...2.5	1	1		
GV2-ME08	Built-in	2.5...4	0.5	0.5	5	5
GV2-ME10	Built-in	4...6.3	0.5	0.5	2	2
GV2-ME14	Built-in	6...10		0.5	1.2	1.2
GV2-ME16	Built-in	9...14			1.2	1.2
GV2-ME20	Built-in	13...18				1.2
GV2-ME21	Built-in	17...23				1.2
GV2-ME22	Built-in	20...25				1.2
GV2-ME32	Built-in	24...32				1.2
GV2-P01	Built-in	0.1...0.16				
GV2-P02	Built-in	0.16...0.25				
GV2-P03	Built-in	0.25...0.40				
GV2-P04	Built-in	0.40...0.63				
GV2-P05	Built-in	0.63...1				
GV2-P06	Built-in	1...1.6				
GV2-P07	Built-in	1.6...2.5	1	1		
GV2-P08	Built-in	2.5...4	0.5	0.5	10	10
GV2-P10	Built-in	4...6.3	0.5	0.5	2	2
GV2-P14	Built-in	6...10		0.5	1.2	1.2
GV2-P16	Built-in	9...14			1.2	1.2
GV2-P20	Built-in	13...18			1.2	1.2
GV2-P21	Built-in	17...23				1.2
GV2-P22	Built-in	20...25				1.2
GV2-L03	LRD03	0.25...0.4				
GV2-L04	LRD04	0.4...0.63				
GV2-L05	LRD05	0.63...1				
GV2-L06	LRD06	1...1.6				
GV2-L07	LRD07	1.6...2.5	1	1		
GV2-L08	LRD08	2.5...4	0.5	0.5	10	10
GV2-L10	LRD10	4...6	0.5	0.5	2	2
GV2-L14	LRD12	5.5...8		0.5	1.2	1.2
GV2-L16	LRD16	9...13			1.2	1.2
GV2-L20	LRD21	12...18			1.2	1.2
GV2-L22	LRD22	17...25				1.2
GV2-LE03	LR2-K0302	0.16...0.23				
GV2-LE03	LR2-K0303	0.23...0.36				
GV2-LE03	LR2-K0304	0.36...0.54				
GV2-LE04	LR2-K0305	0.54...0.80				
GV2-LE05	LR2-K0305	0.54...0.80				
GV2-LE05	LR2-K0306	0.8...1.2				
GV2-LE06	LR2-K0306	0.8...1.2				
GV2-LE06	LR2-K0307	1.2...1.8				
GV2-LE07	LR2-K0307	1.2...1.8	1	1		
GV2-LE07	LR2-K0308	1.8...2.6	1	1		
GV2-LE08	LR2-K0310	2.6...3.7	0.5	0.5	10	10
GV2-LE08	LR2-K0312	3.7...5.5	0.5	0.5	10	10
GV2-LE10	LR2-K0312	3.7...5.5	0.5	0.5	2	2
GV2-LE10	LR2-K0314	5.5...8	0.5	0.5	2	2
GV2-LE14	LR2-K0314	5.5...8		0.5	1.2	1.2
GV2-LE14	LR2-K0316	8...11.5		0.5	1.2	1.2
GV2-LE14	LR2-D1314	7...10		0.5	1.2	1.2
GV2-LE16	LR2-D1316	9...13			1.2	1.2
GV2-LE20	LR2-D1321	12...18			1.2	1.2
GV2-LE22	LR2-D1322	17...25				1.2
GV2-LE32	LR2-D2353	23...32				1.2

- Total discrimination
- 6 Partial discrimination limited to 6 kA
- No discrimination

## Compact NS160...630N/H/L upstream circuit-breaker with STR●●●E trip unit

Upstream circuit-breaker Trip unit			NS160N/H/L STR22SE	NS250N/H/L STR22SE	NS400 or 630N/H/L STR23SE/53UE	
Rating (A)			160	160	250	400 630
Downstream circuit-breaker	Thermal overload relay	Rating (A)	Discrimination (kA)			
GV2-ME01	Built-in	0.1...0.16				
GV2-ME02	Built-in	0.16...0.25				
GV2-ME03	Built-in	0.25...0.40				
GV2-ME04	Built-in	0.40...0.63				
GV2-ME05	Built-in	0.63...1				
GV2-ME06	Built-in	1...1.6				
GV2-ME07	Built-in	1.6...2.5				
GV2-ME08	Built-in	2.5...4				
GV2-ME10	Built-in	4...6.3				
GV2-ME14	Built-in	6...10				
GV2-ME16	Built-in	9...14				
GV2-ME20	Built-in	13...18				
GV2-ME21	Built-in	17...23				
GV2-ME22	Built-in	20...25				
GV2-ME32	Built-in	24...32				
GV2-P01	Built-in	0.1...0.16				
GV2-P02	Built-in	0.16...0.25				
GV2-P03	Built-in	0.25...0.40				
GV2-P04	Built-in	0.40...0.63				
GV2-P05	Built-in	0.63...1				
GV2-P06	Built-in	1...1.6				
GV2-P07	Built-in	1.6...2.5				
GV2-P08	Built-in	2.5...4				
GV2-P10	Built-in	4...6.3				
GV2-P14	Built-in	6...10				
GV2-P16	Built-in	9...14				
GV2-P20	Built-in	13...18				
GV2-P21	Built-in	17...23				
GV2-P22	Built-in	20...25				
GV2-L03	LRD03	0.25...0.4				
GV2-L04	LRD04	0.4...0.63				
GV2-L05	LRD05	0.63...1				
GV2-L06	LRD06	1...1.6				
GV2-L07	LRD07	1.6...2.5				
GV2-L08	LRD08	2.5...4				
GV2-L10	LRD10	4...6				
GV2-L14	LRD12	5.5...8				
GV2-L16	LRD16	9...13				
GV2-L20	LRD21	12...18				
GV2-L22	LRD22	17...25				
GV2-LE03	LR2-K0302	0.16...0.23				
GV2-LE03	LR2-K0303	0.23...0.36				
GV2-LE03	LR2-K0304	0.36...0.54				
GV2-LE04	LR2-K0304	0.36...0.54				
GV2-LE04	LR2-K0305	0.54...0.80				
GV2-LE05	LR2-K0305	0.54...0.80				
GV2-LE05	LR2-K0306	0.8...1.2				
GV2-LE06	LR2-K0306	0.8...1.2				
GV2-LE06	LR2-K0307	1.2...1.8				
GV2-LE07	LR2-K0307	1.2...1.8				
GV2-LE07	LR2-K0308	1.8...2.6				
GV2-LE08	LR2-K0310	2.6...3.7				
GV2-LE08	LR2-K0312	3.7...5.5				
GV2-LE10	LR2-K0312	3.7...5.5				
GV2-LE10	LR2-K0314	5.5...8				
GV2-LE14	LR2-K0314	5.5...8				
GV2-LE14	LR2-K0316	8...11.5				
GV2-LE14	LR2-D1314	7...10				
GV2-LE16	LR2-D1316	9...13				
GV2-LE20	LR2-D1321	12...18				
GV2-LE22	LR2-D1322	17...25				
GV2-LE32	LR2-D2353	23...32				

- Total discrimination
- 6 Partial discrimination limited to 6 kA
- No discrimination

Circuit-breaker type	GV2-ME		GV2-P					
<b>Environment</b>								
<b>Conforming to standards</b>	IEC/EN 60947-1, 60947-2, 60947-4-1, UL 508, CSA C22-2 N° 14, NF C 63-650, NF C 63-120, 79-130, VDE 0113, 0660.							
<b>Product approvals</b>	CSA, CEPEC, GOST, TSE, UL, BV, GL, LROS, DNV, PTB, EZU, SETI, RINA		CSA, UL, PTB, EZU, GOST, TSE, DNV, LROS, GL, BV, RINA					
<b>Protective treatment</b>	"TH"		"TH"					
<b>Degree of protection</b> conforming to IEC/EN 60529	Basic unit: IP 20 In enclosure <b>GV2-M●01</b> : IP 41 In enclosure <b>GV2-M●02</b> : IP 55		Basic unit: IP 20 — —					
<b>Shock resistance</b> conforming to IEC/EN 60068-2-27	30 gn - 11 ms		30 gn - 11 ms					
<b>Vibration resistance</b> conforming to IEC/EN 60068-2-6	5 gn (5 to 150 Hz)		5 gn (5 to 150 Hz)					
<b>Ambient air temperature</b> - storage	°C	- 40...+ 80		- 40...+ 80				
	- operation	°C	- 20...+ 60 in open air	- 20...+ 40 in enclosure	- 20...+ 60 In open air			
<b>Temperature compensation</b>	°C	- 20...+ 60 in free air		- 20...+ 60				
<b>Flame resistance</b> conforming to IEC/EN 60695-2-1	°C	960		960				
<b>Maximum operating altitude</b>	m	2000		2000				
<b>Operating positions in relation to normal vertical mounting position</b>								
<b>Cabling</b> Number of conductors and c.s.a.		<b>GV2-ME</b>		<b>GV2-ME●●3</b>				
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	
	Solid cable	mm <sup>2</sup>	2 x 6	2 x 1	2 x 6	2 x 1 (1)	2 x 6	2 x 1
	Flexible cable without cable end	mm <sup>2</sup>	2 x 6	2 x 1.5	2 x 4	2 x 1.5 (1)	2 x 6	2 x 1.5
Flexible cable with cable end	mm <sup>2</sup>	2 x 4	2 x 1	—	—	2 x 4	2 x 1	
<b>Suitable for isolation</b> conforming to IEC/EN 60947-1 § 7-1-6		Yes		Yes				
<b>Tightening torque</b>	N.m	1.7		1.7				
<b>Resistance to mechanical impact</b>	J	0.5		0.5				
		Enclosed: 6		—				
<b>Sensitivity to phase failure</b>		Yes, conforming to IEC/EN 60947-4-1 § 7-2-1-5-2						

(1) For c.s.a. of 1 to 1.5 mm<sup>2</sup>, use cable end reducer LA9-D99.

