

Circuit Protector

CP30F Series

New Model in the CP-F Series of Circuit Protectors

Unique Finger Protection Design - No Terminal Cover Required

FEATURES







- Ultra-slim 17.5 mm per pole width
- Standard types confirm to all major standards, including IEC/EN (CE), GB (CCC), UL/CSA, KC (South Korea), JIS, PSE (Japan)
- AC/DC compatible (1P and 2P)
- Screw lift-up terminals offer finger protection (IP20 equivalent) structure without terminal cover
- Revised terminal arrangement of auxiliary circuit improves ease of wiring
- Auxiliary/alarm switch (1NO or 1NC) can be integrated (1P: 1 switch, 2P, 3P: 2 switches), standard types provided with terminal cover for auxiliary circuit
- Shunt trip equipped devices also available

APPLICATION EXAMPLE

- Protection of control circuits and devices in various control panels

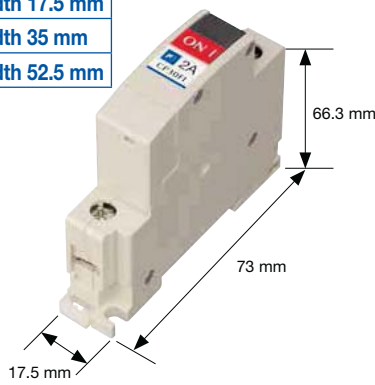


SPECIFICATIONS

| Type | | CP30F□-1P | CP30F□-2P | CP30F□-3P |
|---|---------------------|---|--|--------------------------------|
| No. of poles | | 1 | 2 | 3 |
| Rated insulation voltage (V) | | 250 V AC (50/60 Hz) 65 V DC compatible | 250 V AC (50/60 Hz) 125 V DC compatible | 250 V AC (50/60 Hz) AC only |
| Rated current (A) | | 0.1, 0.3, 0.5, 1, 2, 3, 5, 7, 10, 15, 20, 25, 30 | | |
| Rated breaking capacity | 250 V AC | 2,500 A | 2,500 A | 2,500 A |
| | 125 V DC | – | 2,500 A | – |
| | 65 V DC | 2,500 A | – | – |
| Operating characteristic (AC/DC compatible) | | Long time delay (S), medium time delay (M) and instantaneous (I) types | | |
| Tripping mechanism | | Hydraulic magnetic type | | |
| Reference temperature | | +40°C | | |
| Operational ambient temperature | | -10 to +60°C (storage: -40 to +60°C) | | |
| Make/break durability | | 10,000 operations min. (rated current supplied) | | |
| Terminal | Main circuit | M5 screw (over 20 A)/M4 screw (up to 20 A): screw lift-up | | |
| | Auxiliary circuit | M3.5 screw: self-lifting | | |
| Mounting method | Front mounting type | M4 screw/IEC35 mm rail compatible | | |
| | Auxiliary switch | Can be integrated: 1NO or 1NC contact (low-level circuit type acceptable) | | |
| Accessories (optional) | Alarm switch | Can be integrated: 1NO or 1NC contact (low-level circuit type acceptable) | | |
| | Delay device | Can be integrated: (long time delay and medium time delay) AC only | | |
| Dimensions (W x L x H) | | 17.5 x 73 x 66.3 | 35 x 73 x 66.3 | 52.5 x 73 x 66.3 |
| Standard conformity and certification | |       | | |

17.5 mm/pole width slim body

| | |
|----|---------------|
| 1P | Width 17.5 mm |
| 2P | Width 35 mm |
| 3P | Width 52.5 mm |



Easily identifiable ON/OFF/TRIP indication



Intermediate position between ON and OFF for TRIP state

Finger protection structure

Auxiliary circuit terminal
Main circuit terminal gives IP20-equivalent protection without terminal cover

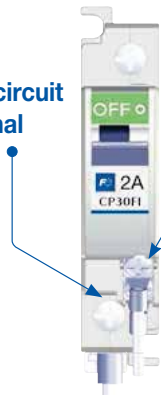


Certifications and Standards

| Country | International organization | Europe | Certification authority | U.S. | Canada | China | South Korea | Japan |
|---------|----------------------------|---------|-------------------------|------|--------|-------|-------------|--|
| | IEC | CE mark | TÜV (Germany) | UL | CSA | GB | KC | JIS |
| | | | | | | | | |
| | | | | | | | | Electrical Appliances and Materials Safety Act |
| | | | | | | | | |

