



## 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. For all generator groups produced, preliminary product testing and factory manufacturing testing are performed according to the Uptime Institute's Tier Standards

### Power (kVA)

3 Phase, 60 Hz, PF 0.8

| Voltage | STANDBY RATING (ESP) |         | PRIME RATING (PRP) |         | Standby Amper |
|---------|----------------------|---------|--------------------|---------|---------------|
|         | kW                   | kVA     | kW                 | kVA     |               |
| 380/220 | 1500,00              | 1875,00 | 1364,80            | 1706,00 | 2848,85       |

**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                | AC 1875-6                         |
| Frequency (Hz)            | 60                                |
| Fuel Type                 | Diesel                            |
| Engine Made and Model     | CUMMINS QSK50-G4 - 60Hz EPA Tier2 |
| Alternator Made and Model | ECO 46 -1.5S/4 A - 60Hz           |
| Control Panel Model       | DSE 7320                          |
| Canopy                    | AK 98-AP1650                      |

### ENGINE SPECIFICATIONS

|                                       |                               |
|---------------------------------------|-------------------------------|
| Engine                                | CUMMINS                       |
| Engine Model                          | QSK50-G4 - 60Hz EPA Tier2     |
| Number of Cylinder (L)                | 16 cylinders - V type         |
| Bore (mm.)                            | 159                           |
| Stroke (mm.)                          | 159                           |
| Displacement (lt.)                    | 50.3                          |
| Aspiration                            | Turbo Charged and AfterCooled |
| Compression Ratio                     | 15.0:1                        |
| RPM (d/dk)                            | 1800                          |
| Oil Capacity (Total With Filter) (lt) | 234,7                         |
| Standby Power (kW/HP)                 | 1656/2220                     |
| Prime Power                           | 1470/1971                     |
| Block Heater QTY                      | 2                             |
| Block Heater Power (Watt)             | 3000                          |
| Fuel Type                             | Diesel                        |



|   |              |
|---|--------------|
| Injection Type and System                           | Direct       |
| Type of Fuel Pump                                   | Cummins MCRS |
| Governor System                                     | Electronic   |
| Operating Voltage (Vdc)                             | 24 Vdc       |
| Battery and Capacity (Qty/Ah)                       | 4x143/1800   |
| Charge Alternator (A)                               | 35           |
| Cooling Method                                      | Water Cooled |
| Cooling Fan Air Flow (m3/min)                       | 1806,6       |
| Coolant Capacity (engine only / with radiator) (lt) | 140.1/294    |
| Air Filter  | Dry Type     |
| Fuel Cons. Prime With %100 Load (lt/hr)             | 363          |
| Fuel Cons. Prime With %75 Load (lt/hr)              | 279          |
| Fuel Cons. Prime With %50 Load (lt/hr)              | 194          |

### ALTERNATOR CHARACTERISTICS

|                                   |                         |
|-----------------------------------|-------------------------|
| Manufacturer                      | Mecc Alte               |
| Alternator Made and Model         | ECO 46 -1.5S/4 A - 60Hz |
| Frequency (Hz)                    | 60                      |
| Power (kVA)                       | 1710                    |
| Voltage (V)                       | 400                     |
| Phase                             | 3                       |
| A.V.R.                            | DER1                    |
| Voltage Regulation                | (+/-)0.5%               |
| Insulation System                 | H                       |
| Protection                        | IP23                    |
| Rated Power Factor                | 0.8                     |
| WEIGHT COMP. GENERATOR (Kg)       | 3375                    |
| COOLING AIR (m <sup>3</sup> /min) | 162                     |

### Open Gen.Set Dimensions (mm)

|                  |       |
|------------------|-------|
| LENGTH           | 5454  |
| WIDTH            | 1950  |
| HEIGHT           | 2446  |
| DRY WEIGHT (kg.) | 10400 |

### Gen.Set Canopy Dimensions (mm)

|                     |       |
|---------------------|-------|
| LENGTH              | 9000  |
| WIDTH               | 2270  |
| HEIGHT              | 2648  |
| DRY WEIGHT (kg.)    | 15100 |
| TANK CAPACITY (lt.) | 1900  |



## INTRODUCTION

No Data

### Control Panel

|                      |   |
|----------------------|---|
| Control Module       | DSE   |
| Control Module Model | DSE 7320  |
| Communication Ports  | MODBUS  |
|                      | <ol style="list-style-type: none"><li>1. Menu navigation buttons</li><li>2. Close mains button</li><li>3. Main Status and instrumentation display</li><li>4. Alarm LED's</li><li>5. Close generator button</li><li>6. Status LED's</li><li>7. Operation selecting buttons</li></ol> |

### Devices

DSE, model 7320 Auto Mains Failure control module Static battery charger Emergency stop push button and fuses for control circuits

## CONSTRUCTION and FINISH

Comonents 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

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

## GENERATING SET CONTROL UNIT

The DSE 7320 conrol module is a standard addition to our generator sets from 220 kVA upwards and it has been designed to start and stop diesel andgas 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.

