

# NAC/NAM/NAH/NAP series(4-30A)

NAC -10 -472 -□

① ② ③ ④

- ① Series Name
- ② Rated Current
- ③ Line to ground capacitor code: Refer to table 1.1.

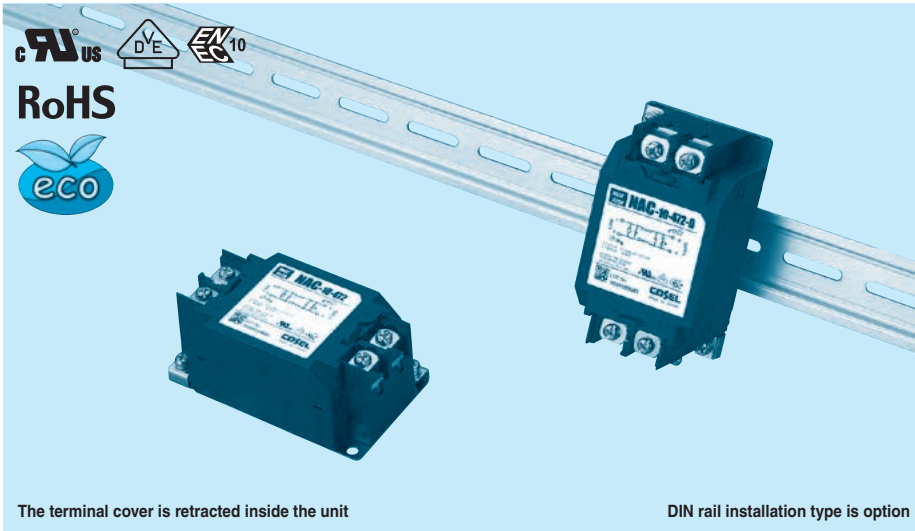
table 1.1 Line to ground capacitor code

| Code | N<br>A<br>C | N<br>A<br>H | N<br>A<br>P | Leakage Current<br>(Input 125/250V 60Hz) | Line to ground<br>capacitor<br>(nominal value) |
|------|-------------|-------------|-------------|--|--|
| 000  | ●           | ●           | ●           | 5 $\mu$ A / 10 $\mu$ A max               | Not Provided                                   |
| 101  | ●           | ●           | ●           | 12.5 $\mu$ A / 25 $\mu$ A max            | 100pF  |
| 221  | ●           | ●           | ●           | 25 $\mu$ A / 50 $\mu$ A max              | 220pF  |
| 331  | ●           | ●           | ●           | 37.5 $\mu$ A / 75 $\mu$ A max            | 330pF  |
| 471  | ●           | ●           | ●           | 50 $\mu$ A / 100 $\mu$ A max             | 470pF  |
| 681  | ●           | ●           | ●           | 75.5 $\mu$ A / 150 $\mu$ A max           | 680pF  |
| 102  | ●           | ●           | ●           | 0.13 mA / 0.25mA max                     | 1,000pF  |
| 222  | ●           | ●           | ●           | 0.25 mA / 0.5 mA max                     | 2,200pF  |
| 332  | ●           | ●           | ●           | 0.38 mA / 0.75mA max                     | 3,300pF  |
| 472  | ●           | ●           | ●           | 0.5 mA / 1.0 mA max                      | 4,700pF  |

\* When the line to ground capacitor code is different, the attenuation characteristic is different.

- ④ Option
- D: DIN rail installation type

\* The dimensions change when the option is set. Refer to External view.