Easy wiring

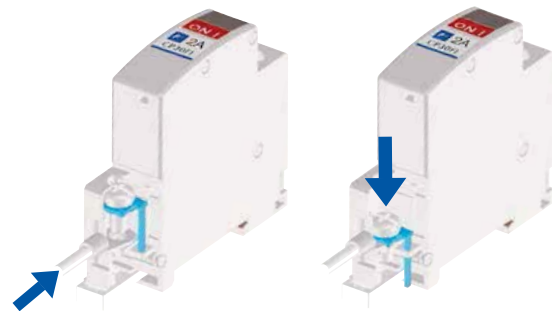
Main circuit terminal



Improved terminal arrangement for ease of wiring

Auxiliary circuit terminal

- Wirable from either main or auxiliary circuit (Note) 1NO or 1NC contact
- Additional tightening possible while auxiliary circuit is connected



Structured to prevent screws from falling off during wiring, easy wiring with round crimp terminals.

PART NUMBER NOMENCLATURE

CP 30 F M - 1P 005 WA D

Basic type

| Code | Product classification |
|------|------------------------|
| CP | Circuit protector |

Frame

| Code | Description |
|------|-------------|
| 30 | 30AF |

Breaking capacity classification

| Code | Breaking capacity |
|------|-------------------|
| F | 2.5 kA |

Operating characteristic

| Code | Description |
|------|-------------------|
| S | Long time delay |
| M | Medium time delay |
| I | Instantaneous |

No. of poles

| Code | Description |
|------|-------------|
| 1P | 1-pole |
| 2P | 2-pole |

Delay device

| Code | Description |
|-------|----------------------|
| Blank | Without delay device |
| D | With delay device |

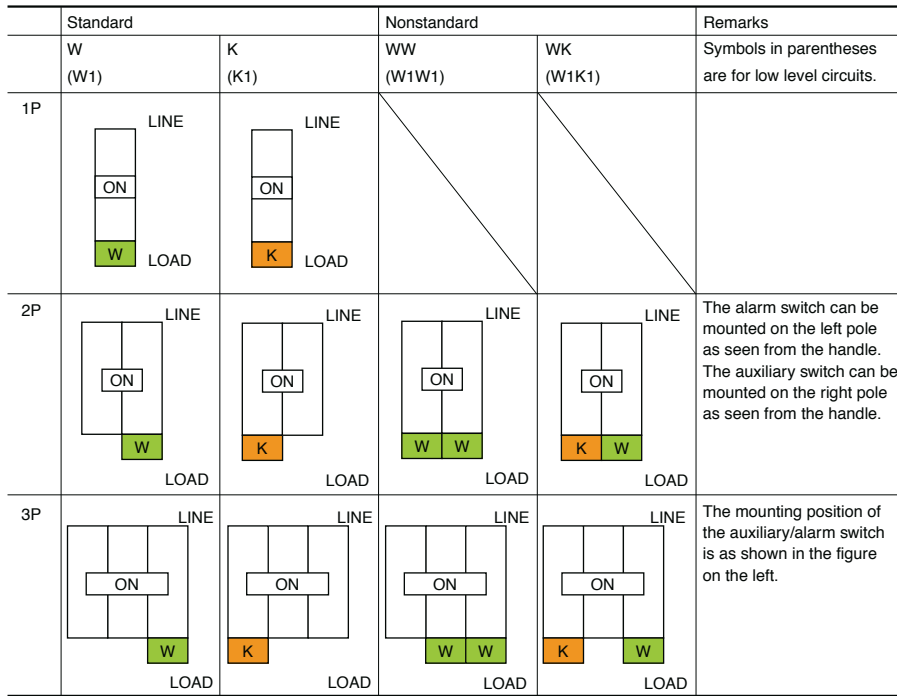
Accessories

| Description | Code | Code (Combination) | |
|-----------------------------------|------------------------------------|--------------------|---------------|
| | | | |
| Without auxiliary or alarm switch | - | - | - |
| Standard load | With auxiliary switch (NO contact) | WA | WAWA WAWB |
| | With auxiliary switch (NC contact) | WB | - WBWB |
| | With alarm switch (NO contact) | KA | WAKA WBKA |
| | With alarm switch (NC contact) | KB | WAKB WBKB |
| Low level circuit | With auxiliary switch (NO contact) | W1A | W1AW1A W1AW1B |
| | With auxiliary switch (NC contact) | W1B | - W1BW1B |
| | With alarm switch (NO contact) | K1A | W1AK1A W1BK1A |
| | With alarm switch (NC contact) | K1B | W1AK1B W1BK1B |

3P 3-pole

Rated current
Example: 0.1A: 0P1 5A: 005 10A: 010

AUXILIARY AND ALARM SWITCH MOUNTING SPECIFICATION



ACCESSORIES

● Auxiliary switch (W)

The auxiliary switch operates in conjunction with the switching of the circuit protector and is used for purposes such as electrical indication of the ON-OFF state of the circuit protector.

