# CNJUHO

## MOLDED CASE CIRCUIT BREAKER

MOTOR PROTECTION CIRCUIT BREAKER
SERIES CIRCUIT BREAKER IN PLASTICA CASE
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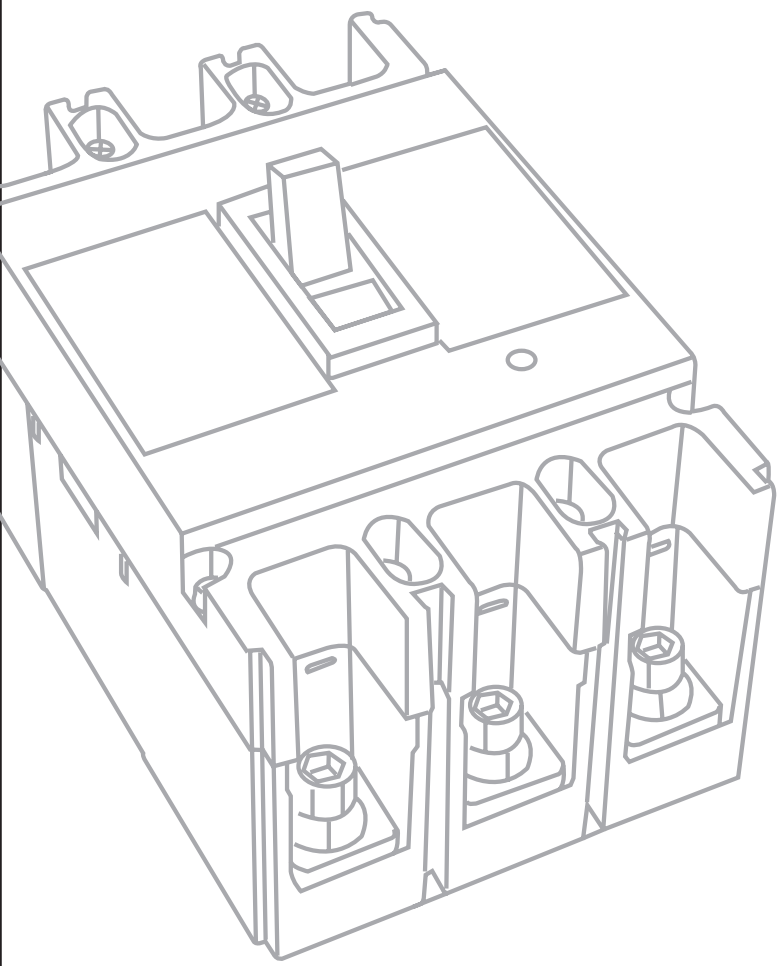
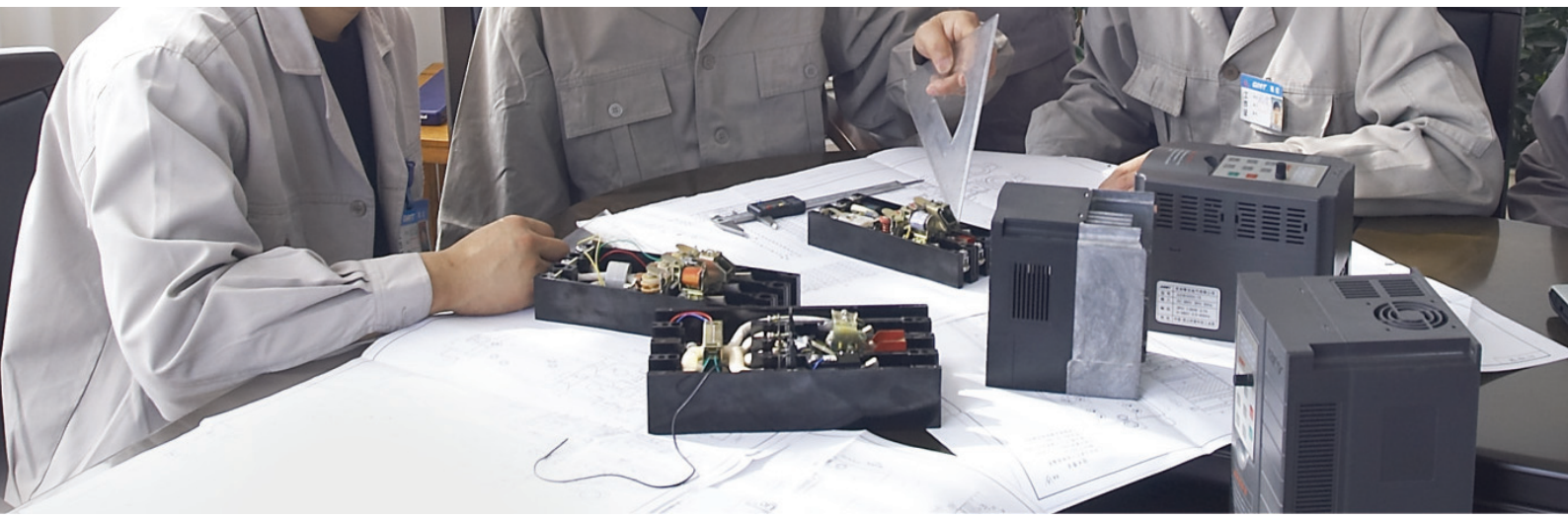


**WENZHOU JUHONG ELECTRIC CO., LTD.**

## Production Force

The perfect production process, not only because we have advanced production process equipment and perfect detection means, in contrast, we pay more attention to the key role of people in this process. Technical experts and technical personnel to participate in, so that our products in the manufacturing, it has excellent potential value, which is to ensure the stability and reliability of our products!




## CNJUHO PROFILE

Wenzhou Juhong Electric Co., Ltd. is located in Xiangyang Industrial Zone, Liushi City, it is the capital of electrical appliances. It is a comprehensive electrical appliance company with industrial control products as the leading, scientific research, production, manufacturing and sales.

