

Environment

Conforming to standards		IEC/EN 60947-1, IEC/EN 60947-2, IEC/EN 60947-4-1
Approvals		CSA, UL, LROS
Protective treatment		"TC"
Degree of protection conforming to IEC/EN 60529	Basic unit In enclosure	IP 20 GV3-CE01: IP 55
Shock resistance to IEC/EN 60068-2-27		22 gn - 20 ms
Vibration resistance to IEC/EN 60068-2-6		2.5 gn (0...25 Hz)
Ambient air temperature		
Storage		°C - 40...+ 80
Operation	Open mtd.	°C - 20...+ 60
	In enclosure	°C - 20...+ 40
Temperature compensation to IEC/EN 60947-4-1	Open mtd.	°C - 20...+ 60
	In enclosure	°C - 20...+ 40
Flame resistance to IEC/EN 60695-2-1		°C 960
Maximum operating altitude		m 3000
Resistance to mechanical impact		J 0.5
Sensitivity to phase failure		Yes, conforming to IEC/EN 60947-4-1 § 7-2-1-5-2

Technical characteristics

Circuit-breaker type		GV3-ME06...ME25	GV3-ME40...ME63	GV3-ME80
Utilisation category, conforming to IEC/EN 60947-2 60947-4-1		A		
		AC-3		
Rated operational voltage (U _e) conforming to IEC/EN 60947-2	V	600		
Rated insulation voltage (U _i) to IEC/EN 60947-2	V	600		
to CSA C22-2 n° 14, UL 508	V	600 (B600)		
Rated operational frequency conforming to IEC/EN 60947-2	Hz	50/60		
Rated impulse withstand voltage (U _{imp}) conforming to IEC/EN 60947-2	kV	6		
Total power dissipated per pole	W	3	6	8
Mechanical durability (C.O.: closing, opening)	C.O.	100,000	50,000	30,000
Electrical durability 440 V In/2 for AC-3 duty	C.O.	100,000	50,000	30,000
	C.O.	—	—	—
Duty class (maximum operating rate)	C.O./h	25	25	25
Maximum conventional rated thermal current (I _{th}) to IEC/EN 60947-4-1	A	1.6...25	40...63	80
Rated duty to IEC/EN 60947-4-1		Continuous duty		

(1) For operation up to 70 °C, please call our Customer information centre on 0870 608 8 608.

