**Application Note** | BEO-5100M/MC series

# Installation Instruction

The BEO-5100M/MC series has four 4 mm diameter mounting holes. There are three type installations for BEO-5100M/MC.

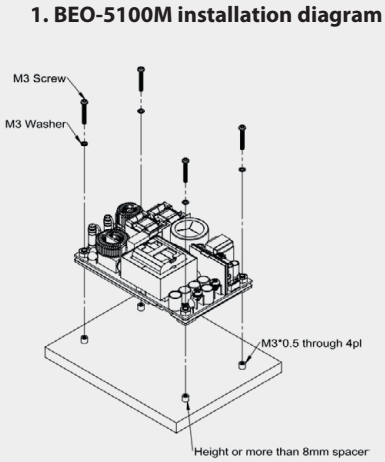
**Please use the mounting holes as follows:**

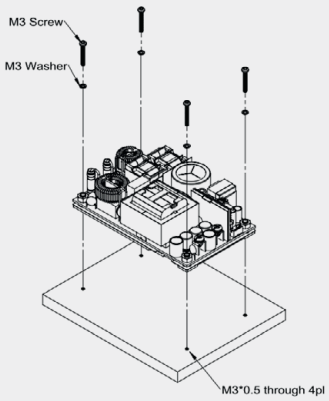
Insert the spacer (4 mm diameter max.) of 8 mm height or more to mount the unit. The BEO-5100M/MC series provide the baseplate cooling for customer to increasing heat dissipation. Please refer to the following figure for installation.

*BEO-5100MC*

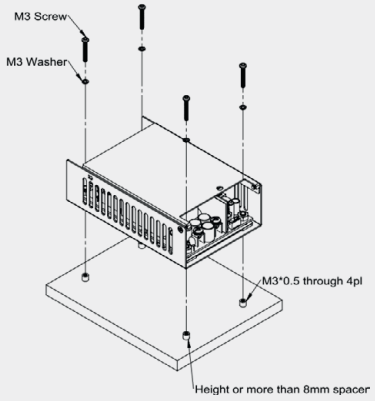
*BEO-5100M*

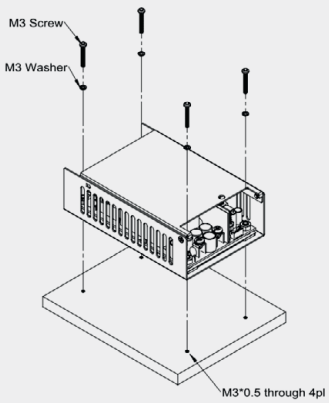
### 1. BEO-5100M installation diagram



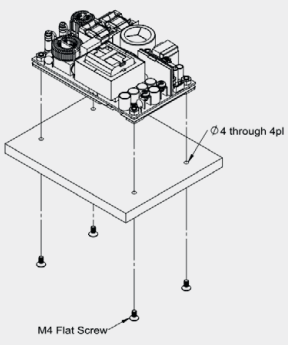



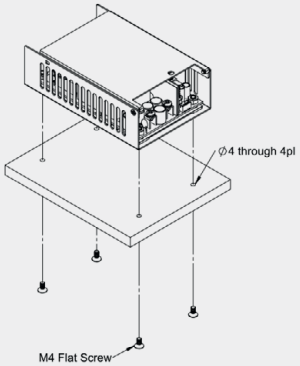

### 2. BEO-5100MC installation diagram




### 3. M4 Flat Screws



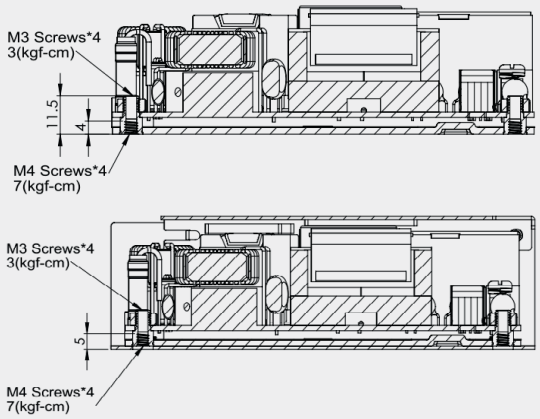




**NOTE:**

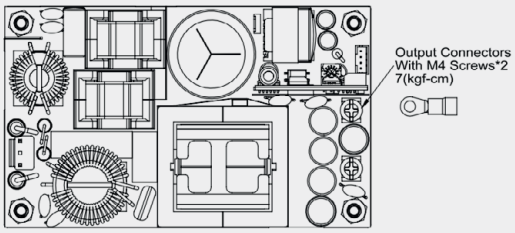
1. M3 & M4 screw head and washer diameter shall not exceed 5.5mm.
2. FG could be connected or floating.

