

Introduction

Aksa is committed to providing the most effective solution to the Data Center industry with the power it takes from engineering, production, distribution, and customer-oriented experience and knowledge. We are constantly improving designs, products and infrastructure to offer the highest level of reliability for Emergency Power Systems. While serving the industry in hundreds of countries Globally, we design our products and systems in line with the needs of Data Center practitioners at the center of our focus. Aksa generator group provides continuity, reliability and ideal performance for Data Centers.

Power

3 Phase,50 Hz, PF 0.8

Voltage (V)	STANDBY RATING (ESP)		DCC RATING (DCP)		DCC CURRENT (A)
	kW	kVA	kW	kVA	
400 / 231	1515.4	1894.2	1381.28	1726.6	2734

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.

Data Center Continuous (DCP) : Data centre power is defined as being the maximum power which a generating set is capable of delivering while supplying a variable or continuous electrical load and during unlimited run hours.
*Data tolerance ±5%

General Characteristics

Model Name	AP 1876
Frequency (Hz)	50
Fuel Type	Diesel
Engine Make and Model	Perkins 4012-46TAG3A (For DCCP)
Alternator Make and Model	Stamford S7L1D-E4 Wdg.312 (For DCCP)
Control Panel Model	DSE 7320
Canopy	OpenGenset

Engine Specifications

General Data

Manufacturer	Perkins
Engine Model	4012-46TAG3A (For DCCP)

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Number of Cylinders / Type	12 cylinders - V type
Bore mm (in)	160
Stroke mm (in)	190
Displacement l (cu. In)	45.842
Compression Ratio	13.0:1
Engine Speed (rpm)	1500
Standby Power (kW/hp)	1643/2203
DCC Power (kW/hp)	1500/2012
Block Heater (QTY)	2
Block Heater Power (Watt)	3000
Governor System	Electronic
Air Filter	Dry Type
Aspiration	Turbo Charged

Lubrication System

Oil Capacity l (qal)	177
Max. Oil Temperature ºC (F)	105

Fuel System

Fuel Type	Diesel
Injection Type	Direct Injection
Type of Fuel Pump	Mechanical

Electrical System

Operating Voltage (Vdc)	24 Vdc
Battery and Capacity (Qty/Ah)	4x143
Charge Alternator (A)	40

Cooling System

Cooling Method	Air Cooled
Coolant Capacity (engine only) l (gal)	73

Exhaust System

Exhaust Gas Flow (m³/min)	350
Exhaust Back Pressure in-Hg (kPa)	5
Exhaust Gas Temperature ºC (F)	480
Heat Rejection to Exhaust kW (BTU/min)	1102

Radiator

Cooling Fan Air Flow m³/min (ft³/min)	1905

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External Restriction to Cooling Airflow (Pa)	120

Fuel Consumption

Fuel Cons. @100% DCC Load l/h (kg/h)	362
Fuel Cons. @75% DCC Load l/h (kg/h)	272
Fuel Cons. @50% DCC Load l/h (kg/h)	183

Alternator Characteristics

Manufacturer	Stamford
Alternator Model	S7L1D-E4 Wdg.312 (For DCCP)
Frequency (Hz)	50
Power (kVA)	1750
Voltage (V)	400
Phase	3
A.V.R.	MX341
Voltage Regulation	1
Insulation Class	H
Protection Class	IP23
Rated Power Factor	0,8
Weight Complete Generator (kg)	3350
Temperature Rise Class	H
Cooling Air (m³/min)	151,2

Open Generator Set Dımensıons

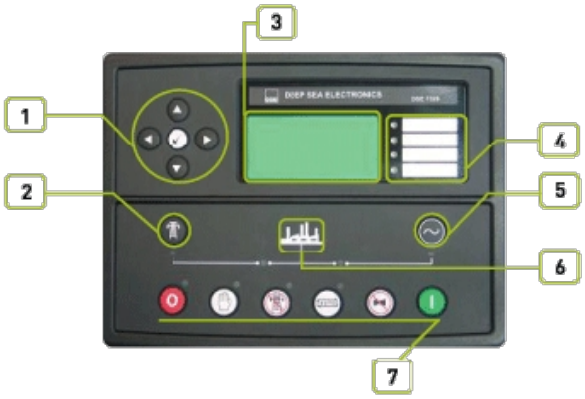
Length mm	5790
Width mm	2220
Height mm	2774
Open Gen.Set Gross Weight Dry kg	10400
Full Tank Capacity (l)	2000
RowFuelCapacity	1800

