



## Introduction

Aksa power generation system, providing optimum performance, and reliability, for stationary prime power exclusively for Telecommunication.. All generator sets are factory build, and production tested.

## Power

Monophase, 50 Hz, PF 1

Voltage (V)	STANDBY RATING (ESP)		PRIME RATING (PRP)		STANDBY CURRENT (A)
	kW	kVA	kW	kVA	
230	17.6	22	16.0	20	96

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 8528-1. Overload is not allowed.

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

## General Characteristics

Model Name	APD-T 22 BD-S3A-M
Frequency (Hz)	50
Fuel Type	Diesel
Engine Make and Model	BAUDOUIN 4M08G4D3/5
Alternator Make and Model	Aksa
Control Panel Model	D-500
Canopy	AKCELL-10

## Engine Specifications

### General Data

Manufacturer	BAUDOUIN
Engine Model	4M08G4D3/5
Number of Cylinders / Type	4 cylinders - in line
Bore mm (in)	98



Stroke mm (in)	105
Displacement l (cu. In)	3.17
Compression Ratio	17.2:1
Engine Speed (rpm)	1500
Standby Power (kW/hp)	28/37
Prime Power (kW/hp)	25/34
Block Heater (QTY)	1
Block Heater Power (Watt)	500
Governor System	ECU
Air Filter	Dry Type
Aspiration	Naturally Aspirated

### Lubrication System

Oil Capacity l (gal)	10.2
Max. Oil Temperature °C (F)	130

### Fuel System

Fuel Type	Diesel
Injection Type	Direct
Type of Fuel Pump	HPCR (High Pressure Common Rail)

### Electrical System

Operating Voltage (Vdc)	12 Vdc
Battery and Capacity (Qty/Ah)	1x55
Charge Alternator (A)	35

### Cooling System

Cooling Method	Water Cooled
Coolant Capacity (engine only) l (gal)	5

### Exhaust System

Exhaust Gas Flow (m <sup>3</sup> /min)	5.89
Exhaust Back Pressure in-Hg (kPa)	8
Exhaust Gas Temperature °C (F)	≤650
Heat Rejection to Exhaust kW (BTU/min)	20.8

### Radiator

Total Coolant Capacity (l)	7.7
Cooling Fan Air Flow m <sup>3</sup> /min (ft <sup>3</sup> /min)	97.5
External Restriction to Cooling Airflow (Pa)	125



### Fuel Consumption

Fuel Cons. @100% Prime Load l/h (kg/h)	6.42
Fuel Cons. @75% Prime Load l/h (kg/h)	4.92
Fuel Cons. @50% Prime Load l/h (kg/h)	3.63

### Alternator Characteristics

Manufacturer	Aksa
Alternator Model	AK 232
Frequency (Hz)	50
Power (kVA)	23
Voltage (V)	231
Phase	1
A.V.R.	AS460
Voltage Regulation	1,5%
Insulation Class	H
Protection Class	IP22
Rated Power Factor	0,8
Weight Complete Generator (kg)	226
Cooling Air (m <sup>3</sup> /min)	9

### Open Generator Set Dimensions

Open Gen.Set Gross Weight Dry kg	1420
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### Canopy Characteristics

Length mm	2200
Width mm	1200
Height mm	1688
Full Tank Capacity (l)	600

### Control Panel

Manufacturer	DATAKOM
Control Module Model	D-500
Communication Ports	MODBUS

Menu navigation buttons  
Close mains button



- Main Status and instrumentation display
- Alarm LED's
- Close generator button
- Status LED's
- Operation selecting buttons

### Standard Devices

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.

### Control Unit

- Battery back-up real-time clock
- Battery charge run enabled
- Battery voltage

### Construction and Finish

- Storage temperature:** -40°C to 80°C (-40 to +176°F)
- Maximum humidity:** 95% non-condensing.
- IP Protection:** IP65 from front panel, IP30 from the rear (with gasket)
- Dimensions:** 200 x 148 x 46mm (WxHxD)
- Panel Cut-out Dimensions:** 176 x 121 mm minimum.
- Weight:** 450 g (approx.)
- Case Material:** High Temperature, non-flammable ABS/PC

### Installation

**Installation:** Flat surface mounting on a Type 1 enclosure. Rear retaining plastic brackets.

### Standard Specifications

- Fuel filling & fuel theft alarms
- Idle speed control
- Combat mode support
- Multiple nominal conditions
- Contactor & MCB drive
- 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)

## Options

- 4-band GPRS modem (optional)

## Control Panel Compliance List

- EU Directives Conformity  
-2006/95/EC (low voltage)  
-2004/108/EC (electro-magnetic compatibility)
- Norms of reference:  
EN 61010 (safety requirements)  
EN 61326 (EMC requirements)
- UL & CSA Compatibility:  
• UL 6200, Controls for Stationary Engine Driven Assemblies (File# - 20140725-E314374)  
• CAN/CSA C22.2 No. 14-13 – Industrial Control Equipment

## Static Battery Charger

Battery charger is manufactured with switching-mode and SMD technology and it has high efficiency.  
Battery charger models' output V-I characteristic is very close to square  
2405 has fully output short circuit protection and it can be used as a current source.  
2405 charger has high efficiency, long life, low failure rate, lightweight and low heat radiated in accordance with linear alternatives.  
The charger is fitted with a protection diode across the output.  
Charge fail output is available.  
Connect charge fail relay coil between the positive output and CF output.  
Input: 196-264V.  
Output: 27,6V 5A or 13,8V 5A.

## Standard Equipment

- Water cooled, Diesel engine
- Control Board integrated with ATS Panel
- Radiator with mechanical fan
- Protective grille for rotating and hot parts
- Electric starter and charge alternator
- Starting battery (with lead acid) including rack and cables
- Engine coolant and oil heater
- Fuel level sensor and heater
- Sound attenuated canopy with sub-base fuel tank and anti-vibration isolators
- Lifting points on top
- Door access sensors
- Motion sensor for unauthorized movement



- Lockable doors and internal fuel cap
- External fuel drainage pipes and protection lid
- Flexible fuel connection hoses
- Single bearing, class H alternator
- Industrial exhaust silencer and steel bellows supplied separately(for open sets)
- Static battery charger
- Manual for application and installation

## Optional Equipment

### Auxiliary Equipment

- Ambient heater
- Resizable fuel tank
- Automatic or manual fuel filling system
- Electrical or manual oil drain pump
- Low and high fuel level alarm
- Inlet and outlet motorized louvers
- Inlet and outlet acoustic baffles
- Tool kit for maintenance
- 1500/3000 hours maintenance kit
- Supplied with oil and coolant (-30°C)

## Aksa Certificates

### Directive

- 2006/42/EC : Machinery Safety Directive
- 2014/30/EU : Electromagnetic Compatibility Directive
- 2014/35/EU : Low Voltage Directive

### Standarts

- TS ISO 8528-5:2022 / TS EN ISO 8528-13:2018 : Reciprocating internal combustion engine-driven alternating current generating sets- Part:13: Safety

### Quality Management Systems

- ISO 9001:2015
- ISO 14001:2015
- ISO 45001:2018
- ISO 50001:2018
- ISO 27001:2013
- ISO 10002:2018