The company is major producing AC contactors, motor protectors, thermal relays, the first to pass the ISO9001 quality system certification, ISO14001 environmental protection system certification and OHSAS18001 occupational health and safety management system certification. all products have passed CE safety certification, and some products have passed CB certification. The company strict implementation of 6 S management, with beautiful environment, clean and orderly production workshop, each product has passed the inspection before the factory qualified rate reached 100%.

Our company products are exported to Asia, the Middle East, South America, Africa, customers throughout the world more than 140 countries and regions, widely used in petrochemical, metallurgy, machine tools, electrical equipment and so on. With the spirit of harmony, seeking truth, pragmatism and innovation, Juhong people uphold the management concept of creating value for customers, seeking development for employees, taking responsibility for society, serving the country for industry, striving for world famous brands and constantly striving for progress.

New journey, new starting point, new power, Juhong will bring new and old customers to create a better tomorrow.

# J3VE MOTOR PROTECTION CIRCUIT BREAKER

J3VE1

J3VE3

J3VE4

J3VE-C

## 1. Application

J3VE series molded case circuit breakers (hereinafter referred to as circuit breakers) are suitable for dry AC 50Hz, rated working voltage AC380V, AC660V, and rated current 0.1A to 63A. It can be used as overload and short circuit protection of electric motors. It can also be used as power distribution circuit. Used for overload and short circuit protection of electrical equipment. Under normal conditions, it can also be used for infrequent switching of lines and infrequent starting of motors.

This series of products comply with GB/T14048.2 and IEC60947-2 standards.

## 2. Product number

J 3VE - □/□□

- Type code of auxiliary contact
- Use type code
- Frame rated current
- Design Number
- Plastic case circuit breaker

## 3. Structure

- This series of circuit breakers are mainly composed of mechanism, contact system, tripping device of arc extinguishing system, insulating base and shell.
- J3VE1 type circuit breakers are equipped with auxiliary contacts. J3VE3 and J3VE4 type circuit breakers are not equipped with auxiliary contacts, but they can be equipped with auxiliary contact accessories.
- There are two types of trips in circuit breakers: one is a bimetallic inverse time delay trip for overload protection; the other is an electromagnetic instantaneous trip for short-circuit protection. The circuit breaker also has a temperature compensation device, so the protection characteristics are not affected by the ambient temperature.
- J3VE1, J3VE3 and J3VE4 circuit breakers are operated by button, knob and handle respectively.
- The circuit breaker is installed in front of the board. J3VE1, J3VE3, type circuit breakers also have a standard mounting card, which can be directly installed on a standard rail with a width of 35mm (should comply with DINEN50022).
- The mechanism of J3VE3 and J3VE4 circuit breakers uses quick-on and quick-break structures, and their tripping devices have limited current characteristics, so the circuit breaker has a high short-circuit breaking capacity.
- The front of the circuit breaker has a pointer for adjusting the current of the tripping device, which can set the tripping current within the specified range.
- The circuit breaker can be attached with accessories such as undervoltage release, shunt release, indicator light, lock, and various protection types of enclosures. Please specify when ordering.

## 4. Tripping characteristics

| type | Rated current of trip unit (A) | Current rectification range of trip unit (A) | Code-name | Types of auxiliary contacts | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Without auxiliary contact | | One normally open and one normally closed | | Two normally open | | Two normally closed | |
| | | | | Order number | correspond | Order number | correspond | Order number | correspond | Order number | correspond |
| J3VE1 | 0.16 | 0.1-0.16 | B | 20/10-B | 005/2BU00 | 20/11-B | 005/2BU00 | 20/11-B | 005/2BU00 | 20/11-B | 005/2BU00 |
| | 0.25 | 0.16-0.25 | c | -c | -2CU00 | -C | -2CU00 | -C | -2CU00 | -C | -2CU00 |
| | 0.4 | 0.25-0.4 | D | -D | -2DU00 | -D | -2DU00 | -D | -2DU00 | -D | -2DU00 |
| | 0.63 | 0.4-0.63 | E | -E | -2EU00 | -E | -2EU00 | -E | -2EU00 | -E | -2EU00 |
| | 1 | 0.63-1 | F | -F | -2FU00 | -F | -2FU00 | -F | -2FU00 | -F | -2FU00 |
| | 1.6 | 1-1.6 | G | -G | -2GU00 | -G | -2GU00 | -G | -2GU00 | -G | -2GU00 |
| | 2.5 | 1.6-2.5 | H | -H | -2HU00 | -H | -2HU00 | -H | -2HU00 | -H | -2HU00 |
| | 3.2 | 2-3.2 | u | -u | -*8HU00 | -U | -*8HU00 | -U | -*8HU00 | -U | -*8HU00 |
| | 4 | 2.5-4 | J | -J | -2JU00 | -J | -2JU00 | -J | -2JU00 | -J | -2JU00 |
| | 5 | 3.2-5 | v | -V | -*8JU00 | -v | -*8JU00 | -v | -*8JU00 | -v | -*8JU00 |
| | 6.3 | 4-6.3 | K | -K | -2KU00 | -K | -2KU00 | -K | -2KU00 | -K | -2KU00 |
| | 8 | 5-8 | w | -w | -*8KU00 | -w | -*8KU00 | -w | -*8KU00 | -w | -*8KU00 |
| | 10 | 6.3-10 | L | -L | -2LU00 | -L | -2LU00 | -L | -2LU00 | -L | -2LU00 |
| | 12.5 | 8-12.5 | x | -X | -*8LU00 | -x | -*8LU00 | -x | -*8LU00 | -x | -*8LU00 |
| | 16 | 10-16 | M | -M | -2MU00 | -M | -2MU00 | -M | -2MU00 | -M | -2MU00 |
| | 20 | 14-20 | N | -N | -2NU00 | -N | -2MU00 | -N | -2MU00 | -N | -2MU00 |

| type | Trip rated current (A) | Current rectification range of trip unit (A) | Codename | Types of auxiliary contacts | |
|---|---|---|---|---|---|
| | | | | Order number | correspond |
| J3VE3 | 1.6 | 1-1.6 | G | 32/10-G | 000/2GA00 |
| | 2.5 | 1.6-2.5 | H | -H | -2HA00 |
| | 4 | 2.5-4 | J | -J | -2JA00 |
| | 6.3 | 4-6.3 | K | -K | -2KA00 |
| | 10 | 6.3-10 | L | -L | -2LA00 |
| | 12.5 | 8-12.5 | L | -L | *8LA00 |
| | 16 | 10-16 | M | -M | -2MA00 |
| | 20 | 12.5-20 | M | -M | *8MA00 |
| | 25 | 16-25 | o | -o | -2NA00 |
| | 32 | 22-32 | P | -P | -2PA00 |

