Wide Range of Applications from Office Automation and Consumer Use to Factory Automation.

- Compact, lightweight, and high-performance circuit protectors.
- Rocker type snaps into a panel.
- Rated voltage: 250V AC and 65V DC
- 35mm-wide DIN rail mounting (NH1V)
- Available with dual-coil type
- Available with auxiliary contact or alarm contacts.
- Available with inertia delay
- Hydraulic-magnetic tripping system
- Safe trip-free mechanism
- Available in tab terminal type and screw-terminal type.

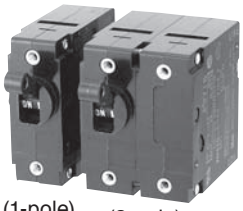
This product is recognized by Underwriters Laboratories under UL1077 as a "Supplementary Protector."

Applicable Standards	Certification Mark	Certification Organization / File No.
UL1077 CSA C22.2 No. 235 (Note 1)	c UL us	UL/c-UL File No. E68029
EN60934 (VDE0642) (Note 2)	VDE	No. 107852
GB17701	CCC	CCC No. 2005010307152360
Electrical Appliance and Material Safety Law Technical Standard	PS E	JET

For details, see the list of standard certified products in the back of this catalog.
Note 1: Series trip, relay trip, dual coil (for AC)
Note 2: Series trip

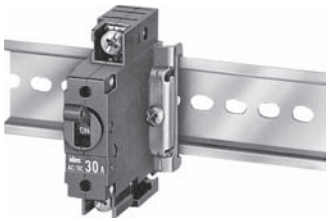
• Rocker Type
NH1Y

• Rocker Type
NH1L
(w/indicator)



(1-pole) (2-pole)

• Lever Type
NH1S

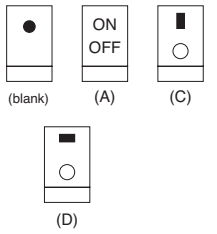


• Lever Type
NH1V
(Direct DIN rail mounting type)

Specifications

Type	NH1S	NH1Y	NH1L	NH1V	Dual-coil Type NH1S
Operator Style	Lever	Rocker	Rocker (w/indicator)	Lever	Lever
Protection Method	Hydraulic-magnetic tripping system				Hydraulic-magnetic tripping system
Internal Circuit	Series trip (Current trip) Relay trip (Voltage trip)	Series trip with auxiliary contacts		Series trip with alarm contacts (NH1S and NH1V only)	Series trip (Current trip) + Relay trip (Voltage trip)
No. of Poles	1, 2, 3 poles	1, 2 poles	1, 2 poles	1, 2, 3 poles	1, 2 poles
Rated Voltage	250V AC 50/60Hz, 65V DC				250V AC 50/60Hz, 65V DC
Minimum Applicable Load	24V AC/DC, 100mA (reference value)				
Rated Current	Current trip: 0.5A, 0.75A, 1A, 2A, 3A, 5A, 7.5A, 10A, 15A, 20A, 25A, 30A				Current trip: 2A, 3A, 5A, 7.5A, 10A, 15A
Trip Voltage	100V AC 50/60Hz, 24V DC (operating at 90% of the rated voltage or higher, at 25ºC) Voltage application duration: 1 sec maximum Trip time: 0.05 sec maximum (at the rated voltage)				External trip coil voltage: 24V DC, 100V AC (operating at 90% of the rated voltage or higher, at 25ºC) Voltage application duration: 1 sec max. Trip time: 0.05 sec max. (at the rated voltage)
Rated Interrupting Capacity	250V AC 50/60Hz 1000A, 65V DC 1000A (UL/C-UL ratings) 220V AC 50/60Hz 1000A (VDE)				
Auxiliary Contact Alarm Contact	SPDT microswitch 250V AC, 3A (resistive load)				–
Reference Temperature	+25ºC				
Operating Temperature	−40 to +85ºC (no freezing)				
Operating Humidity	45 to 85% RH (no condensation)				
Insulation Resistance	100 MΩ minimum (500V DC megger)				
Dielectric Strength	Between operator and live part, between terminals when main contacts are open, between live parts of different poles, and between main terminal and auxiliary contact terminal: 3750V AC, 1 min (NH1V: 1500V AC, 1 min) Between terminals when auxiliary contacts are open: 600V AC, 1 min				Between operator and live part, between terminals when main contacts are open, between live parts of different poles, between voltage trip terminal and main terminal: 1500V AC, 1 min.
Vibration Resistance	100 m/s^2 (10 to 100Hz) with the rated current applied				
Shock Resistance	Damage limits: 1000 m/s^2, Operating extremes: 500 m/s^2 with the rated current applied. (Auxiliary/alarm contact: 300 m/s^2)				
Life	10,000 cycles min. (Electrically 6,000 cycles: 6 operations per minute at the rated current, mechanically 4,000 cycles: 6 operations per minute)				
Terminal Style	Main terminal: Tab terminal #250, M4 screw terminal Auxiliary terminal: Tab terminal #110			Main terminal: M4 screw terminal (20A max.) M5 screw terminal (25, 30A) Auxiliary terminal: M3.5 screw terminal	Main terminal: Tab terminal #250 Auxiliary terminal: Tab terminal #187
Mounting Style	Screw mounting	Snap mounting		Screw mounting, DIN rail mounting	Screw mounting
Weight (Approx.)	1-pole type: 45g 2-pole type: 90g 3-pole type: 135g	1-pole type: 50g 2-pole type: 100g		1-pole type: 65g 2-pole type: 130g 3-pole type: 195g	1-pole type: 45g 2-pole type: 90g

• Rocker Color, Rocker Indication (NH1Y/NH1L)

Rocker Color (Code)	Black (blank) Red (R), Green (G), White (W)
Rocker Indication (Code)	

• Operating Voltage of Indicator (NH1L)

Indicator	Rated Voltage		Code
Neon (Red)	125V AC, 50/60Hz (operating voltage: 100 to 125V AC)		1
LED (Red) [Note]	For AC/DC (operating voltage: within +10% of the rated voltage)	6V	3
		12V	4
		24V	5
		48V	6

Note: Both types of indicators contain a current-limiting resistor.

• Lever Color (NH1S, NH1V): Black

• Operation of Auxiliary Contacts

Since auxiliary contact operations are interlocked with ON/OFF positions of main terminal, operating status of the circuit protector can be monitored using a lamp. Auxiliary contacts also serve as a control of auxiliary circuits.

