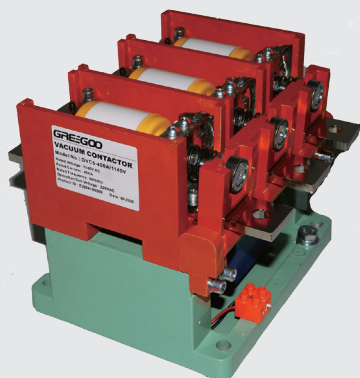


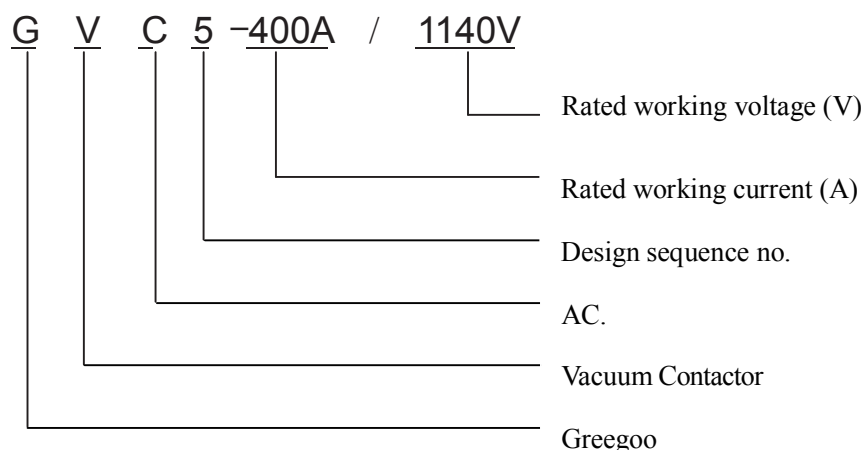
### GVC5-400A/1140V



## Introduction

GVC5-400A/1140V AC vacuum contactor is suitable for an AC.50-60 Hz electric power system, with highest operating voltage of 1140V, and rated current of 400A, for direct or remote on-off control of the main circuit. Especially suitable for controlling of frequently operated of the motor, or other loads. It features of reliability, long lifetime, less maintenance, and safety. It has proven the very obvious economic benefit with this kind of product to replace the conventional products.

## 1.Type and specification of the product



## 2.Normal working conditions

2.1 Applicable Elevation: the elevation of the installation place should be less than 2000m.

2.2 Ambient temperature:  $-25^{\circ}\text{C} \sim +40^{\circ}\text{C}$ .

2.3 Relative humidity: maximum monthly averag relative humidity is 90% when the highest averaged air temperature is  $+25^{\circ}\text{C}$  in most humid months. Having taken into account the condensation dew on the surface of the product due to the temperature variation.

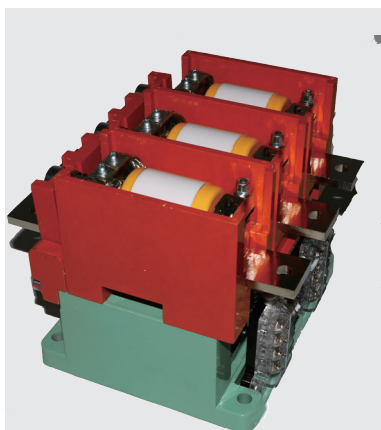
2.4 Working conditions: the places where are without strong sunshine, rain and snow, without explosive danger and gas or dust to damage the metal and insulation, without strongly vibrated/shocked and collided.

2.5 Contamination class: class III.

## 3.Structure and working principle

The vacuum contactor mainly consist of vacuum switch tube, base, rotating arm of force, electro-magnetic coil, opening spring, contact spring, spacing part and so forth. (See Fig.1) when the electro-magnetic coil gets power, attract the moving armature to drive the rotating arm of force do anticlockwise rotation. The rotating arm of force, by way of contact spring, press the moving contact and fixed contact in the vacuum switch tube to touch, then the main circuit will make. After the power to the electro-magnetic coil cut off, the moving armature, by the effect of opening spring, drives the rotating arm of force to do clockwise rotation. After the overtravel H, the rotating arm of force drives the moving contact rod to press the moving contact and fixed contact separate, then the main circuit will cut off. Because of the spacing component, the rotation angle of the rotating arm of force if fixed and never change. The vacuum switch tube consists of moving/fixed contact, bellow, conducting rod, ceramic enclosure and so forth. (see Fig.1) the bellow can make sure the separation between the vacuum in tube and outside air when the contact do axial motion and ensure the moving/fixed contact in the vacuum condition.