The terminal cover is retracted inside the unit

DIN rail installation type is option

## Features of NAC/NAM/NAH/NAP series

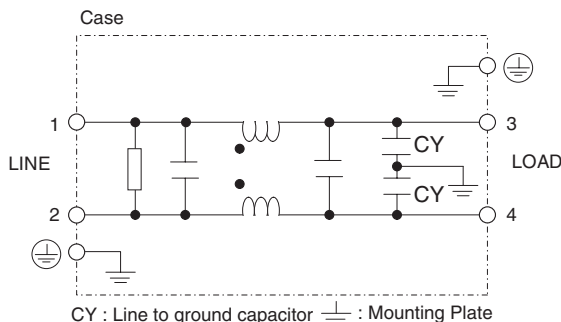
- Single Phase 250VAC (1-Stage filter)
  - Quick and easy push-down terminal
- Just connect the wires, push-down and tighten the screws with a screwdriver

- NAC : High-attenuation type from 150kHz to 1MHz
- NAM: Low leakage current type
- NAH: Ultra high-attenuation type from 9kHz to 1MHz
- NAP : Outside impulse high-attenuation type

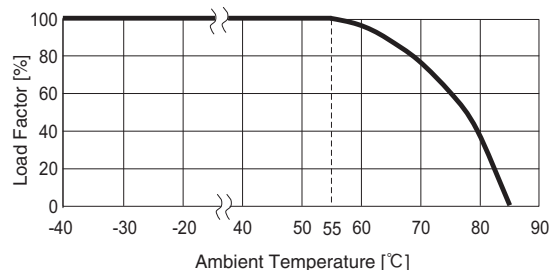
## Specifications

| No. | Items  | NAC-04-472   | NAC-06-472 | NAC-10-472 | NAC-16-472 | NAC-20-472 | NAC-30-472 |
|-----|--|--|------------|------------|------------|------------|------------|
|     |  | NAM-04-000   | NAM-06-000 | NAM-10-000 | NAM-16-000 | NAM-20-000 | NAM-30-000 |
|     |  | -  | NAH-06-472 | NAH-10-472 | NAH-16-472 | NAH-20-472 | NAH-30-472 |
|     |  | NAP-04-472   | NAP-06-472 | NAP-10-472 | NAP-16-472 | NAP-20-472 | NAP-30-472 |
| 1   | Rated Voltage[V]                               | AC 1 $\phi$ 250 / DC250  |            |            |            |            |            |
| 2   | Rated Current[A]                               | 4  | 6          | 10         | 16         | 20         | 30         |
| 3   | Test Voltage (Terminal-Mounting Plate)         | 2,500 VAC (Cutoff Current = 20mA), 1minute at room temperature and humidity                            |            |            |            |            |            |
| 4   | Isolation Resistance (Terminal-Mounting Plate) | 500 VDC 100M $\Omega$ min at room temperature and humidity   |            |            |            |            |            |
| 5   | Leakage current                                | Refer to table 1.1   |            |            |            |            |            |
| 6   | Voltage drop                                   | 1.0V max   |            |            |            |            |            |
| 7   | Safety agency approval temperatures            | -25 to +85°C (Refer to Derating Curve)   |            |            |            |            |            |
| 8   | Operating temperature                          | -40 to +85°C (Refer to Derating Curve)   |            |            |            |            |            |
| 9   | Operating humidity                             | 20 to 95%RH (Non condensing)   |            |            |            |            |            |
| 10  | Storage temperature/humidity                   | -40 to +85°C/20 to 95%RH (Non condensing)  |            |            |            |            |            |
| 11  | Vibration                                      | 10 to 55Hz, 19.6m/s <sup>2</sup> (2G), 3min. Period, 1hour each X, Y and Z axis                        |            |            |            |            |            |
| 12  | Impact   | 196.1m/s <sup>2</sup> (20G), 11ms Once each X, Y and Z axis  |            |            |            |            |            |
| 13  | Safety agency approvals                        | UL1283, CSA C22.2 No.8 (C-UL), DIN EN60939 VDE0565 Teil3-1, ENEC (At only AC input)                    |            |            |            |            |            |
| 14  | Case size (without projection) /Weight         | 53 X 41 X 92 mm [2.09 X 1.61 X 3.62 inches] (W X H X D) /300g max (Option : -D refer to external view) |            |            |            |            |            |

