

DIGITAL INVERTER GAS GENERATOR SET

PS1000i



OPERATING MANUAL

PREFACE

- Thank you for using our digital Inverter propane generator set.
- This manual includes the operation and maintenance of the digital variable frequency propane generator set.
- All contents of this manual are consistent with the latest product at the time of printing.
- Our company reserves the right to modify without any notice or liability.
- Copies are not allowed without written permission.
- This manual is part of the generator set. If the generator set is resold again, this manual should be transferred together with the generator set.
- If there is any fault or question about the generator set, please consult the after-sales service department.



As long as the instructions are followed, the digital inverter propane generator is safe and reliable.

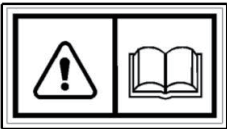
Be sure to read and understand the instructions before use. Failure to do so will result in personal injury or equipment damage.

The instructions may differ depending on the type of generator set

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1 Safety Matters



If the generator set is operated according to the operating manual, it can be safely and reliably operated according to design requirements. Before operating the generator set, please read and understand this manual carefully, otherwise it may cause personal injury or equipment damage.



Exhaust contains toxic carbon monoxide. Never run the engine in a poorly ventilated area. Ensure adequate ventilation



- Under certain conditions, propane is extremely flammable and explosive.
- Be sure to work in a ventilated area.
- Keep the propane tank away from cigarettes and sparks.
- The generator set's exhaust system is very hot during operation and immediately after shutting down. To prevent burns, please pay attention to the warning label on the generator.
- The muffler is still hot after the generator set is turned off. Be careful not to touch it. Wait for the generator set to cool off before putting it into the room.



As a backup power source for buildings, the connection of the generator to its electrical system must be operated by a professional electrician, and

The corresponding legal and electrical regulations must be observed.

Otherwise, the generator's current may be fed back to the public circuit.

In this way, if the electricity company's employees or others are exposed to the electric wires during the transmission, they will be electrocuted; at the same time, the generator set may explode, burn or cause the building's electric equipment to catch fire due to the impact of commercial power.

- Every time before starting the engine block, a pre-operation inspection must be done to avoid accidents and equipment damage.
- Generator sets must be operated at least 1 meter away from buildings and other equipment.

- The generator must be running on a level surface. If the generator is tilted, it may cause damage to the generator.
- Know how to quickly turn off the generator set and understand the operation of all control parts. Never allow untrained personnel to operate the engine.
- Children and pets must stay away from the operating area. People must stay away from the rotating parts while the engine is spinning.
- If not done properly, there is a potential danger to the generator set. Never use a wet hand to operate a generator.
- Do not operate the generator in rain or snow to avoid wetting the generator and causing damage to the generator set.

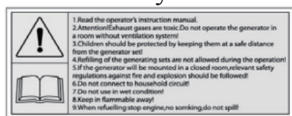
2 Safety Label



Heat Alert



Safety Alert



9



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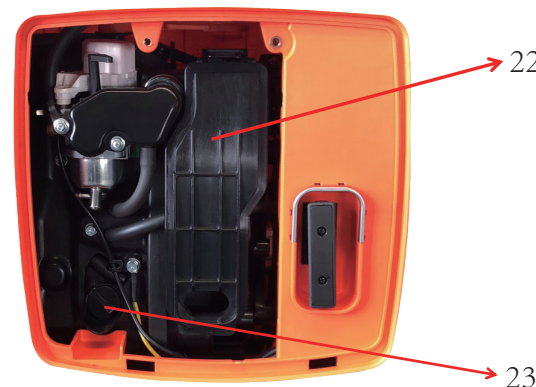
3 Identification of Parts

- (1) Control panel
- (2) Tank joint
- (3) Choke switch
- (4) Repair cover plate screws
- (5) Maintenance cover plate

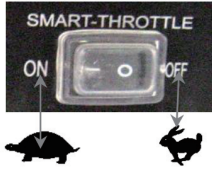
- (6) Starting handle
- (7) Pressure relief valve adjusting switch
- (8) Handle
- (9) Spark plug repair panel
- (10) Muffler



- (11) DC overcurrent protector
- (12) DC outlet
- (13) Economy energy switch
- (14) Start switch
- (15) Low oil level light
- (16) Overload light
- (17) Running light
- (18) AC outlet
- (19) USB
- (20) Parallel arrangement
- (21) AC overcurrent protector



- (22) Air filter cover plate
- (23) Oil filter cap



Economy Energy Switch

When the generator set is disconnected from the electrical equipment, the generator set speed is at idle; when the electrical equipment is connected to it, the generator set will return to the appropriate speed to provide the power required by the electrical load. This device is used to reduce the gas consumption during operation.

