

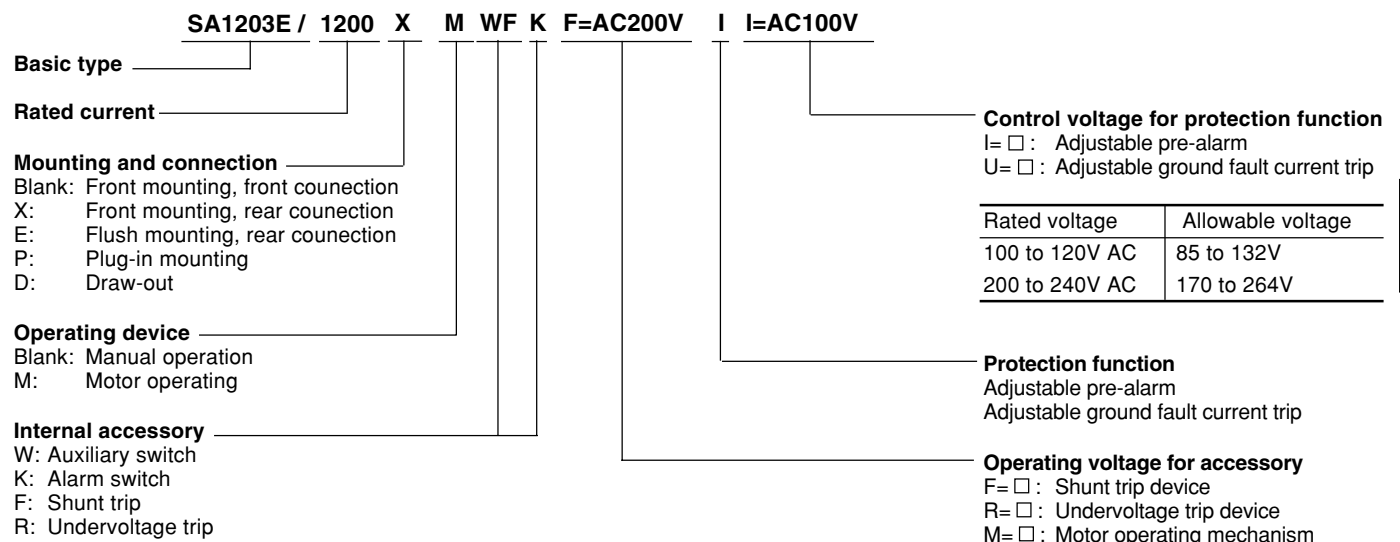
Solid-state trip types, SA1000E, 1200E, 1600E

■ Features

- **Equipped with a load current pre-trip alarm**
Constantly monitors the load current, and outputs an alarm when the set current is exceeded.
- **Adjustable rated current**
The rated current is easy to vary in 5 to 6 steps using an adjustment dial.
- **Wide-range-adjustable trip characteristics**
The current and time for instantaneous tripping and short-/long-time delay tripping can be set by the user.
- **Adjustable ground fault tripping determinate and set a current level for ground fault detection in the ranging between 10% to 40% of the rated CT current.**



■ Type number nomenclature



■ Ordering information

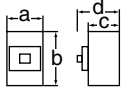
Specify the following:

1. Type number

Molded Case Circuit Breakers

Solid-state trip types

■ S series

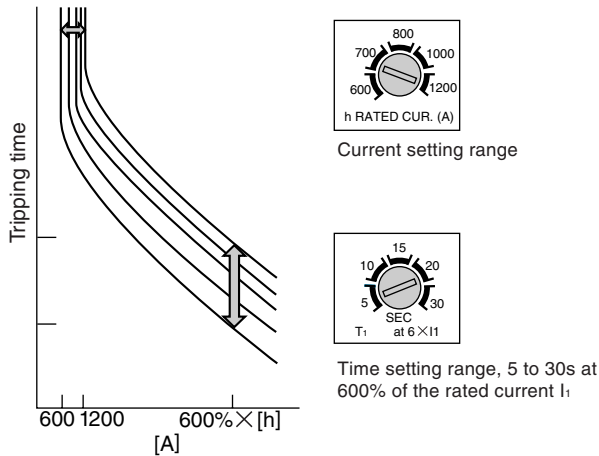
| Frame | | 1000A | | 1200A | | 1600A | | |
|---|--|--|---|---|---|---|---|-----|
| Pole | | 3 | 4 | 3 | 4 | 3 | 4 | |
| Type | | SA1003E | SA1004E | SA1203E | SA1204E | SA1603E | SA1604E | |
| Rated current(A) | | Adjustable 500—600—700—800 —900—1000 | | Adjustable 600—700—800—1000 —1200 | | Adjustable 800—900—1000—1200 —1400—1600 | | |
| Rated insulation voltage(V) | | AC DC | 690 — | 690 — | 690 — | 690 — | 690 — | |
| Rated breaking capacity (kA) | JIS C8370 (sym) | 550V AC 460V AC 220V AC 250V DC | 50 65 100 — | 50 65 100 — | 50 65 100 — | 65 85 130 — | 65 85 130 — | |
| | IEC 60947-2 (Icu/Ics) BS 4752 (sym)* | 690V AC 660V AC 600V AC 500V AC 440V AC 400V AC 230V AC 250V DC | 25/19 25/19 25/19 45/34 65/49 65/49 100/75 — | 25/19 25/19 25/19 45/34 65/49 65/49 100/75 — | 25/19 25/19 25/19 45/34 65/49 65/49 100/75 — | 45/34 45/34 45/34 65/49 85/64 85/64 125/94 — | 45/34 45/34 45/34 65/49 85/64 85/64 125/94 — | |
| Dimensions (mm) |  | a | 210 | 280 | 210 | 280 | 210 | 280 |
| | | b | 370 | | 370 | | 370 | |
| | | c | 120 | | 120 | | 140 | |
| | | d | 171 | | 171 | | 191 | |
| Protection function | Long-time delay tripping time (s) | 5-30 (at 6In) (Adjustable) | | | | | | |
| | Short-time delay tripping current (A) | 2In-10In (Adjustable) | | | | | | |
| | Short-time delay tripping time (s) | 0.1-0.3 (Adjustable) | | | | | | |
| | Instantaneous tripping current (kA) | 3.0-12 (Adjustable) | | 3.75-15 (Adjustable) | | 4.8-19.2 (Adjustable) | | |
| | Ground fault current tripping or pre-alarm | ● | | ● | | ● | | |
| Mass(kg) Front mounting, front connection | | 22 | 28 | 22 | 28 | 27 | 35 | |
| Tripping device | | Solid-state | | Solid-state | | Solid-state | | |
| Trip button | | Provided | | Provided | | Provided | | |
| Mounting | Front mounting, front connection | No mark | ● | ● | ● Bar stud | ● | ● | |
| | Front mounting, rear connection | X | ● Bar Stud | ● | ● Bar stud | ● | ● Bar stud | |
| | Flush mounting, rear connection | E | ● Bar Stud | ● | ● | ● | ● Bar stud | |
| | Plug-in mounting | P | — | — | — | — | — | |
| Internal accessories | Auxiliary switch | W | ● | ● | ● | ● | ● | |
| | Alarm switch | K | ● | ● | ● | ● | ● | |
| | Shunt trip | F | ● | ● | ● | ● | ● | |
| | Undervoltage trip | R | ● | ● | ● | ● | ● | |
| External accessories | Motor operating mechanism | M | ● | ● | ● | ● | ● | |
| | Lead-wire terminal block | — | ● | ● | ● | ● | ● | |