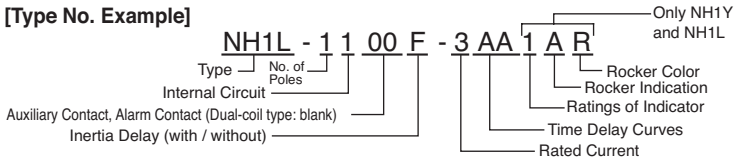
Operator Position	NO Contact	NC Contact
ON	Closed	Open
Tripped	Open	Closed
OFF	Open	Closed

• Operation of Alarm Contacts

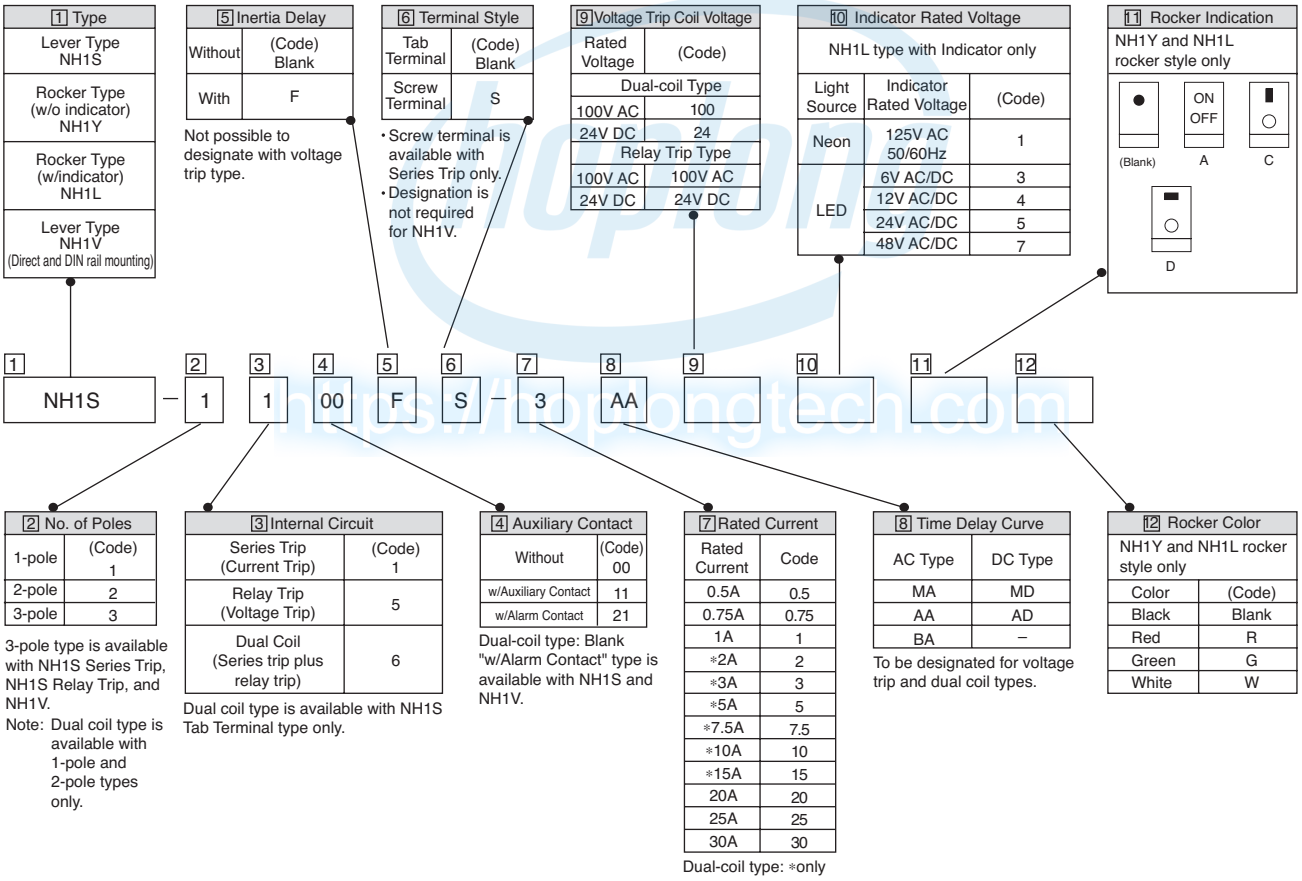
Alarm contacts are not interlocked with main contacts and operate only when an overcurrent occurs.

Operator Position	NO Contact	NC Contact
ON	Open	Closed
Tripped	Closed	Open
OFF	Open	Closed

[Type No. Example]



Type No. Development



NH1S (Lever Type) Type No.

• Specify a rated current, time delay curve, and rated voltage in place of 7 8 9.

Package Quantity: 1

Internal Circuit	No. of Poles	Terminal Style	Inertia Delay	Auxiliary Contact Alarm Contact	Type No. (Ordering Type No.)	Designation Code		
						7 Rated Current	8 Time Delay Curve	9 Rated Voltage
Series Trip Current Trip	1	Tab Terminal	Without	Without	NH1S-1100- 7 8	0.5A 0.75A 1A 2A 3A 5A 7.5A 10A 15A 20A 25A 30A	AA BA MA AD MD	–
				w/Auxiliary Contact	NH1S-1111- 7 8			
				w/Alarm Contact	NH1S-1121- 7 8			
			With	Without	NH1S-1100F- 7 8			
				w/Auxiliary Contact	NH1S-1111F- 7 8			
				w/Alarm Contact	NH1S-1121F- 7 8			
		Screw Terminal	Without	Without	NH1S-1100S- 7 8			
				w/Auxiliary Contact	NH1S-1111S- 7 8			
				w/Alarm Contact	NH1S-1121S- 7 8			
			With	Without	NH1S-1100FS- 7 8			
				w/Auxiliary Contact	NH1S-1111FS- 7 8			
				w/Alarm Contact	NH1S-1121FS- 7 8			
Series Trip Current Trip	2	Tab Terminal	Without	Without	NH1S-2100- 7 8			
				w/Auxiliary Contact	NH1S-2111- 7 8			
				w/Alarm Contact	NH1S-2121- 7 8			
			With	Without	NH1S-2100F- 7 8			
				w/Auxiliary Contact	NH1S-2111F- 7 8			
				w/Alarm Contact	NH1S-2121F- 7 8			
		Screw Terminal	Without	Without	NH1S-2100S- 7 8			
				w/Auxiliary Contact	NH1S-2111S- 7 8			
				w/Alarm Contact	NH1S-2121S- 7 8			
			With	Without	NH1S-2100FS- 7 8			
				w/Auxiliary Contact	NH1S-2111FS- 7 8			
				w/Alarm Contact	NH1S-2121FS- 7 8			
Series Trip Current Trip	3	Tab Terminal	Without	Without	NH1S-3100- 7 8			
				w/Auxiliary Contact	NH1S-3111- 7 8			
				w/Alarm Contact	NH1S-3121- 7 8			
			With	Without	NH1S-3100F- 7 8			
				w/Auxiliary Contact	NH1S-3111F- 7 8			
				w/Alarm Contact	NH1S-3121F- 7 8			
		Screw Terminal	Without	Without	NH1S-3100S- 7 8			
				w/Auxiliary Contact	NH1S-3111S- 7 8			
				w/Alarm Contact	NH1S-3121S- 7 8			
			With	Without	NH1S-3100FS- 7 8			
				w/Auxiliary Contact	NH1S-3111FS- 7 8			
				w/Alarm Contact	NH1S-3121FS- 7 8			
Relay Trip Voltage Trip	1	Tab Terminal	Without	Without	NH1S-1500- 9	–	–	100V AC 24V DC
	2			Without	NH1S-2500- 9			
	3			Without	NH1S-3500- 9			
Dual-coil Type	1	Tab Terminal	Without	Without	NH1S-16- 7 8 9	2A 3A 5A 7.5A 10A 15A	AA BA MA AD MD	100V AC 24V DC
			With		NH1S-16F- 7 8 9			
	2	Tab Terminal	Without	Without	NH1S-26- 7 8 9			
			With		NH1S-26F- 7 8 9			

