### **Circuit Protectors**

# NC<sub>1</sub>V



IDEC's original Spring-up Terminals and Cover.

Provide IP20 Finger-safe Protection.











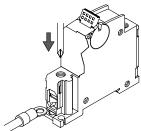




- Note: TÜV, CE, and CCC marks are applicable for series trip type only.
- See website for details on approvals and standards.

# Finger-safe, spring-up terminal reduces wiring time.

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



### 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.



### **Retractable Actuator**

The actuator is retracted while the circuit protector is turned on. Inadvertent operation, due to touching the actuator, can be prevented.

### Rated Short-circuit Capacity 2500A

### **Available with Inertial Delay**

Allows for use with large inrush currents such as motors

## 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).

### **Padlock Attachment**

Locks the retractable actuator in the off position to prevent NC1V from being switched on inadvertently.



# **NC1V** Circuit Protectors

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

**Specifications** 

Specifications							
Shape		1-pole	2-pole	3-pole			
Part No.		NC1V					
Operator Style		Retractable actuator					
Internal Circuit		Series trip (current trip), Relay trip (v	voltage trip)				
Protection Method		Hydraulic magnetic tripping system,		trip)			
No. of Poles		1-pole	2-pole	3-pole			
	*1)	250V AC 50/60Hz, 65V DC	250V AC 50/60Hz, 125V DC	250V AC, 50/60Hz			
	Rated Short-circuit Capacity	250V AC, 2500A 65V DC, 2500A	250V AC, 2500A 125V DC, 2500A	250V AC, 2500A			
Series Trip (Current Trip)	Rated Current	0.1A, 0.3A, 0.5A, 1A, 2A, 3A, 5A, 7A,	10A, 15A, 20A, 25A, 30A				
(Guiteiit iiip)	Trip Characteristics (*2)	Time delay curve M (slow), curve A (medium), S (instantaneous) Curves M and A are avilable with inertial delay.					
Delevi Trie (Veltere Trie)	Rated Current	30A					
Relay Trip (Voltage Trip) (*3)	Trip Voltage	24 to 48V DC (at 25°C) Voltage application duration 10 sec maximum, tripping time 0.1 sec maximum (at rated voltage)					
Auxiliary Contact/Alarm	Contact Rating	125V AC 3A (resistive load), 30V DC 2A (resistive load)					
Contact	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) 600V AC (between terminals when auxiliary circuits are open)					
Vibration Resistance (with rated current applie		Damage limits: 147 m/s² (10 to 55 Hz) (1-pole, 2-pole), 78 m/s² (3-pole) Operating extremes: 98 m/s² (1-pole, 2-pole), 78 m/s² (3-pole)					
	delay curve: 80% rated curve: 100% rated current)	Damage limits: 490 m/s <sup>2</sup> (1-pole, 2-pole), 297 m/s <sup>2</sup> (3-pole) Operating extremes: 196 m/s <sup>2</sup>					
Electrical Life		10,000 cyles minimum (at rated curent), 10 operations per minute					
Reference Temperature		40°C					
Operating Tempperature		<ul> <li>-10 to +60°C (no freezing)</li> <li>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.</li> </ul>					
Storage Temperature		-40 to +60°C (no freezing)					
Operating Humidity		45 to 85% RH (no condensation)					
Storage Humidity		45 to 85% RH (no condensation)					
	ain Circuit Terminal	Spring-up, fingersafe terminal: M4 s	crew (up to 20A), M5 screw (25A a	and 30A)			
	ıxiliary/Alarm Contacts, ıltage Coil Terminal	M3.5 screw					
Weight (approx.)		1-pole: 90g, 2-pole: 170g, 3-pole: 20	60g				

<sup>\*1) 3-</sup>pole type is for AC voltage only.

