



# P Series Installation Devices

Low voltage



GACIA ELECTRICAL APPLIANCE CO., LTD.

## GACIA

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

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## GACIA



## Company Profile

Gacia Electrical Appliance Co., Ltd is an export-oriented high-tech enterprise specializing in R&D, production and sales of various low-voltage circuit breakers. The company was established in August 2002 and is headquartered in Wenzhou. After 20 years of development, it has formed a three-in-one strategic layout of Zhejiang, Jiangxi, and Shanghai. The plant area is 160,000 square meters, the company has 1,200 employees and has an annual output of 100,000,000 poles of MCB, 4,000,000 pcs of RCCB/RCBO, and 300,000 pcs of MCCB.

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. The products are sold best in more than 60

countries and regions in all of the world. Long-term cooperative relations have been established with three enterprises of the world's top 500. The annual R & D investment on new products is not less than 5% of the annual sales, and has won more than 130 national patents, including 12 invention patents, and participated in the formulation of a number of industry standards that applied for the registration of international trademarks in 123 countries and regions. Overseas independent brand agents were set up in 38 countries and more than 80 international product certifications were obtained. The "GACIA" trademark was recognized as the "recommended brand of China's export products by the Ministry of Commerce".



# Smart Factory

- Make manufacturing more transparent
- Make delivery faster
- Make decisions smarter



# Miniature Circuit Breaker

## PN8H,6kA



- Miniature Circuit Breaker according to IEC/EN 60898-1
- Rated short circuit breaking capacity 6kA
- 1+N pole MCB in one module design
- Tripping characteristics B, C
- Rated current up to 32A
- Rated operational voltage 230/400V AC



PN8H miniature circuit breaker is an automatically operated electrical switch designed to protect an electrical circuit from damage caused by excess current from an overload or short circuit. Its basic function is to interrupt current flow after a fault is detected. They are common in domestic, commercial and industrial application.

It also can be used for non-frequent on-and-off switching operations under normal circumstances.

### Type Key

| P              | N                | 8           | H                 | B              | 16            |
|----------------|------------------|-------------|-------------------|----------------|---------------|
| Product series | Product category | Design Code | Breaking capacity | Tripping curve | Rated current |
| Professional   | MCB 1P+N         | 8           | 6kA               | B,C            | 1-32A         |