## 5. Tripping characteristics

| type | Trip rated current (A) | Current rectification range of trip unit (A) | Codename | Types of auxiliary contacts | |
|---|---|---|---|---|---|
| | | | | Order number | correspond |
| J3VE4 | 10 | 6.3-10 | L | 63/10-L | 200/OCLOO |
| | 16 | 10-16 | M | -M | -OCMOO |
| | 25 | 16-25 | P | -P | -OCPOO |
| | 32 | 22-32 | Q | -Q | -OCQOO |
| | 40 | 28-40 | R | -R | -OCROO |
| | 50 | 36-50 | s | -s | -OCSOO |
| | 63 | 45-63 | T | -T | -OCTOO |

## 9. The Main Technical Parameters

Basic parameters of circuit breaker

| Model | | J3VE1 | J3VE3 | J3VE4 |
|---|---|---|---|---|
| Number of poles | | | 3 poles | |
| Rated working voltage Ue | | | AC380V,AC660V | |
| Rated insulation voltage Ui | | | 660V | |
| Rated impulse withstand voltage Uimp | | | 6KV | |
| Frame grade rated current A | | 20 | 32 | 63 |
| Rated short-circuit breaking capacity (KA) | AC380V | 1.5 | 10 | 22 |
| | AC660V | 1 | 3 | 7.5 |
| Mechanical life (times) | | 40000 | 4000 | 20000 |
| Electric life (times) | | 5000 | 5000 | 1500 |

Auxiliary contact parameters

| Use category | Conventional heating current A | Rated insulation voltage V | Rated working electricity | Rated working electricity |
|---|---|---|---|---|
| AC-15 | 6 | 660 | AC220 | 1.8 |
| | | | AC380 | 1.5 |

Note:J3VE1,2 can be equipped with auxiliary contact components alone.