● Alarm switch (K)

The alarm switch operates only when the circuit protector is automatically interrupted and electrically indicates the automatic breaking.

* For low level circuits, auxiliary and alarm switches with high contact reliability can be produced. (W1, K1)

● Auxiliary and alarm switch ratings [W, K]

| | 125 V AC | 250 V AC | 30 V DC | 60 V DC |
|----------------|----------------------------|----------|---------|---------|
| Resistive load | 3 A | 1 A | 2 A | 1 A |
| Inductive load | 1 A | 0.5 A | 1 A | 0.5 A |
| Minimum load | 5 V, 100mA (approx. 0.5 W) | | | |

(Note1) Inductive load: power factor 0.7 or higher, time constant 7 ms or smaller

● Auxiliary and alarm switch ratings [W1, K1]

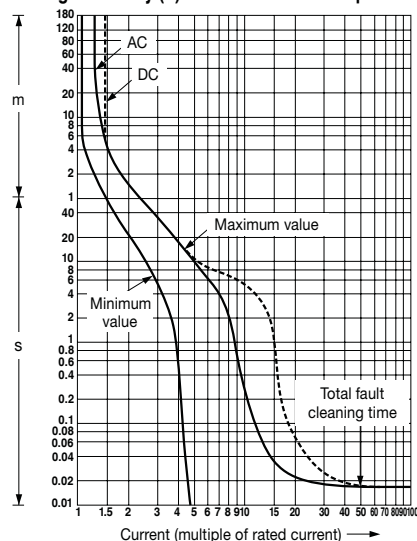
| | 30 V DC |
|----------------|----------------------------|
| Resistive load | 0.1 A |
| Minimum load | 6 V, 5 mA (approx. 0.03 W) |

(Note3) The auxiliary and alarm switches operate in conjunction with the main contact of the circuit protector as shown in the table below.

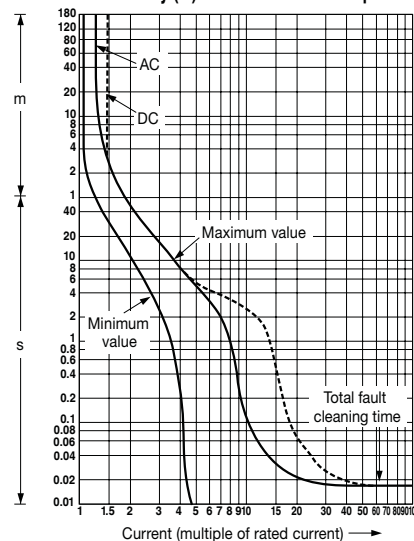
| Main contact operation | ON | OFF | Trip (automatic interruption) |
|------------------------|-----------------------|---------|-------------------------------|
| Auxiliary switch | NO contact 13 — 14 | 13 — 14 | |
| | NC contact 11 — 12 | 11 — 12 | |
| Alarm switch | NO contact 93 — 94 | 93 — 94 | |
| | NC contact 91 — 92 | 91 — 92 | |

OPERATING CHARACTERISTICS CURVES

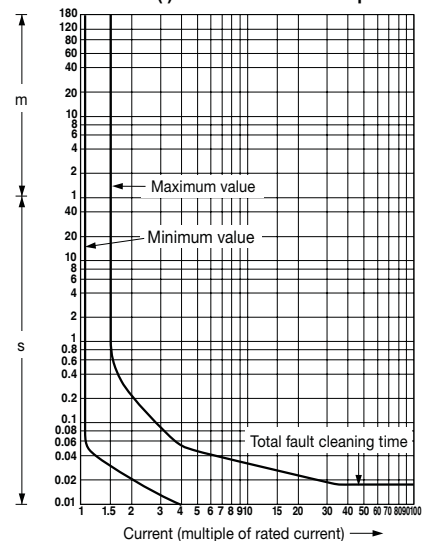
● Long time delay (S) AC 50/60 Hz / DC compatible



