



**RECOMMENDED CHOICE  
FOR POWERING CELL TOWERS**



**POWER GENERATORS  
FOR TELECOMMUNICATION COMPANIES**

**VISA.IT**

#power4telco

***ENERGY GENERATION  
THE NEW ERA***



# ***ENERGY WITHOUT BORDERS***

In an interconnected world, Visa offers a product specifically created for those who live at high speed.

Onis Visa generating sets have been specifically designed for Telecommunications, and they have been developed strictly following the current international standards, meeting the needs of those who work in this sector day by day.

# ***ALWAYS ON THE CUTTING EDGE***

With over 50 years of experience in the energy market, Visa SpA offers a range of products designed to meet the needs of the Telecommunication sector, one of the most dynamic sectors, subjected to continuous changes dictated by the constant evolution of technology.



***VISA SPA MEANS EFFICIENCY,  
QUALITY, CONFIDENCE AND FUTURE***

# ***ONIS VISA: TAILORING IS AN ART***

The Onis Visa genset is designed for Telecommunications. It is the result of years of research and development, carried out independently or through international partnerships in order to acquire knowledge and technology, to create a versatile Concept Product that is able to satisfy all needs and help you connect with the future.



***HIGH PERFORMANCE***



***LOW CAPEX AND OPEX***



***EXTENDED SERVICE INTERVALS***



***FOX GENERATING SET  
FOR TELECOMMUNICATIONS***

# CONFIGURATIONS EXAMPLES

## HOW IT WORKS

### **1** AC DIESEL GENERATING SET USED AS STAND-BY TO THE MAINS

In the present application, the BTS is supplied by the Mains and the genset is used as standby to the Mains.

If the power supply is interrupted or it does not respect the parameters set, the generator will be started automatically and, after having checked the electric and mechanic parameters, which must be within certain limits, it will feed the BTS.

The genset will work until the Mains returns or until the conditions of use will be restored.



### **2** GRID + POWER GENERATOR IN BACKUP MODE

This application is a good solution for OFF GRID areas because the BTS is fed only by batteries charged by one or more generating sets.

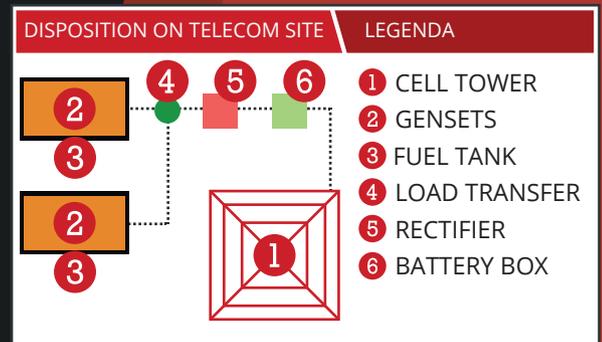
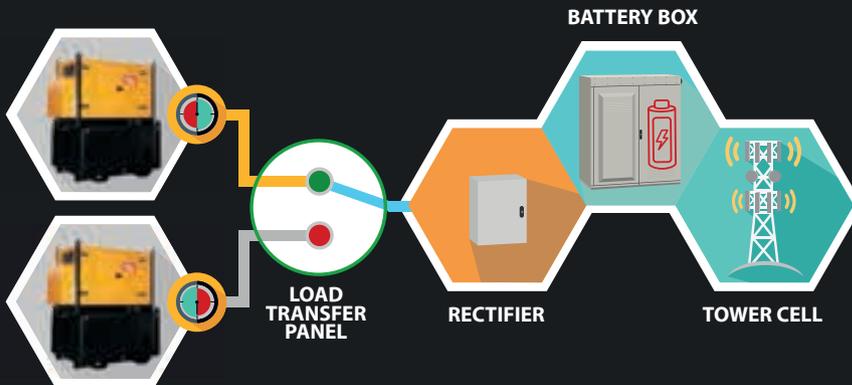
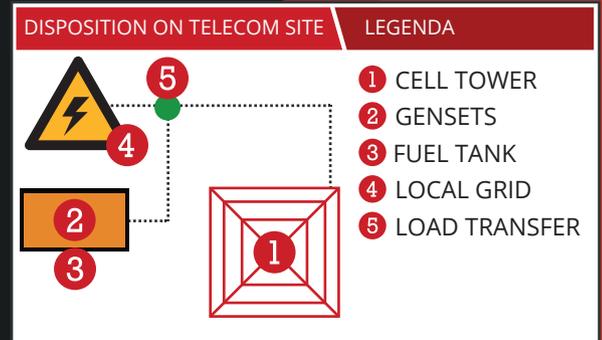
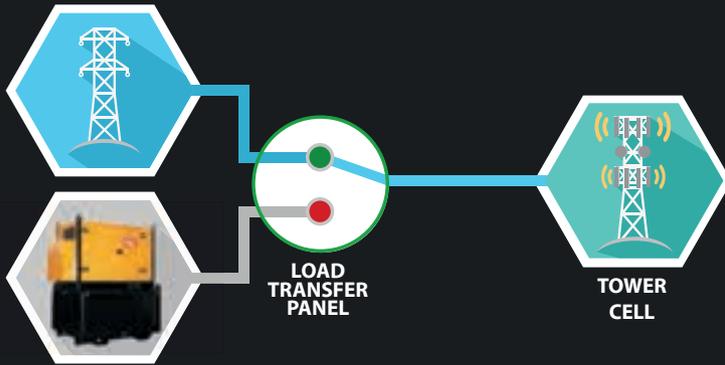
In order to reduce the genset's working hours and its related costs of management, the BTS loadings are fed by batteries. When those batteries run down, the genset itself will recharge them.

