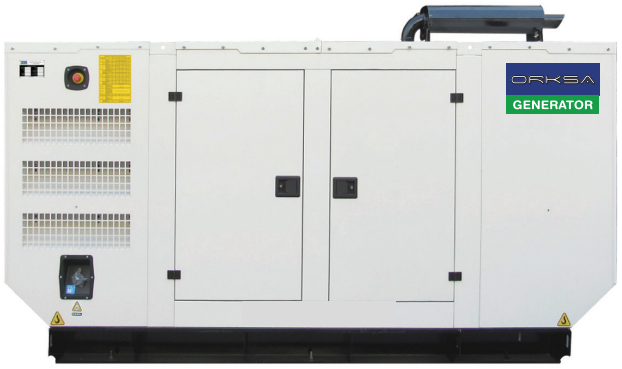
Technicial Specification

ORKSA GENERATOR

Diesel
Generator Set
OR 415 O&M



Description

This Orksa® Power Generation commercial generator set is a fully integrated power generation system, providing optimum performance, reliability, and versatility for stationary standby, prime power and continuous duty applications.

Features

Orksa® heavy-duty engine - Rugged 4-cycle industrial diesel delivers reliable power, low emissions and fast response to load changes.

Alternator - Low reactance 2/3 pitch windings; low waveform distortion with non- linear loads, fault clearing short-circuits capability, and class H insulation.

Cooling system - The standart integrated kit model radiator system designed and tested for nominal ambient temparatures, simplifres facility design requirements for heat rejected.

Control system – Datakom electronic control is standard equipment and provides total genset system integration, including auto remote start/stop, alarm and status message display.

Canopy Types - Optionally it is possible to make it protective and soundproof against adverse climatic conditions

Warranty and service - Backed by a comprehensive warranty and worldwide aftersales support, 10 years of spare parts supplying.

Stand by Rating (ESP): It is the way that generators operate under variable load at certaintime ıntervals. It can work as a backup power.It is not suitable to work under extreme load.

Prime Rating (PRP): Applicable for supplying power to varying electrical load for unlimited hours. PRP is in accordance with ISO 8528. 10 % overload capability is available for a period of 1 hour within 12-hour perod of operation,in accordance with ISO 3046.

Genset Model	Engine Model	Prime rating	Stand by rating	Max. kVA rating
OR 415 O&M	OPE 9.8 MTWE-1	312 kVA	359 kVA	413 kVA

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Generator Set Specifications

Governor regulation class	ISO 8528 G3
Voltage regulation, no load to full load	± 1%
Random voltage variation	± 1%
Frequency regulation	Isochronous
Random frequency variation	± 0.25%
EMS compatibility	In compliance with BS 800 and VDE levels G and N

Engine Specifications

Engine brand	Optimus Engine
Aspiration Type	Turbocharged
Engine Rated Speed	1500 rpm
Bore	135 mm
Stroke	150 mm
Displacement	12,88 L
Cylinder block	6 cylinder,vertical
Oil capacity	33 L
Cooling water	46 L
Starting voltage	24 V
Fuel system	Direct injection
Fuel filter	Strata pore fuel filter
Air cleaner type	Heavy duty air cleaner
Compression ratio	16:1
Cycle	4 stroke
Cooling system	Water cooled
Governor Type	Mechanical
Fuel Consumption at 50% of generator set prime output Fuel Consumption at 75% of generator set prime output Fuel Consumption at 100% of generator set prime output Fuel Consumption at 110% of generator set prime output	44 L/hr 66 L/hr 89 L/hr 98 L/hr

Alternator Specifications

Alternator brand	Megatron
Type	Brushless, revolving field
Frequency	50 Hz
Winding pitch	2/3 pitch
Number of bearing	Single bearing
Protection	IP23
Insulation system	Class H
Standard temperature rise	Standart 125ºC ,Stand by 163ºC
Exciter type	Self - excitation or other excitation by PMG
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
AC waveform total harmonic distortion (THDV)	No load <1.5%. Non distorting balanced linear load <5%
Telephone influence factor (TIF)	<50% per NEMA MG1-22.43
Telephone harmonic factor (THF)	<2%

Generator Set Options

Engine
- ☐ Water jacket heater

Cooling
- ☐ Antifreeze -25°

Alternator
- ☐ H class insulation
- ☐ Exciter voltage regulator

Control panel
- ☐ Datakom
- ☐ 3 pole main circuit breaker
  Motorised 4 pole circuit breaker

Canopy Types
- ☐ Optional super silent

Warranty
- ☐ 1000 working hours or 3 years warranty

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CONTROL SYSTEM

The D-500LITE MK2 is a cost effective modular genset controller ready for internet monitoring through plug-in modules.

