System for Real-Time Detection of Technical Energy Losses in Individual Smart Meters

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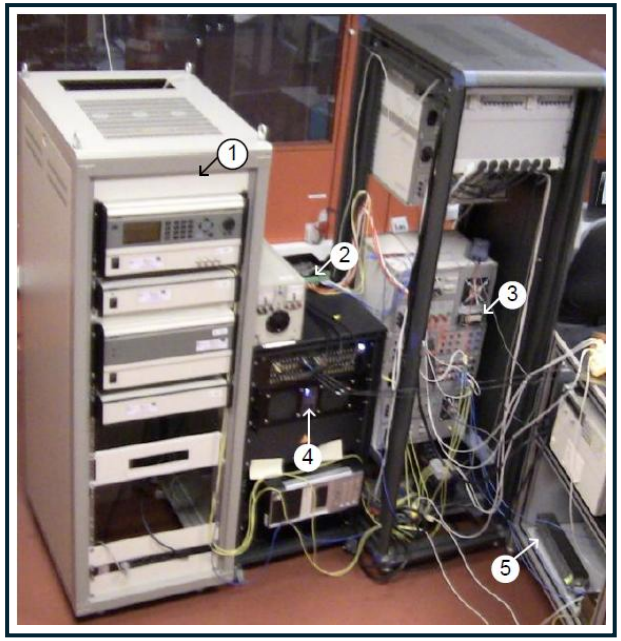
Summary/Characteristics

The REDES Research Group at Universidad Carlos III de Madrid (Spain) has designed and developed a system to detect technical electrical energy losses at the level of the digital meter located at the customer's installation. The system enables real-time determination of both active and reactive energy losses occurring at each individual customer connected to the distribution network.

Potential licensees are sought to help bring the technology closer to the market.

Innovative Aspects

- Pioneering system for real-time detection of technical energy losses at the level of each digital meter.
- Direct integration into the control center of the electrical substation, enabling centralized and automated energy balance analysis.
- Adaptable to different configurations and types of low-voltage networks, ensuring applicability in multiple scenarios.
- Smart Grid-oriented approach, contributing to intelligent, efficient, and sustainable network management.



Hardware platform for real-time simulation of the smart electrical grid

Competitive Advantages

- Accurate identification of technical energy losses for each individual customer, improving network transparency and control.
- Real-time optimization of the energy balance, enabling more efficient operation of electrical grids.
- Reduction of operation and maintenance costs by precisely locating the origin of technical losses.
- Improvement of the overall efficiency of the network.
- System adaptability and flexibility.

Technology readiness level:

Ready for demonstration – Field tests conducted. TRL 7.

Intellectual and Industrial Property Status:

Trade secret – know-how.

Type of collaboration sought:

License Agreements are sought to incorporate the technology into the portfolio of partners involved in electrical energy distribution.

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