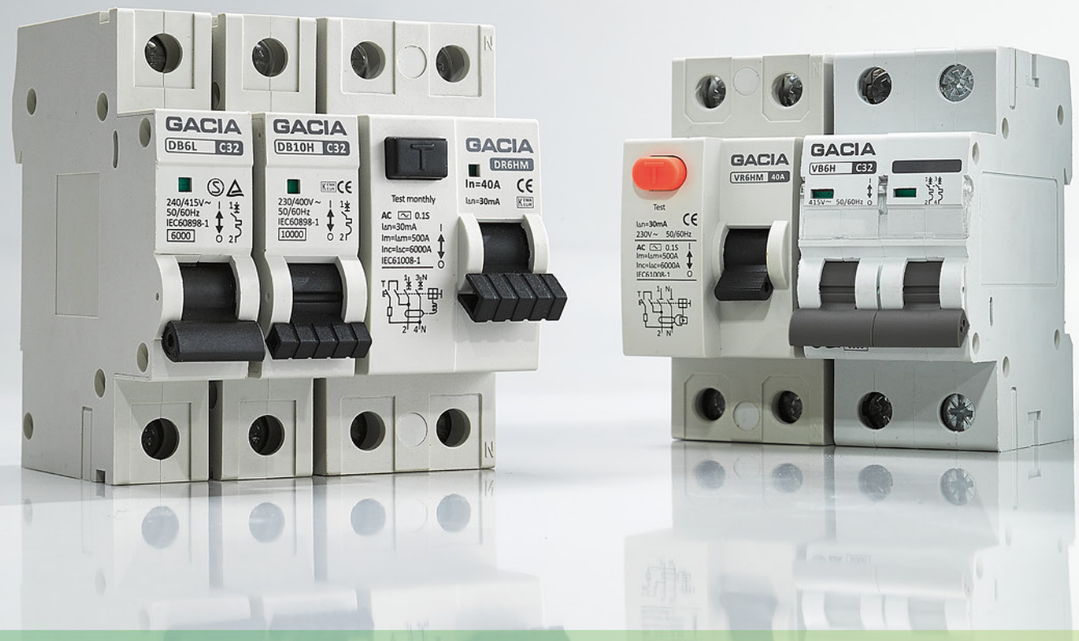
GACIA




# D/V/G Product Information

GACIA

**GACIA ELECTRICAL APPLIANCE CO., LTD.**

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Pacemaker
of circuit breakers

GACIA

Pacemaker
of circuit breakers

## Gacia Electrical Appliance Co., Ltd

is an export-oriented company, focus on R&D, manufacturing, and sales of circuit breakers. Through 16 years of rapid growth, Gacia has 1700 employees, including 100 technical talents, and 3 manufacturing bases around China. Gacia's headquarter located in Wenzhou, the Shanghai campus focus on R&D and high-end manufacturing, and the Jiang xi campus provide OEM manufacturing services for customers all over the world. Meanwhile, Gacia's products export to over 100 countries and regions, and 80% of them are independent developed by Gacia. A majority of Gacia's products authenticated by many international professional certifications including German TUV, VDE certifications, Dutch KEMA certification and ISO 9001 international quality system.

After more than a decade of development, Gacia adhere to business principle referring to "customer-centric, Altruism and Win-win". Besides, Gacia devoted to utilize innovation to drive production improvement, take advantage of lean production to upgrade products quality and committed to become the pacemaker of the global circuit breaker industrial.