FEATURES

- Diesel and gas genset support
- 400Hz operation support
- 400 event logs, full snapshot
- All parameters front panel editable
- 3 level configuration password
- 128x64 graphical LCD display
- Downloadable languages
- Waveform display of V & I
- Harmonic analysis of V & I
- 16Amp MCB & GCB outputs
- 8 configurable digital inputs
- 6 configurable digital outputs
- 3 configurable analog inputs
- Both CANBUS-J1939 & MPU
- 3 configurable service alarms
- Multiple automatic exerciser
- Weekly operation schedule
- Dual mutual standby with equal aging of gensets
- Manual “speed fine adjust” on selected ECUs
- Automatic fuel pump control
- Disable protections feature
- Excess power protection
- Reverse power protection
- Overload IDMT protection
- Load shedding, dummy load
- Multiple load management
- Current unbalance protection
- Voltage unbalance protection
- Fuel filling & fuel theft alarms
- Battery back-up real time clock
- Idle speed control
- Battery charge run enabled
- Combat mode support
- Multiple nominal conditions
- Contactor & MCB drive
- 4 quadrant genset power counters
- Mains power counters
- Fuel filling counter
- Fuel consumption counter
- Modem diagnostics display
- Configurable through USB, RS-232 and GPRS
- Free configuration program
- Allows SMS controls
- Ready for central monitoring
- Mobile genset support• Automatic GSM geo-location
- GPS connectivity (RS232)
- Easy USB firmware upgrade
- IP65 rating with optional gasket

FUNCTIONALITIES

- AMF unit
- ATS unit
- Remote Start Controller
- Manual Start Controller
- Engine Controller

TOPOLOGIES

- 3 ph 4 w, star & delta
- 3 ph 3 w, 2 CTs
- 2 ph 3 w
- 1 phase 2 wires

COMMUNICATION

- USB Device
- J1939-CANBUS
- Geo-locating through GSM
- Internet Central Monitoring
- SMS Message Sending
- E-mail Sending
- Free Pc Software: RainbowPlus
- Modbus RTU (2400-57600baud)
- Modbus TCP/IP

REMOTE MONİTORİNG (OPTİONAL)

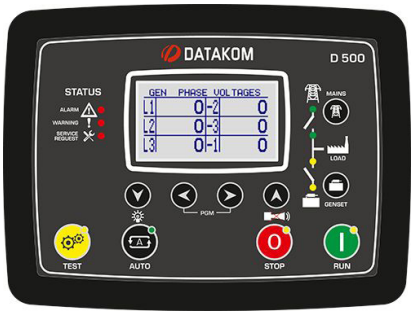
- Single server supports up to 60’000 devices
- Provides data security, data is sent to only server
- Uses internet-based interactive World map
- Real time display of status of devices are shown on the map, and on side panel
- Hierarchical configuration and clustering
- Remote control of devices
- Supports all Datakom products, which are integrated with DKG 210 gateway
- Supports all devices, which supports Modbus protocol, by integrating DKG 210 gateway
- Data recording, analysis and reporting
- Tablet and smartphone interfaces

PLUG-IN MODULES (OPTİONAL)

- GSM Modem (2G-3G-4G)
- Ethernet 100Mbps
- Wi-Fi (802.11 b/g/n)
- RS-485 (2400-57600baud)
- RS-232 (2400-57600baud)

MEASUREMENTS

- Mains & genset PN/PP voltages
- Mains & genset frequency
- Mains & genset phase currents
- Mains & genset neutral currents
- Mains & genset, phase & total, kW, kVA, kVAr, pf
- Engine speed
- Battery voltage



D-500LITE MK2 control operator / display panel

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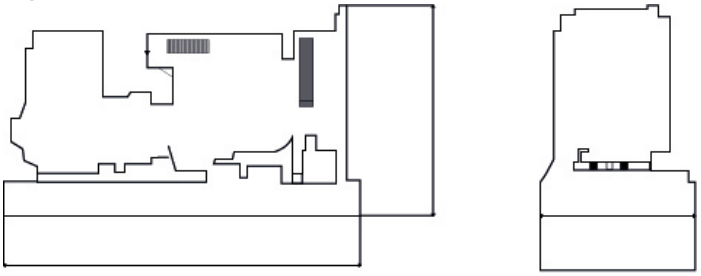
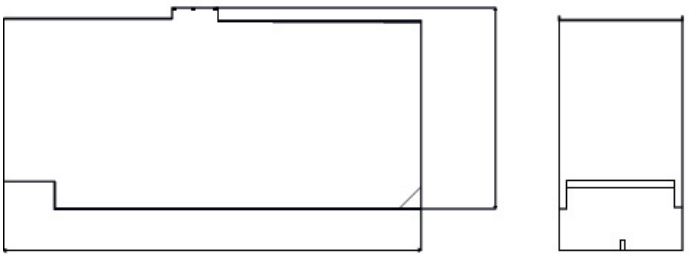
Canopy Standart Specifications

- Compact design connection with non-welded nuts and bolts.
- Integrated canopy,generator set,exhaust system fuel tank.
- Body made from steel components treated with polyester powder coating
- Easy access to all service points
- Exhaust system inside canopy
- Large doors on each side
- Control panel viewing window in a lockable access door
- Emergency stop push button mounted on cabin exterior
- Fuel fill and battery can only be reached via lockable access doors.
- Customer options available to meet your applications needs.
- Katana makes its generating sets noise level tests in accordance with directive 2000/14/EC validation of the noise level test has been aproved by the notified body Szutest (CE conformity assessment body).

Open



Enclosed



	Dry Weight (kg)	Lenght (mm)	Width (mm)	Height (mm)	Tank Capacity (L)
Open type	2570	3000	1200	1900	385
Canopy	2900	3500	1200	2500	385

Certificates

Orksa Generator has Quality Management Systems certificate.
ISO 9001:2015

Orksa Generator has Occupational Health and Safety Management Systems certificate.
ISO 45001: 2018

Orksa Generator has Environmental Management System certification.
ISO 14001:2015

This generator set is available with CE certification.

ORKSA MAKİNA SATIŞ VE SERVİS SANAYİ LTD ŞTİ.

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