

Specification sheet

Diesel
Generator Set
KD 23 P&LS
Perkins & Leroy-Somer



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 - Standard integral set-mounted radiator system, designed and tested for rated ambient temperatures, simplifies facility design requirements for rejected heat.

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

Enclosures - Optional weather-protective and sound-attenuated enclosures are available.

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

Standby Rating (ESP): Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. ESP is in accordance with ISO 8528. Overload is not allowed.

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
KD 23 P&LS	404A-22G1	20 kVA	23 kVA

Generator set specifications

Governor regulation class	ISO 8528-12 class G2
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	Perkins Engine
Type	Naturally
Bore	84 Mm
Stroke	100 Mm
Displacement	2,21 L
Cylinder block	4 cylinder
Rotation	Anti-clockwise, viewed on flywheel
Total lubricating capacity	10,6 L
Starting voltage	12 V
Fuel system	Indirect injection
Fuel filter	Split element fuel filter
Compression ratio	23.3:1
Cycle	4 stroke
Cooling system	Water cooled
Governor Type	Mechanical
Fuel Consumption at 50% of generator set prime output	3,0 L/H
Fuel Consumption at 75% of generator set prime output	4,0 L/H
Fuel Consumption at Prime power output	5,3 L/H
Fuel Consumption at Standby power output	6,1 L/H

Alternator specifications

Alternator brand	Leroy-Somer
Stator Winding	Double layer lap
Insulation system	Class H
IP Rating I	IP 23
Winding pitch	2/3
Number of wires	6 (12 option)
Exciter type	AREP / PMG
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
Frequency	50 Hz
Total Harmonic Distortion THD (**) in no-load	< 3.5 %
Total Harmonic Distortion THD (**) on linear load	< 3.5 %

Generator set options

Engine

- ☐ Water jacket heater

Alternator

- ☐ H class insulation
☐ Exciter voltage regulator

Silencer

- ☐ 9 dB attenuation critical silencer
☐ 25 dB residential – delivered loose

Base frame

- ☐ Double wall fuel tank

Cooling

- ☐ Antifreeze -25°

Control panel

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

Warranty

- ☐ Global warranty

Enclosure

- ☐ Optional super silent

Control system

The D-500 is a next generation genset control unit combining multi-functionality and wide communication possibilities together with a reliable and low cost design. The unit complies and mostly exceeds world's tightest safety, EMC, vibration and environmental standards for the industrial category.

Description

Software features are complete with easy firmware upgrade through USB port.

The Windows based PC software allows monitoring and programming through USB, RS-485, RS-232, Ethernet and GPRS.

The Rainbow Scada web service allows monitoring and control of an unlimited number of gensets from a single central location.

Major 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
- Synchroscope & check synch
- Allows closed transfers
- 16Amp MCB & GCB outputs
- 8 configurable digital inputs
- Inputs expandable to 40
- 8 configurable digital outputs
- Outputs expandable to 40
- 7 configurable analog inputs
- Both CANBUS-J1939 & MPU
- 3 configurable service alarms
- Multiple topologies
- 6xCT, true mains metering
- Supports up to 48 gensets
- Automatic learning/self adjust
- Direct governor & AVR control
- Voltage and phase matching
- kW & kVAr load sharing
- True soft transfer in both ways
- PLC functions
- Peak Lopping / peak shaving
- Mains de-coupling protection
- R.O.C.O.F protection
- Vector shift protection
- Reverse power protection
- Over/under freq. Protection
- Over/under voltage protection
- Smart load management
- Smart genset sequencing
- Run/stop priority support
- Equal aging of gensets
- Base load (power export)
- Unmanaged distributed power export support
- AVR & GOV droop support
- Dead bus sensing
- Multiple automatic exerciser
- Weekly operation schedule
- Dual mutual standby with equal aging of gensets
- Manual "speed fine adjust" on selected ECUs

