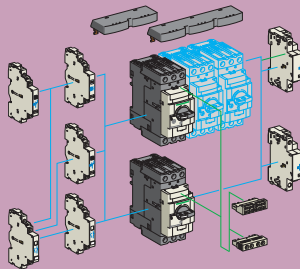


Circuit breakers - TeSys GV, GB

Type of product	Range		Pages
Magnetic circuit breakers for motors TeSys GV	Up to 15, 30, 37 or 110 kW		B6/2
Thermal magnetic circuit breakers for motors TeSys GV	Up to 15, 30, 37 or 110 kW		B6/4
Add-on blocks, accessories, for motor circuit breakers			B6/10
Thermal magnetic circuit breakers for control circuits, Solenoid valves or transformers TeSys GB, GV	From 0.5 to 23 A		B6/26

TeSys protection components

Thermal-magnetic motor circuit breakers

GV2 P, GV3 P and GV3 ME80

TeSys GV



GV2 P10



GV3 P65



GV3 P651

Motor circuit breakers from 0.06 to 30 kW / 400 V

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

400/415 V			500 V			690 V		
P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾

Setting
range
of thermal
trips
⁽²⁾

Magnetic
tripping
current
I_d ± 20 %

Reference

GV2 P: control by rotary knob
Screw clamp terminals

kW	kA	%	kW	kA	%	kW	kA	%	A	A	
0.06	*	*	—	—	—	—	—	—	0.1...0.16	1.5	GV2P01
0.09	*	*	—	—	—	—	—	—	0.16...0.25	2.4	GV2P02
0.12	*	*	—	—	—	—	—	—	0.25...0.40	5	GV2P03
0.18	*	*	—	—	—	0.37	*	*	0.40...0.63	8	GV2P04
0.25	*	*	—	—	—	0.55	*	*	0.63...1	13	GV2P05
0.37	*	*	0.37	*	*	—	—	—	1...1.6	22.5	GV2P06
0.55	*	*	0.55	*	*	0.75	*	*	—	—	—
0.75	*	*	1.1	*	*	1.5	8	100	1.6...2.5	33.5	GV2P07
1.1	*	*	1.5	*	*	2.2	8	100	2.5...4	51	GV2P08
2.2	*	*	3	*	*	4	6	100	4...6.3	78	GV2P10
3	*	*	5	50	100	5.5	6	100	6...10	138	GV2P14
5.5	*	*	7.5	42	75	9	6	100	9...14	170	GV2P16
—	—	—	—	—	—	11	6	100	—	—	—
7.5	50	50	9	10	75	15	4	100	13...18	223	GV2P20
9	50	50	11	10	75	18.5	4	100	17...23	327	GV2P21
11	50	50	15	10	75	—	—	—	20...25	327	GV2P22
15	35	50	18.5	10	75	22	4	100	24...32	416	GV2P32

GV3 P: control by rotary knob

Connection by EverLink® BTR screw connectors ⁽³⁾

5.5	100	100	7.5	12	50	11	6	50	9...13	182	GV3P13
7.5	100	100	9	12	50	15	6	50	12...18	252	GV3P18
11	100	100	15	12	50	18.5	6	50	17...25	350	GV3P25
15	100	100	18.5	12	50	22	6	50	23...32	448	GV3P32
18.5	50	100	22	12	50	37	6	50	30...40	560	GV3P40
22	50	100	30	12	50	45	6	50	37...50	700	GV3P50
30	50	100	45	12	50	55	6	50	48...65	910	GV3P65

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

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

Connection by lugs

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

GV3 ME80: pushbutton control, screw clamp terminals

37	15	50	45	4	100	55	2	100	56...80	GV3ME80 ⁽⁴⁾
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Motor circuit breakers up to 50 hp / 600 V, UL 508 type E

GV2 ⁽⁵⁾

To obtain a GV2 P motor circuit breaker, UL 508 type E, use the following with the circuit breaker:

- a "Large Spacing" adapter GV2 GH7.

GV3 ⁽⁶⁾

To obtain a motor-circuit breaker GV3 P, UL 508 type E, use the following with the circuit breaker:

- a "Large Spacing" cover GV3 G66,
- a short-circuit signalling contact GV AM11.

GV3 with connection by lugs ⁽⁶⁾

To obtain a motor-circuit breaker GV3 P, UL 508 type E, with connection by lugs, add the digit 6 to the end of reference selected above and use the following with the circuit breaker:

- two IP 20 covers LAD 96570,
- a short-circuit signalling contact GV AM11.

⁽¹⁾ As % of I_{cu}.

⁽²⁾ The thermal trip setting must be within the range marked on the graduated knob.

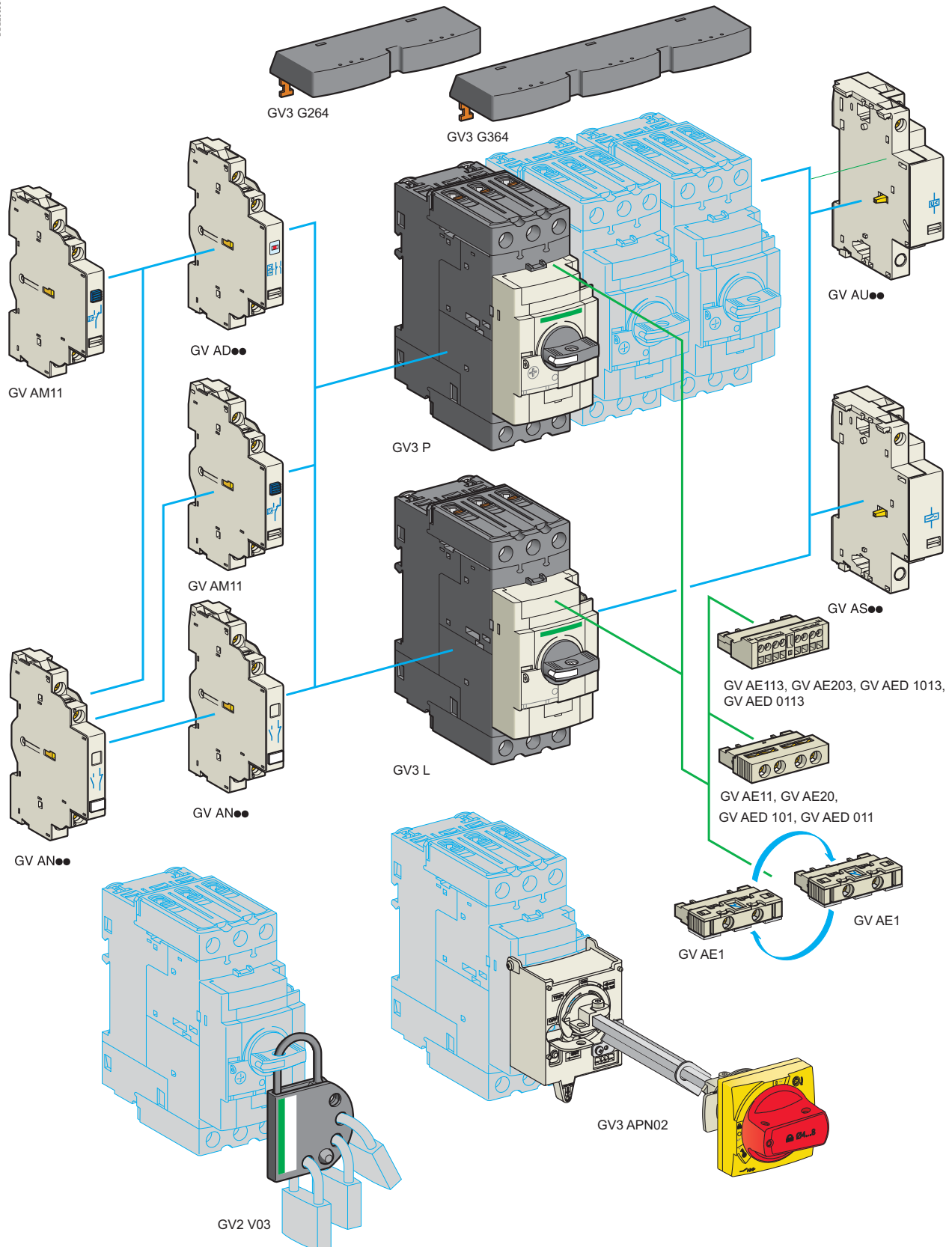
⁽³⁾ BTR screws: hexagon socket head. Require use of an insulated Allen key, in compliance with local wiring regulations.

⁽⁴⁾ Recommended for use in association with a contactor.

⁽⁵⁾ Accessory: see page B6/13.

⁽⁶⁾ Accessories: see page B6/17.

* > 100 kA.



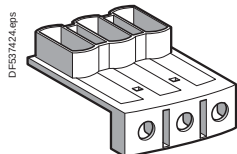
TeSys protection components

Thermal-magnetic motor circuit breakers

GV3 P and GV3 L

Add-on blocks and accessories

TeSys GV



GV3 G66

Contact blocks

Description	Mounting	Maximum number	Type of contacts	Sold in lots of	Unit reference
Instantaneous auxiliary contacts	Front	1	N/O or N/C ⁽¹⁾	10	GVAE1
			N/O + N/C	10	GVAE11 ⁽²⁾
			N/O + N/O	10	GVAE20 ⁽²⁾
	Side (LH)	2	N/O + N/C	1	GVAN11 ⁽²⁾
Fault signalling contact + instantaneous auxiliary contact	Front	1	N/O (fault) + N/O	1	GVAED101 ⁽²⁾
			N/O (fault) + N/C	1	GVAED011 ⁽²⁾
	Side ⁽³⁾ (LH)	1	N/O (fault) + N/O	1	GVAD1010
			+ N/C	1	GVAD1001
			N/C (fault) + N/O	1	GVAD0110
			+ N/C	1	GVAD0101
Short-circuit signalling contact	Side (LH)	1	C/O common point	1	GVAM11

Electric trips - undervoltage or shunt ⁽⁴⁾

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

Accessories

Description	Reference
Sets of 3-pole 115 A busbars	GV3G264
Pitch: 64 mm	GV3G364
Cover "Large Spacing" UL 508 type E (Only one cover required on supply side)	GV3G66

⁽¹⁾ Choice of N/C or N/O contact operation, depending on which way round the reversible block is mounted.

⁽²⁾ Contact blocks available in version with spring terminal connections. Add a figure 3 at the end of the references selected above.

Example: GV AED101 becomes GV AED1013.

⁽³⁾ The GV AD●● is always mounted next to the circuit breaker.

⁽⁴⁾ To order an undervoltage trip: replace the dot (●) in the reference with a U, example: GV AU025.