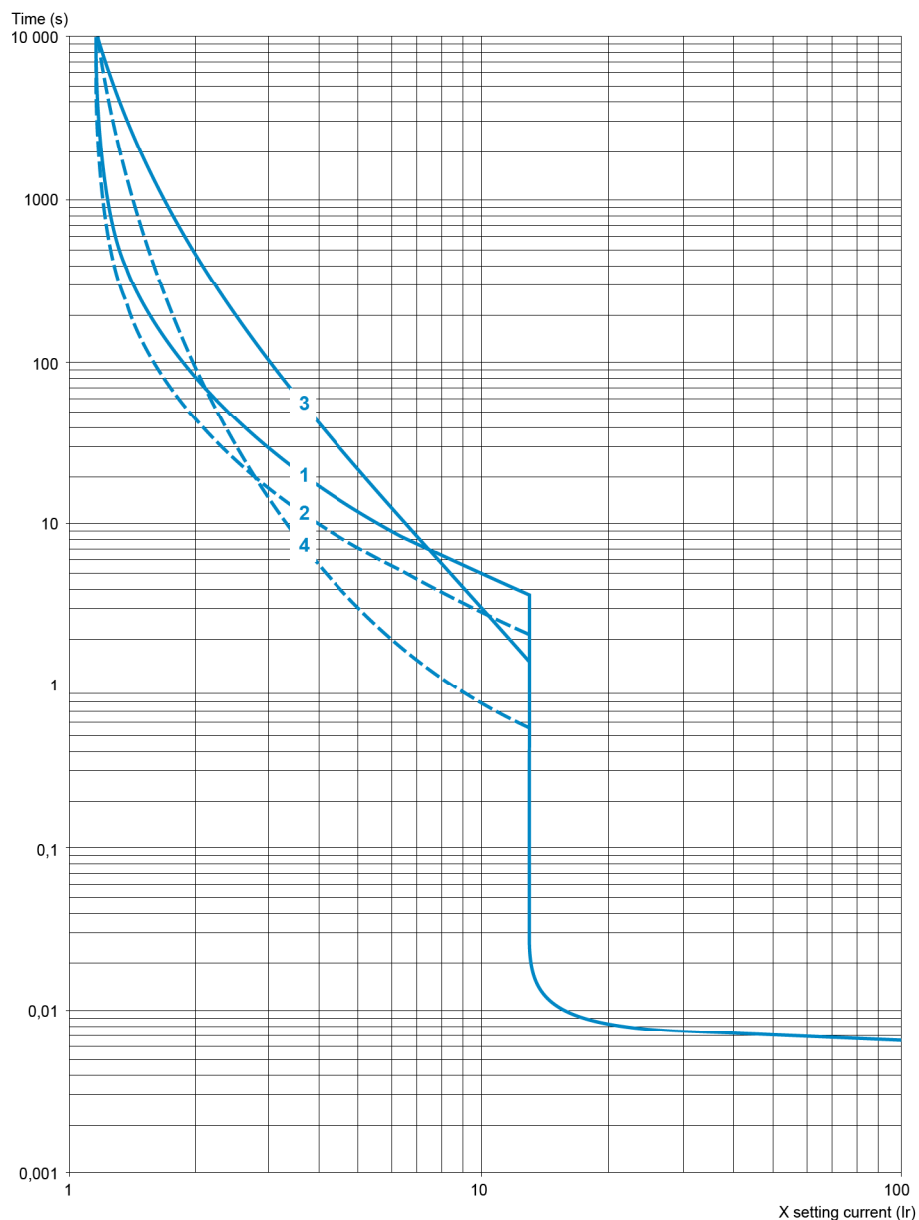
Breaking capacity of GV3-ME

Circuit-breaker type		GV3-								
		ME06 and ME07	ME08	ME10	ME14	ME20	ME25	ME40	ME63	ME80
Rating	A	1.6 and 2.5	4	6	10	16	25	40	63	80
Breaking capacity conforming to IEC/EN 60947-2 230/240 V Icu	kA	100	100	100	100	100	100	100	100	100
	Ics % (1)	100	100	100	100	100	100	100	100	100
400/415 V Icu	kA	100	100	100	100	100	100	35	35	15
	Ics % (1)	100	100	100	100	50	50	50	50	50
440 V Icu	kA	100	100	100	25	25	25	25	25	10
	Ics % (1)	100	100	100	100	60	60	60	60	60
500 V Icu	kA	100	100	100	8	8	8	8	8	4
	Ics % (1)	100	100	100	100	100	100	75	75	100
690 V Icu	kA	100	4	4	4	4	4	4	4	2
	Ics % (1)	100	100	100	100	100	100	75	75	100
Associated fuses (if required) if Isc > breaking capacity Icu 230/240 V aM	A	★	★	★	★	★	★	★	★	★
	gG	★	★	★	★	★	★	★	★	★
400/415 V aM	A	★	★	★	★	★	★	250	315	315
	gG	★	★	★	★	★	★	315	400	400
440 V aM	A	★	★	★	125	160	200	250	315	315
	gG	★	★	★	160	200	250	315	400	400
500 V aM	A	★	★	★	80	100	125	160	200	200
	gG	★	★	★	100	125	160	200	250	250
690 V aM	A	★	40	50	80	100	125	160	200	200
	gG	★	50	63	100	125	160	200	250	250

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

Thermal-magnetic tripping curves

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



- 1 3 poles from cold state, 1.6...16 A rating
- 2 3 poles from hot state, 1.6...16 A rating
- 3 3 poles from cold state, 25...80 A rating
- 4 3 poles from hot state, 25...80 A rating