# CONTENTS

# Core Manufacturing Advantages

GACIA

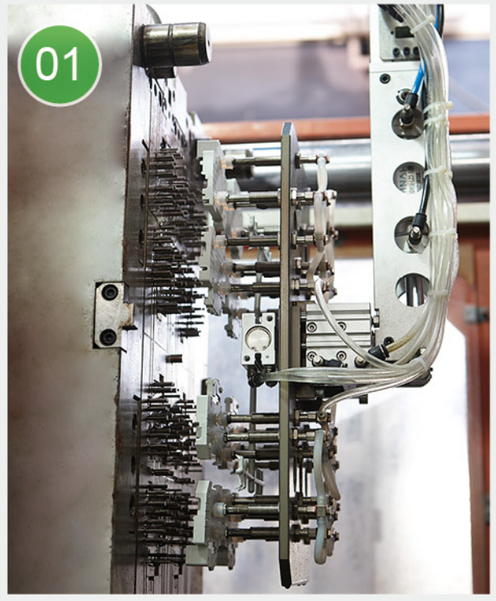
01 Independent Research and develop hot runner mold which can drop 8 pcs shells one time.

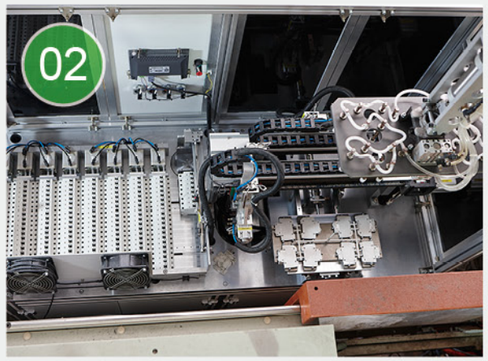
02 Injection closing unit device with automatic clamping and shaping process instead of traditional labour.

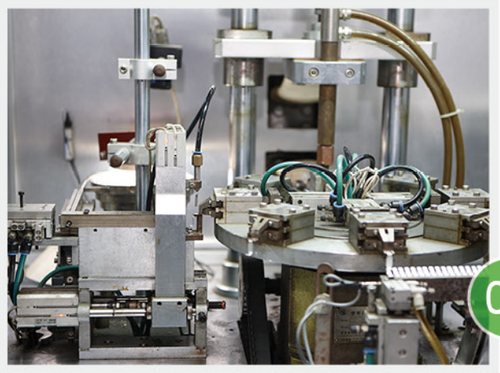
03 High-speed Punch Press Machine & Auto Welding Machine. The integration of stamping and welding process could reduce components damage and increase the qualification rate significantly for the metal parts.

04 Intelligent Manufacturing with quality auto monitoring pack and data interconnection pack could avoid artificial errors and improve product reliability.

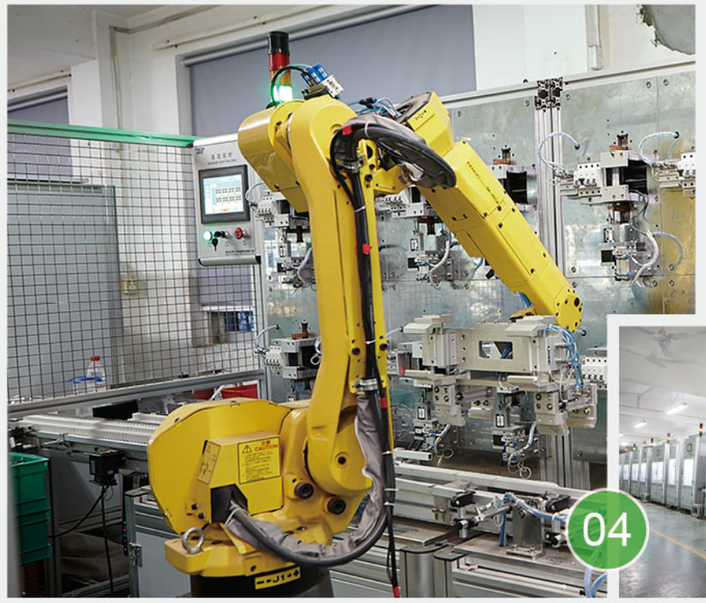
05 Operating Mechanism plant and Tripper plant.
The most important parts of RCD are produced by GACIA to insure quality warranty.



