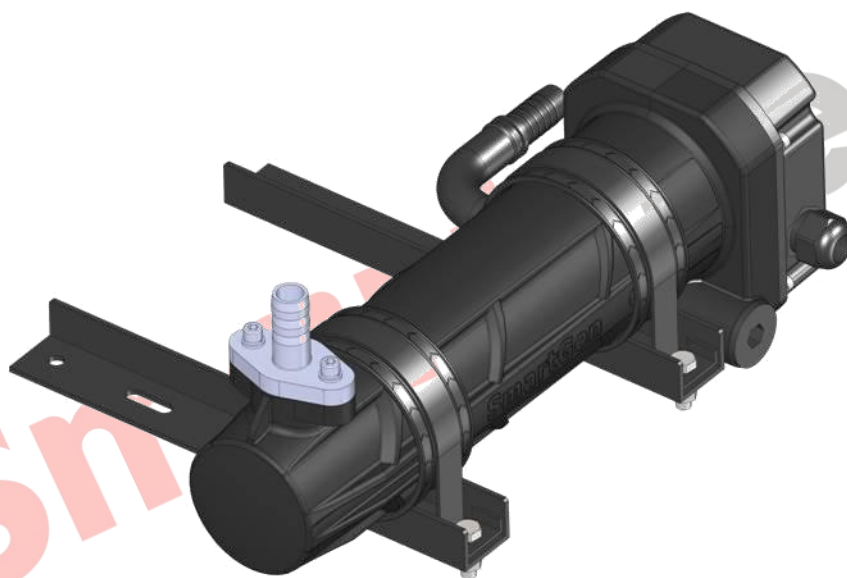




HT40

WATER ENGINE HEATER

USER MANUAL



SMARTGEN (ZHENGZHOU) TECHNOLOGY CO., LTD.



Chinese trademark

SmartGen English trademark

SmartGen — make your generator *smart*

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Software Version

Date	Version	Note
2013-09-22	1.0	Original release.
2014-04-15	1.1	Modify some details.
2014-07-12	1.2	Product renamed; Add installation instruction and other descriptions.
2015-10-28	1.3	Modify installation pictures, cover picture and technical parameters.

CONTENTS

1 OVERVIEW	4
2 PERFORMANCE AND CHARACTERISTICS.....	4
3 TECHNICAL PARAMETERS	5
4 INDICATOR	6
5 CONNECTIONS	6
6 INSTALLATION INSTRUCTION	7
7 CAUTION	9
8 CASE AND INSTALLATION DIMENSIONS.....	9

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1 OVERVIEW

HT Series Water Heater enjoys wide application on various engine coolant preheaters. It has fine cast aluminum enclosure and self-extinguishing engineering plastics end closure, easy and convenient use.

If during cranking the outside temperature is lower than 4°C, engine coolant and lubricant may condense into solid state and lose their lubricating and cooling properties, which can damage the engine. Engine heater should be installed to ensure normal starting and running of the engine when the outside temperature is lower than 4 °C.

HT Series Water Heater combines the following features: cast stainless steel inner pipes and end closure with high corrosion resistance; power and heating light indicators; 3 kinds of heaters with different heating temperature are optional (Standard heater: 40°C; 50°C and 60°C heaters are need to be customized).

This product is suitable for various engine with (13.1~25)L displacement.

Please login our company's official website to select heaters.