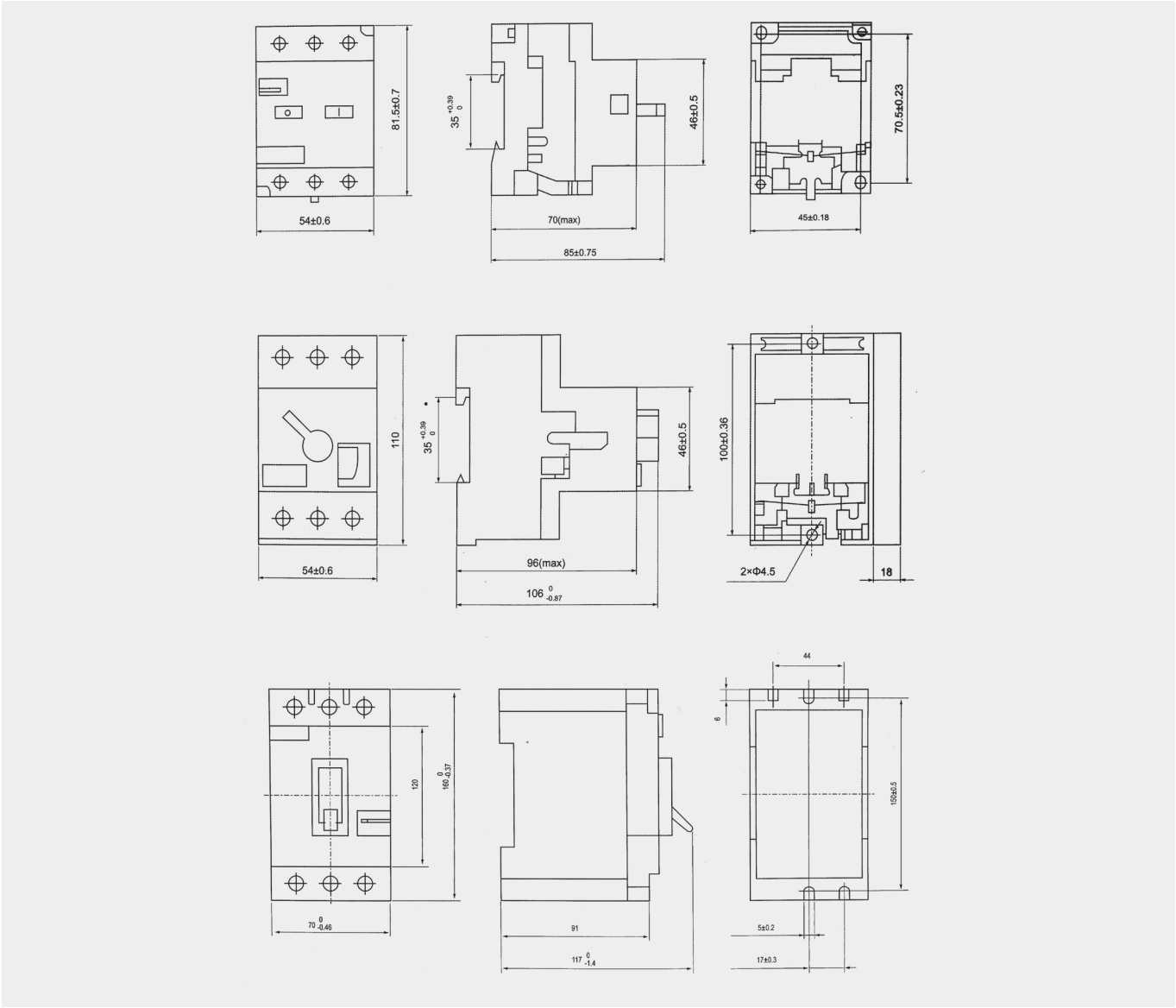
Overcurrent trip characteristics

| Serial number | Circuit breaker for power distribution | | | Ambient air temperature |
|---|---|---|---|---|
| | Test current multiple | Action time | Starting state | |
| 1 | 1.05In | Within 1 hour No tripping | Cold start | +30°C± 2°C |
| 2 | 1.3Iln | Trip within 1 hour | Connection 1 proceed | |
| 3 | 10In | <0.2s trip | Cold start | Any suitable temperature |

Overcurrent trip characteristics

| Serial number | Circuit breaker for power distribution | | | Ambient air temperature |
|---|---|---|---|---|
| | Test current multiple | Action time | Starting state | |
| 1 | 1.05In | No tripping within 2 hours | Cold start | +20°C ±5°C |
| 2 | 1.2In | Trip within 2 hours | Connect sequence 1 to pass and sequence 1 current reaches | |
| 3 | 1.5In | Trip within 3min | Start after thermal equilibrium | |
| 4 | 7.2In | 2~10s trip | Cold start | |
| 5 | 12In | <0.2s trip | Cold start | Any suitable temperature |

## 7. Outline and Mounting Dimension



# JGV2-M MOTOR PROTECTION CIRCUIT BREAKER

JGV2-32M

JGV2-32ME

JGV3-80

JGV2-C

## 1. Application range

JGV2 series is a motor protection circuit breaker, adopting modular design, beautiful appearance, small size, phase failure protection, built-in thermal relay, strong functionality and good versatility. JGV2 series comply with IEC60947.2 and EC60947-4.1 and EN60947-1 standards. Kaitian and contactor can form a direct motor starter. The enclosure protection grade of JGV2 series can reach IP65. There are three types of products in this series: JGV2-M and ME are button-controlled motors with thermal-magnetic protective circuit breakers; JGV2-RS are transfer switch-controlled motors with thermal-magnetic protective circuit breakers; JGV2-LS, LE are transfer switch control The motor with magnetic protection circuit breaker (without thermal delay protection).

## 2. Product number

JGV2 - □ □ □ □ □ □

- Code of current setting range of release
- Warm type product code
- Type code of auxiliary contact
- Use type code
- Rated current code of the frame rating of the circuit breaker
- Design code

## 3. Structural features

- Three-phase bimetallic sheet type
- With continuous adjustable device for setting current
- With temperature compensation
- With action instructions
- Has a testing organization
- Has a stop button
- With manual and automatic reset buttons
- With electrically separable one normally open and one commonly closed contact

## 4. Technical Characteristic

Table 1

| Type | Rated current of trip unit In(A) | Setting current adjustment range (A) | Rated ultimate short-circuit breaking capacity Icu (kA), rated operating short-circuit breaking capacity Ics (kA) | | | | | | | | | | Arcing distance (mm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 230/240V | | 400/415V | | 440V | | 500V | | 690V | | |
| | | | Icu | Ics | Icu | Ics | Icu | Ics | Icu | Ics | Icu | Ics | |
| JGV2-32 | 0.16 | 0.1-0.16 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 40 |
| | 0.25 | 0.16-0.25 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 40 |
| | 0.4 | 0.25-0.4 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 40 |
| | 0.63 | 0.4-0.63 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 40 |
| | 1 | 0.63-1 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 40 |
| | 1.6 | 1-1.6 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 40 |
| | 2.5 | 1.6-2.5 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 3 | 2.25 | 40 |
| | 4 | 2.5-4 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 3 | 2.25 | 40 |
| | 6.3 | 4-6.3 | 100 | 100 | 100 | 100 | 50 | 50 | 50 | 50 | 3 | 2.25 | 40 |
| | 10 | 6-10 | 100 | 100 | 100 | 100 | 15 | 15 | 10 | 10 | 3 | 2.25 | 40 |
| | 14 | 9-14 | 100 | 100 | 15 | 7.5 | 8 | 4 | 6 | 4.5 | 3 | 2.25 | 40 |
| | 18 | 13-18 | 100 | 100 | 15 | 7.5 | 8 | 4 | 6 | 4.5 | 3 | 2.25 | 40 |
| | 23 | 17-23 | 50 | 50 | 15 | 6 | 6 | 3 | 4 | 3 | 3 | 2.25 | 40 |
| | 32 | 24-32 | 50 | 50 | 15 | 6 | 6 | 3 | 4 | 3 | 3 | 2.25 | 40 |
| JGV3-80 | 40 | 25-40 | - | - | 35 | 17.5 | - | - | - | - | 4 | 2 | 50 |
| | 63 | 40-63 | - | - | 35 | 17.5 | - | - | - | - | 4 | 2 | 50 |
| | 80 | 56-80 | - | - | 35 | 17.5 | - | - | - | - | 4 | 2 | 50 |

Rated power of the three-phase motor controlled by the circuit breaker (see Table 2)