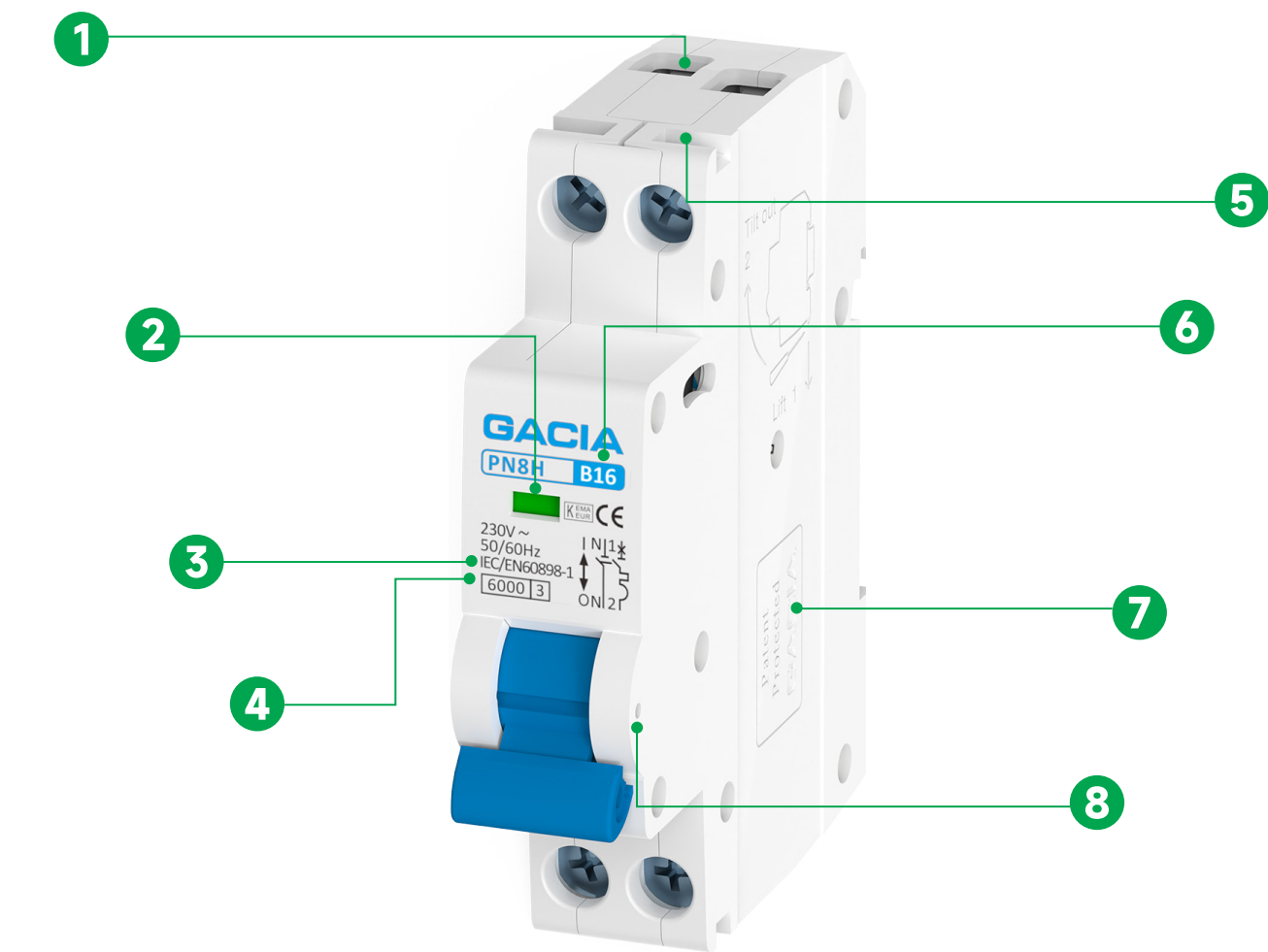
### Certification Marks



Miniature Circuit Breaker

PN8H,6kA

Product Tips



- 1 Neutral line interface

2 Contacts position indication window

3 International standards

4 Rated short circuit breaking capacity 6000A
- 5 Live line interface

6 Tripping characteristics B, C

7 Modifiable modules for ODM clients

8 The position of handle lock

Technical Data

| Electrical Features             |           |                          |
|---------------------------------|-----------|--------------------------|
| International standard          |           | IEC/EN 60898-1           |
| Poles                           |           | 1P+N                     |
| Rated current                   |           | 1-32A                    |
| Tripping characteristics        |           | B, C                     |
| Rated breaking capacity         | $I_{cn}$  | 6kA                      |
| Rated operational voltage       | $U_e$     | 230V AC                  |
| Minimum operational voltage     | $U_{min}$ | 12V AC                   |
| Maximum operational voltage     | $U_{max}$ | 240V AC                  |
| Rated frequency                 |           | 50/60Hz                  |
| Rated insulated voltage         | $U_i$     | 400V AC                  |
| Rated impulse withstand voltage | $U_{imp}$ | 4kV                      |
| Dielectric test voltage         |           | 2kV                      |
| Mechanical service life         |           | 10000 operation cycles   |
| Electrical service life         |           | 4000 operation cycles    |
| Line voltage connection         |           | Arbitrary above or below |