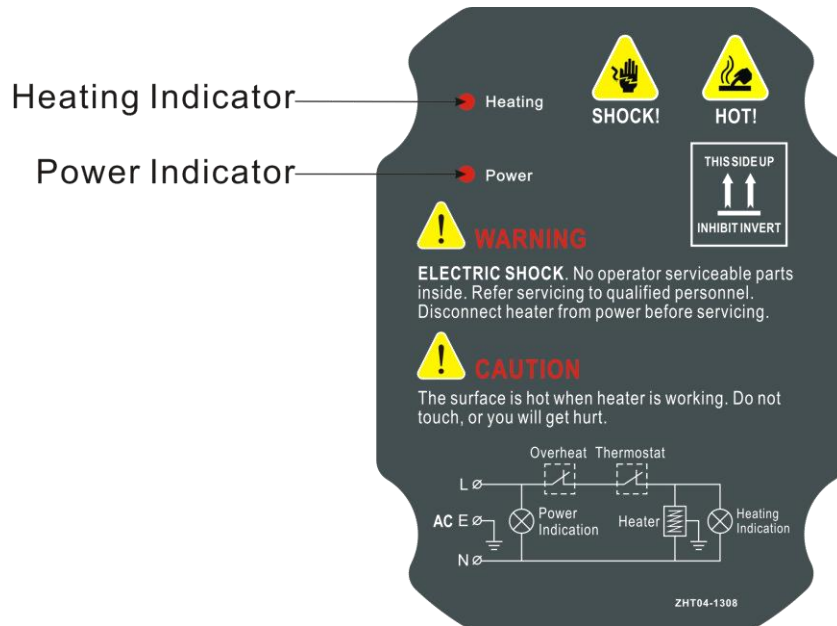
2 PERFORMANCE AND CHARACTERISTICS

- 1) Fine cast aluminum enclosure and special surface treatment with high corrosion resistance and high/low temperature capability;
- 2) Stainless steel inner pipes and end closure with high corrosion resistance;
- 3) Coolant temperature is controlled by thermostat which is installed within the heater. It has simple connections and high reliability;
- 4) Power and heating light indicators make it easy to observe the heater status;
- 5) Both of the two water inlets have one-way inlet valve and they sit on either side of the heater; Users can choose any one to use during installation.
- 6) Both of the two line inlets are knock-down design; Users can choose suitable one to use according to the installation way. Waterproof joint (stuffing box) are provided.
- 7) There is a water drain valve with seal ring on the bottom of the heater so as to be used when needed;
- 8) Overheating thermostat provides the protection of dry heating and overheating;
- 9) This product can work normally at -25°C temperature.

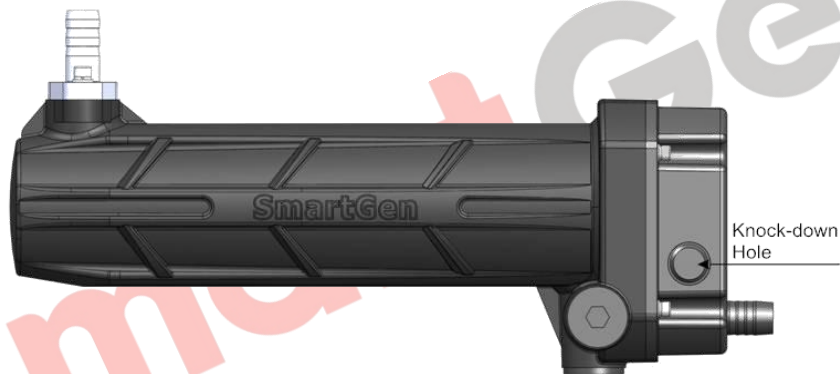
3 TECHNICAL PARAMETERS

Model	HT40
Rated Power	4000W
Rated Voltage	AC 250V
Rated Current	16A
Engine Displacement (L)	16.4~25
Thermostat Set Point	(40±3) °C
Thermostat Range	Standard: Off: (40±5)°C On: (25±5)°C
	HT40-1: Off: (50±5)°C On: (35±5)°C
	HT40-2: Off: (60±5)°C On: (45±5)°C
Overheating Thermostat Range	Off: 95 °C±5 °C On: 80 °C±5 °C
Insulating Resistance	≥50MΩ
Electrical Strength	AC 1.5kV 1min
Inlet/Outlet Size	3/4"(φ19mm)
Max. Water Pressure	0.5MPa
Protection Level	IP54
Vibration Resistance	(5~8)Hz; Amplitude±7.5mm; Triaxial
	(8~500)Hz; a=2g; Triaxial
Shock Resistance	Half-sine Wave; a _{peak} =50g; Triaxial
Working Conditions	-25 °C~+70 °C
Storage Conditions	-30 °C~+70 °C
Case Dimensions	445mm×375mm×210mm
Weight	3.9kg

