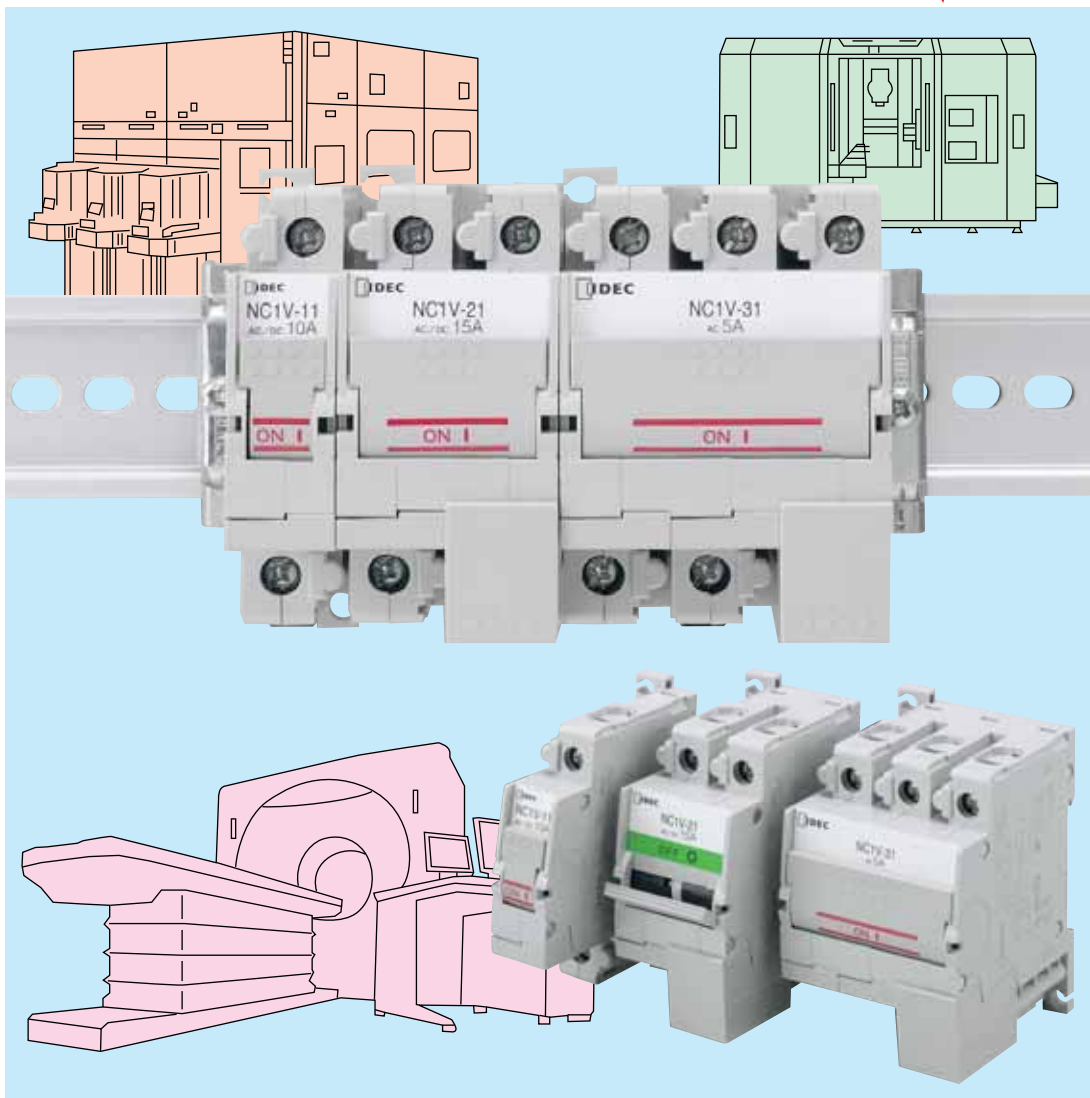


*Think Automation and beyond...*



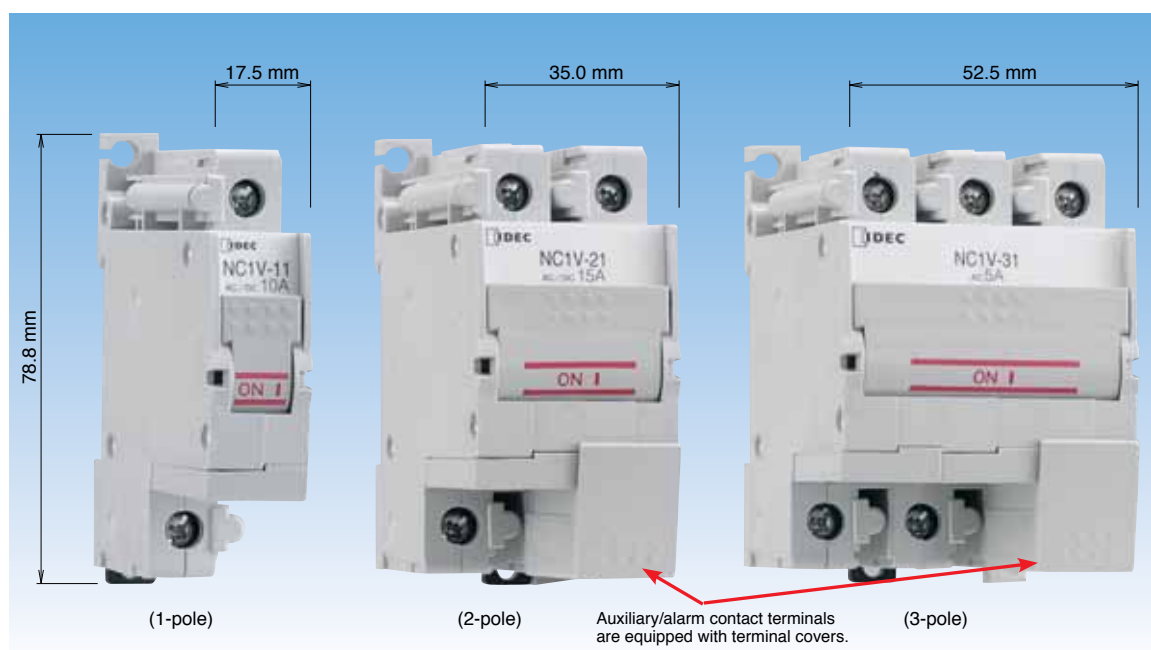
# NC1V

## Circuit Protectors



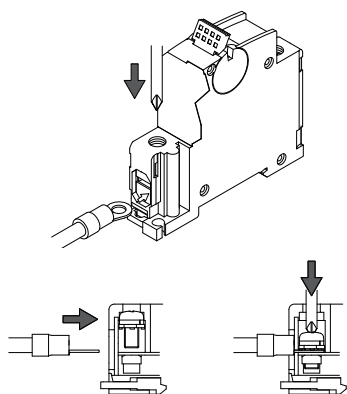
IDEC CORPORATION

# IDEC's original Spring-up Terminals and Cover Provide IP20 Finger-safe Protection.



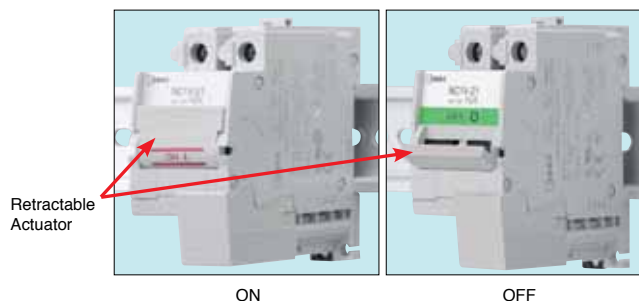
## **Finger-safe, spring-up terminals reduce wiring time.**

Ring terminal tabs can be installed easily, and screws are held secure.



