BUREAU OF INDIAN STANDARDS

Indian Standard IS 16169 : 2019 Utility - Interconnected photovoltaic inverters Test procedure of islanding prevention measures

The IS 16169:2019 standard, issued by the Bureau of Indian Standards (BIS), specifies testing procedures to ensure that photovoltaic (PV) inverters connected to the utility grid prevent a condition known as "islanding." A PV inverter is a key component of a solar power system, converting the direct current (DC) from solar panels into alternating current (AC) for home or business use. In a utility-interconnected system, islanding happens when the grid unexpectedly shuts down, and the PV inverter continues supplying power, potentially leading to safety risks for technicians working on the grid and risking damage to electrical equipment.

For consumers, a good quality PV inverter should reliably prevent islanding, ensuring safety and compliance with grid regulations. IS 16169:2019 addresses this by establishing test procedures to verify that PV inverters can detect a grid outage and automatically disconnect within a safe time frame. The standard outlines requirements for inverter response time, performance under different load conditions, and its ability to shut down properly during a grid fault.

By complying with IS 16169:2019, manufacturers demonstrate that their inverters meet high standards for safety and reliability, protecting both the grid and individual installations. For consumers, this compliance translates to safer and more dependable solar energy systems that align with national safety practices, reducing risks and ensuring smoother operation. This standard thus enhances the trust and quality associated with PV inverters, helping consumers make informed choices while contributing to safer and more stable renewable energy use.