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100W Generator for UAV

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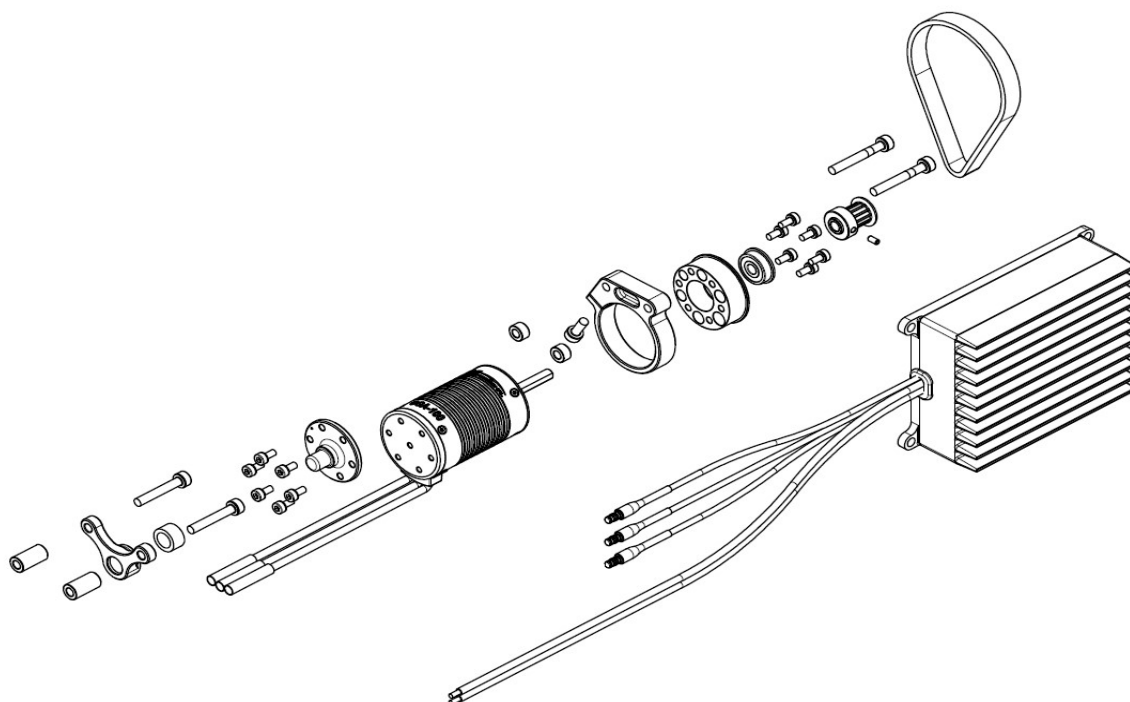
# OGA-100 KIT

for GF40U-FI

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## INSTRUCTION MANUAL

version 2.41E  
2021.08.01



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O.S. ENGINES MFG. CO., LTD.

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## ABOUT THE PRODUCT

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- This is OGA-100 generator kit to be mounted on GF40U-FI. The kit contains OGA-100 generator with a mount, a drive belt, a drive pulley, ORF-200 regulate rectifier.
- OGA-100 in the kit also has a stay, which supports rear part of the generator. It is an extra part included in the kit to mount on GF40U-FI.

### 【OGA-100A】

- OGA-100 is a 3-phase AC generator suitable for small engines.
- It applies a brushless motor to the system and generates electricity with stability.
- It is equipped with UH grade Neodymium magnets that have powerful magnetic force with high heat resistance (180 °C).

### 【ORF-200】

- ORF-200 is an open type regulate rectifier; an effective DC-DC converter type.
- Output voltage is adjustable from DC6V through DC28V. (The factory setting is DC12V)
- Maximum output: 200W (DC12V)/10 minutes. (when atmospheric temperature is 20°C.)
- Maximum current: 16A (DC12V). (when atmospheric temperature is 20°C.)
- Maximum input voltage: 100V (AC).

\*The specifications are subject to alteration for improvement without notice.

