

DC Contactors

Kiepe GN

DC Contactors Kiepe GN

Introduction

The Kiepe GN series DC contactors are electromagnetic switches in accordance with VDE 0660, Part 1/3.68. They have proven themselves successful for decades in their current design.

The requirements for trackless electric battery vehicles in accordance with DIN 43 553/1.73 have been largely taken into consideration.

The insulation requirements of the contactor, the clearance and creepage distance are met in accordance with DIN EN 50 124-1:2001.

Description

The Kiepe GN series electromagnetic DC contactors are made in a 1-pole and/or 2-pole design. They are used for the switching of DC motors and in DC onboard power systems – e.g. as a battery contactor.

The contactors are switched on with DC solenoids and the resetting is carried out by spring tension. The solenoids are available for 3 operation ranges. Range 1 (+0/-30%) is especially suitable for battery-powered systems, Range 2 (+10/-15%) for industrial DC power systems and range 3 (+20/-30%) for train applications¹⁾. For protection from transient voltage spikes during the switching off of the solenoids, these can be equipped with a varistor as voltage surge protection. The drive magnets are equipped with a 6.3 mm fast-on connector.

As an auxiliary switch, up to 2 auxiliary switch blocks can be attached. Every auxiliary switch block has 1 normally open contact and 1 normally closed contact. The auxiliary switches are equipped with a 6.3 mm fast-on connector.

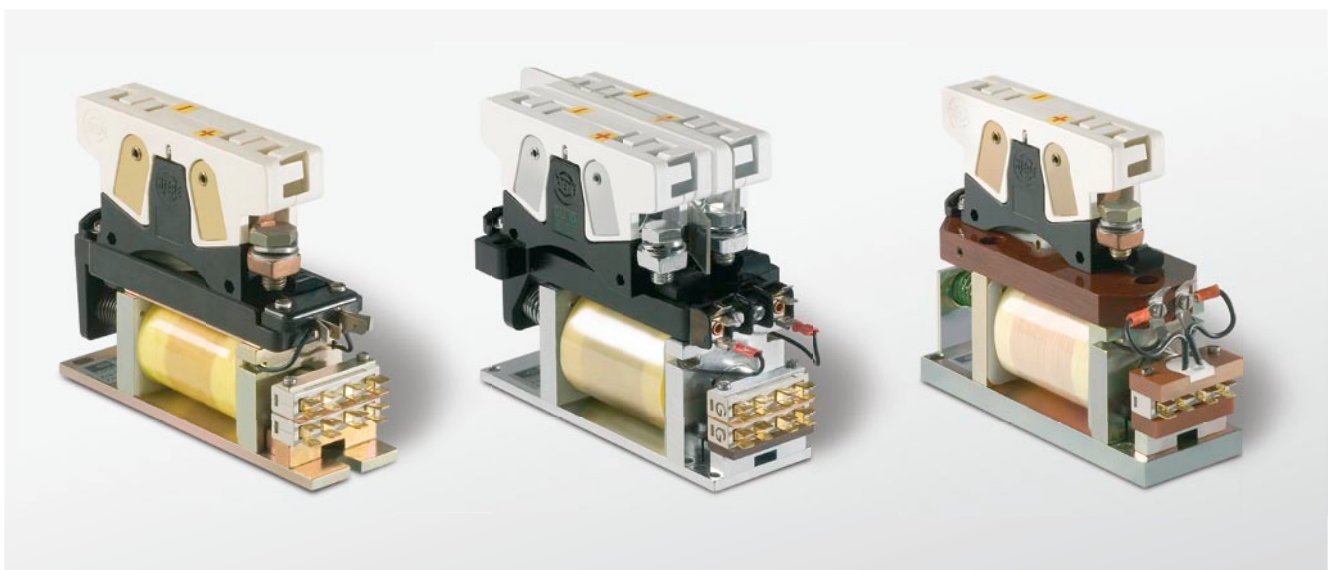
The main contact – with double interruption – is designed for rated voltages up to DC 600 V. A permanent magnetic blower device is integrated for extinguishing the electric arc when being switched off. The correct polarity should therefore be ascertained during connection. The switching capacity was checked corresponding to VDE 0660/ Part 102 with the switching categories DC 1, DC 2/3 and DC 4/5.

If the contacts are parallelly switched with the 2-pole contactor, the rated thermal current is reduced to the values given in the technical data for parallel switching. The main contacts are equipped with a M10 screw terminal.

