PowerSources
Produktion u. Vertrieb von Stromversorgungen

ROBERT-BOSCH-STR. 7 D - 40668 MEERBUSCH
TEL.: +49 - 2150 - 91 28 00
Fax: +49 - 2150 - 91 28 09
http: www.powersources.de
E-mail: wvs@powersources.de

Industrial Diesel Genset DDW-60

POWER RATING	1500 rpm/50 Hz	1800 rpm/60 Hz
Prime	54.8 kVA, 43.9 kW	57.6 kVA 46.1 kW
Standby	60.4 kVA, 48.3 kW	63.1 kVA, 50.5 kW

Generator set consisting of engine and alternator mounted on a fabricated steel profile base, painted with a phosphate primer and top coat.

The alternator is directly coupled to the engine flywheel housing to SAE standards. The rotor is fixed to the flywheel using steel discs for flexibilty. Perfect alignment and the absence of vibration are thus guaranteed.

The unit is fixed to the baseframe using anti-vibration pads.

ENGINE

4-stroke diesel engine with direct injection.

Manufacturer..... Deutz
Model BF4M1012E
No. of cylinders 4
Engine capacity..... 3190 cc
Bore ..... 94 mm
Stroke ..... 115 mm
Compression ratio 17.5: 1
Aspiration..... Turbocharged
Cooling..... Water cooled.
Engine speed..... 1500 / 1800 rpm
Prime power 1500 / 1800 rpm ..... 74.05 / 77.45 HP ISO 3046/1
Fuel consumption 100% load 1500 / 1800 rpm ..... 12.9 / 13.4 ltr/h DIN 51601
Fuel tank capacity..... 109 litres
Approximate running time without refill 1500/1800rpm .. 8.45 / 8.13 hours
Noise level 1500 / 1800 rpm ..... 86 / 88 dB(A) at 1 metre.

Cooling system

Closed circuit externally water cooled with expander tank outside radiator. Pusher fan with guard.

Cooling air flow from fan 1500 / 1800 rpm.....104.17 / 124.83 m3/min
Cooling system capacity.....10 litres

Lubrication system

Forced lubrication using excentric rotor type pump. External oil filter

Oil sump capacity..... 10 litres
Consumption ..... Max. 0.3 % of fuel consumption

ROBERT-BOSCH-STR. 7 D - 40668 MEERBUSCH
TEL.: +49 - 2150 - 91 28 00
Fax: +49 - 2150 - 91 28 09
http: www.powersources.de
E-mail: wvs@powersources.de

Air intake system

Naturally aspirated via dry air filter.

Combustion air flow 1500 / 1800 rpm..... 3.4 / 4.23 m3/min

Fuel delivery system

Fuel lift pump integrated into trapezoidal drive belt tensor pulley. Fuel filter and pre-filter.

Injection system

Individual pump for each cylinder, with centrifugal mechanical governor.

Electrical system

12 V kW electric starting system. Axial starter motor. 95 A.h. battery. 55 A battery charging alternator. Oil pressure and engine temperature sensors.

Protection system

Automatic engine shutdown for low oil pressure, low fuel level, high temperature and battery charge defect .

Exhaust system

Consists of silencer with 10 db(A) noise reduction, flexible exhaust pipe and brackets. Residential silencer optional.

Exhaust gas flow 1500 / 1800 rpm..... 8.83 / 10.98 m3/min.

ALTERNATOR

Synchronous, three phase and brushless. Self regulation via automatic voltage regulator maintaining voltage within +/- 1.5%. Class “H” insulation. All windings are impregnated with polyester resin, making them resistant to acids and oil. IP 23 protection. Electrical characteristics to BS 5000, VDE 0530, UTE 5100, NEMA MG 1-22, CMA IEC 34, CSA 22,2 and AS 1359. Harmonic distortion below 3.5%. Radio interference suppression to BS-800.

Manufacturer	Stamford
Model	UCD 224 E16
Power rating	60 kVA at 1500; 72 kVA at 1800 rpm
Voltage (*)	400/220 V three phase
Frequency	50 / 60 Hz
Speed	1500 / 1800 rpm
Regulation	Electronic
Nominal current 50 / 60 Hz	86.6 / 103.92 A (at 400 V)

(*) 12 wire output permitting reconnection to any existing voltage.

VERSIONS

The DDW ***60*** generator set may be supplied in the following versions:
STATIONARY, STATIONARY WITH CANOPY, MOBILE WITH CANOPY AND AUTOMATIC

ROBERT-BOSCH-STR. 7 D - 40668 MEERBUSCH
TEL.: +49 - 2150 - 91 28 00
Fax: +49 - 2150 - 91 28 09
http: www.powersources.de
E-mail: wvs@powersources.de

STATIONARY

In the stationary version, the set is supplied on a skidbase with a control panel which is operated manually using an ignition key.