Note: * For SA1200E and SA1600E

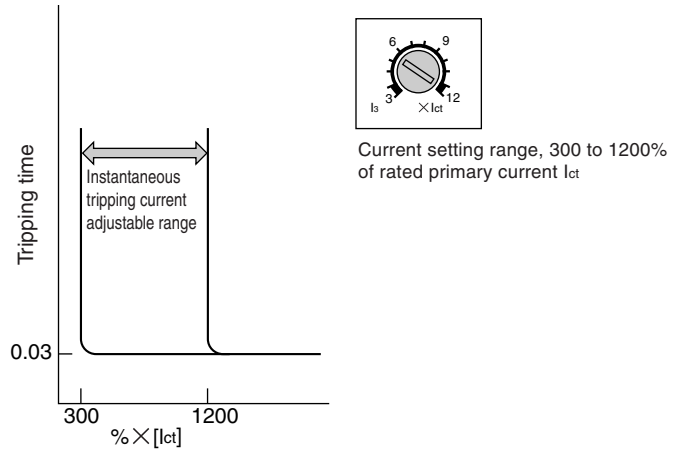
● Available — Not available

Protection function

• Long-time delay tripping (Rated current adjustable)

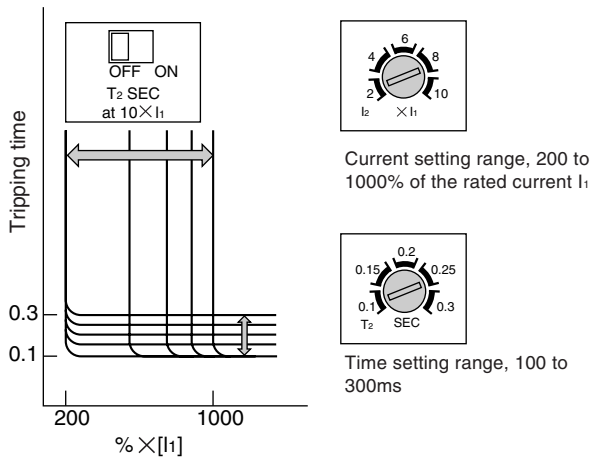


• Adjustable instantaneous tripping

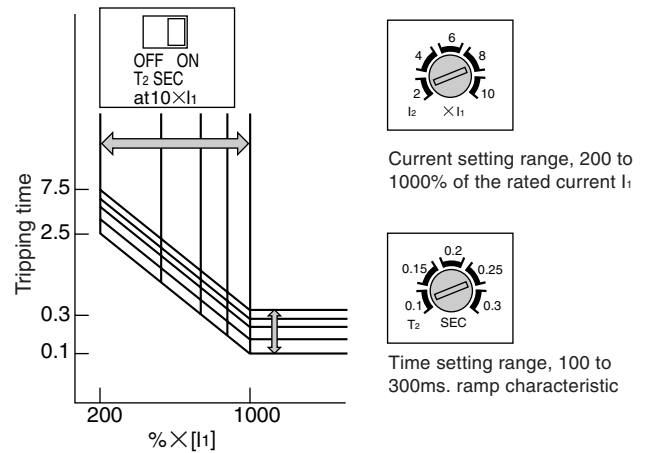


• Adjustable short-time delay tripping

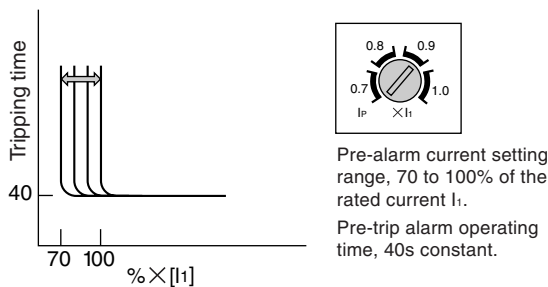
Coordination with solid-state trip type MCCB