<sup>•</sup> 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

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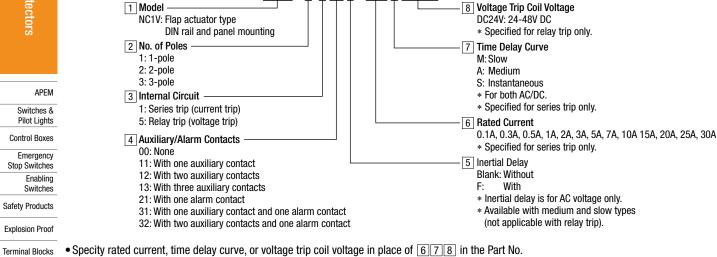
<sup>\*2)</sup> For S (instantaneous) tripping curve, humming sound may be caused when used in an AC sinusoidal-wave current circuit around 80% of the rated current, however, the performance of the circuit protector will not be affected. To avoid unnecessary tripping, do not use in circuits where inrush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

<sup>\*3)</sup> Relay trip (voltage trip) type is not equipped with an overcurrent trip function.

Part No. Development

Relays & Sockets

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NC1V - 2 1 00 F - 30A A DC24V

• Specity rated current, time delay curve, or voltage trip coil voltage in place of 678 in the Part No.

Internal	No. of	Inertial	ial Auxiliary Contact	Dort No.	Code			
Circuit	Poles	Delay	Alarm Contact	Part No.	6 Rated Current	7 Time Delay Curve	8 Voltage Trip Coil Voltage	
			_	NC1V-1100-67				
		_	One Auxiliary Contact	NC1V-1111-67				
	1-pole		One Alarm Contact	NC1V-1121-67				
	Т-роге		_	NC1V-1100F-67				
		With	One Auxiliary Contact	NC1V-1111F-67				
			One Alarm Contact	NC1V-1121F-67				
			_	NC1V-2100-67				
			One Auxiliary Contact	NC1V-2111-67				
		_	Two Auxiliary Contacts	NC1V-2112-67				
			One Alarm Contact	NC1V-2121-67				
	2-pole		One Auxiliary Contact and One Alarm Contact	NC1V-2131-67				
	2 polo		_	NC1V-2100F-6 7	0.1A		_	
			One Auxiliary Contact	NC1V-2111F-67	0.3A	M (slow) A (medium) S (instantaneous)		
		With	Two Auxiliary Contacts	NC1V-2112F-67	0.5A 1A			
			One Alarm Contact	NC1V-2121F-67	2A			
Series Trip (Current Trip)			One Auxiliary Contact and One Alarm Contact	NC1V-2131F-67	3A 5A 7A 10A 15A			
` ' '		_	_	NC1V-3100-67				
			One Auxiliary Contact	NC1V-3111-67				
			-	Two Auxiliary Contacts	NC1V-3112-67	20A 25A 30A		
				Three Auxiliary Contacts	NC1V-3113-67			
			One Alarm Contact	NC1V-3121-67				
			One Auxiliary Contact and One Alarm Contact	NC1V-3131-6 7				
	3-pole		Two Auxiliary Contacts and One Alarm Contact	NC1V-3132-67				
	0 00.0		_	NC1V-3100F-6 7				
			One Auxiliary Contact	NC1V-3111F-67				
			Two Auxiliary Contacts	NC1V-3112F-6 7				
		With	Three Auxiliary Contacts	NC1V-3113F-67				
			One Alarm Contact	ontact NC1V-3121F-6 7				
			One Auxiliary Contact and One Alarm Contact	NC1V-3131F-67				
			Two Auxiliary Contacts and One Alarm Contact	NC1V-3132F-6 7				
D. I. T.	1-pole			NC1V-1500-8				
Relay Trip (Voltage Trip)	2-pole	_	_	NC1V-2500-8	_	_	24V DC	
(1090 11.10)	3-pole			NC1V-3500-8				

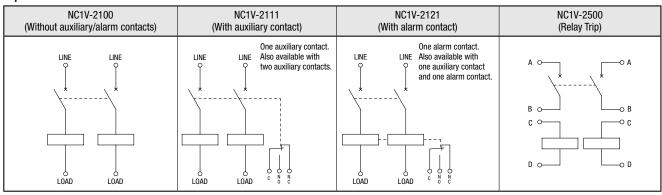
Note: Inertial delay is for AC circuit. Also, time delay curve of S (instantaneous) is not available with inertial delay.

