

## 350 Watts Hot Gas to Liquid Type Thermoelectric Generator Good for Automobile Exhaust Heat Energy Recovery

### Description

The generator here is a hot gas-liquid type thermoelectric generator, which consist of a hot gas heat collector, 36 pieces thermoelectric modules and a liquid cooling system. The heat collector will capture the heat of hot gas that passing through and transfer the heat energy to each modules. The modules are cooled by a circulated liquid cooling system. The generator can generate 350watts if the hot gas can heat up the hot side of modules 300 °C or above.

Up to 60 per cent of the energy created by an internal combustion engine is lost in heat, with half of it going to exhaust heat and the other half going to the cooling system. If we will capture the exhaust heat energy and turn it into electricity energy by thermoelectric, the automobile fuel efficiency can be improved hence the exhaust emissions can be reduced. The generator here can be used for such application.

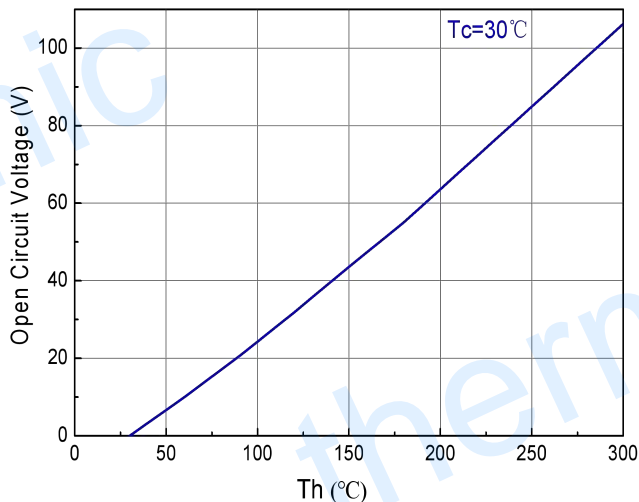


Figure 1 350 Watts Hot Gas to Liquid Type Heat Recovery Thermoelectric Generator

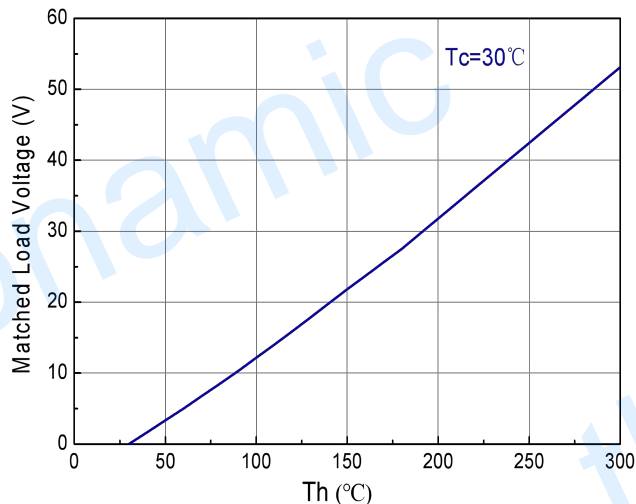
### Specifications:

Part Number	TEG-HL350-48V
Hot Gas	Temperature >400 °C, Be able to provide enough heat to heat the heat collector up to 300 °C
Matched output power / W	350
Open circuit voltage / VDC	96
Matched Load Output Voltage / VDC	48
Matched Load Output Current / A	7.2
Matched Load Resistance / Ohms	6.7
Working pressure of oil tank / Mpa	0.25
Working pressure of water tank / Mpa	0.35
Dimension of the unit / mm	650 × 220 × 215
Weight / Kg	27.8