## **Retractable Actuator**

The actuator retracts when the circuit protector turns on. Inadvertent operation, due to touching the actuator, is prevented. Status of the circuit protector can easily be confirmed by viewing the position of the actuator.



## **Slim Housing Saves Space**

|        |             |
|--------|-------------|
| 1-pole | 17.5mm Wide |
| 2-pole | 35.0mm Wide |
| 3-pole | 52.5mm Wide |

## **Main Circuit Terminals are Fingersafe (IP20)**

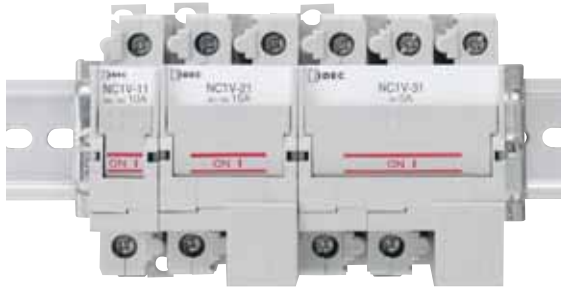
Spring-up, fingersafe structure requires no terminal cover.

## **Auxiliary/Alarm Contact Terminals are Equipped with a Terminal Cover**

Voltage coil terminals on the relay trip version are also equipped with a terminal cover as standard.

# Auxiliary/Alarm Contact, and Relay Trip Voltage Coil Terminals are Equipped with a Terminal Cover.

## 35mm-wide DIN Rail Mounting or Direct Panel Mounting

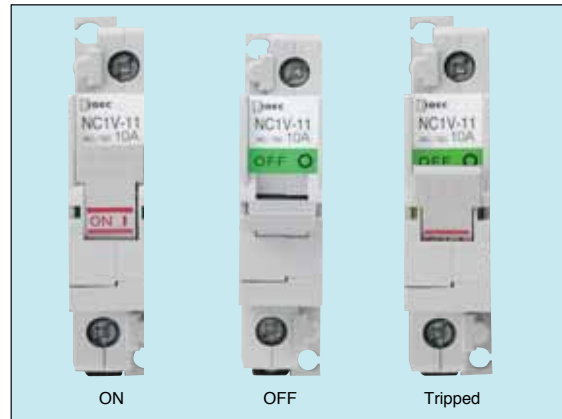


## Conforms to various international standards



## After tripping, the retractable actuator is in the middle position.

Circuit protector must be turned off before it can be reset.



## Distinguishing Characteristics

Wide variety of rated currents and tripping curves. One and 2-pole models are AC/DC compatible and allow for a reduction in inventory.

## Rated Short-circuit Capacity 2500A

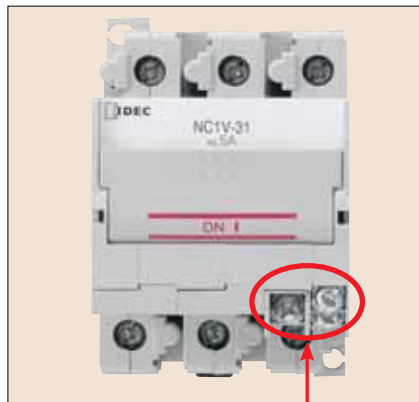
## Available with Inertia Delay

Allows for use with large inrush currents such as motors and lamps.

## Safe Trip-free Mechanism

The circuit remains open even when the operator is turned on after tripping (unit must be manually reset after removing the cause of the tripping).

## Available with Auxiliary or Alarm Contacts



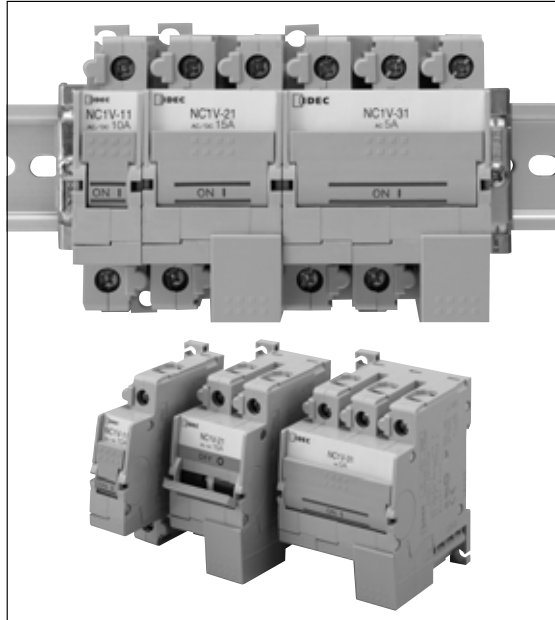
Auxiliary or Alarm Contact  
(Shown without terminal cover.)



# NC1V Circuit Protectors

**IDEC's original spring-up, fingersafe terminals enhance reliability and safety.**

- Integrated electric shock protection structure (IP20).
- Auxiliary/alarm contact terminals and voltage coil terminals on the relay trip types are equipped with terminal covers.
- Spring-up, fingersafe terminals reduce wiring time.
- Ring terminals can be installed. Captive terminal screws.
- Available with inertia delay
- Available with auxiliary or alarm contacts
- Rated short-circuit capacity: 2500A
- Slim, space-saving housing
  - 1-pole: 17.5mm wide
  - 2-pole: 35.0mm wide
  - 3-pole: 52.5mm wide
- Retractable actuator
- The trip-free mechanism maintains the circuit open even when the operator is turned on after tripping.



| Applicable Standards                                            | Certification Mark | Certification Organization (File No.)       |
|-----------------------------------------------------------------|--------------------|---------------------------------------------|
| UL1077                                                          |                    | E68029                                      |
| CSA C22.2 No. 235                                               |                    | LR83454                                     |
| EN60934                                                         |                    | B07 09 13332 063                            |
|                                                                 |                    | European Commission's Low Voltage Directive |
| GB17701-1999                                                    |                    | No. 2008010307265840                        |
| Electrical Appliance and Material Safety Law Technical Standard | Series Trip        | JET                                         |
|                                                                 | Relay Trip         |                                             |

Note: TÜV, CE, and CCC marks are applicable for series trip type only.