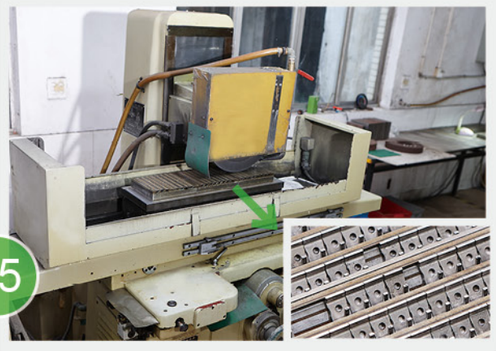












**Quality Warranty:**

Complete Manufacturing System for Components&Parts

Precise Manufacturing Process

Selecting High-class Raw Material

Strict Detecting System

Using Occasions:
Residential,Commercial,Industrial,Tender,Projects Uses | ★★★★★

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**Tech Support Hotline**
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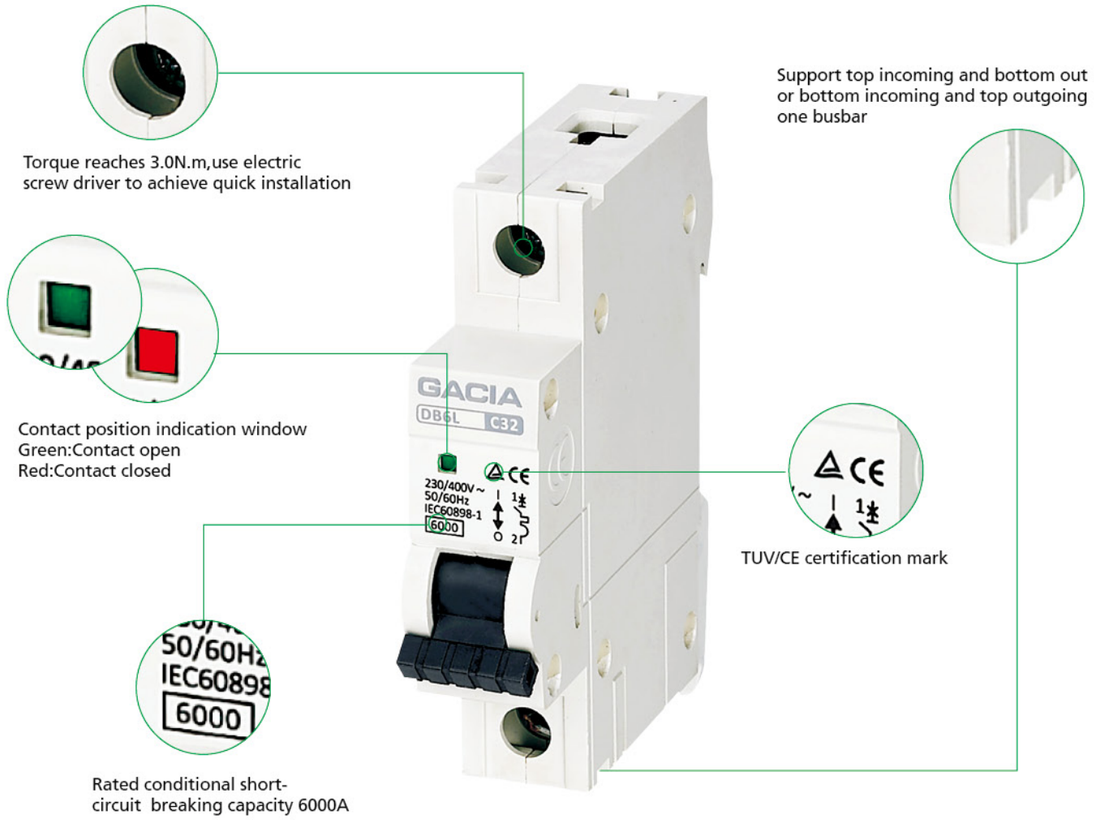
E-mail:tech@gacia.com.cn

