

We install the Power... You produce the Energy
Solar Energy

 **INTRAKAT**
www.intrakat.eu

Photovoltaic Systems

Electrical Energy Production

Environmentally Friendly Electrical Energy Production Systems

In many European countries the State offers to the Investors:

- ⇒ Subsidization of investment 40% - 60%, depending on the installation area and System Size.
- ⇒ Competitive Price (0,4€ - 0,5€ per kWh) for the electrical energy produced, depending on installation area.

INTRAKAT is a leader in PV technology offering services that include:



"Integrated
(turn key) solutions
for Photovoltaic
Systems from
few kWp up to MWp
range"

- ⇒ Design and Development
- ⇒ Material Selection and Integration
- ⇒ Financing according to Customer requirements (i.e. partial or full, negotiation with Financial Organizations in Greece etc)
- ⇒ Manufacturing and Installation
- ⇒ Commissioning
- ⇒ Project Management
- ⇒ Training
- ⇒ After Sales Support (Maintenance, Technical Assistance, Upgrades and Modifications), Providing assistance and technical expertise to the client during the Permitting Procedure / Preparation of the Subsidisation Bid

Photovoltaic Systems (PV Systems)

Description

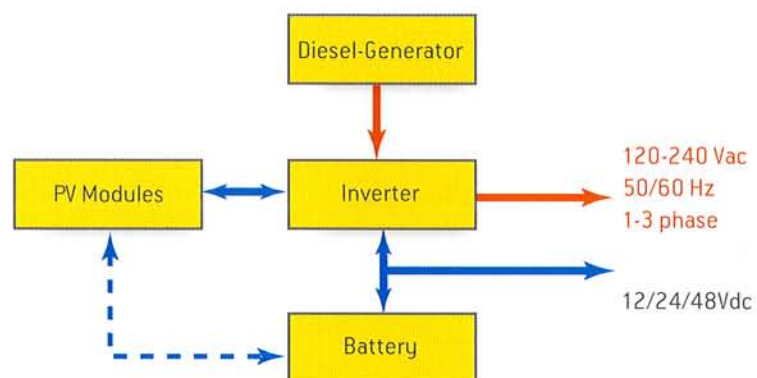
A typical PV System consists of Photovoltaic Modules collecting solar energy, which is supplied to Loads via DC/AC Inverters.

Optionally, any surplus of Energy can be stored, via a storage controller, to batteries for later use.

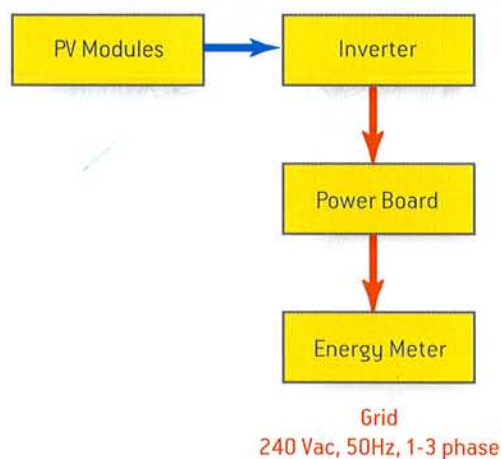
In addition, the system may be equipped with a Diesel Generator Set, supplying the Loads in case of emergency.

Produced energy is either used for the energy requirements of the specific project (Autonomous Systems) or sold to the Electrical Energy Manager (Grid Connected Systems).

Autonomous Operation PV System



Grid Connected PV System



Grid Connected Systems

Rural, Industrial, Investment Applications

Basic Installation Requirements:

Installation of Grid connected systems requires:

- ⇒ South facing area with no sunshine obstruction.
- ⇒ Required area of approximately 11m² to 16m² per kW.
- ⇒ Roof or terrace installations impose an additional structural load of 20kg/m² (~150kg/kW).



Small Scale Systems (2kW - 20kW)

Basically are Rural Applications.

Can be installed on roofs, terraces, yards or fields.

Environmental Permits as well as Production, Installation and Operation Permits are not required.

Medium Scale Systems (20kW-150kW)

Industrial, rural or small Investment applications.

They can be installed on roofs, terraces, yards or fields.

Environmental Permits are required. The Energy Regulation Authority provides exemption for Production, Installation and Operation Permits

Large Scale Systems (>150kW)

Investment applications.

These Systems can be installed on roofs, terraces, yards or fields.

A "1MW" system requires about 16.000-20.000m² of space.

Environmental permissions as well as Production, Installation and Operation Permissions are required.

Autonomous Systems

Permanently Installed or Mobile

Permanently Installed Systems

The Energy produced is used to supply the Loads directly or can be stored to a battery bank for later use.

Suitable for applications where Grid is not available or where low power quality appears.

According to Load types, these systems can supply AC or DC Power Output.

These systems are not connected to the Grid.



Mobile Autonomous Systems

Autonomous Operation Solar Systems (AOSS)

AOSS is a mobile Power Unit (5kW up to 100kW), which can be installed in areas where Grid is not available or where low power quality appears.

Appropriate selection of equipment as well as operational Parameters guarantee Customer Power and Energy requirements. Reliable and environmentally friendly solution with minimum maintenance requirements. Long life (i.e. > 20 years) that guarantees the return on investment.

Basic Applications

Telecommunications

- GSM Stations
- TV/Radio Repeaters
- Data Links

Rural Power Supply

- Small Village Power Supply
- Mountain Houses
- Hospitals – Intensive Care Units
- Monasteries – Archeological Sites

Special Applications

- Cathodic Protection of Gas and Oil piping
- Pumping – Watering Systems
- Dairy industry
- Water Desalination - Filtering
- Back-up power for small industries
- Forest Service – Fire Detection
- Lighthouses

Recreation - Tourism

- Ski Centers
- Mountain Hotels/Resorts
- Camping

Military Applications

- UHF/VHF Repeaters
- Remotely Located Bases
- Campaign Hospitals
- Mountain Refugee Shelters
- Border Control

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