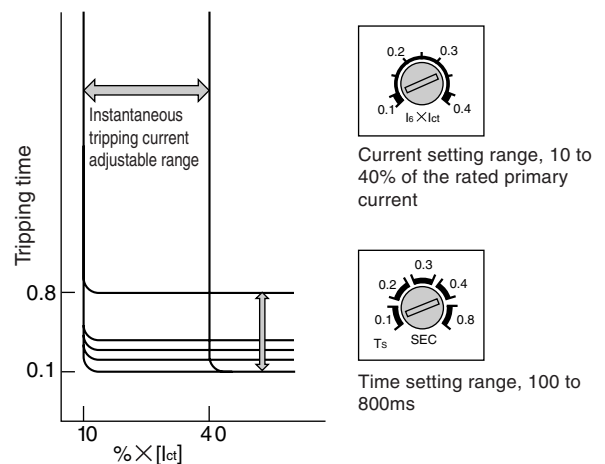
Coordination with thermal-magnetic trip type MCCB



• Adjustable pre-trip alarm



• Adjustable ground fault tripping

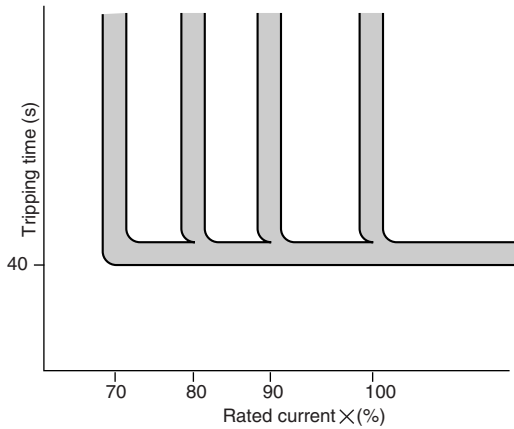


Molded Case Circuit Breakers

Solid-state trip types

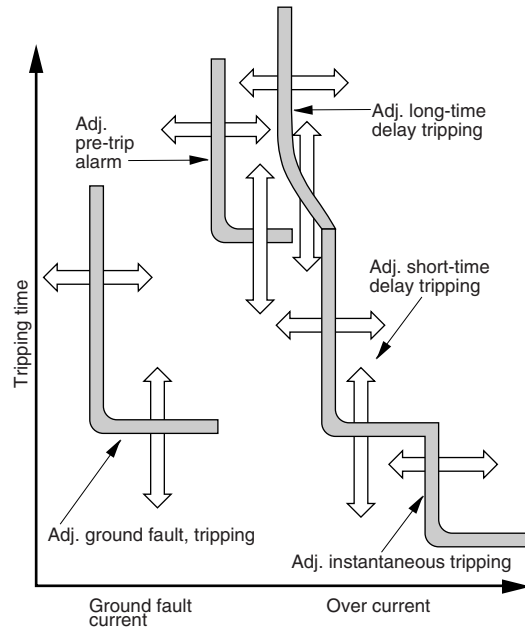
■ Pre-trip alarm function

Constantly monitors the load current, and outputs an alarm when it exceeds the set current. Helpful for preventive maintenance and power management. The pre-trip alarm operates via an LED on the breaker surface and a contact output. Separate power supply is necessary. The pre-trip alarm setting range allows adjustment to 70, 80, 90, or 100% of the rated current.