| Model | | | DB6L | DB10H | DG6H |
|---|---|---|---|---|---|
| IEC/EN 60898-1<br>IEC/EN 60947-2 | | |  |  |  |
| Poles | | | 1P,1P+N,2P,3P,3P+N,4P | 1P,1P+N,2P,3P,3P+N,4P | 1P,2P,3P,4P |
| Certification | | | △CE | KEMA CE | CE |
| **Electrical Specifiction** | | | | | |
| Rated current(A) | In | | 1-63 | 1-63 | 63-125 |
| Rated frequency(Hz) | | | 50/60 | 50/60 | 50/60 |
| Rated working voltage(V) | Ue | | 1P:230/400~,2/3/4P:400~ | 1P:230/400~,2/3/4P:400~ | 1P:230/400~,2/3/4P:400~ |
| Rated insulated voltage(V) | Ui | | 500 | 500 | 500 |
| Impulse withstand voltage(kV) | Uimp | | 6 | 6 | 6 |
| Rated conditional short-circuit breaking capacity(KA) | Ics | | 6 | 10 | 6 |
| Instantaneous tripping type | | | B,C,D | B,C,D | (8-12In) |
| Maximum working voltage | Umax | | 440 | 440 | 440 |
| Dielectric test voltage(kV) | | | 2 | 2 | 2 |
| Service life (O-C) | Mechanical | Standard value | 10000 | 10000 | 8500(In=63-100A)<br>7000(In=125A) |
| | Electrical | Standard value | 4000 | 4000 | 3000(In=63-100A)<br>2500(In=125A) |
| **Control And Indication** | | | | | |
| Shunt release(SHT) | | | ■ | | |
| Undervoltage release(UVT) | | | ■ | | |
| Auxiliary contact(AUX) | | | ■ | | |
| Alarm contact(ALT) | | | ■ | | |
| Contact position indicator | | | ■ | | |
| Fault indication | | | - | | |
| **Connection And Installation** | | | | | |
| Ambient temperature(with daily average≤35℃) | | | -5℃ ~+40℃ | | |
| Protection degree | ALL sides | | IP40 | | |
| | Connection terminal | | IP20 | | |
| Wire($mm^2$) | | | 1-16 | 1-16 | 25-50 |
| busbar($mm^2$) | | | 25 | 25 | - |
| Mounting | | | Cable/Busbar | Cable/Busbar | Cable |
| Pollution degree | | | 2 | | |
| Reference temperature for setting of thermal element(℃) | | | 30 | | |
| Storage temperature(℃) | | | -25℃ ~+70℃ | | |
| Tightening torque | | | 3.0 | | |
| Connection | | | Top and Bottom | | |
| Dimensions(mm) (WxHxL)  | a(1P/2P/3P/4P) | | 17.5/35/52.5/70 | 17.5/35/52.5/70 | 27/54/81/108 |
| | b(1P/2P/3P/4P) | | 87/87/87/87 | 87/87/87/87 | 87/87/87/87 |
| | c(1P/2P/3P/4P) | | 74.6/74.6/74.6/74.6 | 74.6/74.6/74.6/74.6 | 76.5/76.5/76.5/76.5 |
| Weight(kg) | 1P | | 0.11 | 0.11 | 0.15 |
| | 2P | | 0.22 | 0.22 | 0.3 |
| | 3P | | 0.33 | 0.33 | 0.45 |
| | 4P | | 0.44 | 0.44 | 0.6 |