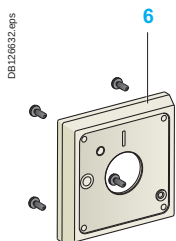
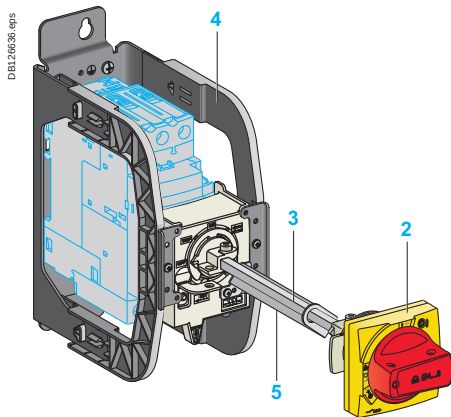
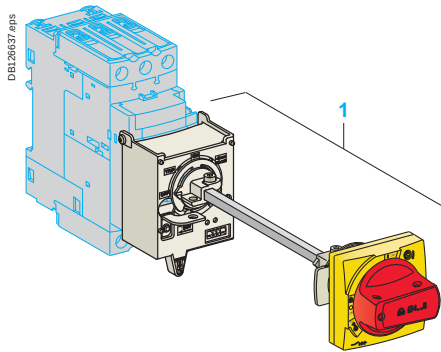
To order a shunt trip: replace the dot (●) in the reference with an S, example: GV AS025.

TeSys protection components

Thermal-magnetic motor circuit breakers

GV3 P and GV3 L

TeSys GV



Extended Rotary Handle

Allows a circuit breaker or a starter-controller installed in back of an enclosure to be operated from the front of the enclosure.

A rotary handle can be black or red/yellow, IP54 or IP65. It includes a function for locking the circuit breaker or the starter in the O (Off) or I (On) position (depending of the type of rotary handle) by means of up to 3 padlocks with a shank diameter of 4 to 8 mm. The extended shaft must be adjusted to use in different size enclosures. The IP54 rotary handle is fixed with a nut (Ø22) to make easier the assembling. The new Laser Square tool brings the accuracy to align the circuit breaker and the rotary handle.

Padlockable external operators for GV3 and GV3L

Description

- 1 Kit handle + mounting system
- 2 Universal handle
- 3 Shaft
- 4 Bracket
- 5 Shaft support plate for deep enclosure
- 6 Retrofit accessory
- 7 Laser Square accessory

Kit handle + mounting system

Description	Item Reference
For GV3 P/L Black handle, front plate, with trip status, IP 54	1 GV3APN01
Red handle, front plate, with trip status, IP 54	1 GV3APN02
Red handle, front plate, without trip status, IP 65	1 GV3APN04

Universal handle

For GV3 P/L Black handle, IP 54	2 GVAPB54
Red handle, IP 54	2 GVAPR54
Red handle, IP 65	2 GVAPR65

Shaft

For GV3 P/L L = 315 mm	3 GVAPA1
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Bracket

For GV3 P/L	4 GVAPH03
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Shaft support plate for deep enclosure

For GV3 P/L Depth ≥ 300 mm	5 GVAPK12
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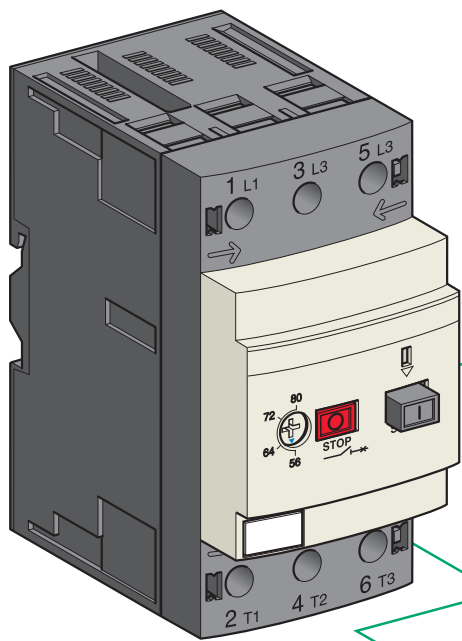
Retrofit accessory

For GV3 P/L	6 GVAPP1
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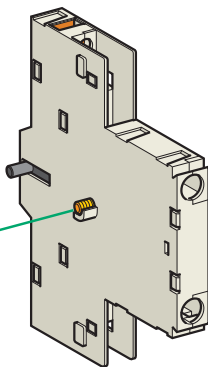
Laser Square accessory

For GV3 P/L	7 GVAPL01
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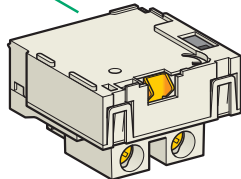
Sticker	Sold in lots of	
Warning label	For French	10 - GVAPSFR
	For English	10 - GVAPSEN
	For German	10 - GVAPSDE
	For Spanish	10 - GVAPSES
	For Chinese	10 - GVAPSCN
	For Portuguese	10 - GVAPSPT
	For Russian	10 - GVAPSRU
	For Italian	10 - GVAPSIT



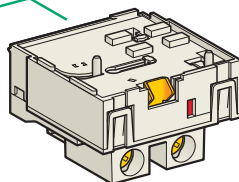
GV3 ME80



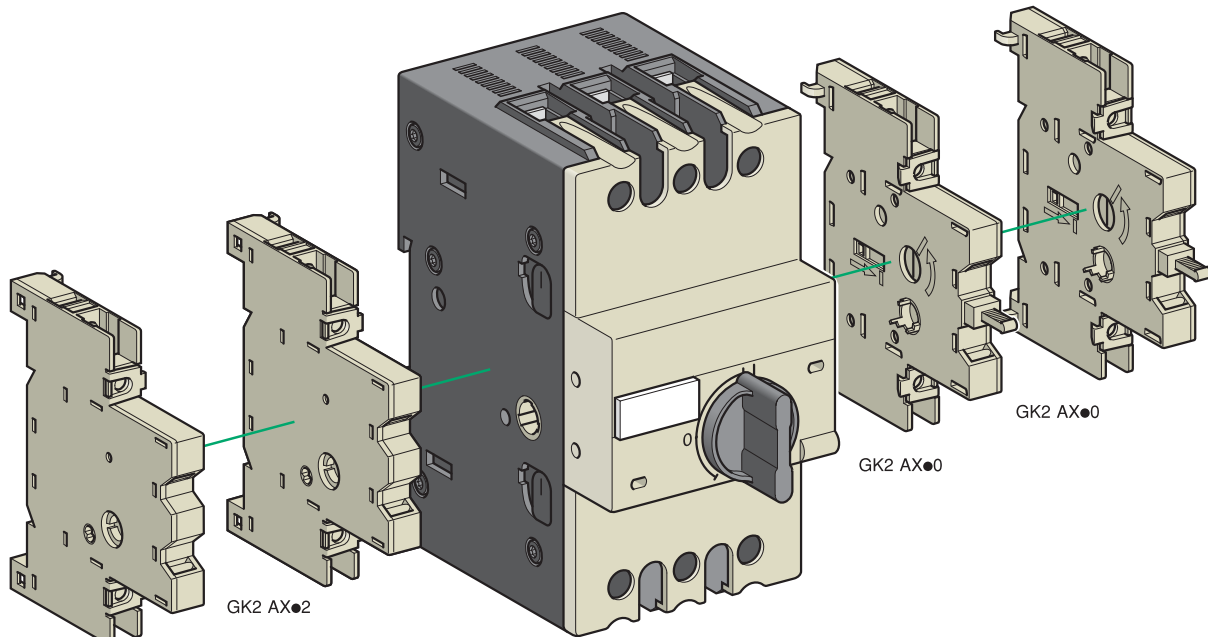
GV3 A01...A07



GV3 B●●
GV3 D●●



GV3 A08
GV3 A09



GK2 AX●2

GK2 AX●2

GK3 EF80

GK2 AX●0

GK2 AX●0

TeSys protection components

Motor circuit breakers GV3 ME80 and GK3 EF80

Add-on blocks and accessories

TeSys GV

For thermal-magnetic motor circuit breakers GV3 ME80**Contact blocks**

Description	Type of standard early break contacts	Reference
Instantaneous auxiliary contact blocks (1 per circuit breaker)	N/C + N/O	GV3A01
	N/O + N/O	GV3A02
	N/C + N/O + N/O	GV3A03
	N/O + N/O + N/O	GV3A05
	N/O + N/O + 2 volt-free terminals	GV3A06
	N/C + N/O + 2 volt-free terminals	GV3A07
Fault signalling contacts ⁽¹⁾	N/C	GV3A08
	N/O	GV3A09

Electric trips

Description	Voltages		Reference
	50 Hz	60 Hz	
Undervoltage trips ⁽¹⁾	110, 120, 127 V	120, 127 V	GV3B11
	220, 240 V	277 V	GV3B22
	380, 415 V	440 V, 480 V	GV3B38
Shunt trips ⁽¹⁾	110, 120, 127 V	120, 127 V	GV3D11
	220, 240 V	277 V	GV3D22
	380, 415 V	440 V, 480 V	GV3D38

Accessory

Description	Sold in lots of	Unit reference
Padlocking device, for locking the Start button (on open-mounted product)	5	GV1V02

For magnetic circuit breaker GK3 EF80**Contact blocks**

Description	Number of poles	Reference
Auxiliary contact blocks for On-Off signalling and "control circuit test" function (1 or 2 blocks per device) mounted on RH side of GK3 EF80	N/O	GK2AX10
	N/O + N/O	GK2AX20
	N/C + N/O	GK2AX50
Instantaneous fault signalling contact blocks (1 or 2 blocks per device) mounted on LH side of GK3 EF80	N/O	GK2AX12
	N/O + N/O	GK2AX22
	N/C + N/O	GK2AX52