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## 4. Main technical data

Table 1

Technical data	data	unit	Technical data	data	unit
Rated voltage of main circuit	1140	V	Pole number of main circuit	3	pole
Rated current of main circuit	400	A	Pressure of main contact	100	N
Making capacity of main circuit	4/50	kA/time	Stroke of contact	$2 \pm 0.3$	Mm
Breaking capacity of main circuit	3.2/50	kA/time	Overtravel	$1 \pm 0.3$	Mm
Limit breaking capacity	4.5/3	kA/time	Contact resistance of main circuit	$\leq 200$	$\mu\Omega$
Electrical life AC3	60	10000 time	Control circuit voltage	120, 220, 380	V
Electrical life AC4	6	10000 time	Attracting power of control circuit	$< 600$	VA
Mechanical life	300	10000 time	Holding power of control circuit	$< 50$	VA
Rated operating frequency AC3	600	Time/hour	Outline dimension	$214 \times 216 \times 187$	Mm
Rated operating frequency AC4	120	Time/hour	Installation dimension	$180 \times 160$	Mm
Short time operating frequency 20S	2000	Time/hour	weight	10	kg

Remark: working voltage of control circuit can be made according to the requirement of the customer.

## 5. Installation and operation

### 5.1 Installation

5.1.1 The contactor shall be installed as in the normal operation position. The contactor must be installed on a level plane and the slope shall not be larger than  $15^\circ$ . We suggest the moving terminal of vacuum switch tube is down towards when installation.

5.1.2 Connect the wires correctly. The control power supply voltage should be in compliance with the control voltage of the contactor.

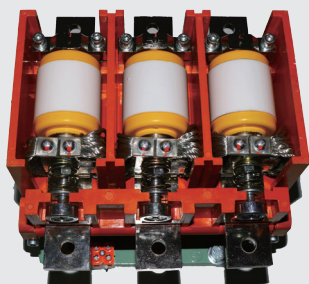
### 5.2 Operation

5.2.1 During the operation, the vacuum switch tube of the contactor should be checked every half year (by way of power frequency withstand voltage), the withstand voltage should be higher than 6KV, otherwise it should be replaced. We suggest using the 5KV or 2.5KV insulation resistance shaking device to check, it should be monitored when the insulation resistance of vacuum switch tube is lower than 100M $\Omega$ , and should be replaced if lower than 20 M $\Omega$ . Please pay attention whether the out ceramic surface of the vacuum switch tube is humid or other reason causes the insulation lower to avoid making wrong conclusion.

5.2.2 During the operation, keep the contactor in clean, periodically adjust its stroke and overtravel (one time per 3 months), and check its structural elements for loosened connections.

5.2.3 Check method of stroke: (see Fig.1) measure the L value by vernier calipers, the difference of the value measured at opening and that at the closing is the stroke. The stroke value should be in compliance with that in table 1.

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5.2.4 Measure method of overtravel: (see Fig.1) under the state of closing, measure the H value by vernier calipers or other special measurement tool. The overtravel value should be in compliance with that in table 1. The contactor must not be operated under the condition of without overtravel. Attention: the adjustment of contactor must use the special measurement instrument such as synchro tester, open/close speed tester. We do not agree the customer adjust and repair the contactor by way of eyesight and feel. Otherwise the characteristics of the contactor will be reduced and cause the unexpected damage.

### 6. Transportation & Storage

6.1 During the transportation process, the contactor should not be converted, turned over, strongly vibrated/shocked and collided.

6.2 During the transportation and storage process of the contactor, it cannot suffer the invasion of rain and snow. It should be stored in the warehouse without the invasion of rain and snow, with circulating air, and relative humidity of air not exceeding 85%, and air temperature not higher than  $+40^{\circ}\text{C}$  and not lower than  $-25^{\circ}\text{C}$ .

### 7. Unpack & Inspection

7.1 inspect the package for its completeness, and check it for damage.

7.2 Check the contactor if comply with the purchase order, and check the spare parts and attached document if comply with the packing list.

7.3 Make corresponding inspection to the contactor.

### 8. Notice when placing the order

8.1 Please state the following when placing the order:

- Title, model/specification of the product;
- Rated voltage, rated current and rated control voltage;
- Quantity of product and spare parts;
- Other special requirements.