The contactor is constructed on a steel base plate, which at the same time serves as the mounting. During the planning of the installation, the required minimum distances (see section: Dimensions) and the possible assembling positions (see section: Technical Data) are to be observed.

The contactors are meant for installation in rooms where no difficult operating conditions occur due to effects of dust, moisture or atmospheric influences.

¹⁾ Range 3 only available for Kiepe GN 256.1 contactor



GN 156

GN 256

GN 256.1

Technical Data

Type	GN 156	GN 256	GN 256.1
Switching element			
Main contact (normally open contact)	1	2	1
Rated insulation voltage U_i (VDE 0110 / Group D)	DC 600 V	DC 600 V	DC 600 V
Rated thermal current I_{th}	250 A	250 A	250 A
Rated thermal current I_{th} with 2 switches in parallel	–	450 A	–

Rated breaking capacities ⁵⁾				
DC 1 (L/R = 1 ms)	110 V	250 (375) A	250 (375) A	250 (375) A
	220 V	250 (375) A	250 (375) A	250 (375) A
	440 V	250 (375) A	250 (375) A	250 (375) A
	600 V	223 (335) A	223 (335) A	223 (335) A
DC 2/3 (L/R = 2.5 ms)	110 V	250 (1000) A	250 (1000) A	250 (1000) A
	220 V	250 (1000) A	250 (1000) A	250 (1000) A
	440 V	140 (560) A	140 (560) A	140 (560) A
	600 V	64 (254) A	64 (254) A	64 (254) A
DC 4/5 (L/R = 15 ms)	110 V	250 (1000) A	250 (1000) A	250 (1000) A
	220 V	225 (900) A	225 (900) A	225 (900) A
	440 V	78 (312) A	78 (312) A	78 (312) A
	600 V	37 (146) A	37 (146) A	37 (146) A

Auxiliary Switch ¹⁾	
Rated thermal current I_{th}	16 A
Rated breaking capacities ³⁾ DC 24V (DC 110V)	10 (0.5) A