3  
3.1

Circuit-breaker type		GV2-ME	GV2-P
<b>Technical characteristics</b>			
<b>Utilisation category</b> conforming to IEC/EN 60947-2		A	A
conforming to IEC/EN 60947-4-1		AC-3	AC-3
<b>Rated operational voltage (Ue)</b> conforming to IEC/EN 60947-2	V	690	690
<b>Rated insulation voltage (Ui)</b> conforming to IEC/EN 60947-2	V	690	690
conforming to CSA C22-2 n° 14, UL 508	V	600	600
<b>Rated operational frequency</b> conforming to IEC/EN 60947-2	Hz	50/60	50/60
<b>Rated impulse withstand voltage (U imp)</b> conforming to IEC/EN 60947-2	kV	6	6
<b>Total power dissipated per pole</b>	W	2.5	2.5
<b>Mechanical durability</b> (C.O.: Closing, Opening)	C.O.	100,000	100,000
<b>Electrical durability</b> for AC-3 duty 440 V In/2	C.O.	100,000	100,000
<b>Duty class</b> (maximum operating rate)	C.O./h	25	25
<b>Rated duty</b> conforming to IEC/EN 60947-4-1		Uninterrupted duty	Uninterrupted duty
<b>Maximum conventional rated thermal current (Ith)</b> conforming to IEC/EN 60947-4-1	A	0.16...32	0.16...32



Circuit-breaker type		GV2-LE		GV2-L	
<b>Environment</b>					
<b>Conforming to standards</b>		IEC/EN 60947-1, IEC/EN 60947-2, NF C 63-650, NF C 63-120, NF C 79-130, VDE 0113, VDE 0660			
<b>Approvals</b> pending		BV, GL, LROS, DNV, TSE, UL, CSA		BV, GL, LROS, DNV, EZU, GOST, TSE, UL, CSA	
<b>Protective treatment</b>		"TH"		"TH"	
<b>Shock resistance</b> to IEC/EN 60068-2-27		30 gn		30 gn	
<b>Vibration resistance</b> to IEC/EN 60068-2-6		5 gn (5 to 150 Hz)		5 gn (5 to 150 Hz)	
<b>Ambient air temperature</b> - storage	°C	- 40...+ 80		- 40...+ 80	
	- operation	°C	- 20...+ 60		- 20...+ 60
<b>Flame resistance</b> to IEC/EN 60695-2-1	°C	960		960	
<b>Maximum operating altitude</b>	m	2000		2000	
<b>Operating position</b>					
<b>Cabling</b> Number of conductors and c.s.a.		Max	Min	Max	Min
Solid cable	mm <sup>2</sup>	2 x 6	2 x 1	2 x 6	2 x 1
Flexible cable without cable end	mm <sup>2</sup>	2 x 6	2 x 1.5	2 x 6	2 x 1.5
Flexible cable with cable end	mm <sup>2</sup>	2 x 4	2 x 1	2 x 4	2 x 1
<b>Suitability for isolation</b> conforming to IEC/EN 60947-1 § 7-1-6		Yes		Yes	
<b>Tightening torque</b>	N.m	1.7		1.7	
<b>Resistance to mechanical impact</b>	J	0.5		0.5	
<b>Utilisation category</b> conforming to IEC/EN 60947-2		A		A	
	conforming to IEC/EN 60947-4-1	AC-3		AC-3	
<b>Rated operational voltage (U<sub>e</sub>)</b> conforming to IEC/EN 60947-2	V	690		690	
<b>Rated insulation voltage (U<sub>i</sub>)</b> conforming to IEC/EN 60947-2	V	690		690	
<b>Rated operational frequency</b> conforming to IEC/EN 60947-2	Hz	50/60		50/60	
<b>Rated impulse withstand voltage</b> (U <sub>imp</sub> ) to IEC/EN 60947-2	kV	6		6	
<b>Total power dissipated per pole</b>	W	1.8		1.8	
<b>Mechanical durability</b> (C.O.: closing, opening)	C.O.	100,000		100,000	
<b>Electrical durability</b> for AC-3 duty	C.O.	100,000		100,000	
<b>Duty class</b> (maximum operating rate)	C.O./h	40		40	
<b>Rated duty</b> to IEC/EN 60947-4-1		Continuous duty		Continuous duty	

Trip type		GV-AU	GV-AX (1)	GV-AS
<b>Characteristics of electric trips</b>				
<b>Rated insulation voltage (U<sub>i</sub>)</b> conforming to IEC/EN 60947-1	V	690	500	690
	conforming to CSA C22-2 n° 14, UL 508	V	600	–
<b>Operational voltage</b> conforming to IEC/EN 60947-1	V	0.85...1.1 Un		0.7...1.1 Un
<b>Drop-out voltage</b>	V	0.7...0.35 Un		0.75...0.2 Un
<b>Inrush consumption</b>	~	VA	12	14
	≡	W	8	10.5
<b>Sealed consumption</b>	~	VA	3.5	5
	≡	W	1.1	1.6
<b>Operating time</b> conforming to IEC/EN 60947-1	ms	From the moment the voltage reaches its operational value until opening of the circuit-breaker. 10...15		
<b>On-load factor</b>		100 %		
<b>Cabling</b>				
Number of conductors		1 or 2		
Solid cable	mm <sup>2</sup>	1...2.5		
Flexible cable without cable end	mm <sup>2</sup>	0.75...2.5		
Flexible cable with cable end	mm <sup>2</sup>	0.75...1.5		
<b>Tightening torque</b>	N.m	1.4 max		
<b>Mechanical durability</b> (C.O.: Closing-Opening)	C.O.	100,000		

(1) Wiring scheme of undervoltage trip for dangerous machines (conforming to INRS) on GV2-ME only, see page 3/49.

<b>Contact type</b>		Instantaneous auxiliary <b>GV-AN, GV-AD</b>							Fault signalling <b>GV-AD, GV-AM11 (1)</b>				Instantaneous auxiliary <b>GV-AE</b>				
<b>Rated insulation voltage (Ui)</b> (associated insulation coordination) to IEC/EN 60947-1 to CSA C22-2 n° 14 and UL 508	<b>V</b>	690							690				250 (690 in relation to main circuit)				
	<b>V</b>	600							300				300				
<b>Conventional rated thermal current</b> (Ith) to IEC/EN 60947-5-1 to CSA C22-2 n° 14 and UL 508	<b>A</b>	6							2.5				2.5				
	<b>A</b>	5							1				1				
<b>Mechanical durability</b>	<b>C.O.</b>	100,000							1000				100,000				
<b>Operational power and current</b> to IEC/EN 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)	<b>V</b>	<b>48</b>	<b>110</b>	<b>230</b>	<b>380</b>	<b>440</b>	<b>500</b>	<b>690</b>	<b>24</b>	<b>48</b>	<b>110</b>	<b>230</b>	<b>24</b>	<b>48</b>	<b>110</b>	<b>230</b>	
		<b>127</b>	<b>240</b>	<b>415</b>					<b>48</b>	<b>127</b>	<b>240</b>	<b>48</b>	<b>127</b>	<b>240</b>			
Operational power, normal conditions	<b>VA</b>	300	500	720	850	650	500	400	36	48	72	72	48	60	120	120	
Occasional breaking and making capacities, abnormal conditions	<b>VA</b>	3000	7000	13,000	15,000	13,000	12,000	9000	220	300	450	450	480	600	1270	2400	
Rated operational current (Ie)	<b>A</b>	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	
<b>Operational power and current</b> to IEC/EN 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)	<b>V</b>	<b>24</b>	<b>48</b>	<b>60</b>	<b>110</b>	<b>240 (2)</b>	–	–	<b>24</b>	<b>48</b>	<b>60</b>	–	<b>24</b>	<b>48</b>	<b>60</b>	–	
Operational power, normal conditions	<b>W</b>	140	240	180	140	120	–	–	24	15	9	–	24	15	9	–	
Occasional breaking and making capacities, abnormal conditions	<b>W</b>	240	360	240	210	180	–	–	100	50	50	–	100	50	50	–	
Rated operational current (Ie)	<b>A</b>	6	5	3	1.3	0.5	–	–	1	0.3	0.15	–	1	0.3	0.15	–	
<b>Low level switching contact reliability</b>		<b>GV-AE:</b> Number of failures for for “n” million operating cycles (17 V-5 mA): = 10 <sup>-6</sup>															
<b>Minimum operational conditions</b> d.c. operation	<b>V</b>	17															
	<b>mA</b>	5															
<b>Short-circuit protection</b>		By <b>GB2-CB●●</b> circuit-breaker (rating according to operational current for Ue ≤ 415 V) or by gG fuse 10 A max										<b>GB2-CB06</b> or gG fuse 10 A max					
<b>Cabling, screw clamp terminals</b> Number of conductors		1							2								
	Solid cable	<b>mm<sup>2</sup></b> 1...2.5							1...2.5								
	Flexible cable without cable end	<b>mm<sup>2</sup></b> 0.75...2.5							0.75...2.5								
	Flexible cable with cable end	<b>mm<sup>2</sup></b> 0.75...1.5							0.75...1.5								
	Tightening torque	<b>N.m</b> 1.4 max							1.4 max								
<b>Cabling, spring terminal connections</b> Flexible cable without cable end	<b>mm<sup>2</sup></b>	<b>GV-AN</b> only 0.75...2.5			0.75...2.5				–				0.75...1.5				
<b>Contact operation, instantaneous auxiliary contacts</b>	<b>Power pole</b>	0		1													
		□		■		□ Contact open ■ Contact closed											
	<b>GV-AN20</b>	N/O	□		■												
		N/O	□		■												
	<b>GV-AN11</b>	N/O	□		■												
		N/C	■		□												
	<b>GV-AE1</b>	N/O	□		■												
		N/C	■		□												
<b>GV-AE20</b>	N/O	□		■													
	N/O	□		■													
<b>GV-AE11</b>	N/O	□		■													
	N/C	■		□													
<b>GV-AD●●10</b>	N/O	□		■													
<b>GV-AD●●01</b>	N/C	■		□													

(1) For application example of fault signalling contact and short-circuit signalling contact, see page 3/49.

(2) Add an RC circuit type LA4-D to the load terminals, see page 2/87.

