

# We bring Power to your Life



## UC880

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 | 704,00         | 880 | 640.0              | 800 | 1270.21       |

**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                | UC 880                 |
| Frequency (Hz)            | 50                     |
| Fuel Type                 | Diesel                 |
| Engine Made and Model     | Cummins<br>QSK 23 - G3 |
| Alternator Made and Model | ECO 43-1S/4 a          |
| Control Panel Model       | 7320                   |
| Canopy                    | UP 90                  |

## Engine Specifications

|                        |  |
|------------------------|--|
| Engine                 | Cummins                                    |
| Engine Model           | QSK 23 - G3                                |
| Number of Cylinder (L) | 6 cylinders - in line                      |
| Bore (mm.)             | 170  |
| Stroke (mm.)           | 170  |
| Displacement (lt.)     | 23.15                                      |
| Aspiration             | Turbo Charged and Intercooled (Air to Air) |
| Compression Ratio      | 16.0:1                                     |
| RPM (d/dk)             | 1500                                       |

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|   |                |
|---|----------------|
| Oil Capacity (Total With Filter) (lt)               | 103            |
| Standby Power                                       | 768/1030       |
| Prime Power   | 701/9401       |
| Block Heater QTY                                    | 1              |
| Block Heater Power (Watt)                           | 3000           |
| Fuel Type   | Diesel         |
| Injection Type and System                           | Direct         |
| Type of Fuel Pump                                   | Cummins HPI-TP |
| Governor System                                     | Electronic     |
| Operating Voltage (Vdc)                             | 24 Vdc         |
| Battery and Capacity (Qty/Ah)                       | 2x143          |
| Cooling Method                                      | 35             |
| Charge Alternator (A)                               | Water Cooled   |
| Cooling Fan Air Flow (m <sup>3</sup> /min)          | 625.8          |
| Coolant Capacity (engine only / with radiator) (lt) | 12.3/120       |
| Air Filter  | Dry Type       |
| Fuel Cons. Prime With %100 Load (lt/hr)             | 161            |
| Fuel Cons. Prime With %75 Load (lt/hr)              | 121            |
| Fuel Cons. Prime With %50 Load (lt/hr)              | 85             |

### Alternator Characteristics

|                                   |                 |
|-----------------------------------|-----------------|
| Manufacture                       | Mecc Alte       |
| Alternator Brand and Model        | ECO 43-1S / 4 A |
| Frequency (Hz)                    | 50              |
| Power (kVA)                       | 800             |
| 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)           | 478             |
| Cooling Air (m <sup>3</sup> /min) | 90              |

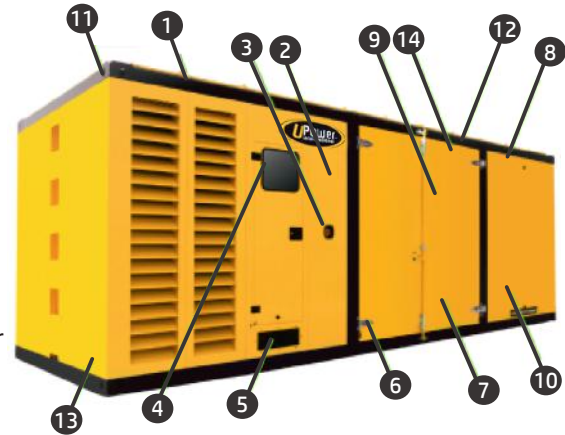
### Open Gen.Set Dimensions (mm)

|                    |      |
|--------------------|------|
| Lenght             | 4120 |
| Width              | 1710 |
| Height             | 2230 |
| DRY Weight (kg)    | 5950 |
| Tank Capacity (lt) | 1500 |

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Lenght (mm) 6500 | Width (mm) 2200 | Height (mm) 2350 | DRY Weight (kg) 9100 | Tank Capacity (lt) 1500

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 right side of the generator set
5. Cables out locations are under or back of the canopy
6. Corrosion.resistant locks and hinges
7. Oil could be drained via valve and a hose
8. Exhaust system in the canopy
9. Special large access doors (marine type) for easy maintenace
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

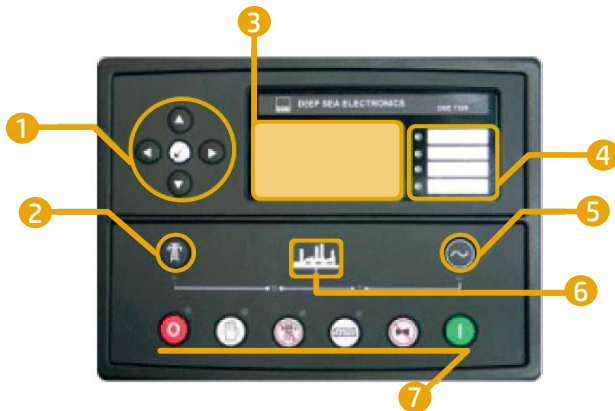


## INTRODUCTION

Sound-attenuated and Weather-protective Enclosures 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  
Engine maintenance due

### ELECTRICAL TRIP

Earth fault  
kW over load  
Generator over current  
Negative 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

### 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  
kVA  
kWh, kVAh, kVAh  
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

### 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)

## 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 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

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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
- Generators Sets' voltage and frequency regulation comply with ISO 8528-5
- Generators Sets' can take 100% load at one step according to NFPA110

## 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)
- Parallel system with mains.
- Transition synchronization with mains
- Remote annunciator panel
- Remote relay output
- Earth fault, single set
- Charge Ammeter

### OTHER ACCESSORIES

- Main Fuel Tank
- Automatic or manual fuel filling system
- 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

### TRANSFER SWITCH

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

## CERTIFICATES



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