- SMART Throttle System Does Not Run Full When Electrical Equipment Needs Instantaneous Power.
- When the electrical equipment needs large instantaneous power, turn the SMART switch to OFF.
- When the generator set is connected to a high load electrical at the same time, turn the SMART switch to OFF to reduce the voltage change.
- During DC operation, turn the SMART switch OFF to obtain large current.

4 Preoperational Check



WARNING

Check the generator set so that it is on a level surface and the engine is off.

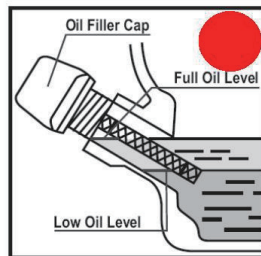
① Check the oil level



(1)



(2)



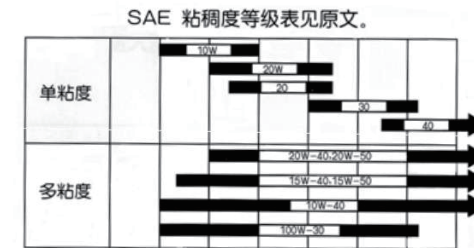
(3)

1. Unscrew the service cover screw and open the service cover. (1)

2. Remove the filler cap, clean the dipstick with a clean rag, insert the dipstick into the filler port to check the oil level, but do not tighten it.

3. If the oil level is lower than the bottom of the oil dipstick, add the recommended oil to the filler port. (2)

4. If you use non-detergency engine oil or 2-stroke engine oil may shorten the life of the engine. Use strongly decontaminated, high-quality 4-stroke engine oils that must meet or exceed the American Petroleum Institute's SG, SF rating as required by US automakers. Select the oil that is suitable for the average temperature in your area.



Running the generator set when the amount of oil is insufficient may severely damage the engine.

Note: The oil alarm system will automatically shut off the engine before the oil level drops to the safety line. However, in order to avoid the inconvenience caused by unplanned downtime, we also recommend that you check the oil level regularly.

② Check the air filter

Check air filter to make sure it is clean and normal.

1. Unscrew the service cover screw and open the service cover

2. Press down on the lock tab at the top of the air filter, remove the air filter cover, and inspect the filter element. (4)

3. If necessary, clean or replace the filter element. (5)



(4)



(5)

5 Start Engine

! WARNING

Before starting the generator set, make sure that the correct four-stroke engine oil has been added to the engine.

Note: No machine oil is filled in the factory.

1. Disconnect the load from the generator set before starting the engine.
2. Turn on the power switch of the generator set.
3. Ensure that the gas cylinder valve switch is open.
4. When the cold starts, move the choke switch to the right "start" start position (1). After starting warming up, move the choke to the left "RUN" position (2).

Do not use a choke valve when the engine is hot or when the temperature is high. Move the choke switch to the "RUN" operating position on the left.

! CAUTION

! ATTENTION

5. Pull the starter handle until you feel resistance, then pull the handle in the direction of the arrow (3).

Does not allow starter handle to bounce, but should slowly return it.



(1)



(2)



(3)

! ATTENTION

When you start the machine for the first time, you may need to pull a few handles. The pressure relief valve in the machine will send the gas to the carburetor.

6. After starting the engine, make sure that the choke valve is in the left "RUN" position.

6 High Altitude Area Operation

■ Standard high carburetor air-to-gas mixture ratios at high altitudes can be lean, engine running performance decreases, and air consumption increases. To change the operating performance of the engine at high altitudes, you can adjust the gas concentration adjustment switch of the pressure reducing valve a bit and adjust the carburetor idle screw at the same time. If you always use the engine in an area above 1500 meters above sea level, please have your authorized agent modify the parameters of the valve and carburetor.

■ Even if the pressure reducing valve and the carburetor are adjusted to the proper mixing ratio, the engine power will still drop by 5% for every 500 meters. If you do not make these adjustments, the effect of altitude on power will be greater than these or not be used normally.

! ATTENTION

If the engine's pressure relief valves and carburetor are designed for high altitudes but operate at low altitudes, this may cause the output power to drop. Overheating may even cause serious damage to the engine even if the air/fuel ratio is too high.

