

# ESC/ESM/ESP series

ESC -10 -472 -□

① ② ③ ④

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

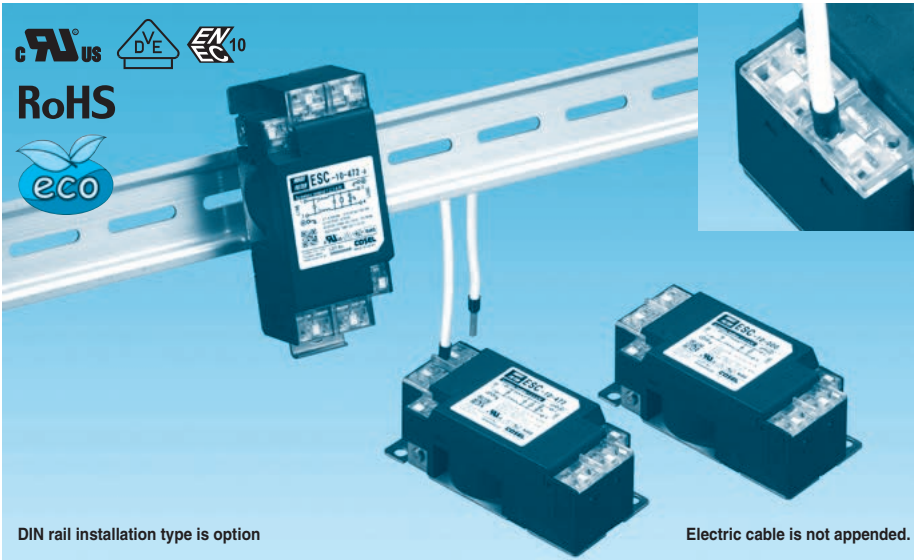
table 1.1 Line to ground capacitor code

| Code | E<br>S<br>C | E<br>S<br>M | E<br>S<br>P | Leakage Current<br>(Input 125/250V 60Hz) | Line to ground 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.



## Features of ESC/ESM/ESP series

- Single Phase 250VAC (1-Stage filter)
- Small EMI/EMC Filters that change input-output terminal and protection earth terminal of EA series into screwless terminal type
- Torque management is unnecessary with screwless

■ ESC : Attenuation type from 150kHz to 1MHz

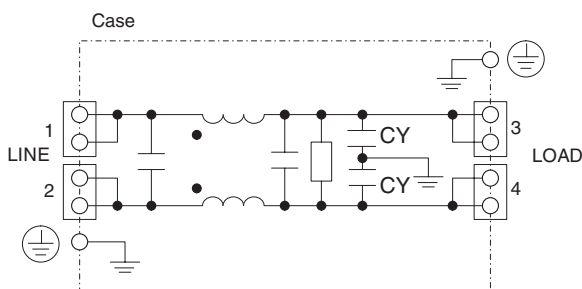
■ ESM : Low leakage current type

■ ESP : Outside impulse attenuation type

## Specifications

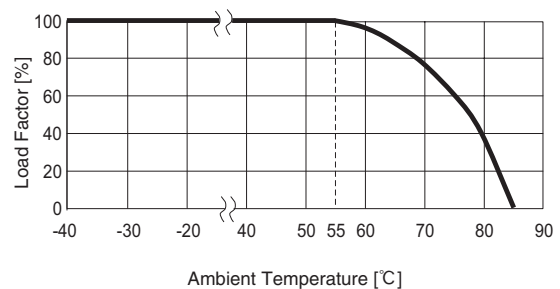
| No. | Items  | ESC-03-472   | ESC-06-472        | ESC-10-472       | ESC-16-472       |
|-----|--|--|-------------------|------------------|------------------|
|     |  | ESM-03-000   | ESM-06-000        | ESM-10-000       | ESM-16-000       |
|     |  | ESP-03-472   | ESP-06-472        | ESP-10-472       | ESP-16-472       |
| 1   | Rated Voltage[V]                               | AC 1 $\phi$ 250 / DC250  |                   |                  |                  |
| 2   | Rated Current[A]                               | 3  | 6                 | 10               | 16               |
| 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 500M $\Omega$ min at room temperature and humidity                                     |                   |                  |                  |
| 5   | Leakage current                                | Refer to table 1.1   |                   |                  |                  |
| 6   | DC resistance                                  | 180m $\Omega$ max  | 110m $\Omega$ max | 40m $\Omega$ max | 20m $\Omega$ max |
| 7   | Safety agency approval temperatures            | -25 to +85 $^{\circ}$ C (Refer to Derating Curve)  |                   |                  |                  |
| 8   | Operating temperature                          | -40 to +85 $^{\circ}$ C (Refer to Derating Curve)  |                   |                  |                  |
| 9   | Operating humidity                             | 20 to 95%RH (Non condensing)   |                   |                  |                  |
| 10  | Storage temperature/humidity                   | -40 to +85 $^{\circ}$ 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         | 39X30X85 mm [1.54X1.18X3.35 inches] (W X H X D) /170g max (Option : -D refer to external view) |                   |                  |                  |