NH1Y (Rocker Type) Type No.

• Specify a rated current, time delay curve, rated voltage, rocker indication, and rocker color in place of 7 8 9 11 12.

Package Quantity: 1

Internal Circuit	No. of Poles	Terminal Style	Inertia Delay	Auxiliary Contact Alarm Contact	Type No. (Ordering Type No.)	Designation Code				
						7 Rated Current	8 Time Delay Curve	9 Rated Voltage	11 Rocker Indication	12 Rocker Color
Series Trip Current Trip	1	Tab Terminal	Without	Without	NH1Y-1100- 7 8 11 12	0.5A 0.75A 1A 2A 3A 5A 7.5A 10A 15A 20A 25A 30A	AA BA MA AD MD	–	Blank, A, C, D	Blank, R, G, W
				w/Auxiliary Contact	NH1Y-1111- 7 8 11 12					
				w/Alarm Contact	–					
			With	Without	NH1Y-1100F- 7 8 11 12					
				w/Auxiliary Contact	NH1Y-1111F- 7 8 11 12					
				w/Alarm Contact	–					
		Screw Terminal	Without	Without	NH1Y-1100S- 7 8 11 12					
				w/Auxiliary Contact	NH1Y-1111S- 7 8 11 12					
				w/Alarm Contact	–					
			With	Without	NH1Y-1100FS- 7 8 11 12					
				w/Auxiliary Contact	NH1Y-1111FS- 7 8 11 12					
				w/Alarm Contact	–					
Series Trip Current Trip	2	Tab Terminal	Without	Without	NH1Y-2100- 7 8 11 12					
				w/Auxiliary Contact	NH1Y-2111- 7 8 11 12					
				w/Alarm Contact	–					
			With	Without	NH1Y-2100F- 7 8 11 12					
				w/Auxiliary Contact	NH1Y-2111F- 7 8 11 12					
				w/Alarm Contact	–					
		Screw Terminal	Without	Without	NH1Y-2100S- 7 8 11 12					
				w/Auxiliary Contact	NH1Y-2111S- 7 8 11 12					
				w/Alarm Contact	–					
			With	Without	NH1Y-2100FS- 7 8 11 12					
				w/Auxiliary Contact	NH1Y-2111FS- 7 8 11 12					
				w/Alarm Contact	–					
Relay Trip Voltage Trip	1	Tab Terminal	Without	Without	NH1Y-1500- 9 11 12	–	–	100V AC 24V DC	Blank, A, C, D	Blank, R, G, W
	2			Without	NH1Y-2500- 9 11 12					
	–			–	–					

NH1L (Rocker Type) Type No.

• Specify a rated current, time delay curve, rated voltage, indicator, rocker indicator, and rocker color in place of 7 8 9 10 11 12.

Package Quantity: 1

Internal Circuit	No. of Poles	Terminal Style	Inertia Delay	Auxiliary Contact Alarm Contact	Type No. (Ordering Type No.)	Designation Code					
						7 Rated Current	8 Time Delay Curve	9 Rated Voltage	10 Indicator	11 Rocker Indication	12 Rocker Color
Series Trip Current Trip	1	Tab Terminal	Without	Without	NH1L-1100- 7 8 10 11 12	0.5A 0.75A 1A 2A 3A 5A 7.5A 10A 15A 20A 25A 30A	AA BA MA AD MD	–	1: Neon 125V AC 50/60Hz 3: LED 6V AC/DC 4: LED 12V AC/DC 5: LED 24V AC/DC 7: LED 48V AC/DC	Blank, A, C, D	Blank, R, G, W
				w/Auxiliary Contact	NH1L-1111- 7 8 10 11 12						
				w/Alarm Contact	–						
			With	Without	NH1L-1100F- 7 8 10 11 12						
				w/Auxiliary Contact	NH1L-1111F- 7 8 10 11 12						
				w/Alarm Contact	–						
		Screw Terminal	Without	Without	NH1L-1100S- 7 8 10 11 12						
				w/Auxiliary Contact	NH1L-1111S- 7 8 10 11 12						
				w/Alarm Contact	–						
			With	Without	NH1L-1100FS- 7 8 10 11 12						
				w/Auxiliary Contact	NH1L-1111FS- 7 8 10 11 12						
				w/Alarm Contact	–						
Series Trip Current Trip	2	Tab Terminal	Without	Without	NH1L-2100- 7 8 10 11 12						
				w/Auxiliary Contact	NH1L-2111- 7 8 10 11 12						
				w/Alarm Contact	–						
			With	Without	NH1L-2100F- 7 8 10 11 12						
				w/Auxiliary Contact	NH1L-2111F- 7 8 10 11 12						
				w/Alarm Contact	–						
		Screw Terminal	Without	Without	NH1L-2100S- 7 8 10 11 12						
				w/Auxiliary Contact	NH1L-2111S- 7 8 10 11 12						
				w/Alarm Contact	–						
			With	Without	NH1L-2100FS- 7 8 10 11 12						
				w/Auxiliary Contact	NH1L-2111FS- 7 8 10 11 12						
				w/Alarm Contact	–						
Relay Trip Voltage Trip	1	Tab Terminal	Without	Without	NH1L-1500- 9 10 11 12	–	–	100V AC 24V DC	1: Neon 125V AC 50/60Hz 3: LED 6V AC/DC 4: LED 12V AC/DC 5: LED 24V AC/DC 7: LED 48V AC/DC	Blank, A, C, D	Blank, R, G, W
	2			Without	NH1L-2500- 9 10 11 12						
	–			–	–						