7 Application of Generator Set



- To prevent electric shock caused by incorrect use
- When connecting the equipment, make sure that the generator set is reliably grounded.
- As a backup power source for buildings, the connection of the generator to its electrical system must be operated by a professional electrician and must comply with the applicable law. Laws and electrical regulations. Otherwise, the generator's current may be fed back to the public circuit so that if the power company's employees or others are connected Touching the wire will be electrocuted; at the same time, the generator may explode, burn or cause the building's electrical system to catch fire due to the impact of the electricity.
- The maximum power required for operation within 20 minutes, but not more than the rated power for continuous operation. If it is otherwise, consider the connection Prepared total watts.
- Do not exceed the specified socket current limit.
- Do not connect the generator set to household electrical circuits as it may damage the generator or damage the home appliance.
- Do not use the generator set for purposes beyond its reach. Also observe the following rules:
 - Do not connect other brand generator sets in parallel.
 - Do not lengthen the exhaust pipe.
- If you need an extended cable, use a flexible rubber cable.
- The length of the extension cable is limited: The length of the 2.5 mm² cable is 60 meters; the length of the 4 mm² cable is 100 meters.
- Keep the generator away from other wires and cables, such as distribution networks.
- When using AC power, a DC outlet can be used.
If you want to use both AC and DC outlets at the same time, note that the total power should not exceed the sum of AC and DC power.
- Most devices require higher than calibrated power when starting the motor.



The application of alternating current

1. Start the generator set and make sure the green working indicator is lit (17) (it may take 3 seconds to wait). Allow the engine to warm up for a few minutes before connecting electrical equipment.

Note. When the output indicator (green) is off and the overload indicator (red) is on, turn off the engine switch and restart the engine.

2. Make sure that the electrical equipment is turned off. Then connect the plug to the generator's AC outlet (18).

Note: Make sure the connected device is off before connecting. If the device is on, it will start suddenly and may cause personal injury.

3. If substantial overload causes the indicator (red light) to remain on, it will damage the generator; while marginal overload will only temporarily turn the indicator (red)

On, this will shorten the life of the generator.

4. When connecting the equipment to the generator, make sure that the equipment is working properly before connecting. If the equipment starts to run abnormally, the speed drops, or suddenly

If it stops, turn off the generator power switch immediately, and then disconnect the device. Check according to the symptoms.

- It is highly recommended to use a plug with a circuit breaker to connect to the generator set.
- Check: to ensure that the instrument/equipment power does not exceed the maximum rated power of the generator.

5. If necessary, set the smart throttle switch to the “ON” position

Note: Energy Saving Switch

If the appliance requires instantaneous power, the smart throttle system does not operate effectively.

When using full-load output, move the smart throttle switch to the “off” position to reduce voltage changes.

Working indicator and overload indicator

Under normal operating conditions, the work indicator (green) will be on. If the generator is overloaded (over 0.9KVA), or if the connected equipment

The part is short-circuited, the output indicator (green) goes out, and the overload indicator (red) lights up, at which point the current connected to the device will be cut off in 20 seconds.

If the overload indicator light is on, turn off the engine and check the cause of the overload.

Be careful. Before connecting the equipment to the generator, first check whether it is in good condition, whether the power level exceeds the generator, then connect the cable of the equipment and start the generator set.



- When the motor starts, the red and green lights may be on at the same time. If the red light goes out after 4 seconds, it is normal. If the red light is still on, contact the aftersales department of the manufacturer.

- If the connected equipment such as a motor requires a large starting power, the overload indicator (red light) and the output indicator (green light) may light at the same time for a short time. This is normal. After the device starts up, the red light will go out and the green light will still be on.

The use of direct current

The DC output should only be used for charging 12V automotive lead-acid batteries. When the battery is charged, it is ensured that they have been completely disconnected from the equipment.

⚠ WARNING

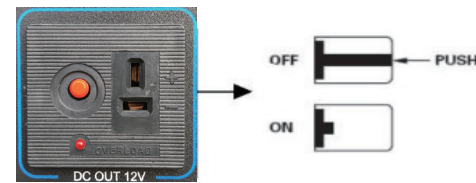
- To prevent sparking at the electrical plug (socket), first connect the charging cable to the generator and then to the battery. The removal must begin at the battery end.
- Before connecting the charging cable to the battery installed in the car, disconnect the battery ground cable, and then connect the battery ground cable when the charging cable is removed. This prevents short circuits or sparks if you inadvertently contact the battery terminals with the car frame.