## Specifications

|                                                                                                     |                                                 |                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operator Style                                                                                      |                                                 | Retractable actuator                                                                                                                                                                                   |
| Internal Circuit                                                                                    |                                                 | Series trip (current trip), Relay trip (voltage trip)                                                                                                                                                  |
| Protection Method                                                                                   |                                                 | Hydraulic magnetic tripping system, Magnetic tripping system (voltage trip)                                                                                                                            |
| No. of Poles                                                                                        |                                                 | 1-pole      2-pole      3-pole                                                                                                                                                                         |
| Rated Voltage (AC/DC) (Note 1)                                                                      |                                                 | 250V AC 50/60Hz, 65V DC      250V AC 50/60Hz, 125V DC      250V AC, 50/60Hz                                                                                                                            |
| Series Trip (Current Trip)                                                                          | Rated Short-circuit Capacity                    | 250V AC, 2500A      250V AC, 2500A      250V AC, 2500A                                                                                                                                                 |
|                                                                                                     | Rated Current                                   | 0.1A, 0.3A, 0.5A, 1A, 2A, 3A, 5A, 7A, 10A, 15A, 20A, 25A, 30A                                                                                                                                          |
|                                                                                                     | Operation Characteristics (Note 2)              | Time delay curve curve M (slow), curve A (medium), S (instantaneous)<br>Curves M and A are available with inertia delay.                                                                               |
| Relay Trip (Voltage Trip) (Note 3)                                                                  | Rated Current                                   | 30A                                                                                                                                                                                                    |
|                                                                                                     | Trip Voltage                                    | 24 to 48V DC (at 25°C)<br>Voltage application duration 10 sec maximum, tripping time 0.1 sec maximum (at rated voltage)                                                                                |
| Auxiliary Contact/Alarm Contact                                                                     | Contact Rating                                  | 125V AC 3A (resistive load), 30V DC 2A (resistive load)                                                                                                                                                |
|                                                                                                     | Minimum Applicable Load                         | 24V DC 1mA (resistive load, reference value)                                                                                                                                                           |
| Insulation Resistance                                                                               |                                                 | 100 MΩ minimum (500V DC megger)                                                                                                                                                                        |
| Dielectric Strength                                                                                 |                                                 | 2000V AC, 1 minute (between terminals when main contacts are open, between live parts of different poles, between live and dead parts)<br>600V AC (between terminals when auxiliary circuits are open) |
| Vibration Resistance (with rated current applied)                                                   |                                                 | Damage limits: 147 m/s <sup>2</sup> (10 to 55 Hz) (1-pole, 2-pole), 78 m/s <sup>2</sup> (3-pole)<br>Operating extremes: 98 m/s <sup>2</sup> (1-pole, 2-pole), 78 m/s <sup>2</sup> (3-pole)             |
| Shock Resistance (S time delay curve: 80% rated current, A, M time delay curve: 100% rated current) |                                                 | Damage limits: 490 m/s <sup>2</sup> (1-pole, 2-pole), 297 m/s <sup>2</sup> (3-pole)<br>Operating extremes: 196 m/s <sup>2</sup> (S, A, M types)                                                        |
| Electrical Life                                                                                     |                                                 | 10,000 cycles minimum (at rated current), 10 operations per minute                                                                                                                                     |
| Reference Temperature                                                                               |                                                 | 40°C                                                                                                                                                                                                   |
| Operating Temperature                                                                               |                                                 | -10 to +60°C (no freezing)<br>Rated current is based on an ambient temperature of 40°C. When the operating temperature exceeds 40°C, derate the rated current by using the factors shown below.        |
| Operating Humidity                                                                                  |                                                 | 45 to 85% RH (no condensation)                                                                                                                                                                         |
| Terminal Style                                                                                      | Main Circuit Terminal                           | Spring-up, fingersafe terminal: M4 screw (up to 20A), M5 screw (25A and 30A)                                                                                                                           |
|                                                                                                     | Auxiliary/Alarm Contacts, Voltage Coil Terminal | M3.5 screw                                                                                                                                                                                             |
| Weight (approx.)                                                                                    |                                                 | 1-pole: 90g, 2-pole: 170g, 3-pole: 260g                                                                                                                                                                |

Note 1: 3-pole type is for AC voltage only.

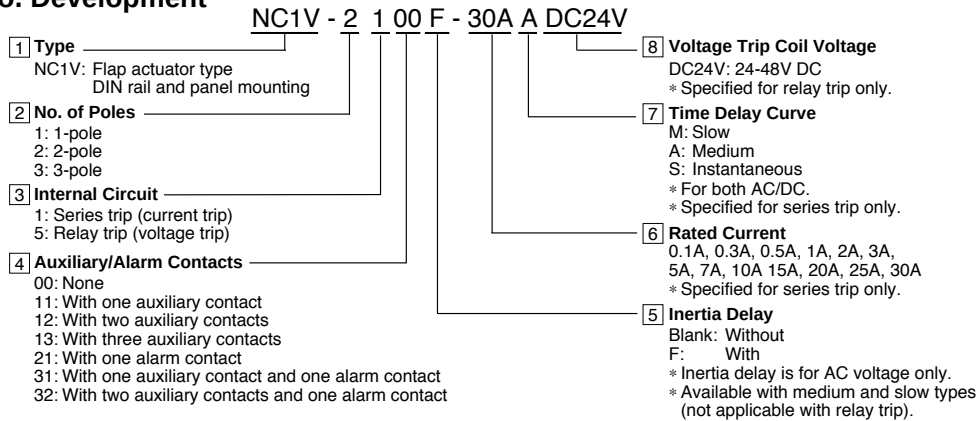
Note 2: For S (instantaneous) tripping curve, humming sound may be caused when used in an AC sinusoidal-wave current circuit around 80% of the rated current, however, the performance of the circuit protector will not be affected.  
To avoid unnecessary tripping, do not use in circuits where inrush currents may be present.

Note 3: Relay trip (voltage trip) type is not equipped with an overcurrent trip function.