■ Default □ Optional – None



| VB6H | VB8HC | GB6H |
|---|---|---|
|  |  |  |
| 1P,1P+N,2P,3P,3P+N,4P | 1P,1P+N,2P,3P,3P+N,4P | 1P,1P+N,2P,3P,3P+N,4P |
| △CE | KEMA CE | △CE |
| | | |
| 1-63 | 1-63 | 1-63 |
| 50/60 | 50/60 | 50/60 |
| 1P:230/400~,2/3/4P:400~ | 1P:230/400~,2/3/4P:400~ | 1P:230/400~,2/3/4P:400~ |
| 500 | 500 | 500 |
| 6 | 6 | 6 |
| 6 | 10 | 4.5 |
| B,C,D | B,C,D | B,C,D |
| 440 | 440 | 440 |
| 2 | 2 | 2 |
| 10000 | 10000 | 10000 |
| 4000 | 4000 | 4000 |
| | | |
| | □ | |
| | □ | |
| | □ | |
| | □ | |
| | ■ | |
| | - | |
| | | |
| | -5℃ ~+40℃ | |
| | IP40 | |
| | IP20 | |
| 1-16 | 1-16 | 1-16 |
| 25 | 25 | 16 |
| Cable/Busba | Cable/Busba | Cable/Busbar |
| | 2 | |
| | 30 | |
| | -25℃ ~+70℃ | |
| 3.0 | 3.0 | 3.0 |
| | Top and Bottom | |
| 17.5/35/52.5/70 | 17.5/35/52.5/70 | 17.5/35/52.5/70 |
| 87/87/87/87 | 86/86/86/86 | 86/86/86/86 |
| 77.5/77.5/77.5/77.5 | 78.2/78.2/78.2/78.2 | 79/79/79/79 |
| 0.11 | 0.11 | 0.1 |
| 0.22 | 0.22 | 0.2 |
| 0.33 | 0.33 | 0.3 |
| 0.44 | 0.44 | 0.4 |




## Normal Working Conditions and Installation Conditions

- Ambient Temperature: -5℃ ~+40℃ , it's average over a period of 24 hours does not exceed +35℃ .
- Height above Sea Level: ≤ 2000m
- Atmospheric Condition:

  When the maximum temperature is +40℃ , the relative humidity of the air is not exceed 50%, and it has higher humidity at lower temperature. The maximum monthly relative humidity is90%, and the lowest temperature is +20℃ . Additionally, a frost might be present, with the temperature change.

  Pollution Degree: 2
- Installation Conditions:

  Installation Category and Type: Installation category is II or III, and the installation type adopts standard steel guide rail installation (TH35-7.5).

  The circuit breaker shall be installed vertically, and the upward position of the handle shall be connected to the power.

  The installation should be free from obvious impact and vibration, corrosive and explosive gases.

## Time-current operating characteristics

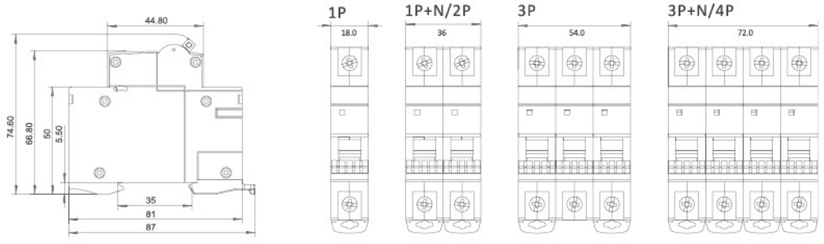
| Test | Type | Test current | Inital condition | Limits of tripping or non-tripping time | Result to be obtained | Remarks |
|---|---|---|---|---|---|---|
| a | B, C, D | 1,13 $I_n$ | Cold[a] | t ≤ 1h(for $I_n$ ≤ 63A)<br>t ≤ 2h(for $I_n$ > 63A) | No tripping | |
| b | B, C, D | 1,45 $I_n$ | Immediately following test a | t < 1h(for $I_n$ ≤ 63A)<br>t < 2h(for $I_n$ > 63A) | Tripping | Current steadily increased within 5 s |
| c | B, C, D | 2,55 $I_n$ | Cold[a] | 1s < t < 60s<br>(for $I_n$ ≤ 32A)<br>1s < t < 120s<br>(for $I_n$ > 32A) | Tripping | |
| d | B<br>C<br>D | 3 $I_n$<br>5 $I_n$<br>10 $I_n$ | Cold[a] | t ≤ 0,1s | No Tripping | Current established by closing an auxiliary switch |
| e | B<br>C<br>D | 5 $I_n$<br>10 $I_n$<br>20 $I_n$[b] | Cold[a] | t < 0,1s | Tripping | Current established by closing an auxiliary switch |
| NOTE An additional test, intermediate between c and d, is under consideration for circuit-breakers of type D. | | | | | | |

[a] The term "cold" means without previous loading, at the reference calibration temperature.
[b] 50 /n for special cases.