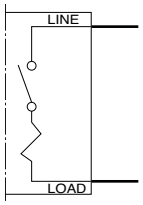
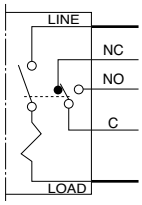
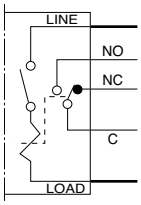
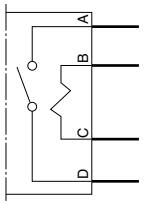
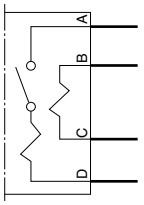
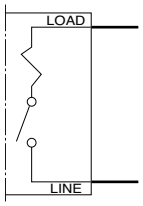
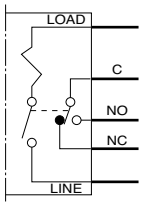
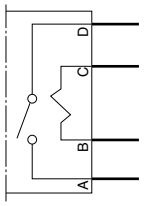
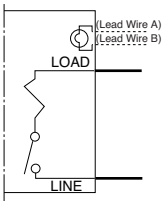
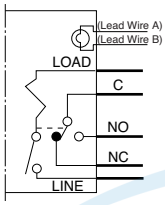
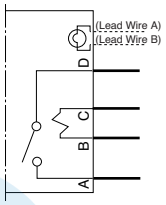
NH1V (Lever Type) Type No.

• Specify a rated current, time delay curve, and rated voltage in place of 7 8 9.

Package Quantity: 1

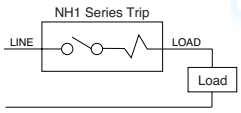
Internal Circuit	No. of Poles	Inertia Delay	Auxiliary Contact Alarm Contact	Type No. (Ordering Type No.)	Code for Ordering		
					7 Rated Current	8 Time Delay Curve	9 Rated Voltage
Series Trip Current Trip	1	Without	Without	NH1V-1100- 7 8	0.5A 0.75A 1A 2A 3A 5A 7.5A 10A 15A 20A 25A 30A	AA BA MA AD MD	–
			w/Auxiliary Contact	NH1V-1111- 7 8			
			w/Alarm Contact	NH1V-1121- 7 8			
		With	Without	NH1V-1100F- 7 8			
			w/Auxiliary Contact	NH1V-1111F- 7 8			
			w/Alarm Contact	NH1V-1121F- 7 8			
	2	Without	Without	NH1V-2100- 7 8			
			w/Auxiliary Contact	NH1V-2111- 7 8			
			w/Alarm Contact	NH1V-2121- 7 8			
		With	Without	NH1V-2100F- 7 8			
			w/Auxiliary Contact	NH1V-2111F- 7 8			
			w/Alarm Contact	NH1V-2121F- 7 8			
	3	Without	Without	NH1V-3100- 7 8			
			w/Auxiliary Contact	NH1V-3111- 7 8			
			w/Alarm Contact	NH1V-3121- 7 8			
		With	Without	NH1V-3100F- 7 8			
			w/Auxiliary Contact	NH1V-3111F- 7 8			
			w/Alarm Contact	NH1V-3121F- 7 8			
Relay Trip Voltage Trip	1	Without	Without	NH1V-1500- 9	–	–	100V AC 24V DC
	2		Without	NH1V-2500- 9			
	3		Without	NH1V-3500- 9			

Internal Circuits and Terminal Arrangements

Type	Series Trip (Current Trip)	Series Trip (w/auxiliary contact)	Series Trip (w/alarm contact)	Relay Trip (Voltage Trip)	Dual Coil Type Series Trip + Relay Trip (Voltage Trip)
NH1S					
NH1Y			–		–
NH1L w/indicator			–		–
Appearance (Rear View)	 (Photo: NH1S)				

Note: The 2-pole type with auxiliary or alarm contact has the contacts on the left side as viewed from the front.
The 3-pole type with auxiliary and alarm contacts has the contacts on the center.
See the dimensional drawings for the terminal arrangement.

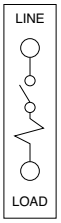
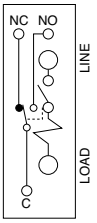
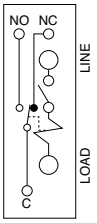
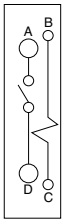
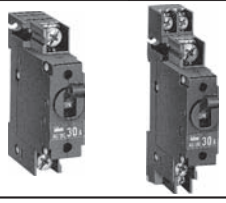
• Wiring Example



• Lead Wires for Neon and LED Indicators:

Lead Wire	Color	Neon	LED
Lead wire A	Red	AC	Positive
Lead wire B	Black	AC	Negative

• NH1V

Type	Series Trip (Current Trip)	Series Trip (w/auxiliary contact)	Series Trip (w/alarm contact)	Relay Trip (Voltage Trip)
NH1V				
Appearance				

Note: See the dimensional drawings for the terminal arrangement.

Overcurrent - Time Delay Characteristics (sec at 25ºC) [at vertical mounting]

For	Time Delay Curve	Percent of Rated Current							
		100%	125%	150%	200%	400%	600%	800%	1000%
AC 50/60Hz	AA	No Trip	12-180	6-70	2-25	0.15-3.5	0.005-0.3	0.004-0.13	0.004-0.04
	BA	No Trip	0.7-15	0.3-4	0.1-1.3	0.02-0.25	0.006-0.13	0.003-0.07	0.003-0.04
	MA	No Trip	50-800	20-300	5.5-110	0.3-17	0.008-2.5	0.004-0.5	0.004-0.1
DC	AD	No Trip	10-180	6-75	2.6-30	0.5-7	0.015-3	0.004-0.8	0.003-0.1
	MD	No Trip	70-800	25-300	10-100	1.2-20	0.02-5	0.004-0.65	0.003-0.1

Note: Circuit protectors with inertia delay may have a slightly longer time delay at 400% or higher.