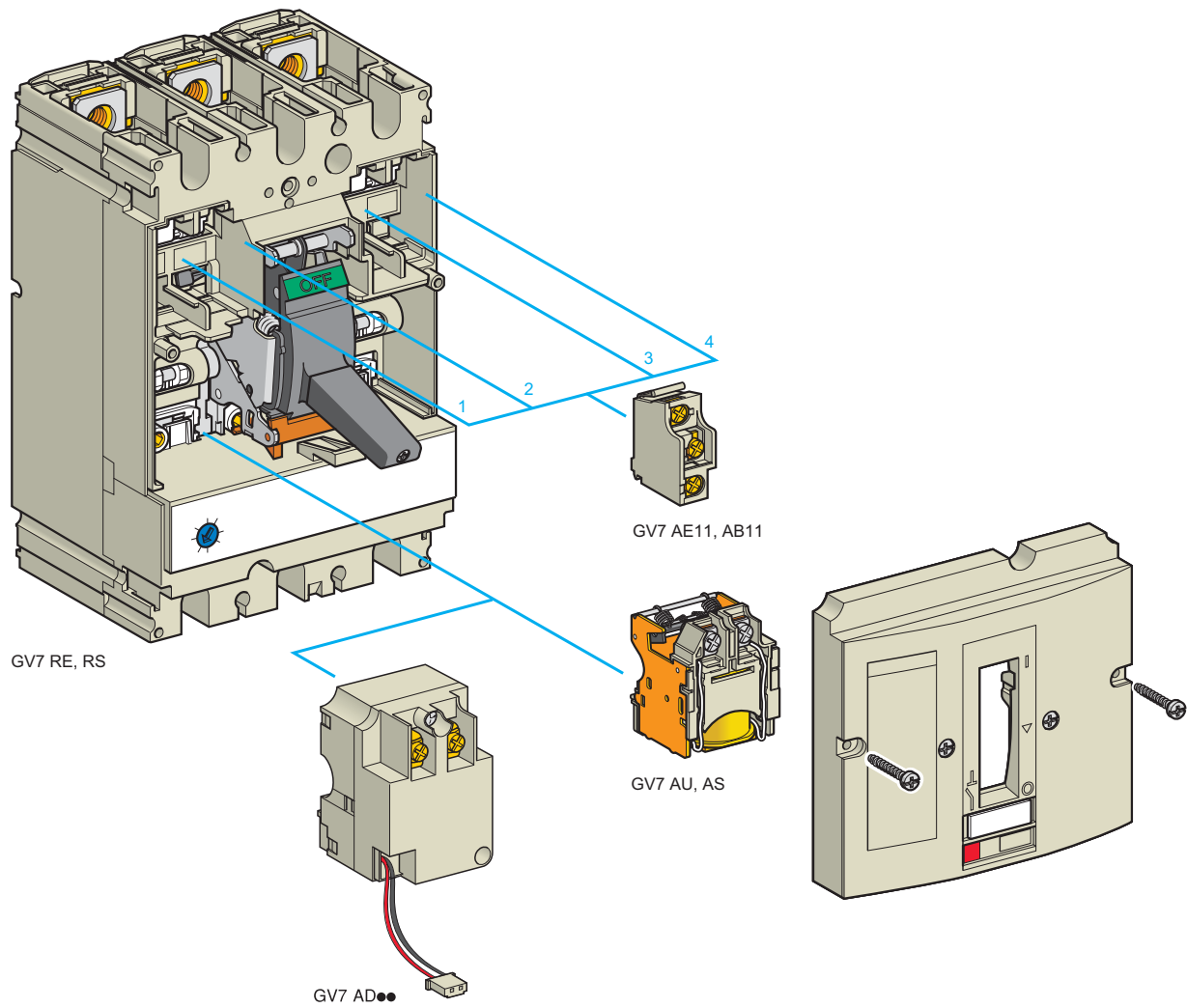
Accessories

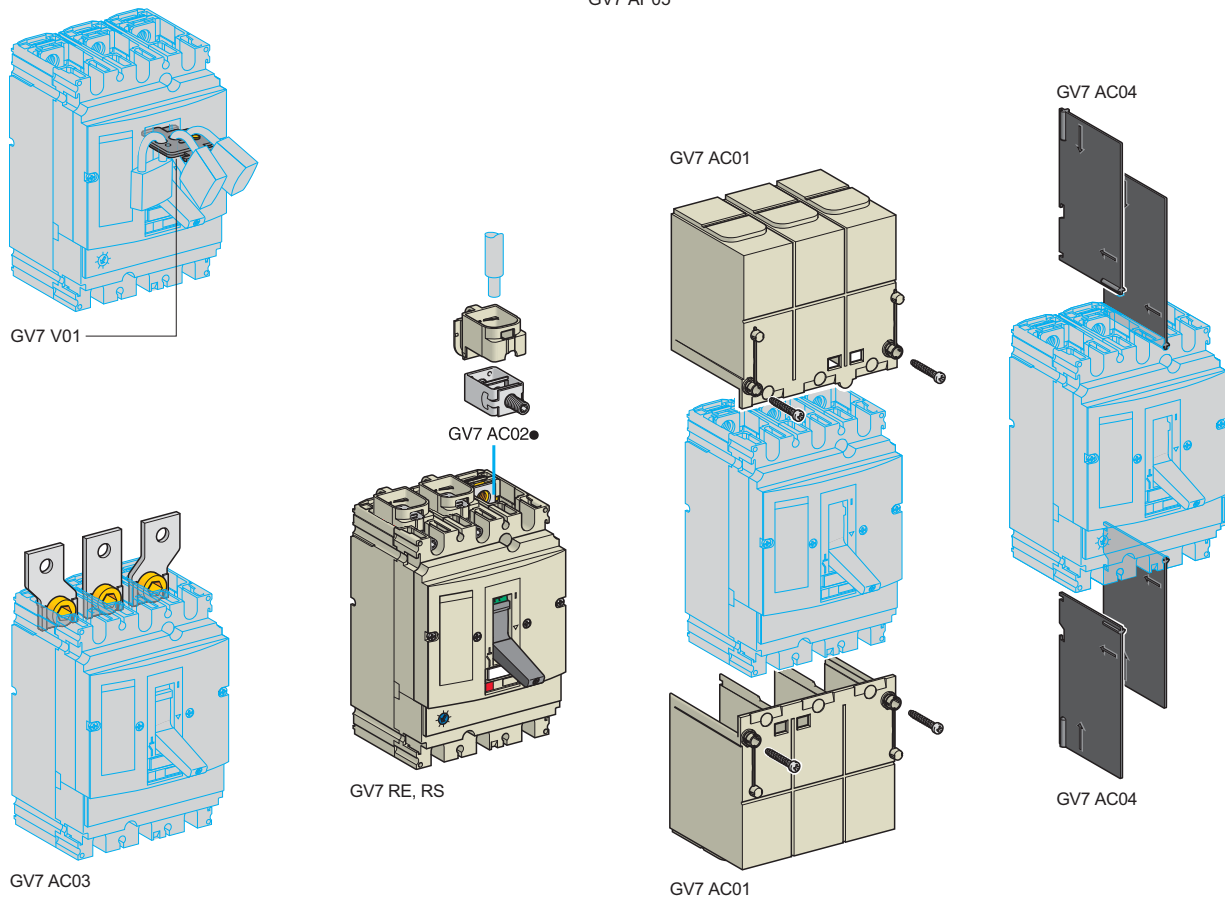
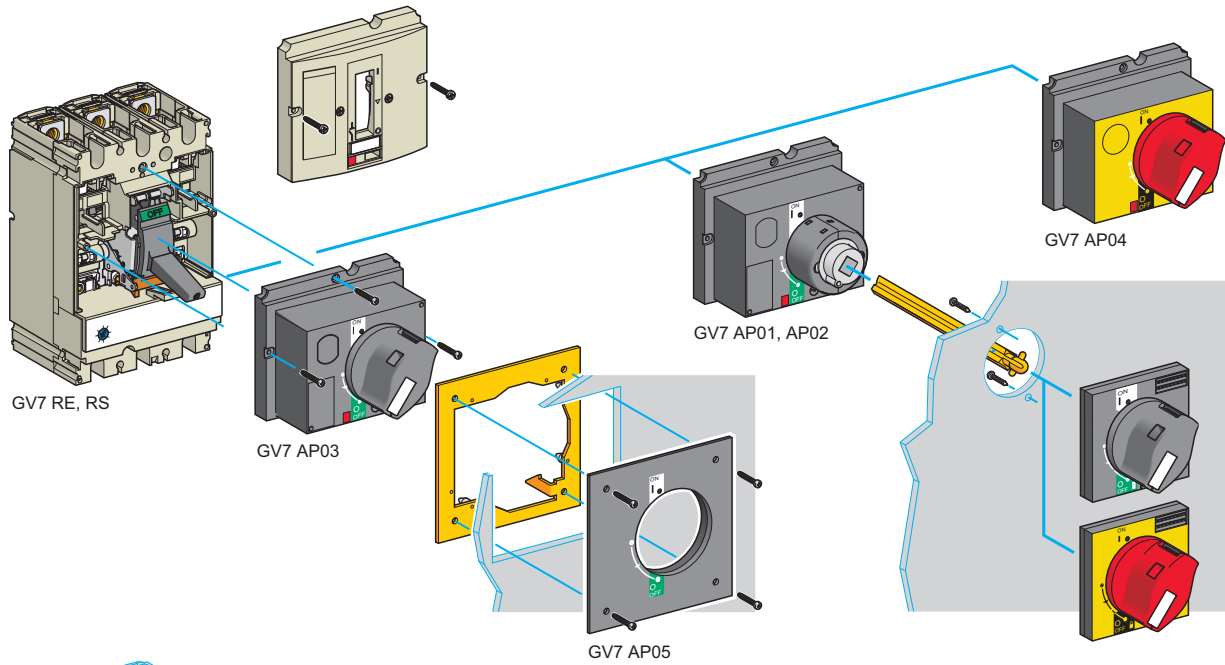
Description	Reference
Padlocking device for padlocking the operator, using up to 3 padlocks (padlocks to be ordered separately)	GK3AV01
External operator for mounting on enclosure door. Red Ø40 knob on yellow plate, padlockable in position O (with up to 3 padlocks). Door locked when knob in position I, and when knob padlocked in position O.	GK3AP03

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

Other versions

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



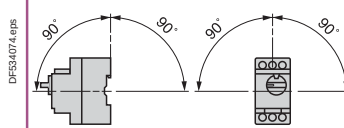


TeSys protection components

Magnetic motor circuit breakers

GV3 L and GK3 EF80

TeSys GV

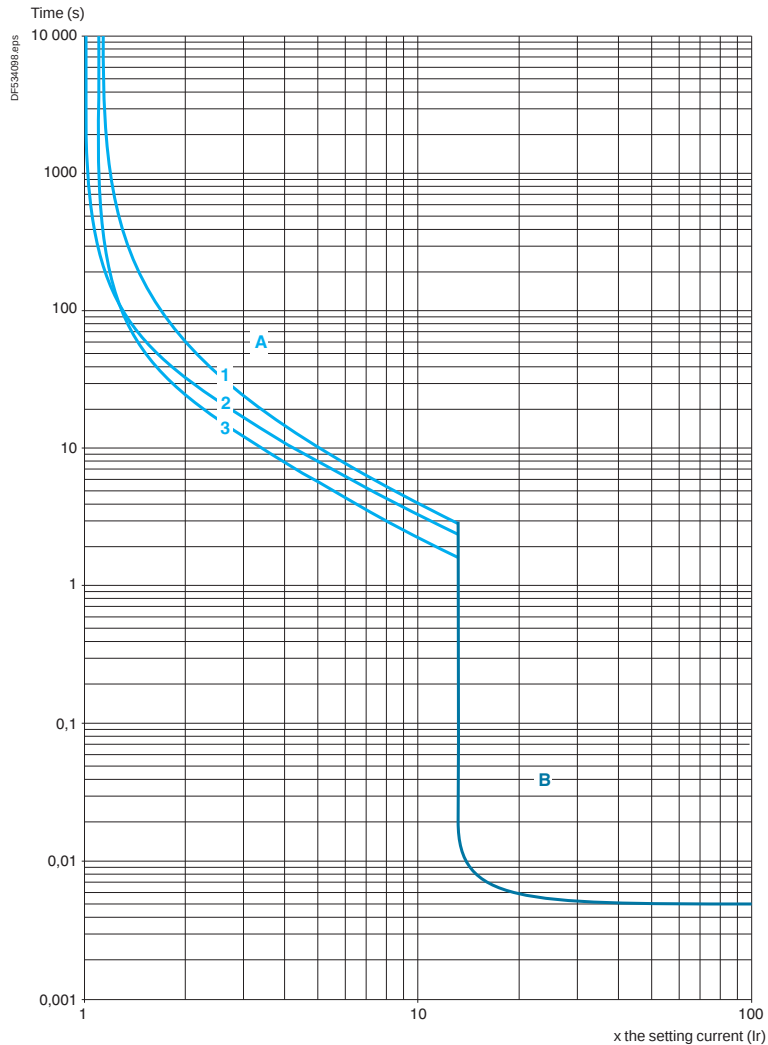
Environment						
Circuit breaker type			GV3 L		GK3 EF80	
Conforming to standards			IEC/EN 60947-1, 60947-2		IEC 60947-2, EN 60204	
Protective treatment			"TH"		"TC"	
Degree of protection (front face)	Conforming to IEC 60529		IP20 against finger direct contact		IP20 against finger direct contact	
Shock resistance	Conforming to IEC 60068-2-27		On : 15 gn -11 ms Off : 30 gn -11 ms		22 gn -20 ms	
Vibration resistance	Conforming to IEC 60068-2-6		4 gn (5...300 Hz)		2.5 gn (0...25 Hz)	
Flame resistance	Conforming to IEC 60695-2-1	°C	960		960	
Ambient air temperature	Storage	°C	-40...+80		-40...+ 80	
	Operation	°C	-20...+60 ⁽¹⁾		-20...+ 70 open mounted	
Maximum operating altitude		m	3000		3000	
Operating position Without derating, in relation to normal vertical mounting plane ⁽²⁾					Any position	
Connection (Max. number of conductors x c.s.a)	Solid cable	mm ²	Min.	Max.	Min.	Max.
			2 x 1	1 x 25 1 x 35	1 x 2,5	1 x 35
	Flexible cable without cable end	mm ²	2 x 1	1 x 25 1 x 35	1 x 2,5 or 2 x 2,5	1 x 25 or 2 x 16
	Flexible cable with cable end	mm ²	2 x 1	1 x 25 1 x 35	1 x 2,5 or 2 x 2,5	1 x 25 or 2 x 16
Tightening torque		N.m	5	5 : 25 mm ² 8 : 35 mm ²	5	
Suitable for isolation conforming to IEC 60947-1 § 7-1-6			Yes		Yes	
Technical characteristics						
Rated insulation voltage (Ui)	Conforming to IEC 60947-2	V	690		750	
Rated impulse withstand voltage (U imp)	Conforming to IEC 60947-2	kV	6		10	
Rated operational voltage (Ue)	Conforming to IEC 60947-2	V	690		690	
Rated operational frequency		Hz	50/60		50...60	
Electrical durability for AC-3/415V duty (C.O.: Close - Open)		C.O.	50 000		1500	
Mechanical durability (C.O.: Closing, Opening)		C.O.	50 000		20 000	
Maximum operating rate		C.O./h	25		40	
Operating threshold of magnetic trips			14 I max		3363	
Utilisation category	Conforming to IEC 60947-2		A		A	

