



GENSETS · CORPORATIVE · PRODUCTS · SCIENCE&TECHNOLOGY · INNOVATION



*On behalf of INMESOL, we sincerely thank your trust in our company and wish you 2018 full of happiness, peace and prosperity*



# THE COUNTDOWN FOR THE MIDDLE EAST ELECTRICITY 2018 BEGINS

THE MOST IMPORTANT EVENT IN THE ENERGY SECTOR

This will be the seventh year that INMESOL takes part as an exhibitor at the MEE (Middle East Electricity) 2018, the most important international meeting worldwide within the energy sector, traditionally held at the Dubai World Trade Centre (United Arab Emirates) on March 6, 7, and 8.

Organised by the UAE Energy Ministry, it is the main international trade event within the energy industry, showcasing products and services for the **generation, transmission, and distribution of electricity, energy storage and management, and the lighting industry.**



We invite you to visit us at the Middle East Electricity, booth **S1.F10**, where we will provide you with all the information regarding the products showcased there or any other within our range of products.



**MIDDLE EAST ELECTRICITY**  
ENERGISING THE INDUSTRY

06 - 08 March 2018  
DUBAI WORLD TRADE CENTRE, UAE

**INMESOL STAND**  
**S1.F10**

# TOP RELIABILITY IN POWER SUPPLY WHEN THERE ARE NO MAINS OR THE SUPPLY IS VERY WEAK

## ALTERNATE OPERATION OF TWO GENERATOR SETS

The use of generator sets in pairs, operating in dual mutual stand-by mode is a solution that is currently in high demand in the generator set sector, in applications where there are no mains or the supply is very weak or unreliable.

The setup for this application consists on any pair of generator sets offering remote start-up option. Both gensets will be connected to an ATS switchboard with a DSE 334 control unit. The DSE334 control unit programming will enable an alternate operation of the two gensets according to their stipulated timings and, if a failure occurs in one of them, the other one will start automatically and quickly replace it.

With this system, it is possible to:

- › Ensure a prolonged and uninterrupted power supply.
- › Carry out maintenance tasks without interrupting the power supply for long periods of time.
- › Increase the useful life of the generator sets

When using a single generator set in applications where there are no mains and a constant power supply is required, there is a risk power supply failure due to an unexpected interruption of the genset operation or to a given maintenance work that requires the engine to be stopped. And, in the end, a continuous use of a single engine causes greater wear on the equipment, reducing its useful life.

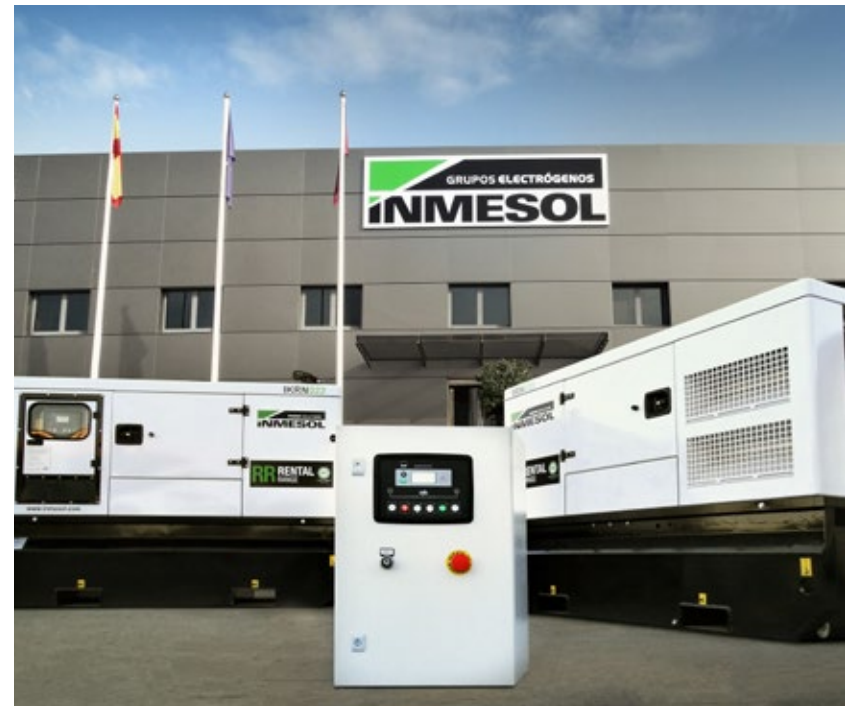
**Single-line diagrams of the two scenarios where this application is very useful:**

### A) Scenario in which there are no mains

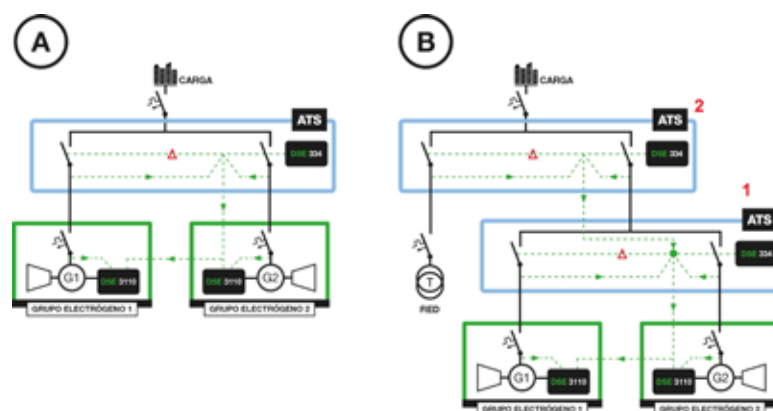
The single-line diagram A shows two generators connected to 1 ATS DSE334 switchboard, which in turn is connected to the load it is supplying. Each one of them alternates the power supply according to the priority set in the DSE334 programming and, if one of them fails, the other genset will automatically start supplying power until the failing generator set is restored.