- Do not use the NC1V circuit protectors in environments where they are exposed to extreme temperature, humidity, dust, corrosive gases, vibration, shock, or in a circuit where inrush current may be present, otherwise unnecessary operations and damage may occur.

| Operating Temp. | Derating Factor |
|-----------------|-----------------|
| 50°C            | 0.9             |
| 55°C            | 0.8             |
| 60°C            | 0.7             |

## Type No. Development



## Types

- Specify rated current, time delay curve, or voltage trip coil voltage in place of [6][7][8] in the Ordering Type No.

| Internal Circuit           | No. of Poles | Inertia Delay | Auxiliary Contact Alarm Contact              | Ordering Type No. | Applicable Standards | Code                                                                                  |                                             |                               |
|----------------------------|--------------|---------------|----------------------------------------------|-------------------|----------------------|---------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------|
|                            |              |               |                                              |                   |                      | [6] Rated Current                                                                     | [7] Time Delay Curve                        | [8] Voltage Trip Coil Voltage |
| Series Trip (Current Trip) | 1-pole       | —             | —                                            | NC1V-1100-[6][7]  |                      | 0.1A<br>0.3A<br>0.5A<br>1A<br>2A<br>3A<br>5A<br>7A<br>10A<br>15A<br>20A<br>25A<br>30A | M (slow)<br>A (medium)<br>S (instantaneous) | —                             |
|                            |              |               | One Auxiliary Contact                        | NC1V-1111-[6][7]  |                      |                                                                                       |                                             |                               |
|                            |              |               | One Alarm Contact                            | NC1V-1121-[6][7]  |                      |                                                                                       |                                             |                               |
|                            |              | With          | —                                            | NC1V-1100F-[6][7] |                      |                                                                                       |                                             |                               |
|                            |              |               | One Auxiliary Contact                        | NC1V-1111F-[6][7] |                      |                                                                                       |                                             |                               |
|                            |              |               | One Alarm Contact                            | NC1V-1121F-[6][7] |                      |                                                                                       |                                             |                               |
|                            | 2-pole       | —             | —                                            | NC1V-2100-[6][7]  |                      |                                                                                       |                                             |                               |
|                            |              |               | One Auxiliary Contact                        | NC1V-2111-[6][7]  |                      |                                                                                       |                                             |                               |
|                            |              |               | Two Auxiliary Contacts                       | NC1V-2112-[6][7]  |                      |                                                                                       |                                             |                               |
|                            |              |               | One Alarm Contact                            | NC1V-2121-[6][7]  |                      |                                                                                       |                                             |                               |
|                            |              |               | One Auxiliary Contact and One Alarm Contact  | NC1V-2131-[6][7]  |                      |                                                                                       |                                             |                               |
|                            |              |               | —                                            | NC1V-2100F-[6][7] |                      |                                                                                       |                                             |                               |
|                            |              | With          | One Auxiliary Contact                        | NC1V-2111F-[6][7] |                      |                                                                                       |                                             |                               |
|                            |              |               | Two Auxiliary Contacts                       | NC1V-2112F-[6][7] |                      |                                                                                       |                                             |                               |
|                            |              |               | One Alarm Contact                            | NC1V-2121F-[6][7] |                      |                                                                                       |                                             |                               |
|                            |              |               | One Auxiliary Contact and One Alarm Contact  | NC1V-2131F-[6][7] |                      |                                                                                       |                                             |                               |
|                            | 3-pole       | —             | —                                            | NC1V-3100-[6][7]  |                      |                                                                                       |                                             |                               |
|                            |              |               | One Auxiliary Contact                        | NC1V-3111-[6][7]  |                      |                                                                                       |                                             |                               |
|                            |              |               | Two Auxiliary Contacts                       | NC1V-3112-[6][7]  |                      |                                                                                       |                                             |                               |
|                            |              |               | Three Auxiliary Contacts                     | NC1V-3113-[6][7]  |                      |                                                                                       |                                             |                               |
|                            |              |               | One Alarm Contact                            | NC1V-3121-[6][7]  |                      |                                                                                       |                                             |                               |
|                            |              |               | One Auxiliary Contact and One Alarm Contact  | NC1V-3131-[6][7]  |                      |                                                                                       |                                             |                               |
|                            |              | With          | Two Auxiliary Contacts and One Alarm Contact | NC1V-3132-[6][7]  |                      |                                                                                       |                                             |                               |
|                            |              |               | —                                            | NC1V-3100F-[6][7] |                      |                                                                                       |                                             |                               |
|                            |              |               | One Auxiliary Contact                        | NC1V-3111F-[6][7] |                      |                                                                                       |                                             |                               |
|                            |              |               | Two Auxiliary Contacts                       | NC1V-3112F-[6][7] |                      |                                                                                       |                                             |                               |
|                            |              |               | Three Auxiliary Contacts                     | NC1V-3113F-[6][7] |                      |                                                                                       |                                             |                               |
|                            |              |               | One Alarm Contact                            | NC1V-3121F-[6][7] |                      |                                                                                       |                                             |                               |
| Relay Trip (Voltage Trip)  | 1-pole       | —             | —                                            | NC1V-1500-[8]     |                      | —                                                                                     | —                                           | DC24V                         |
|                            | 2-pole       |               |                                              | NC1V-2500-[8]     |                      |                                                                                       |                                             |                               |
|                            | 3-pole       |               |                                              | NC1V-3500-[8]     |                      |                                                                                       |                                             |                               |

Note: Inertia delay is for AC circuit. Also, time delay curve of S (instantaneous) is not available with inertia delay.

# NC1V Circuit Protectors

## Internal Circuit

### • 1-pole

| NC1V-1100<br>(Without auxiliary/alarm contacts) | NC1V-1111<br>(With auxiliary contact) | NC1V-1121<br>(With alarm contact) | NC1V-1500<br>(Relay Trip) |
|-------------------------------------------------|---------------------------------------|-----------------------------------|---------------------------|
|                                                 |                                       |                                   |                           |

### • 2-pole

| NC1V-2100<br>(Without auxiliary/alarm contacts) | NC1V-2111<br>(With auxiliary contact) | NC1V-2121<br>(With alarm contact) | NC1V-2500<br>(Relay Trip) |
|-------------------------------------------------|---------------------------------------|-----------------------------------|---------------------------|
|                                                 |                                       |                                   |                           |

Note: Those with two auxiliary contacts and with one auxiliary contact and one alarm contact have been applied for UL and CCC.