## Characteristics of 3-pole busbars GV2-G●●●

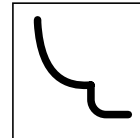
<b>Rated insulation voltage (U<sub>i</sub>)</b>	To IEC/EN 60947-1	<b>V</b>	690
<b>Conventional rated thermal current (I<sub>th</sub>)</b>	To IEC/EN 60439-1	<b>A</b>	63
<b>Permissible peak current (I<sub>peak</sub>)</b>		<b>kA</b>	11
<b>Permissible thermal limit (I<sup>2</sup>t)</b>		<b>kA<sup>2</sup>s</b>	104
<b>Degree of protection</b>	To IEC/EN 60529		IP 20

## Characteristics of terminal blocks GV2-G05 and GV1-G09

<b>Rated insulation voltage (U<sub>i</sub>)</b>	To IEC/EN 60947-1	<b>V</b>	690
<b>Conventional rated thermal current (I<sub>th</sub>)</b>	To IEC/EN 60947-5-1	<b>A</b>	63
<b>Degree of protection</b>	To IEC/EN 60529		IP 20
<b>Cabling</b>	Solid cable	<b>mm<sup>2</sup></b>	1 x 1.5 to 25 conductor or 2 x 1.5 to 10 conductors
	Flexible cable without cable end	<b>mm<sup>2</sup></b>	1 x 1.5 to 25 conductor or 2 x 2.5 to 10 conductors
	Flexible cable with cable end	<b>mm<sup>2</sup></b>	1 x 1.5 to 16 conductor or 2 x 1.5 to 4 conductors
<b>Tightening torque</b>	Connector	<b>N.m</b>	2.2
	Screw clamp	<b>N.m</b>	1.7

## Characteristics of current limiters (GV2-ME and GV2-P)

Type			GV1-L3		LA9-LB920	
<b>Rated insulation voltage (U<sub>i</sub>)</b>	To IEC/EN 60947-1	<b>V</b>	690		690	
<b>Conventional rated thermal current (I<sub>th</sub>)</b>	To IEC/EN 60947-1	<b>A</b>	63		63	
<b>Operating threshold</b>	rms current	<b>A</b>	1500 (non adjustable threshold)		1000 (non adjustable threshold)	
<b>Cabling</b>			1 conductor	2 conductors	1 conductor	2 conductors
	Solid cable	<b>mm<sup>2</sup></b>	1.5...25	1.5...10	1.5...25	1.5...10
	Flexible cable without cable end	<b>mm<sup>2</sup></b>	1.5...25	2.5...10	1.5...25	1.5...10
	Flexible cable with cable end	<b>mm<sup>2</sup></b>	1.5...16	1.5... 4	1.5...16	1.5... 4
<b>Tightening torque</b>		<b>N.m</b>	2.2			



GV2-ME

## GV2-ME with pushbutton control and screw clamp terminals (1)

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			690 V						
P	Icu	Ics (2)	P	Icu	Ics (2)	P	Icu	Ics (2)				
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	★	★	-	-	-	-	-	-	0.40...0.63	8	GV2-ME04	0.260
0.25	★	★	-	-	-	0.55	★	★	0.63...1	13	GV2-ME05	0.260
0.37	★	★	0.37	★	★	-	-	-	1...1.6	22.5	GV2-ME06	0.260
0.55	★	★	0.55	★	★	0.75	★	★	1...1.6	22.5	GV2-ME06	0.260
-	-	-	0.75	★	★	1.1	★	★	1...1.6	22.5	GV2-ME06	0.260
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	2.5...4	51	GV2-ME08	0.260
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	6...10	138	GV2-ME14	0.260
5.5	15	50	7.5	6	75	9	3	75	9...14	170	GV2-ME16	0.260
-	-	-	-	-	-	11	3	75	9...14	170	GV2-ME16	0.260
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 (4)	0.260
15	10	50	18.5	4	75	22	3	75	24...32	416	GV2-ME32	0.260

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

With instantaneous auxiliary contact block (composition, see page 3/33):

- 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) For bulk packs of GV2-ME, call our Customer Information Centre on 0870 608 8 608.

(2) As % of Icu.

(3) For use of GV2-ME in an enclosure, see pages 3/38 and 3/39.

(4) Maximum rating which can be mounted in enclosures GV2-MC or MP, please call our Customer Information Centre on 0870 608 8 608.

★ > 100 kA.



GV2-P

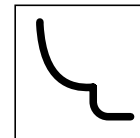
### GV2-P with rotary knob and screw clamp terminals

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-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	★	★	-	-	-	-	-	-	0.40...0.63	8	GV2-P04	0.350
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	★	★	1...1.6	22.5	GV2-P06	0.350
-	-	-	0.75	★	★	1.1	★	★	1...1.6	22.5	GV2-P06	0.350
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
1.5	★	★	2.2	★	★	3	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	★	★	4	50	100	5.5	6	100	6...10	138	GV2-P14	0.350
4	★	★	5.5	50	100	7.5	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	9...14	170	GV2-P16	0.350
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	50	50	18.5	10	75	22	4	100	24...32	416	GV2-P32	0.350

(1) As % of Icu.

(2) For use of GV2-P in an enclosure, see pages 3/38 and 3/39.

★ > 100 kA.

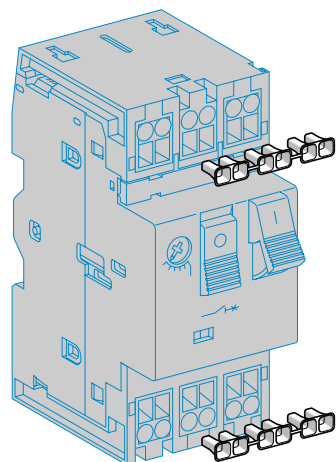


GV2-ME003

## Thermal-magnetic circuit-breakers GV2-ME with spring terminal connections (1)

### Pushbutton control

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



LA9-D99

### Contact blocks

Description	Mounting	Max. number	Type of contacts	Sold in lots of	Unit reference	Weight kg
<b>Instantaneous auxiliary contacts</b>	Front	1	N/O + N/C	10	<b>GV-AE113</b>	0.030
			N/O + N/O	10	<b>GV-AE203</b>	0.030
	LH side	2	N/O + N/C	1	<b>GV-AN113</b>	0.060
			N/O + N/O	1	<b>GV-AN203</b>	0.060

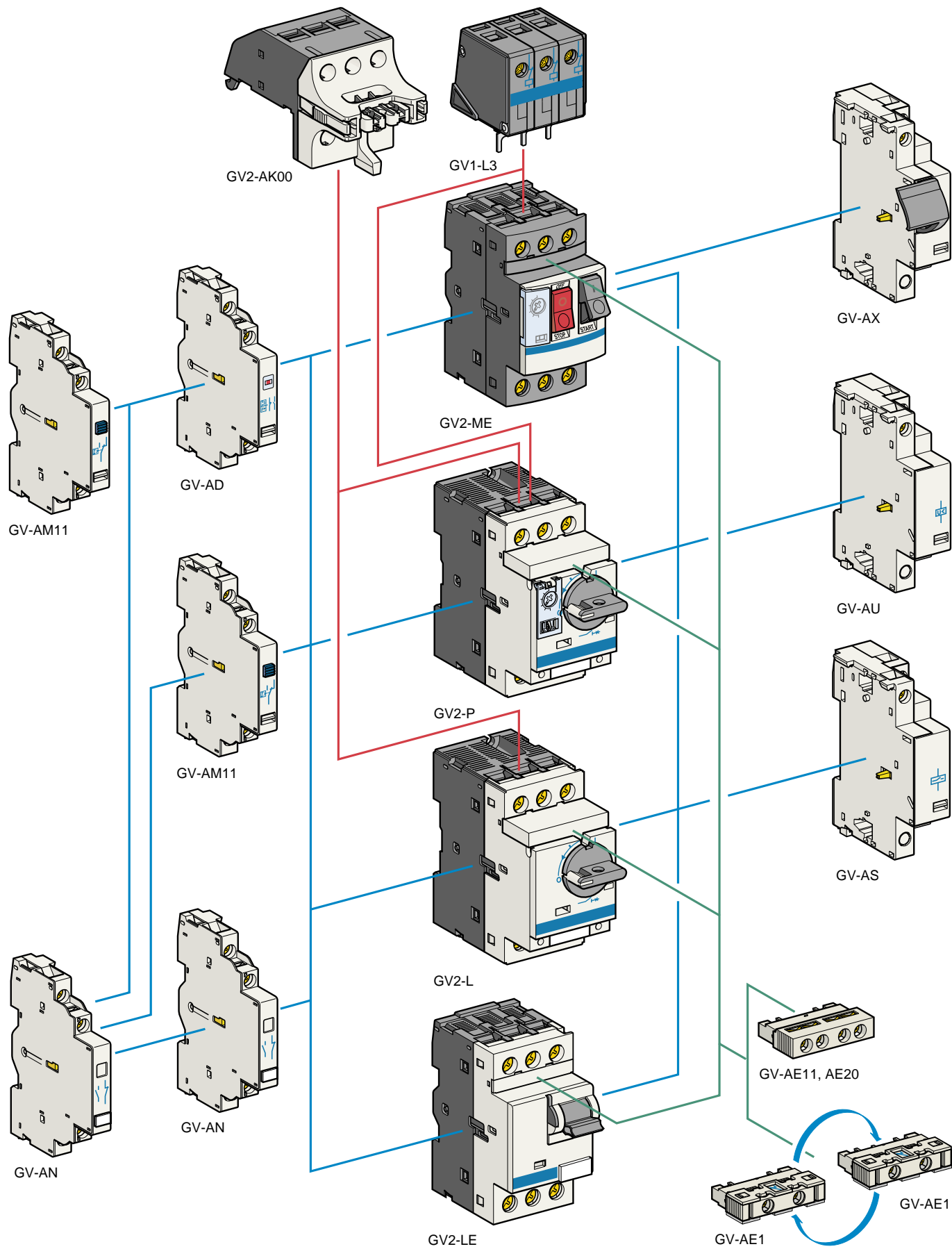
### Accessory

Description	Application	Sold in lots of	Unit reference	Weight kg
<b>Cable end reducer (3)</b>	For connection of conductors from 1 to 1.5 mm <sup>2</sup>	20	<b>LA9-D99</b>	-

(1) For connection of conductors from 1 to 1.5 mm<sup>2</sup> the use of a cable end reducer LA9-D99 is recommended.

(2) As % of I<sub>cu</sub>. ★ > 100 kA

(3) 2 supplied with each circuit-breaker as standard.





