

## Technical Specification



Diesel  
Generator Set  
KD 93 O&M

3 YEARS OR  
3000 HOURS  
WARRANTY



### Description

This Katana® 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

**Katana® 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 standard integrated kit model radiator system designed and tested for nominal ambient temperatures, simplifies 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 certain time intervals. 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 period of operation, in accordance with ISO 3046.

| Genset Model | Engine Model | Prime  | Stand by | Overload |
|--------------|--------------|--------|----------|----------|
| KD 93 O&M    | R4105AZLD    | 77 kVA | 85 kVA   | 93 kVA   |

## 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                                                   | 105 mm                  |
| Stroke                                                 | 130 mm                  |
| Displacement                                           | 4,50 L                  |
| Cylinder block                                         | 4 cylinder              |
| Oil capacity                                           | 13 L                    |
| Cooling water                                          | 20 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  | 8,7 L/hr                |
| Fuel Consumption at 75% of generator set prime output  | 13,5 L/hr               |
| Fuel Consumption at 100% of generator set prime output | 18,5 L/hr               |
| Fuel Consumption at 110% of generator set prime output | 20,3 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 125°C ,Stand by 163°C                         |
| 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%                                                    |
| Voltage                                      | 400/230 V                                              |

## 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

☐ 3000 working hours or 3 years warranty

## 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 exciser
- 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 MONITORING (OPTIONAL)

- 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 (OPTIONAL)

- 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, kVA<sub>r</sub>, pf
- Engine speed
- Battery voltage

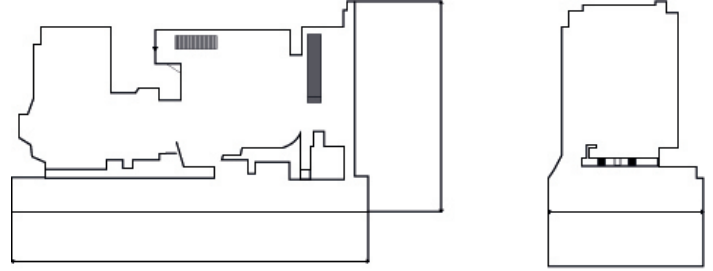


D-500LITE MK2 control operator / display panel

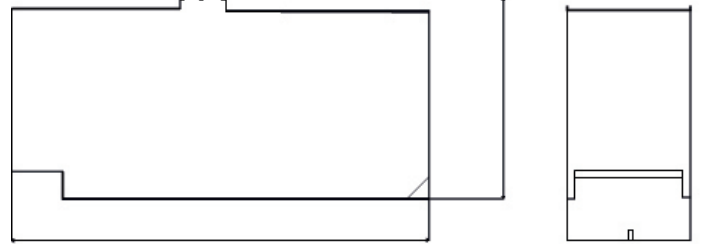
## Canopy Standart Specifications

- 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) |
|------------------|-----------------|-------------|------------|-------------|-------------------|
| <b>Open type</b> | 1060            | 2100        | 900        | 1600        | 136               |
| <b>Canopy</b>    | 1240            | 2500        | 900        | 1650        | 136               |

## Certificates



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



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



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



This generator set is available with CE certification.



Turkish Standards institution certificate of conformity to Turkish standards

**Katana Power Products**  
**Katana Güç Ürünleri San. Tic. Ltd. Şti.**

Adress : Gebze Güzeller Organize Sanayi Bolgesi  
Yunus Emre Sok. No :3  
Gebze / KOCAELI / TURKEY  
Telephone: 444 5 978  
+90 262 502 10 90  
Faks : +90 262 502 10 77  
E Mail : katana@katana.com.tr



[www.katana.com.tr](http://www.katana.com.tr)