An additional genset is generally added to the first one in mutual stand-by mode, in order to increase the system's level of safety.

The control system has the function to evenly distribute the working hours among the gensets, so that all machines will be subjected to the same level of wear.



# TELECOM SITE MAP



# CONFIGURATIONS EXAMPLES

## HOW IT WORKS

### ③ **DC GENSET (VARIABLE SPEED) THAT SUPPLIES A HYBRID POWER UNIT**

This application is suitable to feed transmission sites in remote areas, where no connections to the Mains are available (no grid area). In this case, the BTS is exclusively supplied by batteries charged by one or more generating sets.

In order to further reduce the system's operating costs, where the BTS' electrical loadings are supplied by batteries, a DC genset at variable speed is used, equipped with an alternator provided with PMG and an AC/DC converter, commonly used to charge the batteries at 48 VDC.

If a AC generator works with a medium-low load, the use of it at variable speed in DC allows a reduction of fuel consumption that corresponds to a higher efficiency of the plant.

A variable speed genset works at a speed that grants the maximum efficiency depending on the electric power required, reducing the noise level and lengthening the maintenance intervals.

An additional genset is generally added to the first one in mutual stand-by mode, in order to increase the system's level of safety.

The control system has the function to evenly distribute the working hours among the gensets, so that all machines will be subjected to the same level of wear.

The graph shows the different behavior of a synchronous generating set compared to a variable speed generating set, as a function of the charging cycle of batteries.

The IU charging is generally used for quick charging or for a cyclical use of batteries.

The IU system to charge the batteries is divided into two phases:

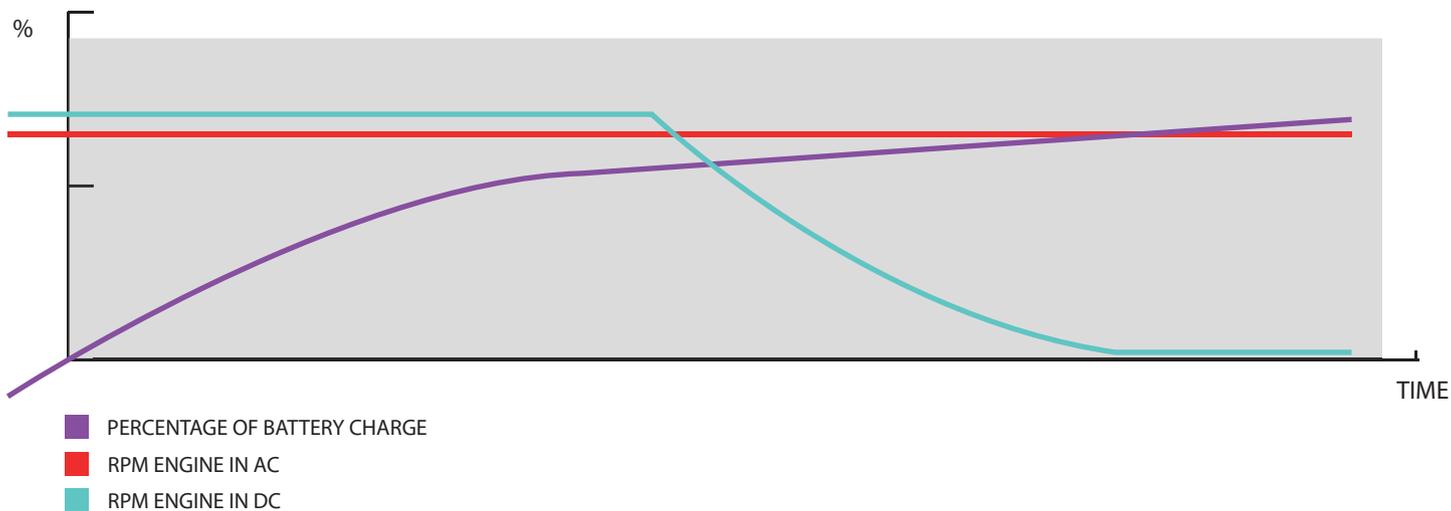
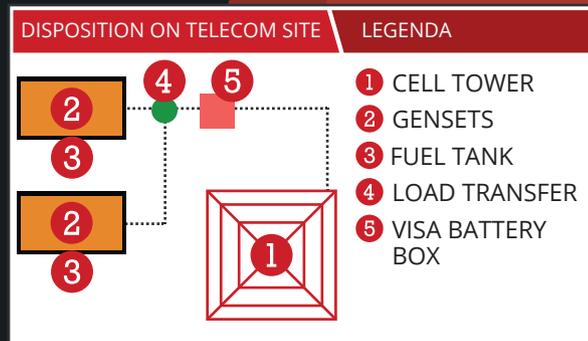
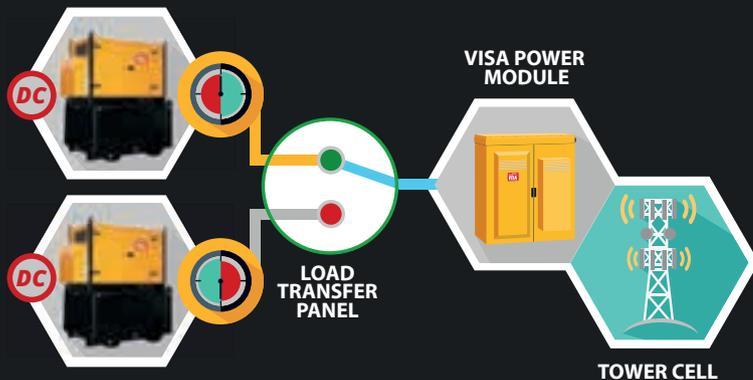
**PHASE ONE:** at constant current it requires more power to the generator and is used to reset the current that had been previously discharged.

**PHASE TWO:** at constant voltage it is used to complete the charge. Current and power values required to the genset decrease until they reach a very low level.

Thanks to our intelligent device GUARD TOUCH, the DC variable speed generating set regulates the engine speed depending on the real amount of energy needed during the charge cycle of the battery, which allows a reduction of fuel consumption and prevents excessive wear of the engine. Otherwise, the standard AC generating set always runs at full speed, regardless of the energy required during the charging phase of the battery.



# TELECOM SITE MAP



# CONFIGURATIONS EXAMPLES

## HOW IT WORKS

### ④ **DC GENSET (VARIABLE SPEED) IN HYBRID POWER UNIT WITH COMBINATION OF GREEN SOLUTIONS.**

This application is suitable to feed telecommunication sites in remote areas, where there are no connections to the Mains, because the BTS is exclusively fed by batteries that have been charged by one or more generating sets, with the support of green energy coming from renewable technologies.

