MODELO : AY - 1100 INVERT



Generating Set Specifications

Specification	AY-1100 INVERT
Model	AY-1100 INVERT
AYERBE part number	5440075
Equipment type	Portable petrol inverter generator, compact housing with handle
Maximum output	1,100 W
Rated output (COP)	1,000 W
Voltage / Frequency	230 V - 50 Hz
Rated current	5.4 A
Power factor	Cos phi 0.8
Engine speed	Variable with load (ECO mode)
Engine	KIOTSU KT 56, 56 cm^3, 4-stroke
Alternator	AYERBE 1100, inverter technology
Voltage regulation	Inverter, ± 1 %
Outlets	1 x Schuko 230 V (IP 44) and USB 5 V output (1 A / 2.1 A)
Protections	Overload protection with reset (AC RESET) and low-oil shutdown
ECO mode	Yes, switch on the panel
Starting	Manual recoil
Transport	Top handle, no wheel kit
Guaranteed sound power level	95 dB(A) LwA
Sound pressure level	79.4 dB(A) LpA
Weight	12 kg.

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Engine Specifications



KIOTSU engine	
Manufacturer	KIOTSU
Model	KT 56
Type	4-stroke, single cylinder
Displacement	56 cm^3
Working speed	Variable with load, up to 3,600 rpm
Cooling system	Forced air
Aspiration	Natural
Speed governor	Mechanical
Starting system	Manual, recoil starter
Fuel	Unleaded petrol
Tank capacity	2.8 L.
Consumption at 75 % load	0.6 L/h.
Engine oil type	SAE 10W-40
Oil capacity	0.28 L.
Oil monitoring	Low-oil shutdown, with light on the panel

About speed and output

- In an inverter generator the engine is not tied to 3,000 rpm. The current is generated, rectified and rebuilt by the electronics at 230 V and 50 Hz, whatever the engine speed.
- That is why the engine can slow down when the load is small (ECO mode) and rise to 3,600 rpm when full output is demanded.
- The 1,000 W rated output is what the set delivers continuously. The 1,100 W maximum is available for short periods.
- Available output falls by roughly 3.5 % for every 300 m of altitude above sea level, and also with high ambient temperature.

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Alternator Specifications

AYERBE alternator	
Make	AYERBE
Model	1100
Type	Inverter, electronic output
Excitation system	Inverter, electronic regulation
Voltage tolerance	± 1 %
Voltage / Frequency	230 V - 50 Hz
Insulation class	Class H
IP protection	IP 23
Coating type	Standard, vacuum impregnated
Rated output	1,000 W / 5.4 A

What inverter technology adds

- The inverter converts the alternator output to direct current and then rebuilds it as 230 V, 50 Hz alternating current with a stable sine wave.
- Voltage is held within ± 1 % even as the load changes, which makes the set suitable for chargers, computers, LED lighting or instrumentation.
- Because frequency does not depend on engine speed, the set can run slower at light load: lower consumption, less noise and less wear.
- Class H insulation withstands higher winding temperatures than class B or F, which is what allows continuous work in summer and inside a closed housing.
- IP 23 protects against solid bodies over 12 mm and against rain falling at up to 60°. It is not watertight: the set must not be operated or stored outdoors.

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Dimensions and Weight

Dimensions	
Length (L)	520 mm.
Height (H)	460 mm.
Width (W)	450 mm.
Packing volume	0.11 m³
Weight	12 kg.
Output per kg	83 W/kg
Transport	Built-in top handle



Fuel and running time

Fuel	
Tank capacity	2.8 L.
Fuel type	Unleaded petrol, 95 or 98 octane
Consumption at 75 % load	0.6 L/h.
Running time at 75 % load	4.5 hours
Estimated running time at 50 %	≈ 6 hours
Estimated running time at 25 % (ECO mode)	≈ 8 hours

Altitude and operating temperature

- As with any naturally aspirated petrol engine, output falls by roughly 3.5 % for every 300 m of altitude above sea level.
- At altitude there is also harder starting, higher consumption and spark plug fouling.
- High ambient temperature likewise reduces available output, because warm air is less dense.
- With a 2.8-litre tank the set runs for about 4.5 hours at 75 % load. At light load with ECO mode on, running time increases.

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Control panel



1 Choke lever (RUN / CHOKE)
2 Fuel tap (OFF / ON)
3 AC RESET button
4 ECO mode switch
5 Oil, OVER LOAD and OUTPUT lights
6 Earth terminal
7 ENG.SW engine switch (ON / OFF)
8 USB output 5 V (1 A / 2.1 A)
9 Schuko socket 230 V, IP 44, with cover

The socket is IP 44, but the set as a whole is rated IP 23: it must not be operated or stored outdoors. Keep the socket cover closed when not in use.

ECO mode and protections

- With the ECO switch ON, the engine adjusts its speed to the connected load. At light load, consumption and noise are reduced.
- To start motor-driven loads, or to work close to rated output, it is better to leave ECO mode OFF.
- If permissible output is exceeded, the OVER LOAD light comes on and the output is cut. Once the load is reduced, the output is restored with the AC RESET button.
- The OUTPUT light shows that the socket is live. If the oil level is too low, the oil light comes on and the engine stops or will not start until oil is added.
- The USB output charges phones and tablets directly, with no adapter.

