

太阳能产品测试

随着能源需求的不断增长，太阳能正迅速成为目前可利用的能源中最可行的选择之一。作为权威第三方检测认证机构，Eurofins 欧陆集团拥有针对国际标准测试的全套设备，获得 IEC 体系的 CB 实验室认可。在太阳能逆变器、太阳能电池模块和太阳能集热器等产品领域有着深厚并专业的经验，通过欧陆的测试和认证服务，我们能确保您的产品在性能和安全方面符合严格的欧洲和国际法规要求。

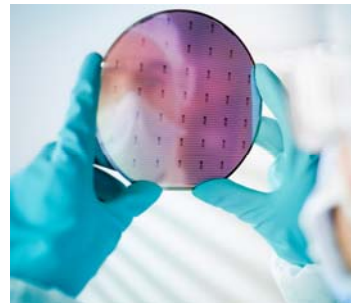
●●● 太阳能逆变器



- ✧ VDE-AR-N 4105 德国逆变器的并网要求
- ✧ VDE 0126-1-1 希腊、法国、荷兰、瑞士、捷克、葡萄牙、罗马尼亚、奥地利、卢森堡逆变器的并网要求
- ✧ ENEL-2010 意大利逆变器的并网要求
- ✧ AS 4777.2 澳洲逆变器的要求
- ✧ AS 4777.3 澳洲并网保护装置的要求
- ✧ AS/NZS 3100 澳洲逆变器及并网保护装置的安全要求
- ✧ G83 英国与公共低压网络并列的小规模嵌入式发电机（最大每相 16A）的连接的要求
- ✧ G59 英国与公共电力供应其嵌入式发电厂连接的要求
- ✧ RD 1663 西班牙逆变器并网要求
- ✧ C10/11 比利时逆变器的并网要求
- ✧ IEC 61727 光电器件(PV)系统网络接口的特性
- ✧ IEC 62116 有互联效应的光电逆变器用孤岛测试程序
- ✧ IEC/EN 62109-1&62109-2 逆变器的安全要求
- ✧ EN50178 用于电力安装的电气设备
- ✧ CNCA/CTS 0004 中国 400V 以下低压并网逆变器光伏发电专用逆变器技术要求和试验方法
- ✧ IEC61683, GB/T20514 光伏系统功率调节器效率测量程序
- ✧ EN 50438 与公共低压配电网平行的微型发电机的连接要求（瑞典、丹麦、挪威、芬兰、波兰、斯洛文尼亚、爱尔兰、塞浦路斯）
- ✧ UL1741 美国逆变器的安全要求
- ✧ IEEE1547 美国逆变器的并网要求
- ✧ CSA C22.2 No.107.1 加拿大逆变器的要求
- ✧ IEC/EN 61427 太阳能光伏能量系统用蓄电池和蓄电池组的要求

●●● 太阳能电池模组（光伏组件）

- ✧ IEC 61730-1: 2004 光伏组件（PV）安全鉴定 第一部分：结构要求
- ✧ IEC 61730-2: 2004 光伏组件（PV）安全鉴定 第二部分：试验要求
- ✧ EN/IEC 61215: 2005 地面用晶体硅光伏组件设计鉴定和定型
- ✧ EN/IEC 61646: 2008 地面用薄膜光伏组件设计鉴定和定型
- ✧ EN/IEC 61214: 2004 独立光伏系统——设计验证



●●● 太阳能集热器和系统

EN 12975

- ✧ 内部压力测试
- ✧ 耐高温测试
- ✧ 曝光测试
- ✧ 外部和内部热冲击试验
- ✧ 雨水渗透测试
- ✧ 耐冻结测试
- ✧ 机械载荷试验
- ✧ 耐冲击性试验
- ✧ 热性能测试

EN 12976

- ✧ 耐冻结测试
- ✧ 过热保护测试
- ✧ 耐压测试
- ✧ 水质污染测试
- ✧ 防雷测试
- ✧ 安全设备测试
- ✧ 热性能表征测试
- ✧ 太阳能加辅助系统的负载能力测试
- ✧ 反流保护测试
- ✧ 电子元件安全性能测试



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请不要犹豫，联系我们获取更多信息。

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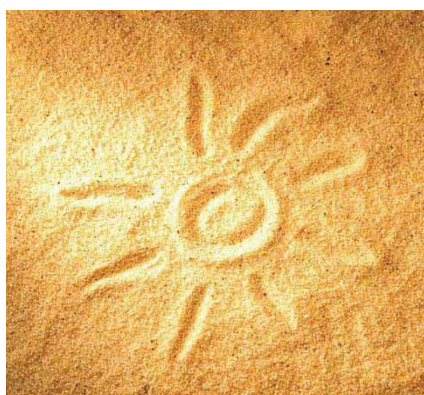
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Photovoltaic Products Solutions

With the growing demand for energy, solar energy is rapidly becoming one of the most viable options among current available energy. As an authority in third party testing and certification, **Eurofins** has a full set of equipment for the international standard test with accreditation as a CB National Certification Body and CB Testing Laboratory by IECEE CB Scheme. We provide safety and performance testing on **Photovoltaic inverters**, **Photovoltaic modules**, **Solar collectors** and **Solar thermal systems** to ensure that your product meets stringent European and international laws and regulations.

