



## 1 .Application and product features

GVC40 series large current vacuum contactor :

This series of vacuum contactors main used for AC50-60Hz, main circuit rated voltage 1.6kv below ,the rated current from 1250A-2000A power network systems for remote making and breaking and frequent starting and control of AC motors, transformers and capacitor banks and other occasions.

Advantages: good compatibility, stable and reliable performance, free maintenance and long service life.

### 2. Normal working conditions

1) Ambient temperature  $-25^{\circ}C \sim +40^{\circ}C$ .

2) Installation site altitude does not exceed 2000m.

3) The relative humidity of the air +40°C, not more than 50%, At low temperatures allow a higher temperature. The wettest month average monthly maximum relative humidity of 90%, monthly average minimum temperature of 25°C.

## 3. Main Tech-parameter

#### 1) 3-phase

2) Operating voltage (coil voltage or control circuit voltage) AC /DC 36V 110V 220V 380V 440V ,can be customized as your request.

3) Control circuit method: dc electromagnetic system, ac control power support oil working through the rectifier.

4) Auxiliary circuit contact: 1250A 1600A 2000A are Four normally open and three normally closed

5) Auxiliary switch contact circuit agreed heating current is 5 A

### 4. Action performance

When the ambient air temperature in  $-25^{\circ}C \sim +40^{\circ}C$ ., contactor should be able to reliable suction together when the control power voltage is in the range of 85% to 110% of the rated voltage.

### 5. Operation and maintenance

1) The ground line should be connected before using , then putting the rated control voltage direct joint in terminals of the contactor power panel (already left)

The contactor must mount the over-voltage protection device of resistance capacitance and the absorption capacitor of the auxiliary circuit .Resistance capacitance over-voltage protection device of the three root lead joint in this contactor output end
 The contactor has been tuned, and test well, no need to adjust can use directly

4) For new vacuum switch tube, we could check the vacuum by frequency pressure method, pressure up to 10 kv lasted 1 min, there shall be no breakdown, no flashover phenomenon. If not this condition can be used 5000 v magnetometer side switch pipe insulation resistance. A new vacuum switch pipe insulation resistance should be more than 100 m  $\Omega$ . Long-term use of vacuum switch pipe insulation resistance should be more than 20 m $\Omega$  (test must ensure that vacuum switch tube looks clean, dry)

5) If have one of the following cases, we should check and adjust the vacuum contactor A. It's about six months since first time using :

B. Frequent operation place, operation 100000 times:

C. Find the vacuum switch tube contact open distance less than 1.5 mm, over travel is less than 0.5 mm:

D. replace vacuum switch tube after:

E. Mechanical operation have abnormal:



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## 6. GVC40 Series vacuum contactor Tech-Parameter

| GVC40 Series vacuum contactor 1250A 1600A 2000A |  |           |          |  |
|---|--|-----------|----------|--|
| Technical parameter                             | 1250/2KV   | 1600A/2KV | 2000/2KV |  |
| Main circuit rated voltage (V)                  | 2000   | 2000      | 2000     |  |
| Main circuit rated current (A)                  | 1250   | 1600      | 2000     |  |
| Main circuit making capacity (A/100times)       | 8000   | 10000     | 10000    |  |
| Main circuit break-make ability (A/10times)     | 8000   | 8000      | 8000     |  |
| Maximum break ability (A/3times)                | 10000  | 10000     | 10000    |  |
| Electricity life AC3(times)                     | 60 0000  | 60 0000   | 60 0000  |  |
| Electricity life AC4 (times)                    | 10 0000  | 10 0000   | 10 0000  |  |
| Mechanical life (times)                         | 100 0000   | 100 0000  | 100 0000 |  |
| Rated operate frequency AC3 (times)             | 200  | 200       | 200      |  |
| Rated operate frequency AC4 (times)             | 100  | 100       | 100      |  |
| Clearance between open contacts (mm)            | 5±0.5  | 5±0.5     | 5±0.5    |  |
| Over travel (mm)                                | 2±0.5  | 2±0.5     | 2±0.5    |  |
| Secondary control voltage (v)                   | AC&DC:36V /110V /127V/380V<br>or can be customized |           |          |  |

# 7. Secondary control circuit principle diagram







8. Outline and Installation Size:unit(millimetre (mm.)



50

293



| Main Circuit Rated Current | Copper Row Size |
|----------------------------|-----------------|
| 1000A                      | 8X50            |
| 1250A                      | 10X50           |
| 1600A                      | 10X60           |
| 2000A                      | 10X70           |

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| Failure phenomenon  | Reason   | Solutions   |
|---|--|---|
| 1.After electrify no reaction or<br>electromagnetic acoustic out<br>(this phenomenon should<br>immediately break electricity) | 1. No power supply or ac/dc wrong<br>or voltage is too low                                 | 1. Check the coil and connection.   |
|   | 2. Control circuit has broken line.  | 2. Check the wiring row, power supply terminals, switch terminal.   |
|   | 3. Auxiliary switch to convert the normally closed contact have open circuit               | 3. Adjusting switch play in place or more bad burn out point.   |
|   | 4. Rectifier damage.   | <ol> <li>Replace the power supply plate.</li> <li>Check for foreign body suction, check the<br/>half ball, insulator, pipe have card hysteresis,<br/>respectively the action</li> </ol> |
| 2. Can't keep switching a combo state   | 1. Power panel has a problem.  | 1. Particularly power panel.  |
|   | 2. Coil has a problem.   | 2. Replace coil.  |
|   | 3. Core have foreign body.   | 3. Remove foreign bodies.   |
|   | <ol> <li>Auxiliary switch installed in<br/>strange position.</li> </ol>                    | 4. Adjusting switch move later.   |
|   | 5.Mechanical-lock undeserved   | 5. Adjustment   |
| 3.Action slow   | 1.A power supply voltage is too low.   | 1. Improve the power supply voltage   |
|   | 2 . Jamming .  | 2.Insulators, pipe semicircle ball catching,<br>plus a small amount of oil, respectively, the<br>action look 3. Adjustment.   |
|   | 3 .Inappropriate efforts to spring opening   | ,   |
| 4. Have Noise   | 1.Mounting surface is not level , deformation.   | 1 . Gasket pad level .  |
|   | 2.The inlet and outlet conductive  | 2.Access conductive row size should be in place , not bolt deadlift .   |
|   | row big rally , causing the machine deformation .  | 3 . Need leveling .   |
|   | 3.Electromagnetic pull uneven .  |   |
| 5. The coil hot or burn out   | 1.Supply voltage is too high .   | 1.Check the operating voltage .   |
|   | 2 auxiliary switch conversion point<br>did not open normally closed .3.<br>Coils breakdown | 2. Adjustment or replacement of the auxiliary switch .  |
|   |  | 3 . Require replacement   |