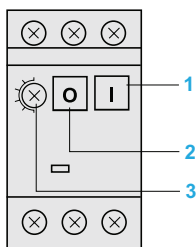


Protection components

Thermal-magnetic motor circuit-breakers GZ1E

Presentation



GZ1 E 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

These circuit-breakers are designed for connection by screw clamp terminals. This technique ensures 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.

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.

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 3.

Personnel protection is also provided. All live parts are protected against direct finger contact.

GZ1 E 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.

Environment

Circuit-breaker type		GZ1 E	
Conforming to standards		IEC 60947-2, IEC 60947-4	
Protective treatment		"TH"	
Degree of protection		In GV2 MC01 enclosure: IP 41 In GV2 MC02 enclosure: IP 55	
Ambient air temperature	Storage	°C	- 40...+ 80
	Operation		- 20...+ 60
Flame resistance	Conforming to IEC 60695-2-1	°C	960
Maximum operating altitude		m	2000
Cabling		Min.	Max.
Number of conductors and c.s.a.	Solid cable	mm ²	2 x 1 2 x 6
	Flexible cable without cable end	mm ²	2 x 1.5 2 x 6
	Flexible cable with cable end	mm ²	2 x 1 2 x 4
Suitable for isolation	Conforming to IEC 60947-1 § 7-1-6		Yes
Tightening torque		N.m	1,7
Rated operational voltage (U _e)	Conforming to IEC 60947-2	V	690
Rated insulation voltage (U _i)	Conforming to IEC 60947-2	V	690
Rated operational frequency	Conforming to IEC 60947-2	Hz	50/60
Rated impulse withstand voltage (U _{imp})	Conforming to IEC 60947-2	kV	6
Total power dissipated per pole		W	2.5
Mechanical durability (C.O.: closing, opening)		C.O.	100 000
Electrical durability	For AC-3 duty	CF.O.	100 000
Duty class (maximum operating rate)		C.O./h	25

Protection components

Thermal-magnetic motor circuit-breakers

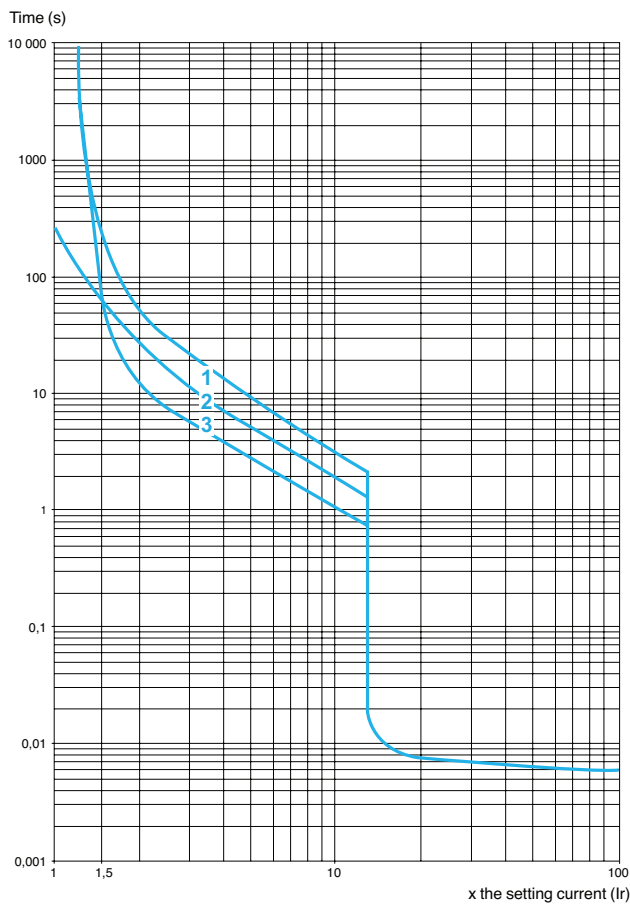
GZ1E

Breaking capacity			GZ1 E								
			01 to 06	07	08	10	14	16	20	21	22 to 32
Rating		A	0.1 to 1.6	2,5	4	6.3	10	14	18	23	25 to 32
Breaking capacity conforming to IEC 60947-2	230/240 V	I _{cu}	kA	*	*	*	*	*	*	30	30
		I _{cs} % ⁽¹⁾		*	*	*	*	*	*	100	100
	400/415 V	I _{cu}	kA	*	*	*	*	*	10	10	10
		I _{cs} % ⁽¹⁾		*	*	*	*	*	50	50	40
	440 V	I _{cu}	kA	*	*	*	30	10	6	6	5
		I _{cs} % ⁽¹⁾		*	*	*	100	100	50	50	50
	500 V	I _{cu}	kA	*	*	*	30	8	5	5	3
		I _{cs} % ⁽¹⁾		*	*	*	100	100	75	75	75
	690 V	I _{cu}	kA	*	2	2	2	2	2	2	2
		I _{cs} % ⁽¹⁾		*	75	75	75	75	75	75	75

