

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, 28 pieces thermoelectric modules and a liquid cooling system. The heat collector will well capture the heat of passing through hot gas to heat up the modules. The modules are cooled by a circulated liquid cooling system. The generator can generate 350 watts if the hot gas can heat up the hot side of modules 300 °C or above and the cooling water can be kept in 50 °C.

Up to 60 percent of the energy created by an internal combustion engine dissipated as wasted 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.

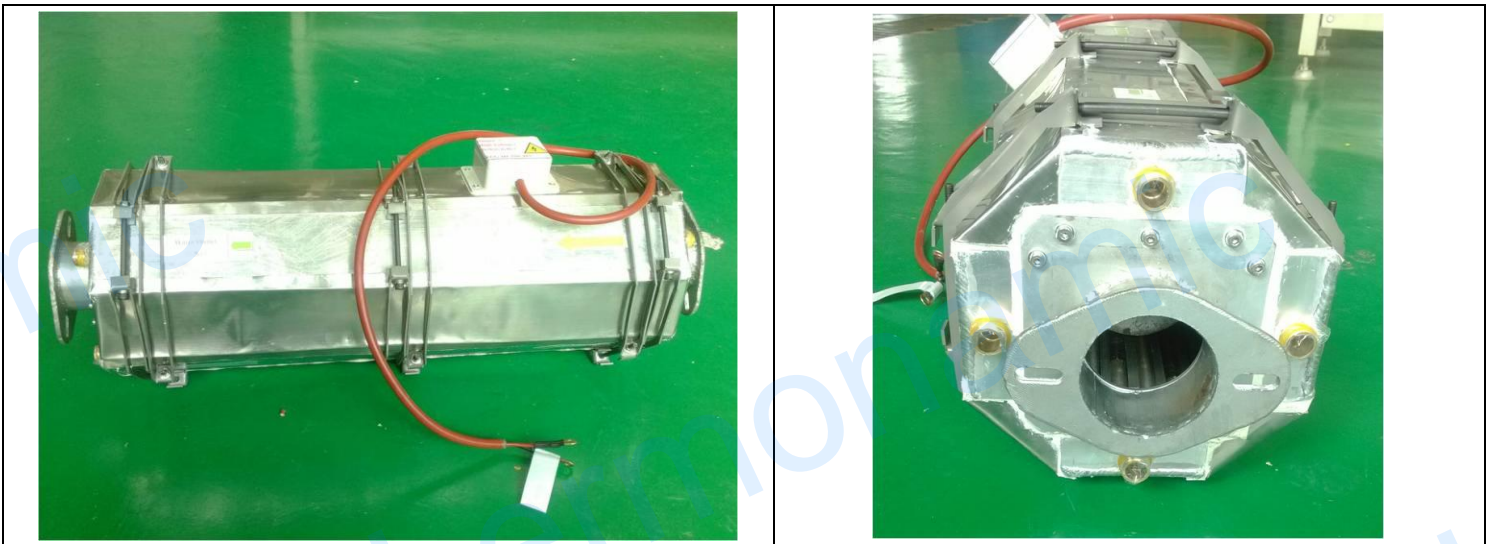
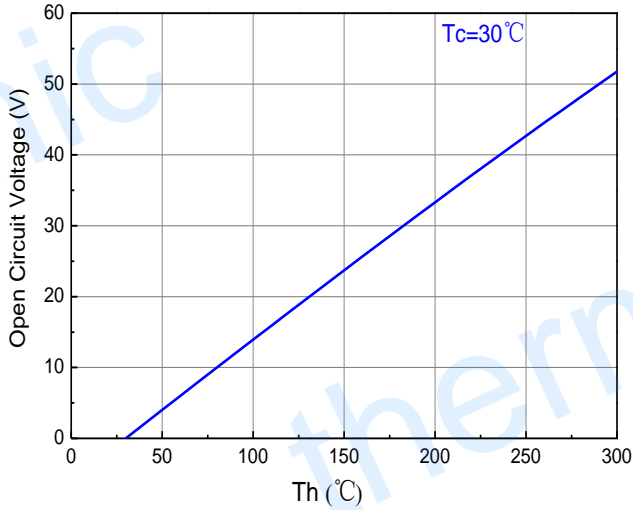