## Circuit Diagram



## Derating Curve

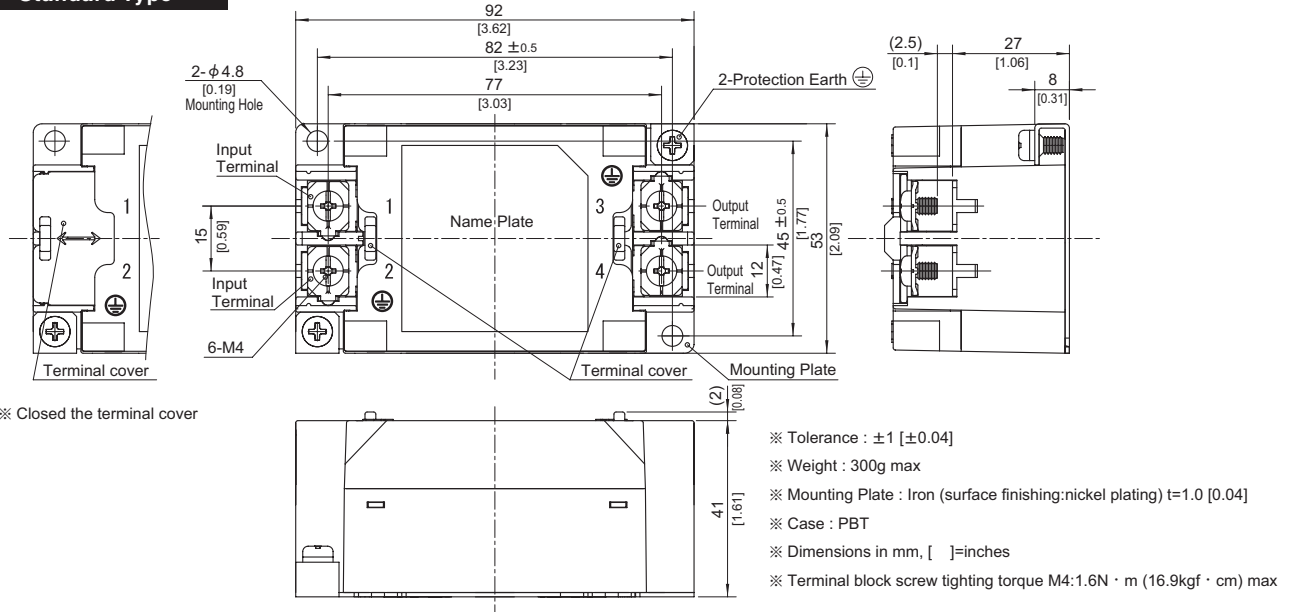


## External view

As this product is adopted push-down type terminal block, this appearance is as follows.

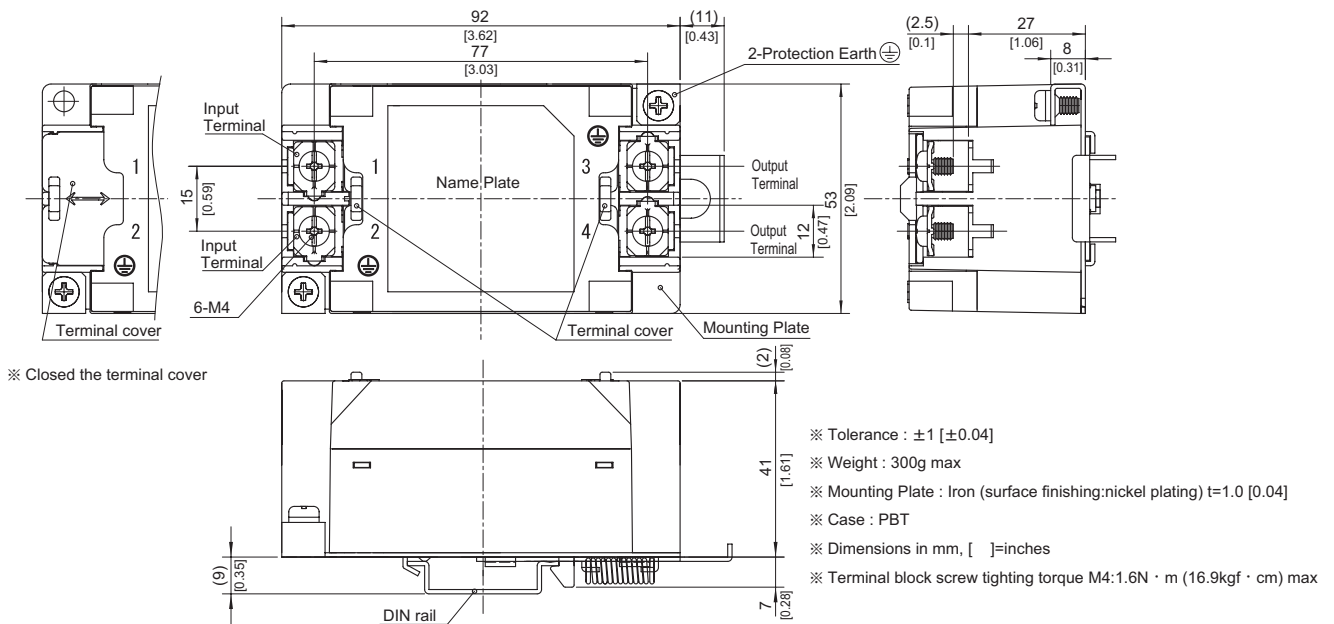
- ① The terminal cover is retracted inside the unit.
- ② The screws for connecting the terminals are held in the up right position.