### **Internal Circuit**

### 1-pole

NC1V-1100	NC1V-1111	NC1V-1121	NC1V-1500
(Without auxiliary/alarm contacts)	(With auxiliary contact)	(With alarm contact)	(Relay Trip)
LINE	LINE One auxiliary contact.	LINE One alarm contact.	A B C C C D

### 2-pole



### 3-pole

NC1V-3100 (Without auxiliary/alarm contacts)	NC1V-3111 (With auxiliary contact)	NC1V-3121 (With alarm contact)	NC1V-3500 (Relay Trip)
	One auxiliary contact. Also available with two or three auxiliary contacts.	One alarm contact. Also available with one auxiliary and one alarm contacts, and two auxiliary and one alarm contacts.	
LINE LINE LINE  LOAD LOAD LOAD	LINE LINE LINE  A  A  LOAD LOAD LOAD C N N N  C N N  C N N	LINE LINE OF THE L	A O O A O A O A O B O B O B O C O C O C O C O C O C O C

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

Itom	Time Delay Curve	Percent of Rated Current									
Item	Tillie Delay Guive	100%	125%	150%	175%	200%	400%	600%	800%	1000%	
	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	
AC (50/60 Hz)/DC	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 Inertial 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 Inertial 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	

<sup>\*:</sup> May trip on DC.

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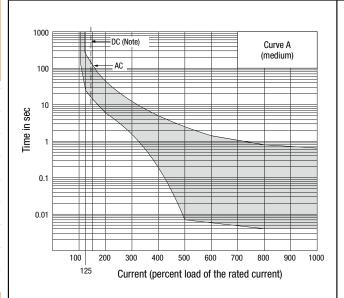
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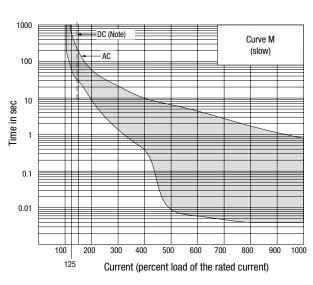
Controllers Operator Interfaces

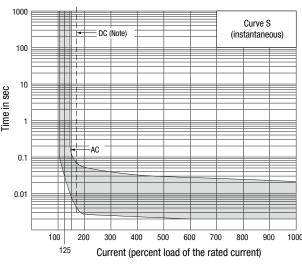
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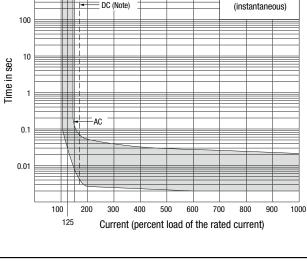
### Time Delay Curves at 40°C

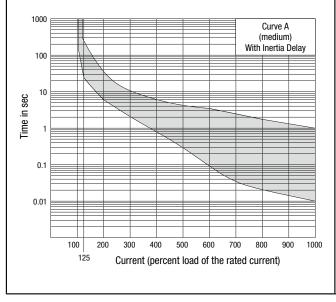


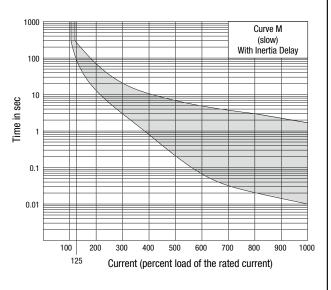




Note: The entire shaded area applies to AC. For DC, the shaded area on the right of the dashed line applies.





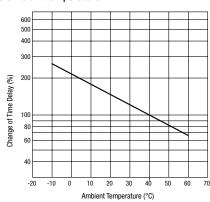


### **Time Delay Curve and Ambient Temperature**

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.