\*Consult us for any questions on this product and return for repair.

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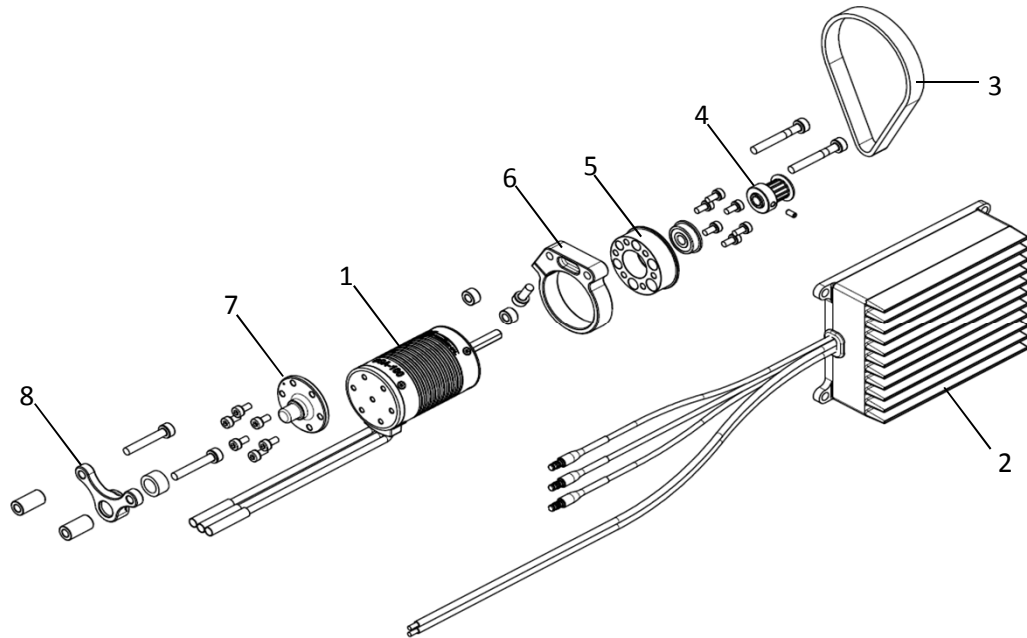
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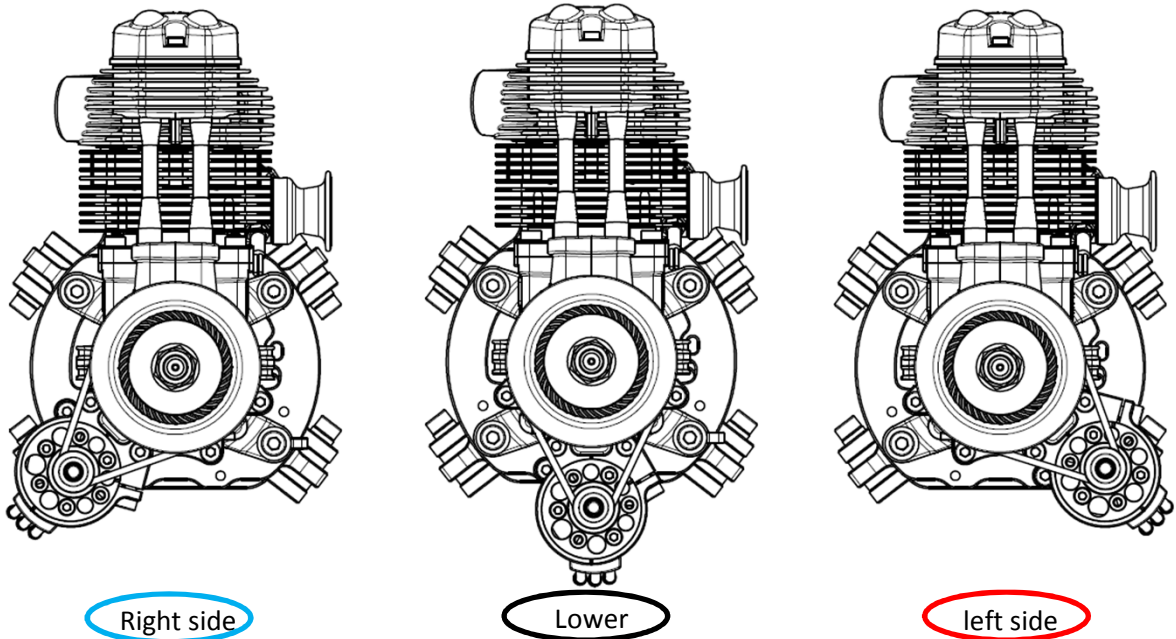
## NAMES OF THE PARTS

