



#### 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 according to 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	170,00	136,00	155,00	124,00	224,00

**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 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 EQUIPMENTS

##### ENGINE

- Fuel-Water Separator Filter
- Low water level alarm
- Oil heater

##### ALTERNATOR

- Anti-Condensation Heater
- Over sized alternator
- Main line circuit breaker

##### CONTROL SYSTEM

- 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
- Manual oil drain pump
- Residential silencer
- Enclosure: weather protective or sound attenuated
- Duct adapter (on radiator)
- Inlet and outlet motorised louvers
- Inlet and outlet acoustic baffles
- Trailer
- Tool kit for maintenance
- 1500/3000 hours maintenance kit
- Supplied with oil and coolant - 30 °C
- Battery isolating switch
- Main Fuel Tank
- Automatic transfer switch

##### TRANSFER SWITCH

- Three Pole Contactor
- Four Pole Contactor
- Motor Switch

## ➤ DIESEL ENGINE SPECIFICATIONS

Manufacturer		Cummins	تولید کننده
Model		6BTAA5,9G7	مدل
No. of Cylinders and Build		6 Cylinder, In Line	تعداد سیلندرها و نوع آرایش آنها
Aspiration and Cooling		Turbo Charged and After Cooled	سیستم تنفس و خنک کاری
Maximum Standby Power		1500 rpm 160,00 kw [215,00HP]	توان Standby
Total Displacement	L	5,900	جابه جایی کل
Bore and Stroke	mm	102x120	قطر سیلندر و کورس پیستون
Compression Ratio		16,5:1	نسبت تراکم
Rated Speed (rpm)	rpm	1500	سرعت مجاز
Governor		Electronic	گاورنر
Oil Capacity	L	16,40	ظرفیت روغن
Coolant Capacity	L	21,40	ظرفیت خنک کننده
Intake Air Flow	m <sup>3</sup> /min.	12,40	جریان هوای مصرفی
Radiator Cooling Air	m <sup>3</sup> /min.	162,00	میزان هوای خنک کننده رادیاتور
Exhaust Gas Flow	m <sup>3</sup> /min.	32,50	جریان گاز خروجی از اگزوز
Exhaust Gas Temperature	° C	533,00	دمای گاز خروجی از اگزوز
Start System		12 V d.c.	استارتر
Fuel Consumption	Load	%100 %75 %50	مصرف سوخت
	L/h	37,00 29,00 19,00	

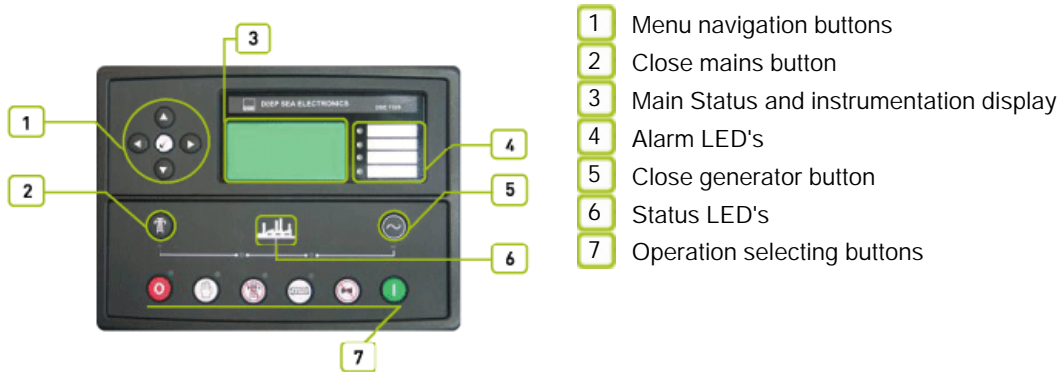
## ➤ ALTERNATOR SPECIFICATIONS

Make		Mecc Alte	تولید کننده
Model		ECP34 3L/4	مدل
Frequency	Hz	50	فرکانس
Power	kVA	160,00	توان
Design		Brushless, 4 poles	طراحی
Cos Phi		0,80	کسینوس فی
Phase		3	فاز
Voltage	V	400/230	ولتاژ
Current	A	231,00	جریان
Insulation Class		H	کلاس عایق بندی
Temperature		H	دما
Stator		2 / 3 steps	استاتور
Rotor		Single Bearing System, Flexible Disc	روتور
Excitation System		Electronic ( AVR )	سیستم تحریک

## ➤ DIEMENSIONS AND WEIGHT

Open Type	Dry Weight	Lenght	Width	Height	Tank Capacity
	kg.	mm.	mm.	mm.	L
AC 170		2750,00	1300,00	1751,00	470,00
Canopy	Dry Weight	Lenght	Width	Height	Tank Capacity
	kg.	mm.	mm.	mm.	L
MS 60	2270	3960	1356	2097	470

## 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  
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

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 DSE 7320 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 and SMS messaging  
Event logging (50) showing date and time  
Multiple date and time engine exercise mode and maintenance scheduler  
Engine block heater control.  
Controls; stop, manual, auto, test, start, mute lamp 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  
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  
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)

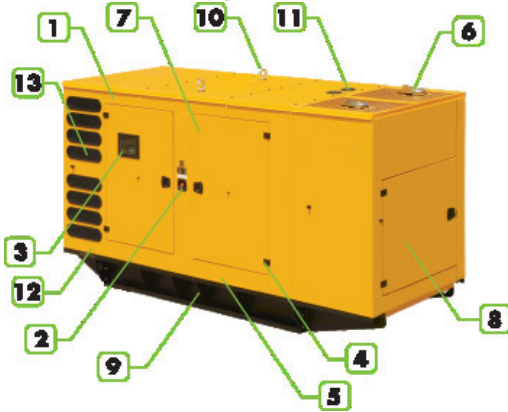
## • Standards

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

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## MS 60 - Canopy



- 1 Steel structures.
- 2 Emergency stop push button.
- 3 Control panel is mounted on the baseframe . Located at the right side of the generator set.
- 4 Corrosion-resistant locks and hinges.
- 5 oil could be drained via valve and a hose
- 6 Exhaust system in the canopy.
- 7 special large access doors for easy maintenance
- 8 in front and back side special large access doors for easy maintenance
- 9 Base frame -fuel tank.
- 10 Lifting points similar to ISO container , located on each top corner of the canopy
- 11 the cap of the canopy provides easy access to radiator cap.
- 12 sound proofing materials
- 13 Plastic air intake pockets.

## Introduction

Sound-attenuated and weather protective enclosures for generating sets from Abyaran, meet even the sound requirements and provide optimum protection from inclement weather and development by our specialist acoustic engineers. Our modular designed sound insulated canopies 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-assembled, 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.

Abyaran makes its generating sets' noise level tests in accordance with directive 2000/14/EC validation of the noise level test has been approved by the notified body Szutest

Width	mm.	1356
Length	mm.	3960
Height	mm.	2097
Fuel Tank Capacity	L	470