paralex
MASSIVELY PARALLEL THIN FILM

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MASSIVELY PARALLEL THIN FILM

Ultimate Safety
Maximum Performance
Greater Flexibility

Sustainable Energy Technologies

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MASSIVELLY PARALLEL THIN FILM

PARALEX is the new concept in distributed photovoltaic systems where modules are connected in parallel (branches instead of strings).

THE PARALLEL CONNECTION

Modules connected massively in parallel simplify system design and allow each module to perform at its own maximum potential, isolating affected modules. This way, if there exists a module generating less energy, because of dirt, degradation, manufacturing flaws, etc..., it does not affect the remaining modules in the system. The massively parallel connection results in 3-5% increased energy yield per kW installed.

GREATER FLEXIBILITY

Thin Film modules have an improved sensitivity to diffuse and indirect light that allows the modules to adapt to the inclination of virtually every roof, eliminating the need for orientation structures, reducing racking costs. This characteristic facilitates an attractive installation design, and there is no longer the need to avoid areas of partial shading that affect overall system performance. It is now possible to cover all available space on flat rooftops.

MAXIMUM PERFORMANCE

New generation Thin Film modules present optimal features for building installations (rooftops, façades, parking structures...) using a wider spectrum of sunlight with lower temperature coefficients, improving performance 5-10%.

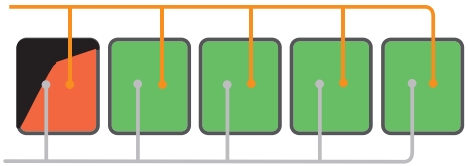
ULTIMATE SAFETY

Thin Film modules work between 70-100V, which allows them to be wired directly in parallel to Low Voltage inverters (LV) configured to match panel voltages.

PARALEX WIRING

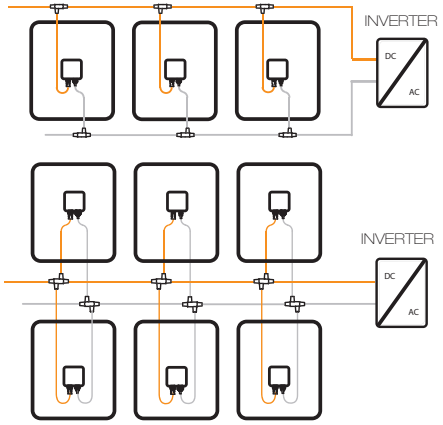
Massively parallel architecture is easily wired with PARALEX® compatible cables, including all necessary connections for the panel without having to use tools.

SERIES CONNECTION. All of the modules perform as the worst performing module of the group: there are losses due to mismatch and partial shading.

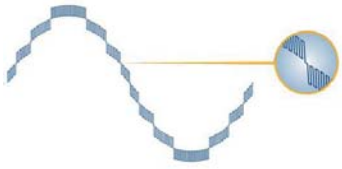


PARALLEL CONNECTION. Each module performs to its maximum potential: there are no losses due to mismatch or partial shading.

100% Rooftop coverage.



T and X PARALEX wiring



Patented Pulse Step technology.

More safety with low DC voltage.

Low frequency galvanic isolation.

Modular construction to facilitate easy installation and maintenance

SUNERGY INVERTERS

Low Voltage inverters make it possible to connect the installation in parallel, increasing performance and creating a new point of reference for safer installations.

Sunergy Inverters, with their patented pulse step technology, integrate low frequency transformers in the power conversion process, reducing internal temperatures and permitting maximum efficiencies in all load ranges, even at elevated temperatures.

LOW VOLTAGE

The functionality of low voltage inverters eliminates the hazards of DC in high voltages, increasing safety measures for installers and maintenance workers. The detection of failures in the field simplifies and helps to avoid a complicated and slow maintenance process which in turn generates extra costs.

GALVANIC ISOLATION

The inverter provides galvanic isolation through its transformers, which permit the use of any type of module available in today's market. The galvanic separation improves the quality of the power produced and provides safety to the user.

MODULAR DESIGN

The design of the inverter consists of two inteconnected parts:

a) The inverter itself which is weatherproof, is where the necessary electronics are enclosed, as well as the microprocessor and the communication system.

b) The transformer block encases the transformers for AC and galvanic isolation.

EFFICIENCY

Sunergy Inverters give peak conversion efficiencies at >96% and a total EU efficiency of 95%. With these levels of performance the low voltage inverter obtains the maximum energy received by the photovoltaic generator.