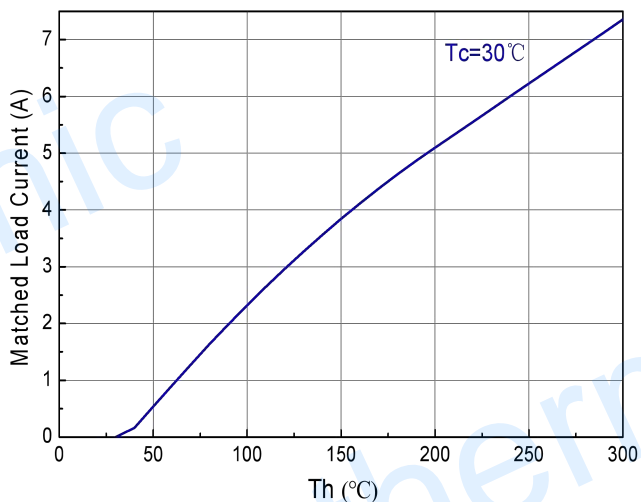
### Performance Curves of the Generator



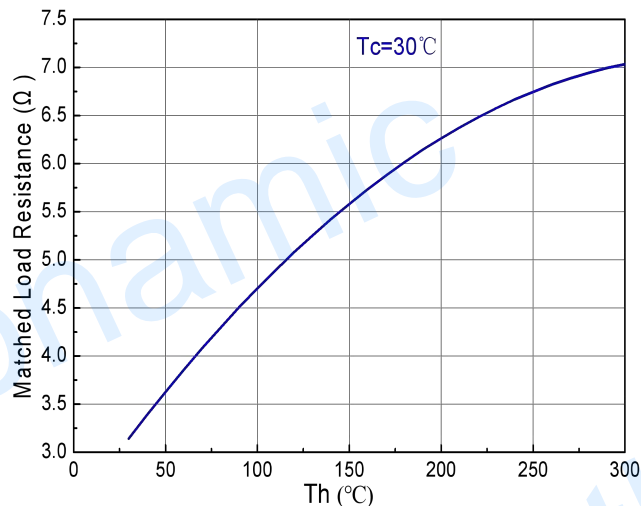
The chart for open circuit voltage Vs Th under Tc=30°C input water temperature



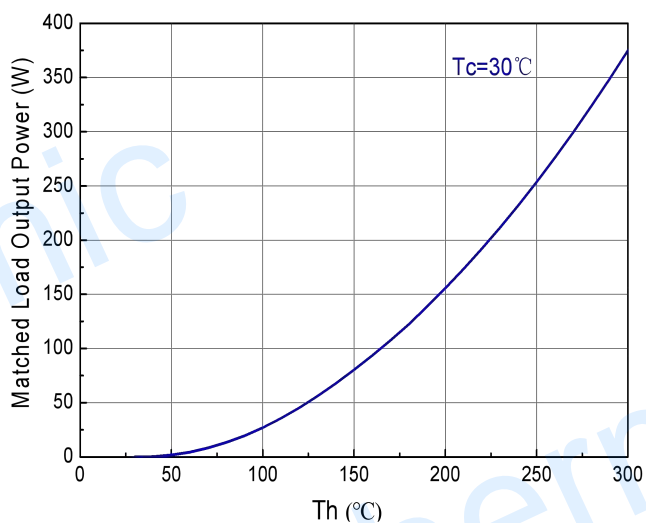
The chart for matched load voltage Vs Th under Tc=30°C input water temperature