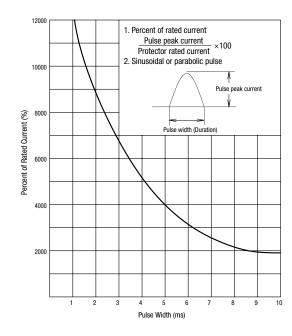
The time delay is based on an ambient temperature of 40°C. Time delays at other temperatures are corrected according to the temperature correction curve. The time delay of the instantaneous time delay curve (S) is not affected by the ambient temperature.

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			

### **Inertial Delay**

Inertial 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 inertial delay do not respond to high inrush currents caused by transformer or lamp loads, but perform the specified interruption on the subsequent overcurrents. Inertial delay is available on AC circuits, and is not available with the series trip curve S (instantaneous).



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# Impedance and Coil Resistance

Series Trip (Current Trip) (initial value)

at 25°C

Rated Current		50/60 Hz ance (Ω)	For DC Resistance (Ω)		
Current	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)

### 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.

# Main Contact - Auxiliary/Alarm Contact

[Auxiliary Contact]

Main Contact	NO ontact	NC Contact		
ON	closed	open		
Tripped	open	closed		
0FF	open	closed		

### [Alarm Contact]

Main Contact	NO ontact	NC Contact		
ON	open	closed		
Tripped	closed	open		
0FF	open	closed		

### Relay Trip (Voltage Trip)

at 25°C

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

Tolerance: ±25%

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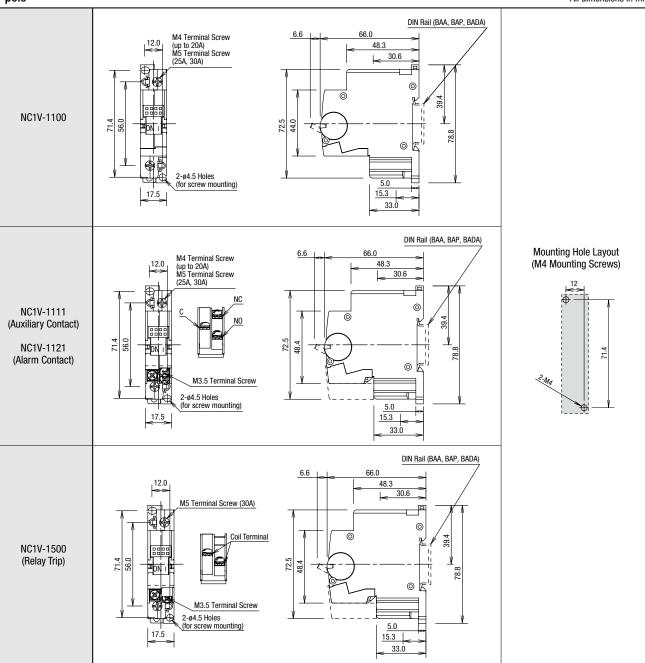
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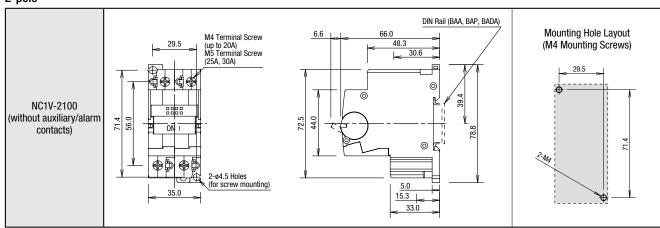
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### **Dimensions**

1-pole All dimensions in mm.



