

**We bring
Power to your Life**

UD410
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	328,00	410	300.0	375	591.80

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	UD 410
Frequency (Hz)	50
Fuel Type	Diesel
Engine Made and Model	Doosan P158LE-1
Alternator Made and Model	UP 5300
Control Panel Model	7320
Canopy	MS 70 TRP

Engine Specifications

Engine	Doosan
Engine Model	P158LE-1
Number of Cylinder (L)	8 cylinders - V type
Bore (mm.)	128
Stroke (mm.)	142
Displacement (lt.)	14.618
Aspiration	Turbo Charged and Intercooled (Air to Air)
Compression Ratio	15.0:1
RPM (d/dk)	1500

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Oil Capacity (Total With Filter) (lt)	23
Standby Power	294/400
Prime Power	265/360
Block Heater QTY	1
Block Heater Power (Watt)	3000
Fuel Type	Diesel
Injection Type and System	Direct
Type of Fuel Pump	Zexel P inline
Governor System	Electronic
Operating Voltage (Vdc)	24 Vdc
Battery and Capacity (Qty/Ah)	2x85
Charge Alternator (A)	45
Cooling Method	Water Cooled
Cooling Fan Air Flow (m ³ /min)	295
Coolant Capacity (engine only / with radiator) (lt)	19/52
Air Filter	Dry Type
Fuel Cons. Prime With %100 Load (lt/hr)	63.1
Fuel Cons. Prime With %75 Load (lt/hr)	47
Fuel Cons. Prime With %50 Load (lt/hr)	31.3

Alternator Characteristics

Manufacturer	Upower
Alternator Brand and Model	UP 5240
Frequency (Hz)	50
Power (kVA)	300
Voltage (V)	400
Phase	3
A.V.R.	SX 440
Voltage Regulation	(+/-)1%
Insulation System	H
Protection	IP22
Rated Power Factor	0.8
Weight Wound Rotor (Kg)	361
Cooling Air (m ³ /min)	29.16

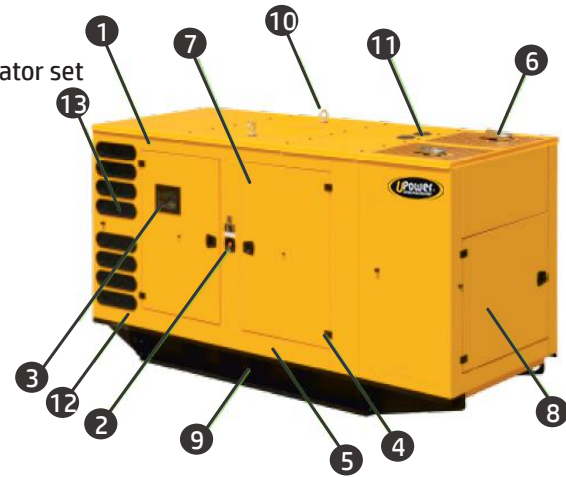
Open Gen.Set Dimensions (mm)

Length	3020
Width	1300
Height	1590
DRY Weight (kg)	2375
Tank Capacity (lt)	450/470

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Lenght (mm) 4460 | Width (mm) 1610 | Height (mm) 2480 | DRY Weight (kg) 4025 | Tank Capacity (lt) 700

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 maintanance
8. In front and back side special large access doors for easy maintanance
9. Base frame fuel tank
10. Lifting points similar to ISO container, located on each top corner of the canopy
11. The cap on the canopy provides easy access to radiator cap
12. Sound proofing materials
13. Plastic air intake pockets

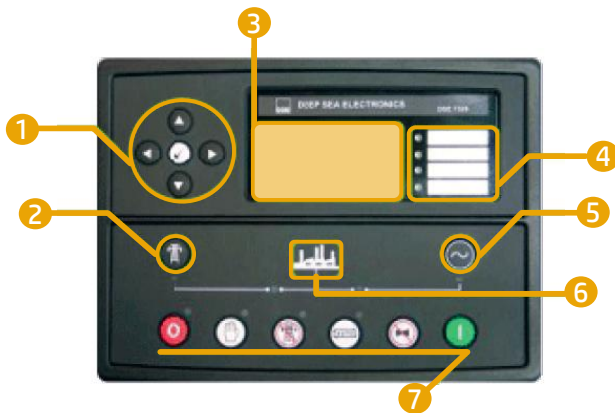


INTRODUCTION

Sound-attenuated and Weather-protective Enclosures Sound-attenuated and weather protective enclosures for generating sets from U Power, 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



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

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 and hinged panel door provides easy access to components

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Installation

Control panel is mounted on baseframe with steel stand. Located at the right side of the generator set (When you look at the Gen. Set. from Alternator)

Generating Set Control Unit

- » The DSE 7320 is a standard control module for our generator sets up to 200kVA and it has been designed to start and stop diesel and gas generator sets.
- » The DSE 7320 module has been designed to monitor generator frequency, volt, current, engine oil pressure, coolant temperature running hours and battery volts.
- » Module monitors the mains supply and switch over to the generator when the mains power fails.
- » The DSE 7320 also indicates operational status and fault conditions, Automatically shutting down the Gen.
- » Set and giving true first up fault condition of Gen. Set failure. The LCD display indicates the fault.

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, manuel, auto, test, start, mute lamb test/transfer to generator, transfer to mains, menu navigation

ENGINE

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

GENERATOR

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

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

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

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

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)

Standarts

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 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

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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
- 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
- Earth fault, single set
- Charge Ammeter

OTHER ACCESSORIES

- Main Fuel Tank
- Automatic or manual fuel filling system
- Manual 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
- Trailer
- Tool kit for maintenance
- 1500/3000 hours maintenance kit
- Double wall chassis

TRANSFER SWITCH

- Three Pole Contactor
- Four Pole Contactor
- Three or four pole motor operated circuit breaker

CERTIFICATES



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