



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

3 Phase, 50 Hz, PF 0.8

Voltage (V)	STANDBY RATING (ESP)		PRIME RATING (PRP)		STANDBY CURRENT (A)
	kW	kVA	kW	kVA	
400 / 231	88.0	110	80.0	100	159

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 110 BD-S3A
Frequency (Hz)	50
Fuel Type	Diesel
Engine Make and Model	BAUDOUIN 4M10G6D3/5
Alternator Make and Model	Aksa AK 490
Control Panel Model	D-500
Canopy	AKCELL-30

Engine Specifications

General Data

Manufacturer	BAUDOUIN
Engine Model	4M10G6D3/5
Number of Cylinders / Type	4 cylinders - in line
Bore mm (in)	105



Stroke mm (in)	118
Displacement l (cu. In)	4.09
Compression Ratio	17.5:1
Engine Speed (rpm)	1500
Standby Power (kW/hp)	105/141
Prime Power (kW/hp)	96/129
Block Heater (QTY)	1
Block Heater Power (Watt)	750
Governor System	ECU
Air Filter	Dry Type
Aspiration	Turbo Charged and After Cooled

Lubrication System

Oil Capacity l (gal)	13
Max. Oil Temperature °C (F)	115

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)	1x66
Charge Alternator (A)	80

Cooling System

Cooling Method	Water Cooled
Coolant Capacity (engine only) l (gal)	9.4

Exhaust System

Exhaust Gas Flow (m³/min)	20.87
Exhaust Back Pressure in-Hg (kPa)	8
Exhaust Gas Temperature °C (F)	720
Heat Rejection to Exhaust kW (BTU/min)	69.6

Radiator

Total Coolant Capacity (l)	36
Cooling Fan Air Flow m³/min (ft³/min)	125.7
External Restriction to Cooling Airflow (Pa)	125



Fuel Consumption

Fuel Cons. @100% Prime Load l/h (kg/h)	22.31
Fuel Cons. @75% Prime Load l/h (kg/h)	16.58
Fuel Cons. @50% Prime Load l/h (kg/h)	11.43

Alternator Characteristics

Manufacturer	Aksa
Alternator Model	AK 490
Frequency (Hz)	50
Power (kVA)	112.5
Voltage (V)	400
Phase	3
A.V.R.	SX460
Voltage Regulation	1
Insulation Class	H
Protection Class	IP22
Rated Power Factor	0.8
Weight Complete Generator (kg)	431
Cooling Air (m³/min)	30,84

Canopy Characteristics

Length mm	2600
Width mm	1272
Height mm	1608
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