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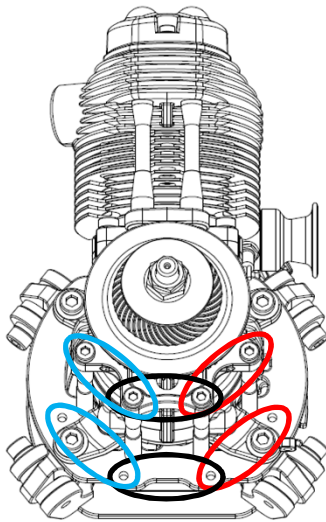


1. OGA-100A Generator
2. ORF-200 Regulate rectifier
3. Belt
4. Driven pulley
5. Generator adaptor(F)
6. Generator support(F)
7. Generator adaptor(R)
8. Generator support(R)

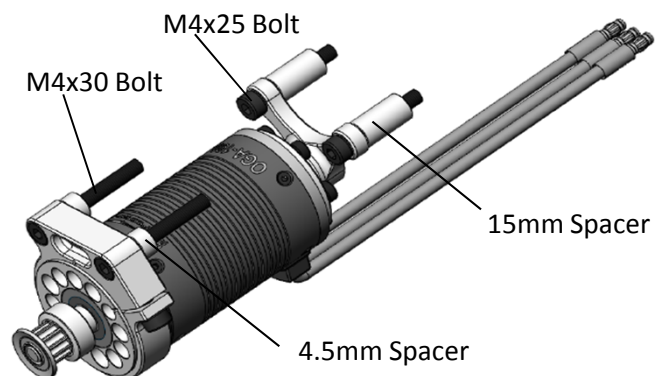
## OGA-100A GENERATOR



- The position of the generator (OGA-100A) is choosable from the three positions shown above.
- Mount the Generator after mounting the engine.

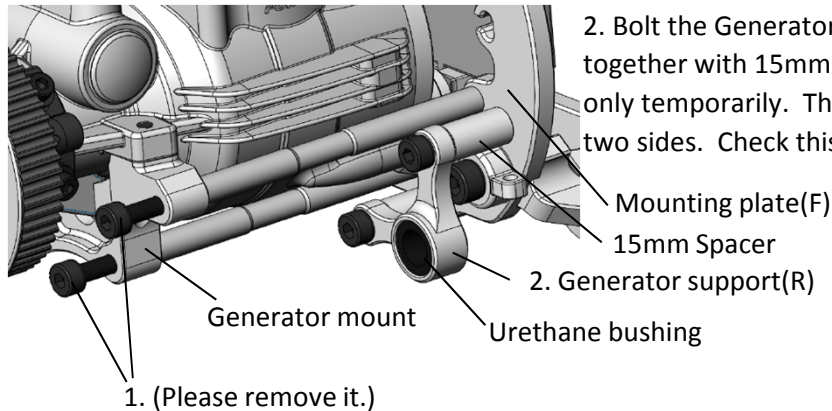


Use four screw holes for each depending on the mounting position.