### 2-pole



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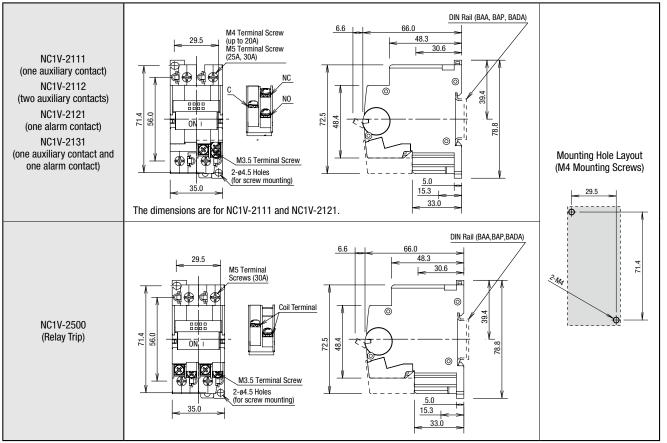
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### 2-pole



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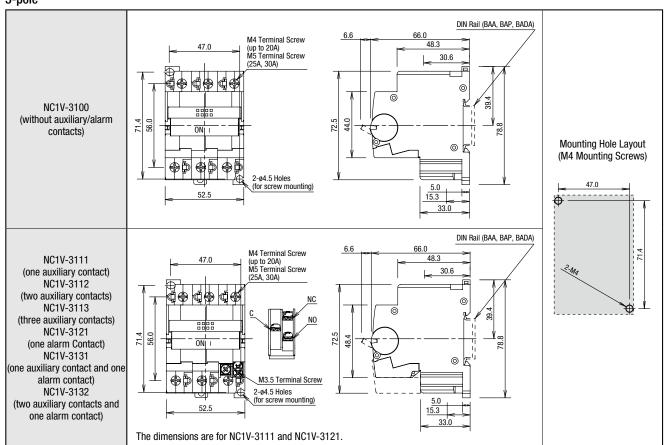
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### 3-pole



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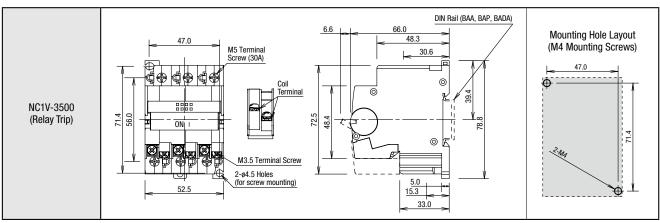
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Enabling Switches **3-pole** All dimensions in mm.



# Accessories

All dimensions in mm.

Shape		Material	Part No.	Ordering No.	Package Quantity	Remarks
Panel Mounting Bracket (Note) 1-pole 2-pole 3-pole	1-pole		NC9Z-MA11	NC9Z-MA11		Used for mounting NC1V circuit protectors in a panel cut-out.
Wiring clip	2-pole	Bracket: Steel Wiring clip: brass (terminal), steel (screw, washer)	NC9Z-MA21	NC9Z-MA21	1	Supplied with two wiring clips for each pole, used for wiring from the rear.
Bracket Wiring clip	3-pole	otoor (ouron, washin)	NC9Z-MA31	NC9Z-MA31		For 1-pole: 2 wiring clips For 2-pole: 4 wiring clips For 3-pole: 6 wiring clips
Marking Plate  Installation Example  Label attached to the marking plate  Marking Plate  Marking Plate		РВТ	NC9Z-PW1	NC9Z-PW1PN10	10	Available for 2-pole circuit only. For use on 1-pole circuit protectors, break the marking plate into two halves.     Label is supplied by the user.
Padlock Attachment		Polyamide body with stainless steel pin	NC9Z-LK1	NC9Z-LK1	1	Locks the retractable actuator in the off position to prevent NC1V from being switched on inadvertently.     Can beused on 1-, 2-, and 3-pole.
DIN Rail (35mm-wide)		Aluminum	BAA1000	BAA1000PN10		Weight: approx. 200g     See H-071 for details on DIN rail products.
	Length: 1000mm	Steel	BAP1000	BAP1000PN10	10	Weight: approx. 320g     See H-071 for details on DIN rail products.
BAA BAP BADA		Aluminum	BADA1000	BADA1000PN10		Weight: approx. 280g     See H-071 for details on DIN rail products.
End Clip		Steel (trivalent chromate)	BNL6	BNL6PN10	10	Applicable rail: BAA, BAP, BADA Weight: approx. 15g     See H-071 for details on DIN rail products.