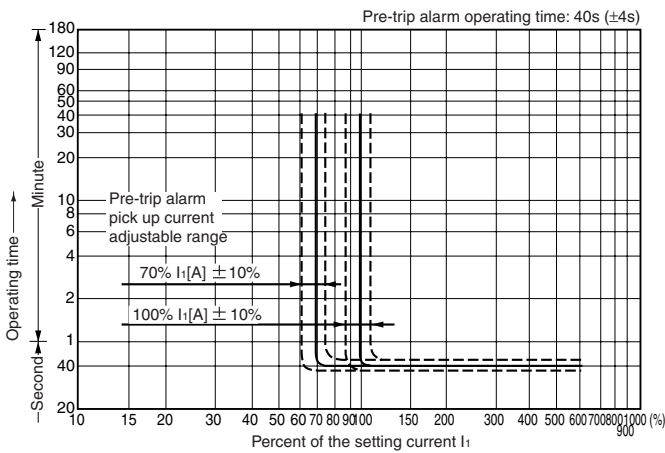


■ Multi protection function

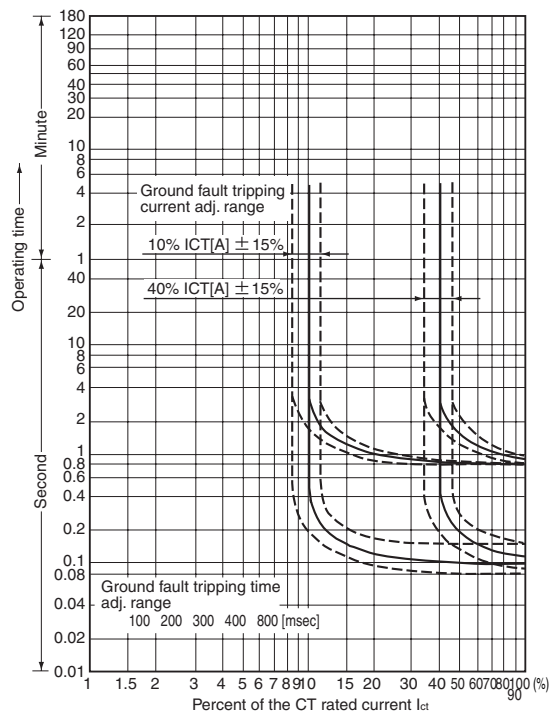
Wide-range-adjustable trip characteristics with high precision. Either ground fault tripping or the pre-trip alarm can be selected as an option (not both).