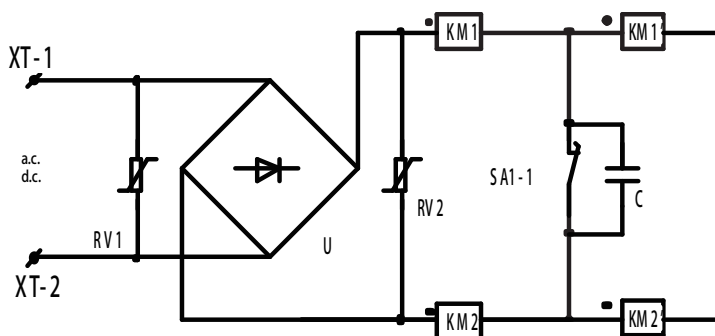
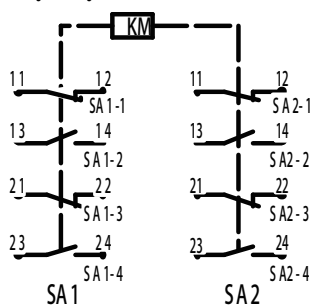
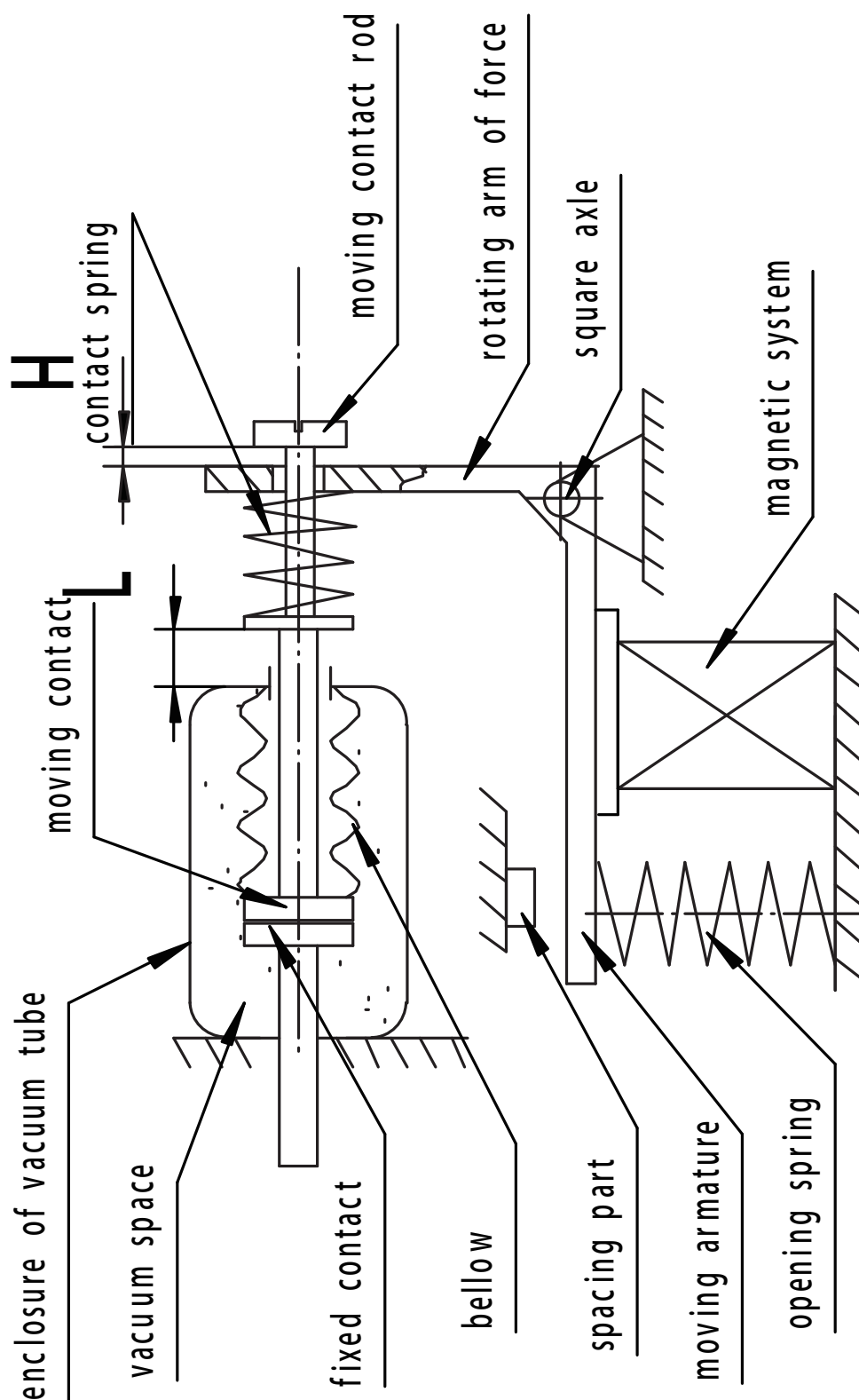