Figure 1 350 Watts Hot Gas to Liquid Type Heat Recovery Thermoelectric Generator

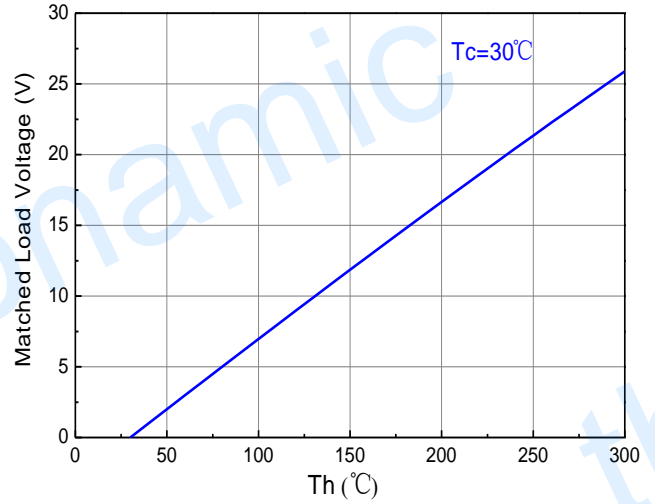
Specifications:

Part Number	TEG-HL350-24V
Hot Gas	Temperature > 400 °C, Be able to provide enough heat to heat the heat collector up to 300 °C
Output Power/W	350 W
Open circuit voltage/VDC	48 VDC
Matched Load Output Voltage /VDC	24 VDC
Matched Load Output Voltage /A	15A
Matched Load Resistance /Ohms	1.6
Dimension of the unit / mm	650 mm × 230 mm × 230 mm
Weight / Kg	27.8 Kg

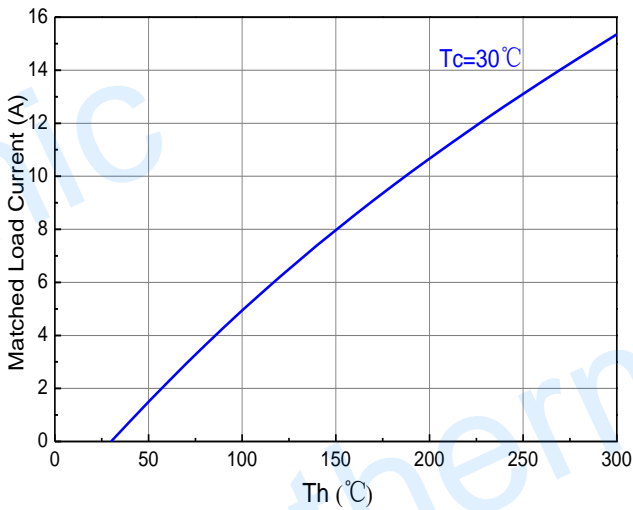
Performance Curves of the Generator



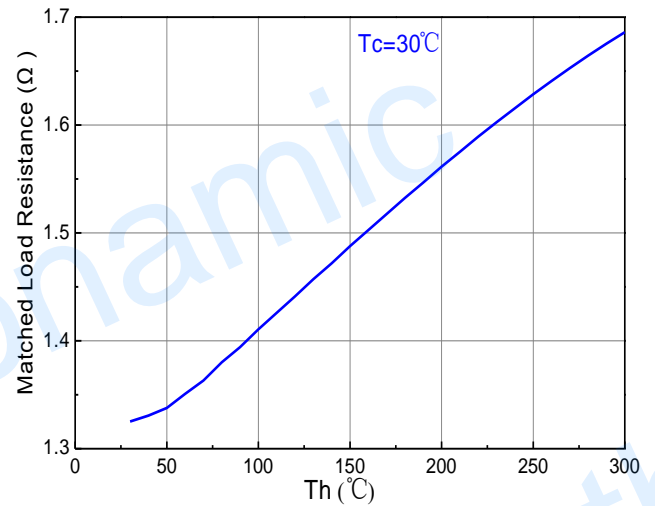
The chart for open circuit voltage Vs Th under Tc=30°C input water temperature