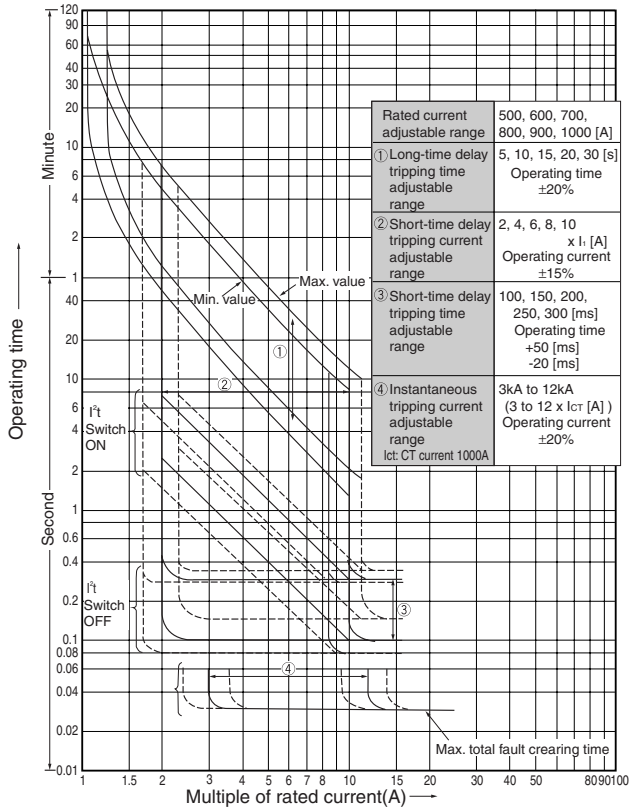
• Pre-trip alarm characteristics



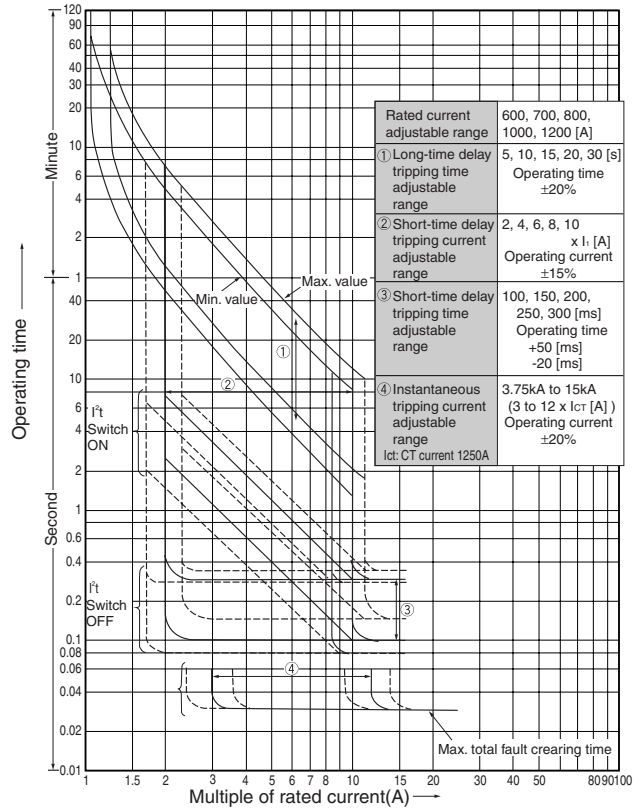
• Ground fault tripping characteristics



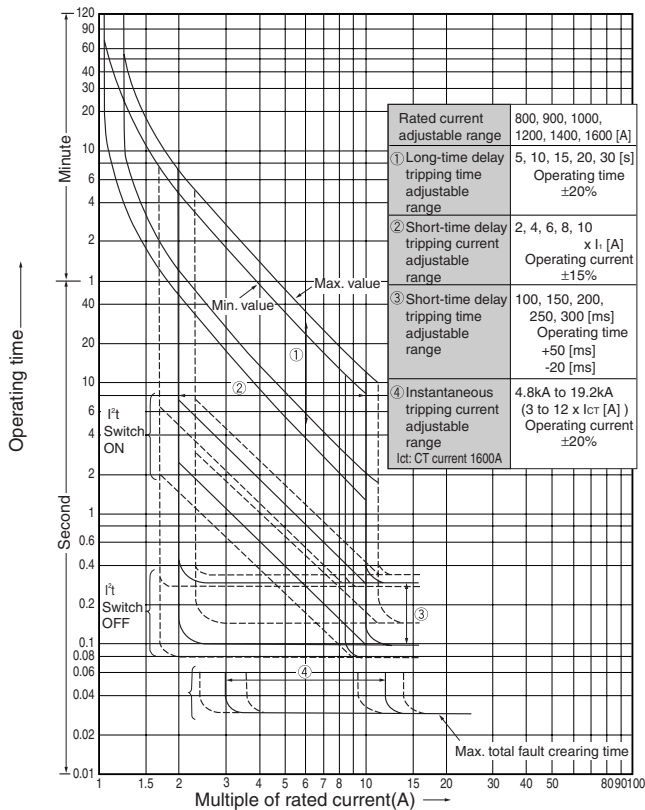
■ Operating characteristic
SA1000E



SA1200E