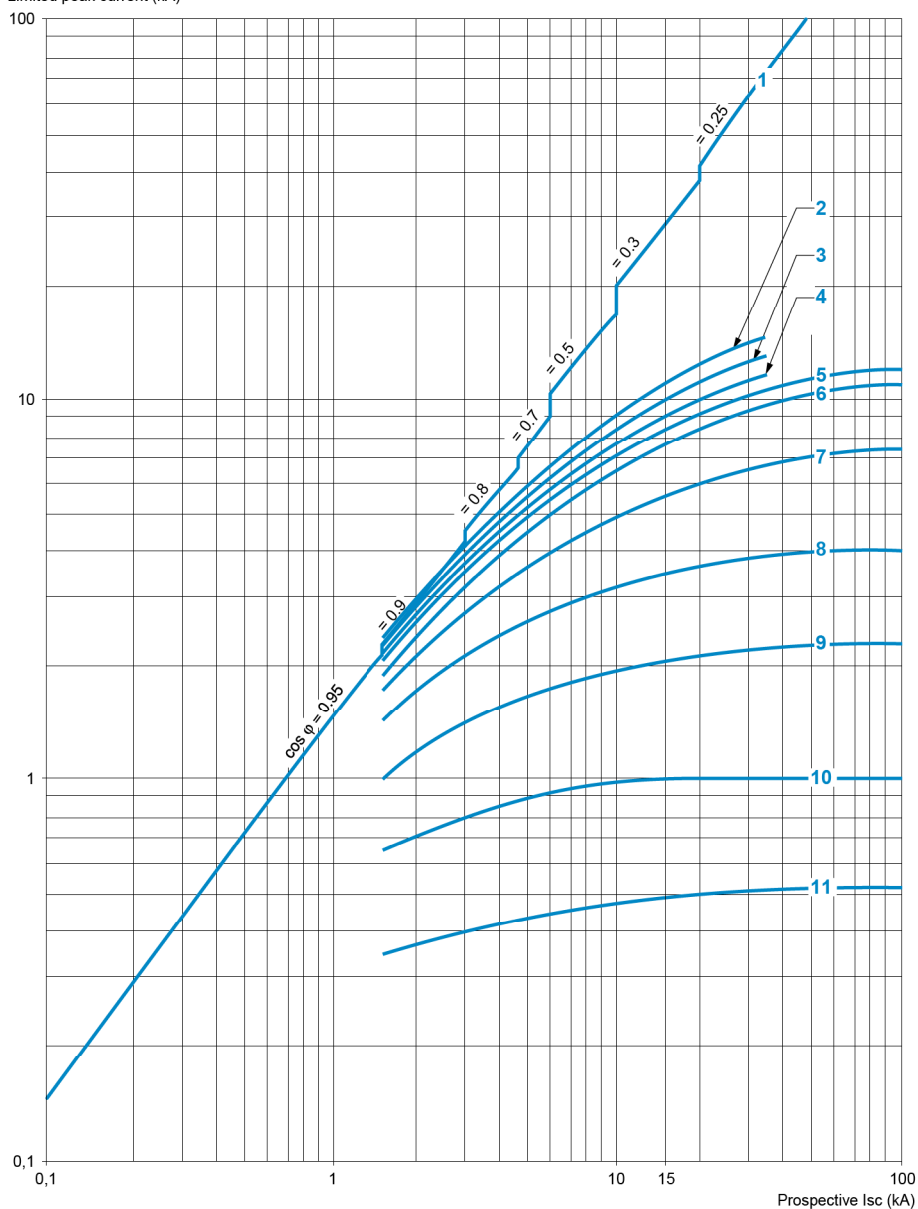
Current limitation on short-circuit

3-phase 400/415 V.