Table 2

| Type | Rated current of trip unit In (A) | Rated current adjustment range (A) | Standard rated power of three-phase motor (kW) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | AC-3, 50Hz/60Hz | | | | | |
| | | | 230/240V | 400V | 415V | 440V | 500V | 690V |
| JGV2-32 | 0.06 | 0.1-0.16 | - | - | - | - | - | - |
| | 0.25 | 0.6-0.25 | - | - | - | - | - | - |
| | 0.4 | 0.25-0.4 | - | - | - | - | - | - |
| | 0.63 | 0.4-0.63 | - | - | - | - | - | 0.37 |
| | 1 | 0.63-1 | - | - | - | 0.37 | 0.37 | 0.55 |
| | 1.6 | 1-1.6 | - | 0.37 | - | 0.55 | 0.75 | 1.1 |
| | 2.5 | 1.6-2.5 | 0.37 | 0.75 | 0.75 | 1.1 | 1.1 | 1.5 |
| | 4 | 2.5-4 | 0.75 | 1.5 | 1.5 | 1.5 | 2.2 | 3 |
| | 6.3 | 4-6.3 | 1.1 | 2.2 | 2.2 | 3 | 3.7 | 4 |
| | 10 | 6-10 | 2.2 | 4 | 4 | 4 | 5.5 | 7.5 |
| | 14 | 9-14 | 3 | 5.5 | 5.5 | 7.5 | 7.5 | 9 |
| | 18 | 13-18 | 4 | 7.5 | 9 | 9 | 9 | 11 |
| | 23 | 17-23 | 5.5 | 11 | 11 | 11 | 11 | 15 |
| | 32 | 24-32 | 7.5 | 15 | 15 | 15 | 18.5 | 26 |
| JGV3-80 | 40 | 25-40 | - | 18.5 | - | - | - | 30 |
| | 63 | 40-63 | - | 30 | - | - | - | 45 |
| | 80 | 56-80 | - | 37 | - | - | - | 55 |

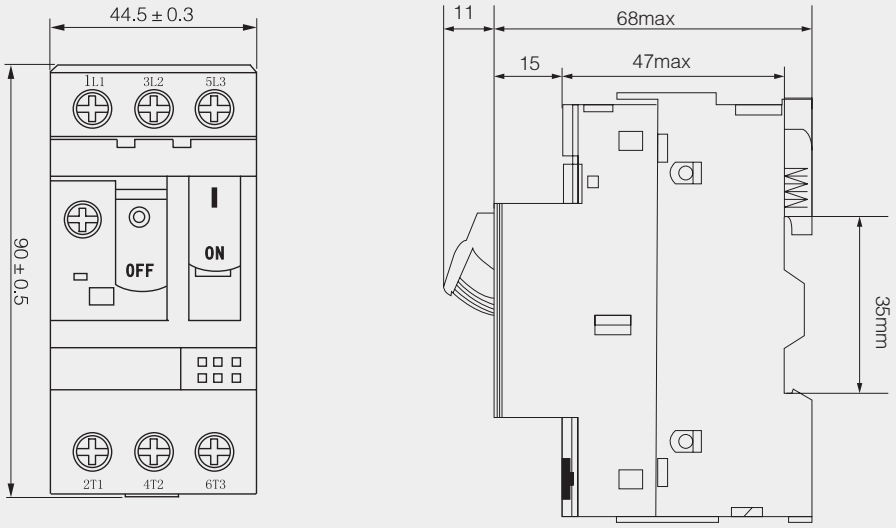
The enclosure protection level is: IP20;

The operating performance of the circuit breaker (see Table 3)

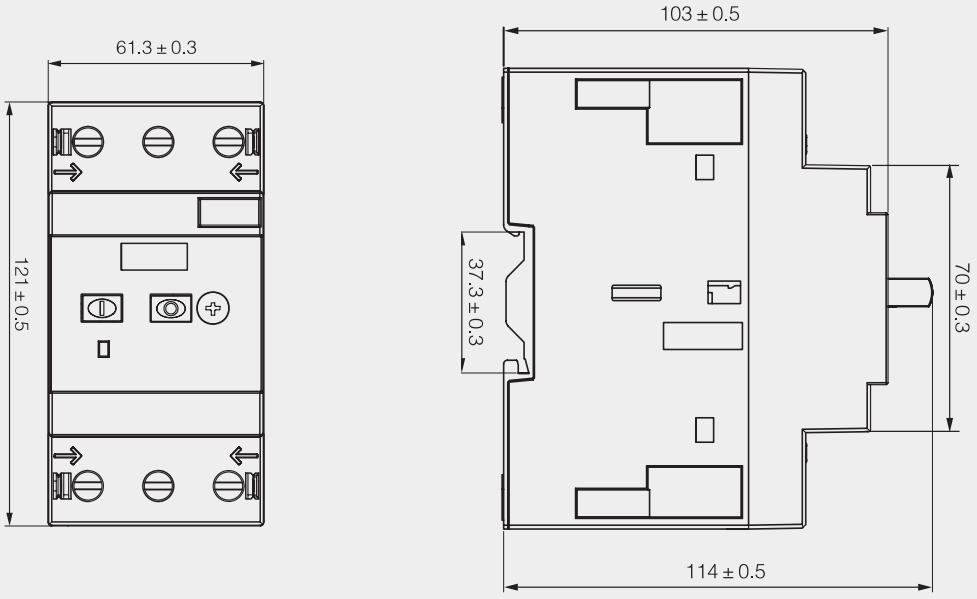
Table 3

| Type | Frame rated current Inm(A) | Operating cycles per hour | Operation cycle times | | |
|---|---|---|---|---|---|
| | | | Power ups | No power | Total |
| 1 | 32 | 120 | 2000 | 10000 | 12000 |
| 2 | 80 | 120 | 2000 | 10000 | 12000 |

## 5. Outline and Mounting Dimension




JGV2-32M




JGV3-80M

# JM1 MOULDED CASE CIRCUIT BREAKER

JM1-63M/3P

## 1. Application

JM1 series moulded case circuit breaker is one of products developed and manufactured by adopting international advanced technology. It is supplied with rated insulating voltage 550 and 800V and used for circuit of AC 50/60Hz, rated operating voltage AC 400V (or below), rated operating current up to 1600A for infrequent changing over and starting of the motors.The products conforms to IEC60947-2 standard.