### • 3-pole

| NC1V-3100<br>(Without auxiliary/alarm contacts) | NC1V-3111<br>(With auxiliary contact) | NC1V-3121<br>(With alarm contact) | NC1V-3500<br>(Relay Trip) |
|-------------------------------------------------|---------------------------------------|-----------------------------------|---------------------------|
|                                                 |                                       |                                   |                           |

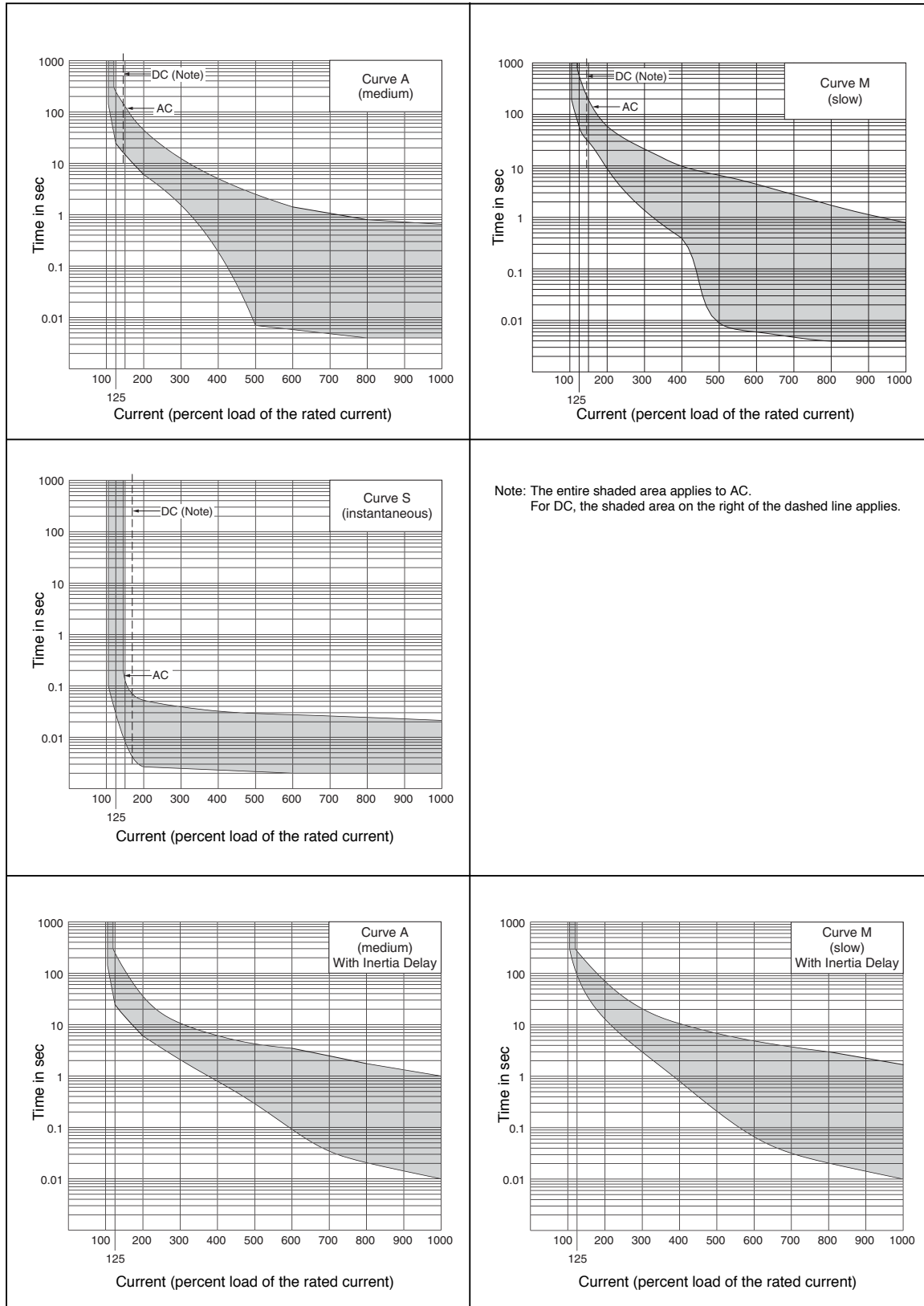
Note: Those with two or three auxiliary contacts, with one auxiliary contact and one alarm contact, and with two auxiliary contacts and one alarm contacts have been applied for UL and CCC.

## Overcurrent-Time Delay Characteristics (sec at 40°C) [vertical mounting]

| Item             | Time Delay Curve              | Percent of Rated Current |            |               |               |                |               |                |                |                |
|------------------|-------------------------------|--------------------------|------------|---------------|---------------|----------------|---------------|----------------|----------------|----------------|
|                  |                               | 100%                     | 125%       | 150%          | 175%          | 200%           | 400%          | 600%           | 800%           | 1000%          |
| AC (50/60 Hz)/DC | S (instantaneous)             | NO TRIP                  | —          | *0.005 to 0.1 | 0.003 to 0.06 | 0.0027 to 0.05 | 0.002 to 0.03 | 0.002 to 0.028 | 0.002 to 0.025 | 0.002 to 0.022 |
|                  | A (medium)                    | NO TRIP                  | *25 to 240 | 16 to 140     | —             | 6 to 32        | 0.4 to 4      | 0.0055 to 1.5  | 0.004 to 0.8   | 0.004 to 0.65  |
|                  | M (slow)                      | NO TRIP                  | *60 to 600 | 30 to 200     | —             | 9 to 60        | 0.4 to 10     | 0.006 to 4.5   | 0.004 to 1.8   | 0.004 to 0.8   |
| AC (50/60 Hz)    | With Inertia Delay A (medium) | NO TRIP                  | 25 to 240  | —             | —             | 6 to 32        | 0.8 to 6      | 0.09 to 3.5    | 0.02 to 1.8    | 0.01 to 1.0    |
|                  | With Inertia Delay M (slow)   | NO TRIP                  | 60 to 600  | —             | —             | 10 to 60       | 0.8 to 10     | 0.06 to 4.5    | 0.02 to 3      | 0.01 to 1.75   |

\*: MAY TRIP on DC

## Time Delay Curves at 40°C



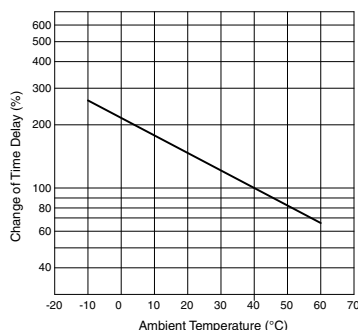
# NC1V Circuit Protectors

## Time Delay Curve and Ambient Temperature

NC1V circuit protectors employ an electromagnetic tripping system, where the rated current (trip current) is not affected by ambient temperatures. But the time delay may vary with the oil viscosity in the oil dash pot. Lower oil viscosity at higher temperatures results in a shorter delay, whereas at lower temperatures the delay will be longer.

## Temperature Correction Curve

The time delay curves on the preceding page are measured at 40°C. With reference to the following curves, time delays can be corrected according to ambient temperature.



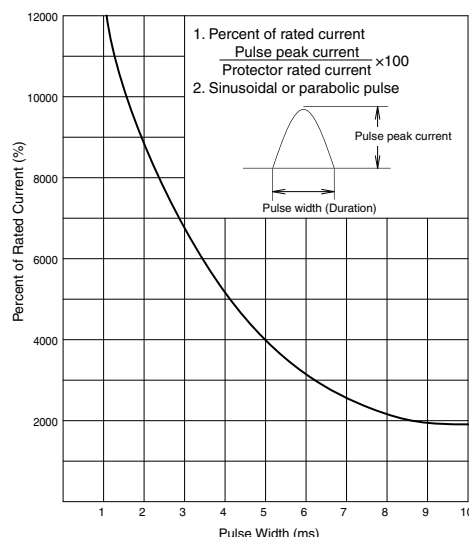
The time delay is based on an ambient temperature of 40°C. Time delays at other temperatures are corrected according to the temperature correction curve. The time delay of the instantaneous time delay curve (S) is not affected by the ambient temperature.