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Starting and use

- Place the set outdoors, on a firm level surface, with clear space on all sides so that cooling works and exhaust gases do not build up.
- The set is supplied without oil. Before the first start, fill with SAE 10W-40 up to the full mark (0.28 L), and check the level before every use.
- Open the fuel tap, set the ENG.SW switch to ON and, if the engine is cold, move the choke lever to CHOKE.
- Leave ECO mode OFF for starting. Pull the starter handle slowly until resistance is felt and then with a firm pull, guiding the cord back.
- Move the choke to RUN progressively and let the engine run for a minute with no load before connecting anything.
- Connect loads one at a time, starting with the largest. At light load, switch ECO mode on.
- To stop, disconnect the load first, let the engine idle for a minute, set ENG.SW to OFF and close the fuel tap.

Before every start

Check	What to look at
Engine oil	Level up to the full mark, with the set level. SAE 10W-40 oil, 0.28 L capacity.
Fuel	Tank with fresh unleaded petrol and tap open. 2.8 L capacity.
Air filter	Element clean and properly seated. Clean it at least every 50 hours of use, and daily in dusty conditions.
Siting	Level surface, outdoors, away from flammable materials and with space for ventilation.
Cables and sockets	Leads in good condition, no temporary joints, cross-section suited to the length. Covers closed when not in use.
Earthing	Check the earthing requirements of the installation before connecting RCD-protected equipment.

Indicative procedure. The instructions in the operator's manual of the set always take precedence.

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Performance: permissible loads

Indicative guide to what the set can power with 1,000 W rated and 1,100 W peak.

Application	Typical consumption	Suitability
LED lighting	up to 800 W	YES
Phone, tablet and laptop chargers	20 – 150 W	YES
Computer, router and TV	100 – 300 W	YES
Portable compressor cool box	50 – 150 W	YES
Drill or screwdriver	400 – 600 W	YES
Drip coffee maker or small kettle	600 – 1,000 W	YES
Domestic fridge	150 – 400 W	AT THE LIMIT
Small submersible pump	250 – 400 W	AT THE LIMIT
Small microwave	700 – 1,000 W	AT THE LIMIT
Heater or pressure washer	1,200 – 2,000 W	NO
Welding, angle grinder or ceramic hob	over 2,000 W	NO

The starting surge

- Induction motor loads draw between three and four times their rated power at the instant of starting. With 1,100 W of peak available, the practical limit is motors of around 250 to 350 W.
- Resistive and electronic loads such as lighting, chargers or computers show no appreciable starting surge and can use the full rated output.
- To start fridges, pumps or tools, switch ECO mode off and connect them before the other loads.
- Inverter technology holds the voltage within ± 1 %, so this set is suitable for powering sensitive electronics.

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Use, maintenance and storage

- Starting is manual recoil, with no battery and no electronics involved. That is why the set starts after months standing.
- At 12 kg with a top handle, one person can carry it easily: in a car boot, to a caravan, a small job or a campsite.
- Cooling depends on the grilles being clean and on there being clear space around the set. Working against a wall is the quickest way to overheat it.
- The sound level is 95 dB(A) LwA and 79.4 dB(A) LpA. At light load with ECO mode on, the engine turns more slowly and noise drops.
- Petrol left standing crystallises and blocks the carburettor. In occasional use, draining the carburettor or using a stabiliser prevents most faults.

Maintenance Schedule

Interval	Operation
Before every use	Check the engine oil level and the condition of the air filter. Inspect the set for leaks or damage.
First running-in hours	Change the engine oil as set out in the manual.
Periodically	Clean the air filter (at least every 50 hours of use). Clean and adjust the spark plug. Clean the spark arrester.
Yearly	Change the oil. Replace the air filter and the spark plug. Check the fuel circuit.
Long-term storage	Drain the tank and the carburettor or add fuel stabiliser. Store in a dry, frost-free place.

Indicative schedule. The exact intervals are those of the operator's manual.

Safety Instructions

- Never use indoors, in garages, basements, caravans, tents or enclosed spaces. Exhaust gases contain carbon monoxide, odourless and lethal.
- Keep a minimum clearance of 1.5 m from any flammable material and leave clear space on all sides for ventilation.
- Refuel with the engine stopped and cold, outdoors and away from any source of ignition.
- Check the earthing requirements of the installation before connecting the set to RCD-protected installations.
- Connection to the fixed installation of a building must always be through a suitable changeover panel, never by plugging the generator into a household socket.
- Do not use or store the set in rain, snow or damp conditions. IP 23 protection is not watertightness.
- Connect loads one at a time, starting with the largest.
- Do not handle the socket or press AC RESET with a load connected: first reduce the load that caused the overload.
- Do not alter the factory speed limiter: it voids the warranty and may damage the set and the connected loads.