### Standard Type



※ Closed the terminal cover

### DIN rail installation Type

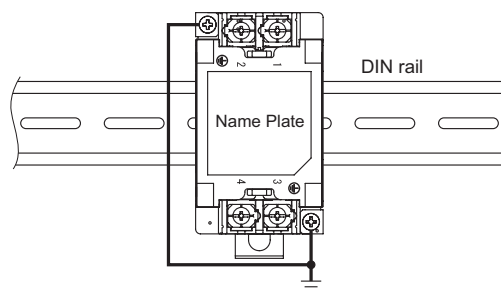


※ Closed the terminal cover

### ■Note when installing the EMI/EMC Filter on a DIN rail.

When the EMI/EMC Filter is grounded through the DIN rail, the proper noise attenuation may not be achieved.

Be sure to connect the protection earth (PE) of the EMI/EMC Filter body to the earth. It can connect the ground to either one only.



# NAC/NAM/NAH/NAP series (40,50,60A)

**NAC -50 -472**



- ① Series Name
- ② Rated Current
- ③ Line to ground capacitor code: Refer to table 1.1.

table 1.1 Line to ground capacitor code

| Code | N<br>A<br>C | N<br>A<br>M | N<br>A<br>H | N<br>A<br>P | Leakage Current<br>(Input 125/250V 60Hz) | Line to ground<br>capacitor<br>(nominal value) |
|------|-------------|-------------|-------------|-------------|--|--|
| 000  | ●           | ●           | ●           | ●           | 5 $\mu$ A/ 10 $\mu$ A max                | Not Provided                                   |
| 471  | ●           | ●           | ●           | ●           | 50 $\mu$ A/100 $\mu$ A max               | 470pF  |
| 222  | ●           | ●           | ●           | ●           | 0.25 mA/ 0.5 mA max                      | 2,200pF  |
| 472  | ●           | ●           | ●           | ●           | 0.5 mA/ 1.0 mA max                       | 4,700pF  |

\* When the line to ground capacitor code is different, the attenuation characteristic is different.