•Dual Coil Type

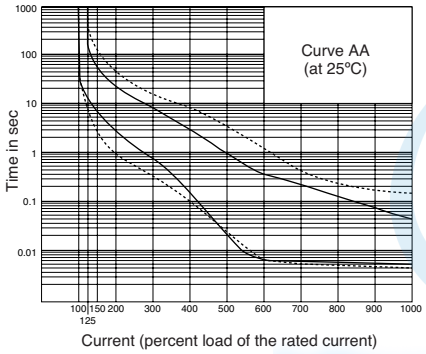
For	Time Delay Curve	Percent of Rated Current							
		100%	125%	150%	200%	400%	600%	800%	1000%
AC 50/60Hz	AA	No trip	6-500	2-150	0.7-40	0.1-8	0.005-1.2	0.003-0.2	0.003-0.15
	BA	No trip	0.7-60	0.25-20	0.07-6	0.013-1.2	0.004-0.4	0.003-0.2	0.003-0.15
	MA	No trip	50-800	15-600	6-250	0.4-40	0.06-3	0.003-0.2	0.003-0.15
DC	AD	No trip	10-180	1.5-100	0.6-30	0.1-7	0.015-3	0.004-0.8	0.003-0.1
	MD	No trip	70-800	14-600	5-200	0.8-40	0.007-20	0.003-4	0.003-0.1

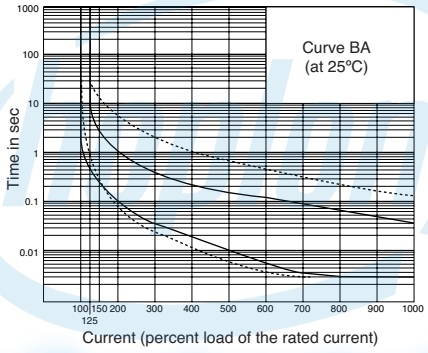
Note: Circuit protectors with inertia delay may have a slightly longer time delay at 400% or higher.

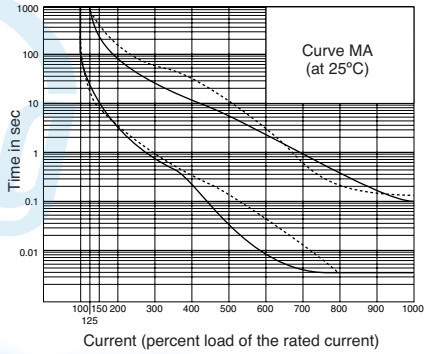
Time Delay Curves

Note: The dashed lines show dual coil type.

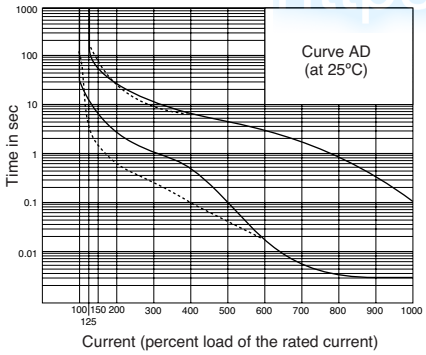
For AC

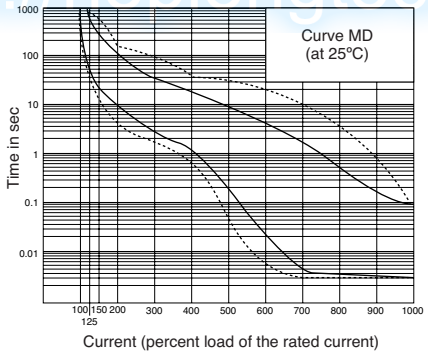






For DC



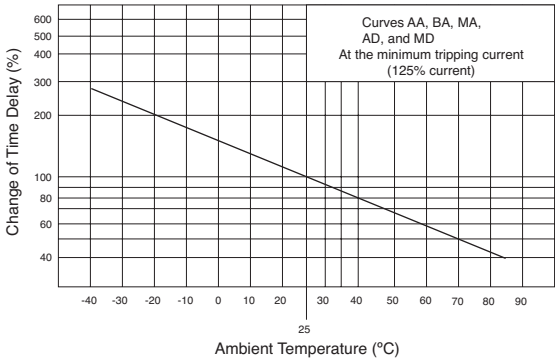


Time Delay Curve and Ambient Temperature

Since NH1 series circuit protectors employ an electromagnetic tripping system, the rated current (trip current) is not affected by ambient temperatures but the time delay varies with the oil viscosity in the oil dash pot. Lower oil viscosity at higher temperatures results in shorter delay, whereas at lower temperatures the delay will be prolonged. The time delay curves on the preceding page are at 25ºC. With reference to these curves, time delays can be corrected.

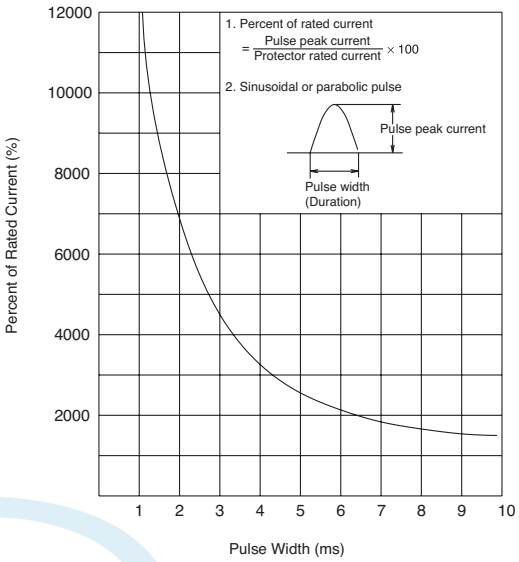
Temperature Correction Curve

The time delay curves are at 25ºC. With reference to the following figure, time delays can be corrected.



Circuit Protector with Inertia Delay

1. 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.
2. Inertia delay is designed not to trip on a pulse of 1500% the rated current for a duration of 10 ms.