- (1) Leave a space of 9 mm between 2 circuit breakers: either an empty space or side-mounting add-on contact blocks. Side by side mounting is possible up to 40 °C.
- (2) When mounting on a vertical rail, fit a stop to prevent any slippage.

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

* Fuse not required: breaking capacity I_{cn} > I_{sc}.

(1) As % of I_{cu}.

Tripping curves for GV3 L and GK3 EF80 combined with thermal overload relay LRD 33**Average operating time at 20 °C without prior current flow**

1 3 poles from cold state

2 2 poles from cold state

3 3 poles from hot state

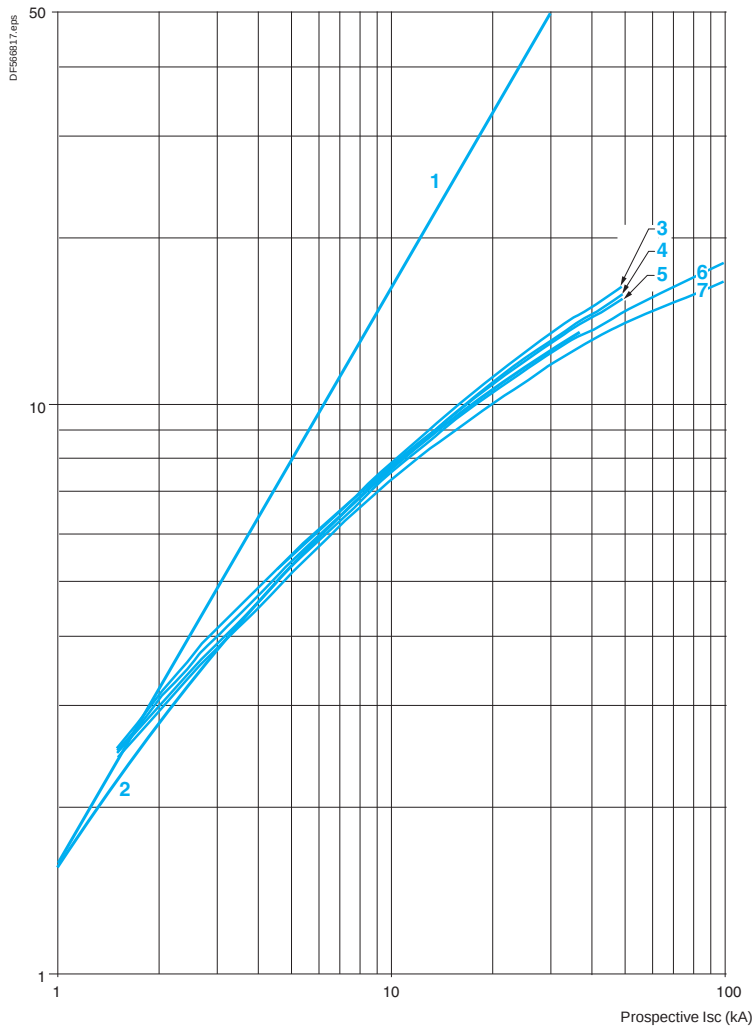
A Thermal overload relay protection zone

B GK3 EF80 and GV3 L protection zone

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

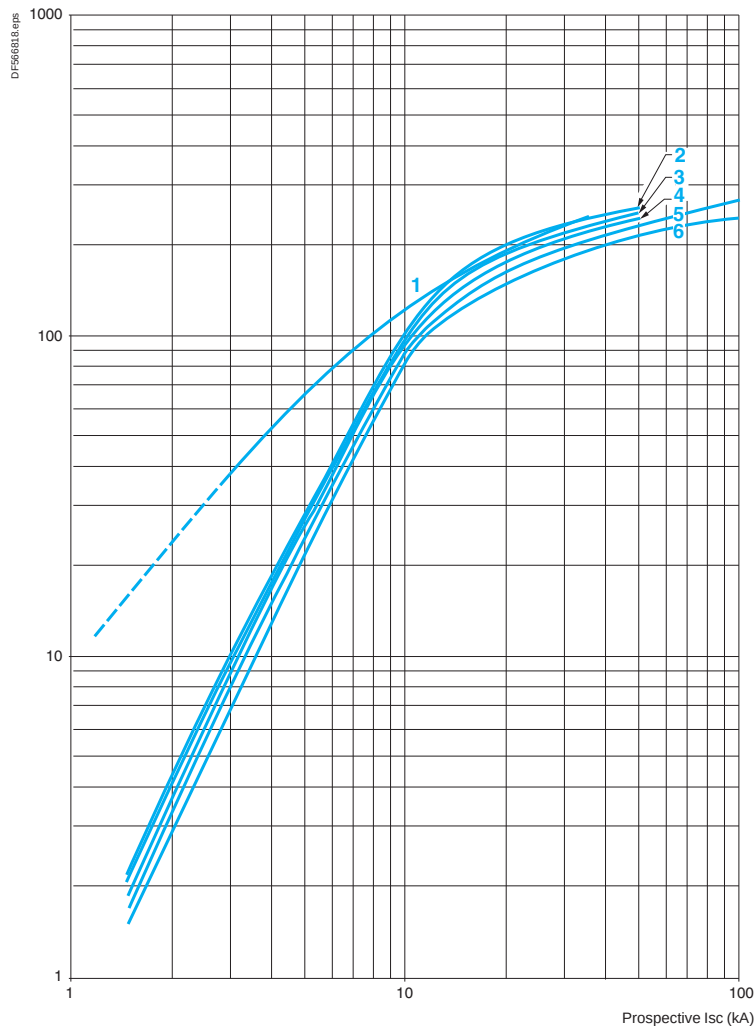
$I_{\text{peak}} = f(\text{prospective } I_{\text{sc}}) \text{ at } 1.05 U_e = 435 \text{ V}$

Limited peak current (kA)



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

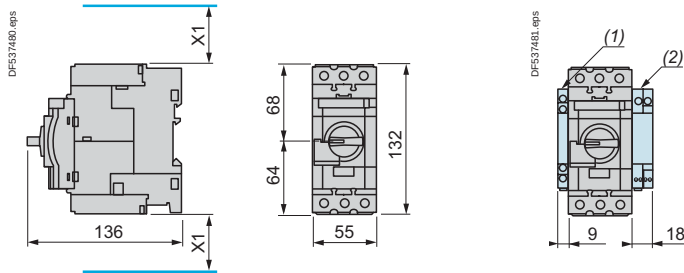
Thermal limit on short-circuit for GV3 L and GK3 EF80

Thermal limit in A²sSum of $I^2dt = f$ (prospective I_{sc}) at 1.05 $U_e = 435$ VSum of I^2dt (A²s)

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

GV3 L

Dimensions



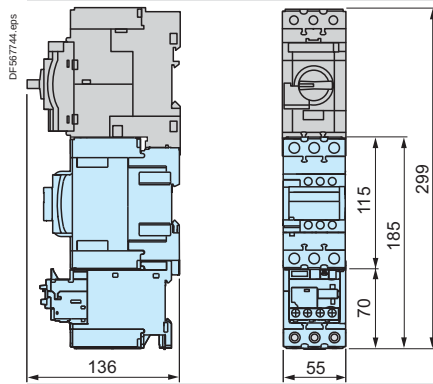
X1 = Electrical clearance (ISC max)
40 mm for $U_e \leq 500$ V, 50 mm for $U_e \leq 690$ V

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

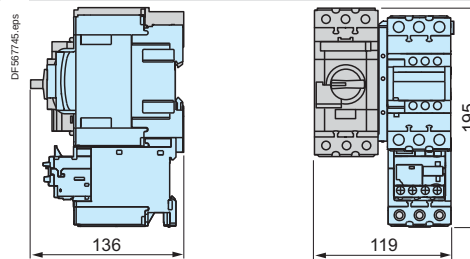
Note: Leave a space of 9 mm between 2 circuit breakers: either an empty space or side-mounting add-on contact blocks.
Side by side mounting is possible up to 40 °C.