⚠ CAUTION

- Do not attempt to start the car while the generator is still connected to the battery, otherwise the generator may be damaged.
- The positive pole of the charging cable is connected to the positive pole of the battery. Do not confuse the positive pole and the negative pole. Otherwise, the generator and the battery will be seriously damaged.

⚠ WARNING

- The battery evaporates flammable gases. Keep away from sparks and pyrotechnics and provide proper ventilation when charging.
- The battery contains sulfuric acid (electrolyte). Contact with skin or eyes can cause burns. Wear protective clothing and masks.
- If electrolyte splashes on skin, rinse immediately with water.
- If electrolyte splashes in your eyes, flush it with water for at least 15 minutes and see a doctor
- Electrolyte is poisonous
- If you accidentally swallowed the electrolyte, drink plenty of water or milk immediately. Drink magnesium oxide milk or vegetable oil and see a doctor.
- Do not let children touch it.
- When using AC power, a DC outlet can be used.
- Overloading the DC circuit may trip the DC circuit protector. If this happens, press the reset button after removing the DC load.

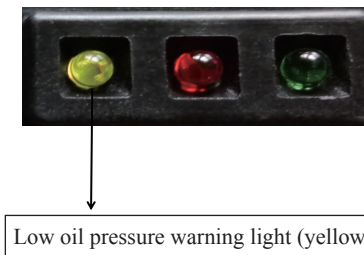


Low oil level alarm system

The low oil level alarm system is designed to prevent damage to the engine due to insufficient crankcase oil. Before the oil in the crankcase drops to the safety line, low oil alarm system will automatically shut down the engine. (Generator power switch remains in "on" position)

After the low oil level alarm system shuts down the engine, if you restart the engine, the low-level warning light (red light) will light up and the engine will not operate.

If this happens, add oil.



8 Stop Engine

1. Turn off all connected devices and pull out the plug.



2. Set generator set power switch to "Off" position.
3. Turn off the gas cylinder valve switch.
4. Allows direct shutdown of the engine in an emergency.

9 Maintenance

 WARNING

Maintenance and adjustment schedules are designed to keep the generator set in top working condition. Please check and maintain according to the schedule in the table below.

 CAUTION

Please use PUSION's spare parts or replacement parts of the same quality, otherwise it will damage the generator set

Maintain daily table							
ITEM	EXPLAIN	EACH TIME	1 ST MONTH OR 10 HRS	3 RD MONTH OR 50 HRS	6 TH MONTH OR 100 HRS	12 TH MONTH OR 300 HRS	24 TH MONTH
OIL	CHECK	●					
	REPLACE		●		●		
AIR FILTER	CHECK	●					
	CLEAN			● (2)			
SPARKING PLUG	CLEAN				●		
VALVE LASH	CLEAN					● (3)	
REDUCING VALVE	CLEAN					● (3)	
GAS CIRCUIT	CHECK	●					
	REPLACE						●

Note:

- (1)The interval between normal maintenance.
- (2) Use in a dirty environment. Please perform frequent maintenance.
- (3)The above-mentioned maintenance should be performed by a PS company-authorized maintenance point unless the user has a suitable tool or a mechanical professional. Please refer to the instructions.

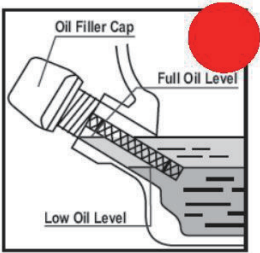
OIL CHANGE

When the engine is still hot, quickly and thoroughly drain the oil.

 CAUTION

Make sure the generator set switch is off before draining.

- a. Loosen the screws on the front cover and remove the cover.
 - b. Drain all dirty engine oil into one container.
 - c. Add the recommended oil (see page 8)
- Oil capacity: 0.25L
- Check the oil level.
- d. Replace the front cover plate and tighten the screws.
- After handling the oil, wash your hands with soap and water.



 ATTENTION

- In order to comply with the requirements of environmental protection, we recommend that you put the used oil in a sealed container and send it to the maintenance or recycling center in your area. Do not dump oil on the ground or in the garbage.