## TeSys circuit-breakers

Thermal-magnetic and magnetic motor circuit-breakers type GV2 with screw clamp terminals

Accessories

## Contact blocks with screw clamp terminals

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

## Electric trips with screw clamp terminals

Mounting	Voltage	Reference	Weight kg
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## Undervoltage or shunt trips (4)

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

Undervoltage trip, INRS (can only be mounted on GV2-ME)

Safety device for dangerous machines, conforming to INRS and VDE 0113

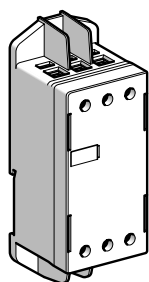
<b>Side</b> (1 block on RH side of circuit-breaker GV2-ME)	110...115 V	50 Hz	<b>GV-AX115</b>	0.110
		60 Hz	<b>GV-AX116</b>	0.110
	127 V	60 Hz	<b>GV-AX115</b>	0.110
	220...240 V	50 Hz	<b>GV-AX225</b>	0.110
		60 Hz	<b>GV-AX226</b>	0.110
	380...400 V	50 Hz	<b>GV-AX385</b>	0.110
		60 Hz	<b>GV-AX386</b>	0.110
	415...440 V	50 Hz	<b>GV-AX415</b>	0.110
	440 V	60 Hz	<b>GV-AX385</b>	0.110

## Add-on contact blocks with screw clamp terminals

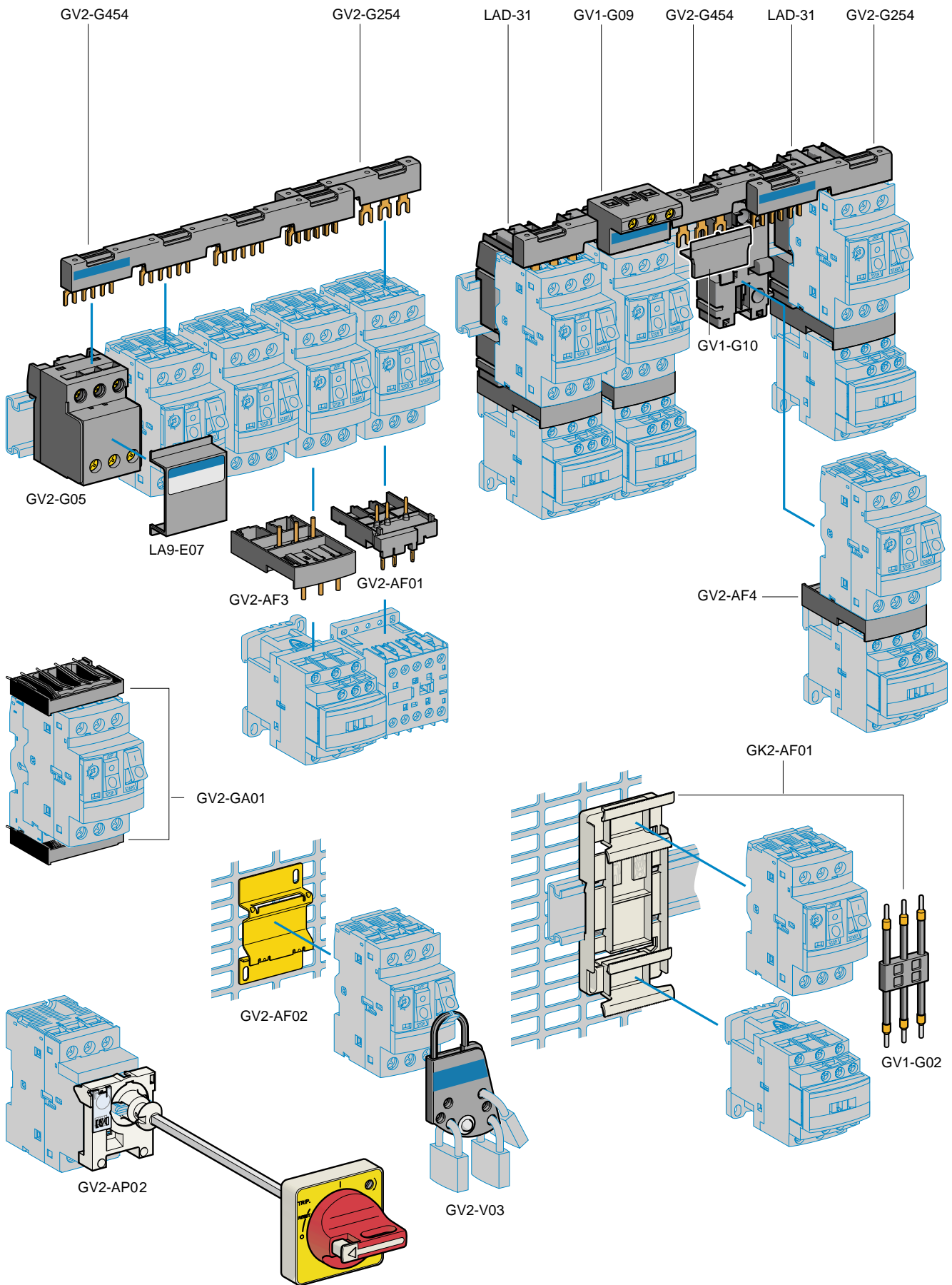
Description	Mounting	Maximum number	Reference	Weight kg
<b>Visible isolation block (5)</b>	Front (1)	1	<b>GV2-AK00</b>	0.150
<b>Limiters</b>	At top (GV2-ME and GV2-P)	1	<b>GV1-L3</b>	0.130
	Independent	1	<b>LA9-LB920</b>	0.320

(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**.

LA9-LB920



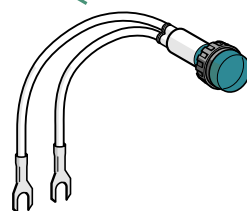
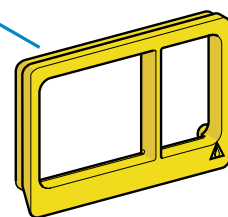
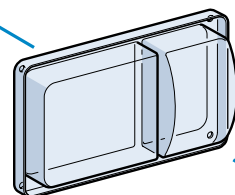
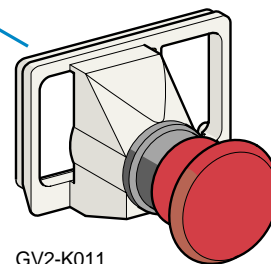
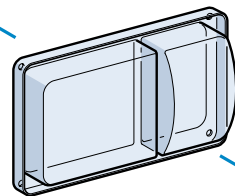
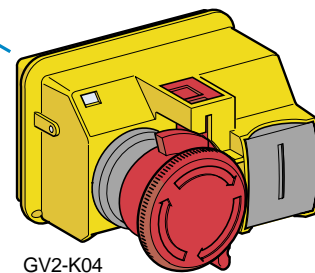
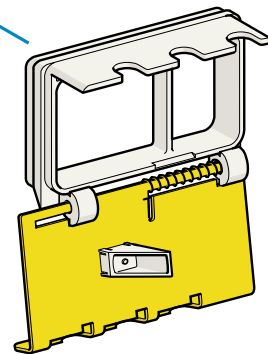
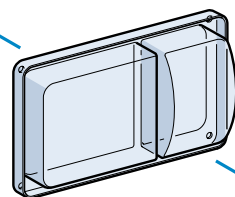
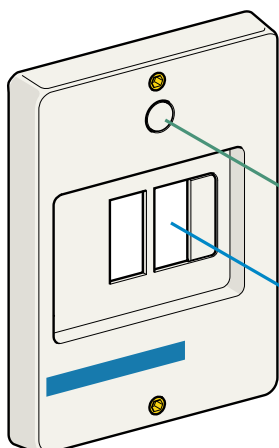
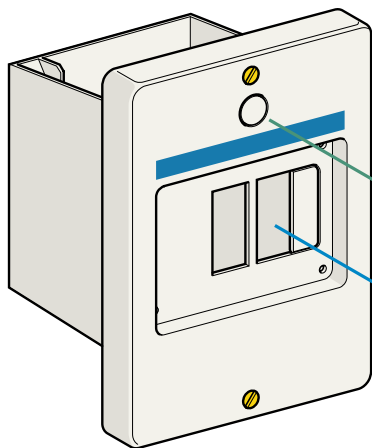
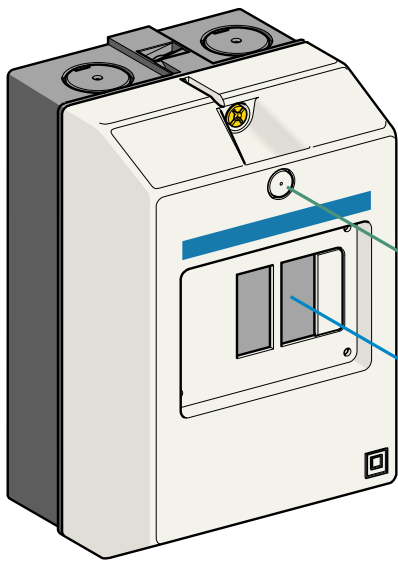
# TeSys circuit-breakers

Thermal-magnetic and magnetic motor circuit-breakers  
type GV2 with screw clamp terminals

Accessories

Accessories				
Description	Application	Sold in lots of	Unit reference	Weight kg
<b>Adapter plate</b>	For mounting a GV2-ME or GV2-LE by screw fixing	10	<b>GV2-AF02</b>	0.021
	For mounting a GV2-ME or GV2-P and contactor LC1-D09 to D38 with front faces aligned	10	<b>LAD-31 (supports GV2 only)</b> <b>LAD-311(supports GV2 &amp; contactor)</b>	0.040
<b>Height compensation plate</b>	7.5 mm	10	<b>GV1-F03</b>	0.003
<b>Combination block</b>	Between GV2 and contactor LC1-K or LP1-K	10	<b>GV2-AF01</b>	0.020
	Between GV2 and contactor LC1-D09...D38	10	<b>GV2-AF3</b>	0.016
	Between GV2 mounted on LAD-31 and contactor LC1-D09...D38	10	<b>GV2-AF4</b>	0.016
<b>Motor starter adapter plate</b>	With 3-pole connection for mounting a GV2 and an LC1-D09 to D25 contactor	1	<b>GK2-AF01</b>	0.120
Description	Application	Pitch mm	Reference	Weight kg
<b>Sets of 3-pole 63 A busbars</b>	2 tap-offs	45	<b>GV2-G245</b>	0.036
		54	<b>GV2-G254</b>	0.038
		72	<b>GV2-G272</b>	0.042
	3 tap-offs	45	<b>GV2-G345</b>	0.058
		54	<b>GV2-G354</b>	0.060
		72	<b>GV2-G372</b>	0.064
	4 tap-offs	45	<b>GV2-G445</b>	0.077
		54	<b>GV2-G454</b>	0.085
		72	<b>GV2-G472</b>	0.094
	5 tap-offs	54	<b>GV2-G554</b>	0.100
Description	Application	Sold in lots of	Unit reference	Weight kg
<b>Protective end cover (1)</b>	For unused busbar outlets	5	<b>GV1-G10</b>	0.005
<b>Terminal blocks for supply to one or more GV2-G busbar sets</b>	Connection from the top	1	<b>GV1-G09</b>	0.040
	Can be fitted with current limiter GV1-L3 (GV2-ME and GV2-P)	1	<b>GV2-G05</b>	0.115
<b>Cover for terminal block</b>	For mounting in modular panels	10	<b>LA9-E07</b>	0.005
<b>Flexible 3-pole connection for connecting a GV2 to an LC1-D09...D25 contactor</b>	Centre distance between mounting rails: 100...120 mm	10	<b>GV1-G02</b>	0.013
<b>Set of connections upstream/downstream</b>	For connecting GV2-ME to a printed circuit board	10	<b>GV2-GA01</b>	0.045
<b>Clip-in marker holders (supplied with each circuit-breaker)</b>	For GV2-P, GV2-L, GV2-LE and GV2-RT (8 x 22 mm)	100	<b>LA9-D92 (1)</b>	0.001
Padlockable external operator				
Description			Reference	Weight kg
For GV2-P and GV2-L (150 to 290 mm)	Padlocking in "On" and "Off" position Black handle, blue legend plate, IP 54		<b>GV2-AP01</b>	0.200
	Padlocking in "Off" position Red handle, yellow legend plate, IP 54		<b>GV2-AP02</b>	0.200
For GV2-LE	Padlocking in "On" and "Off" position Black handle, blue legend plate, IP 54		<b>GV2-AP03</b>	0.280
Padlocking device				
For all GV2 devices	For use with up to 6 padlocks (not supplied), Ø 6 mm shank max.		<b>GV2-V03</b>	0.130

(1) Check with requirements of local Isolation standards before use.



