# NRL Series Circuit Protectors

**Miniature circuit protectors with hydraulic-magnetic tripping system, allow for space and cost savings. Long life also reduces maintenance costs.**

- Compact size (only 36.6H × 16.8W × 42D mm)
- One-lever (one-rocker) for 2-poles, ensures proper interruption to both poles when one pole is tripped.
- Low, middle, and high speed response
- Variety of rated currents and internal circuits
- Available with auxiliary contacts and inertia delay
- Over 20,000 mechanical operations
- Hydraulic-magnetic tripping system
- Safe trip-free mechanism
- Vibration-proof design

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

Note: CE (series trip only)
PSE (relay and switch type only)
UL (AC type only)

## Specifications

| Model | NRLT | NRLY | NRLR |
|---|---|---|---|
| Shape |  |  |  |
| Operator Style | Lever (lever color: black) | Rocker (non-illuminated), Illuminated rocker | |
| Protection Method | Hydraulic-magnetic tripping system | | |
| Internal Circuit | Series trip (Current trip), Relay trip (Voltage trip)* | Series trip (Current trip) with auxiliary contacts, Switch only, Switch only with auxiliary contact | |
| No. of Poles | 1-pole, 2-pole (1-lever) | 1-pole, 2-pole (1-rocker) | |
| Rated Voltage | 250V AC 50/60Hz, 50V DC | | |
| Minimum Applicable Load | 24V AC/DC, 100 mA (reference value) | | |
| Rated Current | Current trip: 0.1A, 0.5A, 1A, 2A, 3A, 4A, 5A, 7.5A, 10A, 12.5A, 15A, 20A | | |
| Trip Voltage (Voltage trip) | 100V AC 50/60Hz,24V DC (operating at 90% of the rated voltage or higher, at 25°C)<br>Voltage application duration: 1 sec maximum<br>Trip time: 0.05 sec maximum (at the rated voltage) | | |
| Rated Interrupting Current | 250V AC 50/60Hz, 750A PC1 (UL rating: 1000A)<br>50V DC, 500A PC1 | | |
| Auxiliary Contact | SPDT microswitch 125V AC · 3A (resistive load), 30V DC · 2A (resistive load) | | |
| Reference Temperature | +25°C | | |
| Operating Temperature | −40 to +60°C (no freezing) | | |
| Storage Temperature | −40 to +85°C (no freezing) | | |
| Operating Humidity | 45 to 85% RH (no condensation) | | |
| Storage Humidity | 45 to 85% RH (no condensation) | | |
| Insulation Resistance | 100 MΩ minimum (500V DC megger) | | |
| Dielectric Strength | 2000V AC, 1 minute<br>(between live part and ground, between terminals of different poles, between terminals of the same pole when main contacts are open, between main circuit and auxiliary contact) | | |
| Vibration Resistance | 100 m/s$^2$ (10 to 55 Hz), with the rated current applied | | |
| Shock Resistance | 500 m/s$^2$ (operating extremes and damage limits), with the rated current applied (auxiliary contact: 360 m/s$^2$) | | |
| Life | Electrical: Over 10,000 operations minimum (6 operations/min)<br>Mechanical: Over 20,000 operations minimum (6 operations/min) | | |
| Terminal Style (Note) | Main terminal: Tab terminal #250<br>Auxiliary contact terminal: Solder terminal<br>Indicator terminal [Illuminated rocker] : Tab terminal #110 | | |
| Mounting Style | Ring mounting | Snap-on mounting | Screw mounting |
| Weight (Approx.) | 1-pole: 30g, 2-pole: 60g (NRLT series trip) | | |

- Do not use the NRL 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.
- The ratings of switch only type are 250V AC/50V DC and 20A, without protection function.

Note: Indicator terminal of 1-pole illuminated rocker with auxiliary contact is a lead wire.

### Indicator Ratings (Illuminated Rocker)

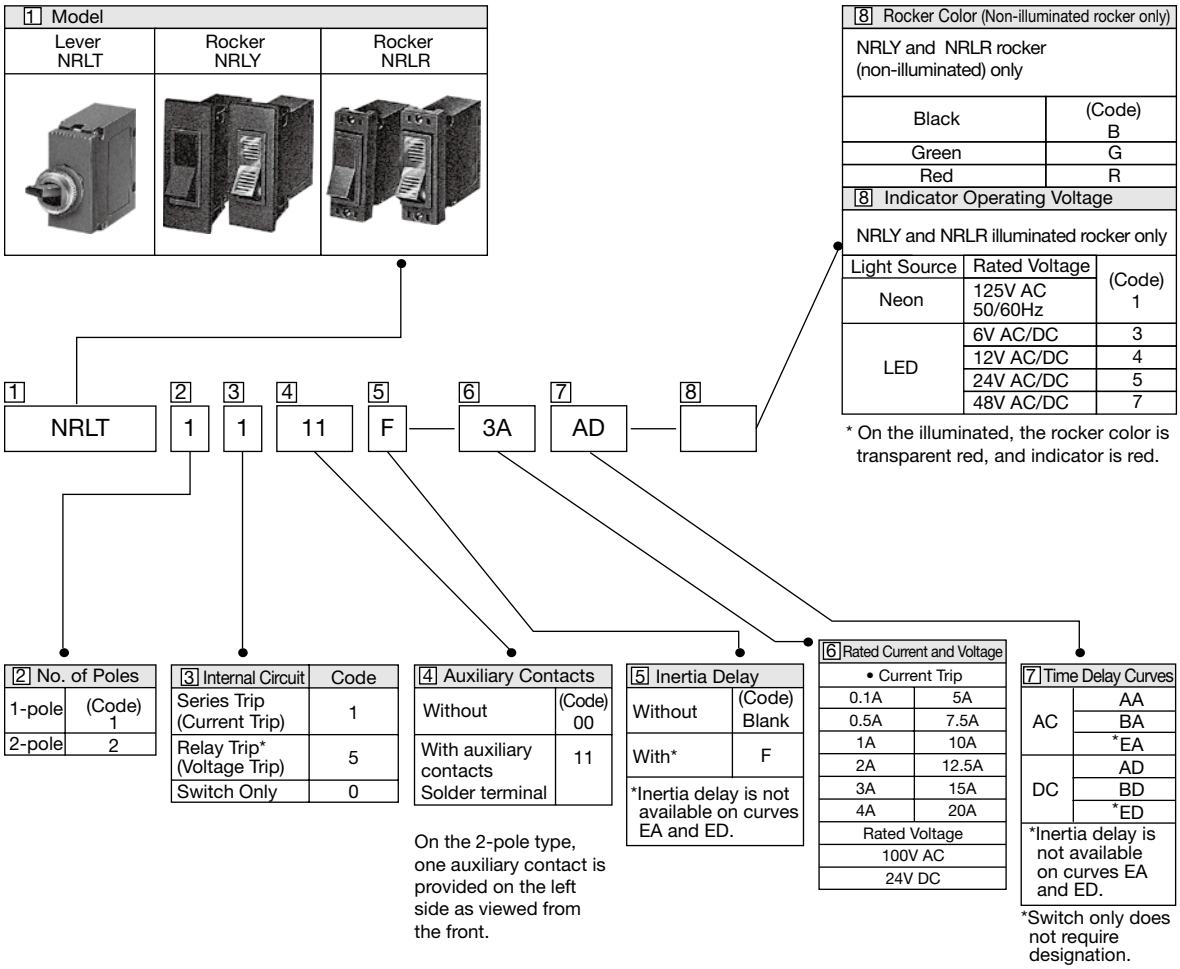
| Indicator | Voltage |
|---|---|
| Neon | 100 to 125V AC |
| LED | 6V, 12V, 24V, 48V AC/DC<br>±10% |

