

Naturally-watercooled Engine

Model: DC11W-50

Ratings Range - 50HZ
1500 rpm DIESEL



The picture might not reflect the real configuration

STANDBY	kW	9
	kVA	11
PRIME	kW	8
	kVA	10

Prime & Standby Diesel Genset

INTRODUCTION

Wagna is a professional global enterprise, focus on the generating field. With over 10 years development and research on engine, alternator, and generator sets.

Wagna generator sets ranged from 20Kva to 3000Kva, include open type and silent

(canopy). With reliable Wagna engine, alternator and control system, Wagna generator sets are able to meet the requirements of different product regulations around the world.

DEFINITION

Prime Rating

Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Standby Rating

Output available with varying load for an unlimited time. Average power output is 80% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

Standard Reference Conditions

Note: Standard reference conditions 25°C (77°F) air inlet temp, 100m (328ft) A.S.L. 30% relative humidity.

Fuel consumption data at full load with diesel fuel with specific gravity of 0.85 and conforming to BS2869: 1998, Class A2.

WANGA with Certification of • ISO 9001

- EN 60204-1
- EN ISO 12100
- EN ISO 8528-13
- EN ISO 3046-1-2002

Model: DC11W-50

ENGINE: 3DN1.5W-50

Powered by WAGNA

50HZ 10/11KW

STANDARD FEATURES

ENGINE SYSTEM

General

- Oil Drain Extension
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Industrial Water-cooled Diesel Engine
- Industrial Air-filer

Cooling System

- Closed Coolant Recovery System
- Factory-Installed Radiator
- Radiator Drain Extension
- UV/Ozone Resistant Hoses

Fuel System

- Oil-water Separator
- Primary Fuel Filter

Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Solenoid activated starter motor
- Rubber-booted Engine Electrical Connections

ALTERNATOR SYSTEM

- Class H Insulation Material
- Vented Rotor
- Skewed Stator
- Auxiliary Vol-Regulator Power Winding
- Brushless Self-excitation
- Sealed Bearing
- Rotor Dynamically Spin Balanced
- Amortisseur Winding
- 110% Load Capacity Alternator
- IP23 Class Structure

GENERATOR SET

- Industrial Steel Base Frame
- Insect Proof System
- Fire Extinguisher
- VDO (Germany) sensor
- Intelligent Control Panel (WAGNA WE8010)
- Internal Genset Vibration Isolation
- Exhaust Piping
- Standard Factory Testing

CONTROL SYSTEM

Control Panel

- 132*64 LCD Display Panel
- Silica-gel Panel and Buttons
- 8 Languages Selected
- RS485
- All-Phase Sensing DVR
- Full System Status
- Utility Monitoring
- Low Fuel Level
- Power Output (kW)
- Power Factor
- kW Hours, Total & Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency
- Date/Time Fault History (Event Log)
- Waterproof/sealed Connectors, IP65
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Manual Switch
- Customizable Alarms, Warnings, and Events
- Predictive Maintenance Algorithm
- Sealed Boards
- Single Point Ground

Alarms

- Oil Pressure (Pre-programmable Low Pressure Shutdown)
- Coolant Temperature (Pre-programmed High Temp Shutdown)
- Coolant Level (Pre-programmed Low Level Shutdown)
- Low Fuel Alarm
- Engine Speed (Pre-programmed Over speed Shutdown)
- Battery Voltage Warning
- Alarms & Warnings Time and Date Stamped
- Alarms & Warnings for Transient and Steady State Conditions
- Snap Shots of Key Operation
- Parameters During Alarms & Warnings
- Alarms and Warnings Spelled out (no alarm codes)

Model: DC11W-50

ENGINE: 3DN1.5W-50

Powered by WAGNA

50HZ 10/11KW

PARALLELING CONTROL (OPTIONAL)

- Auto-synchronization Process
- Isochronous Load Sharing
- Reverse Power Protection
- Maximum power protection
- Electrically Operated, Mechanically Held Paralleling Switch
- Sync Check System
- Independent on-board Paralleling
- Optional Programmable Logic Full Auto Back-up Control
- Shunt Trip and Auxiliary Contact

OPTIONAL CONFIGURATION

ENGINE SYSTEM

General

- Oil Heater
- Critical Exhaust Silencer (open set)

Engine Electrical System

- Battery Warmer
- 10A Battery Charger

ALTERNATOR

- Alternator Upsizing
- Anti-Condensation Heater
- Permanent Magnet Excitation

ENCLOSURE

- Standard Enclosure
- Residential Class Enclosure
- Galvanized
- 12 VDC Enclosure Lighting Kit
- 20/40ft Standard Marine Class Container

FUEL TANK

- Electrical Fuel Level
- External Fuel Tank
- Auto-filled Tank
- Bunded Fuel Tank

