



INTERNATIONAL STANDARDS AND CONFORMITY ASSESSMENT FOR THE PV INDUSTRY AND GOVERNMENT

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION



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A global solar potential

The market for PV (photovoltaic) power applications is expanding rapidly in developed and developing countries alike. Cumulative installed generating capacity in selected countries grew by 36 % in 2006, according to the International Energy Agency. Total PV cell production in 2006 was reported to be about 1 900 megawatts, an increase of 27 % from 2005. Global demand for PV exceeds USD 5 billion annually.

As its uses have multiplied and the industry has grown, PV has proved to be one of the most reliable sources of electricity. Indeed, PV modules now come with long-term warranties. But these promises of durability and reliability raise questions about the quality of PV components, systems, installations and after-sales maintenance among customers.

The IEC's International Standards for PV and its Worldwide System for Conformity Testing and Certification of Electrotechnical Equipment and Components (IECEE) provide both benchmarks and proofs of quality for industry and government.



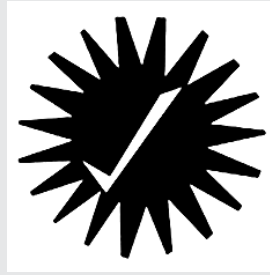
International Standards by the world's leading experts

PV systems convert solar energy into electrical energy. IEC TC (Technical Committee) 82 prepares International Standards for all elements of those systems – everything from the light inputs to a PV cell to the interface with the systems to which the electrical energy is supplied.

Comprised of leading industrial and governmental experts from 40 countries, IEC TC 82 has prepared International Standards for terms and symbols, PV module testing, design qualification and type approval of crystalline silicon and thin-film modules and characteristic parameters of stand-alone systems, among other elements.

IEC TC 82's current work includes:

- System commissioning, maintenance and disposal.
- Characterization and measurement of such new-thin film photovoltaic module technologies as CdTe, CIS, CuInSe₂, etc.



- New technology storage systems.
- Applications with special site conditions, such as tropical zone, northern latitudes and marine areas.
- Recommendations for small renewable energy and hybrid systems for rural electrification, including PV systems.

In addition, IEC TC 82 is addressing the safety of grid-connected systems on buildings and utility-connected inverters, as well as the protection of people and the environment from such things as radiofrequency and electromagnetic pollution and the toxic materials that need to be disposed of during PV manufacturing processes.

Conformity Assessment to serve industry and government



The IECEE provides testing and certification to show proof of compliance with the IEC's International Standards for PVs (photovoltaics). Industry and governments use the voluntary globally-recognized certification to help assure quality and improve safety.

The IECEE PV Certificate grants a "PV Quality Mark" to PV components that have been designed, manufactured and tested according to IEC International Standards, and a "PV Quality Seal" which covers the conformity of the PV systems as a whole.

The worldwide PV community, including national and regional PV industry associations, and supported by such international organizations as The World Bank and the United Nations Development Programme, decided to institute a high-priority program to offer a truly global quality assurance solution. In order to achieve this goal and to guide the PV industry, especially in developing countries, PV GAP – a not-for-profit international organization dedicated to the sustained growth of global PV markets to meet energy needs – decided in 2008 to transfer ownership of the PV GAP Mark and Seal to the IECEE.

With the support of the World Bank, the IECEE is the exclusive issuer of the PV GAP Mark and the PV GAP Seal. Together with the IECEE International PV Certificate and Test Report, the Mark is the worldwide reference for manufacturers and suppliers of monocrystalline silicon terrestrial photovoltaic modules and PV components used in PV systems to show compliance with safety and performance standards.

For further information on the IECEE PV Certification, please contact: Pierre de Ruvo, Executive Secretary, IECEE. Email: pro@iec.ch. Web: www.iecee.org.





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About the IEC

The IEC is the world's leading organization that prepares and publishes International Standards for all electrical, electronic and related technologies – collectively known as “electrotechnology”. IEC Standards cover a vast range of technologies from power generation, transmission and distribution to home appliances and office equipment, semiconductors, fibre optics, batteries, solar energy, nanotechnology and marine energy to mention just a few. Wherever you find electricity and electronics, you find the IEC supporting safety and performance, the environment, electrical energy efficiency and renewable energies. The IEC also manages conformity assessment schemes that certify whether equipment, systems or components conform to its International Standards.