* > 100 kA.
 (1) As % of I_{cu}.

Tripping curves

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



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

Protection components

Thermal-magnetic motor circuit-breakers

GZ1E

CPB100407



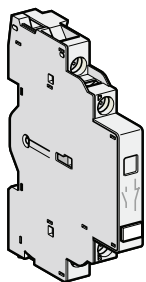
GZ1E

Motor circuit-breakers										
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		
230 V	400 V	440 V	500 V	690 V						
kW	kW	kW	kW	kW	A	A			kg	
–	–	–	–	–	0.1...0.16	1.5	GZ1 E01	0.260		
–	–	–	–	–	0.16...0.25	2.4	GZ1 E02	0.260		
–	–	–	–	–	0.25...0.40	5	GZ1 E03	0.260		
–	–	–	–	0.37	0.40...0.63	8	GZ1 E04	0.260		
–	–	–	0.37	0.55	0.63...1	13	GZ1 E05	0.260		
–	0.37	0.55	0.75	1.1	1...1.6	22.5	GZ1 E06	0.260		
0.37	0.75	1.1	1.1	1.5	1.6...2.5	33.5	GZ1 E07	0.260		
0.75	1.5	1.5	2.2	3	2.5...4	51	GZ1 E08	0.260		
1.1	2.2	3	3.7	4	4...6.3	78	GZ1 E10	0.260		
2.2	4	4	5.5	7.5	6...10	138	GZ1 E14	0.260		
–	5.5	5.5	9	11	9...14	170	GZ1 E16	0.260		
4	7.5	9	10	15	13...18	223	GZ1 E20	0.260		
5.5	9	11	11	18.5	17...23	327	GZ1 E21	0.260		
5.5	11	11	15	22	20...25	327	GZ1 E22	0.260		
7.5	15	15	18.5	22	24...32	416	GZ1 E32	0.260		

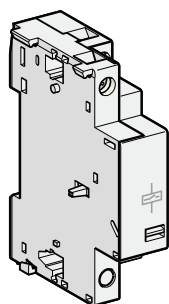
Protection components

Thermal-magnetic motor circuit-breakers

GZ1E



GZ1 AN11



GZ1 AS115

Contact blocks

Instantaneous auxiliary contacts

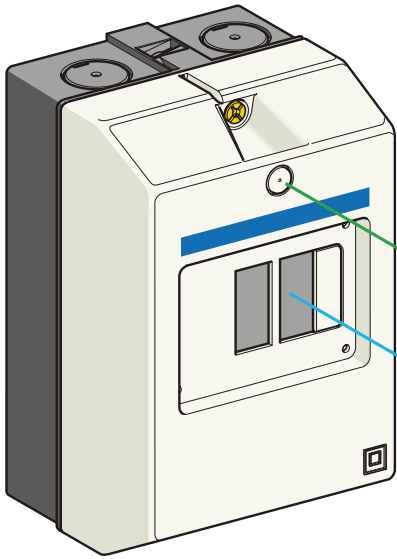
Mounting	Maximum number	Type of contacts	Sold in lots of	Unit reference	Weight kg
Side	2	N/O + N/C	1	GZ1 AN11	0.050
LH side		N/O + N/O	1	GZ1 AN20	0.050

Electric trips

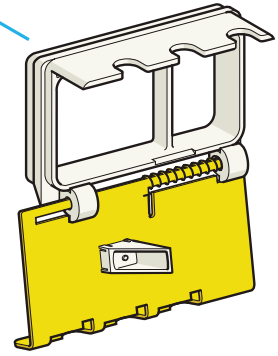
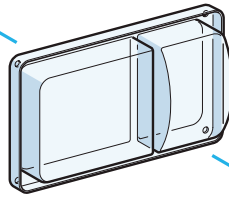
Montage	Type	Tension		Reference	Weight kg
Side (1 block on RH side of circuit- breaker)	Undervoltage trip	110...115 V	50 Hz	GZ1 AU115	0.105
		220...240 V	50 Hz	GZ1 AU225	0.105
		380...400 V	50 Hz	GZ1 AU385	0.105
	Shunt trip	110...115 V	50 Hz	GZ1 AS115	0.105
		220...240 V	50 Hz	GZ1 AS225	0.105

