

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.

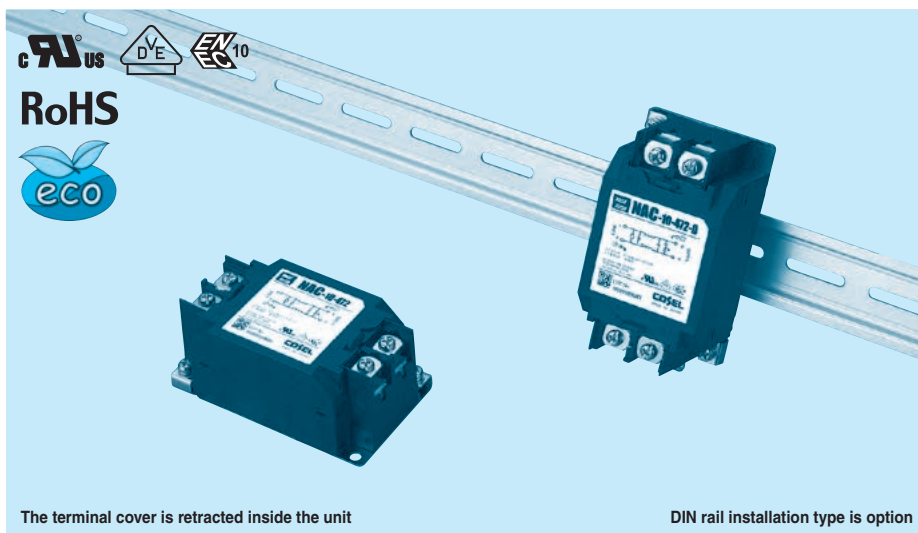
table 1.1 Line to ground capacitor code

Code	N A C	N A H	N A P	Leakage Current (Input 125/250V 60Hz)	Line to ground capacitor (nominal value)
000	●	●	●	5 μ A / 10 μ A max	Not Provided
101	●	●	●	12.5 μ A / 25 μ A max	100pF
221	●	●	●	25 μ A / 50 μ A max	220pF
331	●	●	●	37.5 μ A / 75 μ A max	330pF
471	●	●	●	50 μ A / 100 μ A max	470pF
681	●	●	●	75.5 μ A / 150 μ 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

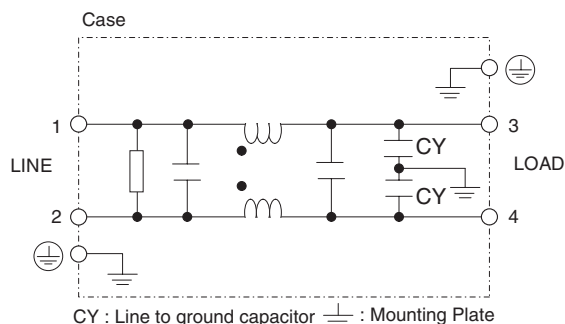
■ NAH : Ultra high-attenuation type from 9kHz to 1MHz

■ NAP : Outside impulse high-attenuation type

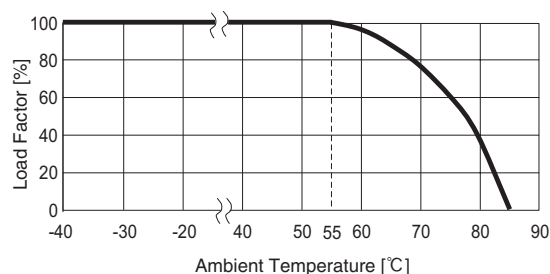
Specifications

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 ϕ 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 Ω 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 ² (2G), 3min. Period, 1hour each X, Y and Z axis					
12	Impact	196.1m/s ² (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	53X41X92 mm [2.09X1.61X3.62 inches] (W×H×D) /300g max (Option : -D refer to external view)					