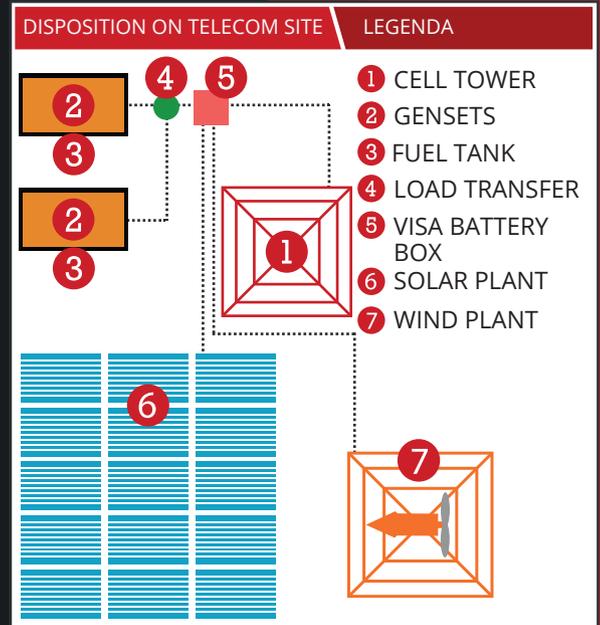
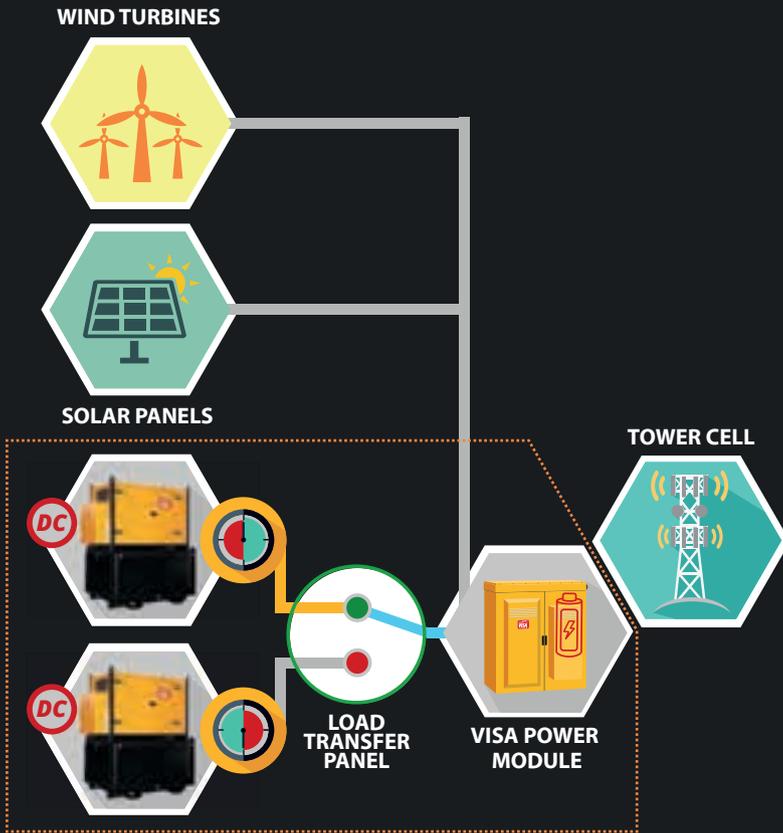
In addition to the benefits coming from the use of the genset in DC mode, as previously mentioned, the system is also suitable to interact with one or more sophisticated technologies, capable of producing energy from renewable sources, such as solar and wind power. This can be considered an additional advantage in terms of reduction both of fuel consumption and of management costs.

Since the system has been designed to be flexible, as well as "Customer Friendly," it allows that synergy to be activated at any time, even in those sites where at the time of their construction the system was not yet available.

This solution ensures a low environmental impact.