Note: Cannot be used with NC1V with auxiliary or alarm contact.

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NC1

All dimensions in mm.

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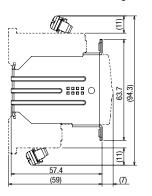
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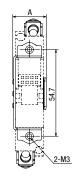
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### **Accessories**

### **Dimensions**

### NC9Z-MA Panel Mounting Bracket

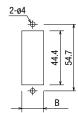




### Dimensions A and B

Dimension	Α	В	
1-pole	21.2	17.8	
2-pole	38.7	35.3	
3-pole	56.2	52.8	

### **Mounting Hole Layout**



### Panel Mounting Screw Length (Dimension C in mm)

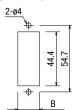
Applicable Panel Thickness: 0.8 to 3.2 mm

The outside diameter of the M3 screw (including washer) must be 7 mm maximum.

Panel thickness (mm)		0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.3	2.6	3.2
Without washer	J	5	5	6	6	6	6	6	8	8	8
With plain washer (0.5 thick)	2 🗂	6	6	6	6	6	6	8	8	8	8
With spring washer (0.7 thick)		6	6	6	6	6	8	8	8	8	8
With plain washer (0.5 thick) and spring washer (0.7 thick)	J	6	6	6	8	8	8	8	8	8	8
Countersunk head screw		_	_	_	_	_	_	6	6	8	8

Tightening torque: 0.5 to 0.8 N·m

The screw length behind the panel must be 9 mm maximum.



When using wiring clips on 2- or 3-pole circuit protectors, install UL/CSA-rated insulation sleeves on the crimping terminals to ensure the air gap required by UL1077. Applicable Insulation Sleeves (Example)

- Nissei Eco (V-38)
- Tokyo Dip (TP-038)
- Nichifu (TIC38)

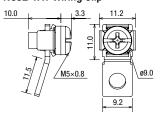
### **Applicable Crimping Terminal**



### Materials

- Panel Mounting Bracket: Steel
- Wiring Clip: Brass (terminal strip) Steel (screw, washer)

### NC9Z-TA1 Wiring Clip

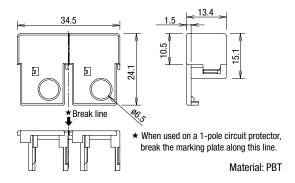


### **Insulation Sleeve**



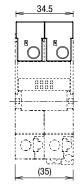
Tightening torque: 1.8 to 2.2 N·m

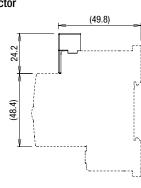
### NC9Z-PW1 Marking Plate



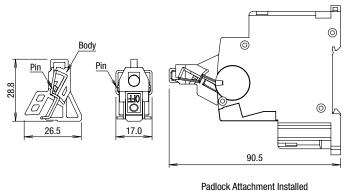
# Marking Plate Installed on the Circuit Protector

When installed on a 2-pole circuit protector

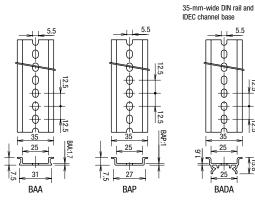




### NC98-LK1 Padlock Attachment







### **Replacement Parts**

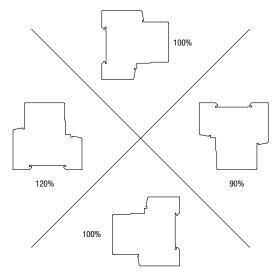
All dimensions in mm.