Dynamic stress

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

Limited peak current (kA)



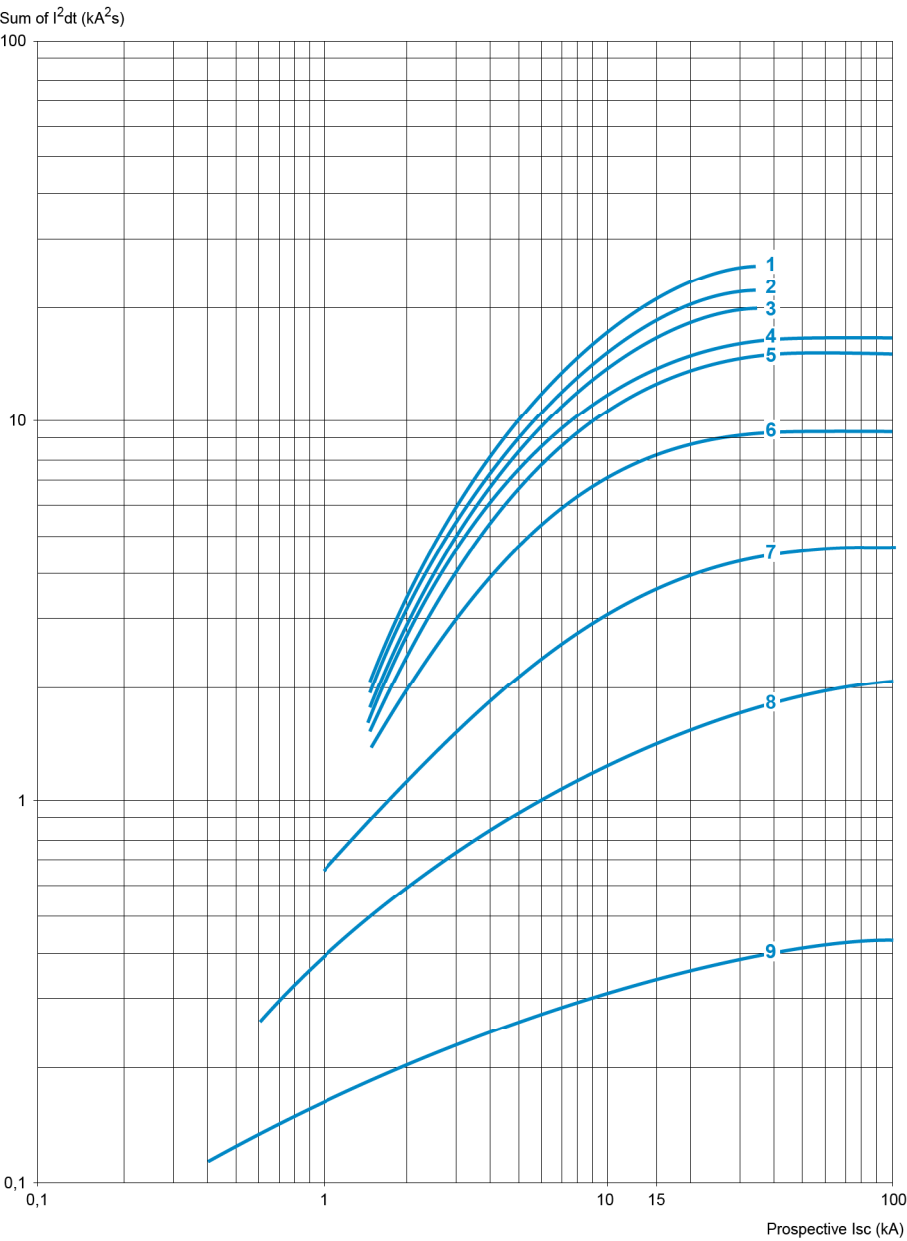
- 1 Maximum peak current
- 2 56...80 A
- 3 40...63 A
- 4 25...40 A
- 5 16...25 A
- 6 10...16 A

- 7 6...10 A
- 8 4...6 A
- 9 2.5...4 A
- 10 1.6...2.5 A
- 11 1...1.6 A

Thermal limit on short-circuit

Thermal limit in kA²s in the magnetic operating zone

Sum of I²dt = f (prospective I_{sc}) at 1.05 U_e = 435 V



- 1 56...80 A
- 2 40...63 A
- 3 25...40 A
- 4 16...25 A
- 5 10...16 A

- 6 6...10 A
- 7 4...6 A
- 8 2.5...4 A
- 9 1.6...2.5 A

Technical characteristics (continued)