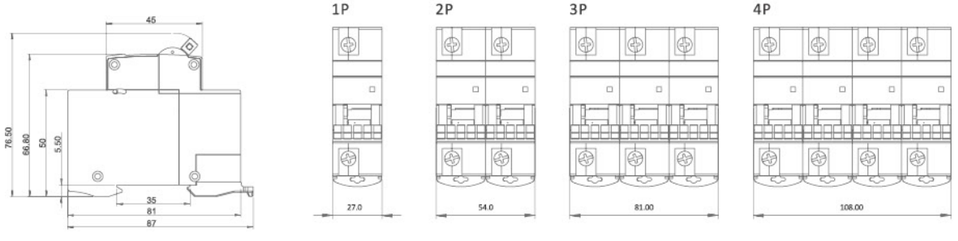
## Dimensions

D series

◆ DB6L/DB10H

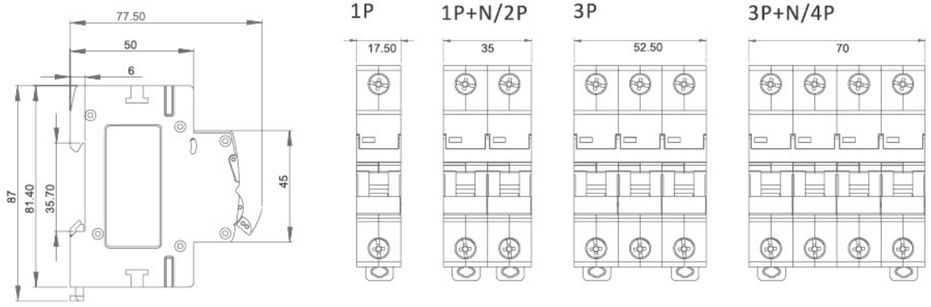



◆ DG6H

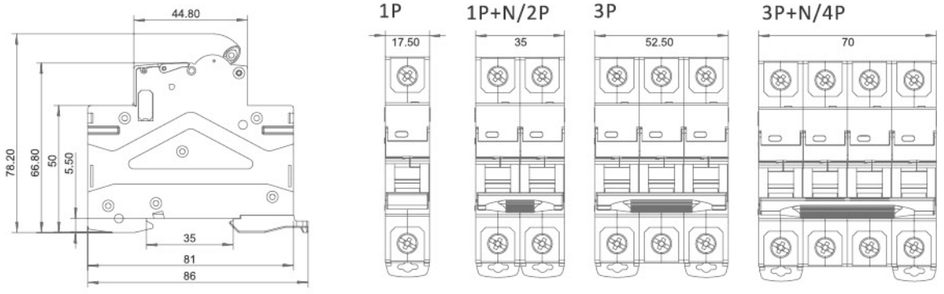


## V series

### ◆ VB6H

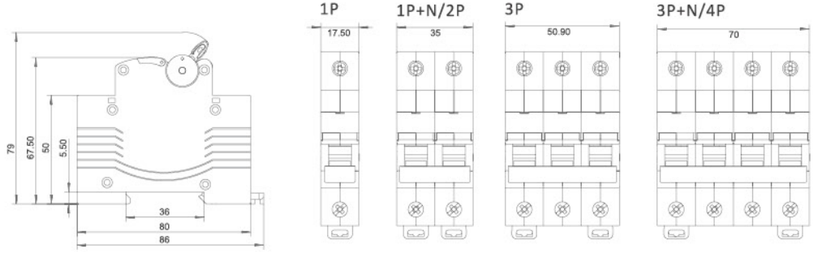



### ◆ VB8HC




## G series

### ◆ GB6H

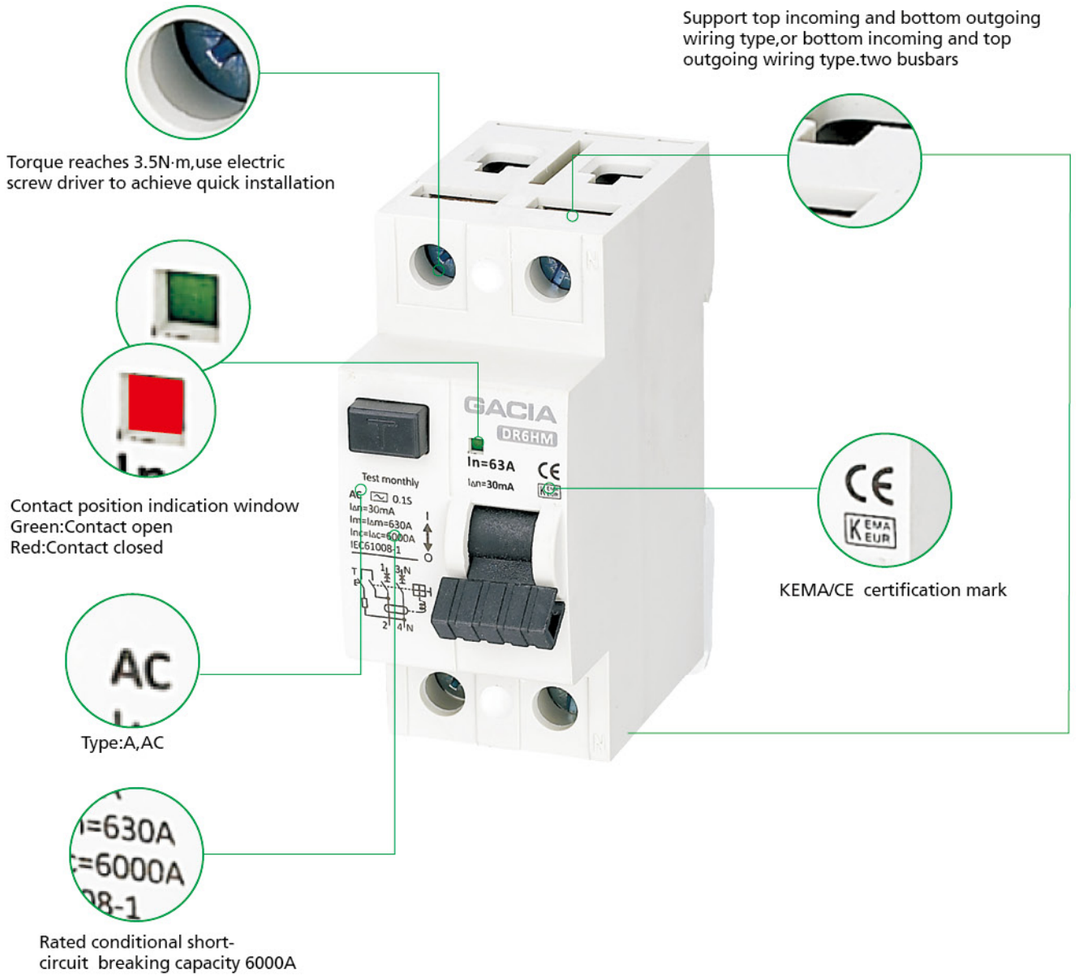







| Model | | | DR6HM | DR10HM | VR6HM |
|---|---|---|---|---|---|
| IEC/EN 61008-1 | | |  |  |  |
| Poles | | | 2P,4P | 2P,4P | 2P,4P |
| Certification | | | KEMA CE | KEMA CE | KEMA CE |
| **Electrical Specifiction** | | | | | |
| Rated current(A) | In | | 16-63 | 16-100 | 16-63 |
| Rated working voltage(V) | Ue | | 2P:230,4P:400 | 2P:230,4P:400 | 2P:230,4P:400 |
| Rated insulated voltage(V) | Ui | | 500 | 500 | 500 |
| Impulse withstand voltage(kV) | Uimp | | 6 | 6 | 6 |
| Rated conditional short-circuit breaking capacity(KA) | Ics | | 6 | 10 | 6 |
| Rated Residual current(mA) | In | | 10,30,100,300 | 10,30,100,300 | 10,30,100,300 |
| Rated Residual making and breaking capacity | Im | | 500(16-50A),630(63A) | 1000 | 500(16-50A),630(63A) |