4 INDICATOR

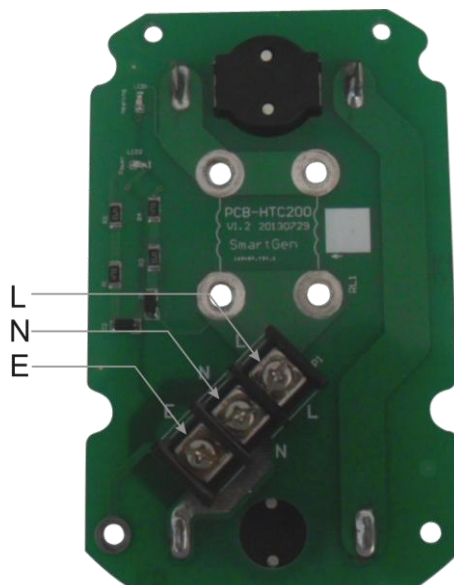


5 CONNECTIONS



Install the connection joint after knock on the knock-down hole which on the plastic shell. Pass the 4mm² power line through the shell to connect to L, N, E terminals respectively.

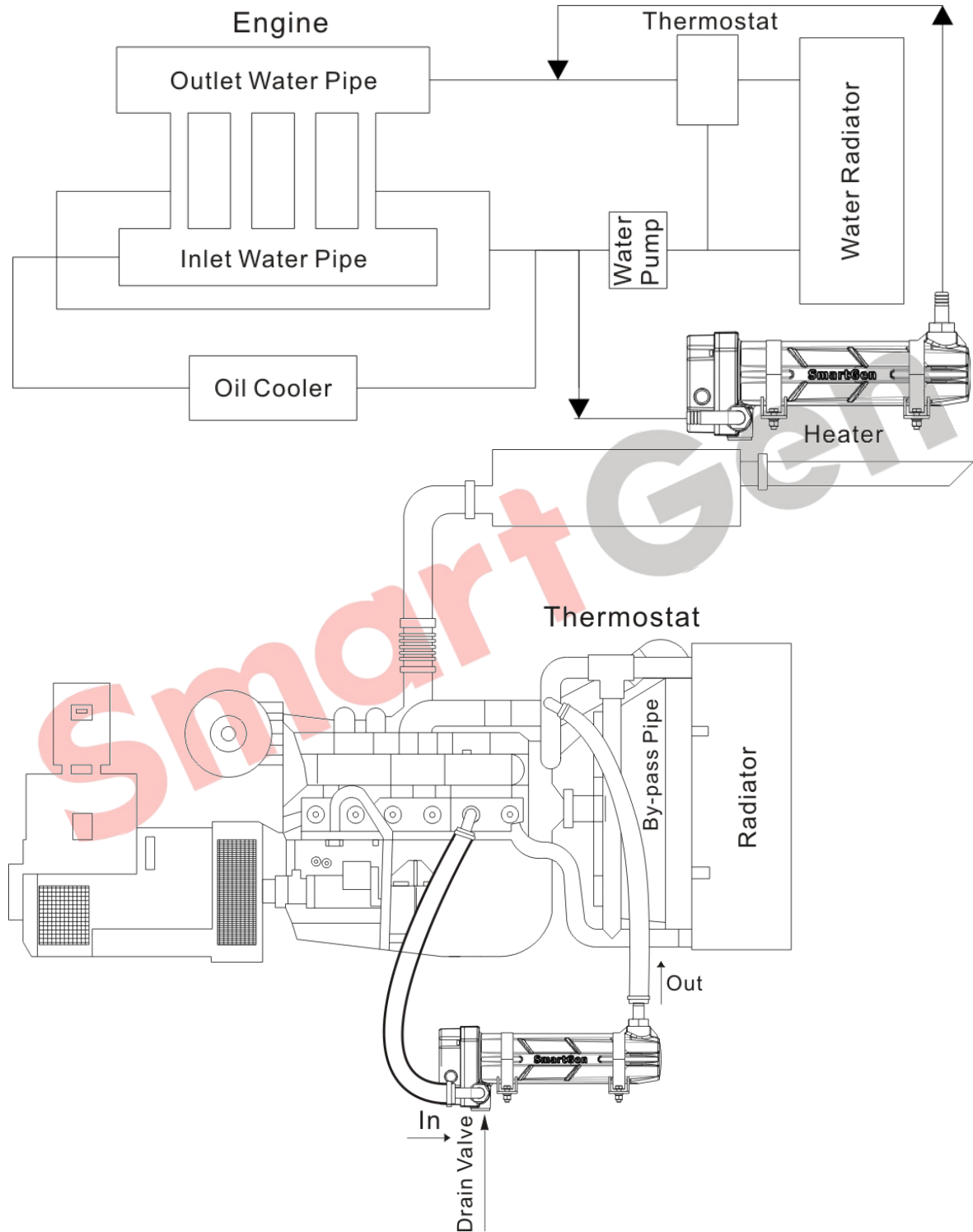
Connection Position:

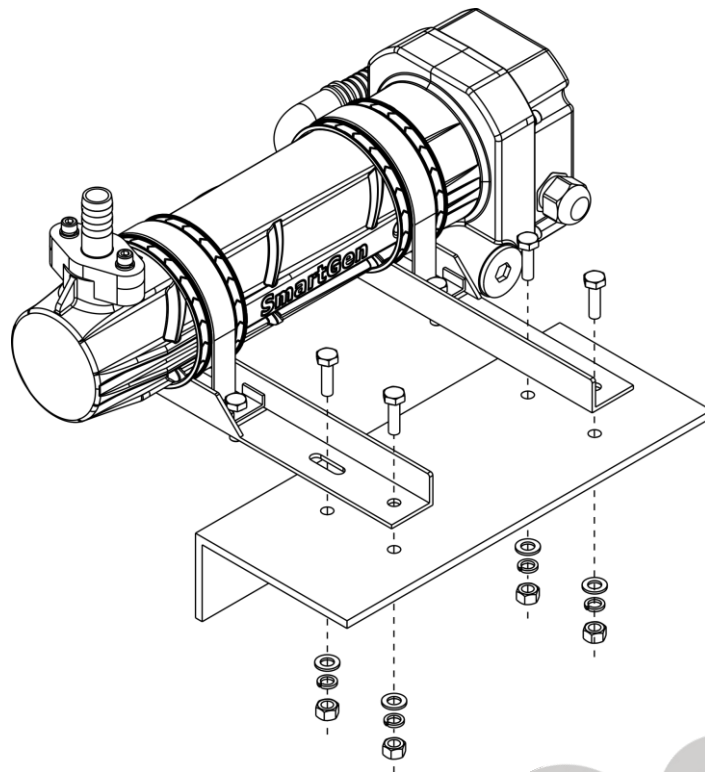


6 INSTALLATION INSTRUCTION

Please install the heater vertically according to the diagram before use. Paying attention to direction of heater inlet and outlet, and ensure that the heater position is below the lowest water level of the engine and that all the air is exhausted out of the heater and it is topped off with coolant.

Heater connection diagram:





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7 CAUTION

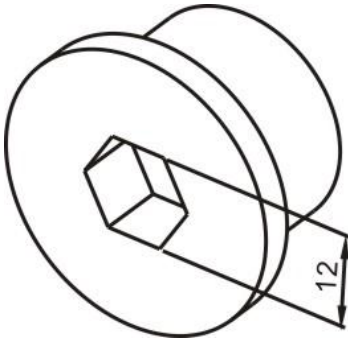
Before starting the machine, ensure that all the air is exhausted out of the heater and it is topped off with coolant. If water is used, please drain it off when generator is stopped to avoid internal corrosion. Otherwise, the remaining water freezes when temperature is lower than 0°C, which can damage the enclosure.

Corresponding antifreeze is strongly recommended.

Heat resisting power line is strongly recommended.

Earth line must be soundly connected to earth.

Drain valve: Can be opened or closed using hexagonal tools.



8 CASE AND INSTALLATION DIMENSIONS

(Unit: mm)