**Application Note** | BEO-5100M/MC series

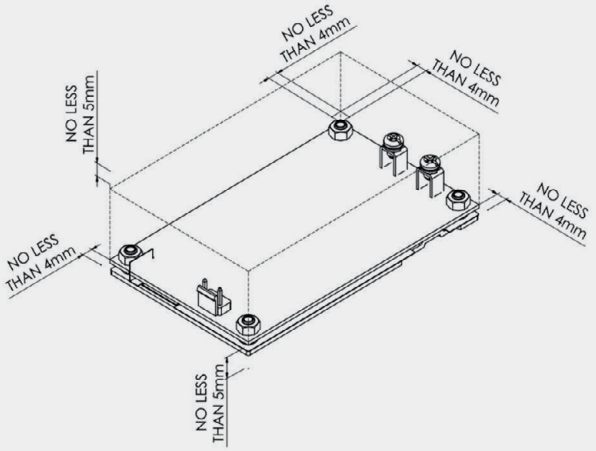
**The torque of BEO-5100M/MC series as follows**




The torque of M3 screws are 3kgf-cm and M4 screws are 7kgf-cm. The torque of output connectors are 7kgf-cm and the connectors mate with round terminal. The maximum outer diameter of the terminal is 8.0 mm and the maximum inner diameter is 4.3 mm. When locking the round terminal or Y terminal to output connectors, the terminals should not touch other parts to avoid short.




Please allow 4 mm side clearance from the components and all side of the PCB. Allow 5 mm clearance above the highest parts on the PCB. Be especially careful to allow 5 mm between the solder side of the PCB and the mounting surface. If the clearances are not sufficient the specifications for isolation and withstand will not be valid.



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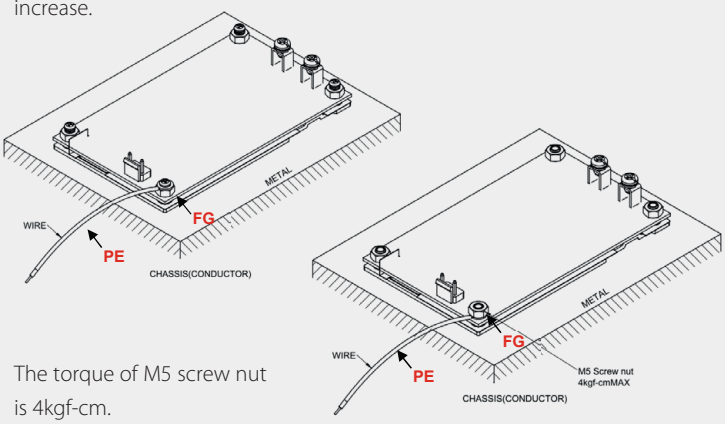
Using in Class I systems, FG should be connected to the earth (ground) terminal of the apparatus. If not the conducted noise and output noise will increase.



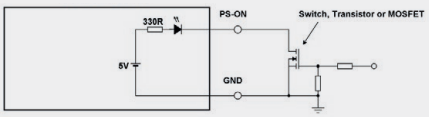

The torque of M5 screw nut is 4kgf-cm.

# PS On/Off Remote Control and Fan Control

The PS-ON remote control is provided in CN3 pin 4. The diagram and control function are shown as follow:

**Power On:** $V_{PS\text{-}ON} \leq 2\,V$, $I_{PS\text{-}ON} \geq 10\,mA$
(PS-ON and GND short, $I_{PS\text{-}ON} = 10\,mA$ typical)

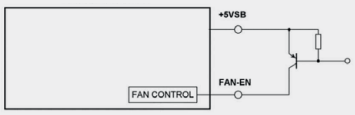
**Power Off:** Open circuit, $V_{PS\text{-}ON} = 4\,V$



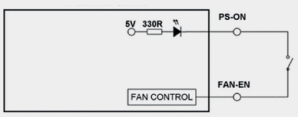

The fan control is provided in CN3 pin 3. The control function and diagram are shown as follow:

**Fan On:** $V_{FAN\text{-}EN} \geq 1\,V$

**Fan Off:** Open circuit, $V_{FAN\text{-}EN} = 0\,V$




When the PS-On remote control function is not used, connect a short circuit between the pin PS-ON and FAN-EN.