## 2. Main Technical Specification

Table 1

| Type | Rated current (A) | Pole | Rated insul-ating voltage (V) | Rated operating voltage (V) | Arcing-over distance (mm) | Ultimate short circuit breaking capacity (kA) | Servies short circuit breaking capacity (kA) | Operation perform-ance | Utilization category |
|---|---|---|---|---|---|---|---|---|---|
| JM1-63L | (6),10,16,20, | | 500V | | 0 | 25 | 18 | | |
| JM1-63M | 25,32,40,50,63 | | | | 0 | 50 | 35 | 1500 | 8500 |
| JM1-100L | (10),16,20,25,32, | | | | 0(≤50) | 35 | 22 | | |
| JM1-100M | 40,50,63,80,100 | | | | 0(≤50) | 50 | 35 | | |
| JM1-100H | | | | | 0(≤50) | 85 | 50 | | |
| JM1-225L | 100,125,160, | 3, 4 | | | ≤50 | 35 | 22 | 1000 | 7000 |
| JM1-225M | 180,200,225 | | | | ≤50 | 50 | 35 | | |
| JM1-225H | | | | | ≤50 | 85 | 50 | | |
| JM1-400L | 225,250,315, | | | 400V | ≤50 | 50 | 35 | | |
| JM1-400M | 350,400 | | 800V | | ≤100 | 65 | 42 | | |
| JM1-630L | 400 | | | | ≤100 | 50 | 35 | | |
| JM1-630M | 500 | | | | ≤100 | 65 | 42 | | |
| JM1-630H | 630 | | | | ≤100 | 100 | 65 | 1000 | 4000 |
| JM1-800M | 630,700, | | | | ≤100 | 75 | 50 | | |
| JM1-800H | 800 | | | | ≤100 | 100 | 65 | | |
| JM1-1250M | 1000,1250 | 3 | | | ≤100 | 100 | 65 | | |
| JM1-1250H | | | | | ≤100 | 125 | 75 | | |
| JM1-1600M | 1600 | | | | ≤100 | 150 | 80 | | |

JM1-100M/3P

Note: 6A without thermal protection

The N-pole of four-poles breaker is sited at the right side of the product has four types:

Type A: Without current trip-lease on N pole which making all the time, not closing and opening with the other three poles.

Type B: Without current trip-release on N pole which closing and opening with the other poles.

Type C: With current trip-release which closing and opening with the other three poles.

Type D: With current trip-release which making all the time not closing and opening with the other three poles.

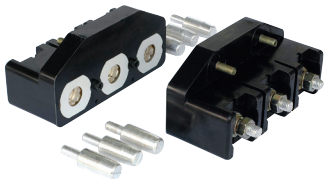
JM1-225M/3P

## 3. Protection Characteristic

The thermodynamic release of a circuit breaker provides the feature of inverse time-delay, while the magnetic release is the instantaneous operation as shown on table 2(distribution circuit breaker) and table 3 (motor protection circuit breaker).

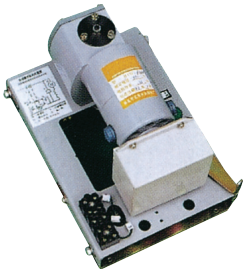
JM1-400L/3P

Back panel connection



Plug-in

Electromagnetic operation device



Motor-driven operation device

Table 2

| Rated current of release (A) | Thermodynamic release ( ambient temperature land +40°C marine +45°C ) | | Operating current of magnetic release (A) |
|---|---|---|---|
| 10≤In≤63 | ≥1 | < 1 | 10In±20% |
| 63 < In ≤100 | ≥2 | < 2 | |
| 100 < In≤800 | ≥2 | < 2 | 5In±20% 10In±20% |

Table 3

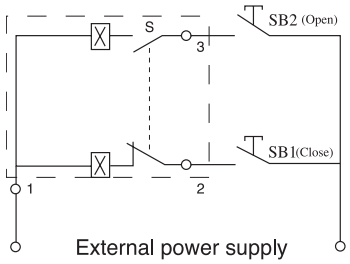
| Rated current of release (A) | Thermodynamic release ( ambient temperature land +40°C marine +45°C ) | | | | Operating current of magnetic release (A) |
|---|---|---|---|---|---|
| | 1.0In(cold state) non-trip time(h) | 1.20In(heat state) trip time (h) | 1.50In(heat state) trip time (h) | 7.2In(cold state) trip time(h) | |
| 10≤In≤225 | ≥2 | < 2 | ≤4min | 4s < Tp≤10s | 12In±20% |
| 225 < In≤630 | | | ≤8min | 6s < Tp≤20s | |

## 4. Accessories of Circuit Breaker

4.1 The external accessories of the breaker

● Motor-driven operation device

1) Wiring diagram of type CDM electromagnetic operation device(fitting JM1-63,100,225) see the following drawing (wiring diagram of the external accessories of the breaker in the dotted frame)

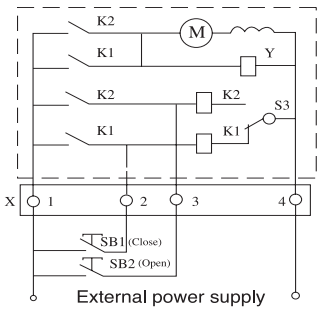



Code description: $SB_1SB_2$ stand for push button.(provided by users themselves)

Number “1”“2”“3” stand for number of wiring terminals.

Voltage rating: AC50/60Hz 230V, 400V, DC 220V

2) Wiring diagram of type CD motor-driven operation device (fitting JM1-400,630,800) see belows (wiring diagram of the external accessories of the breaker in the dotted frame)




Code description: $SB_1SB_2$ stand for push button. (provided by users themselves)

“X” stands for line connection terminals

Voltage rating: AC50/60Hz 230V,400V, DC220V

# JM1L EARTH LEAKAGE CIRCUIT BREAKER

## 1. Application and Description

JM1L-225M/3P

JM1L series earth leakage circuit breaker are one of the new type earth leakage breakers which have been developed by the company using international advanced design and manufacturing technology. Suitable for a line of AC50/60Hz, rated voltage up to 400V, rated current 16A to 630A. and is acted as infrequent changeover of circuit or infrequent starting of motor. The breaker has overload, short-circuit and under-voltage protective function, which can protect the circuit and the power equipment against damage, meanwhile, it can provide protection to these fire dangers that caused by these long-time existed grounding fault that can not be detected by the over-current protection.