Shape	Material	Part No.	Ordering No.	Package Quantity	Remarks
Terminal Cover					
	PA66	NC1V-AUX-CV	NC1V-AUX-CV	1	
Wiring Clip	Terminal: Brass Screw/washer: Steel	NC9Z-TA1	NC9Z-TA1PN10	10	

### 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.



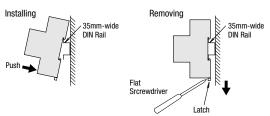
Minimum operating current is calculated from the following formula: (Minimum operating current) = (Rated current)  $\times$  (Correction factor by installation angle)  $\times$  (Reference minimum tripping current rate)

### **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]



# **Applicable Wire and Crimp Terminal**

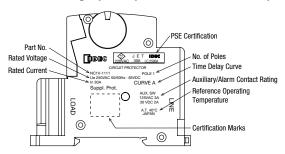
Terminal	Terminal Screw	Connectable Wire Size (mm²)	Applicable Crimping Terminal	Tightening Torque (N·m)	
als	Spring-up, fingersafe,	0.25 to 1.65	R1.25-4		
E E	slotted Phillips screw with square washer	1.04 to 2.63	R2-4	1 to 1.4	
Main Circuit Terminals	(up to 20A)	2.63 to 6.64	R5.5-4		
ircui	Spring-up fingersafe terminal (25A and 30A)	0.25 to 1.65	R1.25-5		
gin C		1.04 to 2.63	R2-5	1.8 to 2.2	
∑ Z		2.63 to 6.64	R5.5-5		
Auxiliary Contact Alarm Contact Voltage Coil Terminals	Slotted Phillips screw	0.25 to 1.65	R1.25-3.5	0.7 to 0.9	
Auxiliary Alarm ( Voltage Coi	with square washer	1.04 to 2.63	R2-3.5	0.7 10 0.9	

- For wiring the main circuit terminal, use the applicable crimp terminals and tighten to the recommended tightening 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)

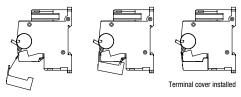
Screw Size	Tightening Torque	Shape
M4	0.8 to 1.0 N·m	Spring Washer Plain Washer

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



# Installation of Auxiliary/Alarm Terminal Cover

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



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Sensors

AUTO-ID

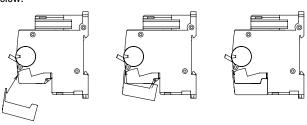
### Instructions

### Installing Auxiliary/Alarm Terminal Cover

Connect the terminal before installing the terminal cover.

### Installing

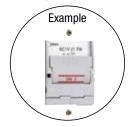
Attach the latch on TOP side and install the terminal cover as shown below.



# **Installing NC9Z-MA Panel Mounting Brackets**

- 1. Insert the wiring clip into the terminal of the circuit protector, and
- Tightening torque to the main circuit terminal
- 20A max. (M4): 1 to 1.4 N·m
- 25A, 30A (M5): 1.8 to 2.2 N·m
- 2. Insert the panel mounting bracket to the circuit protector.
- 3. Install the rear of the panel mounting bracket into the DIN rail recess on the circuit protector and push in the clamp.



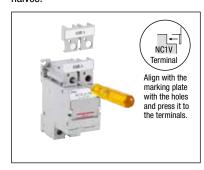


Note: NC1V circuit protectors with auxiliary/alarm contacts cannot be used with mounting brackets.

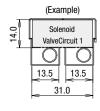
# Installing the NC98-PW1 Marking Plate

Available for 2-pole circuit protectors only.

For use on 1-pole circuit protectors, break the marking plate into two halves.



### **Marking Range**

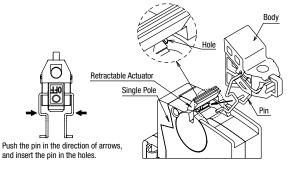


# Installing the NC98-LK1 Padlock Attachment

① Pull down the retractable actuator, and install the padlock attachment on the circuit protector.

Insert the pin into the holes under the retractable 1-pole: actuator.

2- or 3-pole: Insert the pin into the holes in the center of the circuit protector.