Tripping on phase failure	Conforming to IEC 292-1 § 7-5-3-2-2	Yes									
Cable protection against thermal stress in the event of short-circuit	PVC insulated copper cables		GV3-								
			ME06 to ME08	ME10	ME14	ME20	ME25	ME40	ME63	ME80	
	Ir	A	1.6...4	6	10	16	25	40	63	80	
	1	mm²		●	●	●	●	●	●	●	
	1.5	mm²			●	●	●	●	●	●	
	2.5	mm²				●	●	●	●	●	
	4	mm²									
	6	mm²									
	10	mm²									
	16	mm²									
			25	mm²							
protected ● not protected											

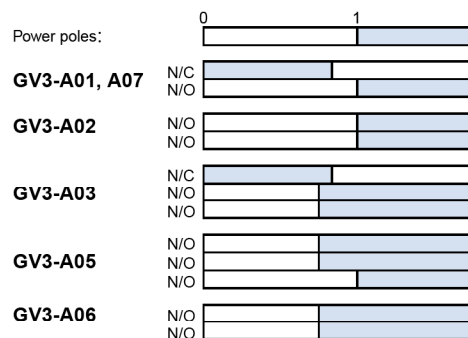
Voltage trip characteristics

Rated insulation voltage (Ui)	Conforming to IEC/EN 60947-1	V	690
	Conforming to CSA C22-2 n° 14. UL 508	V	600 (B600)
Pick-up voltage			~ 0.8...1.1 Un
Drop-out voltage			0.7...0.35 Un
Inrush consumption			12 VA. 7 W
Sealed consumption			7 VA. 2.5 W
Operating time (1)		ms	GV3-B: 10. GV3-D: 15
On-load factor			100 %
Cabling	Number of conductors		1 2
	Solid cable	mm ²	1...2.5 1...2.5
	Flexible cable without cable end	mm ²	0.75...2.5 0.75...2.5
	Flexible cable with cable end	mm ²	0.75...2.5 0.75...1.5

(1) From the disappearance of U_e at the trip terminals to opening of the GV3.

Contact type		Instantaneous auxiliary GV3-A01 to A07	Fault signalling GV3-A08 and A09
Rated insulation voltage (Ui) to IEC/EN 60947-5-1	V	690	690
to CSA C22-2 n° 14, UL 508	V	600 (B600)	600 (B600)
Conventional rated thermal current (Ith) to IEC/EN 60947-5-1	A	6	6
to CSA C22-2 n° 14, UL 508	A	5 (B600)	5 (B600)
Mechanical durability	C.O.	100,000	1000
Operational power and current conforming to IEC 337-1 a.c. operation	V	48 110 220 380 440 500 690	48 110 220 380 440 500 690
	VA	AC-11/100 000 C.O. (Closing-Opening) 350 500 800 850 700 700 400	AC-11/1000 C.O. (Closing-Opening) 240 460 800 850 450 450 200
Operational power Occasional breaking and making capacities	VA	4000 12,000 20,000 20,000 15,000 15,000 10,000	2400 8000 12,000 15,000 12,000 12,000 8000
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 337-1 d.c. operation	V	24 48 60 110 220	24 48 60 110 220
	W	DC-11/100 000 C.O. (Closing-Opening) 180 240 180 140 120	DC-11/1000 C.O. (Closing-Opening) 120 120 90 70 60
Operational power 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 conforming to IEC 337-1		By GB2-CB08 circuit-breaker or gG fuse, 6A max	By GB2-CB08 circuit-breaker or gG fuse, 6A max

Contact operation



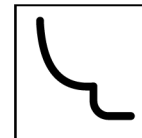
GV3-A08 and A09 change state following tripping on short-circuit or overload

Contact:

Open

Closed

Type of contacts		Instantaneous auxiliary GV3-A01 to A07	Fault signalling GV3-A08 and A09
Cabling			
Number of conductors		1 2	1 2
Solid cable	mm ²	1...2.5 1...2.5	1...2.5 1...2.5
Flexible cable without cable end	mm ²	0.75...2.5 0.75...2.5	0.75...2.5 0.75...2.5
Flexible cable with cable end	mm ²	0.75...2.5 0.75...1.5	0.75...2.5 0.75...1.5



GV3-ME20

Thermal-magnetic circuit-breakers GV3-ME with screw clamp terminals

Pushbutton control

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

400/415 V			500 V			660/690 V			Setting range of thermal trips	Reference	Weight
P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)			
kW	kA		kW	kA		kW	kA		A		kg
0.37	100	100	0.37	100	100	0.75	100	100	1...1.6	GV3-ME06	0.600
0.55	100	100	0.55	100	100	1.1	100	100			
			0.75	100	100						
0.75	100	100	1.1	100	100	1.5	100	100	1.6...2.5	GV3-ME07	0.600
1.1	100	100	1.5	100	100	2.2	4	100	2.5...4	GV3-ME08	0.600
1.5	100	100	2.2	100	100	3	4	100			
2.2	100	100	3	100	100	4	4	100	4...6	GV3-ME10	0.600
3	100	100	4	8	100	5.5	4	100	6...10	GV3-ME14	0.600
4	100	100	5.5	8	100	7.5	4	100			
7.5	100	50	9	8	100	9	4	100	10...16	GV3-ME20	0.600
						11	4	100			
9	100	50	11	8	100	15	4	100	16...25	GV3-ME25	0.600
11	100	50	15	8	100	18.5	4	100			
15	35	50	18.5	8	75	22	4	75	25...40	GV3-ME40 (2)	0.700
18.5	35	50	22	8	75	30	4	75			
22	35	50	30	8	75	37	4	75	40...63	GV3-ME63 (2)	0.700
30	35	50	37	8	75	45	4	75			
37	15	50	45	4	100	55	2	100	56...80	GV3-ME80 (2)	0.700

(1) As % of I_{cu}.

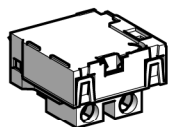
(2) Recommended for use in association with a contactor.

