

# FSB series(40,50,60A)

FSB -60 -324 -□

① ② ③ ④

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

table 1.1 Line to ground capacitor code

| Code | Leakage Current *1<br>Upper row : Δ-connection<br>Lower row : Y-connection | Line to ground capacitor CY1<br>(nominal value) | Line to ground capacitor CY2<br>(nominal value) |
|------|----------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| 203  | 1.0mA/2.0mA max<br>0.1mA/0.2mA max                                         | 0.01μF                                          | 0.01μF                                          |
| 693  | 2.5mA/5.0mA max<br>0.35mA/0.7mA max                                        | 0.022μF                                         | 0.047μF                                         |
| 104  | 3.5mA/7.0mA max<br>0.5mA/1.0mA max                                         | 0.033μF                                         | 0.068μF                                         |
| 324  | 12mA/24mA max<br>1.5mA/3.0mA max                                           | 0.1μF                                           | 0.22μF                                          |
| 355  | 180mA/270mA max<br>25mA/50mA max                                           | 0.22μF                                          | 3.3μF                                           |

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

\*1 Input 250/500V 60Hz (Only Δ-connection of "355" is 250/400V 60Hz)

- ④ Option  
H : Ultra high-attenuation type  
"355" is not applied.  
U : Improve differential mode attenuation  
(Rated voltage 250V)

## Features of FSB series

### EMI/EMC Filter for motor drive system (AC servo)

- Improve saturation resistance (There is such as performance improvement type "-324-HU")
- Book type (Space-saving type)

## Specifications

| No. | Items                                          | FSB-40-324                                                                      | FSB-50-324 | FSB-60-324 |
|-----|------------------------------------------------|---------------------------------------------------------------------------------|------------|------------|
| 1   | Rated Voltage[V]                               | AC Three Phase 500 (voltage range: 528 max) 50/60Hz *2 *3                       |            |            |
| 2   | Rated Current[A]                               | 40                                                                              | 50         | 60         |
| 3   | Test Voltage (Terminal-Mounting Plate)         | 2,800 VDC (Cutoff Current = 10mA), 1minute at room temperature and humidity *4  |            |            |
| 4   | Isolation Resistance (Terminal-Mounting Plate) | 500 VDC 100MΩ min at room temperature and humidity *5                           |            |            |
| 5   | Leakage current 250/500V 60Hz                  | 12mA/24mA max                                                                   |            |            |
| 6   | DC resistance                                  | 17mΩ max                                                                        | 14mΩ max   | 10mΩ 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 Teil 3-1, ENEC               |            |            |
| 14  | Case size (without projection)                 | 90 X 125 X 290 mm (W X H X D)<br>[3.54 X 4.92 X 11.42 inches] (W X H X D)       |            |            |
| 15  | Weight                                         | 3.3kg max                                                                       |            |            |

\*2 Only capacitor code "355", Three Phase Δ-connection : 400 (440 max), Y-connection : 500 (528 max)

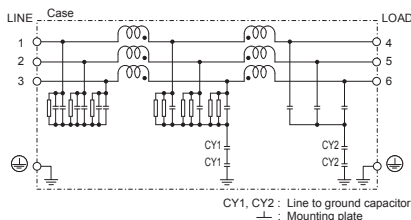
\*3 Only "FSB-□□□□□□-U", Three Phase 250 (275 max)

\*4 Only capacitor code "203", "693", "104", 2,500VAC (Cutoff Current = 100mA), 1minute at room temperature and humidity.

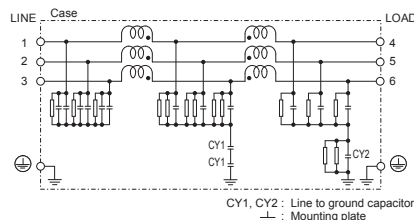
\*5 Only capacitor code "355", Isolation resistance specification is deleted.

## Circuit Diagram

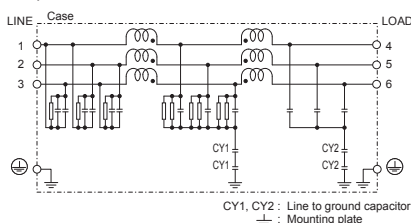
(1) Line to ground capacitor code : 203, 693, 104, 324



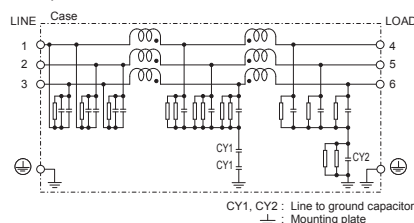
(2) Line to ground capacitor code : 355



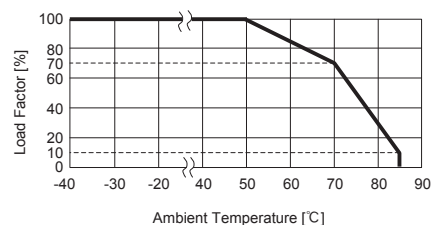
(3) Line to ground capacitor code : 203, 693, 104, 324  
Option : U