When operating temperature exceeds 40°C, derate the rated current by multiplying the derating factor shown on the right.

| Operating Temp. | Derating Factor |
|-----------------|-----------------|
| 50°C            | 0.9             |
| 55°C            | 0.8             |
| 60°C            | 0.7             |

## Inertia Delay

Inertia delay is designed not to trip on a non-repeating single pulse of 20 times the rated current (peak value) for a duration of 8 ms. In addition, circuit protectors equipped with inertia delay do not respond to high inrush currents caused by transformer or lamp loads, but perform the specified interruption on the subsequent overcurrents. Inertia delay is available on AC circuits, and is not available with the series trip curve S (instantaneous).



## Impedance and Coil Resistance

### • Series Trip (Current Trip)

at 25°C

| Rated Current | For AC 50/60 Hz Impedance (Ω) |             | For DC Resistance (Ω) |             |
|---------------|-------------------------------|-------------|-----------------------|-------------|
|               | Curve S                       | Curves A, M | Curve S               | Curves A, M |
| 0.1A          | 66.0                          | 116.0       | 43.0                  | 106.0       |
| 0.3A          | 6.6                           | 11.0        | 4.1                   | 10.0        |
| 0.5A          | 1.92                          | 3.65        | 0.86                  | 3.40        |
| 1A            | 0.50                          | 0.93        | 0.25                  | 0.90        |
| 2A            | 0.16                          | 0.27        | 0.11                  | 0.25        |
| 3A            | 0.07                          | 0.12        | 0.050                 | 0.11        |
| 5A            | 0.025                         | 0.050       | 0.015                 | 0.045       |
| 7A            | 0.014                         | 0.027       | 0.011                 | 0.025       |
| 10A           | 0.007                         | 0.021       | 0.005                 | 0.020       |
| 15A           | 0.006                         | 0.010       | 0.005                 | 0.009       |
| 20A           | 0.005                         | 0.006       | 0.004                 | 0.005       |
| 25A           | 0.004                         | 0.005       | 0.004                 | 0.005       |
| 30A           | 0.003                         | 0.004       | 0.003                 | 0.004       |

Tolerance: ±25% (up to 20A),  
 ±50% (25A and 30A)

### • Relay Trip (Voltage Trip)

at 25°C

| Tripping Voltage | For DC Resistance (Ω) |
|------------------|-----------------------|
| 24-48V           | 100.0                 |

Tolerance: ±25%

## Voltage Drop Due to Coil Resistance or Impedance

The internal resistance or impedance of a circuit protector tends to be larger for a smaller rated current. Therefore, when circuit protectors of a small rated current are used, voltage drop should be taken into consideration. Internal resistance also varies with time delay curves, which should also be considered during installation.

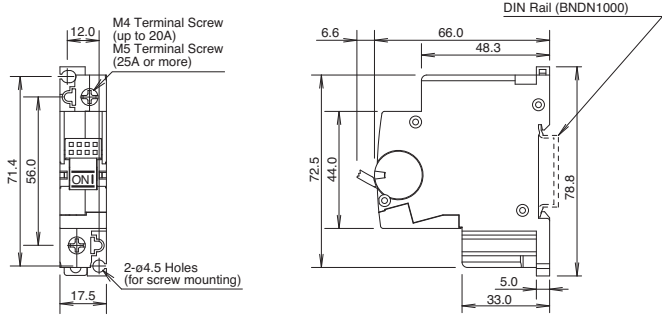
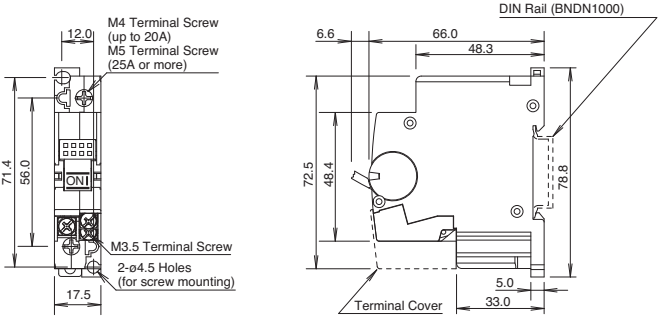
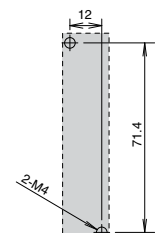
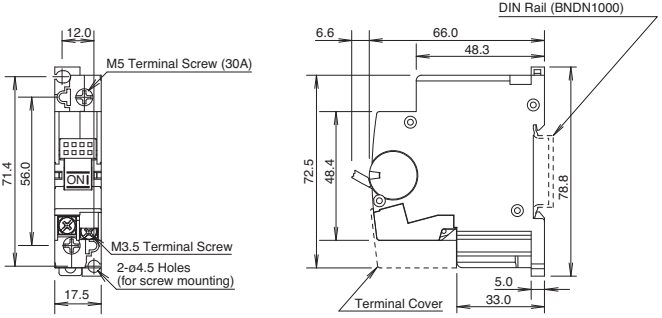


# NC1V Circuit Protectors

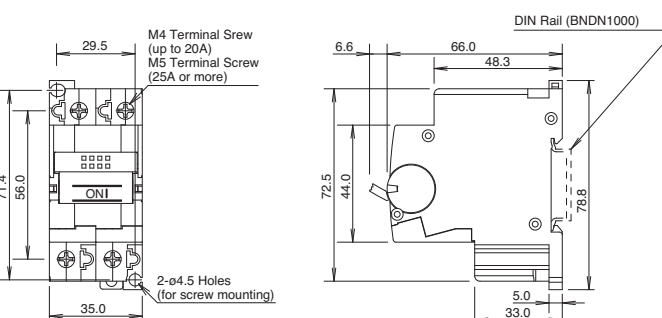
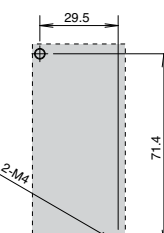
## Dimensions

### • 1-pole

All dimensions in mm.

|                                                                            |                                                                                      |                                                                                                                                           |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <p>NC1V-1100</p>                                                           |    |                                                                                                                                           |
| <p>NC1V-1111<br/>(Auxiliary Contact)<br/>NC1V-1121<br/>(Alarm Contact)</p> |   | <p>Mounting Hole Layout<br/>(M4 Mounting Screws)</p>  |
| <p>NC1V-1500<br/>(Relay Trip)</p>                                          |  |                                                                                                                                           |