Note: Both neon and LED indicators have a built-in current limiting resistors.

### Standard Color

| Housing | | Black | |
|---|---|---|---|
| Lever (NRLT) | | Black | |
| Rocker and Indicator | | Rocker Color | Indicator Color |
| (NRLY) (NRLR) | Non-illuminated | Black, red, green | – |
| | Neon | Transparent red | Red |
| | LED | Transparent red | Red |

## Part No. Development




## NRLT (Lever)

Specify a rated current or voltage, and time delay curve in place of 6 7.

Package Quantity: 1

| Internal Circuit | No. of Poles | Inertia Delay | Auxiliary Contact | Part No. | Designation Code | |
|---|---|---|---|---|---|---|
| | | | | | 6 Rated Current or Voltage | 7 Time Delay Curve |
| Series Trip Current Trip | 1 | Without | Without | NRLT1100- 6 7 | 0.1A, 0.5A, 1A, 2A, 3A, 4A, 5A, 7.5A, 10A, 12.5A, 15A, 20A | AA, AD, BA, BD, EA, ED |
| | | | With | NRLT1111- 6 7 | | |
| | | With | Without | NRLT1100F- 6 7 | | AA, AD, BA, BD |
| | | | With | NRLT1111F- 6 7 | | |
| | 2 | Without | Without | NRLT2100- 6 7 | | AA, AD, BA, BD, EA, ED |
| | | | With | NRLT2111- 6 7 | | |
| | | With | Without | NRLT2100F- 6 7 | | AA, AD, BA, BD |
| | | | With | NRLT2111F- 6 7 | | |
| Relay Trip Voltage Trip | 1 | Without | Without | NRLT1500- 6 | 100V AC 24V DC | – |
| | 2 | | Without | NRLT2500- 6 | | |
| Switch Only | 1 | Without | Without | NRLT1000 | – | – |
| | | | With | NRLT1011 | | |
| | 2 | | Without | NRLT2000 | | |
| | | | With | NRLT2011 | | |

## NRLY (Rocker)

[Snap-on Mounting Part]

Specify a rated current or voltage, time delay curve, and indicator or rocker color in place of 6 7 8. Package Quantity: 1

| Illumination | Internal Circuit | No. of Poles | Inertia Delay | Auxiliary Contact | Part No. | Designation Code | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 6 Rated Current and Voltage | 7 Time Delay Curve | 8 Indicator | 9 Rocker Color |
| Illuminated | Series Trip Current Trip | 1 | Without | Without | NRLY1100- 6 7 - 8 | 0.1A 0.5A 1A 2A 3A 4A 5A 7.5A 10A 12.5A 15A 20A | AA, AD, BA, BD, EA, ED | 1: Neon 125V AC 50/60Hz<br>3: LED 6V AC/DC<br>4: LED 12V AC/DC<br>5: LED 24V AC/DC<br>7: LED 48V AC/DC | – |
| | | | | With | NRLY1111- 6 7 - 8 | | | | |
| | | | With | Without | NRLY1100F- 6 7 - 8 | | AA, AD, BA, BD | | |
| | | | | With | NRLY1111F- 6 7 - 8 | | | | |
| | | 2 | Without | Without | NRLY2100- 6 7 - 8 | | AA, AD, BA, BD, EA, ED | | |
| | | | | With | NRLY2111- 6 7 - 8 | | | | |
| | | | With | Without | NRLY2100F- 6 7 - 8 | | AA, AD, BA, BD | | |
| | | | | With | NRLY2111F- 6 7 - 8 | | | | |
| | Relay Trip Voltage Trip | 1 | Without | Without | NRLY1500- 6 - 8 | 100V AC 24V DC | – | | |
| | | 2 | | Without | NRLY2500- 6 - 8 | | | | |
| | Switch Only | 1 | Without | Without | NRLY1000- 8 | – | – | | |
| | | | | With | NRLY1011- 8 | | | | |
| | | 2 | | Without | NRLY2000- 8 | | | | |
| | | | | With | NRLY2011- 8 | | | | |
| Non-illuminated | Series Trip Current Trip | 1 | Without | Without | NRLY1100- 6 7 - 8 | 0.1A 0.5A 1A 2A 3A 4A 5A 7.5A 10A 12.5A 15A 20A | AA, AD, BA, BD, EA, ED | – | B, G, R |
| | | | | With | NRLY1111- 6 7 - 8 | | | | |
| | | | With | Without | NRLY1100F- 6 7 - 8 | | AA, AD, BA, BD | | |
| | | | | With | NRLY1111F- 6 7 - 8 | | | | |
| | | 2 | Without | Without | NRLY2100- 6 7 - 8 | | AA, AD, BA, BD, EA, ED | | |
| | | | | With | NRLY2111- 6 7 - 8 | | | | |
| | | | With | Without | NRLY2100F- 6 7 - 8 | | AA, AD, BA, BD | | |
| | | | | With | NRLY2111F- 6 7 - 8 | | | | |
| | Relay Trip Voltage Trip | 1 | Without | Without | NRLY1500- 6 - 8 | 100V AC 24V DC | – | | |
| | | 2 | | Without | NRLY2500- 6 - 8 | | | | |
| | Switch Only | 1 | Without | Without | NRLY1000- 8 | – | – | | |
| | | | | With | NRLY1011- 8 | | | | |
| | | 2 | | Without | NRLY2000- 8 | | | | |
| | | | | With | NRLY2011- 8 | | | | |