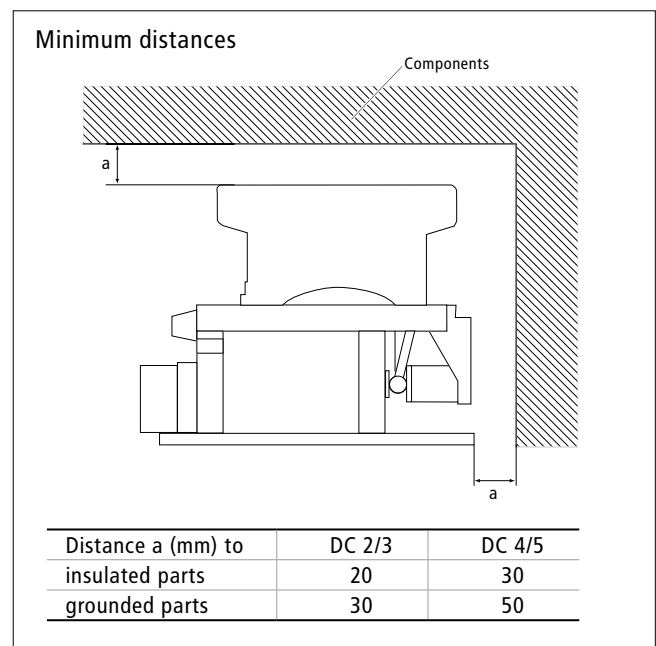
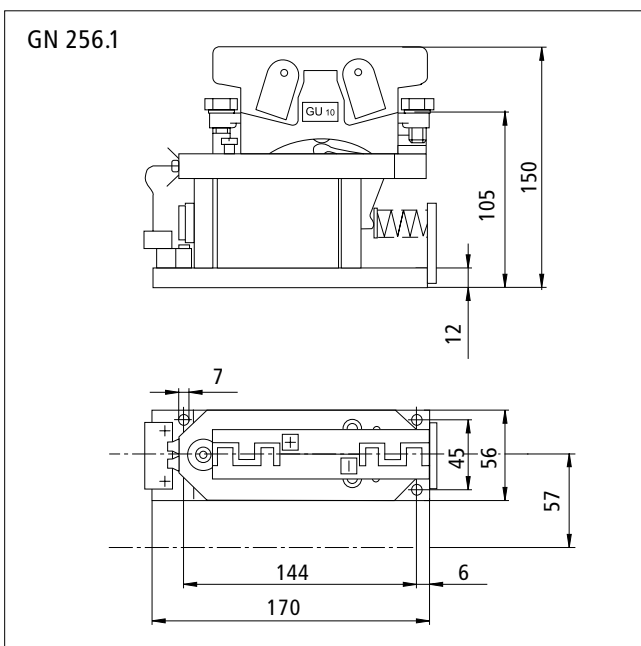
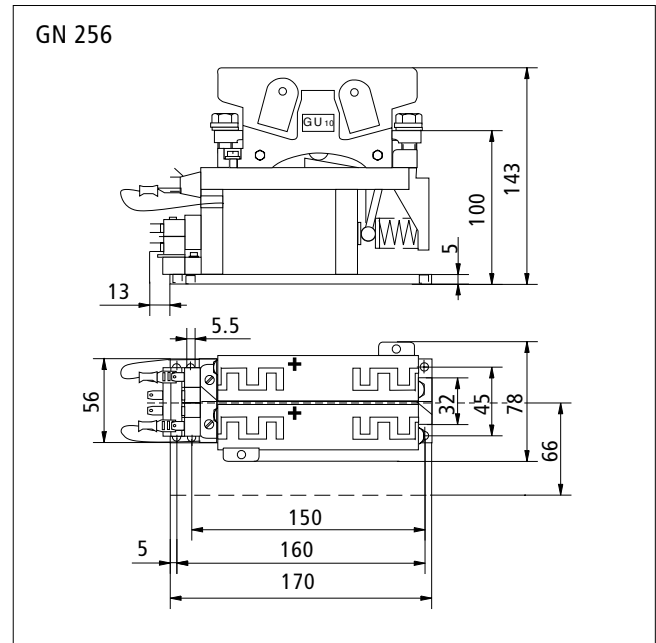
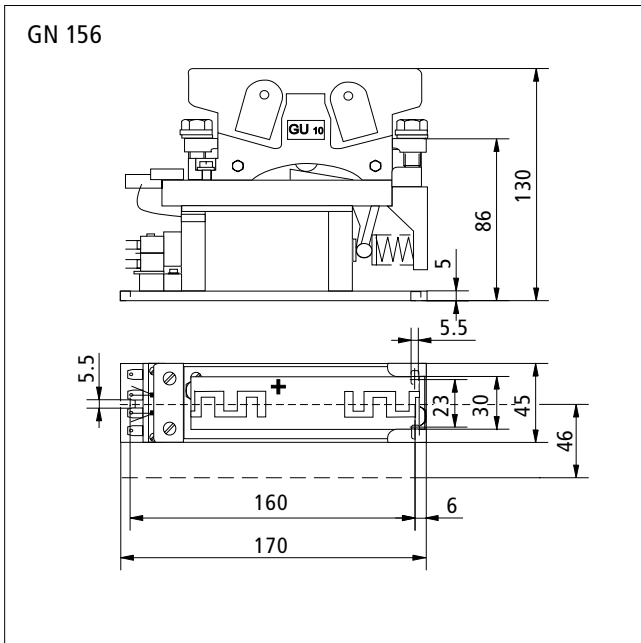
Solenoid coil			
Rated control supply voltage U_c ^{2) 4)}	DC 24 / 110 V		
Coil suppression ⁴⁾	VDR		
Solenoid coil power consumption cold/warm	20 / 14 W	21 / 15 W	21 / 15 W

Other			
Mechanical operating life	5 x 10 ⁶		
Approx. weight	2.0 kg	3.3 kg	3.3 kg
Protection class	IP 00		
Ambient temperature	-25°C ... +40°C		
Installation position	Base plate horizontal or vertical with coil terminal downwards		

¹⁾ Please indicate with order, up to 2 x 1N 1NC possible, ²⁾ Other voltages on demand, ³⁾ inductive load, ⁴⁾ Please indicate with order according to Ordering Code / Type Key, ⁵⁾ Stated values also valid with parallel switching. Values for test currents (max. breaking capacity) are given in (...).

Type Key / Ordering Code	GN	1	56	-2	2-	024	-G/1	V
DC contactor series								
Number of main switching elements (1 or 2)								
Size (56)								
Number of auxiliary contacts as normally open contact								
Number of auxiliary contacts as normally closed contact								
Rated operating voltage U_c of the solenoid coil at 100% ED (continuous operation) (standard values: DC 24 V, DC 110 V)								
Operation ranges of the solenoid coil 1 = 0.70 ... 1.0 U_c 2 = 0.85 ... 1.1 U_c 3 = 0.70 ... 1.2 U_c (only for GN 256.1)								
Varistor								

Dimensions



Subject to change without notice

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