### • 2-pole

|                  |                                                                                      |                                                                                                                                            |
|------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <p>NC1V-2100</p> |  | <p>Mounting Hole Layout<br/>(M4 Mounting Screws)</p>  |
|------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|

# NC1V Circuit Protectors

## • 2-pole

|                                                                                                                                                                                               |                                                        |                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|
| <p>NC1V-2111<br/>(one auxiliary contact)<br/>NC1V-2112<br/>(two auxiliary contacts)<br/>NC1V-2121<br/>(one alarm contact)<br/>NC1V-2131<br/>(one auxiliary contact and one alarm contact)</p> | <p>The dimensions are for NC1V-2111 and NC1V-2121.</p> | <p>Mounting Hole Layout<br/>(M4 Mounting Screws)</p> |
| <p>NC1V-2500<br/>(Relay Trip)</p>                                                                                                                                                             |                                                        | <p>Mounting Hole Layout<br/>(M4 Mounting Screws)</p> |

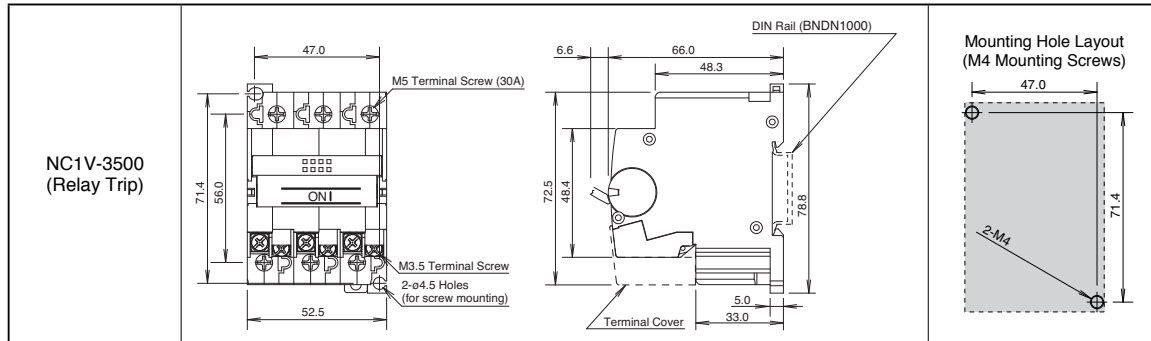
## • 3-pole

|                                                                                                                                                                                                                                                                                                             |                                                        |                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|
| <p>NC1V-3100</p>                                                                                                                                                                                                                                                                                            |                                                        | <p>Mounting Hole Layout<br/>(M4 Mounting Screws)</p> |
| <p>NC1V-3111<br/>(one auxiliary contact)<br/>NC1V-3112<br/>(two auxiliary contacts)<br/>NC1V-3113<br/>(three auxiliary contacts)<br/>NC1V-3121<br/>(one alarm Contact)<br/>NC1V-3131<br/>(one auxiliary contact and one alarm contact)<br/>NC1V-3132<br/>(two auxiliary contacts and one alarm contact)</p> | <p>The dimensions are for NC1V-3111 and NC1V-3121.</p> | <p>Mounting Hole Layout<br/>(M4 Mounting Screws)</p> |

# NC1V Circuit Protectors

## • 3-pole

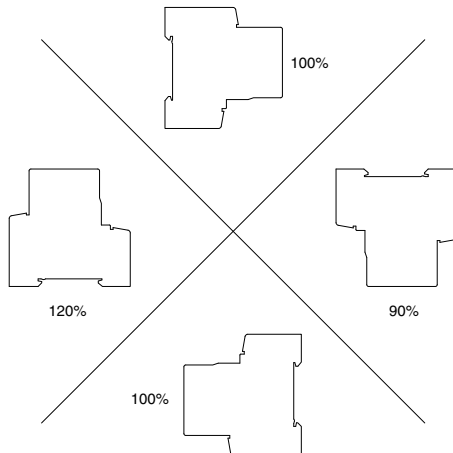
All dimensions in mm.



## Instructions

### • Installation Angle

Tripping method is hydraulic magnetic. Minimum operating current varies with installation angle. Operating currents are influenced by the weight of movable iron core. With reference to the following figures, correct the rated current.



Minimum operating current is calculated from the following formula:

$$(\text{Minimum operating current}) = (\text{Rated current}) \times (\text{Correction factor by installation angle}) \times (\text{Reference minimum tripping current rate})$$

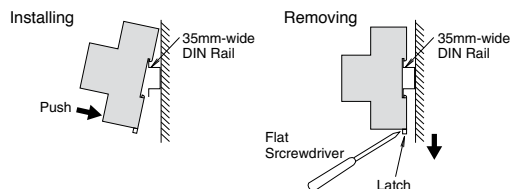
### • DIN Rails

[Installation on DIN Rail]

1. Fasten the DIN rail securely.
2. With the latch facing downward, install the NC1V circuit protector on the DIN rail as shown below.

[Removal from DIN Rail]

Using a flat screwdriver, pull the latch on the circuit protector to remove from the DIN rail.



### • Applicable Wire and Crimp Terminal

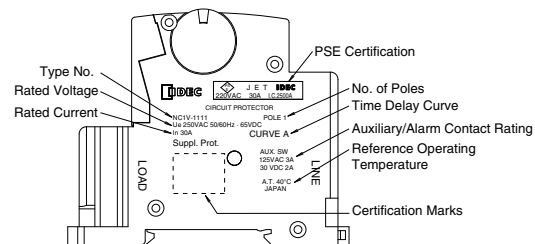
| Terminal                                               | Terminal Screw                                                               | Connectable Wire Size (mm <sup>2</sup> ) | Applicable Crimping Terminal | Tightening Torque (N·m) |
|--------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------|------------------------------|-------------------------|
| Main Circuit Terminals                                 | Spring-up, fingersafe, slotted Phillips screw with square washer (up to 20A) | 0.25 to 1.65                             | R1.25-4                      | 1 to 1.4                |
|                                                        |                                                                              | 1.04 to 2.63                             | R2-4                         |                         |
|                                                        |                                                                              | 2.63 to 6.64                             | R5.5-4                       |                         |
|                                                        | Spring-up fingersafe terminal (25A and 30A)                                  | 0.25 to 1.65                             | R1.25-5                      | 1.8 to 2.2              |
| Auxiliary Contact Alarm Contact Voltage Coil Terminals | Slotted Phillips screw with square washer                                    | 1.04 to 2.63                             | R2-5                         |                         |
|                                                        |                                                                              | 2.63 to 6.64                             | R5.5-5                       |                         |
|                                                        |                                                                              | 0.25 to 1.65                             | R1.25-3.5                    | 0.7 to 0.9              |
|                                                        |                                                                              | 1.04 to 2.63                             | R2-3.5                       |                         |

- For wiring the main circuit terminal, use the applicable crimp terminals and tighten to the recommended torque.
- When using the NC1V circuit protector as CSA-certified product, use with CSA-certified crimp terminal.
- When using the NC1V circuit protector as UL-listed product, use with UL-listed crimp terminal.