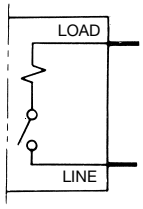
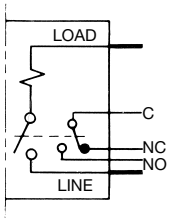
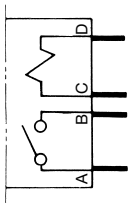
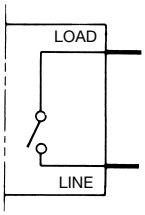
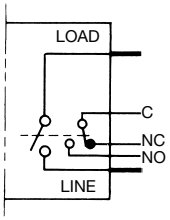
## NRLR (Rocker) [Screw Mounting]

Specify a rated current or voltage, time delay curve, and indicator or rocker color in place of 6 7 8. Package Quantity: 1

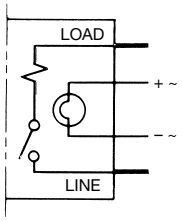
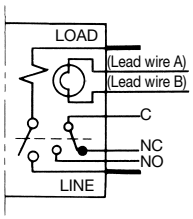
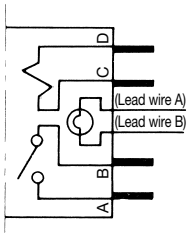
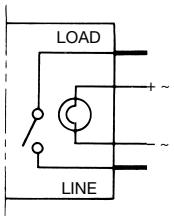
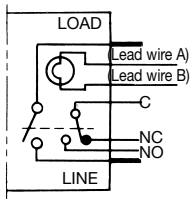
| Illumination | Internal Circuit | No. of Poles | Inertia Delay | Auxiliary Contact | Part No. | Designation Code | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 6 Rated Current and Voltage | 7 Time Delay Curve | 8 Indicator | 9 Rocker Color |
| Illuminated | Series Trip Current Trip | 1 | Without | Without | NRLR1100-6 7 - 8 | 0.1A 0.5A 1A 2A 3A 4A 5A 7.5A 10A 12.5A 15A 20A | AA, AD, BA, BD, EA, ED | 1: Neon 125V AC 50/60Hz<br>3: LED 6V AC/DC<br>4: LED 12V AC/DC<br>5: LED 24V AC/DC<br>7: LED 48V AC/DC | – |
| | | | | With | NRLR1111- 6 7 - 8 | | | | |
| | | | With | Without | NRLR1100F- 6 7 - 8 | | AA, AD, BA, BD | | |
| | | | | With | NRLR1111F- 6 7 - 8 | | | | |
| | | 2 | Without | Without | NRLR2100- 6 7 - 8 | | AA, AD, BA, BD, EA, ED | | |
| | | | | With | NRLR2111- 6 7 - 8 | | | | |
| | | | With | Without | NRLR2100F- 6 7 - 8 | | AA, AD, BA, BD | | |
| | | | | With | NRLR2111F- 6 7 - 8 | | | | |
| | Relay Trip Voltage Trip | 1 | Without | Without | NRLR1500- 6 - 8 | 100V AC 24V DC | – | | |
| | | 2 | | Without | NRLR2500- 6 - 8 | | | | |
| | Switch Only | 1 | Without | Without | NRLR1000- 8 | – | – | | |
| | | | | With | NRLR1011- 8 | | | | |
| | | 2 | | Without | NRLR2000- 8 | | | | |
| | | | | With | NRLR2011- 8 | | | | |
| Non-illuminated | Series Trip Current Trip | 1 | Without | Without | NRLR1100- 6 7 - 8 | 0.1A 0.5A 1A 2A 3A 4A 5A 7.5A 10A 12.5A 15A 20A | AA, AD, BA, BD, EA, ED | – | B, G, R |
| | | | | With | NRLR1111- 6 7 - 8 | | | | |
| | | | With | Without | NRLR1100F- 6 7 - 8 | | AA, AD, BA, BD | | |
| | | | | With | NRLR1111F- 6 7 - 8 | | | | |
| | | 2 | Without | Without | NRLR2100- 6 7 - 8 | | AA, AD, BA, BD, EA, ED | | |
| | | | | With | NRLR2111- 6 7 - 8 | | | | |
| | | | With | Without | NRLR2100F- 6 7 - 8 | | AA, AD, BA, BD | | |
| | | | | With | NRLR2111F- 6 7 - 8 | | | | |
| | Relay Trip Voltage Trip | 1 | Without | Without | NRLR1500- 6 - 8 | 100V AC 24V DC | – | | |
| | | 2 | | Without | NRLR2500- 6 - 8 | | | | |
| | Switch Only | 1 | Without | Without | NRLR1000- 8 | – | – | | |
| | | | | With | NRLR1011- 8 | | | | |
| | | 2 | | Without | NRLR2000- 8 | | | | |
| | | | | With | NRLR2011- 8 | | | | |

## Internal Circuits

NRLT, NRLY (Non-illuminated), NRLR (Non-illuminated)

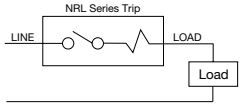
| Series Trip (Current Trip) | Series Trip (Current Trip) | Relay Trip (Voltage Trip) | Switch Only | Switch Only With Auxiliary Contact |
|---|---|---|---|---|
|  |  |  |  |  |

NRLY (Illuminated), NRLR (Illuminated)

| Series Trip (Current Trip) | Series Trip (Current Trip) | Relay Trip (Voltage Trip) | Switch Only | Switch Only With Auxiliary Contact |
|---|---|---|---|---|
|  |  |  |  |  On the 2-pole type, indicator terminal are a tab terminals. |

Note 1: On the 2-pole type, one auxiliary contact is provided on the left side as viewed from the front.
See the dimensional drawing for the terminal arrangement.