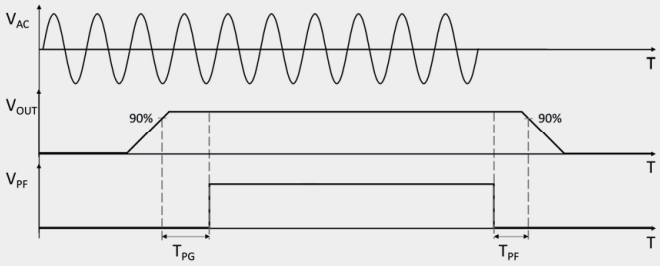
**Application Note** | BEO-5100M(C) Series

# Power Good (PG) and Power Fail (PF)

The PF remote control is provided in CN3 pin2. The signal time sequence is shown as follow:

**Power Good Time:** 100 ms ≤ $T_{PG}$ ≤ 500 ms

**Power Fail Time:** 1 ms ≤ $T_{PF}$ (10 ms typical)



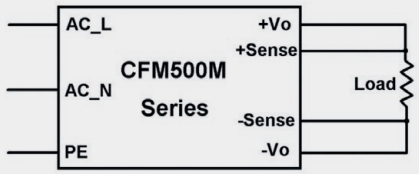

# Output remote sensing

The BEO-5100M/MC series converter has the capability to remotely sense both lines of its output. This feature moves the effective output voltage regulation point from the output of the unit to the point of connection of the remote sense pins. This feature automatically adjusts the real output voltage of the BEO-5100M/MC series in order to compensate for voltage drops in distribution and maintain a regulated voltage at the point of load.

**The remote-sense voltage range is:**

[(+$V_{out}$) - (-$V_{out}$)] – [(+Sense) – (-Sense)] ≤ 5% of $V_{o\_nominal}$

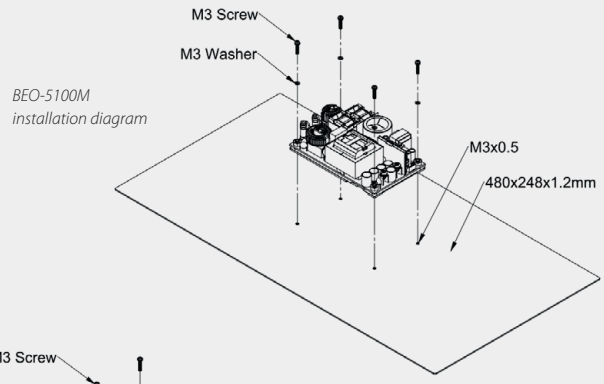
A Remote Sensing is provided in CN3.
This is shown in the schematic as below.



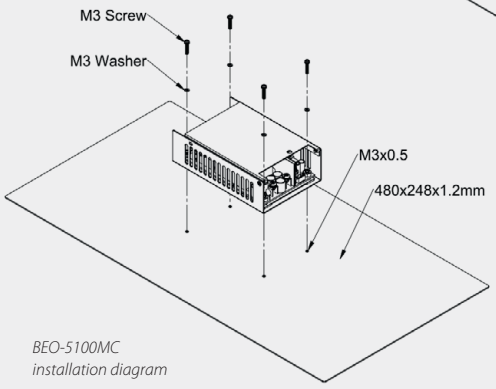
**Application Note** | BEO-5100M(C) Series

# External baseplate cooling

The BEO-5100M/MC series is available for use with baseplate cooling to increase the heat dissipation.
When the BEO-5100M/MC series is used with an external baseplate cooling solution, it can be operated at 470 ~ 500 W. Please refer to the following figure for installation and also to the power derating curve in the datasheet.




*BEO-5100M installation diagram*




*BEO-5100MC installation diagram*