Length 2100 mm x Width 850 mm x Height 1460 mm

Control panel

Metal cabinet, with IP 54 protection, mounted on the frame with anti-vibration pads. Equipped with:

- Thermo-magnetic circuit breaker.
- 3 ammeters.
- Frequency meter.
- Voltmeter with selector switch..
- Hours run meter.
- Three phase output terminals.
- Engine temperature gauge.
- Fuel gauge.
- On light.
- Heater button.

Control card including: ignition key, start/stop buttons and Indicator lights for low oil pressure, battery charge, high temperature, low fuel level, overload and start-up failure.

STATIONARY WITH CANOPY

In this version the group is supplied on a skidbase with a metal canopy for outdoor use. The control panel is housed in the canopy and is operated manually using an ignition key.

Length 2116 mm x Width 850 mm x Height 1659 mm

Metal canopy

Ideal for outdoor use, it is painted with a phosphate primer and long lasting top coat.

Control panel

In metal cabinet, with IP 54 protection, mounted on frame using anti-vibration dampeners. Equipped with:

- Thermo-magnetic circuit breaker.
- 3 ammeters.
- Frequency meter.
- Voltmeter with selector switch..
- Hours run meter.
- Three phase output terminals.
- Engine temperature gauge.
- Fuel gauge.
- On light.
- Heater button.

Control card including: ignition key, start/stop buttons and Indicator lights for low oil pressure, battery charge, high temperature, low fuel level, overload and start-up failure.

ROBERT-BOSCH-STR. 7 D - 40668 MEERBUSCH
TEL.: +49 - 2150 - 91 28 00
Fax: +49 - 2150 - 91 28 09
http: www.powersources.de
E-mail: wvs@powersources.de

MOBILE WITH CANOPY

Set on baseframe mounted on independent trailer. Includes metal canopy housing control panel which is operated manually via an ignition key.

Length: 2871 mm
Width: 1290 mm
Height: 1807 mm

Metal canopy

Ideal for outdoor use, it is painted with a phosphate primer and long lasting top coat.

Trailer

Made up of: wheels with tyres, DIN towing eye, rubber axle suspension and support leg. Jockey wheel on request.

As an option, A TRAILER ADAPTED FOR ROAD TRANSPORTATION may be supplied

Control panel

Metal cabinet, with IP 54 protection, mounted on the frame with anti-vibration pads.

Equipped with:

- Thermo-magnetic circuit breaker.
- 3 ammeters.
- Frequency meter.
- Voltmeter with selector switch..
- Hours run meter.
- Th EEparkvibkr.
- ampe6.3(vibr)u1(uit br gauger)-5.8(.)]TJı˝/F11 1 Tfı˝-0.4578 -1.2084 TDı˝0 Tcı˝0 Twı˝(·)Tjı˝/F10 1 Tfı˝0.4578 -0.00
-

ROBERT-BOSCH-STR. 7 D - 40668 MEERBUSCH
TEL.: +49 - 2150 - 91 28 00
Fax: +49 - 2150 - 91 28 09
http: www.powersources.de
E-mail: wvs@powersources.de

AUTOMATIC

The automatic version generator set is supplied on a skidbase with an automatic start/stop panel for mains failure.

Dimensions: Length 2100 mm x Width 870 mm x Height: 1460 mm

ELECTRICAL PANEL

Mounted in a metal cabinet with IP 54 protection and supplied loose for wall mounting. Includes monitoring and control, measuring and handling, and transfer system.

Monitoring and control system

- Automatically monitors the mains, and, if the mains fails (in one or all three phases) connects the consumers to the generator set via mechanically and electrically interlocking contactors. When the mains is restored, the load is reconnected to the mains, the set idles and then stops.
- No. of start up attempts: 3
- Selector switch for Disconnect, Automatic Service, Manual Service and Test
- The set may be selected to run manually or automatically. When running manually a selector switch is used for shutdown, start-up and changeover.
- Three phase voltage monitor with adjustable values.

Measuring and handling equipment

Consists of the following items:

- 3 Ammeters
- 1 Voltmeter
- 1 mains-generator set voltmeter selector switch.
- 1 Frequency meter
- 1 Battery voltmeter.
- Off button.
- Battery maintenance system
- Battery indicator lamp
- Battery charge indicator lamp.
- Emergency stop mushroom type pushbutton.
- Audible and visual alarm for low fuel level. (Shown as “ALARMS NO STOP”).
- Alarm system disconnecting generator set, shutdown, acoustic alarm and visual signals for:
    - Start-up failure
    - Low oil pressure
    - High water / engine body temperature.
    - Overload.
- Protective fuse.
- Thermo-magnetic circuit breaker.

Transfer system

Made up of two mechanically and electrically interlocking contactors.

WORKING VOLTAGE: 400/220 V

HEATER

In this version, the set incorporates a heater which aids diesel engine start-up and response. It consists of a tank connected to the engine cooling system and a heating element with an adjustable thermostat.