MAINTENANCE OF SPARK PLUGS

- a.Remove spark plug repair plate (1)



(1)



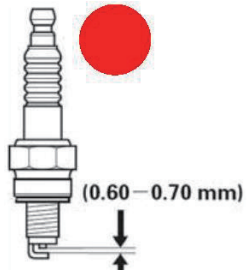
(2)



(3)

- b. Remove the spark plug cap (Figure 2).
- c. Clean the dirt around the spark plug.
- d. Remove spark plug with spark plug sleeve (Figure 3).
- e. Visually check the spark plug. If the insulator is cracked or has debris, the spark plug must be scrapped. If the old spark plug needs to be used, use wire brush to clean the spark plug.
- f. Measure spark plug clearance with a gauge. Spark plug gap should be 0.6-0.7mm, if necessary, carefully bend one end of the electrode to adjust.
- g. Carefully install spark plugs by hand, being careful not to misalign threads.
- h. After installing a new spark plug by hand, tighten 1/2 turn with a wrench and press the washer.
- i. Reinstall the spark plug cover.
- j. Reinstall the spark plug service cover.

Recommended Spark Plugs: NGK CR7HSA



MAINTENANCE OF AIR FILTER

A dirty air filter will block the air from entering the carburetor, in order to prevent the carburetor from malfunctioning.

Please regularly maintain the air filter. If the generator is used in a particularly dirty environment, it is necessary to perform maintenance more often.



WARNING

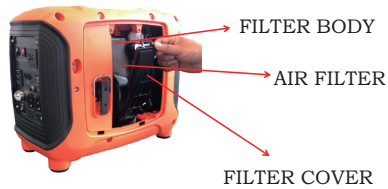
Do not clean the generator with petrol or low-burning-point solvents.
Because they are flammable under certain conditions.



CAUTION

Do not operate the machine without an air filter, otherwise it will cause rapid engine wear.

a. Loosen the screws on the Vivi cover and remove the service cover (4).



b. Press the locking tab at the top of the air filter downwards, then remove the air filter cover and remove the air filter (5)

c. Rinse the filter element with a non-flammable or highly flammable solvent and thoroughly dry the filter element (6)

d. Clean the filter element with clean oil and squeeze out the excess oil (7)

e. Insert the bottom cleat and top cleat and reinstall the air filter cover.

Reinstall the service cover and tighten the screws on the cover.

SPARK CATCHER REPAIR (only for models with this part)

In the use of generator sets in dry environments or forest areas, we recommend the use of spark collectors, which can effectively reduce the risk of fire. The spark catcher must be cleaned periodically. Cleaning the spark catcher infrequently will cause the exhaust of the muffler to be unsmooth, reduce the engine output, increase the fuel consumption rate, and shorten the service life.



WARNING

If the generator has just been operated, the muffler becomes very hot and waits for it to cool before servicing.



CAUTION

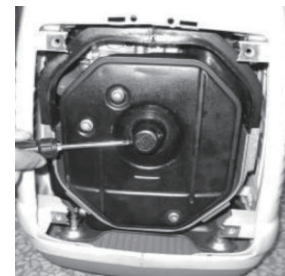
The spark catcher must be repaired every 100 hours to ensure its performance.

How to remove the spark catcher

1. Loosen the four muffler guard mounting screws and remove the guard.

2. Loosen the spark catcher mounting screw and use a screwdriver to knock open it.

3. Use a brush to remove accumulated carbon from the spark collector.



10 Transport/Storage



When transporting generator sets:

- When the generator set is still on the vehicle, do not run the generator set, remove the generator set from the vehicle, and use it in a ventilated area.
- When assembling the generator into the transport, avoid placing it in direct sunlight. If the generator set is placed in a sealed cabin, high temperatures in the cabin may cause an explosion.
- Do not transport the generator set on rough roads for long periods of time. If you have to do so, drain the oil before transporting the generator set.

Before storing the generator for a long time:

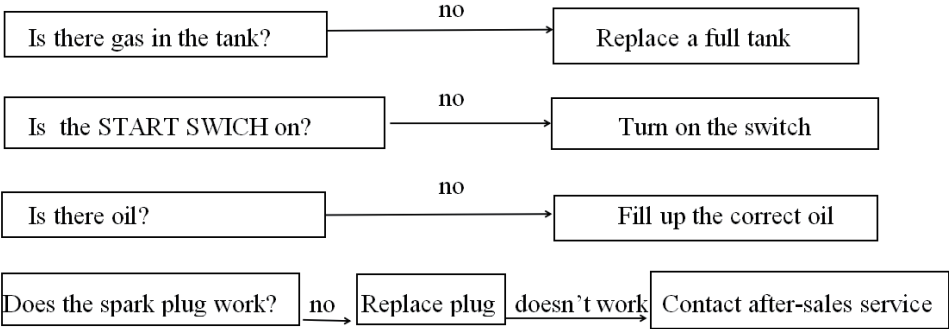
1. Make sure the storage area is dry and clean.