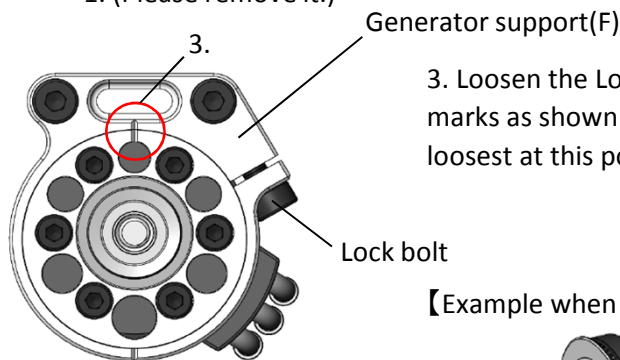


## Installation

1. Remove the pair of front bolts (M4 x 15) on the generator mount, where you intend to fit the Generator. There bolts are unnecessary in case the Generator is fit.



2. Bolt the Generator support (R) to Mounting plate(F) together with 15mm Spacers using M4x25 Bolts. Fasten only temporarily. The Generator support (R) piece has two sides. Check this closely.

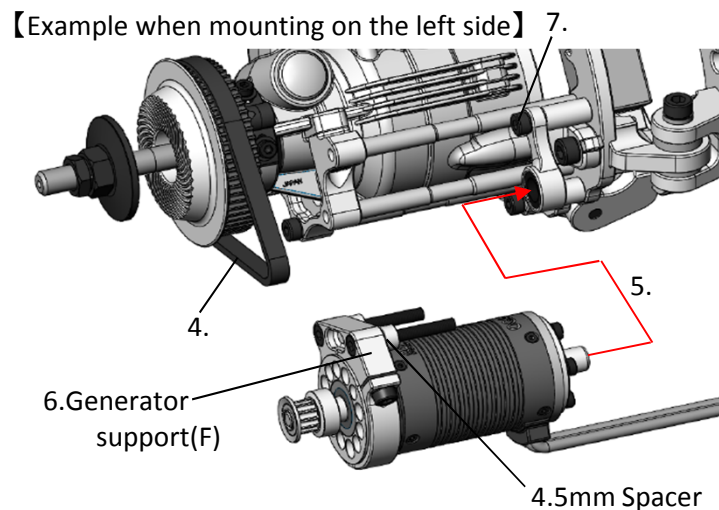


3. Loosen the Lock bolt on the Generator support(F) and align the marks as shown above in the red circle. Tension of the belt is the loosest at this position.

4. Loop the belt over the Drive pulley and the engine pulley.

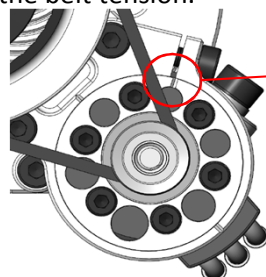
5. Insert the Generator into Urethane bushing of the Generator support (R).

6. Attach the Generator support (F) to the Generator mount together with 4.5mm Spacers using M4x30 Bolt.



7. Fasten the M4x25 bolts of the Generator support (R) that you temporarily fastened earlier. Loosen the Lock bolt of Generator support (F) and check if belt tension is adjustable by rotating the generator body.

8. Rotate the generator body clockwise (viewing from the front of the engine) and adjust the belt tension. Press on the middle point of the belt with a finger and set deflection to around 2mm. Tighten the Lock bolt after adjusting the belt tension.



【reference】

The alignment mark is roughly here when the belt is new.

## ORF-200 REGULATE RECTIFIER

### Installation

- Provide enough anti-vibration measures to mount it in an aircraft.
- Determine the position of the regulate rectifier, well ventilated, not to be exposed to radiation heat and engine exhaust gas.
- Use four M4 screws when it is mounted.
- Connect three white input cables of ORF-200 to three output cables of the generator. There is no polarity on each three cables.
- Output cables (RED DC +, BLACK DC -) do not have connectors. Prepare connectors that fit to your equipment by yourself.