• Wiring Example




• Lead wires are color-coded as follows (illuminated):

| Lead wire | Color | Neon Indicator | LED Indicator |
|---|---|---|---|
| (Lead wire A) | Red | AC | Positive |
| (Lead wire B) | Black | AC | Negative |

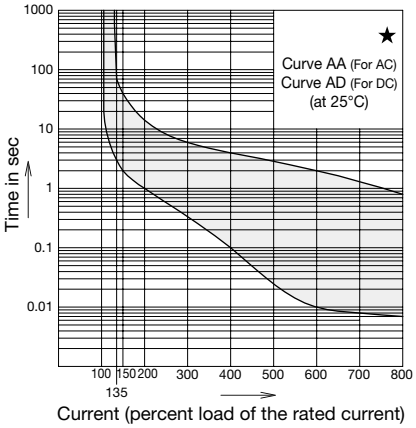
## Overcurrent - Time Delay Characteristics (sec at 25°C)

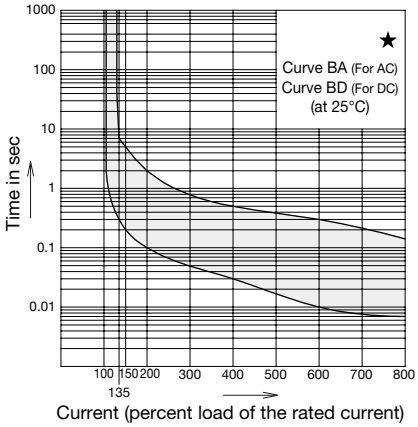
| Time Delay Curves | | Percent of Rated Current | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AC 50/60Hz | DC | 100% | 135% | 150% | 200% | 400% | 600% | 800% |
| AA ★ | AD ★ | No Trip | 3-70 | 2-40 | 1-15 | 0.1-4 | 0.01-2 | 0.007-0.8 |
| BA ★ | BD ★ | No Trip | 0.3-7 | 0.2-5 | 0.1-2 | 0.03-0.5 | 0.01-0.3 | 0.007-0.15 |
| EA | ED | No Trip | 0.015-0.5 | 0.01-0.25 | 0.009-0.1 | 0.006-0.03 | 0.005-0.02 | 0.004-0.02 |

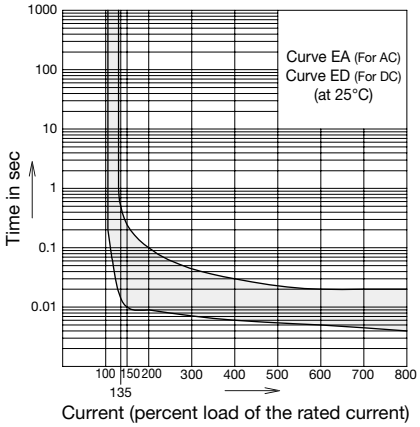
Note: Curves marked with ★ are also available with inertia delay. (Inertia delay is not available for Curves ED and EA)

## Time Delay Curves

Note: Curves marked with ★ are also available with inertia delay.

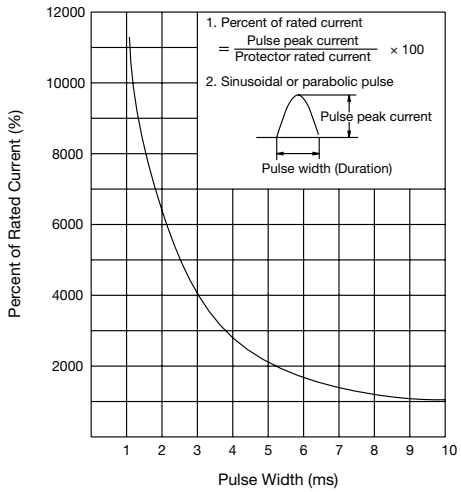


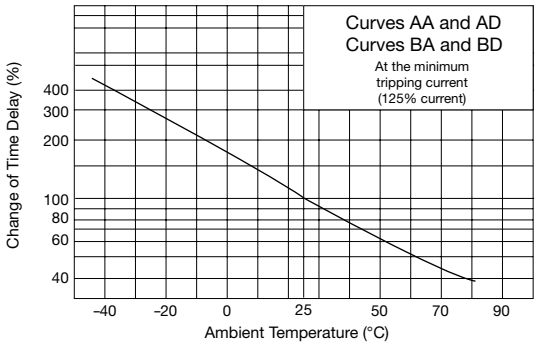
## Circuit Protector with Inertia Delay

Inertia delay is designed not to trip on a non-repeating single pulse of 12 times the rated current (peak value) for 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.
Curves EA and ED are not available with inertia delay.




## Temperature Correction Curve

The time delay curves on the preceding page are at 25°C. With reference to the following curves, time delays can be corrected according to the ambient temperature.




## Operation of Auxiliary Contacts

At tripping or manual ON-OFF operation, there is a lag in time between the operation of the main contact and the auxiliary contact.

## Impedance and Coil Resistance (at 25°C)

### [Current Trip] (initial value)

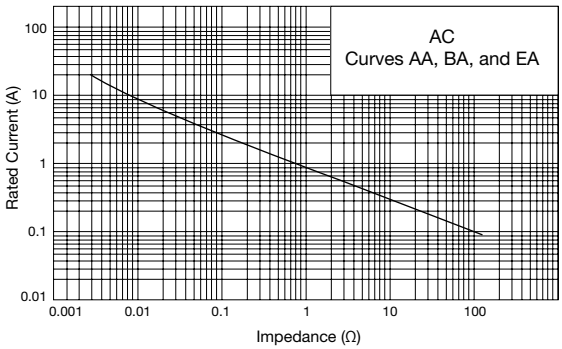
| Rated Current | For AC 50/60Hz Impedance (Ω) | For DC, Impedance between Terminals (Ω) |
|---|---|---|
| | Curves AA, BA, and EA | Curves AD, BD, and ED |
| 0.1A | 97.0 | 96.0 |
| 0.5A | 3.2 | 3.1 |
| 1A | 0.81 | 0.78 |
| 2A | 0.19 | 0.18 |
| 3A | 0.086 | 0.085 |
| 4A | 0.051 | 0.050 |
| 5A | 0.034 | 0.034 |
| 7.5A | 0.017 | 0.016 |
| 10A | 0.0092 | 0.0087 |
| 12.5A | 0.0068 | 0.0065 |
| 15A | 0.0052 | 0.0050 |
| 20A | 0.0033 | 0.0031 |