TeSys circuit-breakers

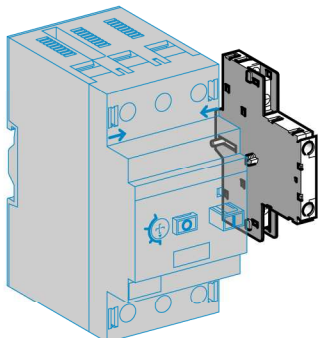
Thermal-magnetic motor circuit-breakers

type GV3-ME

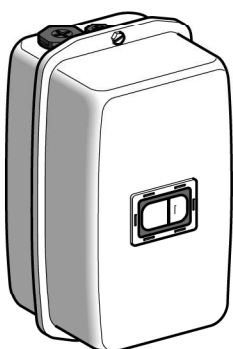
Accessories



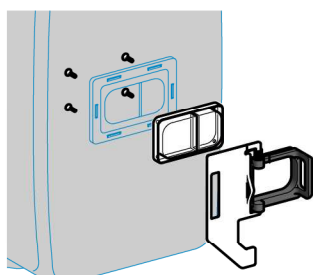
GV3-B●●



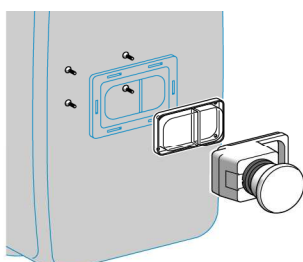
GV1-A01



GV3-CE01



GV1-V01



GV1-K01

For thermal-magnetic circuit-breakers GV3-ME

Description	Characteristics		Sold in lots of	Unit reference	Weight kg
Voltage trips (1)	Under-voltage trips	110, 120, 127 V 50 Hz 120, 127 V 60 Hz	1	GV3-B11	0.070
		220, 240 V 50 Hz 240, 277 V 60 Hz	1	GV3-B22	0.070
		380, 415 V 50 Hz 480 V 60 Hz	1	GV3-B38	0.070
	Shunt trips	110, 120, 127 V 50 Hz 120, 127 V 60 Hz	1	GV3-D11	0.070
		220, 240 V 50 Hz 240, 277 V 60 Hz	1	GV3-D22	0.070
		380, 415 V 50 Hz 480 V 60 Hz	1	GV3-D38	0.070
Description	Normal early break type contacts	Sold in lots of	Unit reference	Weight kg	
Instantaneous auxiliary contact blocks (1 per breaker)	N/C + N/O	1	GV3-A01	0.060	
	N/O + N/O	1	GV3-A02	0.060	
	N/C + N/O + N/O	1	GV3-A03	0.070	
	N/O + N/O + N/O	1	GV3-A05	0.070	
	N/O+N/O + 2 spare volt free terminals	1	GV3-A06	0.070	
	N/C+N/O + 2 spare volt free terminals	1	GV3-A07	0.070	
Fault signalling contacts (1)	N/C	1	GV3-A08	0.030	
	N/O	1	GV3-A09	0.030	
Padlocking device for Start button	–	5	GV1-V02	0.010	

Metal enclosure

Application	Type	Degree of protection of enclosure	Reference	Weight kg
For MCB up to 30 A with or without accessories	Surface mounting	IP 55	GV3-CE01	2.000

Enclosure accessories (to be ordered separately)

Description		Sold in lots of	Reference	Weight kg	
Sealing membrane (2)	For $\theta < 5\text{ }^{\circ}\text{C}$ (silicone)	10	GV1-EA02	0.012	
IP 55 padlocking device for operators (when padlocked, the motor circuit is automatically in the Open (OFF) position)					
Stop pushbutton Ø 40 mm, red mushroom head (supplied with IP 55 sealing kit)	Spring return	1	GV1-K01	0.052	
	Latching	Key release (key n° 455)	1	GV1-K02	0.095
		Turn to release	1	GV1-K03	0.052
		Sealing screw for enclosure cover			1

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

Other versions

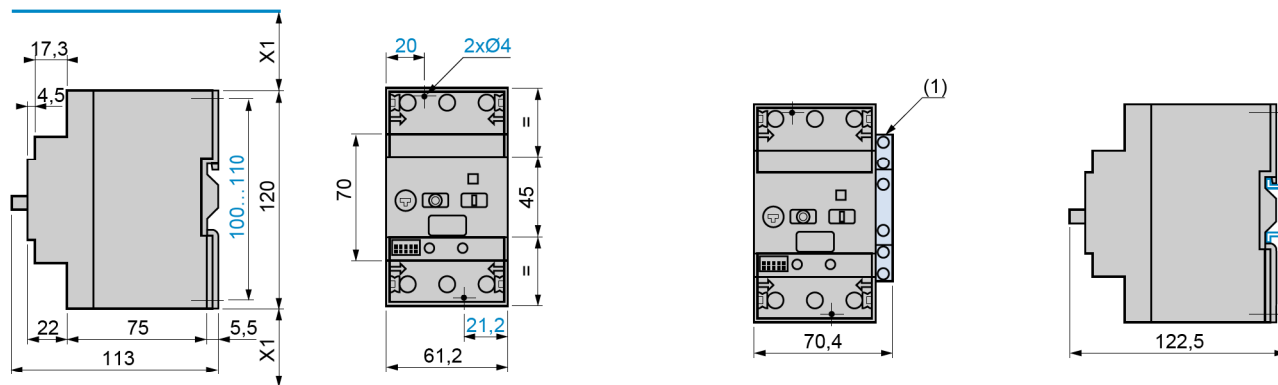
Voltage trips from 24 to 690 V 50 or 60 Hz.

Please call our Customer information centre on 0870 608 8 608.