Impedance and Coil Resistance

• Series Trip Type [Current Trip Type]

Rated Current	For AC 50/60Hz Impedance (Ω)	For DC Resistance (Ω)	Rated Current	For AC 50/60Hz Impedance (Ω)	For DC Resistance (Ω)
	Curves AA, BA, and MA	Curves AD and MD		Curves AA, BA, and MA	Curves AD and MD
0.5A	3.36	3.24	7.5A	0.018	0.017
0.75A	1.49	1.45	10A	0.012	0.012
1A	0.92	0.90	15A	0.0068	0.0066
2A	0.21	0.21	20A	0.0048	0.0048
2.5A	0.13	0.13	25A	0.0043	0.0043
3A	0.092	0.09	30A	0.0041	0.0036
5A	0.036	0.036			

Note: Tolerance: ±25% (up to 5A), ±50% (7.5A or higher)

• Relay Trip Type [Voltage Trip Type]

Rated Voltage	For AC 50/60Hz Impedance (Ω)	For DC Resistance (Ω)
100V AC	1350	–
24V DC	–	248

• Dual Coil Type [Current Trip Type]

Rated Current	For AC 50/60Hz Impedance (Ω)	For DC Resistance (Ω)
	Curves AA, BA, and MA	Curves AD and MD
2A	0.308	0.307
3A	0.129	0.127
5A	0.0509	0.0518
7.5A	0.0249	0.0245
10A	0.0150	0.0150
15A	0.0084	0.0080

Note: Tolerance: ±25% (up to 5A), ±50% (7.5A or higher)

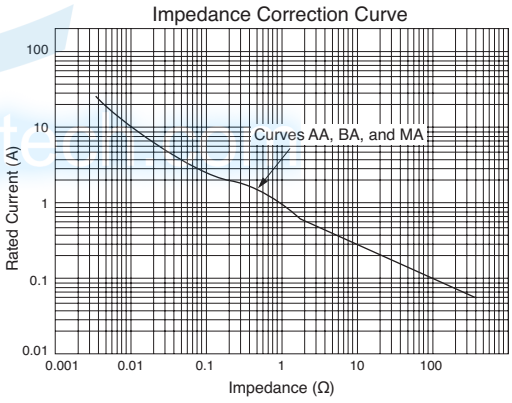
[Voltage Trip Type]

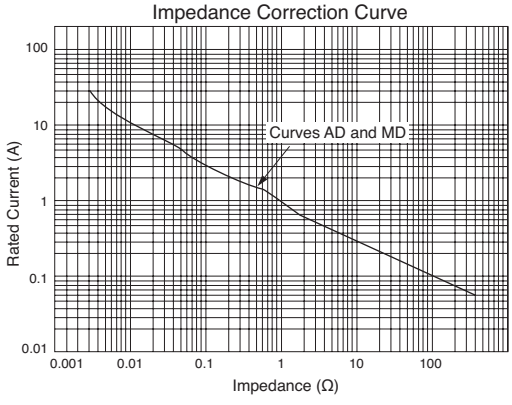
Rated Voltage	For AC 50/60Hz Impedance (Ω)	For DC Resistance (Ω)
100V AC	321	–
24V DC	–	15.7

Note: 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 in spite of the same rated current, which should also be considered during installation.

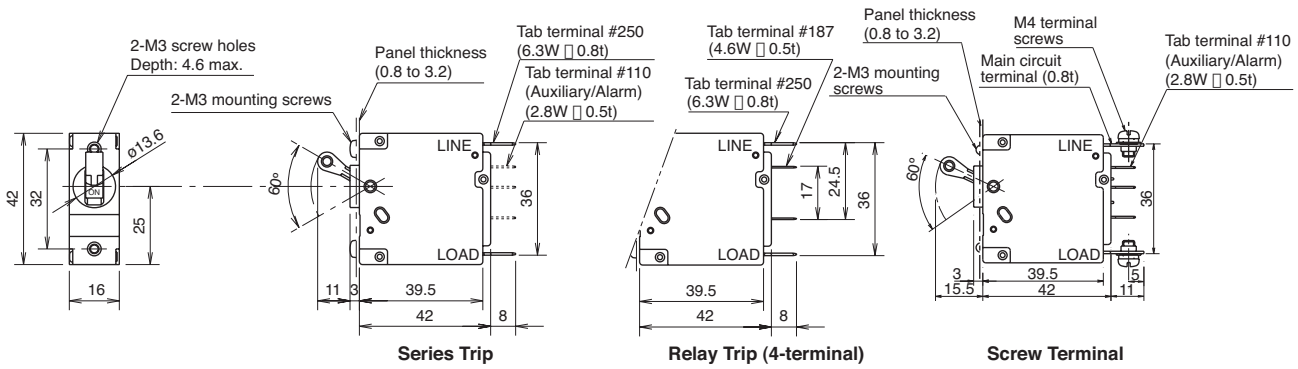




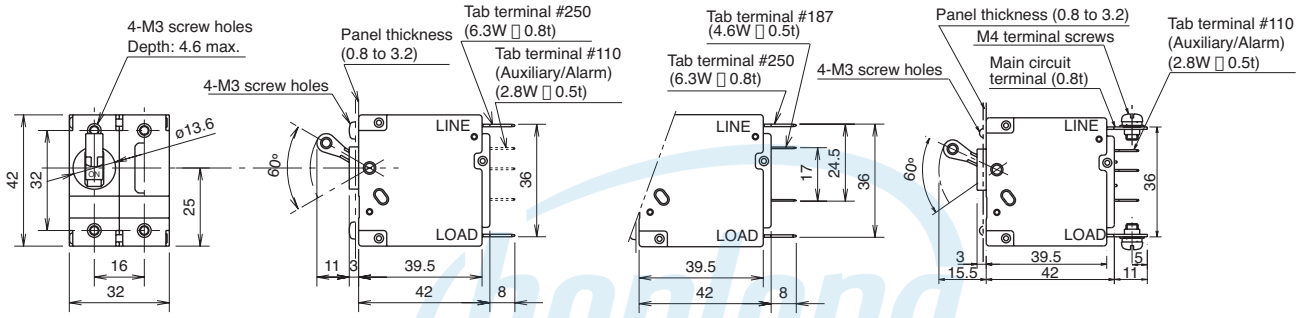
Dimensions

[NH1S]