# TELECOM SITE MAP



**ADVANCED  
SYNERGY**

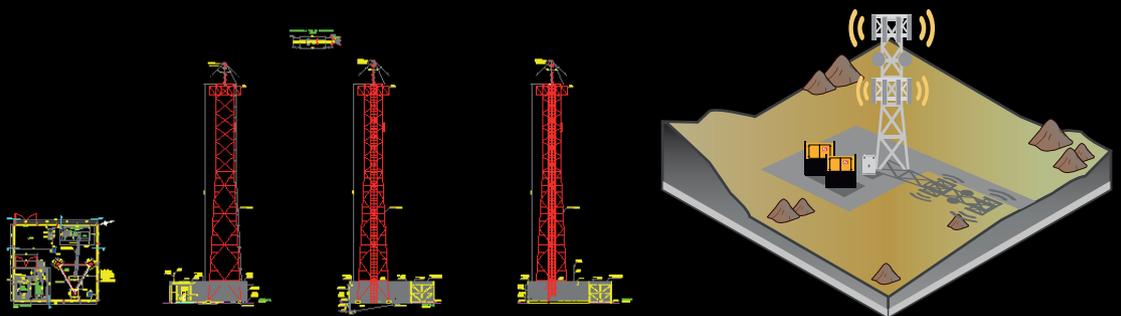
**FOR  
EXCELLENT  
RESULTS**

## **TOGETHER TO MAKE THINGS EASIER**

Step by step, Visa supports its clients in choosing and defining the most suitable solution and application to address the clients' needs.

The design of the electrical part of the complex systems requires an absolute integration of all the elements involved in the project, perfectly interfacing communication towers and complex systems.

Our highly qualified technicians are at your disposal for the complete design of the electrical supply referring to new Telecommunication applications or to restore the existing ones, supporting the clients in the choice of the most proper genset and its specific equipment, as well as in the supply of the different components, such as control panels, battery boxes, rectifiers, BTS, etc.



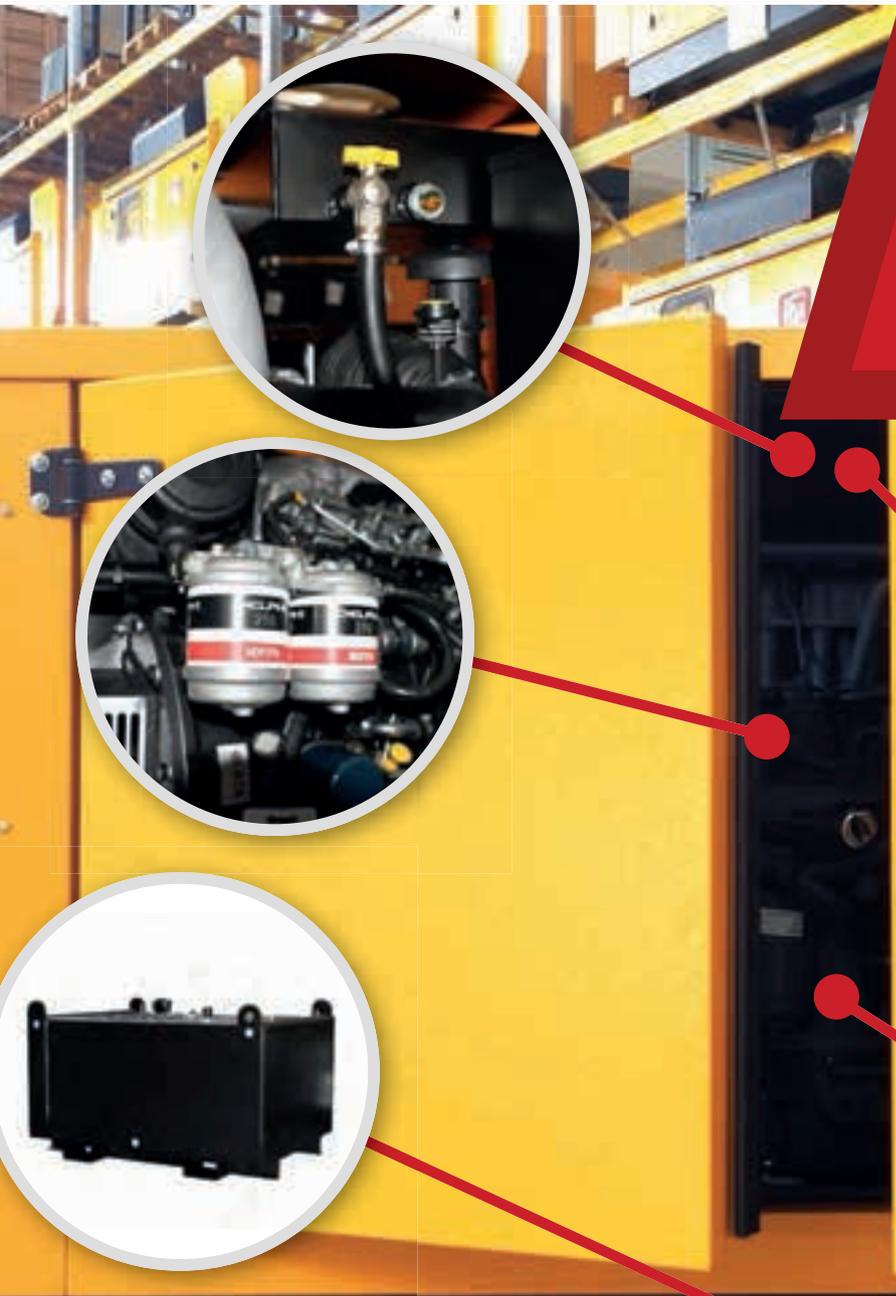
The background of the entire page is a detailed technical drawing or blueprint, tilted at an angle. It shows various mechanical components, pipes, and structural elements. A large, solid red diagonal shape overlaps the drawing, serving as a background for the text.