## STANDARD SPECIFICATIONS

Microprocessor controlled

- 132 x 64 pixel LCD display makes information easy to read
- Front panel programming and also via PC software
- Soft touch membrane keypad and five key menu navigation
- Remote communications via RS232, RS485 and ethernet.
- Event logging (50) showing date and time
- Multiple date and time engine exercise mode and maintenance scheduler
- Engine block heater control.
- Controls; stop, manuel, auto, test, start, mute lamb test/transfer to generator, transfer to mains, menu navigation.

## Instruments

ENGINE



Engine speed

Oil pressure

Coolant temperature

Run time Battery volts

Engine maintenance due

GENERATOR

Voltage (L-L, L-N)

Current (L1-L2-L3)

Frequency

Earth current

kW

Pf

kVA<sub>r</sub>

kWh, kVA<sub>h</sub>, kVA<sub>r</sub>h

Phase sequence

MAINS

Voltage (L-L, L-N)

Frequency

WARNING

Charge failure

Battery under voltage

Fail to stop

Low fuel level (opt.)

kW over load

Negative phase sequence

Loss of speed signal

PRE-ALARMS

Low oil pressure

High engine temperature

Low engine temperature

Over /Under speed

Under/over generator frequency

Under/over generator voltage

ECU warning

SHUT DOWNS

Fail to start

Emergency stop

Low oil pressure



High engine temperature  
Low coolant level  
Over /Under speed  
Under/over generator frequency  
Under/over generator voltage  
Oil pressure sensor open  
Phase rotation  
ELECTRICAL TRIP  
Earth fault  
kW over load  
Generator over current  
Negative phase sequence

### Options

High oil temperature shut down  
Low fuel level shut down  
Low fuel level alarm  
High fuel level alarm  
EXPANSION MODULES  
Editional LED module (2548)  
Expansion relay module (2157)  
Expansion input module (2130)

### Standards

Electrical Safety / EMC compatibility  
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

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, 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 SPECIFICATIONS



- Water cooled diesel engine
- Radiator and mechanical fan
- Protective cage to prevent rotating and touching hot parts
- Electric starter and charge alternator
- Battery (lead acid), cables and stand
- Engine block water heater
- Steel chassis and anti-vibration wedges
- Fuel tank separate from the group (Açıkset group)
- Flexible fuel connection hoses
- Alternator with single bearing and H insulation class
- Industrial capacity muffler and flexible steel compensator
- Electronic battery charger
- Operating and installation instructions
- The frequency and voltage regulation of the groups lifts 100% load according to NFPA110 in accordance with ISO 8528-5.

## OPTIONAL EQUIPMENTS

Remote radiator cooling

Fuel-water separator filter

Oil heater

### ALTERNATOR

Anti-condensation heater

Bigger Power rate alternator

Output Breaker

### CONTROL PANEL

Automatic synchronization and power control system (multiple parallel generator)

Continuous parallel system with the network

- Network synchronization system

- Remote communication and control

Remote alarm panel

Alarm output relays

- Earth leakage, single generator

Charging ammeter

### TRANSFER BOARD

- Three or four-pole ATS system

- Three or four-pole motorized output breaker

### AUXILIARY EQUIPMENT

Main Fuel Tank

Automatic or manual fuel filling system

Oil drain, electric pump

- Low and high fuel level alarm



Exhaust muffler, built-in type

- Enclosure cabinet; soundproof type or open area type

Air duct adapter (radiator front)

Motorized roller shutter (air inlet and outlet circuit)

Soundproof duct (air inlet and outlet circuit)

Tool kit (for maintenance)

- Maintenance kit for 1500/3000 working hours
- Antifreeze and engine lubricating oil (for -30 ° C ambient temperature)

### AKSA CERTIFICATES

- ISO 14001-2004
- TS ISO 8528
- TS ISO 9001-2008
- CE
- SZUTEST
- 2000/14/EC