### CAUTION:

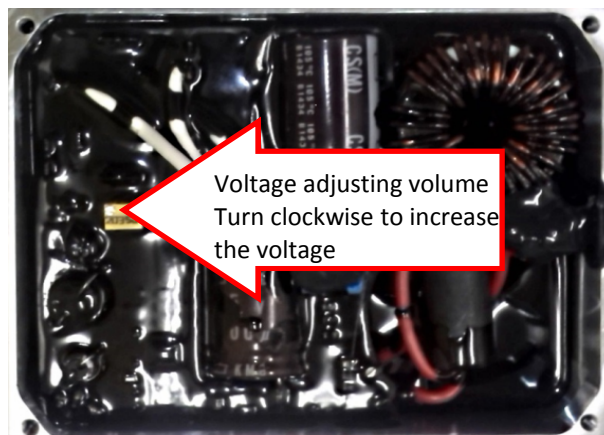
- Do not exceed the rated output values. The regulate rectifier can be overheated under high atmospheric temperature even it is used within the rated values. So position it in a well-ventilated place.
- When output of ORF-200 is connected to your equipment, put a 15A – 20A fuse in the RED cable (DC +).

### Adjustment method of output voltage

- Output voltage is adjustable between 6V to 28V.

### 《How to reset the output voltage》

- ① Remove the four screws on bottom of ORF-200, and take out the lid.
- ② Reset the voltage by turning the trimmer shown in the picture. You can increase the voltage by turning it clockwise. Adjust the output voltage with no load without connecting output cable to any equipment inputting double or more voltage than the output voltage you set. The input voltage does not have to be 3-phase AC when you adjust the output voltage. You can use single-phase AC or even DC. Use two of the three input cables randomly selected when you use single-phase AC or DC for input.