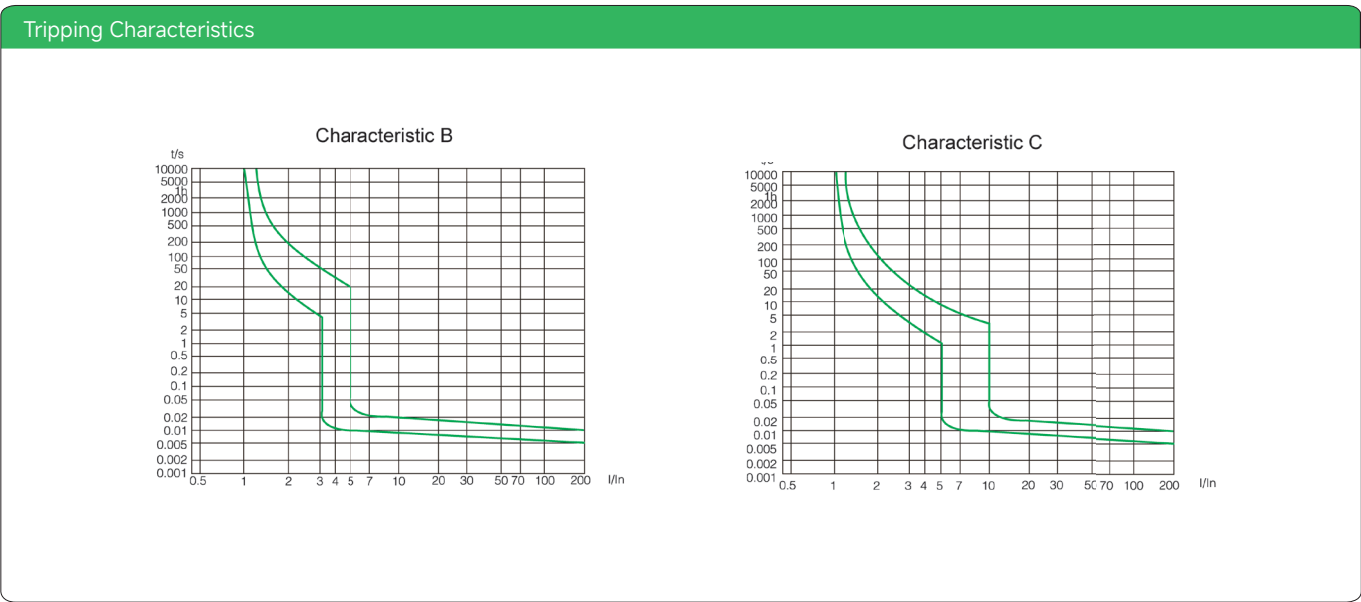
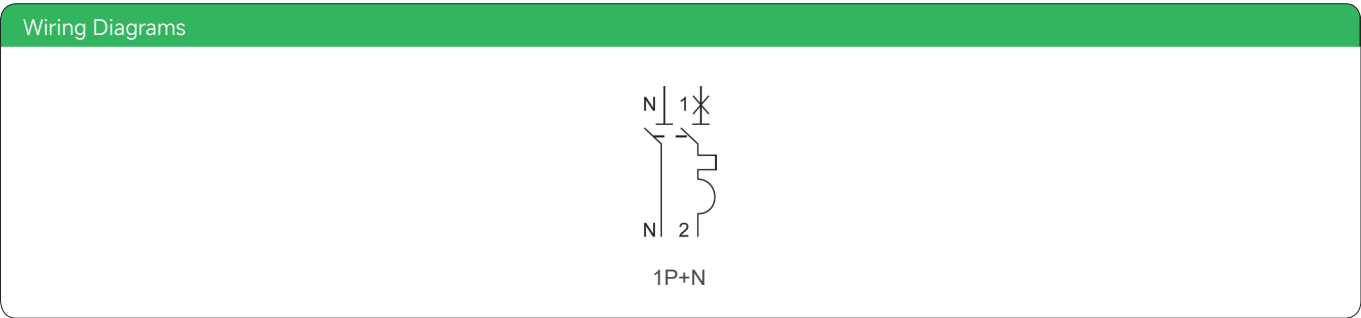
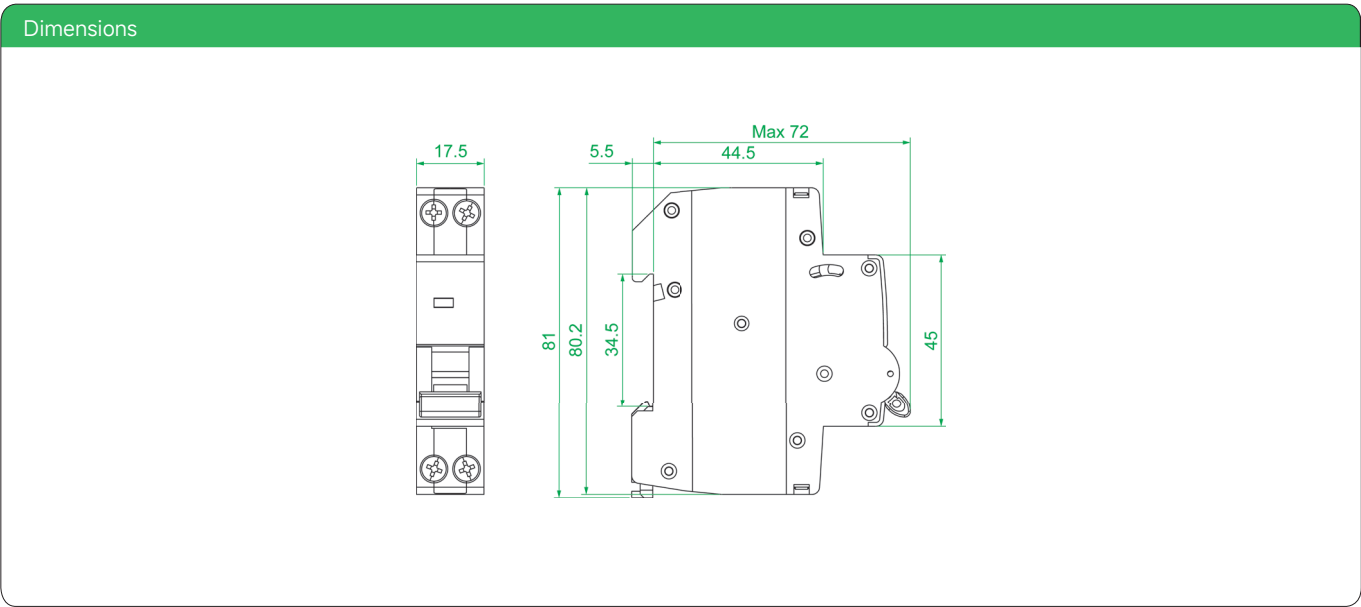
| Installation Parameters                              |                                |
|------------------------------------------------------|--------------------------------|
| Degree of protection (IP)                            | IP20, IP40 (when fitted)       |
| Operating ambient temperature                        | -25°C ~+70°C                   |
| Terminal connection type                             | Cable                          |
| Connectable conductor cross section                  | 1-10mm <sup>2</sup>            |
| Mounting                                             | IEC/EN 60715 top-hat rail 35mm |
| Fastening torque of terminals                        | 1.2N.m                         |
| Pollution degree                                     | 2                              |
| Reference temperature for setting of thermal element | 30°C                           |
| Altitude                                             | ≤ 2000m                        |
| Relative humidity                                    | ≤ 95%                          |