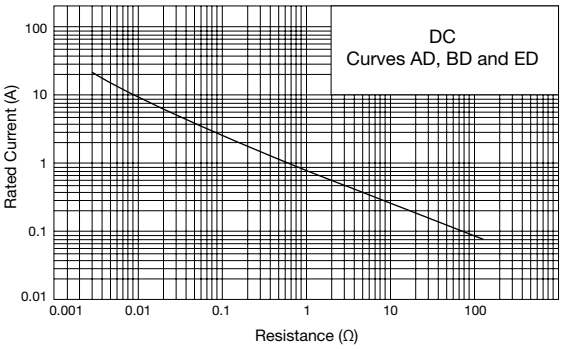
Note: Tolerance: ±25% (up to 5A), ±50% (7.5A or higher)

### [Voltage trip] (initial value)

| | For AC 50/60Hz Impedance (Ω) | For DC, Impedance between Terminals (Ω) |
|---|---|---|
| 100V AC | 3000 | — |
| 24V DC | — | 370 |

Note: Tolerance: ±25%

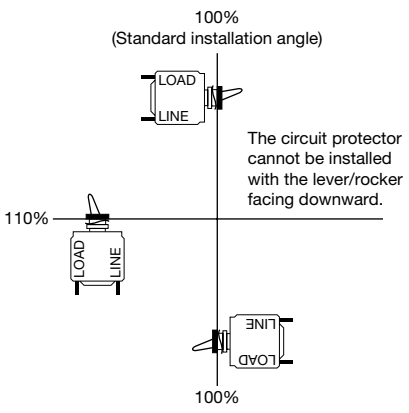



## Rated Current (Trip Current) by Installation Angle

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

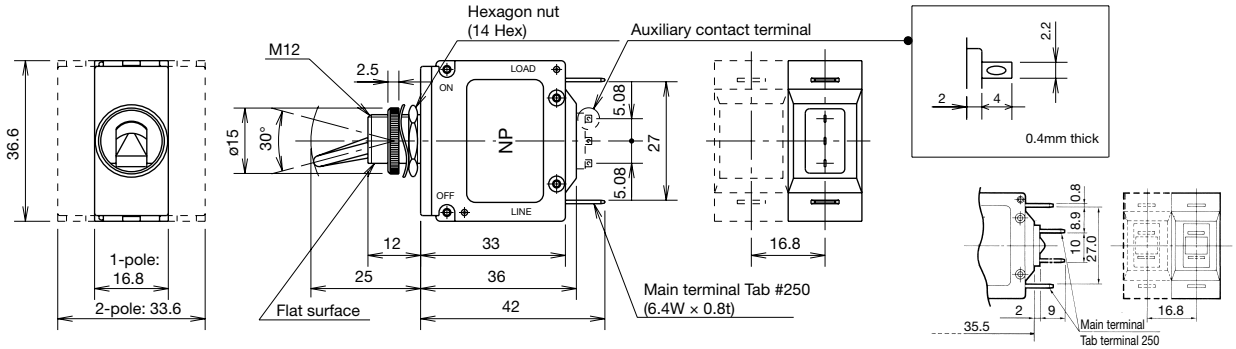
Note 1: The rated current does not change depending on the installation angle.
Note 2: The minimum operating current is calculated from the following formula:
(Minimum operating current) = (Rated current) × 135% × (Correction factor by installation angle)



## Dimensions

All dimensions in mm.

**NRLT (Lever)** Note: The dashed lines show the 2-pole type.

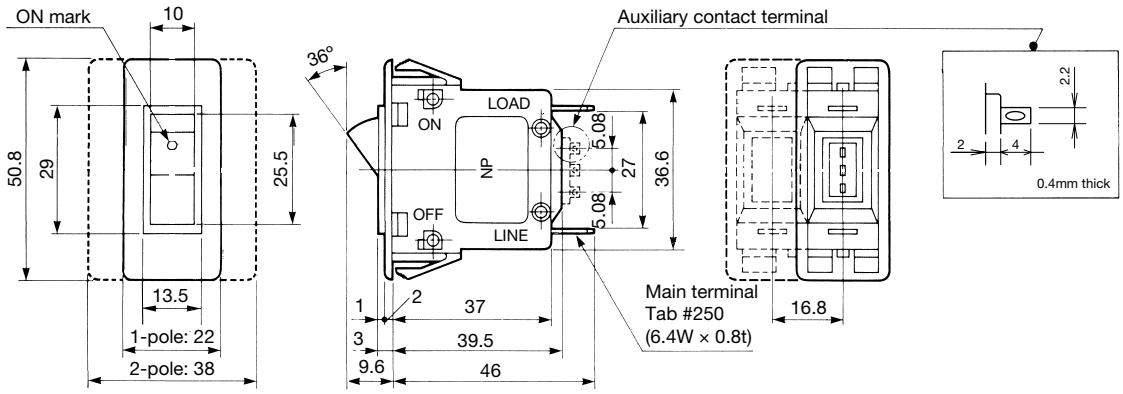



Series Trip, Switch Only

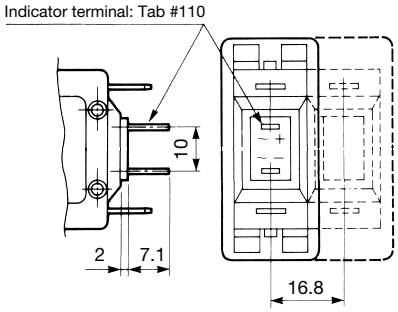
Relay Trip (4-terminal)

**NRLY (Snap-on Mounting, Rocker)** Note: The dashed lines show the 2-pole type.

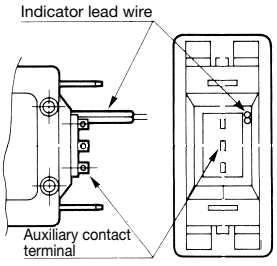
Rocker (Non-illuminated)
Series Trip, Switch Only