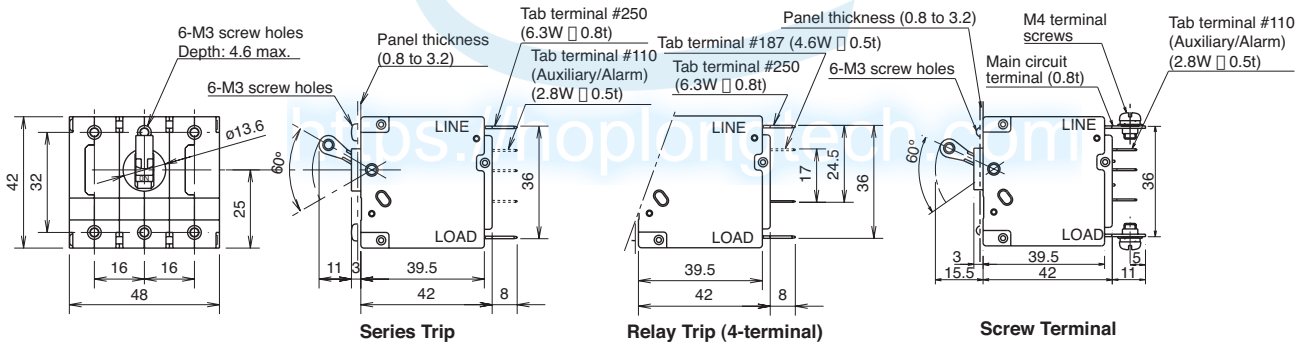
•1-pole Type



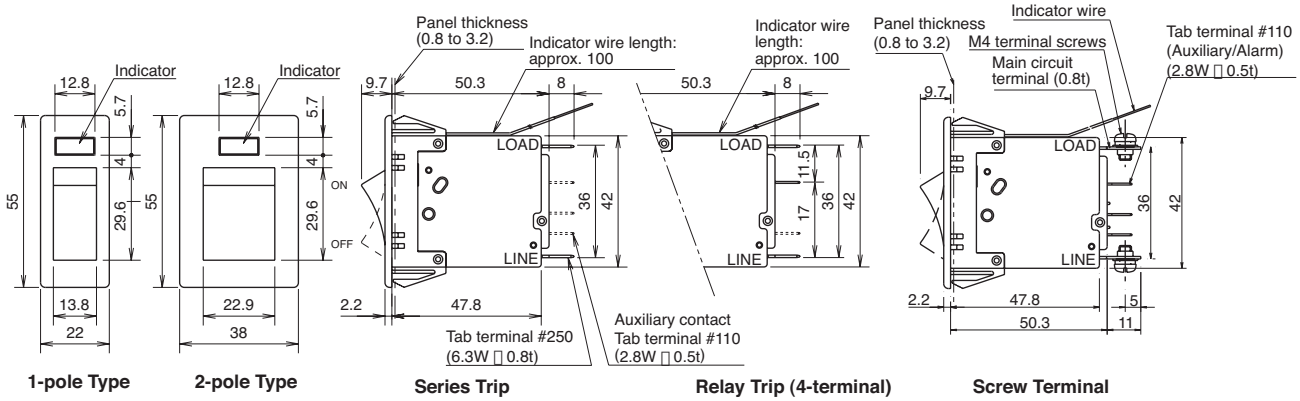
•2-pole Type



•3-pole Type



[NH1Y • NH1L]

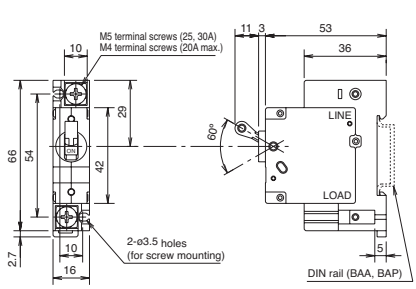


All dimensions in mm.

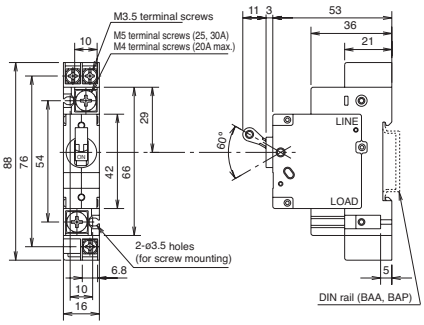
Dimensions

[NH1V]

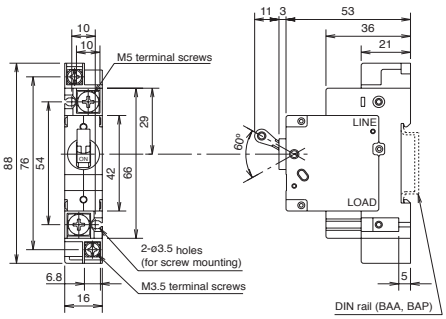
•1-pole Type



Series Trip

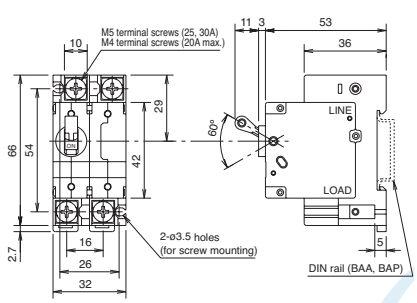


Series Trip (Auxiliary/Alarm Contacts)

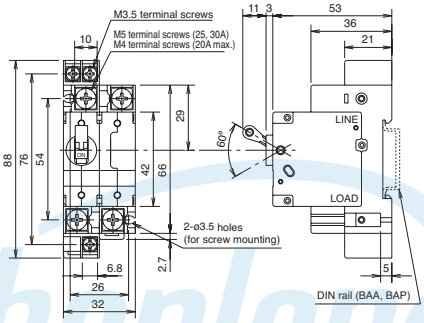


Relay Trip

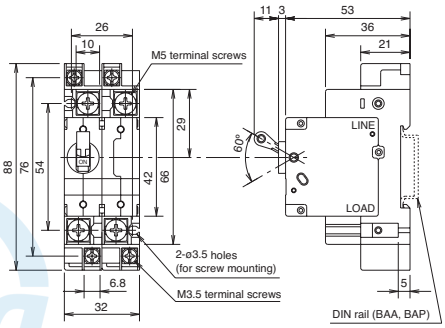
•2-pole Type



Series Trip

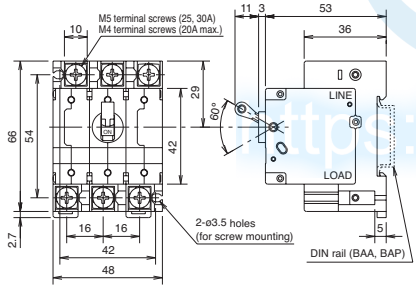


Series Trip (Auxiliary/Alarm Contacts)