# TeSys circuit-breakers

Enclosed thermal-magnetic motor circuit-breakers  
type GV2-ME and accessories, assembled by user

## Enclosed thermal-magnetic motor circuit-breakers GV2-ME

Thermal-magnetic motor circuit-breakers and accessories: see pages 3/31 and 3/33.

The motor starter comprising an enclosed motor circuit-breaker GV2-ME conforms to IEC/EN 60947-4-1.

GV2- Ithe (A)	ME01	ME02	ME03	ME04	ME05	ME06	ME07	ME08	ME10	ME14	ME16	ME20	ME21	ME22
	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	9	13	17	21	23

## Enclosures for thermal-magnetic motor circuit-breakers GV2-ME

Type	Degree of protection	Possible attachments on side of GV2-ME		Reference	Weight kg
		Left	Right		
<b>Surface mounting</b> Double, insulated with protective conductor. Sealable cover	IP 41	1	1	<b>GV2-MC01</b>	0.290
	IP 55	1	1	<b>GV2-MC02</b> or <b>GV2-MCK04 (1)</b>	0.300 0.420
	IP 55 for temperature < + 5 °C	1	1	<b>GV2-MC03</b>	0.300
<b>Flush, mounting</b> with protective conductor	IP 41 (front face)	1	1	<b>GV2-MP01</b>	0.115
	IP 41 (reduced flush mounting)	–	1	<b>GV2-MP03</b>	0.115
	IP 55 (front face)	1	1	<b>GV2-MP02</b>	0.130
	IP 55 (reduced flush mounting)	–	1	<b>GV2-MP04</b>	0.130

## Front plate

<b>For direct control</b> , through a panel of a chassis-mounted GV2-ME	IP 55	<b>GV2-CP21</b>	0.800
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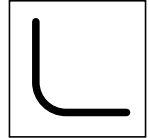
## Accessories common to all enclosures (to be ordered separately)

Description		Sold in lots of	Unit reference	Weight kg	
<b>Padlocking device (2)</b> for GV2-ME operator (padlocking is only possible in "O" position)	1 to 3 padlocks Ø 4 to 8 mm	1	<b>GV2-V01</b>	0.075	
<b>Mushroom head</b>	Spring return (2)	1	<b>GV2-K011</b>	0.052	
<b>"Stop" pushbutton Ø 40 mm, red</b>	Latching (2) IP 55	Key release key n° 455	1 <b>GV2-K021</b>	0.160	
		Turn to release	1 <b>GV2-K031</b>	0.115	
			1 <b>GV2-K04 (3)</b>	0.120	
<b>Sealing kit</b>	For enclosures and front plate	IP 55	10 <b>GV2-E01</b>	0.012	
		IP 55 for $\theta < + 5$ °C	10 <b>GV2-E02</b>	0.012	
<b>Neutral terminal</b>		100	<b>AB1-VV635UBL</b>	0.015	
<b>Partition</b>		50	<b>AB1-AC6BL</b>	0.003	
Description	Voltage V	Colour	Sold in lots of	Unit reference	Weight kg
<b>Neon indicator light</b>	110	Green	10	<b>GV2-SN13</b>	0.019
		Red	10	<b>GV2-SN14</b>	0.019
		Orange	10	<b>GV2-SN15</b>	0.019
		Clear	10	<b>GV2-SN17</b>	0.019
	220/240	Green	10	<b>GV2-SN23</b>	0.019
		Red	10	<b>GV2-SN24</b>	0.019
		Orange	10	<b>GV2-SN25</b>	0.019
		Clear	10	<b>GV2-SN27</b>	0.019
	380/440	Green	10	<b>GV2-SN33</b>	0.019
		Red	10	<b>GV2-SN34</b>	0.019
		Orange	10	<b>GV2-SN35</b>	0.019
		Clear	10	<b>GV2-SN37</b>	0.019

(1) The GV2-MCK04 enclosure has a GV2-K04 mushroom head Stop pushbutton fitted as standard.

(2) Supplied with IP 55 sealing kit. For use with GV2-M01.

(3) Padlockable in "Off" position using Ø 4 to 8 mm shank padlocks.



GV2-L

## Magnetic circuit-breakers GV2-L with screw clamp terminals

### Rotary handle

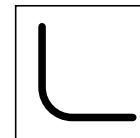
Standard power ratings  
of 3-phase motors  
50/60 Hz in category AC-3

400/415 V      500 V      690 V

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

(1) As % of Icu.

★ > 100 kA.



GV2-LE

## Magnetic circuit-breakers GV2-LE with screw clamp terminals

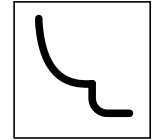
## Rocker lever

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3										Magnetic protection rating	Tripping current I <sub>d</sub> ± 20 %	Use in association with thermal overload relay	Reference	Weight kg
400/415 V			500 V			690 V								
P	I <sub>cu</sub>	I <sub>cs</sub> (1)	P	I <sub>cu</sub>	I <sub>cs</sub> (1)	P	I <sub>cu</sub>	I <sub>cs</sub> (1)						
kW	kA		kW	kA		kW	kA		A	A				
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-LE08	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 I<sub>cu</sub>. TeSys protection components

★ &gt; 100 kA.

## TeSys circuit-breakers

Thermal magnetic circuit-breakers  
type GV2-RT (1)

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	Magnetic tripping current Id ± 20 %	Reference	Weight
220 V	400 V	440 V	500 V	690 V				
kW	kW	kW	kW	kW	A	A		kg
0.06	0.09	0.09	–	–	0.25...0.40	8	<b>GV2-RT03</b>	0.350
	0.12	0.12						
–	0.18	0.18	–	0.37	0.40...0.63	13	<b>GV2-RT04</b>	0.350
0.09	0.25	0.25						
0.12	0.37	0.37	0.37	0.55	0.63...1	22	<b>GV2-RT05</b>	0.350
0.18	0.37	0.37	0.37	0.75				
0.25	0.55	0.55	0.55	1.1	1...1.6	33	<b>GV2-RT06</b>	0.350
			0.75					
0.37	0.75	1.1	1.1	1.5	1.6...2.5	51	<b>GV2-RT07</b>	0.350
0.55	1.1		1.5	2.2				
0.75	1.5	1.5	2.2	3	2.5...4	78	<b>GV2-RT08</b>	0.350
		2.2						
1.1	2.2	3	3	4	4...6.3	138	<b>GV2-RT10</b>	0.350
1.5	3		4	5.5				
2.2	4	4	5.5	7.5	6...10	200	<b>GV2-RT14</b>	0.350
2.2		5.5		9				
3	5.5	7.5	7.5	11	9...14	280	<b>GV2-RT16</b>	0.350
		7.5						
4	7.5	9	9	15	13...18	400	<b>GV2-RT20</b>	0.350
	9							
5.5	11	11	11	18.5	17...23	400	<b>GV2-RT21</b>	0.350

## For primaries of 3-phase transformers

## Control by rocker lever

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

## Accessory (2)

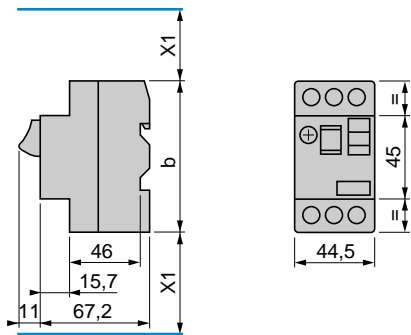
Description	Reference	Weight
		kg
<b>Padlockable external operator</b> (IP 54), black handle, blue legend plate	<b>GV2-AP03</b>	0.280

(1) Characteristics of GV2-RT identical to those of GV2-ME except for tripping current (Id).

(2) Other accessories such as mounting, cabling and marking accessories are identical to those used for GV2-ME motor circuit-breakers, see page 3/39.



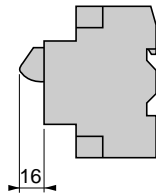
### GV2-ME



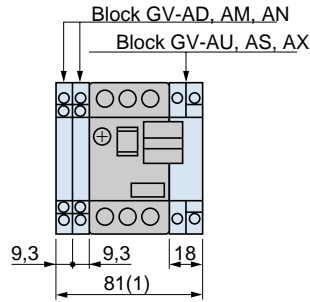
	b
<b>GV2-ME●●</b>	89
<b>GV2-ME●●3</b>	101

(1) Maximum  
X1 Electrical clearance = 40 mm for  $U_e \leq 690$  V  
**GV2-P**

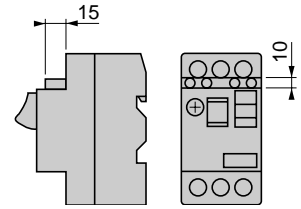
### GV-AX



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

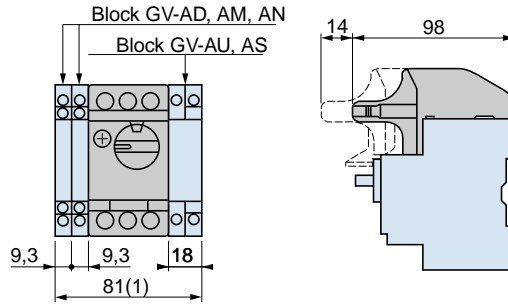
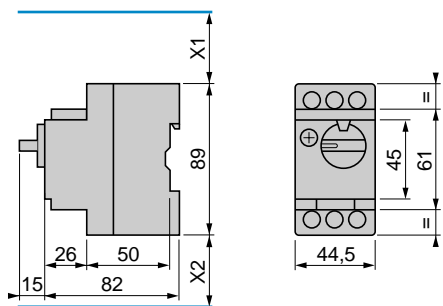