**Illuminated Rocker (without auxiliary contact)**
**Series Trip, Switch Only**

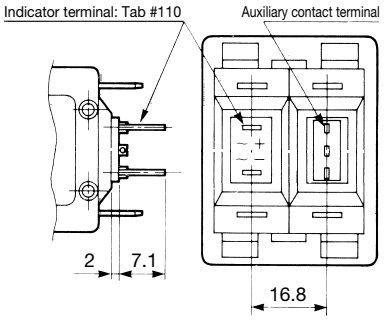



**Illuminated Rocker (1-pole, with auxiliary contact)**
**Series Trip, Switch Only**

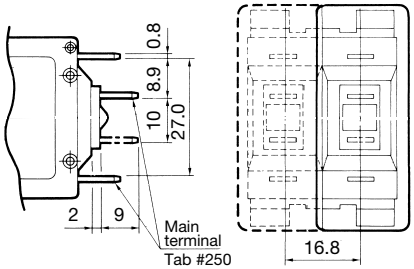



Lead wire length: Approx. 100 mm

**Illuminated Rocker (2-pole, with auxiliary contact)**
**Series Trip, Switch Only**

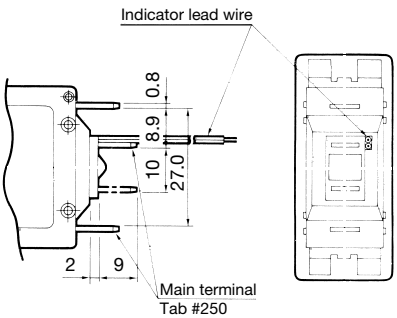



**Rocker (Non-illuminated)**
**Relay Trip (4-terminal)**



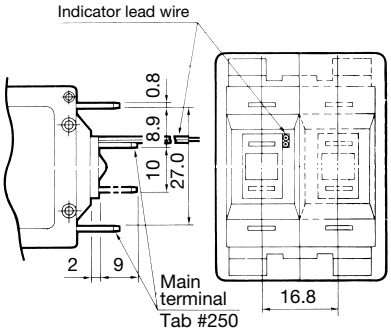

Lead wire length: Approx. 100 mm

**Illuminated Rocker (1-pole)**
**Relay Trip (4-terminal)**




Lead wire length: Approx. 100 mm

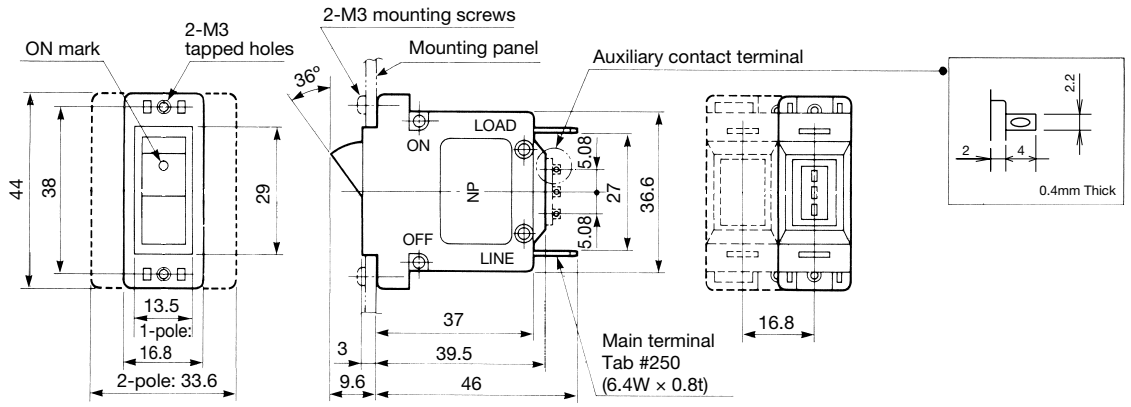
**Illuminated Rocker (2-pole)**
**Relay Trip (4-terminal)**



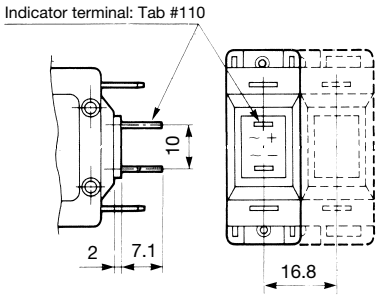

Lead wire length: Approx. 100 mm

**NRLR (Screw Mounting, Rocker)** Note: The dashed lines show the 2-pole type.

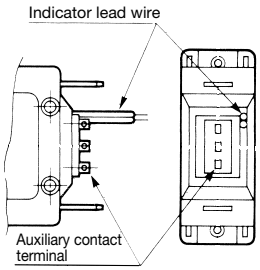
Rocker Type (Non-illuminated)
Series Trip, Switch Only




**Illuminated Rocker**
**(without auxiliary contact)**
**Series Trip, Switch Only**

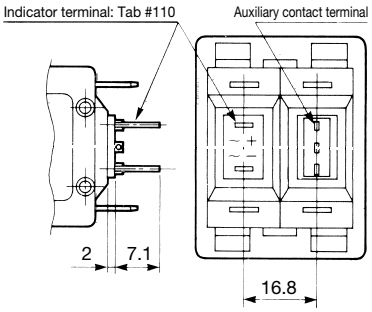



**Illuminated Rocker**
**(1-pole, with auxiliary contact)**
**Series Trip, Switch Only**

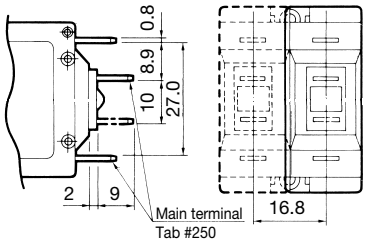



Lead wire length: Approx. 100 mm

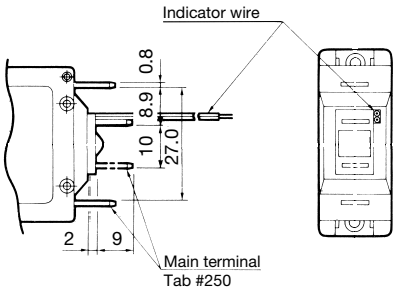
**Illuminated Rocker**
**(2-pole, with auxiliary contact)**
**Series Trip, Switch Only**




**Rocker (Non-illuminated)**
**Relay Trip (4-terminal)**

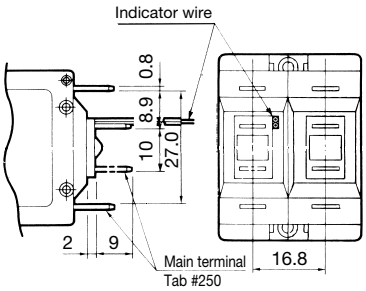



**Illuminated Rocker (1-pole)**
**Relay Trip (4-terminal)**




Lead wire length: Approx. 100 mm

**Illuminated Rocker (2-pole)**
**Relay Trip (4-terminal)**




Lead wire length: Approx. 100 mm

## Instructions

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

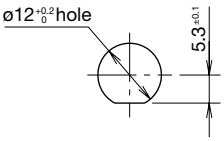
## Mounting Hole Layout

### Model: NRLT (Lever) / NRLY (Snap-on Mounting, Rocker)

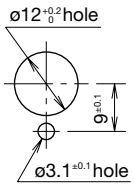
**Panel Cut-out**

When anti-rotation ring is used. (Part No.: NRL-L)

