

## Introduction

Aksa power generation system, providing optimum performance, and reliability, for stationary standby, prime power, and continuous duty applications. All generator sets are factory build, and production tested.

## Power

3 Phase, 60 Hz, PF 0.8

Voltage (V)	STANDBY RATING (ESP)		PRIME RATING (PRP)		STANDBY CURRENT (A)
	kW	kVA	kW	kVA	
380 / 220	72.0	90	64.00	80	137
480 / 277	80.0	100	72.00	90	120
208 / 120	76.0	95	68.00	85	264

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	AP 100-6
Frequency (Hz)	60
Fuel Type	Diesel
Engine Make and Model	Perkins 1104A-44TG2
Alternator Make and Model	Mecc Alte ECP 32-2L/4 C 60 Hz
Control Panel Model	DSE 6020
Canopy	AK 40

## Engine Specifications

### General Data

Manufacturer	Perkins
Engine Model	1104A-44TG2
Number of Cylinders / Type	4 cylinders - in line



Bore mm (in)	105
Stroke mm (in)	127
Displacement l (cu. In)	4.4
Compression Ratio	18.23:1
Engine Speed (rpm)	1800
Standby Power (kW/hp)	93/124.7
Prime Power (kW/hp)	84.5/113.3
Block Heater (QTY)	1
Block Heater Power (Watt)	750
Governor System	Mechanic
Air Filter	Dry Type
Aspiration	Turbo Charged and Intercooled (Air to Air)

**Lubrication System**

Oil Capacity l (gal)	8
Max. Oil Temperature °C (F)	125

**Fuel System**

Fuel Type	Diesel
Injection Type	Direct
Type of Fuel Pump	Rotary

**Electrical System**

Operating Voltage (Vdc)	12 Vdc
Battery and Capacity (Qty/Ah)	1x66
Charge Alternator (A)	66

**Cooling System**

Cooling Method	Water Cooled
Coolant Capacity (engine only) l (gal)	7

**Exhaust System**

Exhaust Gas Flow (m <sup>3</sup> /min)	15.85
Exhaust Back Pressure in-Hg (kPa)	15
Exhaust Gas Temperature °C (F)	560
Heat Rejection to Exhaust kW (BTU/min)	71

**Radiator**

Total Coolant Capacity (l)	13
External Restriction to Cooling Airflow (Pa)	125



### Fuel Consumption

Fuel Cons. @100% Prime Load l/h (kg/h)	22.3
Fuel Cons. @75% Prime Load l/h (kg/h)	16.9
Fuel Cons. @50% Prime Load l/h (kg/h)	11.9

### Alternator Characteristics

Manufacturer	Mecc Alte
Alternator Model	ECP 32-2L/4 C 60 Hz
Frequency (Hz)	60
Power (kVA)	100
Voltage (V)	480
Phase	3
A.V.R.	DSR
Voltage Regulation	1
Insulation Class	H
Protection Class	IP23
Rated Power Factor	0,8
Weight Complete Generator (kg)	252
Temperature Rise Class	H
Cooling Air (m <sup>3</sup> /min)	18,5

### Open Generator Set Dimensions

Length mm	2150
Width mm	1050
Height mm	1490
Open Gen.Set Gross Weight Dry kg	1040
Full Tank Capacity (l)	240

### Canopy Characteristics

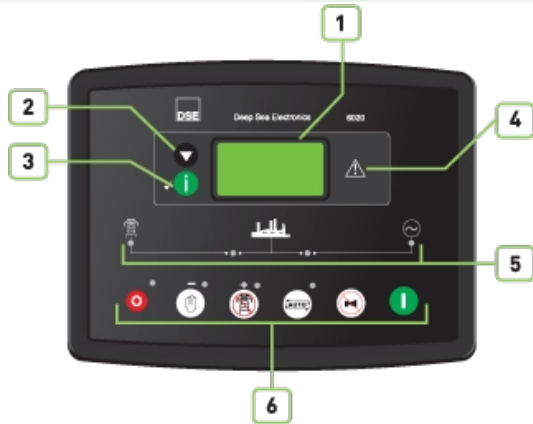
Length mm	3105
Width mm	1107
Height mm	1803
Dry Weight kg	1380
Full Tank Capacity (l)	240

### Control Panel

Manufacturer	DSE
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Control Module Model	DSE 6020
Communication Ports	N/A



1. Main status display.
2. Display scroll button.
3. Page (information) button.
4. Common alarm indicator.
5. Status LED's.
6. Operation selecting buttons.

### Standard Devices

- DSE, model 6020 Auto Mains Failure control module.
- Battery charger input 198-264 volt, output 27,6 V 5 A (24 V) or 13,8 Volt 5A (12V)
- Emergency stop push button and fuses for control circuits.

### Control Unit

The DSE 6020 is a standard control module for our generator sets up to 200kVA and it has been designed to start and stop diesel and gas generator sets.  
 The DSE 6020 module has been designed to monitor generator frequency, volt, current, engine oil pressure, coolant temperature running hours and battery volts.  
 Module monitors the mains supply and switches over to the generator when the mains power fails.  
 The DSE6020 also indicates operational status and fault conditions, Automatically shutting down the Gen. Set and giving true first-up fault condition of Gen. Set failure. The LCD display indicates the fault.

### Construction and Finish

- Components installed in a sheet steel enclosure. Phosphate chemical, pre-coating of steel provides corrosion resistant surface. Polyester composite powder topcoat forms a high gloss and extremely durable finish. Lockable and hinged panel door provides easy access to components.

### Installation

Control panel is mounted on baseframe with steel stand. Located at the right side of the generator set (When you look at the Gen.Set. from Alternator)

### Options

- Flexible sensor can be controlled with temperature, pressure,

### Control Panel Compliance List

Electrical Safety / EMC compatibility



percentage (warning/shutdown/electrical trip)

- Local setting parameters and monitoring from PC to control module with USB connection (max 6 mt).

- BS EN 60950 Electrical business equipment.
- BS EN 61000-6-2 EMC immunity standard.
- BS EN 61000-6-4 EMC emission standard

### 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 and output is 5 amper, 13,8 V for 12 volt and 27,6 V for 24 V . Input 198 - 264 volt AC. Proline 2405 has fully output short circuit protection and it can be used as a current source. Proline 1205/2405 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. Connect charge fail relay coil between the positive output and CF output. They are equipped with RFI filter to reduce electrical noise radiated from the device. Galvanically isolated input and output typically 4kV for high reliability.

### Standard Equipment

- Water cooled, Diesel engine
- 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 heater
- Base frame design incorporates an integral fuel tank and anti-vibration isolators
- 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

#### Engine

- Fuel-Water Separator Filter
- Oil heater

#### Alternator

- Anti-Condensation Heater
- Over sized alternator
- PMG excitation + AVR
- Main line circuit breaker

#### Control Panel

- Automatic synchronising and power control system (Multi gen-set Parallel)
- Parallel system with mains
- Transition synchronization with mains
- Alarm output relays
- Earth fault, single set
- Parallel system with mains
- Remote relay output

#### Transfer Panel

- Three or four pole contactor
- Three or four pole motor operated circuit breaker



- Remote communication with modem
- Charge Ammeter

### Auxiliary Equipment

- Main 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)

### Canopy

- Galvanized Coating
- ISO Container
- Marine Grade Paint

### Exhaust

- Residential Silencer
- Silencer Spark Arrester
- Critical Silencer
- Catalytic Converter

### Optional Alternator and Control Panel

Please contact to your reseller for additional Alternator, Control Panel and Breaker Switch options.

## 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