● Medium time delay (M) AC 50/60 Hz / DC compatible

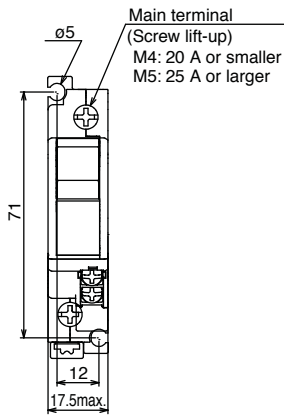


● Instantaneous (I) AC 50/60 Hz / DC compatible

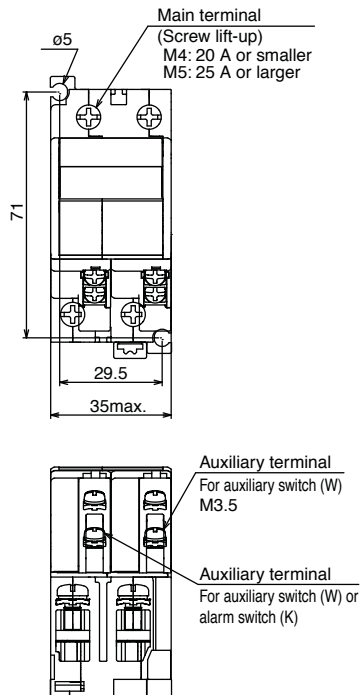


DIMENSIONS, MM

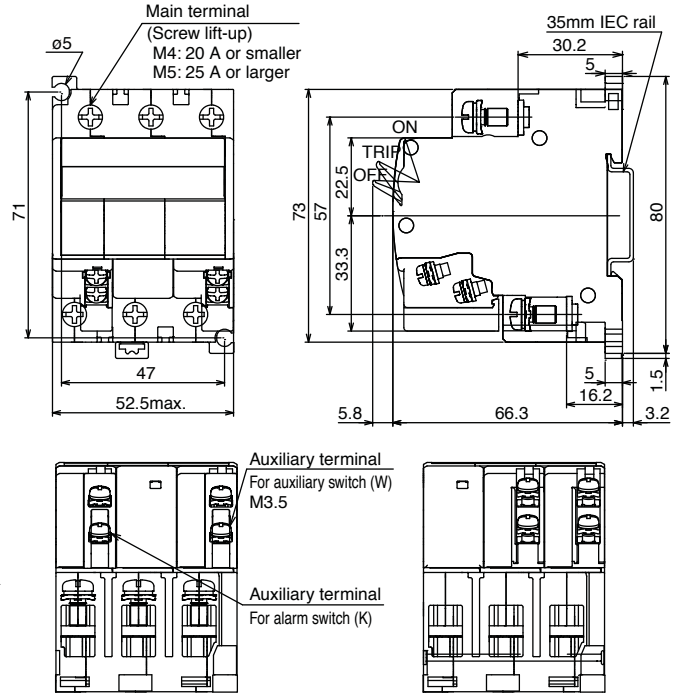
[1-pole]



[2-pole]

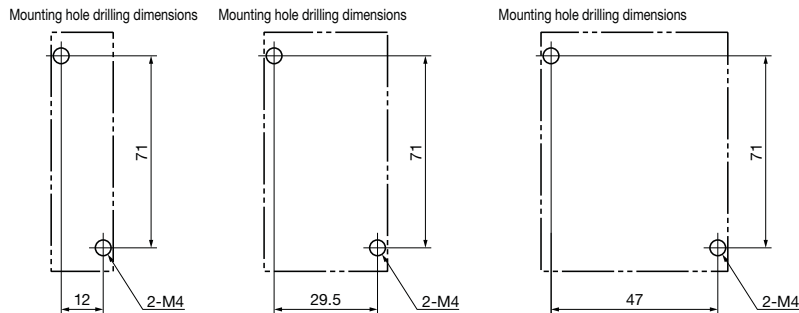


[3-pole]

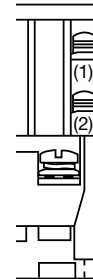


Terminal position when using two auxiliary switches.

Hole drilling dimensions



Auxiliary terminal position and contact no.



| Terminal position | Contact no. | | | |
|-------------------|------------------|----|--------------|----|
| | Auxiliary switch | | Alarm switch | |
| | NO | NC | NO | NC |
| (1) | 13 | 11 | 93 | 91 |
| (2) | 14 | 12 | 94 | 92 |

Fuji Electric Corp. of America

47520 Westinghouse Drive, Fremont, CA 94539

Phone: 510-403-7860 Fax: 510-440-1063

Website : www.americas.fujielectric.com

Fuji Electric FA Components & Systems Co.,Ltd.

5-7, Nihonbashi Odemma-cho, Chuo-ku, Tokyo, 103-0011, Japan

URL <http://www.fujielectric.co.jp/fcs/eng>