2. Change the oil.
3. Remove the spark plug, pour a tablespoon of clean oil into the cylinder, rotate the engine a few times to distribute evenly, and then install the spark plug.
4. Slowly pull the starter handle until pressure is felt. At this point, the piston is rising to the end of its compression stroke. The intake and exhaust valves are closed. In this case, storing the engine helps prevent internal rust.

11 Troubleshooting

Engine doesn't start:



■ Make sure no gas leaks around the spark chamber.

WARNING Leaked gas may catch fire

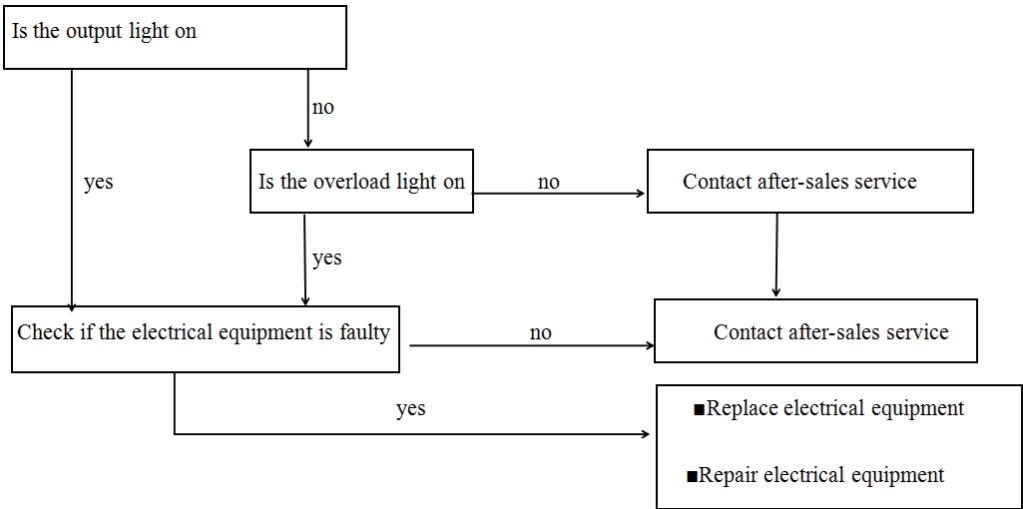
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If the engine still can't be started, send the generator set to the PS service department.

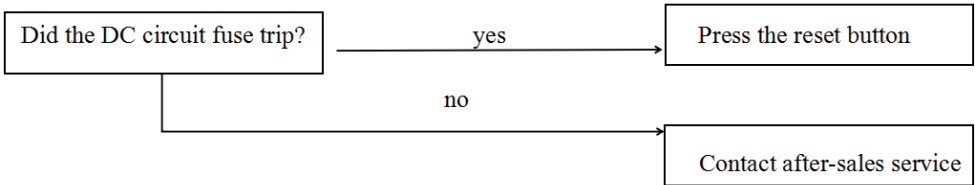
Checking:

1. Remove the spark plug and clean up the dirt around the spark plug	2. Remove the spark plug and insert the spark plug into the spark plug cap
3. Connect the spark plug side electrode to the cylinder head to ground	4. Pull the start handle and sparks should come out from the gap

Genset connected device does not start



No power in DC output



12 Technical Specification

PS1000i

Size and weight

L * W * H (MM)	464*266*376
Net weight (KG)	14

Engine

Model	PS144
Type of engine	Four-stroke, air-overhead, single-cylinder
Displacement (bore * stroke)	43.5*35.8
Compression ratio	7.6:1
Speed of engine	4800(turn the SMART switch to OFF)
Cooling system	Air cooling
Ignition system	Crystal valve
Oil capacity	0.25L

Generator set

Model		PS1000i
AC output	Rated voltage (V)	120
	Rated frequency (HZ)	60
	Rated current (A)	7.1
	Rated power (KVA)	0.85
	Max. Power (KVA)	1
DC output (V)		Output voltage 12V, Max. current 6.3A

13 Electric Wiring Diagram

1200i