ENGINEERED OPTIONS

GENERATOR SET

- Special Testing
- Battery Box

ENCLOSURE

- Door Switched for Intrusion Alert
- Enclosure Ambient Heaters

Model: DC11W-50

ENGINE: 3DN1.5W-50

Powered by WAGNA

50HZ 10/11KW

GENSET RATING

Genset Model	Engine Model	Alternator Model	Speed	PH	HZ	Prime Rating		Standby Rating	
						kVA	KW	kVA	KW
DC11W-50	3DN1.5W-50	WG16A8.8Y	1500	3	50	10	8	11	9

GENSET APPLICATION DATA

ENGINE SPECIFICATIONS

General

Brand	WAGNA	
Model	3DN1.5W-50	
Speed	R.P.M	1500
Frequently	HZ	50
Voltage	V	400
Engine Type	Inline 3, 4cycle	
Bore x Stroke	mm	90*100
Displacement	L	1.51
Compression Ratio	19:1	
Aspiration	Naturally, Water-cooled	
Fuel Injection	Direct-Injection	
Governor	Mechanical	

Fuel System

Type	Mechanical	
Fuel Consumption		
%	kW	L/H
25	2.5	1.05
50	5	1.61
75	7.5	2.00
100	10	2.52

Exhaust & Intake System

Combustion Air Consumption	m ³ /min	0.9
Max. Intake Restriction	mbar	50
Exhaust Gas Flow	m ³ /min	1.82
Max. Exhaust Back Pressure	mbar	50
Max. Exhaust Temperature (After Turbo)	°C	400

Cooling System

Coolant Capacity for Engine	L	10
Max. Permissible Temperature	°C	90
Max. Coolant Warning Temperature	°C	95
Max. Coolant Shutdown Temperature	°C	105
Thermostat Open Temperature	°C	71

Lubrication System

Oil Capacity	L	4.9
Oil Consumption Ratio	g/kWh	≤2.72
Lube Oil Specification	-	CF-4
Lube Oil Pressure	kPa	150
Max. Permissible Oil Temperature	°C	100

Starting System

Starting Motor	V	12
Battery Capacity	Ah	1*100
Min. Temperature for Unaided Cold Start	°C	-10

Model: DC11W-50

ENGINE: 3DN1.5W-50

Powered by WAGNA

50HZ 10/11KW

ALTERNATOR

Brand	WAGNA	Insulation : Class, Temperature Rise	H/H
Model	WG16A8.8Y	Speed Regulation	± 3%
Factor (Cos Phi)	0.8	Rated Speed (No-load to full load)	± 0.5%
Number of Phase	3	Speed Variation at Steady State	± 0.5%
Voltage (V)	400	Voltage Regulation	± 1%
Bearing : Number	1	Voltage Stability	± 0.5%
Exciter Type	Brushless Shunt	In Accordance With	CE, NEMA 1.22, EN 60034, EN61000
Protection	IP23		

ENCLOSURE



The picture might not reflect the real configuration

Open Type		DC11W-50
Overall Size	mm	L1320*W700*H1015
Weight	Kg	420
Enclosure Type		
Overall Size	mm	L1856*W826*H1415
Weight	Kg	800

*All measurements are estimated, the actual size is in accordant with the final product.

Flexibility

Customized design regarding different requirements from users. Optional configurations are available for Wagna D and G series. Such as noise level (Silent, Super-Silent enclosure and Containerized), bunded fuel tank, anti-rusted Galvanized cover, etc.

Easy transportation, installation & operation

Pad lockable window and multi-functional digital control panel. External emergency stop button, power outlet integrated unit, drain outlet, Big size inspection door, fuel filling port, etc.

Strict Noise Level Standard

Steel residential silencer is able to reduce total noise by 15-35dB(A). Fully covered shield door with rubber seal, anti shock base frame, noise reduce air in/out port, and high-density soundproof wool (soft / hard rock optional).

Suitable for all kinds of weather condition

The canopy can be designed for rain-proof for outdoor, anti rusted for sea side and sand proof for desert. The canopy or container will be designed according to the users' needs.

Model: DC11W-50

ENGINE: 3DN1.5W-50

Powered by WAGNA

50HZ 10/11KW

CONTROL SYSTEM

WAGNA Controller

WE8010 is the remote monitoring module of the generator set controller. With RS485 port it can realize functions of remote start/stop, data measuring, and alarm display etc. it is applicable for single remote monitoring system. It can be in the monitoring mode, realizing only monitoring, not controlling, or it can be changed over to remote control mode by local module transfer, monitored and controlled remotely.

WE8010 remote monitoring module uses micro-processing technique and 132 x 64 LCD display. It can be widely used in all types of automatic control system with compact structure, simple connections and high reliability.