1-pole/2-pole

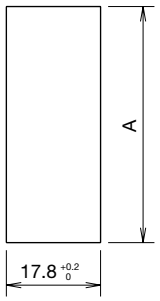



1-pole/2-pole

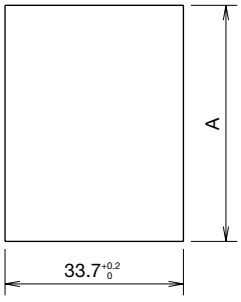



Tightening torque: 1.2 to 1.4 N·m

1-pole




2-pole




**Panel Thickness**

Maximum mounting panel thickness (NRLT):

| Mounting Nut | Name Plate | Anti-rotation Ring | Maximum Panel Thickness NRLT |
|---|---|---|---|
| When a standard bezel is used (Thickness: 2.5 mm) | – | – | 5.5 mm |
| | X | – | 4.7 mm |
| | – | X | 4.7 mm |
| | X | X | 3.9 mm |
| When a decorative bezel is used (Thickness: 4 mm) | – | – | 4.0 mm |
| | X | – | 3.2 mm |
| | – | X | 3.2 mm |
| | X | X | 2.4 mm |

Note 1: Standard mounting nut is supplied with the protector.
Note 2: Decorative bezel, name plate, and anti-rotation ring are sold separately. (See "Accessories" for details.)

Panel thickness and Dimension A

| Panel Thickness | 0.8 to 1.2 mm | 1.6 mm | 2.3 mm | 3.2 mm |
|---|---|---|---|---|
| Dimension A | 44.6 mm | 45.1 mm | 45.9 mm | 46.9 mm |
| | Tolerance ±0.1 mm | | | |

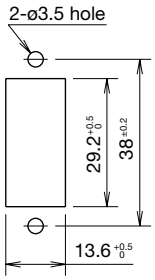
Note 1: Allowable range of mounting panel thickness: 0.8 to 3.2 mm
Note 2: Within the allowable range of mounting panel, Dimension A for panel thicknesses other than those listed in the above table can be calculated from the following formula:

Dimension A = 45.1 + 1.1 × (Panel thickness − 1.6)

### Model: NRLR (Screw Mounting, Rocker)

**Panel Cut-out**

1-pole/2-pole




**Panel Thickness**

3 mm maximum

See the dimensional drawing and select proper thickness, considering the height of mounting screw head.

**Applicable Mounting Screw Length**

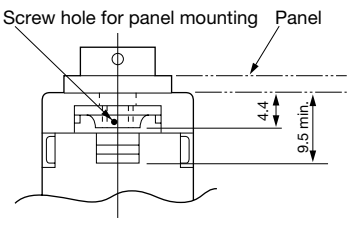
**Applicable length of panel mounting screw (M3)**

Select proper length according to the table.

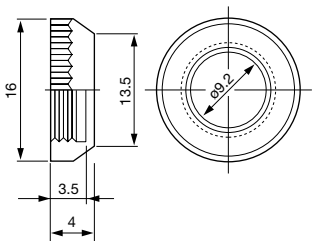
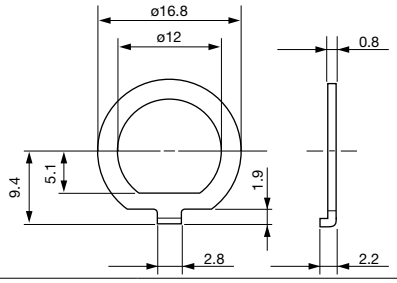
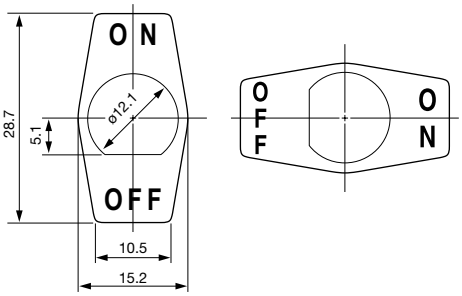
| Panel thickness (mm) | 0.8 | 1.0 | 1.2 | 1.4 | 1.6 | 1.8 | 2.0 | 2.3 | 2.6 | 3.2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Without washer | 6 to 10 mm | | | | 7 to 11 mm | | | | 8 to 12 mm | |
| With plain washer (0.5 mm thick) | 6 to 10 mm | | 7 to 11 mm | | | | 8 to 12 mm | | | 9 to 13 mm |
| With spring washer (0.7 mm thick) | 7 to 11 mm | | | | | 8 to 12 mm | | | | 9 to 13 mm |
| With plain washer (0.5 mm thick), and spring washer (0.7 mm thick) | 7 to 11 mm | | | | 8 to 12 mm | | | 9 to 13 mm | | |

(Tightening torque: 0.5 to 0.8 N·m)

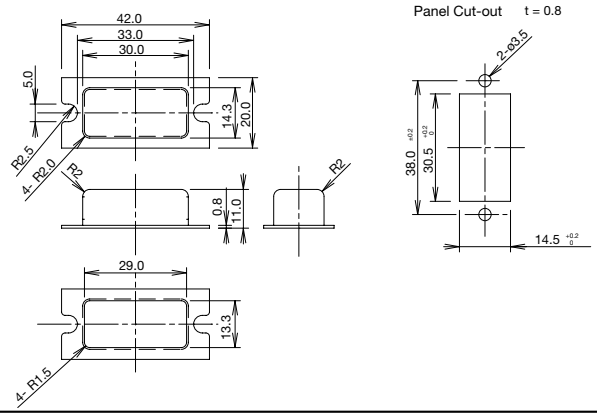
Screw Mounting Part Dimensions



## Accessories

| Name and Shape | | Part No. | Ordering No. | Package Quantity | Description and Dimensions |
|---|---|---|---|---|---|
| Decorative Bezel   | | NRL-R | NRL-RPN05 | 5 | • The decorative bezel can be used in place of the standard bezel. Note that the maximum panel thickness differs from that with the standard bezel.<br>• Material: Chrome-plated metal   (See "Mounting Hole Layout".) |
| Anti-rotation Ring  | | NRL-L | NRL-LPN05 | 5 | • The anti-rotation ring is intended to ensure firm rotation prevention. (See "Mounting Hole Layout".)<br>• Metal ring   |
| Nameplate   | (Legend)<br>ON<br>I<br>OFF | NRL-N1 | NRL-N1PN05 | 5 | • Aluminum plate (Aluminum colored) with black legend   |
| | I<br>I<br>O | NRL-N3 | NRL-N3PN05 | | |
|   | OFF – ON | NRL-N2 | NRL-N2PN05 | 5 | |
| | O – I | NRL-N4 | NRL-N4PN05 | | |