Fig: XT: wiring terminal; RV: varistor resistance; U: rectifier bridge; SA: a



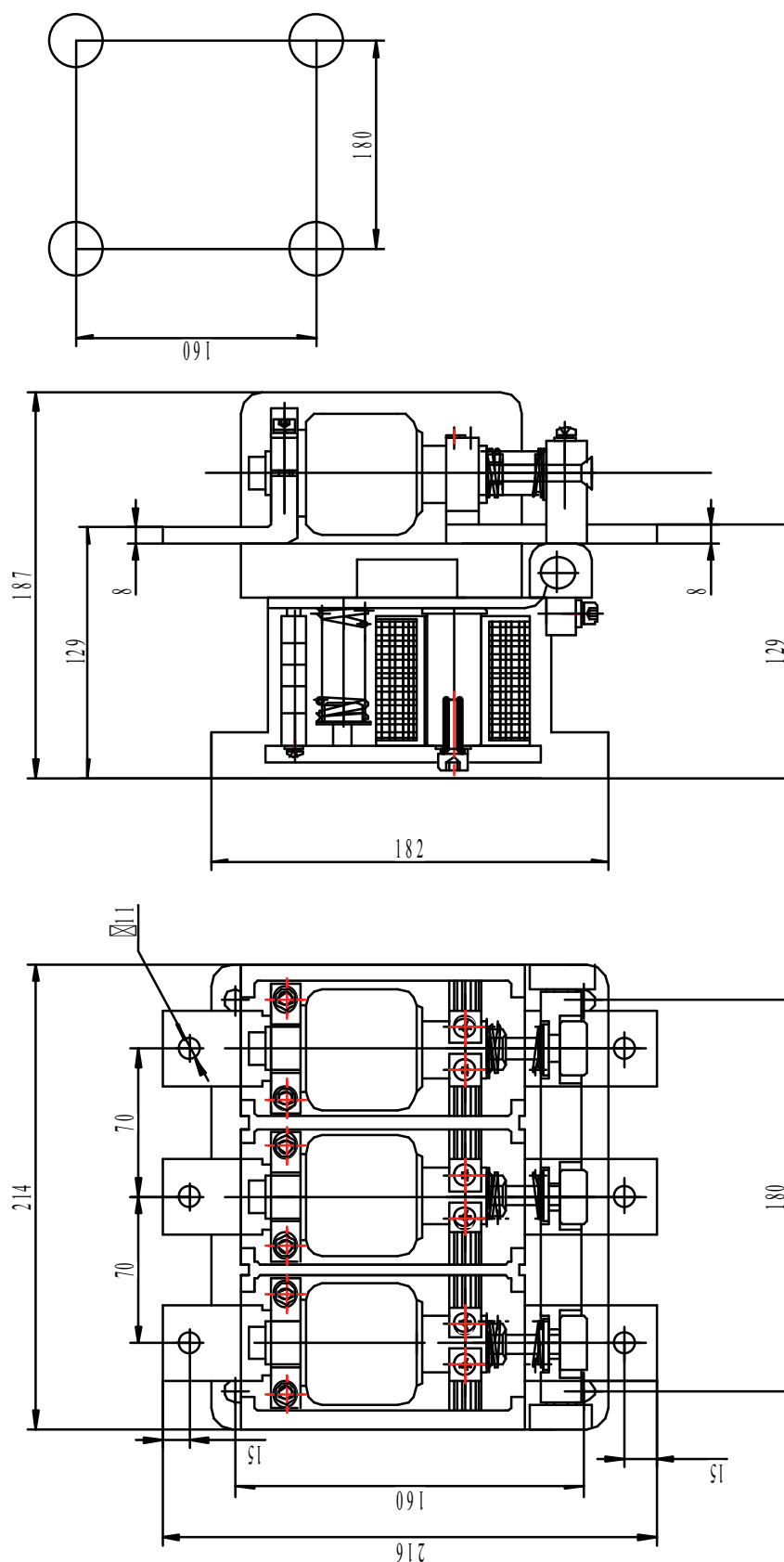
uxiliary switch; C: capacitor; KM: coil start winding; KM: coil holding winding

GVC5-400A/1140V low voltage vacuum contactor electric drawing



(Fig.1)working principle drawing of  
contactor

GVC5-80A/125A/160A



GVC5-400A/1140V vacuum contactor outline dimension