| Residual current working type | | | AC,A | AC,AC+S,A,A+S | AC,A |
| Residual current Protection type | | | Electromagnetic | Electromagnetic | Electromagnetic |
| Dielectric test voltage(kV) | | | 2.5 | | |
| Service life (O-C) | Mechanical | Standard value | 4000 | | |
| | Electrical | Standard value | 2000 | | |
| **Control And Indication** | | | - | | |
| Shunt release(SHT) | | | - | | |
| Undervoltage release(UVT) | | | - | | |
| Auxiliary contact(AUX) | | | - | | |
| Alarm contact(ALT) | | | - | | |
| Contact position indicator | | | □ | - | □ |
| Fault indication | | | - | □ | - |
| **Connection And Installation** | | | | | |
| Ambient temperature(with daily average≤35℃) | | | -5℃ ~+40℃ | | |
| Protection degree | ALL sides | | IP40 | | |
| | Connection terminal | | IP20 | | |
| Wire(mm2) | | | 16 | 35 | 16 |
| busbar(mm2) | | | 25 | 35 | 25 |
| Mounting | | | Cable/Busbar | | |
| Reference temperature for setting of thermal element | | | 30 | | |
| Pollution degree | | | 2 | | |
| Storage temperature (℃) | | | -25℃ ~+70℃ | | |
| Connection | | | Top and bottom | Top and bottom | Top and bottom |
