



## Technical parameters of diesel generator set

Model	HC650GF
Rated power	650KW/812.5kVA
Reserve power	710KW/887.5KVA
Rated frequency	50HZ
Rated speed	1500
Rated current	1170A
Steady state voltage regulation rate	$\leq \pm 1\%$
Transient voltage regulation rate	$+ 20\% \sim - 15\%$
Steady state frequency adjustment rate	$\leq \pm 1\%$
Transient frequency adjustment rate	$+ 10\% \sim - 7\%$
Waveform distortion rate	$\leq 5\%$
Voltage fluctuation rate	$\leq \pm 0.5\%$
Voltage stability time	$\leq 1S$
Frequency fluctuation rate	$\leq \pm 0.5\%$
Frequency stability time	$\leq 3S$
Overall dimensions	4200*1650*2100mm
Weight	5500KG

Generator set manufacturer: Jiangsu Xinghuachang Power Generation Equipment Co., Ltd



## Parts List

Number	Name	Notes	Number	Name	Notes
1	Engine	Standard	15	Exhaust chimney	Standard
2	Alternator	Standard	16	User Manual	Standard
3	Base	Standard	17	Certificate of Conformity	Standard
4	Battery	Standard	18	Inspection report	Standard
5	Tank	Standard	19	Random tool kit	Standard
6	Water tank	Standard	20	Base oil tank	Optional
7	Silencer	Standard	21	Water jacket heater	Optional
8	Output circuit breaker	Standard	22	Fuel heater	Optional
9	Control system	Standard	23	Silent speaker	Optional
10	Battery cable	Standard	24	Automatic conversion cabinet	Optional
11	Oil pipe	Standard	25	Air guide cover	Optional
12	Battery rack	Standard	26	Smoke pipe	Optional
13	Float charger	Standard	27	Automatic refueling system	Optional
14	Corrugated pipe	Standard	28	Fuel level sensor	Optional

## STANDARDS:

**Description:** Generator and engine are optional.

**Standby Power:** Continues running at variable load for duration of an emergency.  
No overload is permitted on these ratings.

**Prime Power:** Continues running at variable load for unlimited periods with 10% overload available for 1 hour in any 12 hour period.

**Note:** All data sheets are for reference only and subject to change without prior notice.



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## Engine technical parameters

Diesel engine model	YC6TH1070-D31
Diesel engine manufacturer	Yuchai
Rated power	715KW/893.75KVA
Reserve power	787KW/983.75KVA
Air intake method	TCI (Turbo Charger with Inter-cooler
Cooling method	Direct drive centrifugal fan, closed water circulation cooling
Fuel type/oil type	Domestic 0 #/SAE 15W-40
Fuel consumption	208g/w.h
Form	L-type, 6-cylinder, water-cooled, four stroke
Starting method	24V DC starting, equipped with silicon current charging generator
Bore*stroke	175 * 195
Total oil capacity	113L
Speed regulation method	Electronic speed control

## Yuchai engine characteristics

- The main structure of the engine body, cylinder head, crankshaft and connecting rod has been tested for a long time, ensuring the high reliability of the entire machine
- Precise control of fuel injection quantity, sufficient intake of air, ensuring that the diesel engine burns fully and emits emissions under different load conditions
- Adopting a cylinder head integrated water outlet main design, reducing sealing surfaces and improving sealing reliability.
- One cylinder, one head structure, with maintenance windows on the side of the body for easy maintenance





## Technical parameters of generator

Generator model	HC650-14
Generator power	650KW/812.5KVA
Structure	Single bearing, 4-pole, brushless, anti drip
Efficiency	0.935
Rated power factor	0.8 (lag)
Rated voltage	400/230V
Protection level	IP23
Voltage regulation method	AVR (Automatic Voltage Regulator)
Wiring method	Three phase four wire, Y-type connection
Excitation system	Brushless self excitation
Insulation level	H
Steady state voltage regulation rate	$\leq \pm 1\%$
Telephone interference coefficient	TIF<50
Telephone harmonic factor	$\leq 2\%$
Generator manufacturer: Jiangsu Xinghuachang Power Generation Equipment Co., Ltd	

## Technical performance of generator

Generators can be optionally equipped with Stanford/Marathon/Leroy-Somer/Engga/Meccalte

—The HC series generator is a brushless AC synchronous generator that meets relevant national and international standards.

—Self excitation control or optional permanent magnet generator provides continuous short-circuit current capability

—Class H insulation meets harsh environmental requirements

—2/3 of the winding pitch suppresses excessive neutral current

—12 stator output terminals can be reconnected

—Single fulcrum structure

—Easy to install and maintain

—Standard IP23 protection level

—Unidirectional rotary fan

—Dedicated single fulcrum SAE2/11.5 or SAE1/14 connection

Options or attachments:

—Winding temperature sensor RTD

—Bearing temperature sensor RTD

—Winding temperature protection thermistor and relay

—Optional permanent magnet generator provides excitation to isolate the control system from the output





## CONTROL SYSTEM



## Performance characteristics

- LCD is 132x64, with backlight, displayed in eight languages (Chinese, English, Spanish, Russian, Portugal, Türkiye, Polish, French), and operated by tapping the button;
- The screen protection adopts hard screen acrylic material, which has good wear resistance and scratch resistance;
- Adopting silicone panels and buttons, with strong adaptability to high and low temperatures in the environment;
- Equipped with RS485 communication interface, using MODBUS protocol can achieve the "three remote" function;
- Equipped with a CAN BUS interface, it can be connected to an electronic fuel injection machine with J1939. It can not only monitor common data of the electronic fuel injection machine (such as water temperature, oil pressure, speed, fuel consumption, etc.), but also control startup, shutdown, high and low speeds through the CANBUS interface (a controller with a CAN BUS interface is required);
- Control and protection functions: achieving automatic start/stop, closing and opening (ATS switching), and complete fault display protection functions for diesel generator sets;
- Equipped with power on shutdown, idle speed control, preheating control, and speed up and down control functions, all of which are relay outputs;
- Parameter setting function: allows users to change and set their parameters, while memorizing them in the internal FLASH memory, which will not be lost in case of system power failure. All parameters of the controller can be adjusted from the front panel of the controller, or through USB interface on a PC, or RS485 interface on a PC;
- Multiple temperature, pressure, and oil level sensors can be directly used, and parameters can be customized.
- Multiple successful starting conditions (speed, oil pressure, frequency) can be selected;
- Equipped with emergency startup function;
- Equipped with automatic recognition function for flywheel tooth number;
- The power supply has a wide range of (8-35) VDC and can adapt to different starting battery voltage environments;
- All parameters are digitally adjusted, abandoning the analog adjustment method of conventional potentiometers, improving the reliability and stability of the entire machine;
- With maintenance function, the maintenance type can be selected as date or running time, and the maintenance action can be set (warning or alarm shutdown);
- It has the function of historical recording, real-time clock, and timed on/off (starting up once a month/week/day and can be set to load or not);
- There is a rubber sealing ring designed between the shell and the control screen, with a protective performance of IP65;
- The controller is fixed with metal clips;
- Modular structure design, flame-retardant ABS shell, pluggable terminal blocks, embedded installation method, compact structure, and convenient installation.