Control Panel

Manufacturer	DSE
Control Module Model	DSE 7320
Communication Ports	MODBUS

1. Menu navigation buttons

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2. Close mains button
3. Main Status and instrumentation display
4. Alarm LED's
5. Close generator button
6. Status LED's
7. Operation selecting buttons

Standard Devices

DSE model 7320, Auto Mains Failure control module, with a highly sophisticated level of new features and functions
Static battery charger, Fuses for control circuits

Control Unit

- The DSE 7320 control module is a standard addition to our generator sets from 220 kVA upwards and it has been designed to start and stop diesel and gas generating sets that include electronic and non electronic engines.
- The DSE 7320 includes the additional capability of being able to monitor a mains (utility) supply and is therefore suitable for controlling a standby generating set in conjunction with an automatic transfer switch.
- The DSE7320 also indicates operational status and fault conditions, automatically shutting down the generating set and indicating faults by means of its LCD display on the front panel.

Construction and Finish

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

Installation

The Control panel is mounted at the generating set baseframe on robust steel stand or power module. Located at side of generating set with properly panel visibility.

Engine

-Engine speed
-Oil pressure
-Coolant temperature
-Run time
-Battery volts
-Engine maintenance due

Shut Down

-Fail to start
-Emergency stop
-Low oil pressure
-High engine temperature
-Low coolant level
-Under/over speed
-Under/over generator frequency
-Under/over generator voltage
-Oil pressure sensor open
-Phase rotation

Warnings

-Charge failure
-Battery under voltage
-Fail to stop
-Low fuel level (opt.)
-kW over load
-Negative phase sequence
-Loss of speed signal

Generator

Pre-alarms

Electrical Trip

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-Voltage (L-L, L-N)
-Current (L1-L2-L3)
-Frequency
-Earthcurrent
-kW
-Pf
-kVAr
-kWh, kVAh, kVArh
-Phasesequence

-Low oil pressure
-High engine temperature
-Low engine temperature
-Under/over speed
-Under/over generator frequency
-Under/over generator voltage
-ECU warning

-Earth fault
-kW over load
-Generator over current
-Negative phase sequence

Mains

-Voltage (L-L, L-N)
-Frequency

Expensions

-Additional LED module (2548)
-Expansion relay module (2157)
-Expansion input module (2130)

Options

- High oil temperature shut down
- Low fuel level shut down
- Low fuel level alarm
- High fuel level alarm

Control Panel Compliance List

- Electrical Safety / Electro Magnetic Compatibility (EMC)
- BS EN 61000-6-2 EMC Generic Immunity Standard
- BS EN 61000-6-4 EMC Generic Emission Standard
- BS EN 60950 Electrical Safety

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 shot circuit protection and it can be used as a current source.
- 2405 charger has high efficiency, long life, low failure rate, light-weight 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 positive output and CF output.
- Input: 196-264V.
- Output: 27,6V 5A or 13,8V 5A.

Standard Equipment

- Water cooled diesel engine
- Radiator and electrical motor driven fan
- Protective cage to prevent rotating and touching hot parts
- Output breaker
- Electric starter and charge alternator
- Battery (lead acid), cables and stand
- Automatic synchronization and power control system (multiple parallel generator)
- Circulation pump (for engine block heater)
- Engine block water heater
- Steel chassis and anti-vibration wedges
- Fuel tank separate from the group
- Flexible fuel connection hoses
- Alternator with single bearing and H insulation class
- Industrial capacity muffler and flexible steel compensator
- Electronic battery charger

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- Operating and installation instructions

Optional Equipment

Engine

- Fuel-Water Seperator Filter
- Oil heater
- Air filter

Alternator

- Anti-Condensation Heater
- Over sized alternator
- PMG excitation + AVR
- 5% derate when air inlet filters are fitted

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
- Remote communication with modem
- Charge Ammeter

Auxiliary Equipment

- Main Fuel Tank
- Automatic or manual fuel filling system
- Electrical 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)

Optional Alternator and Control Panel

Please contact to your reseller for additional Alternator, Control Panel 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

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

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