Main features:

1. 132x64 LCD display with backlight, 8 language interface (Simplified Chinese, English, Spanish, Russian, Portuguese, Turkish, Polish and French), push-button operation;
2. Acrylic hard screen, better wear proof and scratch resistance property;
3. Silica-gel panel and keys with strong adaptability in higher and lower temperature environments;
4. RS485 communication port which can achieve "three-remote" (remote, control, remote, measurement and remote communication) functions via MODBUS protocol;
5. Wide power supply range:(8~35)V DC, accommodating to different starting battery volts;
6. All parameters use digital modulation, getting rid of analog modulation of conventional potentiometer, improving wholesome reliability and stability;
7. Controller is fixed by fixing metal clips;
8. Modular design, flame-retardant ABS shell, plug gable wiring terminals, embedded mounting, compact structure and easy installation;
9. Parameter setting function: allows users to modify the settings and at the same time they shall be stored in internal FLASH memory, so that the parameters won't be lost in case of power outage;
10. All parameters can be set from the front panel, but also can be adjusted by RS485 interface via PC;
11. Maintenance function: maintenance type can be selected as date or running time; maintenance due actions can be set (warning or shutdown);
12. Event Log, Real Time Clock, Scheduled Run/ Not Run (start once monthly/ weekly/ daily; on/ off load can be set) functions;
13. Rubber gasket between the shell and panel screen with waterproof protection class IP55;
14. Controller is fixed by fixing metal clips;

OPTIONAL

Model: DC11W-50

ENGINE: 3DN1.5W-50

Powered by WAGNA

50HZ 10/11KW

AUTOMATIC SWITCH PANEL

WAGNA automatic transfer system, equipped with the world-renowned brand's automatic switch, microprocessors, silver alloy contacts and other high-quality accessories, can rapidly connect with two-way power automatic switch. It is applicable to essential power supply facilities, such as hospitals, banks, hotels, telecommunications, airports, mining, power stations, factory emergency power, etc.



Automatic Transfer Panel	
Model	Specification
WQ40	40A
WQ63	63A
WQ80	80A
...	...
WQ2000	2000A

Main Function

- Manual emergency stop button
- Motorized auto transfer switch
- Grounding connection
- Made of high-quality sheet metal. IP55 protection rating which guarantees sealing and insulation levels
- An intelligent dual power supply module integrated with configurable function, automatic measurement and LCD display.

ATS Controller

WAGNA WE560 series dual power ATS controller is an intelligent dual power supply module integrated with configurable function, automatic measurement, LCD display, and digital communication. It combines digitization, intelligence and networking together, which realizes automation for measuring and control process, reducing artificial operation mistakes. It is the ideal product for dual power transfer.

WAGNA WE560 series dual power ATS controller is made with the microprocessor in the core, which can precisely measure 2-channel 3-phase/single phase voltages, make correct judgment for occurred voltage abnormal (over voltage, under voltage, loss of phase, over frequency, under frequency) and output discrete volt free control signals. This device is designed after considering various applications in ATS (auto transfer system on- load), and can be used for specialized ATS switch, ATS with connector composed, and ATS made by air switch etc.



OPTIONAL

Model: DC11W-50

ENGINE: 3DN1.5W-50

Powered by WAGNA

50HZ 10/11KW

WPS- WAGNA PARALLEL SYSTEM

WPS (Wagna Parallel System) is designed for the parallel running of Wagna generator sets. It allows up to 16 units generator sets automatic starting, paralleling, and load balancing.

It includes everything you need to control paralleling – synchronizer, speed governor biasing, automatic voltage regulator biasing, communications, load sharing, metering, protective relaying, operator Interface.



WAGNA Parallel Controller

WE8020 controller is designed for manual/ auto parallel system generators with similar or different capacity. Additionally, it is suitable for single unit constant power output and mains paralleling.

WE8020 allows automatic start/ stop, parallel running, data measurement, alarm protection as well as remote control, remote measurement and remote communication function. It fits with LCD display, optional Chinese, English and other languages interface, and it is reliable and easy to use.



Main features :

- 1. With ARM-based 32-bit SCM, high integration of hardware and more reliable;
- 2. 480x272 LCD with backlight, multilingual interface (English, Chinese or other languages).
- 3. RS485 communication port enable remote control, remote measuring, remote communication via ModBus protocol;
- 4. Two configurable sensors can be set as sensor of temperature, oil pressure or fuel level;
- 5. More kinds of curves of temperature, oil pressure, fuel level can be used directly and users can define the sensor curves by themselves;
- 6. Parameter setting: parameters can be modified and stored in internal EEPROM memory and cannot be lost even in case of power outage; most of them can be adjusted using front panel of the controller and all of them can be modified using PC via USB or RS485 ports;

- 7. With maintenance function. Actions (warning, trip and stop, shutdown) can be set when maintenance time out;
- 8. All parameters used digital adjustment, instead of conventional analog modulation with normal potentiometer, more reliability and stability;
- 9. IP55 water-proof level can be achieved with the help of rubber-ring gasket between shell and control panel.
- 10. Metal fixing clips enable perfect in high temperature environment;
- 11. Modular design, anti-flaming ABS plastic shell, plug gable terminal, built-in mounting, compact structure with easy installation;
- 12. Protection: automatic start/stop of the gen-set, ATS control with perfect fault indication and protection function.

