

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	80.00	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

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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 (qal)	13
Max. Oil Temperature ºC (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 ºC (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

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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	1400
Height mm	1608
Full Tank Capacity (l)	600

Control Panel

Manufacturer	Datacom
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

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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

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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 ıt 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

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- 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

Optıonal Equıpment

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

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