### GV-AE



### GV-AD, AM, AN, AU, AS

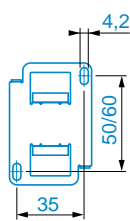
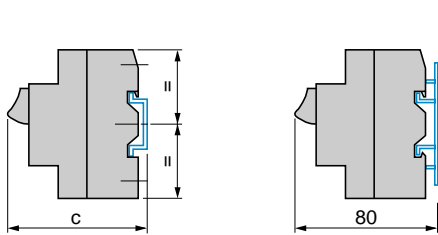
### GV2-AK00



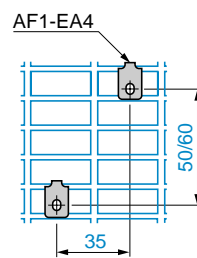
(1) Maximum  
X2 = 40 mm  
X1 Electrical clearance = 40 mm for  $U_e \leq 415$  V, or 80 mm for  $U_e = 440$  V, or 120 mm for  $U_e = 500$  and 690 V

### Mounting GV2-ME

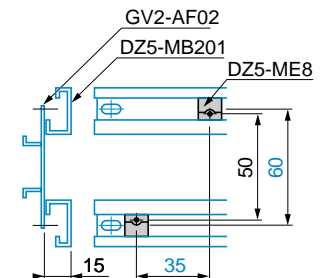
On 35 mm rail  
On panel with adapter plate **GV2-AF02**  
**AM1-PA**  
c = 78.5 on AM1-DP200 (35 x 7.5)  
c = 86 on AM1-DE200, ED200 (35 x 15)



On pre-slotted mounting plate

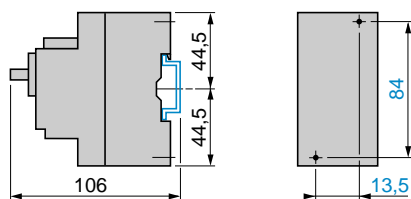


On mounting rail **DZ5-MB201**



### Mounting GV2-P

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



On pre-slotted mounting plate **AM1-PA**

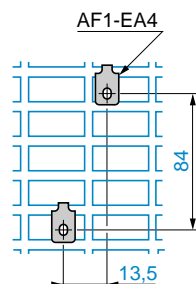
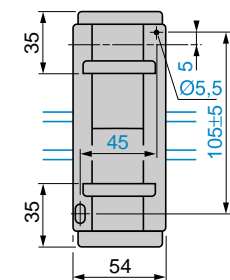
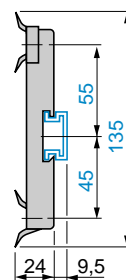
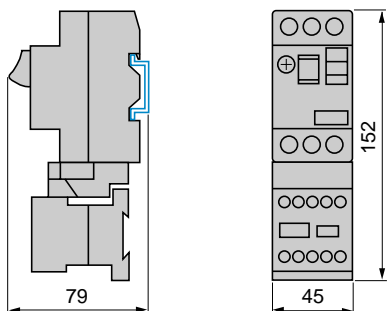


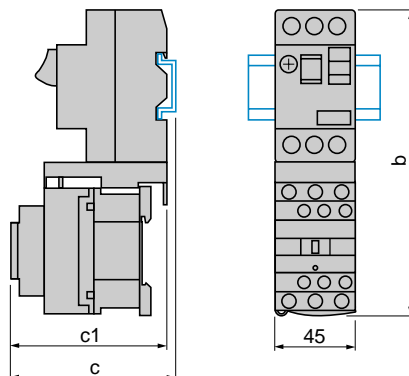
Plate **GK2-AF01**



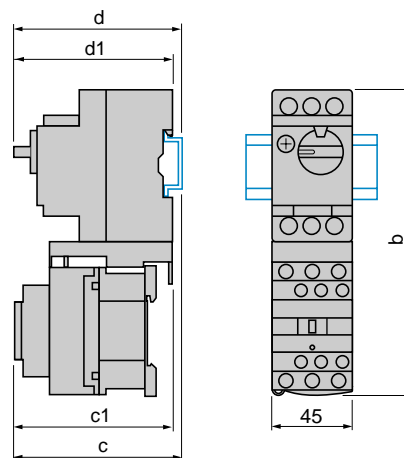
**GV2-AF01**  
Combination **GV2-ME** + K contactor



**GV2-AF3**  
Combination **GV2-ME** + model d contactor



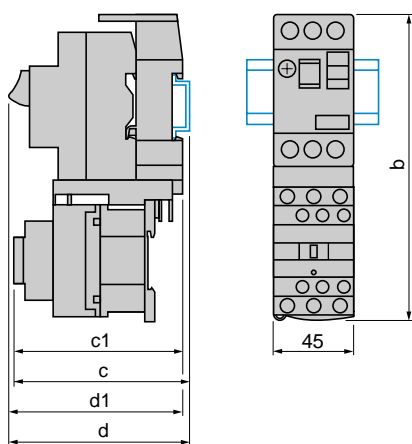
Combination **GV2-P** + model d contactor



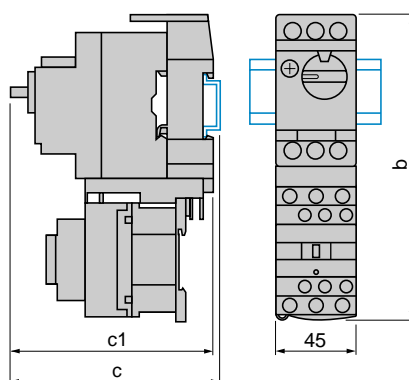
GV2-ME +	LC1-D09...D18	LC1-D25 and D32
b	176.4	186.8
c1	88.65	94.95
c	94.15	100.45

GV2-P +	LC1-D09...D18	LC1-D25 & D32
b	177.4	187.8
c1	88.6	94.95
c	94.1	100.45
d1	91	91
d	96.8	96.8

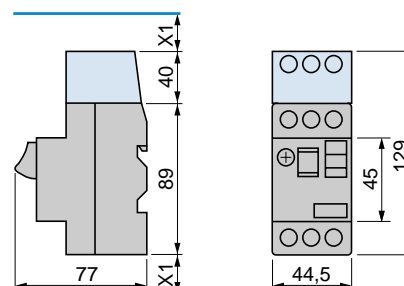
**GV2-AF4 + LAD-31**  
Combination **GV2-ME** + model d contactor



Combination **GV2-P** + model d contactor



**GV2-ME + GV1-L3** (current limiter)



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

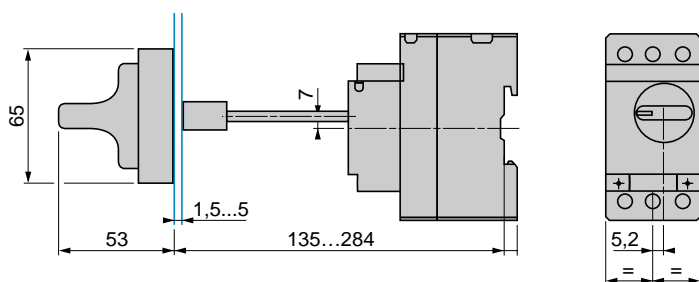
**7.5 mm height compensation plate  
GV1-F03**

GV2-ME +	LC2-D09...D18	LC2-D25 and D32
b	188.6	199
c1	92.7	99
c	98.2	104.5
d1	98.3	98.3
d	103.8	103.8

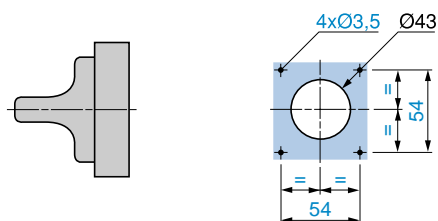
GV2-P +	LC2-D09...D18	LC2-D25 and D32
b	169.1	199.5
c1	116.8	116.8
c	122.3	122.3



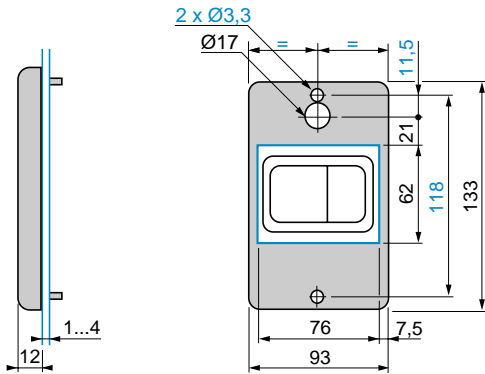
Mounting of external operator **GV2-AP01** or **GV2-AP02** for **GV2-P**



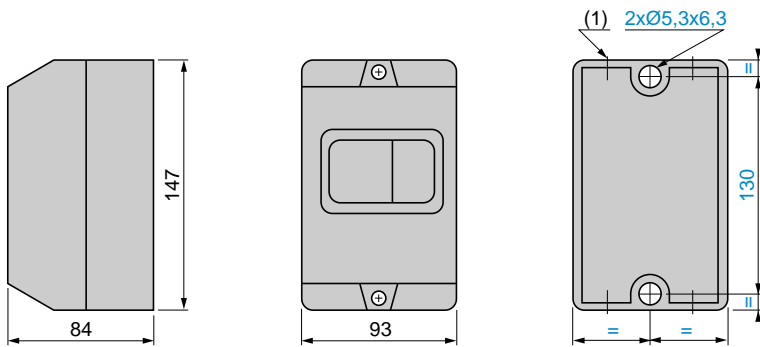
Door drilling



### Front plate GV2-CP21 For GV2-ME



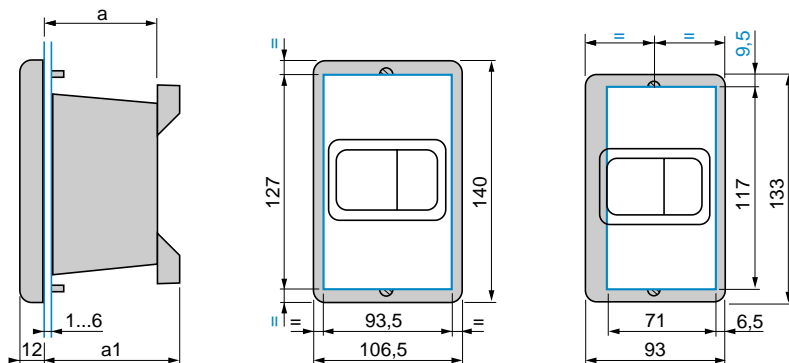
### Surface mounting enclosure GV2-MC0● For GV2-ME