Motor circuit-breaker GV3-ME

Mounting

on rail AM1-DE200 or AM1-ED201



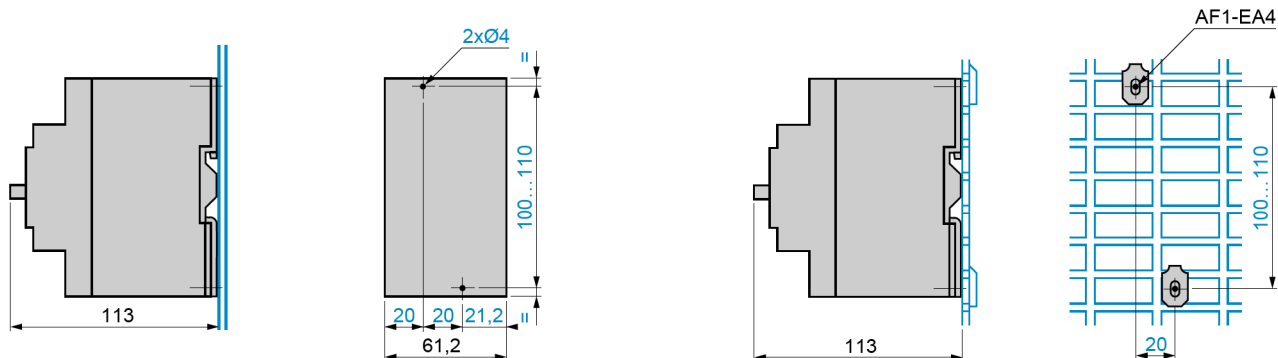
X1 = Electrical clearance
(breaking at I_{sc} max)

40 mm for $U_e < 500$ V
50 mm for $U_e = 690$ V

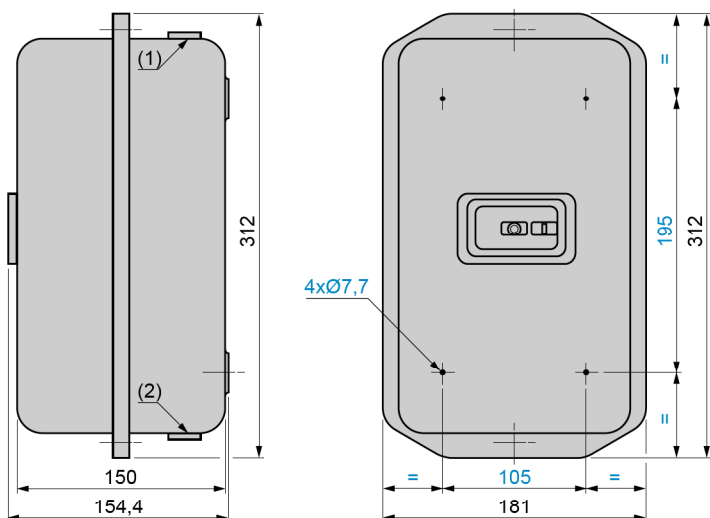
(1) Auxiliary contact blocks GV1-A01 to A07

Mounting
on panel

on pre-slotted mounting plate AM1-PA

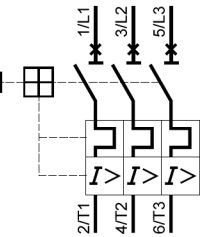


Surface mounting enclosure GV3-CE01



(1) 1 x 21 mm and 1 x 37,5 blanking plugs for cable entries
(2) 1 x 21 mm and 2 x 37,5 blanking plugs for cable entries

Motor circuit-breakers
GV3-ME●



3

Auxiliary contact blocks
GV3-A01

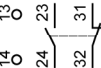
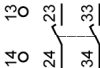
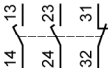
GV3-A02

GV3-A03

GV3-A05

GV3-A06

GV3-A07



3.2

Fault signalling contacts
GV3-A08

GV3-A09



Voltage trips
GV3-B

GV3-D

