

# AD 660

Engine : Doosan  
 Alternator : Mecc Alte  
 Control System : P 732 control system



## ISO8528

This generator set has been designed to meet ISO 8528 regulation.

## SZUTEST

This generator set is manufactured in facilities certified to ISO 9001.



This generator set is available with CE certification.

## 2000/14/EC

Enclosed product is tested EU noise legislation 2000/14/EC

### 3 Phase Ratings, 50 Hz, PF 0,8

Voltage	Standby Rating (ESP)		Prime Rating (PRP)		
	kVA	kW	kVA	kW	Amp
400/230	660,00	528,00	611,00	488,00	881,00

**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. 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. 10 % overload capability is available for a period of 1 hour within 12-hour period of operation, in accordance with ISO 3046.

### STANDARD SPECIFICATIONS

- Water cooled, Diesel engine
- Radiator with mechanical fan
- Protective grille for fan and rotating parts
- Electric starter and charge alternator
- Starting battery (with lead acid) including rack and cables
- Engine jacket cooling 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 belows supplied separately
- Static battery charger
- Manual for use and installation.

### OPTIONAL EQUIPMENTS

#### ENGINE

- Fuel-Water Separator Filter
- Oil heater

#### ALTERNATOR

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

#### CONTROL SYSTEM

- Automatic synchronising and power control system ( multi gen-set Parallel )
- Transition synchronization with mains
- Remote annunciator panel
- Remote relay output
- Alarm output relays
- Remote communication with modem
- Earth fault, single set
- Charge Ammeter

#### OTHER ACCESSORIES

- Automatic or manual fuel filling system
- Electrical oil drain pump
- Low and high fuel level alarm
- Residential silencer
- Enclosure: weater protective or sound attenuated
- Inlet and outlet acoustic baffles
- Trailer
- Tool kit for maintenance
- 1500/3000 hours maintenance kit
- Double wall chassis
- Supplied with oil and coolant - 30 °C
- Main Fuel Tank

#### TRANSFER SWITCH

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## ● DIESEL ENGINE SPECIFICATIONS

Manufacturer		Doosan		
Model		P222LE		
No. of Cylinders and Build		12-cylinder, V - Type		
Aspiration and Cooling		Turbo Charged and After Cooled		
Maximum Standby Power		1500 rpm		
		574 kW[769HP]		
Total Displacement	L	21,93		
Bore and Stroke	mm	128 x 142		
Compression Ratio		15,0:1		
Rated Speed (rpm)	rpm	1500		
Governor		Electronic		
Oil Capacity	L	40,00		
Coolant Capacity	L	113,00		
Intake Air Flow	m <sup>3</sup> /min.	38,00		
Radiator Cooling Air	m <sup>3</sup> /min.	650		
Exhaust Gas Flow	m <sup>3</sup> /min.	117,50		
Exhaust Gas Temperatures	° C	580		
Start System		24 V d.c.		
Fuel Consumption	Load	%100	%75	%50
	L/h	134,00	97,60	65,80

## ● ALTERNATOR SPECIFICATIONS

Make		Mecc Alte
Model		ECO 40-1,5L/4
Frequency	Hz	50
Power	kVA	620
Design		Brushless, 4 poles
Cos Phi		0,80
Phase		3
Voltage	V	400/230
Current	A	894
Insulation Class		H
Temperatur		H
Stator		2 / 3 steps
Rotor		Single Bearing System, Flexible Disc
Excitation System		Electronic ( AVR )

