

We bring Power to your Life



UP1650

U Power Generation System



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INTRODUCTION

U 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 (kVA)

3 Phase, 50 Hz, PF 0.8

VOLTAGE	STANDBY RATING		PRIME RATING (PRP)		STANDBY AMPER
	kW	kVA	kW	kVA	
400/231	1320,00	1650	1200.0	1500	2381.64

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.

General Characteristics

Model Name	UP 1650
Frequency (Hz)	50
Fuel Type	Diesel
Engine Made and Model	PERKINS 4012-46TAG2A
Alternator Made and Model	ECO 46-1S / 4A
Control Panel Model	7320
Canopy	UP 98

Engine Specifications

Engine	PERKINS
Engine Model	4012-46TAG2A
Number of Cylinder (L)	12 cylinders - V Type
Bore (mm.)	160
Stroke (mm.)	190
Displacement (lt.)	45.842
Aspiration	Turbo Charged
Compression Ratio	13.0:1
RPM (d/dk)	1500

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Oil Capacity (Total With Filter) (lt)	177
STANDBY POWER	1327/1778,82
Prime Power	1212/1624,66
Block Heater QTY	2
Block Heater Power (Watt)	3000
Fuel Type	Diesel
Injection Type and System	Direct
Type of Fuel Pump	MEUI
Governor System	Electronic
Operating Voltage (Vdc)	24 Vdc
Battery and Capacity (Qty/Ah)	4x143
Charge Alternator (A)	55
Cooling Method	Water Cooled
Cooling Fan Air Flow (m ³ /min)	1842
Coolant Capacity (engine only / with radiator) (lt)	195.7
Air Filter	Dry Type
Fuel Cons. Prime With %100 Load (lt/hr)	310
Fuel Cons. Prime With %75 Load (lt/hr)	234
Fuel Cons. Prime With %50 Load (lt/hr)	157

Alternator Characteristics

Manufacturer	Mecc Alte
Alternator Brand and Model	ECP 46-1S / 4 A
Frequency (Hz)	50
Power (kVA)	1500
Voltage (V)	400
Phase	3
A.V.R.	DER1
Voltage Regulation	(+/-)1%
Insulation System	H
Protection	IP21
Rated Power Factor	0.8
Weight Wound Rotor (Kg)	705
Cooling Air (m ³ /min)	135

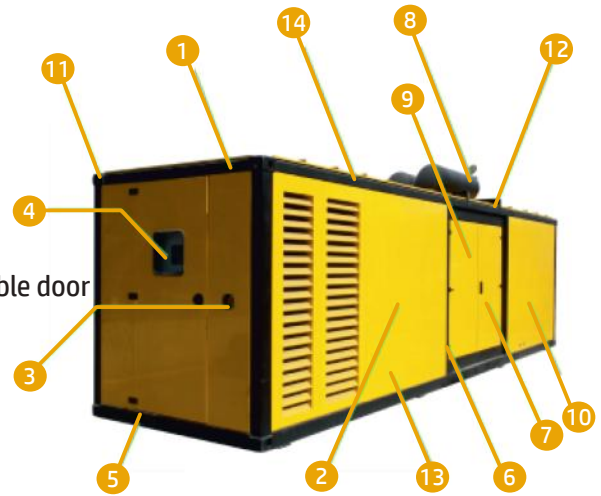
Open Gen.Set Dimensions (mm)

Lenght	4920
Width	2120
Height	2410
Dry Weight (kg)	10200

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Lenght (mm)	9000	Width (mm)	2270	Height (mm)	2550	Tank Capacit (lt)	14300
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1. Steel structure made from steel sheet and steel profiles
2. Canopy and panels made from powder coated sheet steel
3. Emergency stop push button
4. Control panel is mounted on the baseframe. Located at the back of the generator set
5. Cables out locations are under of the canopy
6. Corrosion.resistant locks and hinges
7. Oil could be drained via valve and a hose
8. Exhaust system on the canopy
9. Special large access doors (marine type) for easy maintanance
10. Fuel tank is at front of the canopy, easy access to the fuel tank via lockable door
11. Lifting points similar to ISO container, located on each top corner of the canopy
12. The cap on the canopy provides easy access to radiator cap
13. Sound proofing materials
14. Integrated ladder built in to side of the canopy allows access to the top of the canopy

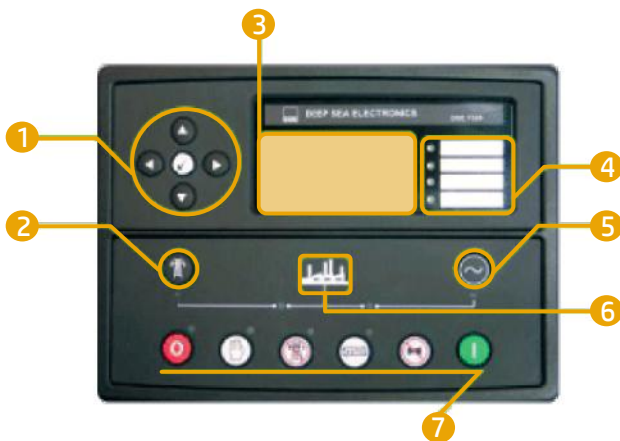


INTRODUCTION

Sound-attenuated and weather protective enclosures for generating sets from UPower, 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 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

Control Panel

Control Module	DSE	Control Module Model	7320	Communication Ports	Modbus
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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

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

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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 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

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

ENGINE

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

ELECTRICAL TRIP

Earth fault
kW over load
Generator over current
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

GENERATOR

Voltage (L-L, L-N)
Current (L1-L2-L3)
Frequency
Earth current
kW
Pf
kVAh
kWh, kVAh, kVAh
Phase sequence

WARNING

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

MAINS

Voltage (L-L, L-N)
Frequency

Instruments

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 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
- Steel base frame and anti-vibration isolators
- Spare external fuel tank (open set)
- Flexible fuel connection hoses
- Single bearing, class H alternator
- Industrial exhaust silencer and steel bellows supplied separately
- Static battery charger
- Manual for application and installation

Optional Equipments

ENGINE

- Fuel-Water Separator Filter
- Oil heater

ALTERNATOR

- Anti-Condensation Heater
- Over sized alternator
- 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

TRANSFER SWITCH

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

OTHER ACCESSORIES

- Main Fuel Tank
- Automatic or manual fuel filling system
- Manual oil drain pump
- Electrical oil drain pump
- Low and high fuel level alarm
- Residential silencer
- Enclosure: weater protective or sound attenuated
- Duct adapter (on radiator)
- Inlet and outlet motorised louvers
- Inlet and outlet acoustic baffles
- Tool kit for maintenance
- 1500/3000 hours maintenance kit
- Supplied with oil and coolant - 30 °C

CERTIFICATES



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