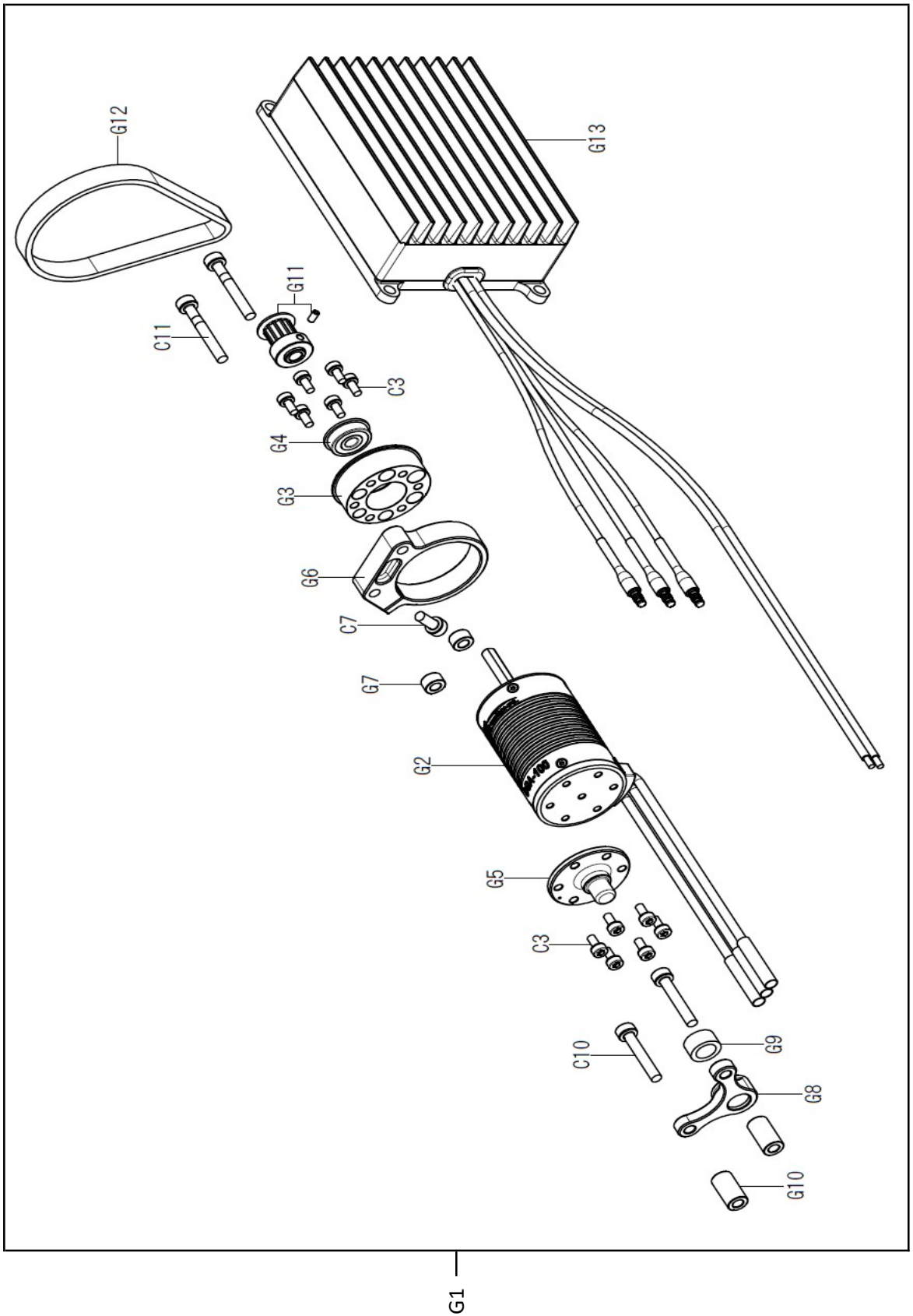


- ③ Attach the lid with the four screws (tightening torque 0.5N-m). Do not attach the lid reverse since the lid is asymmetric with a cutout for cables.

No.	Code No.	Description	
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OGA-100 KIT for GF-40U-FI





**■ SPECIFICATION (OGA-100A)**

Weight:	205 g
Lead wire length:	100 mm
Female connector:	φ3.5 mm
Induced voltage Ke:	1.053 mV/rpm
Rated voltage:	12V @11400rpm
Rated current:	7A
Maximum current:	15A
Maximum output:	100W(12V)/30minutes (the value in atmospheric temperature 20°C) 60W/continuous (the value in atmospheric temperature 20°C)
Poles:	4
Number of phases:	3
Phase resistance:	60mΩ
International protection:	Equivalent to IP62

