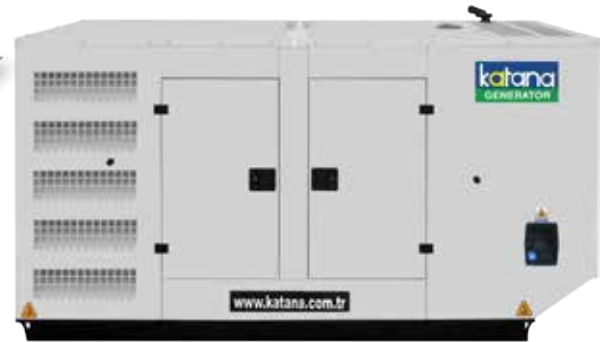


## Technical Specification



Diesel  
Generator Set  
KD 220 D1&M



### 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 rating | Stand by rating | Max. kVA rating |
|--------------|--------------|--------------|-----------------|-----------------|
| KD 220 D1&M  | DDE 7.1 YTO1 | 176 kVA      | 194 kVA         | 213 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   | Detroit Engine          |
| Aspiration Type  | Turbocharged            |
| Engine Rated Speed                                     | 1500 rpm                |
| Bore   | 110 mm                  |
| Stroke   | 125 mm                  |
| Displacement   | 7.13 L                  |
| Cylinder block   | 6 cylinder              |
| Oil Capacity   | 16 L                    |
| Coolant Capacity for Engine                            | 9.35 L                  |
| Starting voltage                                       | 24 V                    |
| Fuel system  | Direct injection        |
| Fuel filter  | Strata pore fuel filter |
| Air cleaner type                                       | Heavy duty air cleaner  |
| Compression ratio                                      | 17:1                    |
| Cycle  | 4 stroke                |
| Cooling system   | Water cooled            |
| Governor Type  | Electronic              |
| Fuel Consumption at 25% of generator set prime output  | 11,39 L/hr              |
| Fuel Consumption at 50% of generator set prime output  | 22,78 L/hr              |
| Fuel Consumption at 75% of generator set prime output  | 34,16 L/hr              |
| Fuel Consumption at 100% of generator set prime output | 45,55 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%  |

## 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

- ☐ 5000 Working hours or  
5 Years warranty  
(Whichever comes first)

## 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 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

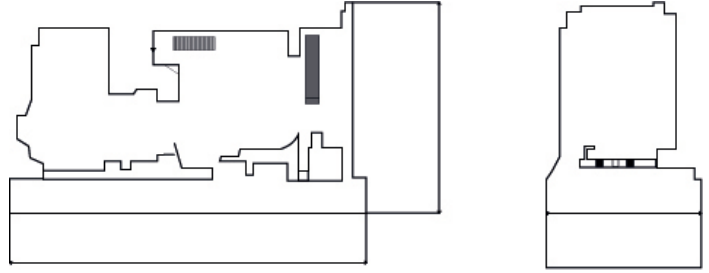


D-500LITE MK2 control operator / display panel

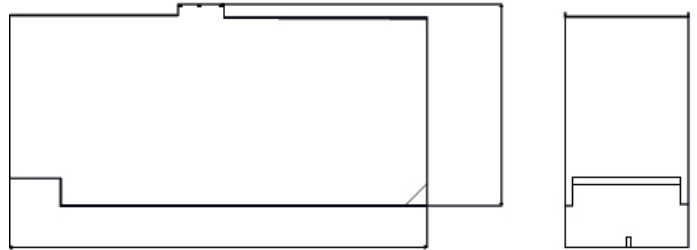
## Canopy Standart Specifications

- 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> | 1690            | 3000        | 1200       | 1800        | 385               |
| <b>Canopy</b>    | 1950            | 3000        | 1200       | 2000        | 385               |

## 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**  
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