The chart for matched load current Vs Th under Tc=30°C input water temperature

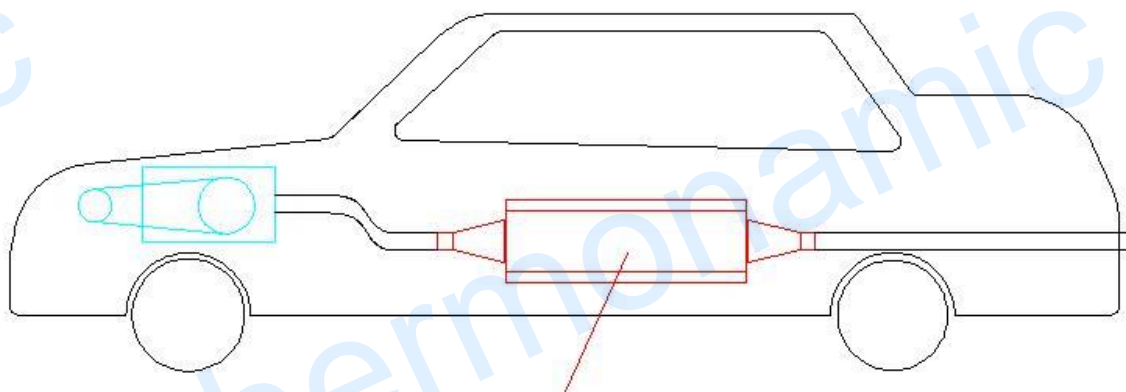


The chart for matched load resistance Vs Th under Tc=30°C input water temperature



The chart for matched load output power Vs Th under Tc=30°C input water temperature

Application in Automobile Exhaust Heat Energy Recovery:



350 Watts Automobile Exhaust  
Pipe Heat Recovery Generator

Figure 2 350 Watts Generator illustration

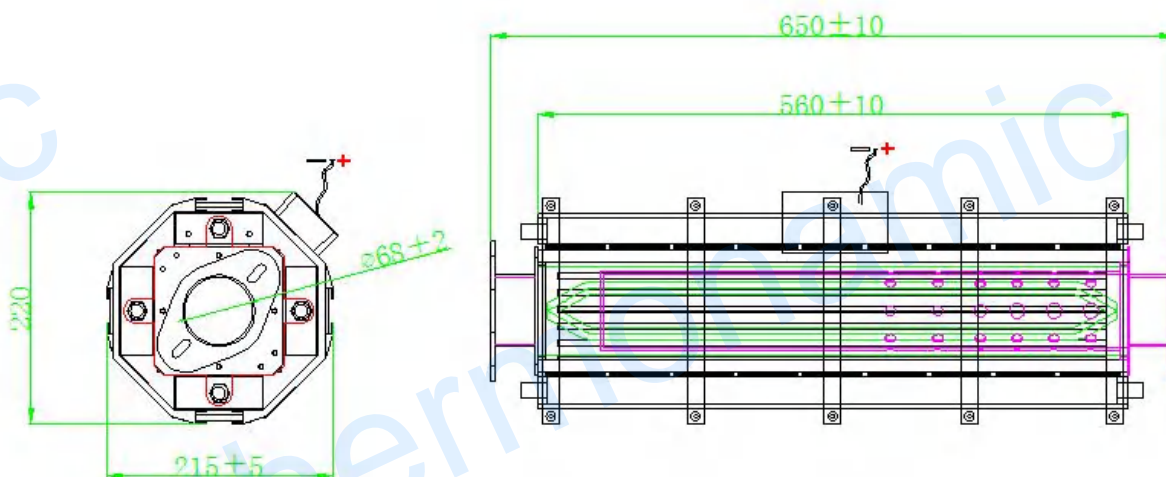


Figure 3 Structure Drawing Dimensions in millimeter

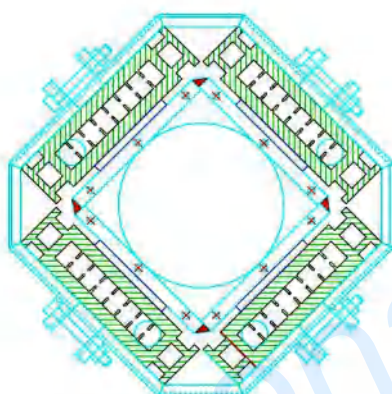


Figure 4 The Installed direction of the TEG generator

## Instructions in use

1. Installed generator to the exhaust and water pipes as the Figure 4.
2. Well fit the hot gas inlet and outlet to hot gas pipe. Do not have leakage.
3. Connect water pipe to water inlet and outlet on the generator and provide enough cooling water for heat dissipating to keep cold side less 90 °C.
4. Please install all inlets and outlets of the generator in correct direction as indicated in the generator. Do not install reversely.
5. The output voltage will vary with input heat, please use a DC-DC converter or transistor to stabilize its output voltage.

## Packing List

350W generator

one set