| Combination with Accessories |     |
|------------------------------|-----|
| Auxiliary contact            | Yes |
| Alarm contact                | Yes |
| Shunt release                | Yes |
| Shunt release + Aux          | Yes |
| Undervoltage release         | Yes |
| Overvoltage release          | Yes |
| Over & under voltage release | Yes |

Miniature Circuit Breaker

PN8H,6kA

Technical Data



Technical Data

Dependence of Tripping Characteristics on Ambient Temperature

| T<br>[°C] | In (T) [A] |      |      |      |      |      |      |      |      |      |
|-----------|------------|------|------|------|------|------|------|------|------|------|
|           | 1 A        | 2 A  | 3 A  | 4 A  | 6 A  | 10 A | 16 A | 20 A | 25 A | 32 A |
| -20       | 1.35       | 2.6  | 4.1  | 5.3  | 8    | 13.5 | 20   | 24.5 | 29.8 | 39.5 |
| -15       | 1.28       | 2.53 | 4.05 | 5.15 | 7.8  | 13.3 | 19.8 | 24.3 | 29.7 | 39.3 |
| -10       | 1.25       | 2.4  | 3.95 | 5.08 | 7.6  | 13   | 19.5 | 24   | 29.5 | 39   |
| -5        | 1.2        | 2.33 | 3.9  | 4.98 | 7.3  | 12.7 | 19.2 | 23.8 | 29.3 | 38.8 |
| 0         | 1.18       | 2.3  | 3.8  | 4.8  | 7.2  | 12.5 | 19.1 | 23.7 | 29.2 | 38.6 |
| 5         | 1.15       | 2.28 | 3.6  | 4.72 | 7    | 12.3 | 18.8 | 23.5 | 29   | 38.4 |
| 10        | 1.1        | 2.23 | 3.45 | 4.65 | 6.8  | 12.1 | 18.6 | 23.3 | 28.8 | 38.2 |
| 15        | 1.08       | 2.18 | 3.35 | 4.52 | 6.6  | 12   | 18.5 | 23.1 | 28.6 | 38   |
| 20        | 1.05       | 2.09 | 3.22 | 4.31 | 6.4  | 11.8 | 18.3 | 22.8 | 28.4 | 37.8 |
| 25        | 1.05       | 2.03 | 3.08 | 4.22 | 6.2  | 11.5 | 18   | 22.6 | 28.2 | 37.5 |
| 30        | 1          | 2    | 3    | 4    | 6    | 10   | 16   | 20   | 25   | 32   |
| 35        | 0.99       | 1.98 | 2.98 | 3.95 | 6    | 9.9  | 15.7 | 19.7 | 24.6 | 31.5 |
| 40        | 0.97       | 1.95 | 2.95 | 3.91 | 5.9  | 9.8  | 15.4 | 19.3 | 24.3 | 31.1 |
| 45        | 0.95       | 1.91 | 2.91 | 3.85 | 5.83 | 9.8  | 15.1 | 18.8 | 24   | 30.8 |
| 50        | 0.91       | 1.88 | 2.88 | 3.8  | 5.72 | 9.6  | 14.9 | 18.5 | 23.8 | 30.1 |
| 55        | 0.89       | 1.85 | 2.82 | 3.74 | 5.65 | 9.5  | 14.7 | 18.2 | 23.5 | 29.5 |
| 60        | 0.86       | 1.81 | 2.77 | 3.71 | 5.5  | 9    | 14.5 | 17.8 | 23   | 28.5 |
| 65        | 0.84       | 1.77 | 2.73 | 3.65 | 5.4  | 8.6  | 14   | 17.5 | 22   | 27.5 |
| 70        | 0.81       | 1.71 | 2.65 | 3.52 | 5.2  | 8    | 13.8 | 17.3 | 21.5 | 27   |