(1) 4 knock-outs for 16 mm plastic cable glands or n° 16 conduit

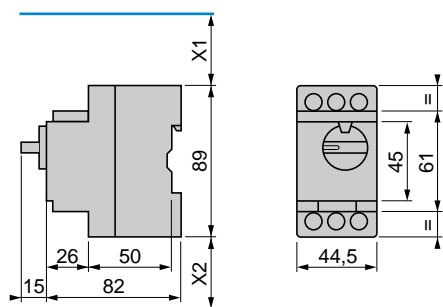
### Flush mounting enclosure GV2-MP0● (bracket cut-out) For GV2-ME

GV2-MP0●                      GV2-MP01, MP02                      GV2-MP03, MP04

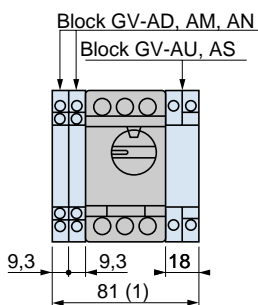


GV2-	a	a1
MP01, MP02	71	-
MP03, MP04	71	86

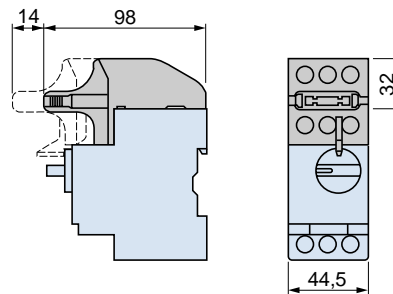
### GV2-L



### GV-AD, AM, AN, AU, AS



### GV2-AK00

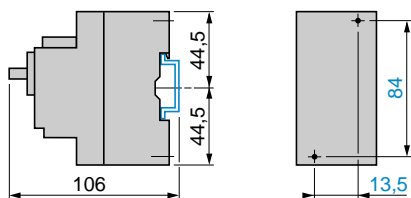


X1 Electrical clearance = 40 mm for  $U_e \leq 415$  V,  
or 80 mm for  $U_e = 440$  V,  
or 120 mm for  $U_e = 500$  and  $690$  V.  
X2 = 40 mm.

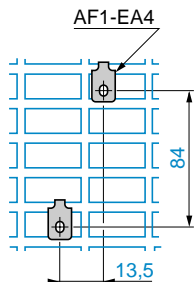
(1) Maximum.

### Mounting of GV2-L

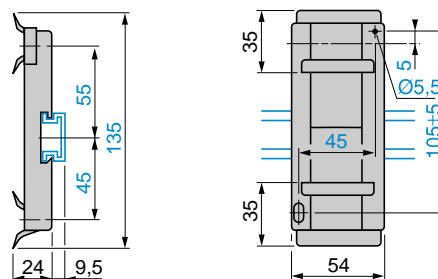
On mounting rail AM1-DE200, On panel  
AM1-ED200 (35 x 15)



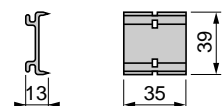
On pre-slotted mounting plate  
AM1-PA



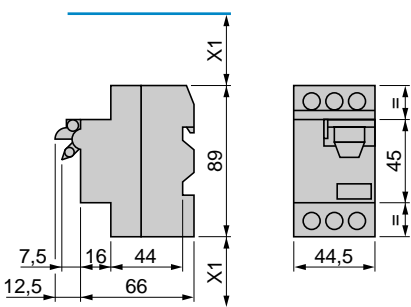
### Adaptor plate GK2-AF01



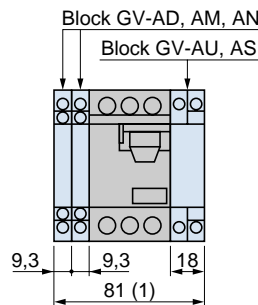
### 7.5 mm height compensation plate GV1-F03



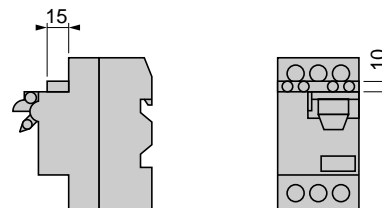
### GV2-LE



### GV-AD, AM, AN, AU, AS



### GV-AE

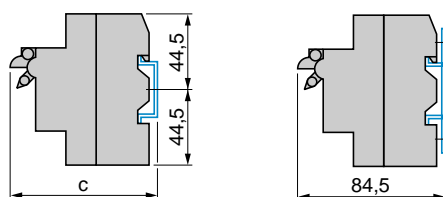


X1 Electrical clearance = 40 mm for  $U_e \leq 690$  V.

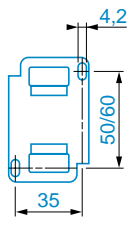
(1) Maximum.

### Mounting of GV2-LE

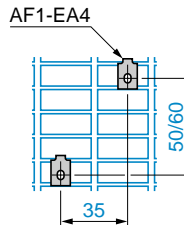
On 35 mm rail



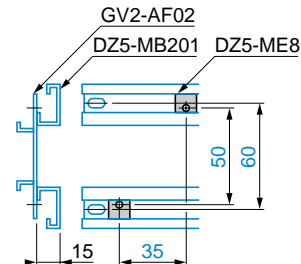
On panel with adaptor plate GV2-AF02



On pre-slotted mounting  
plate AM1-PA

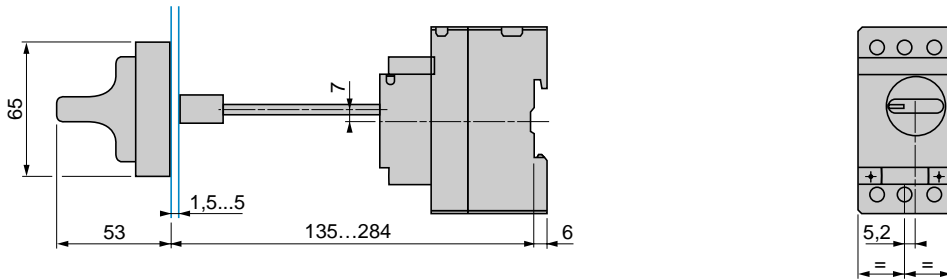


On mounting rails DZ5-MB201

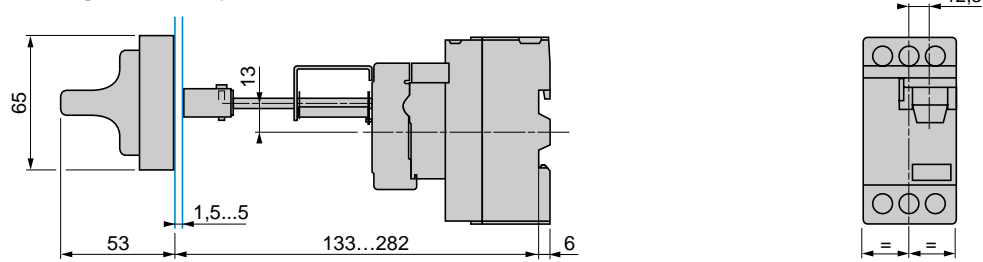


c = 80 on AM1-DP200 (35 x 7.5)  
c = 88 on AM1-DE200, ED200 (35 x 15)

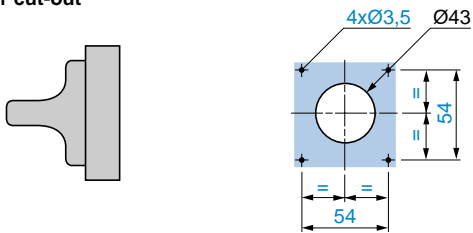
Mounting of external operator GV2-AP01 or GV2-AP02 for GV2-L



Mounting of external operator GV2-AP03 for GV2-LE



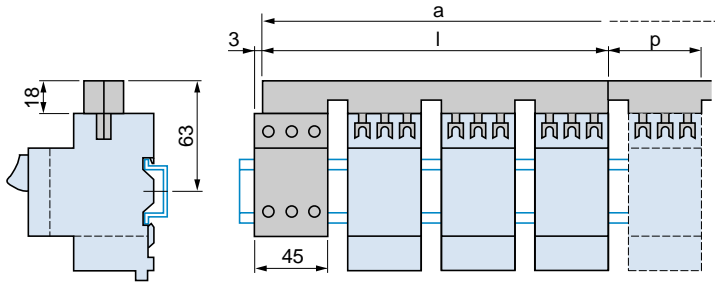
Door cut-out



# TeSys circuit-breakers

Thermal-magnetic motor circuit-breakers  
types GV2-ME, GV2-P, GV2-L, GV2-LE, GV2-RT

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

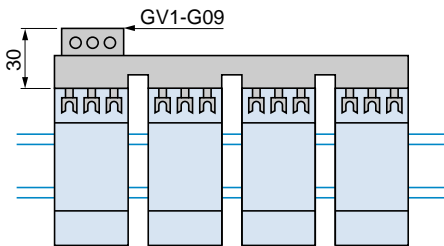


	l	p
GV2-G445 (4 x 45 mm)	179	45
GV2-G454 (4 x 54 mm)	206	54
GV2-G472 (4 x 72 mm)	260	72

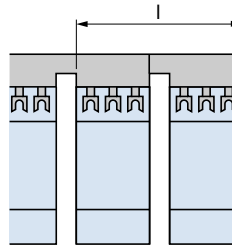
  

	a			
No. of tap-offs	5	6	7	8
GV2-G445	224	269	314	359
GV2-G454	260	314	368	422
GV2-G472	332	404	476	548