Circuit Diagram



Derating Curve

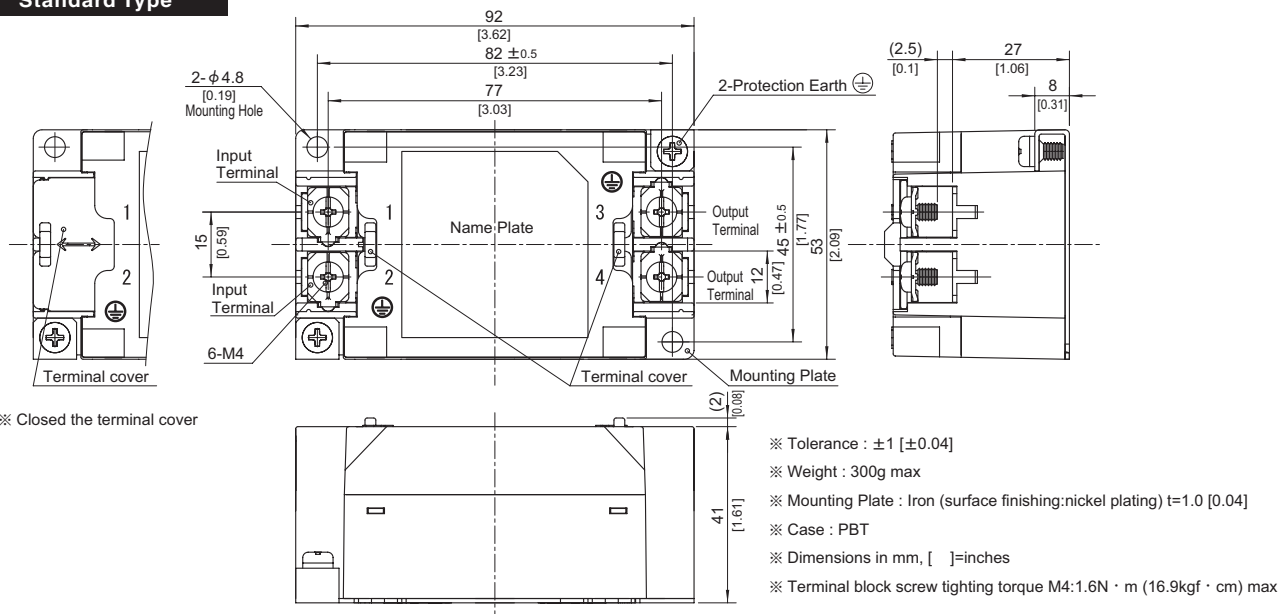


External view

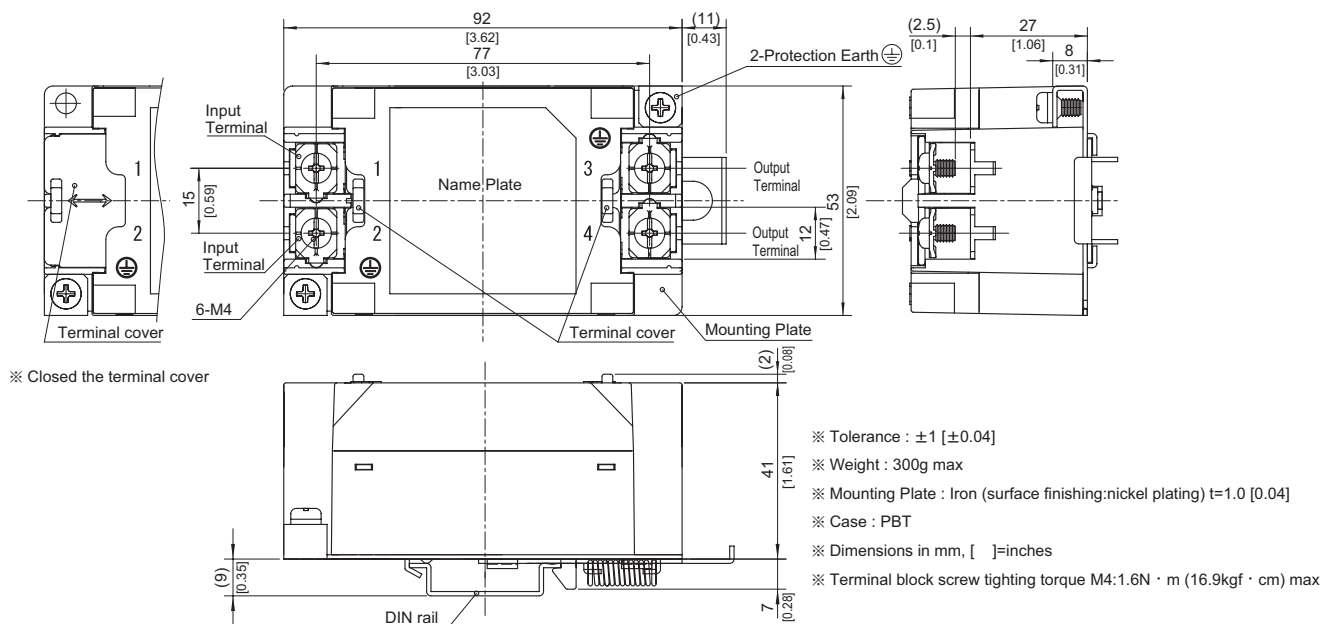
This product is shipped in the following condition, because it is equipped with push-down terminals.