(4) Line to ground capacitor code : 355  
Option : U

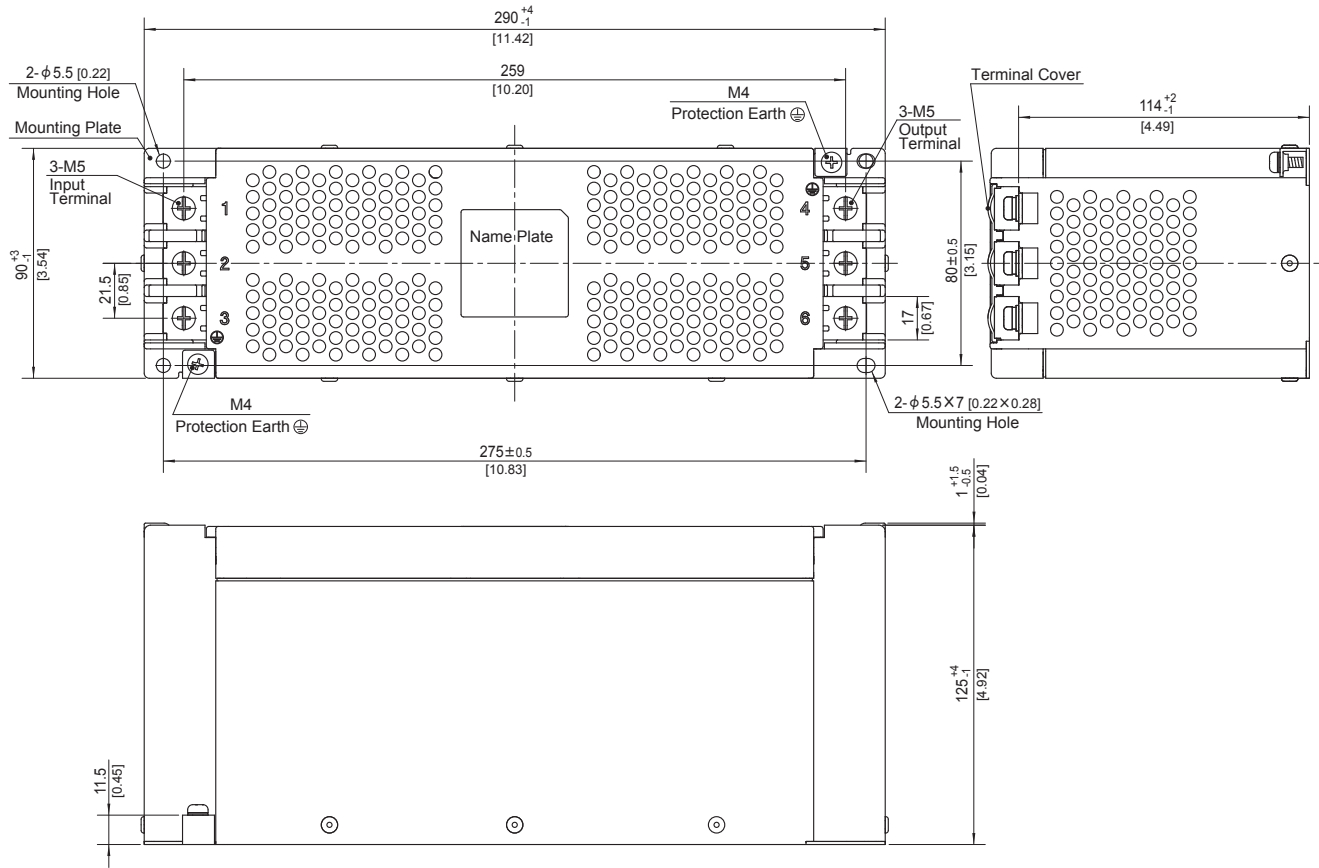


## Derating Curve



\* Keep free ventilation holes for cooling.

## External view



- ※ Tolerance :  $\pm 1$  [ $\pm 0.04$ ]
- ※ Weight : 3.3kg max
- ※ Mounting Plate : Hot-dip Galvanized Steel board  $t=1.2$  [0.05]
- ※ Case Material : PBT
- ※ Dimensions in mm, [ ]=inches
- ※ Terminal block screw tightening torque M5 :  $3.0\text{N} \cdot \text{m}$  ( $30.7\text{kgf} \cdot \text{cm}$ )max
- ※ Protection Earth(PE) screw tightening torque M4 :  $1.6\text{N} \cdot \text{m}$  ( $16.9\text{kgf} \cdot \text{cm}$ )max
- ※ Can not be mounted upside-down(mounted the top surface)
- ※ Keep free ventilation holes for cooling

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