| Dimensions(mm) (WxHxL)  | a(2P/4P) | | 35/70 | 36/72 | 35/70 |
| | b(2P/4P) | | 87/87 | 87/87 | 87/87 |
| | c(2P/4P) | | 76.5/76.5 | 74.5/74.5 | 73/73 |
| Weight(kg) | 2P | | 0.34 | 0.35 | 0.34 |
| | 4P | | 0.68 | 0.7 | 0.68 |

■ Default □ Optional – None



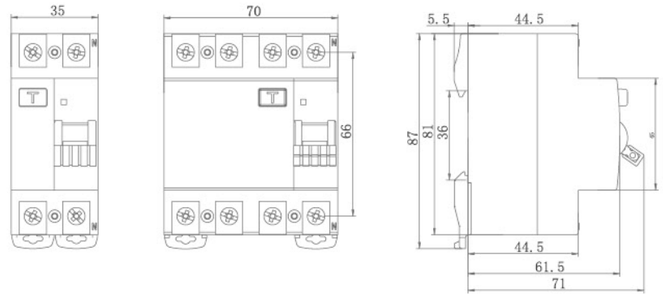

## Normal Working Conditions and Installation Conditions

- Ambient Temperature: -5℃ ~+40℃ .
- Height above Sea Level: ≤ 2000m
- Installation Category: II, III
- Pollution Degree: 2
- The installation type adopts standard steel guide rail installation (TH35-7.5).
- Installation Conditions: The external magnetic field of the installation site shall not exceed 5 times of the earth's magnetic field in any direction. When over voltage residual current moves, the circuit breaker shall be installed vertically, and the upward position of the handle shall be connected to the power. The installation should be free from obvious impact and vibration.
- Mode of Connection: Use screws to press the wiring.

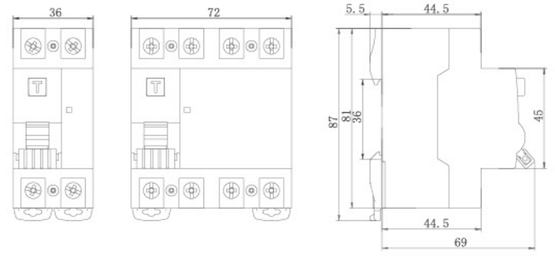
## Dimensions

D series

- DR6HM




- DR10HM




V series

- VR6HM