- 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



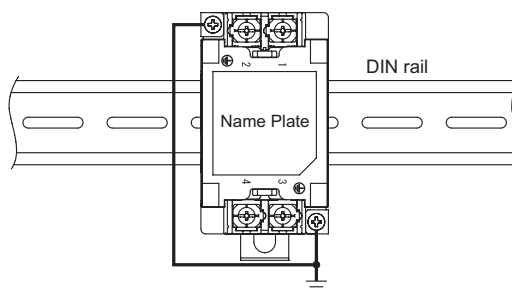
DIN rail installation Type



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

When the EM/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 EM/EMC Filter body to the earth. At least one PE connection is required.



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

NAC -50 -472 -□

① ② ③ ④



- ① Series Name
② Rated Current
③ Line to ground capacitor code: Refer to table 1.1 and table 1.2.
④ Option
F: High input voltage (500VAC/600VDC)

table 1.1 Line to ground capacitor code (Standard)

Code	N A C	N A M	N A H	N A P	Leakage Current (Input 125/250V 60Hz)	Line to ground capacitor (nominal value)
000	●	●	●	●	5 μ A/ 10 μ A max	Not Provided
471	●	●	●	●	50 μ A/ 100 μ A max	470pF
222	●	●	●	●	0.25 mA/ 0.5 mA max	2,200pF
472	●	●	●	●	0.5 mA/ 1.0 mA max	4,700pF
223	●	●	●	●	1.25 mA/ 2.5 mA max	0.022 μ F
683	●	●	●	●	1.75 mA/ 3.5 mA max	0.068 μ F
224	●	●	●	●	6.0 mA/ 12.0 mA max	0.22 μ F
155	●	●	●	●	27.5 mA/ 55.0 mA max	1.5 μ F

table 1.2 Line to ground capacitor code (Option: F)

Code	N A C	N A M	N A H	N A P	Leakage Current (Input 250/500V 60Hz)	Line to ground capacitor (nominal value)
103	●	●	●	●	0.5 mA/ 1.0 mA max	0.01 μ F
223	●	●	●	●	1.0 mA/ 2.0 mA max	0.022 μ F
683	●	●	●	●	2.5 mA/ 5.0 mA max	0.068 μ F

* 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 (Line to ground capacitor code -000 to -472)

- 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 ϕ 50/60Hz [Option : F 500 (voltage range : 528 max) 1 ϕ 50/60Hz]		
		[VDC]	300 (voltage range:400 max) [Option : F 600]		
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 *1 *2		
4	Isolation Resistance (Terminal-Mounting Plate)		500 VDC 100MΩ min at room temperature and humidity *3		
5	Leakage current		Refer to table 1.1 and table 1.2		
6	DC resistance		10mΩ max	6.0mΩ max	4.5mΩ max
7	Safety agency approval temperatures		-25 to +85℃ (Refer to Derating Curve)		
8	Operating temperature		-40 to +85℃ (Refer to Derating Curve)		
9	Operating humidity		20 to 95%RH (Non condensing)		
10	Storage temperature/humidity		-40 to +85℃/20 to 95%RH (Non condensing)		
11	Vibration		10 to 55Hz, 19.6m/s² (2G), 3min. Period, 1hour each X, Y and Z axis		
12	Impact		196.1m/s² (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) EN60939 (DEMKO) [Overvoltage Category: III Altitude:3000m] , ENEC		
14	Case size (without projection) /Weight		65x54x153mm [2.56x2.13x6.02 inches] (WxHxD) / 750g max		

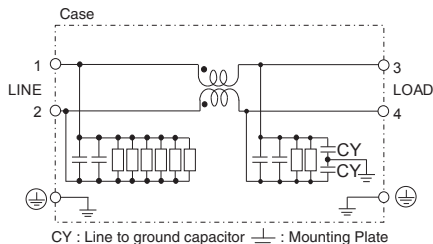
*1 "NA□-□□-□□□-F" : 2,500 VAC (Cutoff Current = 100mA) , 1 minute at room temperature and humidity.

*2 Capacitor code "223", "683", "224" and "155" of "NA□-□□-□□□" : 2,800VDC (Cutoff Current = 10mA) , 1 minute at room temperature and humidity.

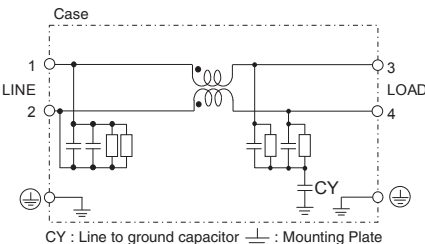
*3 Capacitor code "224" and "155" : isolation resistance specification is deleted.