### Panel Mounting Screw (not supplied)

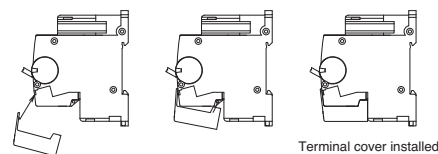
| Screw Type | Tightening Torque | Shape                         |
|------------|-------------------|-------------------------------|
| M4         | 0.8 to 1.0 N·m    | Spring Washer<br>Plain Washer |

### Product Markings (Example: NC1V-1111-30AA)



### Installation of Auxiliary/Alarm Terminal Cover

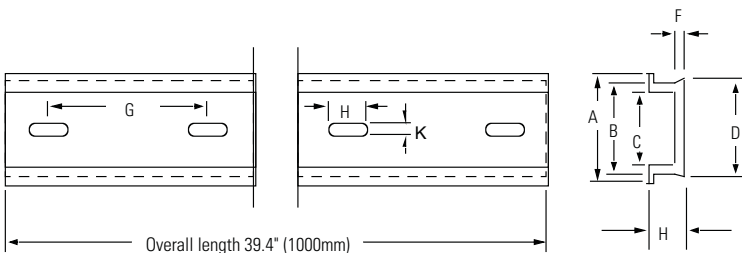
After wiring the terminals, install the terminal cover by aligning with the circuit protector as shown below.



# NC1V Circuit Protectors

## Accessories

### • DIN Rail



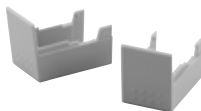
| Length | Part No. | Material |
|--------|----------|----------|
| 1000mm | BNDN1000 | Aluminum |

### • End Clip



| Part No. | Applicable Rail | Material                                | Package Quantity |
|----------|-----------------|-----------------------------------------|------------------|
| BNL6     | BNDN1000        | Galvanized Trivalent Chromate Treatment | 10               |

### • Auxiliary/Alarm Terminal Cover



| Type No.    | Material     | Package Quantity |
|-------------|--------------|------------------|
| NC1V-AUX-CV | Nylon (PA66) | 1                |

### • Miscellaneous Accessories (available 2009)

| Type No.  | Description                                     |
|-----------|-------------------------------------------------|
| NC9Z-MA11 | Panel Cut-Out Mounting bracket for 1-pole mode  |
| NC9Z-MA21 | Panel Cut-Out Mounting bracket for 2-pole model |
| NC9Z-MA31 | Panel Cut-Out Mounting bracket for 3-pole model |
| NC9Z-TA1  | Fast-On Tab terminal Adapter                    |
| NC9Z-PW1  | Marking Plate                                   |
| NC9Z-LK1  | Lock-Out Bracket                                |

Specifications and other descriptions in this catalog are subject to change without notice.



## IDEC CORPORATION

**IDEC CORPORATION (USA)**  
1175 Elko Drive, Sunnyvale, CA 94089-2209, USA  
Tel: +1-408-747-0550 / (800) 262-IDEC (4332)  
Fax: +1-408-744-9055 / (800) 635-6246  
E-mail: [opencontact@idec.com](mailto:opencontact@idec.com)

**IDEC CANADA LIMITED**  
3155 Pepper Mill Court, Unit 4, Mississauga,  
Ontario, L5L 4X7, Canada  
Tel: +1-905-890-8561, Toll Free: (888) 317-4332  
Fax: +1-905-890-8562  
E-mail: [sales@ca.idec.com](mailto:sales@ca.idec.com)

**IDEC AUSTRALIA PTY. LTD.**  
2/3 Macro Court, Rowville, Victoria 3178, Australia  
Tel: +61-3-9763-3244, Toll Free: 1800-68-4332  
Fax: +61-3-9763-3255  
E-mail: [sales@au.idec.com](mailto:sales@au.idec.com)

**IDEC ELECTRONICS LIMITED**  
Unit 2, Beechwood, Chineham Business Park,  
Basingstoke, Hampshire RG24 8WA, UK  
Tel: +44-1256-321000, Fax: +44-1256-327755  
E-mail: [sales@uk.idec.com](mailto:sales@uk.idec.com)

**IDEC ELEKTROTECHNIK GmbH**  
Wendenstrasse 331, 20537 Hamburg, Germany  
Tel: +49-40-25 30 54 - 0, Fax: +49-40-25 30 54 - 24  
E-mail: [service@idec.de](mailto:service@idec.de)

**IDEC (SHANGHAI) CORPORATION**  
Room 608-609, 6F, Gangtai Plaza, No. 700,  
Yan'an East Road, Shanghai 200001, PRC  
Tel: +86-21-5353-1000, Fax: +86-21-5353-1263  
E-mail: [idec@cn.idec.com](mailto:idec@cn.idec.com)

**IDEC (BEIJING) CORPORATION**  
Room 211B, Tower B, The Grand Pacific Building,  
8A Guanghua Road, Chaoyang District,  
Beijing 100026, PRC  
Tel: +86-10-6581-6131, Fax: +86-10-6581-5119

**IDEC (SHENZHEN) CORPORATION**  
Unit AB-3B2, Tian Xiang Building, Tian'an Cyber Park,  
Fu Tian District, Shenzhen, Guang Dong 518040, PRC  
Tel: +86-755-8356-2977, Fax: +86-755-8356-2944

7-31, Nishi-Miyahara 1-Chome, Yodogawa-ku, Osaka 532-8550, Japan  
Tel: +81-6-6398-2571, Fax: +81-6-6392-9731  
E-mail: [products@idec.co.jp](mailto:products@idec.co.jp)

**IDEC IZUMI (H.K.) CO., LTD.**  
Units 11-15, Level 27, Tower 1,  
Millennium City 1, 388 Kwun Tong Road,  
Kwun Tong, Kowloon, Hong Kong  
Tel: +852-2803-8989, Fax: +852-2565-0171  
E-mail: [info@hk.idec.com](mailto:info@hk.idec.com)

**IDEC TAIWAN CORPORATION**  
8F-1, No. 79, Hsin Tai Wu Road, Sec. 1,  
Hsi-Chih, Taipei County, Taiwan  
Tel: +886-2-2698-3929, Fax: +886-2-2698-3931  
E-mail: [service@tw.idec.com](mailto:service@tw.idec.com)

**IDEC IZUMI ASIA PTE. LTD.**  
No. 31, Tannery Lane #05-01,  
HB Centre 2, Singapore 347788  
Tel: +65-6746-1155, Fax: +65-6844-5995  
E-mail: [info@sg.idec.com](mailto:info@sg.idec.com)

[www.idec.com](http://www.idec.com)

Cat. No. NC9Y-B100-0 PRINTED IN U.S.A. 5K 09/08