CIGS-Modules & BIPV

High-Performance CIGS Thin-Film Solar Modules and Building Integrated Photovoltaic Systems
CIGS Modules from NICE Solar Energy: The Ultimate Solution for Facade Integration

CIGS thin-film technology is based on a razor-thin conductive layer of copper, indium, gallium, and selenium. Experts are convinced of it as the solar technology that currently offers the greatest potential, delivering compelling advantages over both other thin-film technologies and crystalline silicon solar cells.

**Sustainable Production**
One benefit is already demonstrated as early as the production stage: the low amounts of material required. While today’s conventional crystalline cells are around 200 μm thick, the CIGS absorber is less than 2 μm thick. This saves material during production and is sustainable and environmentally friendly.

**Maximum Efficiency**
CIGS modules offer superior efficiency compared to other thin-film technologies. High-performance modules based on CIGS technology can already match the efficiency of multi-crystalline solar modules.

**Architectural Highlight – Facade Integration**
CIGS modules are ideally suited for vertical installation, and thus for integration into building facades. They feature stunningly modern and aesthetic design.

**Excellent Temperature Coefficient**
The low temperature coefficient of CIGS modules compared to crystalline solar modules delivers outstanding energy yields at higher module temperatures.

**Quality Made in Germany**
NICE’s sleek, sophisticated CIGS solar modules are manufactured on the NICE Solar Energy CIGSinnoline at our facility in Schwäbisch Hall, using the latest high-tech systems in conformity with strict quality standards.
Energy Yield and Sustainable Power Generation with Highest Efficiency

Guaranteed Quality
The production capacity of the CIGSinnoline in Schwäbisch Hall is currently undergoing expansion; installation of high-tech systems from Manz AG will upgrade current production capacity to an annual output of 24 MWp, with special attention paid to product quality.

Efficient Production Processes for Affordable Module Prices
Thanks to efficient production processes, cost-cutting potentials that have a direct impact on the price of NICE’s CIGS solar modules can be unlocked as early as the production stage.

Benefits of Facade Integration
Integration of CIGS solar modules into building facades offers extensive benefits in the construction of new buildings or renovation of existing stock. The solar modules replace conventional facades and protect the facade from weathering in addition to generating electricity.

NICE Solar Energy has unparalleled expertise in integrating CIGS solar modules into building facades.
We comply with technical building regulations in construction and production processes of building-integrated solar modules.

Sustainability
“Energy payback time” denotes the amount of time needed by a system to generate the amount of energy that was required to produce the system in the first place. At approximately one year, NICE CIGS modules have a significantly shorter energy payback time than crystalline silicon solar modules. In addition, the efficient production process of the CIGSinnoline and minimal use of materials saves resource over the long term.
For tomorrow’s clean environment – CIGS solar modules from NICE Solar Energy.
40 Years’ Experience with CIGS Technology for Sustainable Manufacturing Processes

NICE Solar Energy is a unique research joint venture which was established at the beginning of 2017. Shareholders of NICE Solar Energy are Manz AG, the related parties of Shenhua Group (NICE), Shanghai Electric and the Beijing Future Science Park Development Group. NICE Solar Energy is a global leading research establishment in the field of CIGS thin-film technology.

CIGS technology will further incorporate the research results of its exclusive development partner, the Center for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW). The ZSW holds the world record in the field of thin-film solar technologies, achieving efficiency of 22.6% on a laboratory cell. NICE Solar Energy will exploit the potential of CIGS technology to attain further increases in efficiency and reductions in production costs.

To do so, another research line in Beijing will be built in the near future in addition to the existing innovation line for CIGS thin-film solar modules in Schwäbisch Hall.

NICE Solar Energy already offers its customers maximum security for their investments, with module efficiency of up to 15.9% plus a reliable technology roadmap for further increases in efficiency. As at end 2017, the location in Schwäbisch Hall employs 135 people.
STANDARD MODULES

- Standard modules with single connector
- With or without frame

CUSTOM FORMAT MODULES

Quad element

- Formats can be varied by adjusting dimensions and combining elements; max. dimensions 4.2 x 2.4 m
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