2 Turn the body.

③ Install the body on the retractable actuator as shown helow

4 Slide the pin to the lock position.

Safety Products





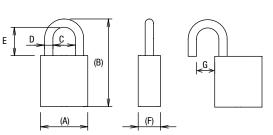


**Padlock** 

- The padlock is not supplied with the padlock attachment and must be supplied by the user.
- The total weight of the padlock can be a maximum of 45g. Make sure the padlock weight does not exceed 45g, otherwise the NC1V circuit protector may be damaged.
- Applicable Padlock Size

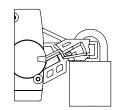
ĺ	(A)	(B)	С	D	E	(F)	G
	19 to 25	35 to 42	9 to 11.5	4 to 4.5	11 to 15	8 to 10	7.5 to 9.0

Note: (A) (B) (F) are for reference only.



### Recommended Padlock

Manufacturer	Part No.
Alpha	1000-25
Master Lock	4120



### **Safety Precautions**

- When using the padlock, do not use the NC1V circuit protector where it is subject to vibration or shock, otherwise failure or damage may result.
- Do not apply a force of more than 50N on the retractable actuator, otherwise the actuator will be damaged.
- · When using three or more 1-pole NC1V circuit protectors adjacently, facilitate installing the padlock attachment by providing a clearance of 6mm minimum between the protectors, or by using the tweezers or flat screwdriver.

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### **IDEC:**

NC1V-3112-3AS NC1V-3132-7AS NC1V-1111-0.1AM NC1V-2111F-5AA NC1V-2131-10AA NC1V-2121F-20AA NC1V-3131-7AA NC1V-3100-25AS NC1V-3131-5AS NC1V-2100F-30AA NC1V-2112-0.5AS NC1V-2131F-7AM NC1V-2131F-15AA NC1V-3113F-15AM NC1V-3100F-5AM NC1V-2131F-1AA NC1V-3132-2AS NC1V-1111-1AM NC1V-3112F-0.1AA NC1V-3121-20AA NC1V-3131F-25AA NC1V-3113F-2AA NC1V-1121-20AS NC1V-1121-15AS NC1V-3113-0.1AA NC1V-2131F-20AM NC1V-3112-5AM NC1V-3100F-7AM NC1V-1111F-20AA NC1V-3111F-0.3AA NC1V-2121F-3AM NC1V-3111-20AA NC1V-3132F-20AA NC1V-3121-1AM NC1V-3121F-3AA NC1V-3131-7AM NC1V-3111F-15AA NC1V-3113-0.3AA NC1V-3121-0.5AM NC1V-3131-10AM NC1V-3111F-3AA NC1V-3132-10AS NC1V-3131-2AA NC1V-2112-10AM NC1V-3111-0.5AM NC1V-3100-3AS NC1V-3112F-20AA NC1V-3112-2AA NC1V-3111F-0.5AM NC1V-1111-5AM NC1V-3100-2AS NC1V-3132-3AM NC1V-3113F-0.1AM NC1V-2100-10AM NC1V-2121F-10AA NC1V-3112-7AA NC1V-2131F-10AM NC1V-3121F-1AA NC1V-3111-5AS NC1V-3121-10AA NC1V-2131-0.3AM NC1V-3100-1AA NC1V-3111-3AM NC1V-3112F-0.3AM NC1V-3111-2AA NC1V-2121F-20AM NC1V-3121-0.3AS NC1V-3132-25AM NC1V-1100F-0.1AM NC1V-3132F-10AA NC1V-3112F-25AA NC1V-3132-30AM NC1V-2100-0.5AM NC1V-2131-0.5AA NC1V-1111F-0.3AM NC1V-3121-0.5AA NC1V-2112-0.5AM NC1V-1100F-3AA NC1V-3100-7AM NC1V-2121F-15AM NC1V-3131-5AA NC1V-3113F-7AA NC1V-3111F-2AM NC1V-2100-0.5AA NC1V-3113-5AM NC1V-3113F-20AA NC1V-2131-2AS NC1V-3111-7AS NC1V-3132F-15AM NC1V-3112-7AM NC1V-3113-30AS NC1V-3132-0.1AA NC1V-2100-7AS NC1V-2100-20AS NC1V-3121F-5AA NC1V-3100F-2AA NC1V-1121-10AS NC1V-3131-0.5AS NC1V-3113-1AA NC1V-3111-1AS