Mounting

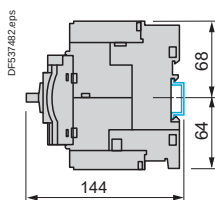
Mounting with Tesys contactor LC1 D40A...D65A and relay LR3 D313...365



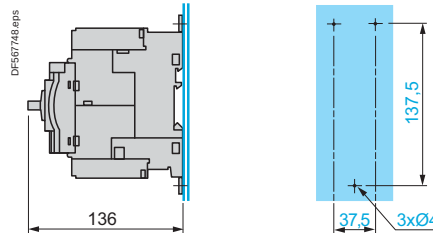
Side by side mounting with Tesys contactor LC1 D40A...D65A (S-shape busbar system GV3 S)



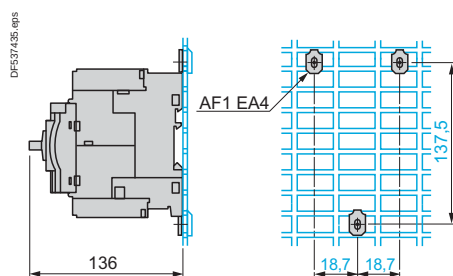
Mounting on rail AM1 DE200 or AM1 ED201



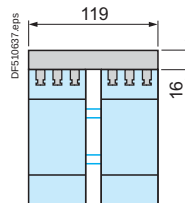
Panel mounting, using M4 screws



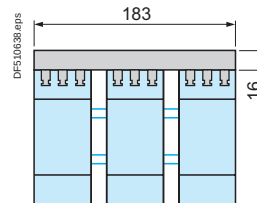
Mounting on pre-slotted plate AM1 PA



Set of busbars GV3 G264

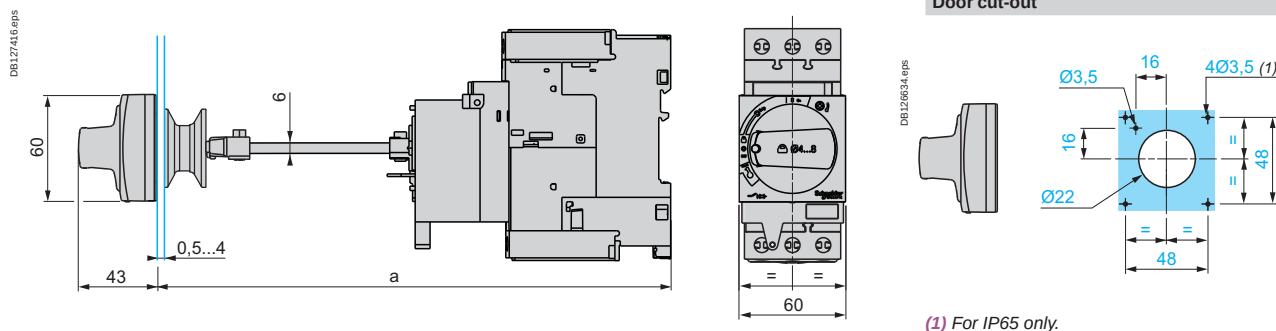


Set of busbars GV3 G364

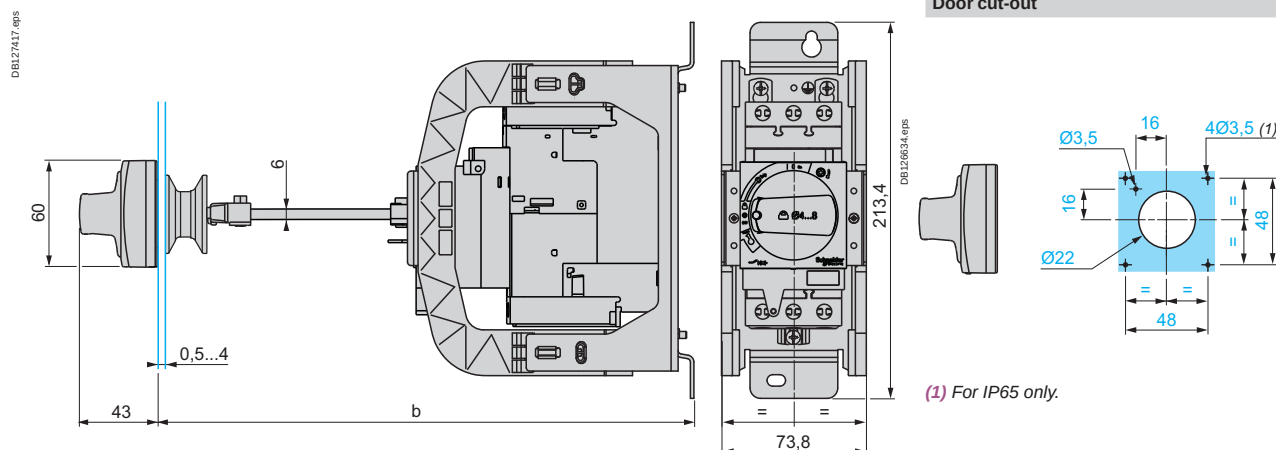


Mounting

Mounting of external operator GV3 APN01, GV3 APN02 or GV3 APN04 for motor circuit breakers GV3 L



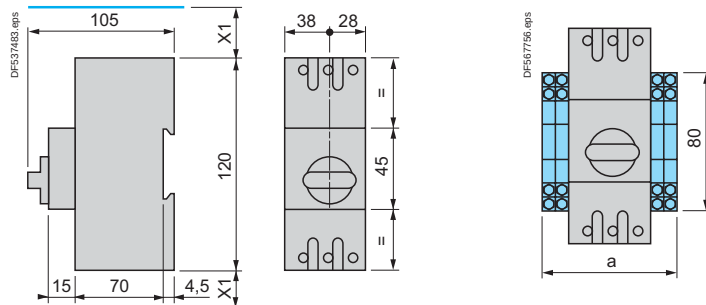
Mounting of external operator GV APH03 for motor circuit breakers GV3 L



	a		b	
	Mini	Maxi	Mini	Maxi
GV3 APN●●	189	300	-	-
GV3 APN●● + GV APK12	300	481	-	-
GV3 APN●● + GV APH03	-	-	200	300
GV3 APN●● + GV APH03 + GV APK12	-	-	300	492

GK3 EF80

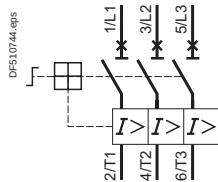
GK3 EF80 + 4 GK2 AX



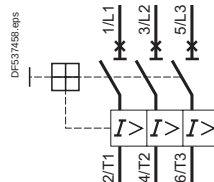
	Number of GK2 AX				
	0	1	2	3	4
a	66	74.8	83.5	92.5	101

Magnetic motor circuit breakers

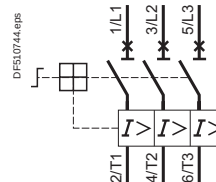
GV2 L●●



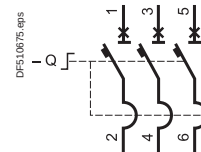
GV2 LE●●



GV3 L●●



GK3 EF80

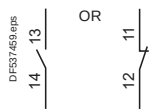


Accessories

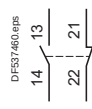
Front mounting add-on contact blocks

Instantaneous auxiliary contacts

GV AE1



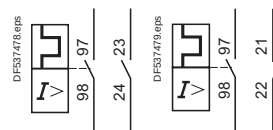
GV AE11



GV AE20



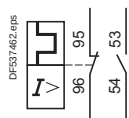
GV AED101 and GV AED011



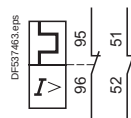
Side mounting add-on contact blocks

Instantaneous auxiliary contacts and fault signalling contacts

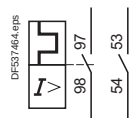
GV AD0110



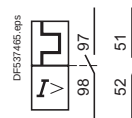
GV AD0101



GV AD1010

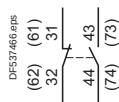


GV AD1001

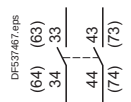


Instantaneous auxiliary contacts

GV AN11

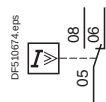


GV AN20



Short-circuit signalling contacts

GV AM11

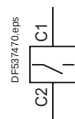


Voltage trips

GV AU●●●

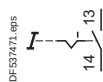


GV AS●●●

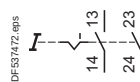


Start-Stop signalling contact blocks

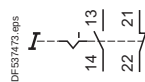
GK2 AX10



GK2 AX20

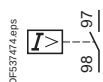


GK2 AX50

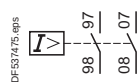


Fault signalling contact blocks

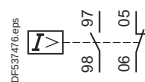
GK2 AX12



GK2 AX22



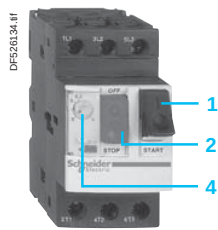
GK2 AX52



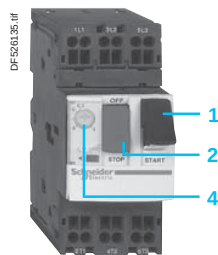
TeSys protection components

Thermal-magnetic motor circuit breakers GV2, GV3 and GV7

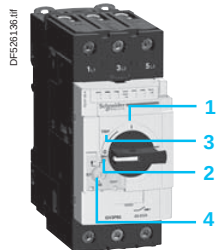
TeSys GV



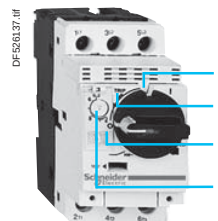
GV2 ME
with screw clamp
terminals



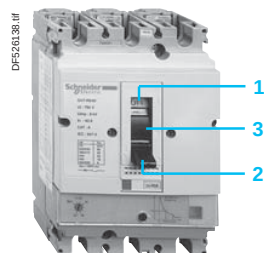
GV2 ME
with spring terminals
connections



GV3 P



GV2 P



GV7 R

Presentation

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

Connection

GV2

GV2 ME and GV2 P circuit breakers are designed for connection by screw clamp terminals.

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

GV3

GV3 circuit breakers feature connection by BTR screws (hexagon socket head), tightened using a n° 4 Allen key.

This type of connection uses the **EverLink®** system with creep compensation ⁽¹⁾ (Schneider Electric patent).

This technique makes it possible to achieve accurate and durable tightening torque, in order to avoid cable creep.

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

GV7

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

Operation

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

GV2 ME and GV3 ME80

Pushbutton control.

Energisation is controlled manually by operating the Start button "I" **1**.

De-energisation is controlled manually by operating the Stop button "O" **2**, or automatically by the thermal-magnetic protection elements or by a voltage trip attachment.

GV2 P, GV3 P and GV7 R

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

Energisation is controlled manually by moving the knob or rocker lever to position "I" **1**.

De-energisation is controlled manually by moving the knob or rocker lever to position "O" **2**.

De-energisation due to a fault automatically places the knob or rocker lever in the "Trip" position **3**.

Re-energisation is possible only after having returned the knob or rocker lever to position "O".

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

TeSys protection components

Thermal-magnetic motor circuit breakers

GV2, GV3 and GV7

Presentation

Protection of motors and personnel

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

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

The **thermal** elements (overload protection) include automatic compensation for ambient temperature variations.

The rated operational current of the motor is displayed by means of a graduated knob [4](#). Personnel protection is also provided. All live parts are protected against direct finger contact from the front panel.

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

With the addition of a shunt trip, de-energisation of the unit can be remotely controlled.

The operators on both open-mounted and enclosed motor circuit breakers can be locked in the Stop position "O" by up to 4 padlocks.