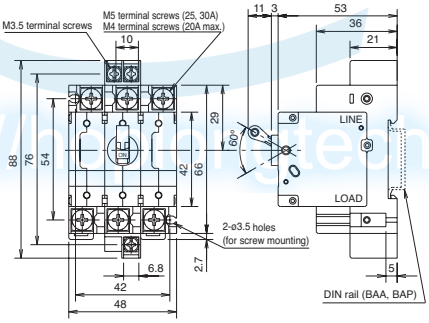


Relay Trip

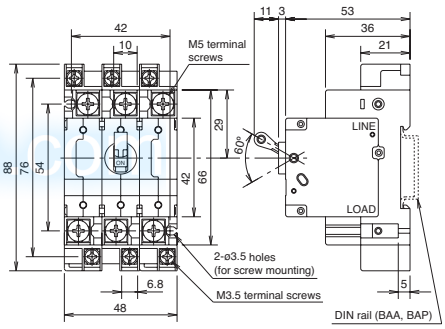
•3-pole Type



Series Trip

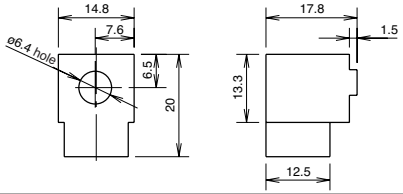
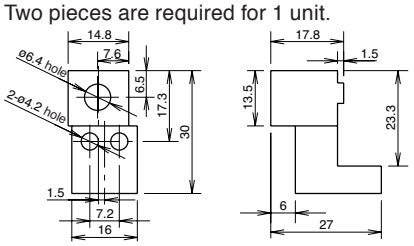


Series Trip (Auxiliary/Alarm Contacts)



Relay Trip

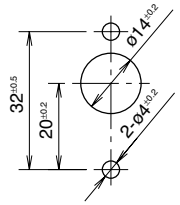
Accessories (Optional)

Product / Appearance	Type No.	Ordering Type No.	Package Quantity	Description / Dimensions
• **Terminal Cover** (for main terminals) for NH1V   Material: Polyamide	NH9Z-A	NH9Z-APN02	2	Two pieces are required for 1 unit. 
• **Terminal Cover** (for main/auxiliary terminals) for NH1V   Material: Polyamide	NH9Z-B	NH9Z-BPN02	2	Two pieces are required for 1 unit. 

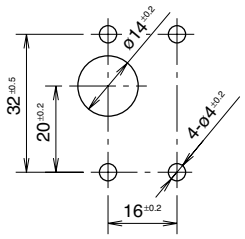
Mounting Hole Layout

[NH1S]

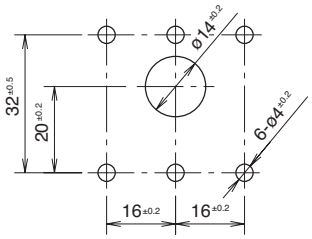
•1-pole Type



•2-pole Type

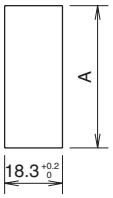


•3-pole Type

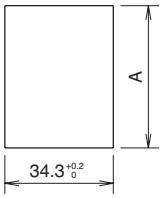


[NH1Y • NH1L]

•1-pole Type

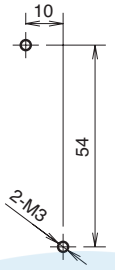


•2-pole Type

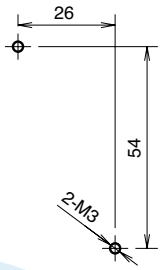


[NH1V]

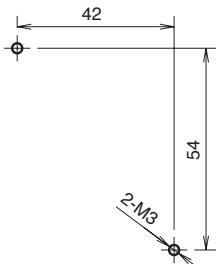
•1-pole Type



•2-pole Type



•3-pole Type



- Determine the dimension A within the panel thickness using the following formula:
  Dimension A (mm) = 50.4+(Panel thickness−0.8) × 0.87
  Applicable panel thickness: 0.8 to 3.2 mm

•Panel Mounting Screw Length

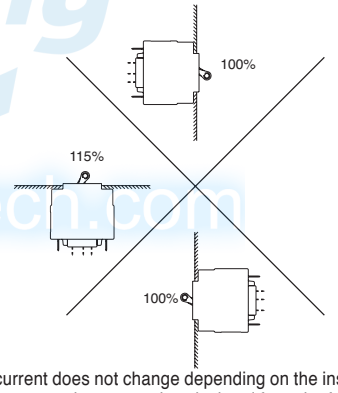
Select the screw length with reference to the following table.

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	5	5	5	6	6	6	6	6	7	7
With plain washer (0.5 mm thick)	5	6	6	6	6	6	7	7	7	8
With spring washer (0.7 mm thick)	6	6	6	6	6	7	7	7	7	8
With plain washer (0.5 mm thick) and spring washer (0.7 mm thick)	6	6	7	7	7	7	7	8	8	8

M3 screw mounting
Tightening torque: 0.5 N•m minimum
Tightening strength: 0.7 N•m

•Installation Angle

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



Note 1: The rated current does not change depending on the installation angle.
Note 2: The minimum operating current is calculated from the following formula:
(Minimum operating current) = (Rated current) × 125% × (Correction factor by installation angle)

Instructions

One-pole type circuit protectors cannot be combined to make 2- or 3-pole units due to their characteristics. Order multi-pole types from IDEC.

•Recommended Soldering Conditions

Solder the main terminal at a temperature of 390°C within 10 seconds using a 60W soldering iron.
Solder the auxiliary/alarm terminal at a temperature of 350°C within 3 seconds using a 60W soldering iron. (Sn-Ag-Cu lead-free solder is recommended.)
When soldering, do not touch the circuit protector housing, auxiliary and alarm contacts with the soldering iron, and do not bend the terminals or pull the wires.
Check your actual soldering conditions before soldering.

•Main Circuit Terminal: Screw terminal

1. Applicable wire size	1.25 to 5.5 mm^2
2. Applicable crimping terminal	R1.25-4 to R5.5-4
3. No.of crimping terminal	1
4. Tightening torque	1.0 to 1.2 N•m
5. Tensile strength (Static 1 minute)	Axial direction: 80N Transverse direction: 20N

Thrust force (screw pressing load) in screw tightening should be 29N or less. The screw driver may slip out depending on the shape type and conditions. In this case, hold the terminal with a tool and tighten the screw by applying a thrust force of about 50N without deforming the terminal.