Circuit Diagram

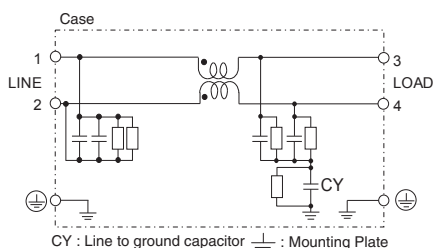
(1) Line to ground capacitor code :000,471,222,472,223



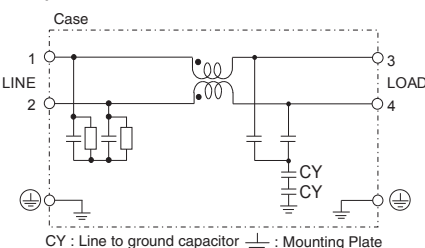
(2) Line to ground capacitor code :683



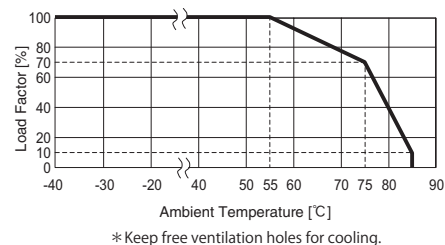
(3) Line to ground capacitor code :224,155



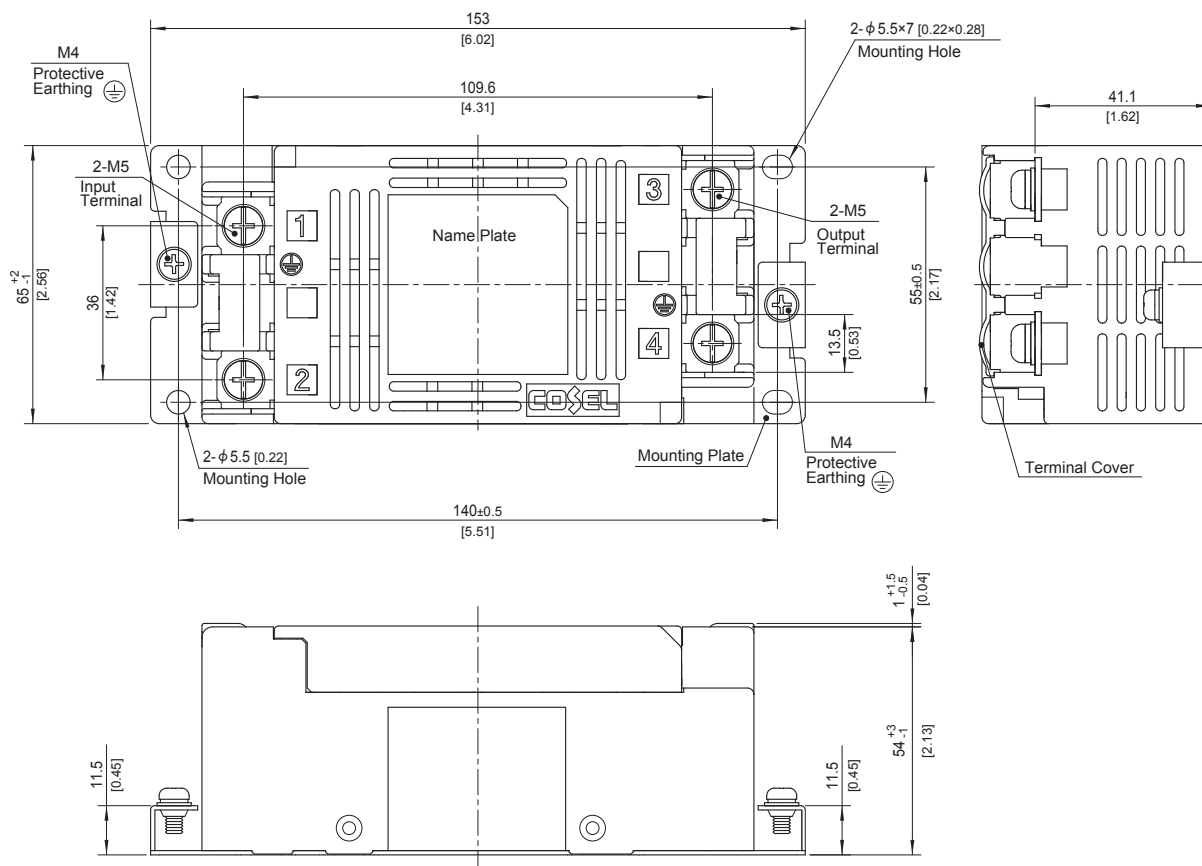
(4) Line to ground capacitor code :103,223,683
Option : F



Derating Curve



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.

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