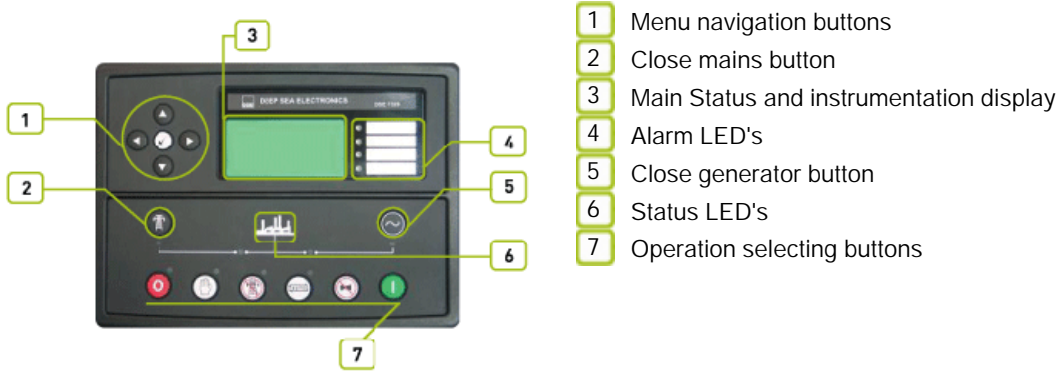
## ● DIEMENSIONS AND WEIGHT

Open Type	Dry Weight	Lenght	Width	Height	Tank Capacity
	kg.	mm.	mm.	mm.	L
AD 660	4050	3700	1400	2110	900
Sound Attenuated Type	Dry Weight	Lenght	Width	Height	Tank Capacity
	kg.	mm.	mm.	mm.	L
AK 85	5610	5800	1610	2550	1100

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## 1 P 732 control system - Control System



- 1 Menu navigation buttons
- 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

### 2 Devices

DSE, model 7320 Auto Mains Failure control module  
 Static battery charger 5A, 220/240 volt  
 Emergency stop push button and fuses for control circuits

### 3 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

### 4 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.

## 5 Generating Set Control Unit

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 and SMS messaging  
 Event logging (50) showing date and time  
 Multiple date and time engine exercise mode and maintenance scheduler

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## 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
- kVAr
- kWh, kVAh, kVArh
- Phase sequence
- MAINS
- Voltage (L-L, L-N)
- Frequency

## Protection Circuits

- WARNING
- Charge failure
- Battery under voltage
- Fail to stop
- Low fuel level (opt.)
- kW over load
- Negative phase sequence
- 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)
- Expension 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

6UHfYfmVXUf[Yf]g'a Ubi ZUM fYX'k Jh'gk JhX'jb[!a cXY'UbX'GA 8 fVW'bc'c[ mUbX'ih\Ug\[\ \ YZZV]bVWf  
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## AK 85 - Canopy



- 1 Steel structures
- 2 Emergency stop push button
- 3 Control panel is right side of the set.
- 4 Corrosion-resistant locks and hinges
- 5 Sump drains valves
- 6 Exhaust system in the canopy
- 7 Lockable, large doors o each side
- 8 Sound proof foam metarial
- 9 Base frame -tank
- 10 Lifting Points

## Introduction

Sound-attenuated and Weather-protective Enclosures Sound-attenuated and weather protective enclosures for generating sets from Aksa, meet event the sound requirements and provide optimum protection from inclement weather and development by our specialist acoustic engineers. Our modular designed sound insulated canopies (300 - 1100kVA) provide ease of access for servicing and general maintenance and interchangeable components permitting on-site repair. Enclosures are designed to optimize genset cooling performance, providing you with confidence that genset ratings and ambient capability.

## Standard Specifications

- Compact footprint, low profile design.
- Enclosure, generator set, exhaust system and fuel tank are pre-ssembled, pre-integrated and shipped as one package
- Body made from steel components treated with polyester powder coating
- Fire retardant foam insulation
- Easy access to all service points
- Exhaust system inside canopy
- Large doors on each side
- Control panel viewing window in a lockable access door
- Emergency stop push button mounted on enclosure exterior
- Cooling fan and battery charging alternator fully guarded
- Fuel fill and battery can only be reached via lockable access doors.
- Lifting points on the top of canopy and base frame
- Customer options available to meet your applications needs.
- Aksa makes its generating sets' noise level tests in accordance with directive 2000/14/EC validation of the noise level test has been aproved by the notified body Szutest

Width	mm.	1610
Lenght	mm.	5800
Height	mm.	2550
Fuel Tank Capacity		1100