●●● Photovoltaic inverters



- ✧ VDE-AR-N 4105 Power generation systems connected to the low-voltage distribution network Technical minimum requirements for connection to and parallel operation with low-voltage distribution networks – Germany
- ✧ VDE 0126-1-1 Power generation systems connected to the low-voltage distribution network Technical minimum requirements for connection to and parallel operation with low-voltage distribution networks – Greece, France, Holland, Switzerland, Czech Republic, Portugal, Rumania, Austria, Luxemburg
- ✧ ENEL-2010 Guide For Connections To ENEL Distribuzione's Electricity Network - Italy
- ✧ AS 4777.2 Grid connection of energy systems via inverters Part 2: Inverter requirements - Australia and New Zealand
- ✧ AS 4777.3 Grid connection of energy systems via inverters Part 2: Grid protection requirements - Australia and New Zealand
- ✧ AS/NZS 3100 General requirements of electrical equipment - Australia and New Zealand
- ✧ G83 Recommendations For The connection Of Small-Scale embedded Generators (Up To 16A per Phase) In Parallel With Public low-Voltage Distribution Networks - United Kingdom
- ✧ G59 Recommendations For The Connection Of Generating Plant To The Distribution Systems Of Licensed Distribution Network Operators - United Kingdom
- ✧ RD 1663 Setting The Conditions For The On Connection Of Photovoltaic Facilities To The Network Of Low Voltage - Spain
- ✧ C10/11 Specific Technical Instructions For Decentralized Production Installations Operating In Parallel On The Distribution System Technical Instructions – Belgium
- ✧ IEC 61727 Photovoltaic (PV) systems - Characteristics of the utility interface
- ✧ IEC 62116 Test Procedure of Islanding Prevention Measures for Utility-interconnected Photovoltaic inverters
- ✧ IEC/EN 62109-1&62109-2 Safety of power converters for use in photovoltaic power systems Part 1: General requirements/ Part 2: Particular requirements for inverters
- ✧ EN50178 Electronic Equipment for Use In Power Installations
- ✧ CNCA/CTS 0004 Technical Specification and Test Method of Grid-connected PV inverter - China

- ✧ IEC61683, GB/T20514 Photovoltaic Systems - Power Conditioners - Procedure for Measuring Efficiency
- ✧ EN 50438 Requirements for the Connection of Micro-Generators in Parallel with Public Low-Voltage Distribution Networks - Sweden, Denmark, Norway, Finland, Poland, Slovenia, Ireland, Cyprus
- ✧ UL1741 Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources – U.S.A
- ✧ IEEE1547 IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems – U.S.A
- ✧ CSA C22.2 No.107.1 General Use Power Supplies – Canada
- ✧ IEC/EN 61427 Secondary Cells and Batteries for Photovoltaic Energy Systems (PVES) - General Requirements and Methods of Test

●●● Photovoltaic modules

- ✧ IEC 61730-1:2004 Photovoltaic (PV) Module Safety Qualification Part I: Requirements for Construction
- ✧ IEC 61730-2:2004 Photovoltaic (PV) Module Safety Qualification Part II: Requirements for Testing
- ✧ IEC 61215:2005 Crystalline Silicon Terrestrial Photovoltaic (PV) Module – Design Qualification and Type Approval
- ✧ IEC 61646:2008 Terrestrial Thin-film Photovoltaic (PV) Module – Design Qualification and Type Approval
- ✧ IEC 61214:2004 Stand-alone Photovoltaic (PV) system – Design Qualification



●●● Solar collectors and Solar thermal systems

EN 12975

- ✧ Internal pressure tests
- ✧ High-temperature resistance test
- ✧ Exposure test
- ✧ External and Internal thermal shock test
- ✧ Rain penetration test
- ✧ Freeze resistance test
- ✧ Mechanical load test
- ✧ Impact resistance test
- ✧ Thermal performance testing

EN 12976

- ✧ Freeze resistance
- ✧ Overheating protection
- ✧ Pressure resistance
- ✧ Water contamination
- ✧ Lighting protection
- ✧ Safety equipment
- ✧ Thermal performance characterization
- ✧ Ability of solar-plus-supplementary systems to cover the load
- ✧ Reverse flow protection
- ✧ Safety of electrical components

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