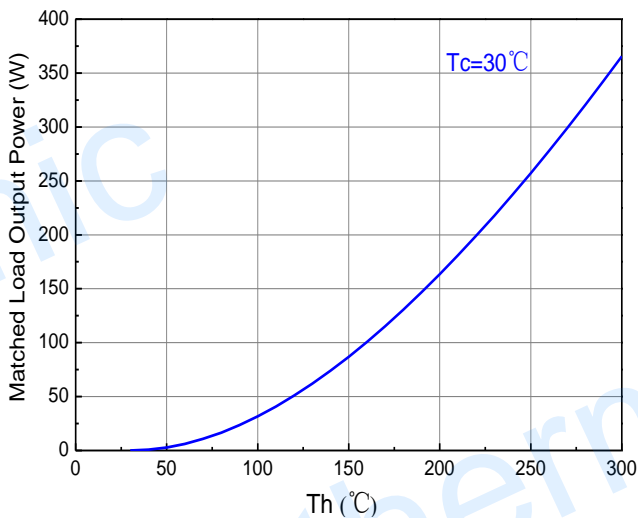
The chart for matched load voltage Vs Th under Tc=30°C input water temperature



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

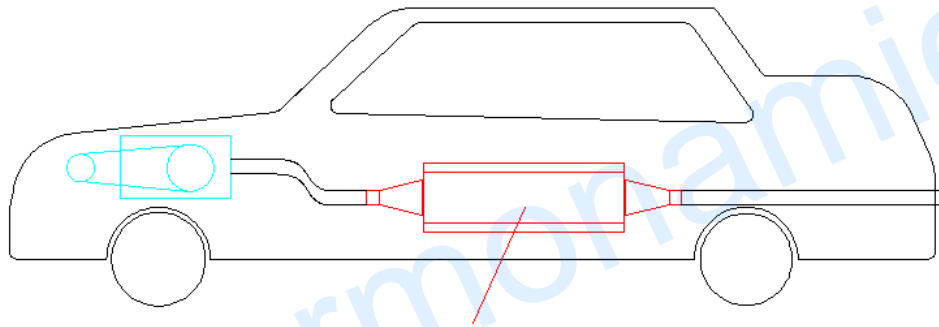


The chart for matched load resistance Vs Th under Tc=30°C input water temperature



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 350Watts Generator illustration

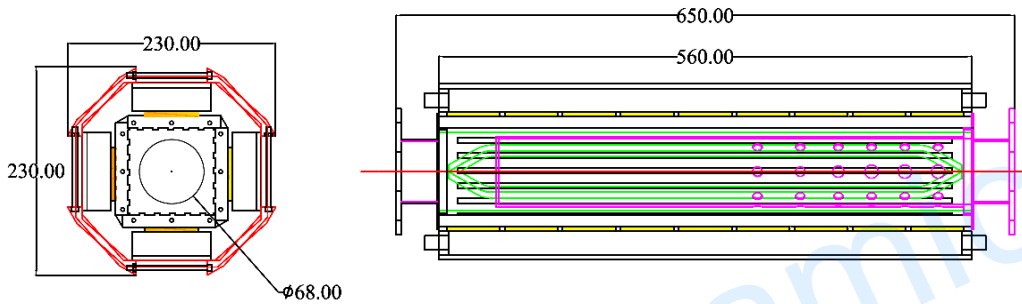


Figure 3 Structure Drawing Dimensions in millimeter

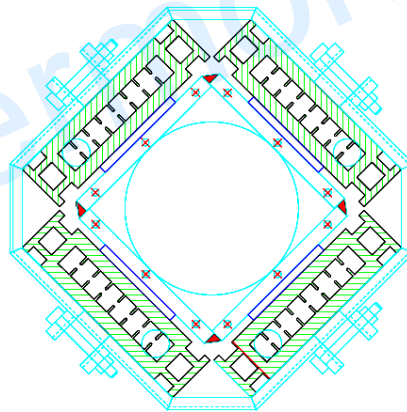


Figure 4 The Installed direction of the TEG generator

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

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