## Features of NAC/NAM/NAH/NAP series

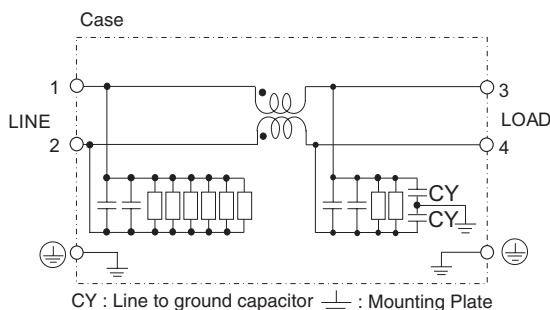
- Single Phase 277VAC/300VDC (1-stage filter)  
This product is available 277VAC equipment in factory switchboards and building equipment
- Withstand voltage 4,000 VAC

- **NAC** : High-attenuation type from 150kHz to 1MHz
- **NAM** : Low leakage current type
- **NAH** : Ultra high-attenuation type from 9kHz to 1MHz
- **NAP** : Outside impulse high-attenuation type

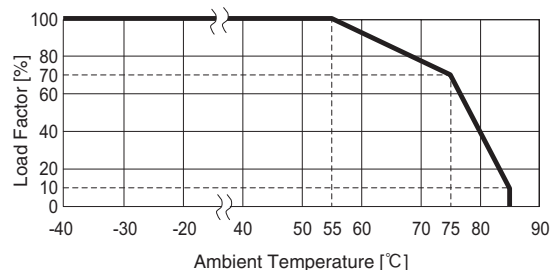
## Specifications

| No. | Items  | NAC-40-472   |  | NAC-50-472        |  | NAC-60-472        |  |  |
|-----|--|--|--|-------------------|--|-------------------|--|--|
|     |  | NAM-40-000   |  | NAM-50-000        |  | NAM-60-000        |  |  |
|     |  | NAH-40-472   |  | NAH-50-472        |  | NAH-60-472        |  |  |
|     |  | NAP-40-472   |  | NAP-50-472        |  | NAP-60-472        |  |  |
| 1   | Rated Voltage                                  | [VAC]  | 277 (voltage range:305 max) 1 $\phi$ 50/60Hz |                   |  |                   |  |  |
|     |  | [VDC]  | 300 (voltage range:400 max)                  |                   |  |                   |  |  |
| 2   | Rated Current[A]                               | 40   |  | 50                |  | 60                |  |  |
| 3   | Test Voltage (Terminal-Mounting Plate)         | 4,000 VAC (Cutoff Current = 25mA), 1minute at room temperature and humidity  |  |                   |  |                   |  |  |
| 4   | Isolation Resistance (Terminal-Mounting Plate) | 500 VDC 100M $\Omega$ min at room temperature and humidity   |  |                   |  |                   |  |  |
| 5   | Leakage current                                | Refer to table 1.1   |  |                   |  |                   |  |  |
| 6   | DC resistance                                  | 10m $\Omega$ max   |  | 6.0m $\Omega$ max |  | 4.5m $\Omega$ max |  |  |
| 7   | Safety agency approval temperatures            | -25 to +85°C (Refer to Derating Curve)   |  |                   |  |                   |  |  |
| 8   | Operating temperature                          | -40 to +85°C (Refer to Derating Curve)   |  |                   |  |                   |  |  |
| 9   | Operating humidity                             | 20 to 95%RH (Non condensing)   |  |                   |  |                   |  |  |
| 10  | Storage temperature/humidity                   | -40 to +85°C/20 to 95%RH (Non condensing)  |  |                   |  |                   |  |  |
| 11  | Vibration                                      | 10 to 55Hz, 19.6m/s <sup>2</sup> (2G), 3min. Period, 1hour each X, Y and Z axis  |  |                   |  |                   |  |  |
| 12  | Impact   | 196.1m/s <sup>2</sup> (20G), 11ms Once each X, Y and Z axis  |  |                   |  |                   |  |  |
| 13  | Safety agency approvals                        | UL60939[Overvoltage Category : III Altitude:3000m], CSA C22.2 No.8 (C-UL)<br>EN60939(DEMKO)[Overvoltage Category: III Altitude:3000m] , ENEC |  |                   |  |                   |  |  |
| 14  | Case size (without projection) /Weight         | 65x54x153mm[2.56x2.13x6.02 inches](WxHxD) / 750g max   |  |                   |  |                   |  |  |