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

Special features

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

TeSys protection components

Thermal-magnetic motor circuit breakers

TeSys GV

Environment																				
Circuit breaker type			GV2 ME		GV2 P		GV3 P		GV3 ME80		GV7 R									
Conforming to standards					IEC 60947-1, 60947-2, 60947-4-1, EN 60204, UL 508, CSA C 22.2 n° 14-05, NF C 63-650, 63-120, 79-130, VDE 0113, 0660		IEC/EN 60947-1, 60947-2, 60947-4-1, UL 508 type E, CSA C 22.2 n° 14-05 type E		IEC/EN, NF EN, BS EN, DIN EN 60947-2, 60947-4-1		IEC 60947-1, 60947-2, 60947-4-1, EN 60947-1, 60947-2, EN 60947-4-1, NF C 63-650, NF C 63-120, 79-130, VDE 0113, 0660									
Product certifications					UL, CSA, CCC, CEBEC, GOST, TSE, BV, GL, LROS, DNV, PTB, EZU, SETI, RINA, ATEX		UL ⁽¹⁾ , CSA, PTB, EZU, GOST, TSE, DNV, LROS, GL, BV, RINA, CCC, ATEX		UL, CSA, CCC (pending), GOST, ATEX, GL, BV, LROS (DNV, RINA pending)		UL, CSA, LROS		UL, DNV, CCC							
Protective treatment					"TH"		"TH"		"TC"		"TC"									
Degree of protection (front face)	Conforming to IEC 60529	Open mounted			Against direct finger contact: IP20		Against direct finger contact: IP20		Against direct finger contact: IP20		IP405 with terminal shrouds									
		In enclosure			GV2 M●01: IP41 GV2 M●02: IP55		–		GV3 PC01 and GV3 PC02: IP55		GV3 CE01: IP55		–							
Shock resistance	Conforming to IEC 60068-2-27				30 gn -11 ms		On: 15 gn -11 ms Off: 30 gn -11 ms		22 gn - 20 ms		15 gn -11 ms									
Vibration resistance	Conforming to IEC 60068-2-6				5 gn (5...150 Hz)		4 gn (5...300 Hz)		2.5 gn (0...25 Hz)		2.5 gn (25 Hz)									
Ambient air temperature	Storage		°C	-40...+80		-40...+80		-40...+80		-40...+80		-55...+95								
	Operation	Open mounted	°C	-20...+60		-20...+60		-20...+60 ⁽²⁾		-20...+60		-25... +70								
Temperature compensation		In enclosure	°C	-20...+40		-20...+40		-20...+40		-20...+40		–								
		Open mounted	°C	-20...+60		-20...+60		-20...+60		-20...+60		-25... +55 ⁽³⁾								
		In enclosure	°C	-20...+40		-20...+40		-20...+40		-20...+40		–								
Flame resistance	Conforming to IEC 60695-2-1		°C	960				960		960		960								
Maximum operating altitude			m	2000				3000		3000		2000								
Suitable for isolation	Conforming to IEC 60947-1 § 7-1-6			Yes				Yes		–		Yes								
Resistance to mechanical impact			J	0.5		0.5		10		0.5		0.5								
				IK04		IK09 (in enclosure)		–		–										
Sensitivity to phase failure					Yes, conforming to IEC 60947-4-1 § 7-2-1-5-2															
Technical characteristics																				
Circuit breaker type					GV2 ME		GV2 P		GV2 RT		GV3 P		GV3 ME80		GV7 R●20... R●100		GV7 R●150		GV7 R●220	
Utilisation category	Conforming to IEC 60947-2				A						A		A		A					
	Conforming to IEC 60947-4-1				AC-3						AC-3		AC-3		AC-3					
Rated operational voltage (Ue)	Conforming to IEC 60947-2		V		690						690		690		690					
Rated insulation voltage (Ui)	Conforming to IEC 60947-2		V		690						690		690		750					
Rated voltage	Conforming to CSA C22-2 n° 14, UL 508		V		600						600		600 (B600)		600					
Rated operational frequency	Conforming to IEC 60947-4-1 UL, CSA		Hz		50/60						50/60		50/60		50/60					
Rated impulse withstand voltage (U imp)	Conforming to IEC 60947-2		kV		6						6		6		8					
Total power dissipated per pole			W		2.5						8		8		5		8.7		14.5	
Mechanical durability (C.O.: Close, Open)			C.O.		100 000						50 000		30 000		50 000		40 000		20 000	
Electrical durability for AC-3 duty	440 V In/2		C.O.		100 000						–		30 000		50 000		40 000		20 000	
	440 V In		C.O.		–						50 000		–		30 000		20 000		10 000	
Duty class (maximum operating rate)			C.O./h		25						25		25		25					
Maximum conventional rated thermal current (Ith)			A		0.16... 32		0.16... 32		0.40... 23		13... 65		80		12... 100		150		220	
Rated duty	Conforming to IEC 60947-4-1				Continuous duty															

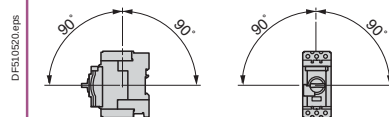
(1) UL 508 type E for GV2 P●●H7.

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

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

Mounting characteristics

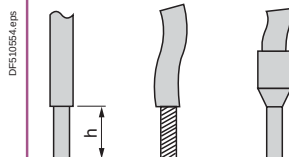
Operating position
Without derating, in relation to normal vertical mounting plane ⁽¹⁾



Connection characteristics

Connection to screw clamp terminals or spring terminals

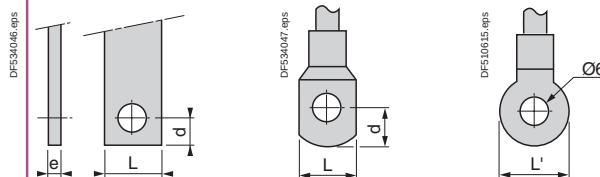
Bare cables



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

Connection by bars or lugs

Bars or lugs



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

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

(2) For motor circuit breakers **GV3 P**: BTR hexagon socket head screws, **EverLink**® system. Require use of an insulated Allen key, in compliance with local electrical wiring regulations.

(3) For cross-sections 1 to 1.5 mm², the use of an **LA9 D99** cable end reducer is recommended.

Breaking capacity of GV3 P and GV3 ME80

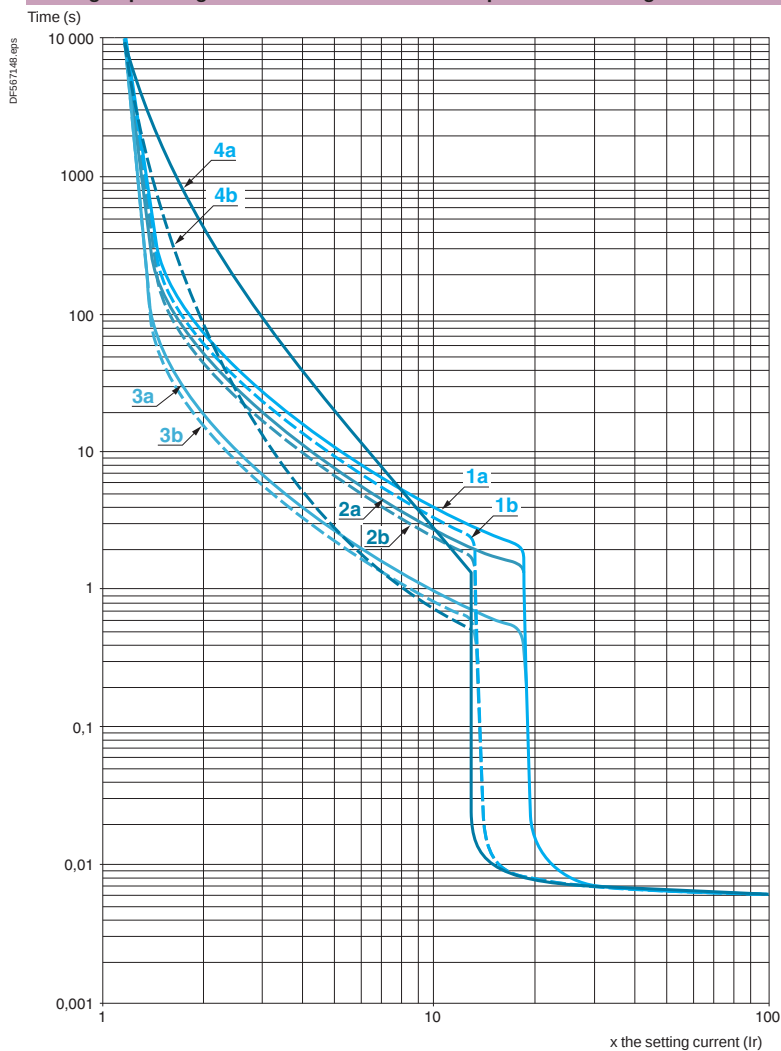
Motor circuit breaker type				GV3 P							GV3 ME80
				13	18	25	32	40	50	65	
Rating			A	13	18	25	32	40	50	65	80
Breaking capacity conforming to IEC 60947-2	230/240 V	Icu	kA	100	100	100	100	100	100	100	100
		Ics % ⁽¹⁾		100	100	100	100	100	100	100	100
	400/415 V	Icu	kA	100	100	100	100	50	50	50	15
		Ics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

★ Fuse not required: breaking capacity $I_{cn} > I_{sc}$.

(1) As % of lcu.

Thermal-magnetic tripping curves

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



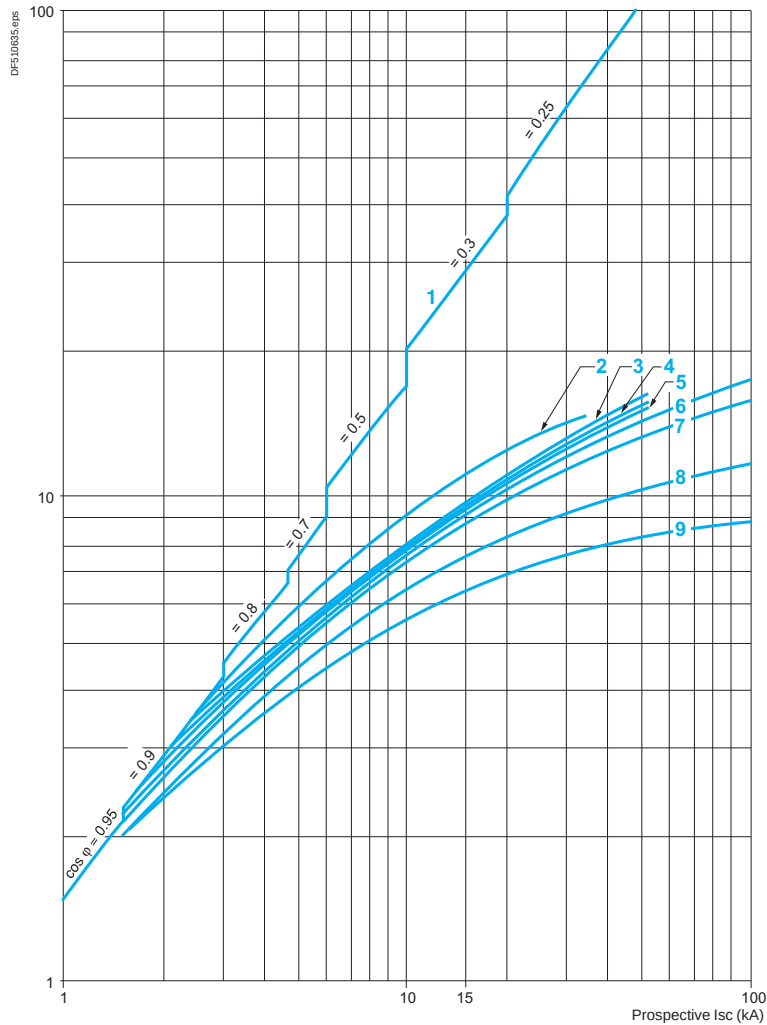
- 1a 3 poles from cold state (I_r mini.) : GV3 P
- 1b 3 poles from cold state (I_r maxi.) : GV3 P
- 2a 2 poles from cold state (I_r mini.) : GV3 ME80
- 2b 2 poles from cold state (I_r maxi.) : GV3 ME80
- 3a 3 poles from hot state (I_r mini.) : GV3 P
- 3b 3 poles from hot state (I_r maxi.) : GV3 P
- 4a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