SA1600E



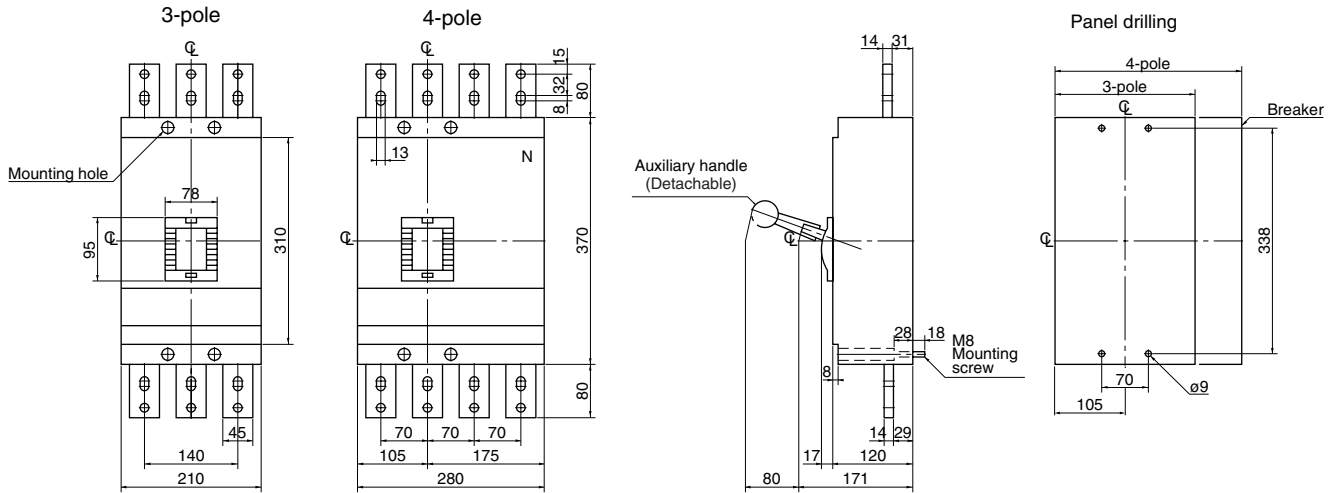
Molded Case Circuit Breakers

Solid-state trip types

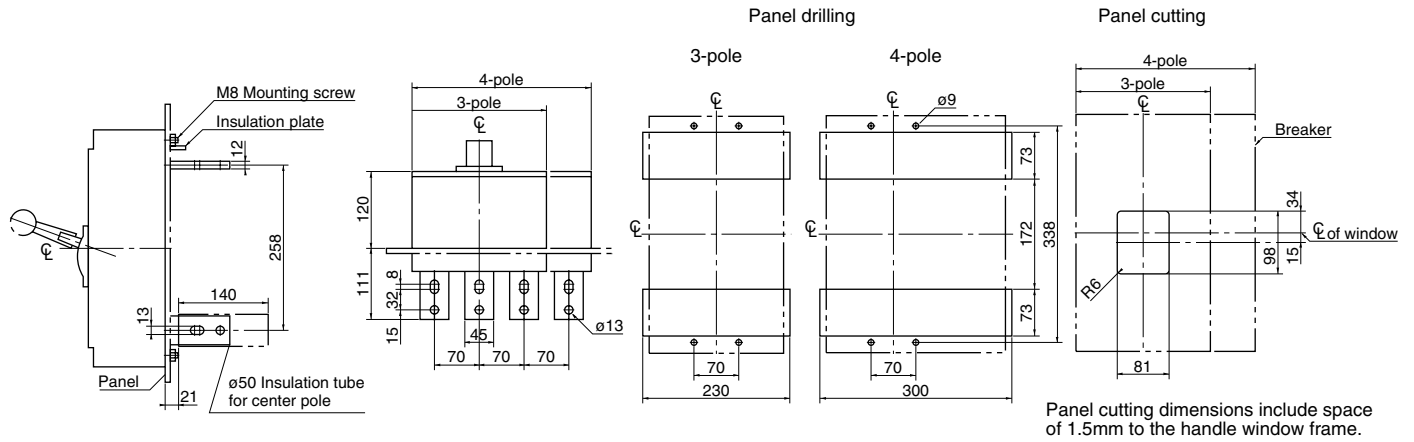
■ Dimensions, mm

SA1000E, 1200E

Front mounting, front connection

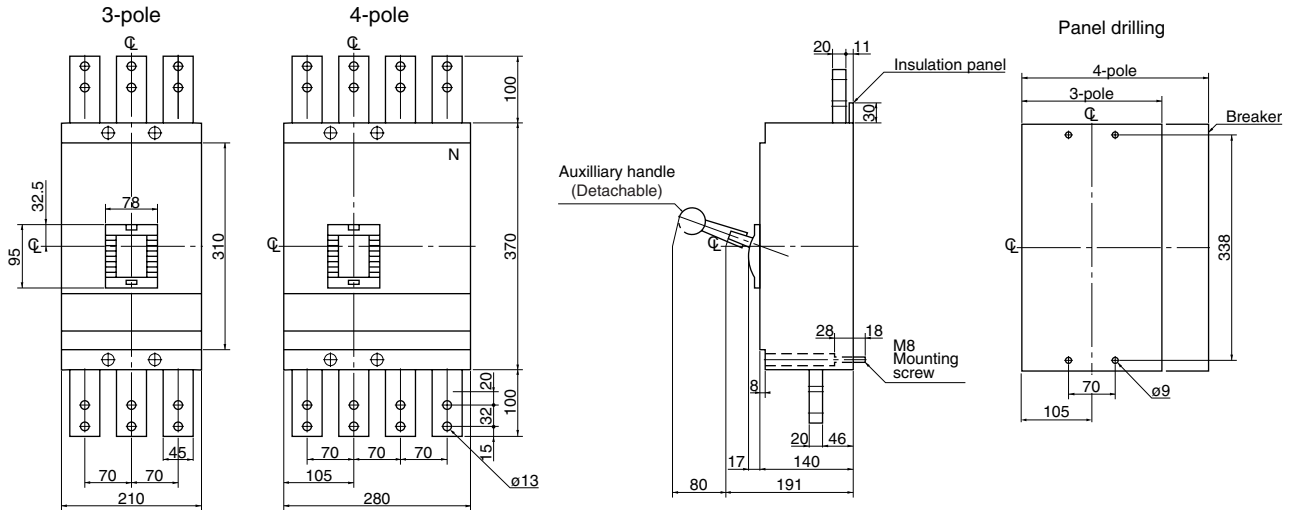