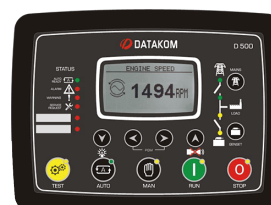
- Automatic fuel pump control
- Disable protections feature
- Excess power protection
- Reverse power protection
- Overload IDMT protection
- Load shedding, dummy load
- Multiple load management
- Current unbalance protection
- Voltage unbalance protection
- Fuel filling & fuel theft alarms
- Contactor & MCB drive
- Battery back-up real time clock
- Idle speed control
- Battery charge run enabled
- Combat mode support
- Multiple nominal conditions
- 4 quadrant genset power counters
- Mains power counters
- Fuel filling counter
- Fuel consumption counter
- Modem & ethernet diagnostics
- Configurable through USB, RS-485, Ethernet and GPRS
- Free configuration program
- Allows SMS controls
- Ready for central monitoring ethernet & GPRS
- Mobile genset support
- Automatic GSM geo-location
- GPS connectivity (USB&RS232)
- Dynamic DNS support
- Easy USB firmware upgrade
- IP65 rating with standard gasket

Functions

- Multi genset synchronizer and load share
- Multi genset mains synchronizer
- Single genset parallel with mains
- AMF unit with uninterrupted transfer
- ATS unit with uninterrupted transfer
- Remote start controller
- Manual start controller
- Engine controller
- Remote display & control unit
- Waveform display of V & I
- Harmonic analysis of V & I

Communications

- Ethernet port (10/100Mb)
- GSM-GPRS
- Embedded web server
- Web monitoring
- Web programming
- Central Monitoring through internet
- SMS message sending
- E-mail sending
- Central monitoring
- Modbus RTU through RS-485
- Modbus TCP/IP
- SNMP
- USB Host
- CANBUS-2 for inter- module comm.
- USB Device
- PC software: Rainbow Plus
- J1939-CANBUS for electronic engines

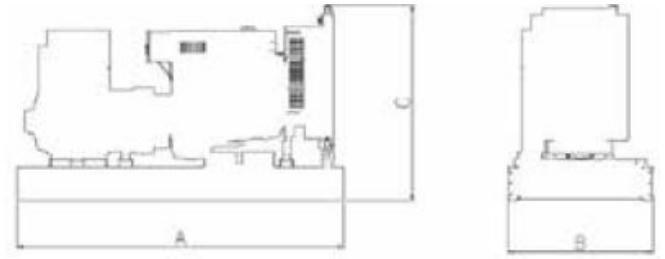


D-500 MK2 control operator / display panel

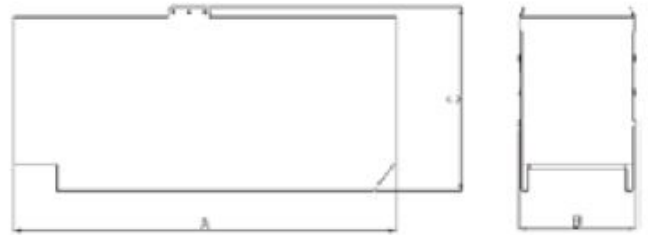
Standart Specifications

- Compact footprint, low profile design.
- Enclosure, generator set, exhaust system and fuel tank are pre-ssembled, pre-integrated and shipped as one package
- Body made from steel components treated with polyester powder coating
- Fire retardant foam insulation
- 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 enclosure exterior
- Cooling fan and battery charging alternator fully guarded
- Fuel fill and battery can only be reached via lockable access doors.
- Lifting points on the top of canopy and base frame
- 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.

Open



Enclosed



	Dry Weight (Kg)	Lenght (Mm)	Width (Mm)	Height (Mm)	Tank Capacity (L)
Open type	520	1600	800	1250	73,6
Canopy	620	1800	800	1350	73,6

Codes and standards



This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001



Occupational Health And Safety Management Systems 18001 : 2007



Environmental Management System ISO 14001-2004



This generator set is available with CE certification.