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

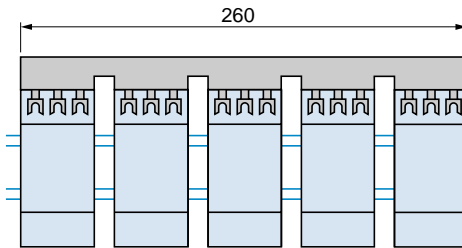


Sets of busbars GV2-G245, GV2-G254, GV2-G272

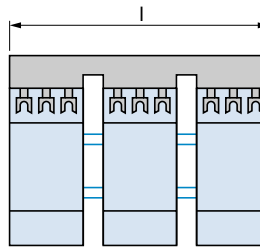


	l
GV2-G245 (2 x 45 mm)	89
GV2-G254 (2 x 54 mm)	98
GV2-G272 (2 x 72 mm)	116

Set of busbars GV2-G554

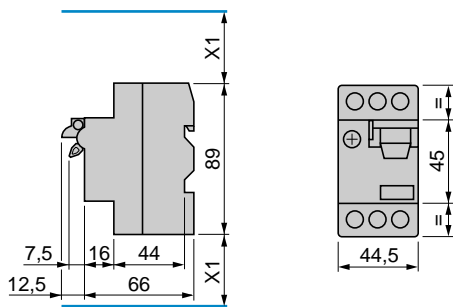


Sets of busbars GV2-G345 and G354

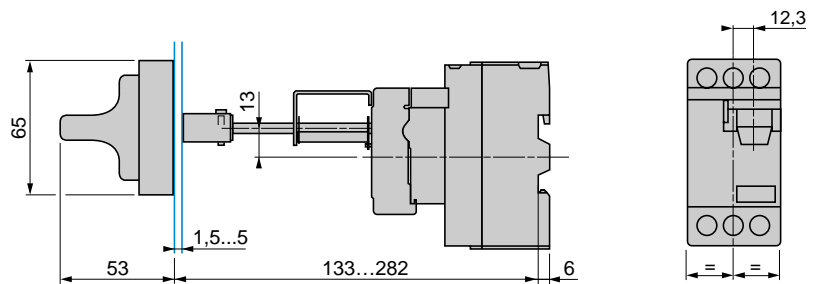


	l
GV2-G345 (3 x 45 mm)	134
GV2-G354 (3 x 54 mm)	152

Dimensions of GV2-RT



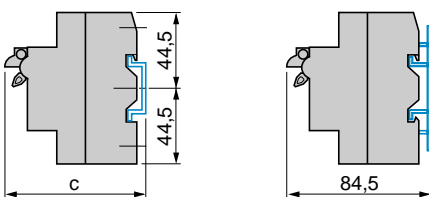
Mounting of external operator GV2-AP03



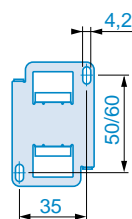
X1: Electrical clearance = 40 mm for Ue < 690 V

Mounting of GV2-RT

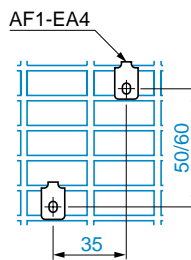
on 35 mm rail  
c = 80 on AM1-DP200 (35 x 7.5)  
c = 88 on AM1-DE200, ED200 (35 x 15)



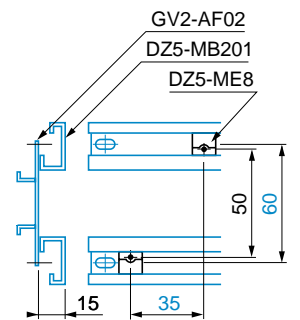
On panel with adapter plate GV2-AF02



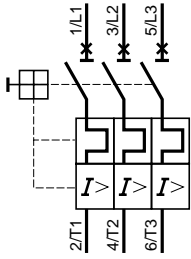
On pre-slotted mounting plate AM1-PA



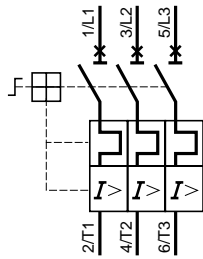
On mounting rails DZ5-MB



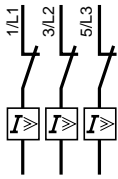
**GV2-ME●● and GV2-RT**



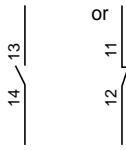
**GV2-P●●**



**Current limiter GV1-L3**



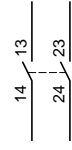
**Front mounting add-on contact blocks  
Instantaneous auxiliary contacts  
GV-AE1**



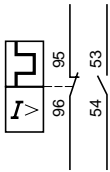
**GV-AE11**



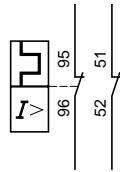
**GV-AE20**



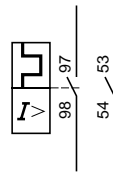
**Side mounting add-on contact blocks  
Instantaneous auxiliary contacts and fault signalling contacts  
GV-AD0110**



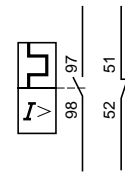
**GV-AD0101**



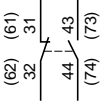
**GV-AD1010**



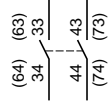
**GV-AD1001**



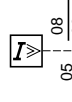
**Instantaneous auxiliary contacts  
GV-AN11**



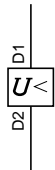
**GV-AN20**



**Short-circuit signalling contacts  
GV-AM11**



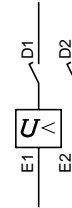
**Voltage trips  
GV-AU●●●**



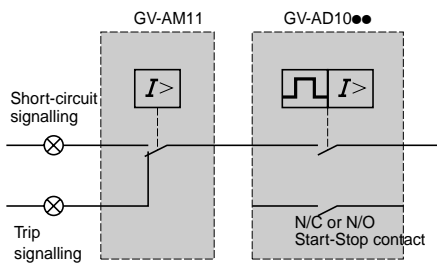
**GV-AS●●●**



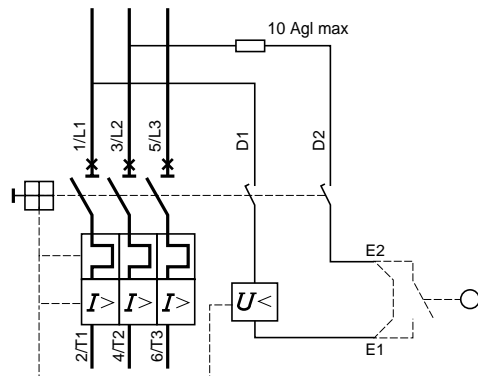
**GV-AX●●●**



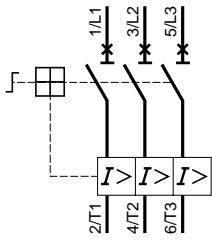
**Use of fault signalling contact and short-circuit signalling contact**



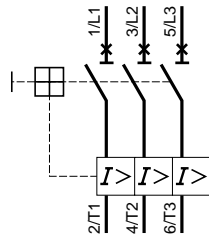
**Connection of undervoltage trip for dangerous machines (conforming to INRS) on GV2-ME only**



**GV2-L●●**



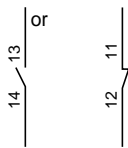
**GV2-LE●●**



**Front mounting add-on contact blocks**

**Instantaneous auxiliary contacts**

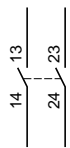
**GV-AE1**



**GV-AE11**



**GV-AE20**

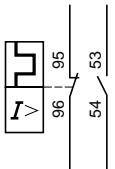


3

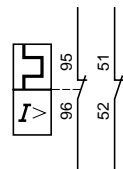
**Side mounting add-on contact blocks**

**Instantaneous auxiliary contacts and fault signalling contacts**

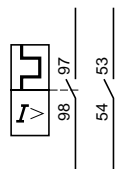
**GV-AD0110**



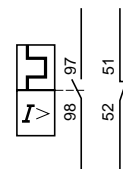
**GV-AD0101**



**GV-AD1010**



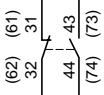
**GV-AD1001**



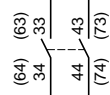
3.1

**Instantaneous auxiliary contacts**

**GV-AN11**



**GV-AN20**



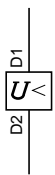
**Short-circuit signalling contacts**

**GV-AM11**

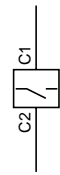


**Voltage trips**

**GV-AU●●●**



**GV-AS●●●**

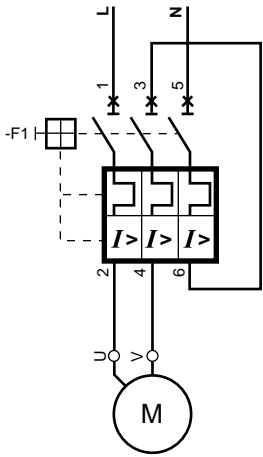




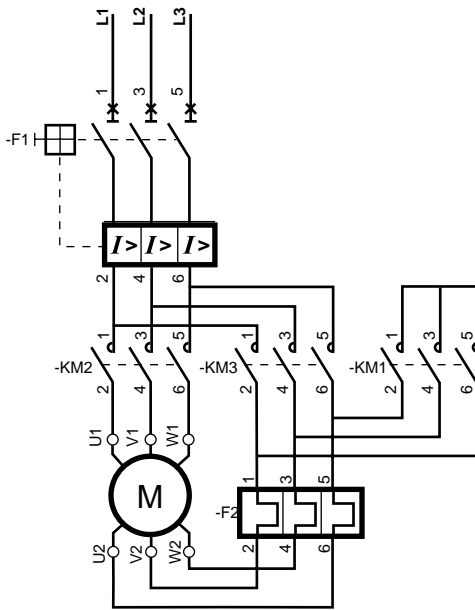
## TeSys circuit-breakers

Thermal-magnetic and magnetic motor circuit-breakers types GV2-ME, GV2-P, GV2-L, GV2-LE, GV2-RT

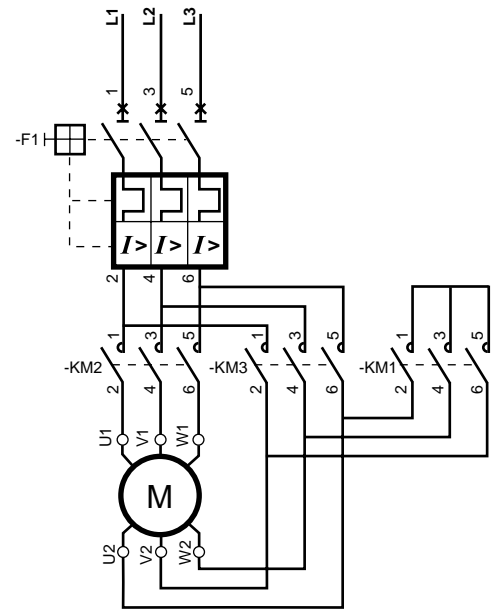
Single-phase or d.c. motor  
GV2-ME, GV2-P



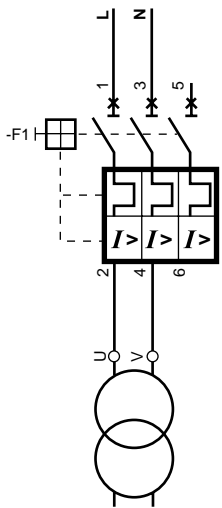
Star-delta starter  
GV2-L, GV2-LE + separate overload



Star-delta starter  
GV2-ME, GV2-P



Single-phase transformer  
GV2-RT



Three phase transformer  
GV2-RT