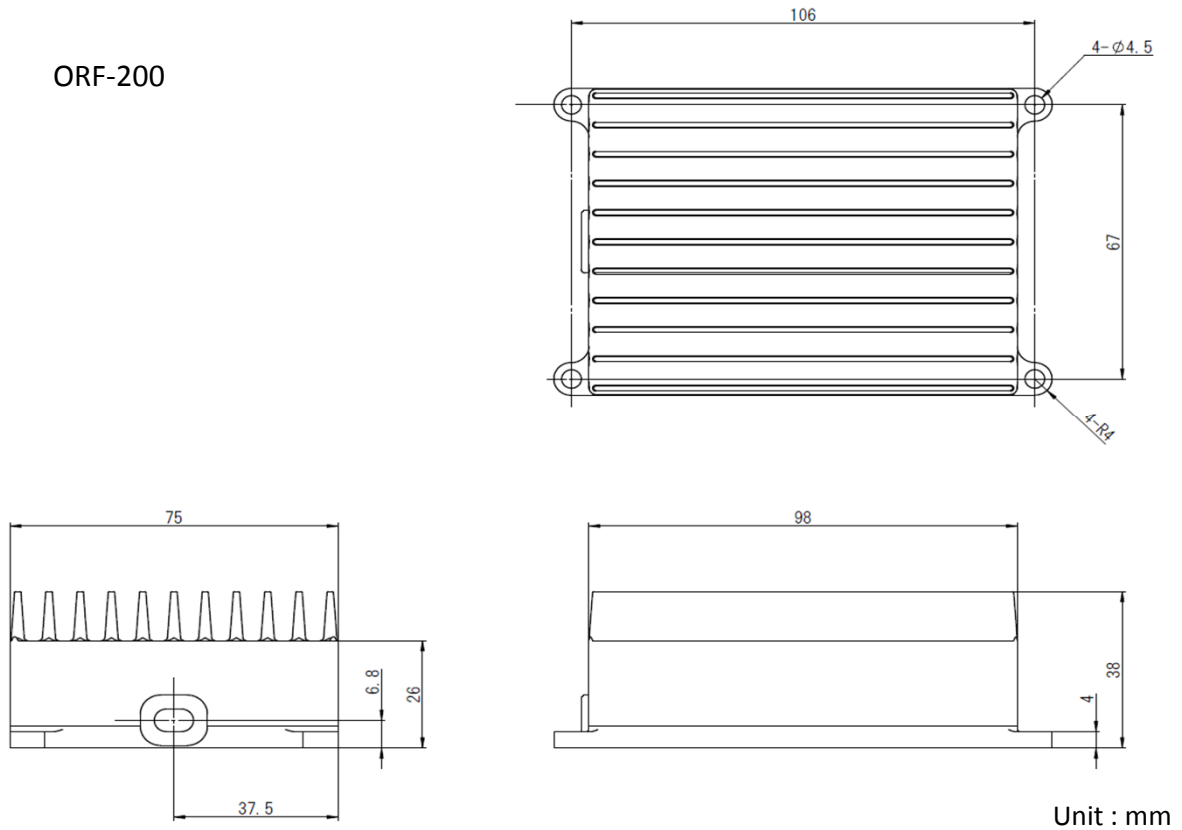
**■ SPECIFICATION (ORF-200)**

Weight:	395 g
Input lead wire length:	300 mm
Male connector:	φ3.5 mm
Output lead wire length:	300 mm
Number of phases:	3
Rated voltage:	60 V (AC)
Maximum input voltage	100 V (AC)
Rated output voltage:	12 V
Maximum output voltage	28 V
Rated output current:	12 A
Maximum output current:	16 A
Rated output:	140W (12V) (the value in atmospheric temperature 20°C)
Maximum output:	200W (12V)/10 minutes (the value in atmospheric temperature 20°C)
International protection:	Equivalent to IP63

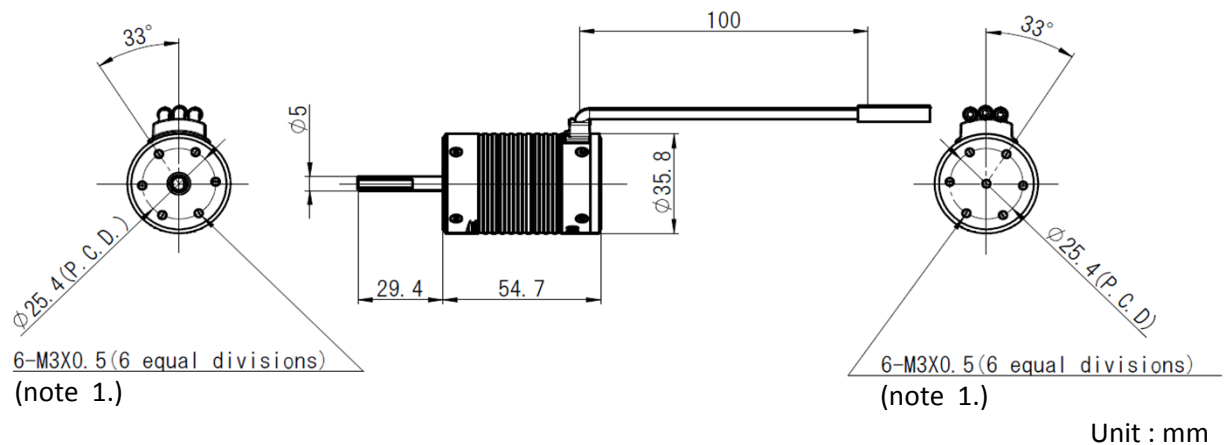
• Output voltage/wattage/current: 6-28V adjustable, Max 200W, Max 16A.

Do not exceed 200W/16A when you set the voltage.

ORF-200



OGA-100A



note 1. Use the mounting screws whose length does not exceed the thickness of your bracket + 4mm, so that the length of screws which is screwed into the generator body is less than 4mm. If you screw into the screw body longer than 4mm, the screw will contacts the motor coil and will cause short circuit.

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MEMO