## Circuit Diagram

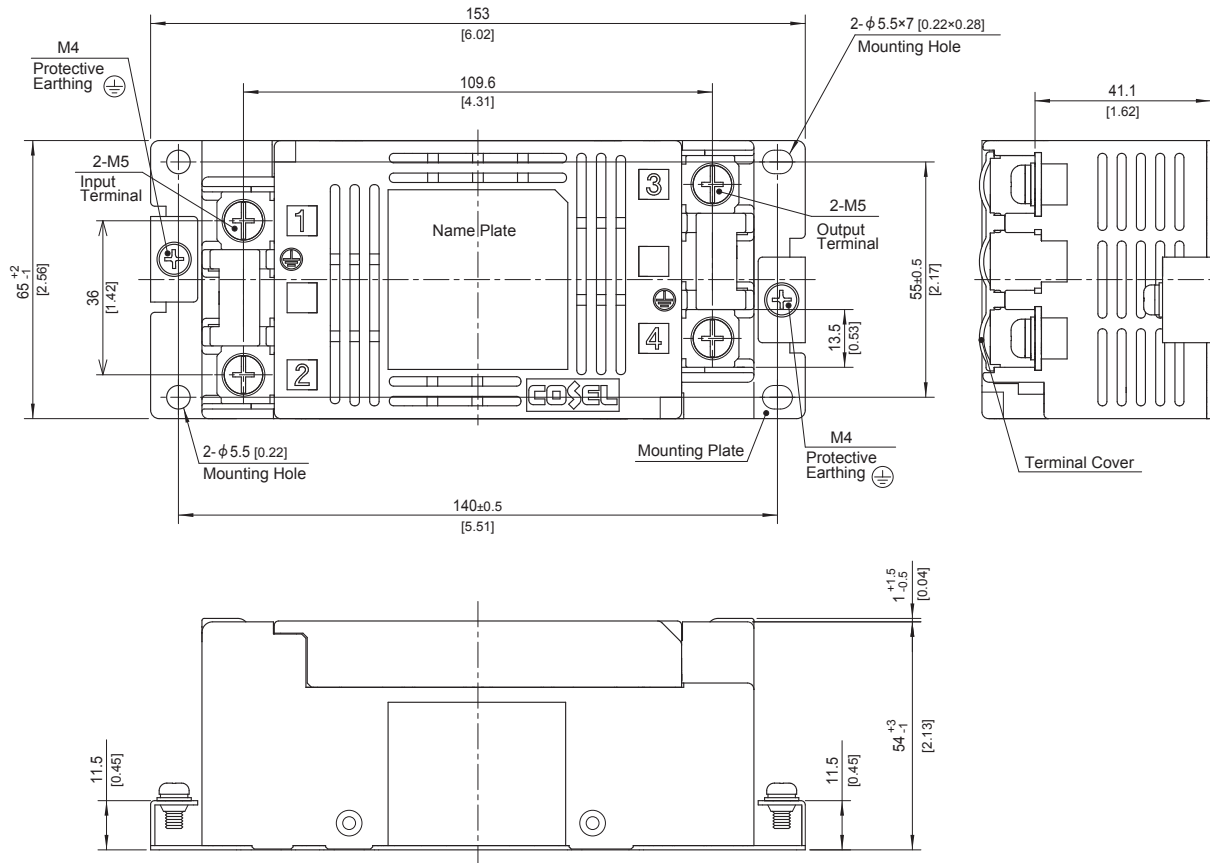


## Derating Curve



\* Keep free ventilation holes for cooling.

## External view



- ※ Dimensions in mm, [ ]=inches
- ※ Tolerance: ±1 [±0.04]
- ※ Weight: 750g max
- ※ Mounting Plate: Hot-dip Galvanized Steel board t=1.0 [0.04]
- ※ Case Material: PBT
- ※ Terminal block screw tightening torque M5: 3.0N·m max
- ※ Protective Earthing (PE) screw tightening torque M4 : 1.6N·m max
- ※ Can not be mounted upside-down. (mounted the top surface)
- ※ Keep free ventilation holes for cooling.
- ※ Can be mounted using the 2 corner mounting holes.