Front mounting, rear connection

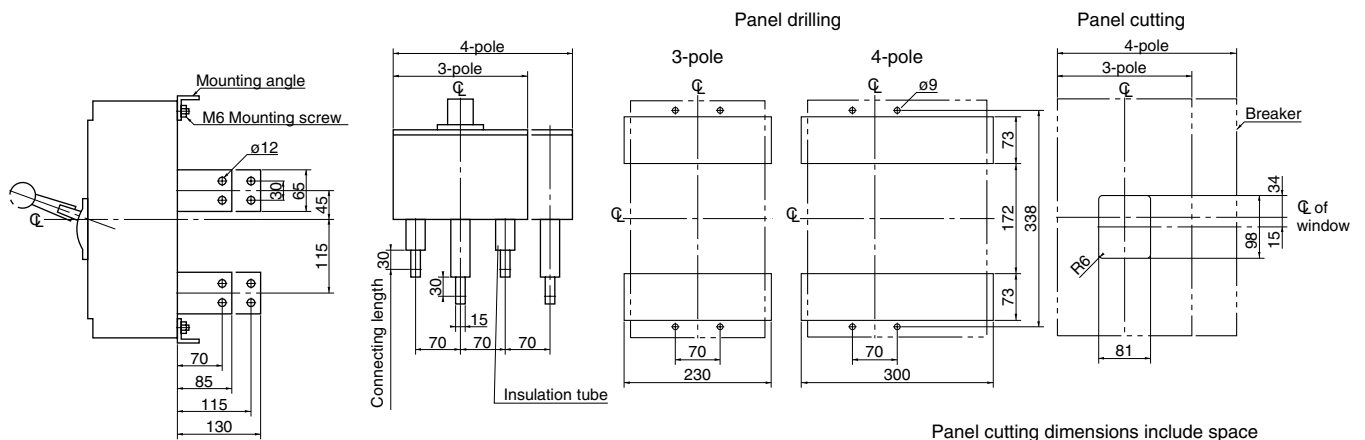


■ Dimensions, mm
SA1600E

Front mounting, front connection



Front mounting, rear connection



Panel cutting dimensions include space of 1.5mm to the handle window frame.