## Circuit Diagram



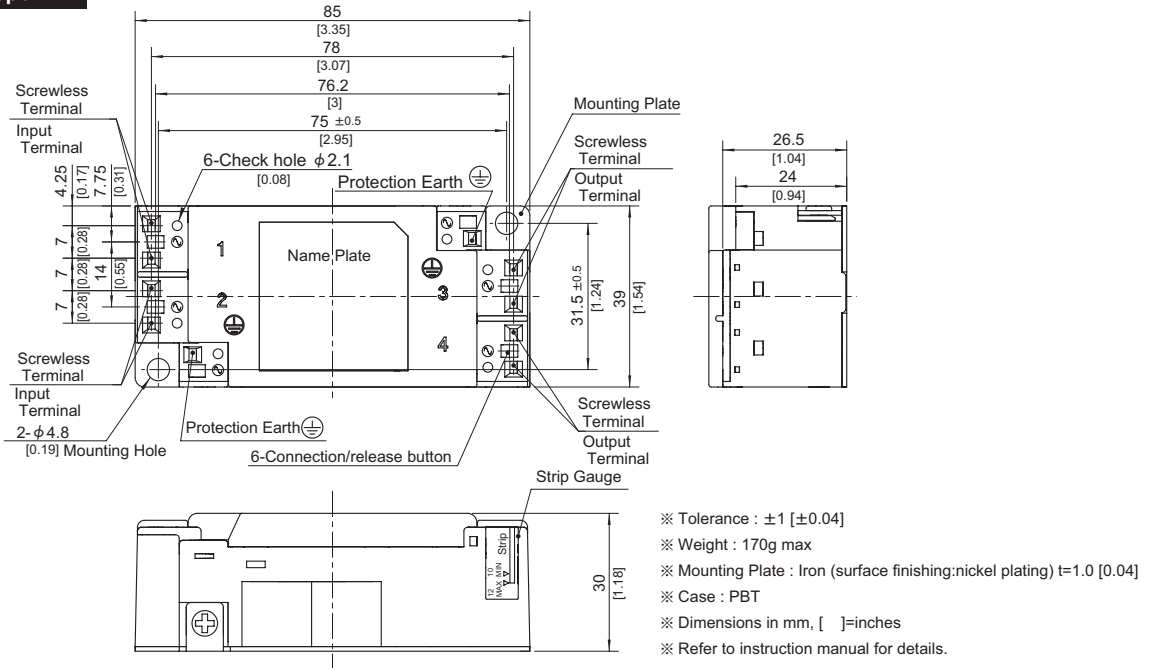
CY : Line to ground capacitor  $\perp$  : Mounting Plate

## Derating Curve

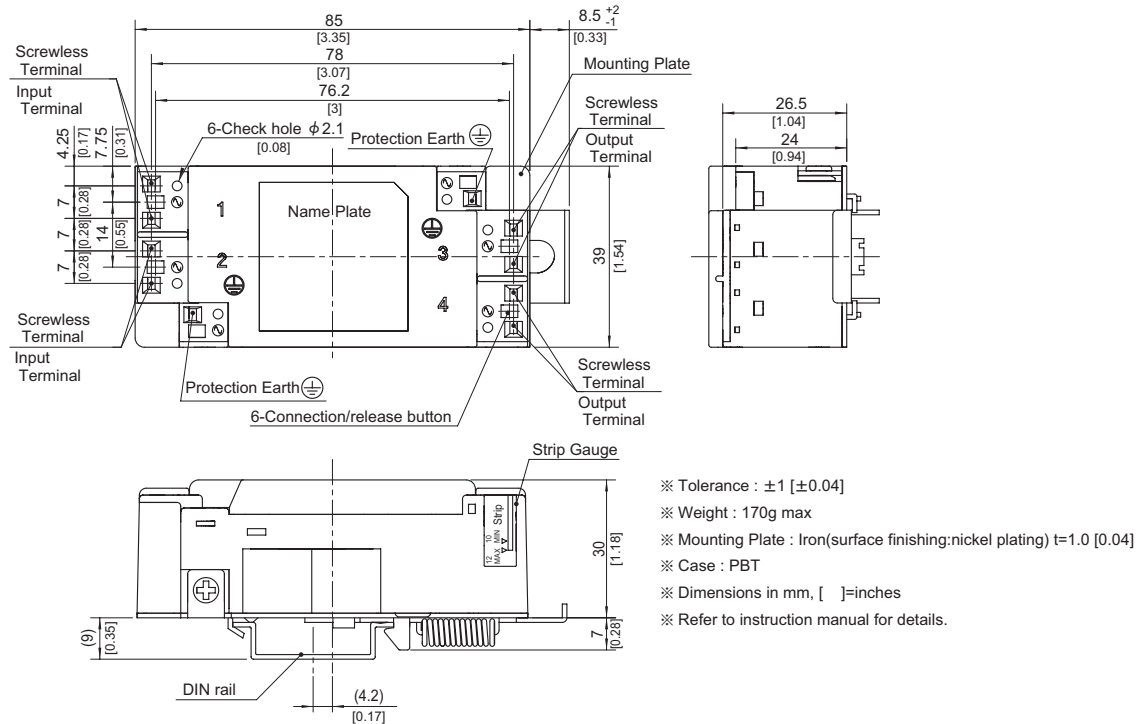


## External view

### Standard Type



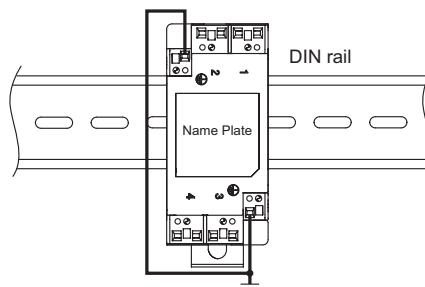
### DIN rail installation Type



### ■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. At least one PE connection is required.



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