



Choose certainty.  
Add value.

## VDE 4105 conformance testing and certification

Test and certify your power generation units for smooth integration with low-voltage networks.

### Your challenges

Power generation units such as PV inverters and CHPs are increasingly being used to feed energy into low-voltage networks. Manufacturers producing these units must fulfil the requirements of their target markets. For example, before a product can be integrated into Germany's grid system, the manufacturer has to understand and comply with the requirements of the VDE-AR-N 4105 regulation. Similar standards apply in other countries including Italy, Spain and the United Kingdom.

### What is VDE 4105?

Verband Deutscher Elektrotechniker (VDE) is the Association for Electrical, Electronic and Information Technologies Engineers, one of the largest technical and scientific associations in Europe. The VDE-AR-N 4105 regulation is a German standard aimed at improving the integration of power production units into the low-voltage system. Manufacturers intending to enter the German market can demonstrate the performance

and safety of their products by obtaining VDE 4105 certification. VDE type testing by TÜV SÜD ensures that your energy generation systems achieve conformity with VDE 4105 guidelines.

### Why is VDE 4105 important for your business?

VDE 4105 conformance enables your power producing systems to gain smooth entry to the German market. The certification helps you obtain access from grid operators to connect your systems to the low-voltage grid. Compliance with this technical standard also provides a more reliable basis for planning, investment and action to achieve your business goals.

### How can we help you?

TÜV SÜD supports you in preparing for VDE 4105 requirements from the start of the product lifecycle. We provide an ESD testing environment at our leading-edge laboratory. This facility is dedicated to testing embedded systems, their communication interfaces and VDE-AR-N 4105



conformity. Our qualified and experienced team of global experts assists you with detailed understanding of equipment risks, enabling you to minimise business risks and costs.

### Our VDE 4105 testing services

TÜV SÜD carries out testing on your Smart Grid at the onset to ascertain the grid impact falls within tolerable levels. We support you with testing of system behaviour at the grid (active/reactive power, the energy feed-in at over- and under-frequencies), testing of the network and system protection device, and testing to check if all components connect and synchronise to the grid within the connection criteria. Our experts also carry out evaluations to determine faults and measure the single-fault tolerance level.

### Your business benefits

- **Save time and money** – by determining your equipment’s risks at an early stage with TÜV SÜD’s one-stop solution.
- **Build up your in-house expertise** – by leveraging on the industry-leading knowledge of our training experts.
- **Gain a competitive edge** – with a certificate from TÜV SÜD, the first certification body to be accredited for VDE-AR-N 4105 by the German accreditation body, DakkS.

- **Gain market access** – by demonstrating your components are ready to enter the German or EU market with VDE 4105 compliance.
- **Enjoy global support with an expert partner** – through TÜV SÜD’s capabilities as a one-stop solutions provider with its Renewables, Industrial IT Security and Functional Safety departments that can support you in the Smart Grid and beyond.

### Why choose TÜV SÜD?

TÜV SÜD is a thought-leader in Smart Grid integration, with experts who actively participate in international committees to exchange knowledge with their peers. This gives our experts a broad understanding of the issues involved.

As a one-stop provider of comprehensive Embedded Systems services, we use the most recent and versatile testing software. In addition, our laboratory offers an ESD environment for testing. Our clients also benefit from our cost-benefit analysis and professional training.

### Choose certainty. Add value.

TÜV SÜD is a premium quality, safety and sustainability solutions provider that specialises in testing, inspection, auditing, certification, training and knowledge services. Represented in over 800 locations worldwide, we hold accreditations in Europe, the Americas, the Middle East, Asia and Africa. By delivering objective solutions to our customers, we add tangible value to businesses, consumers and the environment.

### Related services

TÜV SÜD provides the following related services:

- Smart Grid integration
- IEC 61850
- Smart metering workshop
- Safety and security consulting and certification