Package Quantity: 1

| Name and Shape | | Part No. | Dimensions |
|---|---|---|---|
| Dustproof Cover  (Silicon Rubber) | For 1-pole<br>For 2-pole | NRL-C | • For NRLR   |

# Ordering Terms and Conditions

Thank you for using IDEC Products.

By purchasing products listed in our catalogs, datasheets, and the like (hereinafter referred to as "Catalogs") you agree to be bound by these terms and conditions. Please read and agree to the terms and conditions before placing your order.

## 1. Notes on contents of Catalogs

(1) Rated values, performance values, and specification values of IDEC products listed in this Catalog are values acquired under respective conditions in independent testing, and do not guarantee values gained in combined conditions.
Also, durability varies depending on the usage environment and usage conditions.

(2) Reference data and reference values listed in Catalogs are for reference purposes only, and do not guarantee that the product will always operate appropriately in that range.

(3) The specifications / appearance and accessories of IDEC products listed in Catalogs are subject to change or termination of sales without notice, for improvement or other reasons.

(4) The content of Catalogs is subject to change without notice.

## 2. Note on applications

(1) If using IDEC products in combination with other products, confirm the applicable laws / regulations and standards.
Also, confirm that IDEC products are compatible with your systems, machines, devices, and the like by using under the actual conditions. IDEC shall bear no liability whatsoever regarding the compatibility with IDEC products.

(2) The usage examples and application examples listed in Catalogs are for reference purposes only. Therefore, when introducing a product, confirm the performance and safety of the instruments, devices, and the like before use. Furthermore, regarding these examples, IDEC does not grant license to use IDEC products to you, and IDEC offers no warranties regarding the ownership of intellectual property rights or non-infringement upon the intellectual property rights of third parties.

(3) When using IDEC products, be cautious when implementing the following.

i. Use of IDEC products with sufficient allowance for rating and performance

ii. Safety design, including redundant design and malfunction prevention design that prevents other danger and damage even in the event that an IDEC product fails

iii. Wiring and installation that ensures the IDEC product used in your system, machine, device, or the like can perform and function according to its specifications

(4) Continuing to use an IDEC product even after the performance has deteriorated can result in abnormal heat, smoke, fires, and the like due to insulation deterioration or the like. Perform periodic maintenance for IDEC products and the systems, machines, devices, and the like in which they are used.

(5) IDEC products are developed and manufactured as general-purpose products for general industrial products. They are not intended for use in the following applications, and in the event that you use an IDEC product for these applications, unless otherwise agreed upon between you and IDEC, IDEC shall provide no guarantees whatsoever regarding IDEC products.

i. Use in applications that require a high degree of safety, including nuclear power control equipment, transportation equipment (railroads / airplanes / ships / vehicles / vehicle instruments, etc.), equipment for use in outer space, elevating equipment, medical instruments, safety devices, or any other equipment, instruments, or the like that could endanger life or human health

ii. Use in applications that require a high degree of reliability, such as provision systems for gas / waterworks / electricity, etc., systems that operate continuously for 24 hours, and settlement systems

iii. Use in applications where the product may be handled or used deviating from the specifications or conditions / environment listed in the Catalogs, such as equipment used outdoors or applications in environments subject to chemical pollution or electromagnetic interference
If you would like to use IDEC products in the above applications, be sure to consult with an IDEC sales representative.

## 3. Inspections

We ask that you implement inspections for IDEC products you purchase without delay, as well as thoroughly keep in mind management/maintenance regarding handling of the product before and during the inspection.

## 4. Warranty

(1) Warranty period

The warranty period for IDEC products shall be one (1) year after purchase or delivery to the specified location. However, this shall not apply in cases where there is a different specification in the Catalogs or there is another agreement in place between you and IDEC.

(2) Warranty scope

Should a failure occur in an IDEC product during the above warranty period for reasons attributable to IDEC, then IDEC shall replace or repair that product, free of charge, at the purchase location / delivery location of the product, or an IDEC service base. However, failures caused by the following reasons shall be deemed outside the scope of this warranty.

i. The product was handled or used deviating from the conditions / environment listed in the Catalogs

ii. The failure was caused by reasons other than an IDEC product

iii. Modification or repair was performed by a party other than IDEC

iv. The failure was caused by a software program of a party other than IDEC

v. The product was used outside of its original purpose

vi. Replacement of maintenance parts, installation of accessories, or the like was not performed properly in accordance with the user's manual and Catalogs

vii. The failure could not have been predicted with the scientific and technical standards at the time when the product was shipped from IDEC

viii. The failure was due to other causes not attributable to IDEC (including cases of force majeure such as natural disasters and other disasters)

Furthermore, the warranty described here refers to a warranty on the IDEC product as a unit, and damages induced by the failure of an IDEC product are excluded from this warranty.

## 5. Limitation of liability

The warranty listed in this Agreement is the full and complete warranty for IDEC products, and IDEC shall bear no liability whatsoever regarding special damages, indirect damages, incidental damages, or passive damages that occurred due to an IDEC product.

## 6. Service scope

The prices of IDEC products do not include the cost of services, such as dispatching technicians. Therefore, separate fees are required in the following cases.

(1) Instructions for installation / adjustment and accompaniment at test operation (including creating application software and testing operation, etc.)

(2) Maintenance inspections, adjustments, and repairs

(3) Technical instructions and technical training

(4) Product tests or inspections specified by you

The above content assumes transactions and usage within your region. Please consult with an IDEC sales representative regarding transactions and usage outside of your region. Also, IDEC provides no guarantees whatsoever regarding IDEC products sold outside your region.


# IDEC CORPORATION

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**www.idec.com**

| | | | | | | | |
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