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

Dynamic stress

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

Limited peak current (kA)



1 Maximum peak current

2 56 -80 A

3 48 -65 A

4 37 -50 A

5 30 -40 A

6 23 -32 A

7 17 -25 A

8 12 -18 A

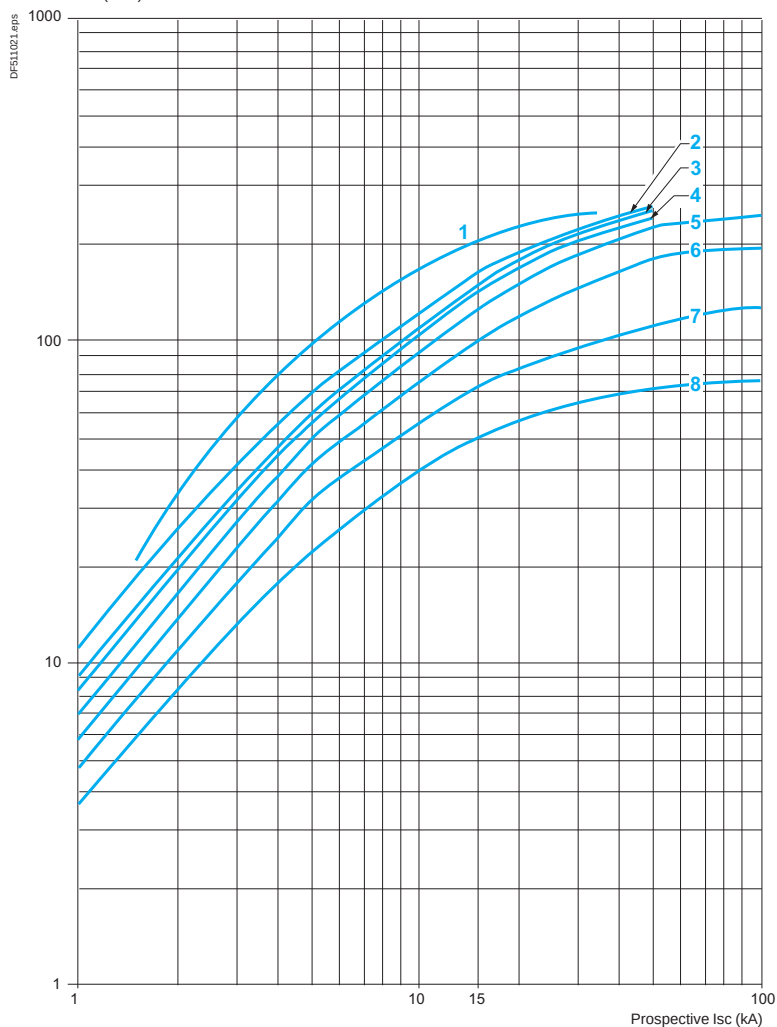
9 9 -13 A

Maximum thermal limit on short-circuit

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

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

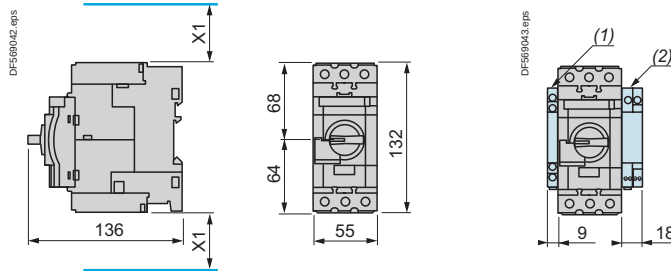
Sum of I^2dt (kA^2s)



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

GV3 P

Dimensions



X1 = Electrical clearance (ISC max)
40 mm for $U_e \leq 500$ V, 50 mm for $U_e \leq 690$ V

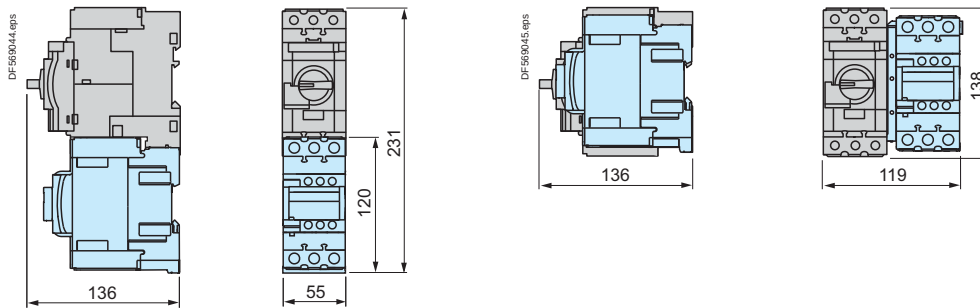
(1) Blocks GV AN●●, GV AD●● and GV AM11.
(2) Blocks GV3 AU●● and GV3 AS●●.

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

Mounting

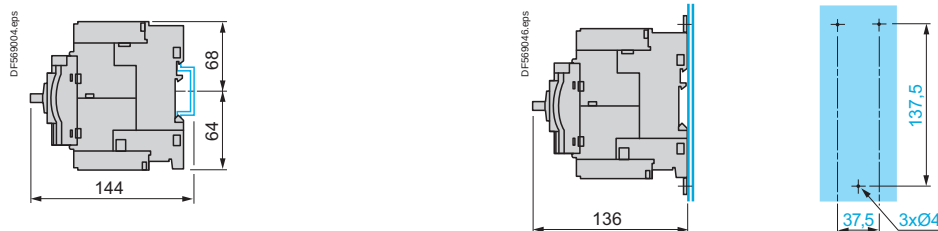
Mounting with TeSys contactor LC1 D40A...D65A

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

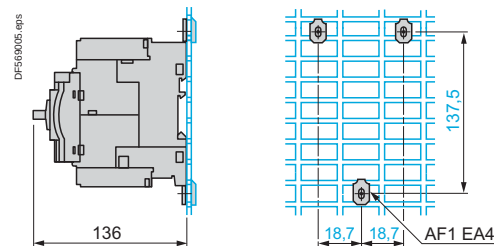


Mounting on rail AM1 DE200 or AM1 ED201

Panel mounting, using M4 screws



Mounting on pre-slotted plate AM1 PA

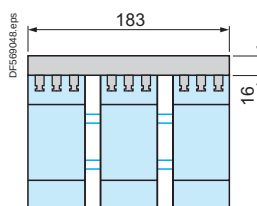
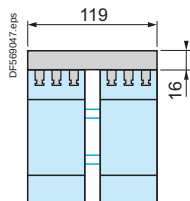


GV3 P

Busbar systems

Set of busbars GV3 G264

Set of busbars GV3 G364

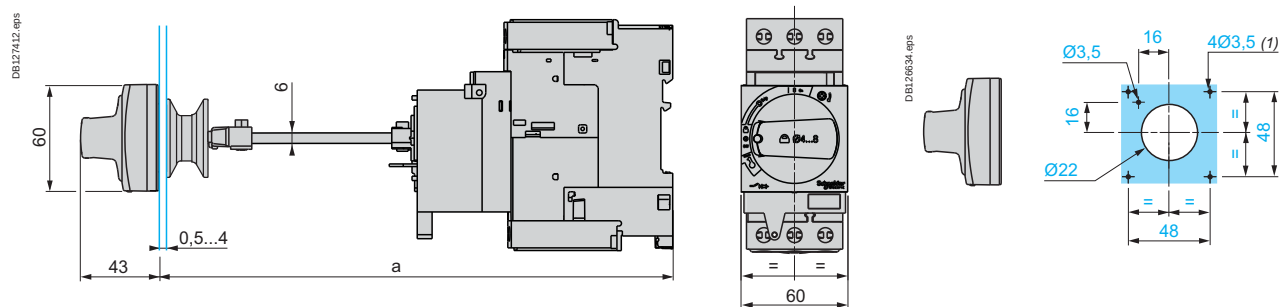


Note: Leave a space of 9 mm between 2 circuit breakers: either an empty space or side-mounting add-on contact blocks. Horizontal mounting is possible up to 40 °C.

Mounting

Mounting of external operator GV3 APN01, GV3 APN02 or GV3 APN04 for motor circuit breakers GV3 P

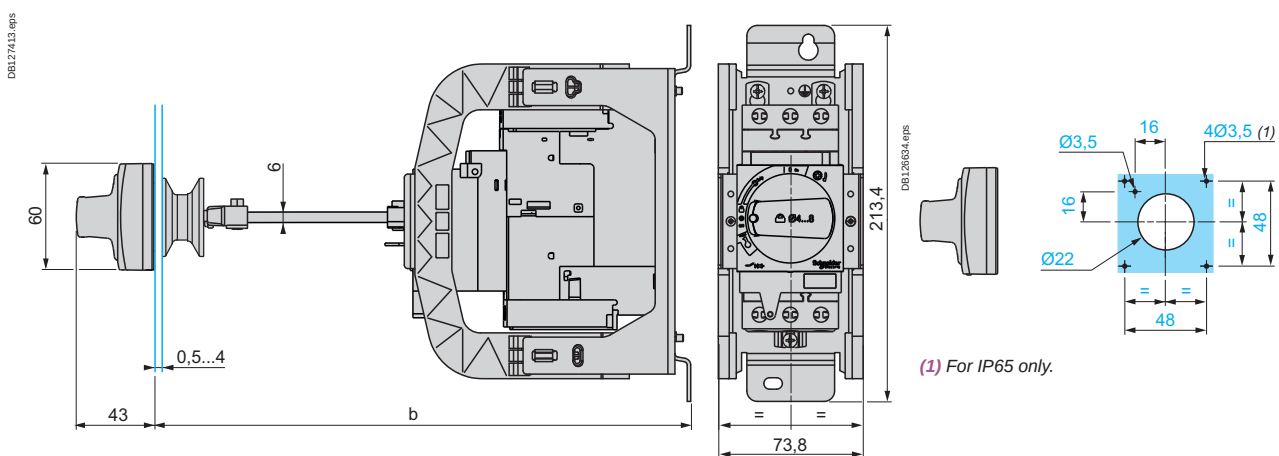
Door cut-out



(1) For IP65 only.