# **FROM THE IDEA TO THE PRODUCT, WE ARE THINKING OF YOU!**

An idea triggers the creative process that rationally assumes its own form and creates a very personal feature: that is how the Onis Visa product is created.

The work, always carried out with an absolute sense of responsibility and discipline, and with care poured into every stage of the process, be it technical or conceptual, puts the client exclusively at its center.

**BUILT FOR LOW  
MAINTENANCE,  
EXTENDED  
SERVICE INTERVALS  
AND  
LONG AUTONOMY**





**LONG  
RUNNING  
ENGINES  
SYSTEM**

***FOR UP TO 1000 HOURS UNATTENDED RUNNING***

Configured for up to 1000 hours unattended running

Designed for continuous operation in ambient temperatures up to 52°C (122°F)

Cold start capability down to -32°C (-25.6°F)



***EXTRA SIZE oil tank  
Automatic oil REFILLER  
DOUBLE fuel FILTER  
EXTRA SIZE fuel tank***



## **VISA COMPANY OVERVIEW**



Visa S.p.A. is a leading Italian company that has been successfully present in the market since 1960, projecting and manufacturing highly technological generating sets and power stations. With its network currently present in more than 100 countries in the world, Visa offers the most suitable solutions with a high standard of quality and technology in many areas, including industry, construction, mining and oil sector, telecommunications, military, food industries, hospitals and health care centers, banks, hotels and tourism, chemical field, entertainment, shipbuilding and naval sector, civil protection and public corporations, and many more.

Visa is officially certified to ISO 9001/2008 and ISO 14001/2004 regulation. Tailoring its production standards to international technical specifications combined with rigid product testing, Visa has become a world-wide symbol of efficiency and quality, becoming the official supplier of the largest telecommunications companies in China, Philippines, UAE, Germany, Qatar, Singapore, Ethiopia, Libya, Congo, Yemen, Algeria, Tanzania, France, Venezuela and others.

"ONIS VISA" gensets and power stations, ranging from 9.0 to 30.000 kVA, are completely manufactured in Italy and offer the best technological and quality features.

Thanks to a research and development team of 10 engineers who are completely dedicated to projecting customized solutions and developing special and sophisticated projects for more complex applications, Visa can support its clients by quickly and efficiently providing the highest quality customized solutions.

VISA.IT  
ITALY