Mounting accessory

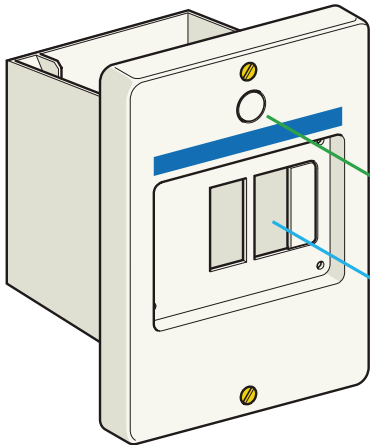
Description	Application	Sold in lots of	Unit reference	Weight kg
Adapter plate	For screw fixing of a GZ1 E	10	GV2 AF02	0.021



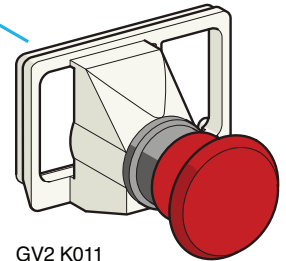
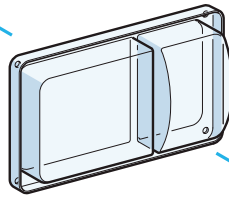
GV2 MC



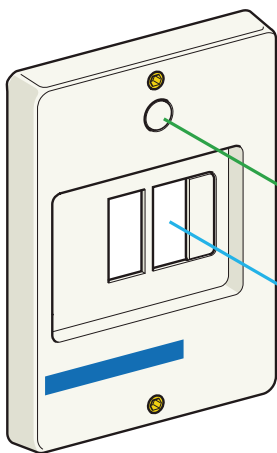
GV2 V01



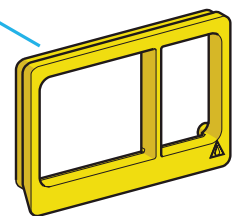
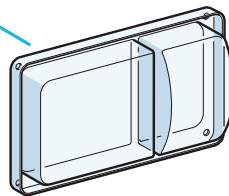
GV2 MP



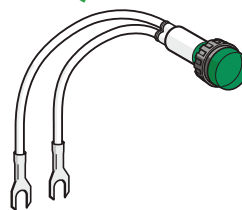
GV2 K011



GV2 CP



GV2 E01



GV2 SN

Protection components

Thermal-magnetic motor circuit-breakers

GZ1E

Enclosures for thermal-magnetic circuit-breakers GZ1 E

Type	Degree of protection	Reference	Weight kg
Surface mounting, double insulated, with protective earth Sealable cover	IP 41	GV2 MC01	0.290
	IP 55	GV2 MC02	0.300
Flush mounting, with protective earth	IP 41 (front face)	GV2 MP01	0.115
	IP 55 (front face)	GV2 MP02	0.130

Front plate

Description	Degree of protection	Sold in lots of	Unit reference	Weight kg
For direct control, through a panel, of a chassis mounted GZ1 E	IP 55	1	GV2 CP21	0.800

Accessories common to all enclosures (to be ordered separately)

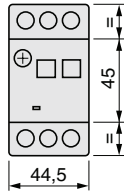
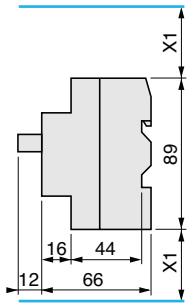
Padlocking device ⁽¹⁾ for GZ1 E operator (padlocking is only possible in the "O" position)	1 to 3 padlocks Ø 4 to 8 mm	1	GV2 V01	0.075	
Mushroom head "Stop" pushbutton, Ø 40 mm, red	Spring return ⁽¹⁾	1	GV2 K011	0.052	
Sealing kit	For enclosures and front plate	IP 55	10	GV2 E01	0.012
Neutral terminal			100	AB1 VV635UBL	0.015
Partition			50	AB1 AC6BL	0.003