This breaker can be installed vertically(upright) or horizontally(transverse).

Wiring of the breaker can not be in adverse direction, that means power supply line must be connected to terminal 1,3 and 5,and the load line connected to terminal 2,4 and 6.

The rated residual operating current I △ n and the maximum breaking time can be adjusted on site according to practical condition.

The leakage protection module still can work normally when the phase voltage reduce to 50V.

It has the same overall size with the JM1 series breakers, which make the installation more exchangeable.

The breakers are suitable for isolation, its symbol are: —/|×—

The breakers comply with the demands of the following standards:

IEC60947-1 and GB/T 14048.1 General

IEC60947-2 and GB 14048.2 Low voltage breakers

IEC60947-4 and GB 14048.4 Contactors and motor starters

IEC60947-5.1 and GB 14048.5 Electrical equipments of electromechanical control circuit

JM1L-400M/4P

## 2. Main Technical Specifications

| Type | | JM1L-100 | | | JM1L-225 | | | JM1L-400 | | JM1L-630 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Frame current Inm(A) | | 100 | | | 225 | | | 400 | | 630 | |
| Rated current In(A) | | (10)16,20,25,32, 40,50,63,80,100 | | | 100, 125, 160, 180, 200, 225 | | | 225, 250, 315, 350,400 | | 400, 500, 630 | |
| Pole number | | 3 | 4 | | 3 | 4 | | 3 | 4 | 3 | 4 |
| Rated iInsulation voltage Ui(V) | | AC800 | | | | | | | | | |
| Rated working voltage Ue(V) | | AC 400V | | | | | | | | | |
| Rated impulse with stand voltage Uimp(V) | | 8000 | | | | | | | | | |
| Arc-over distance(mm) | | >50 | | | | | | | | | |
| Breaking capacity grade | | M | | H | M | | H | M | | M | |
| Limiting short-circuit breaking capacity Icu (kA) | | 50 | 85 | 50 | 50 | 85 | 50 | 65 | | 65 | |
| Service short-circuit breaking capacity Ics(kA) | | 35 | 50 | 35 | 35 | 50 | 35 | 42 | | 42 | |
| Rated residual operating current I △ n(mA) | Non-delay type | 100/300/500 | | | | | | | | | |
| | Delay type | 100/300/500 | | | | | | | | 300/500/1000 | |
| Rated residual non-operatingcurrent I △ no(mA) | | 1/2 I △ n | | | | | | | | | |
| Operation performance (time) | | 1500 | | | 1000 | | | 1000 | | 1000 | |
| | | 8500 | | | 7000 | | | 4000 | | 4000 | |

Note: According to the pole number of product, it calssifies three and four poles. The neutral pole (N-Pole) of the four-poles products has four types:

Type A: N-pole without over-current release unit, it has been connected all the time, not closing and opening with the other three poles.

Type B: N-pole without over-current release unit, which closing and opening with the other three poles.

Type C: N-pole fixed with over-current release unit, which closing and opening with the other three poles.

Type D: N-pole fixed with over-current release unit, it has been connected all the time, not closing and opening with the other three poles.

1. The limiting breaking and arc-over distance includes horizontal and vertical installation.

2. If the three-pole breaker of this series is connected with three phase load, the load can not have neutral line, otherwise the breaker will have fault action.

3. If the three-pole breaker of this series is connected with single phase load, the phase line willbe connected to the left pole, and the neutral line is connected to the right pole, the middle pole is blanket

## 3. Protection Characteristic

The thermal release of the breaker has again-time-limit property; the electromagnetic release is inst. Operation, its property see table 2(for distribution),table 3 (motor protection).

Table 2

| Rated current of release (A) | Thermal release (ambient temperature +40˚C ) | | Electromagnetic release tripping current(A) |
|---|---|---|---|
| | 1.05In(cold state ) non-trip time (h) | 1.03In(hot state) trip time (h) | |
| 10≤In≤63 | 1 | 1 | 10In±20% |
| 63≤In≤125 | 2 | 2 | |
| 125≤In≤630 | 2 | 2 | 5In±20% 10In±20% |

Table 3

| Rated current of release (A) | Thermal release (ambient temperature +40˚C ) | | | | Electromagnetic release tripping current(A) |
|---|---|---|---|---|---|
| | 1.0In(cold state) non-trip time(h) | 1.20In(heat state) trip time (h) | 1.50In(heat state) trip time (h) | 7.2In(cold state) trip time(h) | |
| 10≤In≤400 | 2 | 2 | 8min | 6s<Tp≤20s | 12In±20% |

## 4. Residual Current Operating Time of Earth Leakage Circuit Breaker

4.1 Non-delay type operation characteristics see table 4(I △ n≤30mA should be Non-delay type)

Table 4

| Rated current | | I △ n | 2I △ n | 5I △ na | 10I △ n |
|---|---|---|---|---|---|
| Non-delay type | Max.breaking time(s) | 0.3 | 0.15 | 0.04 | 0.04 |

Note: ato I △ n≤30mA earth leakage circuit breaker, 0.25A can instead of 5I △ n According toa, adopt 0.25A, then 10 I △ n is 0.5A.