### B) Scenario where there are weak or unreliable mains, or with regular failures.

In the case of single-line diagram B, there are mains available. A second ATS 2 DSE334 panel is added to the network, connected to the load, to the network, and to the ATS 1, which in turn is connected to the generator sets. The ATS 2 monitors the status of the



Two Rental range generator sets operating in dual mutual stand-by mode



Single-line and connection diagrams of a dual-mutual stand-by application: Without Mains (A) and with Mains (B) available

mains so that, when the mains fail, the DSE334 on the ATS 2 sends a signal to start the gensets according to the priority set in their programming and the availability of such generator sets controlled by the DSE 334 on ATS 1.

### REQUIREMENTS of the generator sets:

- › Two generator sets of any kind with control panel offering the **start-up by external signal**
- › Each of the gensets must feature preheating resistance and battery charger.

Note.- Each charger will supply the battery of the failing genset using the power generated by the genset in operation.

### Automatic Switchboard that enables the alternate use of generator sets:

This panel has a **DSE334 type** control unit programmed to alternate the supply service of each of the G1 and G2 gensets that supply the installation. In addition, it detects failures in the generator set that is supplying the power, sending a start-up signal to the switchboard of the other generator set in stand-by, making the supply switch possible.

The changeover is made by two contactors or motorised selectors equipped with MECHANICAL and ELECTRICAL LATCHING.

The panel, provided in a metal cabinet with IP-67 protection, includes the following components:

1. Two contactors or motorised selector, with mechanical and electrical latching, preventing both of them from being simultaneously closed, thus avoiding possible short-circuit situations.
2. Protective fuses.

3. Terminal block for controlling and operating the generator set.
4. Terminal block of the generator set input power cables, mains input, and load output.
5. Wiring connection of all electrical elements in the panel. Each wire is identified with its reference number at each end.
6. Transformers
7. Emergency stop pushbutton
8. Starter switch (for control unit power supply)
9. DSE 334 control unit
10. Front door with locking key.
11. Bottom cover for cable access.

**The Rental and the Telecommunication Sectors are among the ones with the highest demand for this application.**

Typical rental genset applications, such as **construction, events, shows**, as well as **telecommunication systems** usually located in remote areas where there are no mains are the **typical scenarios** where this is the **perfect** option.

### Conclusion:

By using a **simple system of accessories** such as the **ATS DSE334**, it is possible to **supply power in applications usually considered complex with any pair of generator sets or a fleet of rental gensets with regular control panels** just featuring control units with start-up by external signal option available.





Sergio Frutos, INMESOL sales technical support

# INMESOL AT 2017 ENERGY ENGINEERING FORUM

OUR COMPANY PRESENTED SEVERAL SUCCESS STORIES CONCERNING ENERGY SOLUTIONS IN EMERGING COUNTRIES

Energy Engineering Forum is an event where issues concerning the possibilities the Spanish energy sector has to carry out projects in emerging countries are discussed.

Last November 30th the fourth edition was held at the Ilunion Pio XII Hotel in Madrid, and the date chosen is November 30.

The interest raised in previous editions, as well as the relevance and potential of the content covered, have encouraged the organisers, Energética XXI Conferencias, to bring manufacturers and/or distributors of equipment and technology related to

power generation, engineering, and energy projects promotion-development companies together again.

INMESOL, with a significant turnover that increases in Latin America and Middle East countries year after year, is gaining a vast experience in supporting and offering optimal solutions to the different requirements on each market.

Sergio Frutos, INMESOL sales technical support engineer, participated as a speaker. He will present several cases involving these unique generator set applications in some of the emerging countries to which Inmesol exports.



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INMESOL stand-by generator set, model IP-1135

# STAND BY ENERGY BY INMESOL AT THE ALPHONSE MASSEMBA DÉBAT STADIUM

## FOOTBALL STADIUM AT THE REPUBLIC OF CONGO

An INMESOL 1110 kVA LTP generator set model IP-1135 has been recently installed at the Alphonse Massemba-Débat sports complex, located at the city of Brazzaville, capital of the Republic of Congo.

This **stand-by** genset will be in charge of supplying electrical power in the event of a **failure in the mains**.

The generator set features a Perkins engine soundproofed by a double soundproofing panel and installed in a 40-foot container. This makes it a very quiet equipment despite the large amount of power it is capable of supplying.

The Alphonse Massemba-Débat stadium hosts matches from the Republic of Congo Football team, as well as from several local clubs that play at the National Football League. It also has an athletics track.



IP-1135 genset with dual soundproofing panel

This unique stadium was the venue chosen to host the **1965 All-Africa Games** and the **2004 African Championships in Athletics**. It has a capacity to receive approximately **3000 people**.



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Inmesol, S.L. company with ISO 9001 quality management system certificate and ISO 14001 Environmental Management System Certificate for the: "Design, manufacture, marketing and technical assistance of power generators, lighting towers, welding generators, tractor with PTO generator and hybrid generation systems."

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