Mounting of external operator GV APH03 for motor circuit breakers GV3 P

Door cut-out

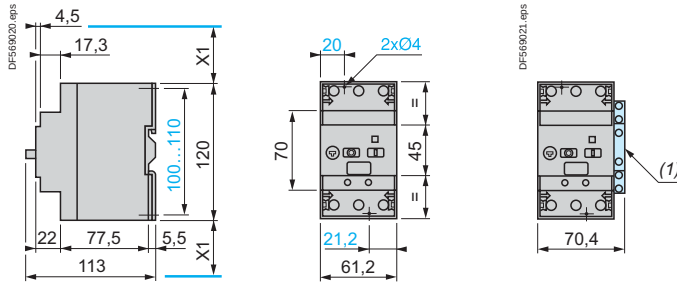


(1) For IP65 only.

	a		b	
	Mini	Maxi	Mini	Maxi
GV3 APN●●	189	300	-	-
GV3 APN●● + GV APK12	300	481	-	-
GV3 APN●● + GV APH03	-	-	200	300
GV3 APN●● + GV APH03 + GV APK12	-	-	300	492

GV3 ME80

Dimensions

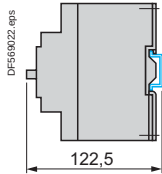


X1 = Electrical clearance (ISC max)
40 mm for $U_e \leq 500$ V, 50 mm for $U_e \leq 690$ V

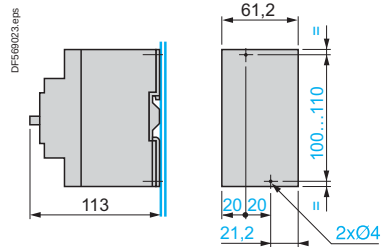
(1) Blocks GV3 A01...A07.

Mounting

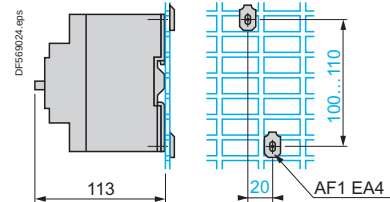
Mounting on rail AM1 DE200 or AM1 ED201



Panel mounting, using M4 screws



Mounting on pre-slotted plate AM1 PA



TeSys protection components

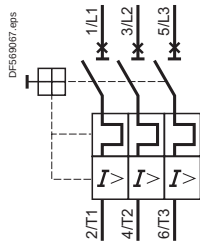
Thermal-magnetic motor circuit breakers

GV2 ME, GV2 P, GV3 P and GV2 RT

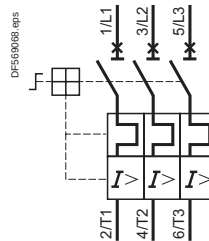
TeSys GV

Schemes

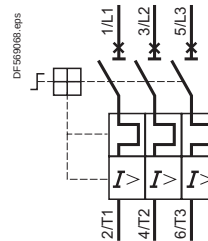
GV2 ME●● and GV2 RT



GV2 P●●



GV3 P●●



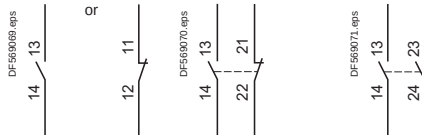
Front mounting add-on contact blocks

Instantaneous auxiliary contacts

GV AE1

GV AE11

GV AE20



Front mounting add-on contact blocks

Instantaneous auxiliary contacts and fault signalling contacts

GV AED101

GV AED011



Side mounting add-on contact blocks

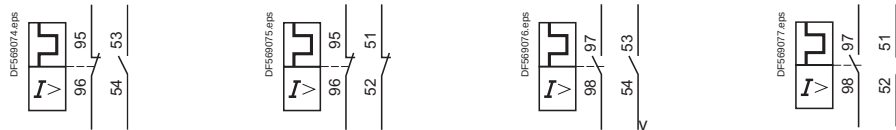
Instantaneous auxiliary contacts and fault signalling contacts

GV AD0110

GV AD0101

GV AD1010

GV AD1001



Instantaneous auxiliary contacts

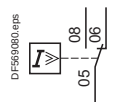
GV AN11

GV AN20



Short-circuit signalling contacts

GV AM11

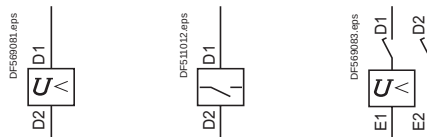


Voltage trips

GV AU●●●

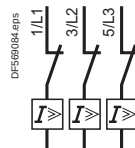
GV AS●●●

GV AX●●●

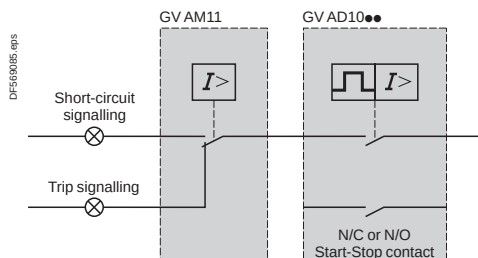


Current limiter

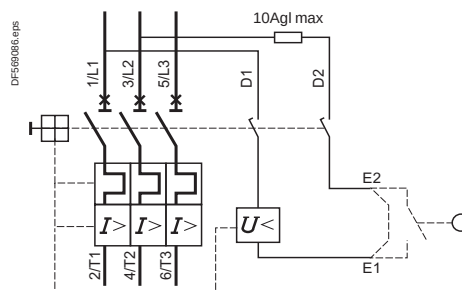
GV1 L3



Use of fault signalling contact and short-circuit signalling contact



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



TeSys protection components

Thermal-magnetic motor circuit breakers

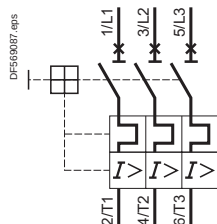
GV3 ME80 and GV7 R

TeSys GV

Schemes

Motor circuit breakers

GV3 ME80



Auxiliary contact block modules

GV3 A01



GV3 A02



GV3 A03



GV3 A05



GV3 A06

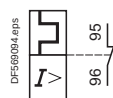


GV3 A07

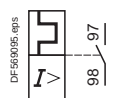


Fault signalling contacts

GV3 A08



GV3 A09



Voltage trips

GV3 B

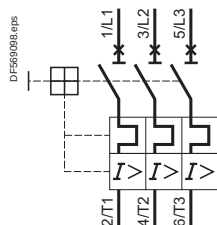


GV3 D



Motor circuit breakers

GV7 R

Add-on auxiliary contacts according to their location ⁽¹⁾

GV7 AE11, GV7 AB11

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

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

⁽¹⁾ See pages B6/91 and B6/17.

Electric trips

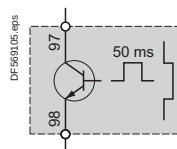
GV7 AU...



GV7 AS...

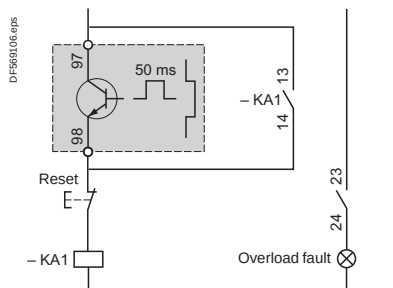


GV7 AD111, AD112

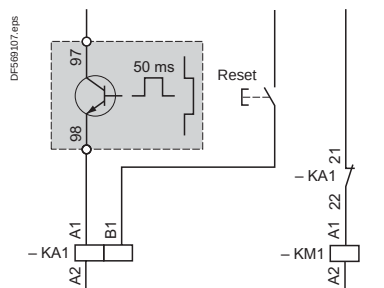


Recommended application schemes GV7 AD111, AD112

Fault indication



Contactor opening on overload



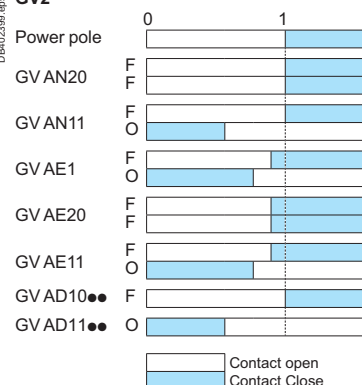
Associated components
KA1: CA2 KN or CAD N

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

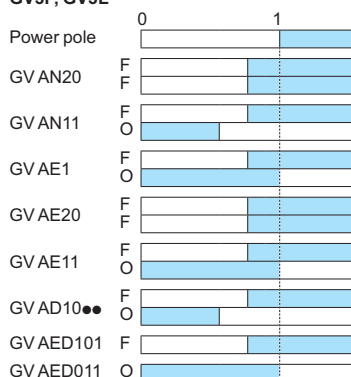
Type of contacts			Instantaneous auxiliary GV AN, GV AD								Fault signalling GV AD, GV AM11 ⁽¹⁾				Instantaneous auxiliary GV AE							
Rated insulation voltage (Ui) (associated insulation coordination)	Conforming to IEC 60947-1	V	690								690				250 (690 in relation to main circuit)							
	Conforming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

Operation of instantaneous auxiliary contacts

GV2



GV3P, GV3L



Operation of fault signalling contacts

GV AM11

Change of state following tripping on
short-circuit.

GV AD10●● and GV AD01●●

Change of state following tripping on
short-circuit, overload or undervoltage.

(1) For application example of fault signalling contact and short-circuit signalling contact, see page B6/B82.

(2) Add an RC circuit type LA4 D to the load terminals, see page B8/17.

Thermal-magnetic motor circuit breakers GV3 ME80

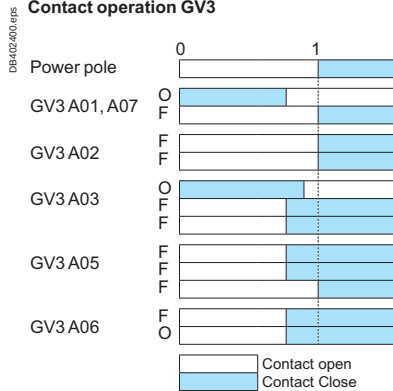
Auxiliary contacts

TeSys GV

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

Contact operation GV3

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



Characteristics of electric trips

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

⁽¹⁾ Wiring scheme of undervoltage trip for dangerous machines (conforming to INRS) on GV2 ME only, see page B6/82.

TeSys protection components

Thermal-magnetic and magnetic motor circuit breakers GV2 and GV3

Accessories

TeSys GV

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

			GV2 G●●●	GV3 G●64
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	V	690	690
Conventional thermal current (Ith)	Conforming to IEC 60439-1	A	63	115
Permissible peak current (I peak)		kA	11	20
Permissible thermal limit (I²t)		kA²s	104	300
Degree of protection	Conforming to IEC 60529		IP 20	IP 20
Terminal block			Yes	–

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

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

Characteristics of current limiters (GV2 ME and GV2 P)

Type			GV1 L3		LA9 LB920	
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	V	690		690	
Conventional thermal current (Ith)	Conforming to IEC 60947-1	A	63		63	
Rated operational current (Ie)		A	32		32	
Operating threshold	rms current	A	1500 (non adjustable threshold)		1000 (non adjustable threshold)	
Connection			1 conductor	2 conductors	1 conductor	2 conductors
	Solid cable	mm²	1.5...25	1.5...10	1.5...25	1.5...10
	Flexible cable without cable end	mm²	1.5...25	2.5...10	1.5...25	1.5...10
	Flexible cable with cable end	mm²	1.5...16	1.5... 4	1.5...16	1.5... 4
Tightening torque		N.m	2.2			