Description	Voltage V	Colour	Sold in lots of	Unit reference	Weight kg
Pilot light with neon bulb	380/440	Green	10	GV2 SN33	0.019
		Red	10	GV2 SN34	0.019
		Orange	10	GV2 SN35	0.019
		Clear	10	GV2 SN37	0.019

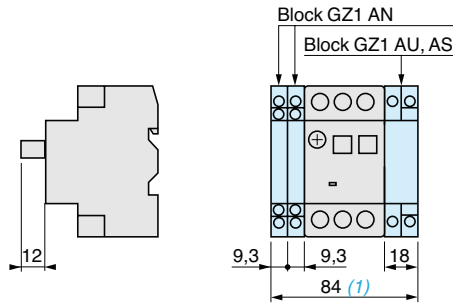
⁽¹⁾ Supplied with IP 55 sealing kit. To be fitted with enclosures GV2 M●01.

Dimensions

GZ1 E



GZ1 AN, GZ1 AU, GZ1 AS

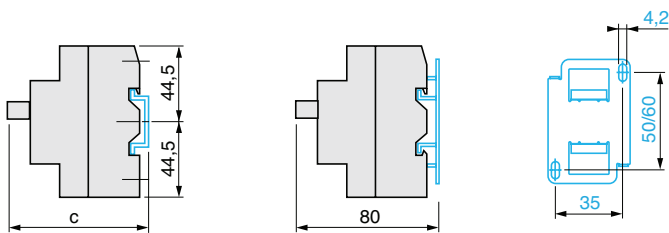


X1: electrical clearance = 40 mm for U_e y 690 V.

(1) max.

Mounting

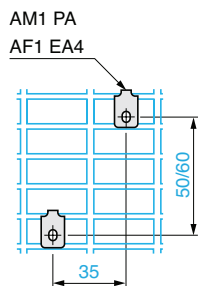
GZ1 E on 35 mm ≤ rail



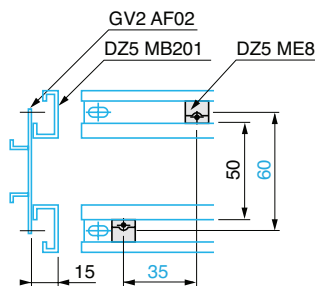
$c = 78.5$ on AM1 DP200 (35 x 7.5).

$c = 86$ on AM1 DE200 and AM1 ED200 (35 x 15).

GZ1 E on pre-slotted mounting plate

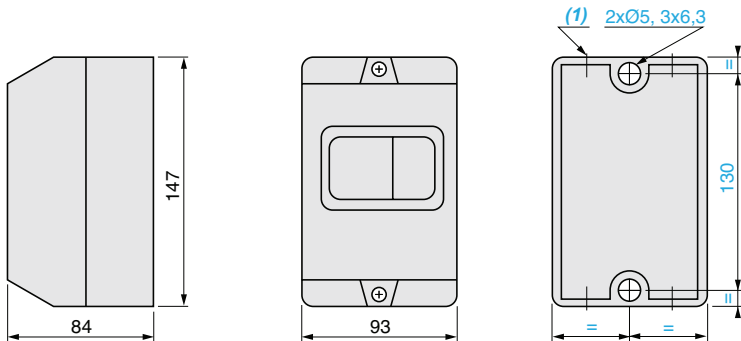


GZ1 E on rails DZ5 MB201, DZ5 ME8 or GV2 AF02



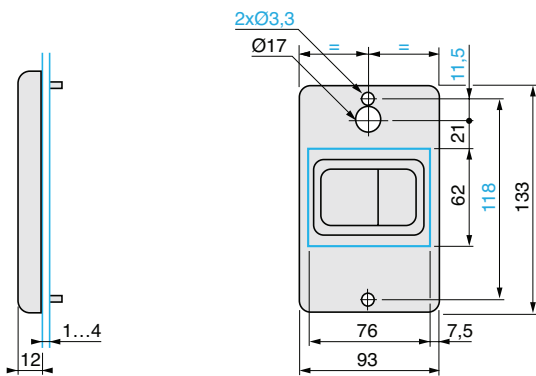
Dimensions

Surface mounting enclosure GV2 MC0●



(1) 4 knock-outs for 16 mm plastic cable gland or 16 mm conduit.

Front plate GV2 CP21



Flush mounting enclosures GV2 MP01 and GV2 MP02