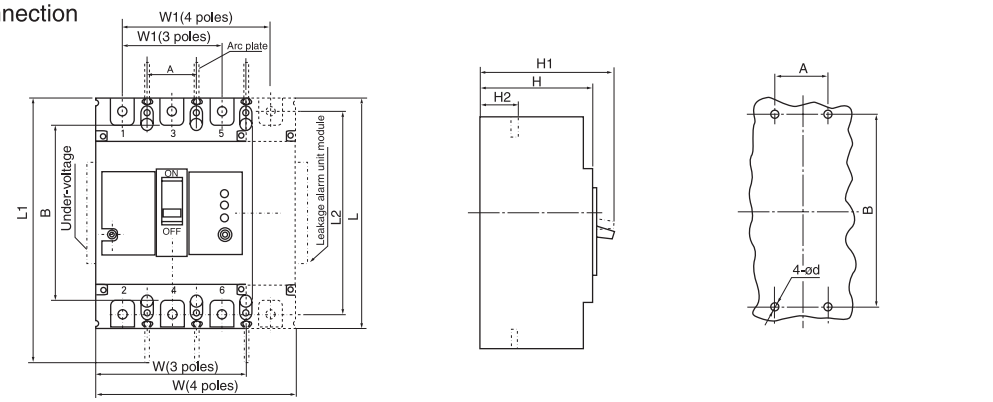
4.2 Delay type operation characteristics see table 5

Limiting non-driven time of delay type earth leakage circuit breaker according to 2I △ n, operation characteristics see table 5

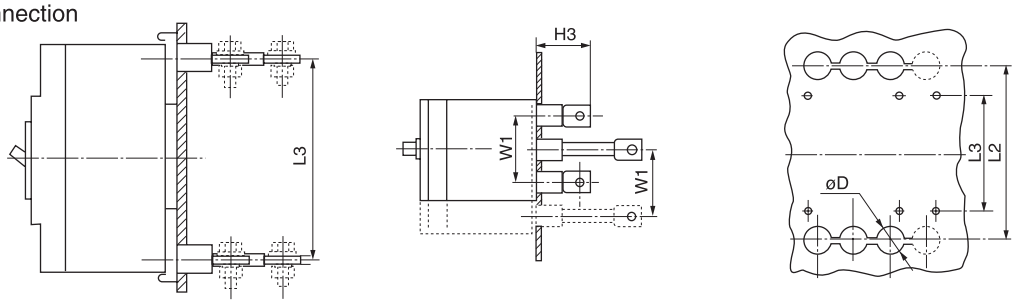
## 5. Outline and Installation Dimensions

| Type | Outline dimensions | | | | | | | | | | | | | | | | | | Installation dimensions | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Front panel connection | | | | | | | | Back panel connection | | | Plug-in connection | | | | | | | | | | |
| | W | L | H | W1 | L1 | L2 | H1 | H2 | L3 | H3 | D | L4 | L5 | H4 | H5 | H6 | C | D | D1 | A | B | d |
| JM1L-100M,H/3P | 92 | 150 | 92 | 60 | 200 | 200 | 132 | 110 | 28.5 | 90 | 93 | 168 | 92 | 50 | 64 | 76 | 60 | 56 | 6.5 | 30 | 129 | 4.5 |
| JM1L-100M,H/4P | 122 | 150 | 92 | 90 | 200 | 200 | 132 | 104 | 28.5 | 90 | 93 | 168 | 92 | 50 | 64 | 76 | 60 | 56 | 6.5 | 30 | 129 | 4.5 |
| JM1L-225M,H/3P | 107 | 165 | 90 | 70 | 265 | 265 | 144 | 110 | 24 | 93 | 100 | 183 | 94 | 50 | 71.5 | 86.5 | 90 | 54 | 6.5 | 35 | 126 | 5.5 |
| JM1L-225M,H/4P | 142 | 165 | 103 | 105 | 265 | 265 | 144 | 127 | 24 | 93 | 100 | 183 | 94 | 50 | 710.5 | 86.5 | 70 | 54 | 6.5 | 35 | 126 | 5.5 |
| JM1L-400M,H/3P | 150 | 257 | 106.5 | 96 | 441 | 441 | 224 | 146.5 | 38 | 164 | 108.5 | 279 | - | 60 | 83.5 | 106.5 | 105 | 129 | 8.5 | 44 | 194 | 7 |
| JM1L-400M,H/4P | 198 | 257 | 106.5 | 144 | 441 | 441 | 224 | 146.5 | 38 | 164 | 108.5 | 279 | - | 60 | 83.5 | 106.5 | 70 | 129 | 8.5 | 44 | 194 | 7 |
| JM1L-630M,H/3P | 210 | 280 | 115.5 | 145 | 480 | 480 | 243 | 155 | 45.3 | 158 | 84 | 296 | - | 61 | 97 | 148 | 140 | 143 | 10 | 70 | 243 | 7 |
| JM1L-630M,H/4P | 280 | 280 | 115.5 | 210 | 480 | 480 | 243 | 155 | 45.5 | 158 | 84 | 296 | - | 61 | 97 | 148 | 210 | 143 | 10 | 70 | 243 | 7 |

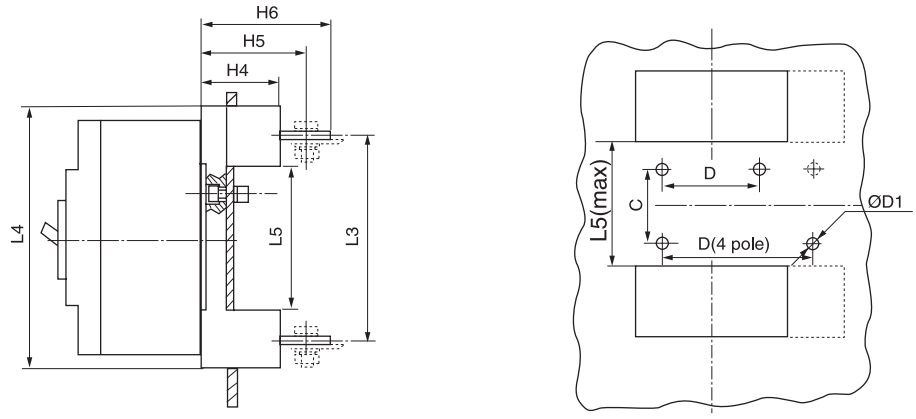
Front panel connection




Back panel connection




Plug-in connection



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