

SMART GRID

MULTILINK System by TECSYS do BRASIL

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MULTILINK System

The use of sensors, automatic switches and other asset management devices to monitor distribution networks (energy, water, oil and gas), in addition to the extensive use of software such as "analytics", are part of the daily life of the Utility Companies, in a trend that should only increase in the coming years.

Based on its innovation's "DNA", TECSYS do Brasil has designed an equipment called "Multilink", suitable for connect these several IoT devices. The system was designed taking in mind to be an interoperable solution from different manufacturers, assured by a standardized technology known as Wi-SUN.

The entire system is part of a R&D smart-grid project, regulated by the Brazilian National Energy Agency (ANEEL), partnered with NeoEnergia Group and LacTec Institute.

What is the MULTILINK System?

The Multilink concentrator serves as a multi-communication link between field equipment and the Utility Companies' control and data centers.

Acting as a "RF gateway", the Multilink can receive and consolidate all data from field devices, also called "end devices", such as sensors and smart meters, key control balance gauges, automatic switches, reclosers, valves, pumps, etc.

All information is protected, encrypted and sent to its respective control and measurement systems, allowing remote reading of end consumers' energy or water consumption, and distribution network status real-time analysis, aiming to improve the quality of the services provided.

The Multilink can manage different and multiples communications technology, such as including 4G/LTE cellular networks, fiber optics, satellite, and digital radio in the frequency of 900Hz and 2.4GHz, with OFDM modulation (orthogonal frequency-division multiplexing).

Multilink was designed to be modular and flexible, counting with six expansion slots that allows a "mix and match" of different devices and communication technologies, to fulfil actual and future requirements.



Initially conceived by TECSYS team, the idea of a "multi-standard RF gateway" was submitted to Neoenergia analysis and approval. Thanks to ANEEL's support, the project was kicked off in 2018, having Tecsys, Neoenergia and LacTec as partners and working together for technology development. From that moment on, all three companies decided to be active members of Wi-SUN Alliance, an international association of companies that promotes the technology and contributes on the development of specifications, test procedures and certification programs for WiSun products. The standard is based on IEEE 802.15.4g, adopted in smart grid applications, smart cities and Internet of Things (IoT), which demand flexibility and robustness of the field network.

"We already have consistent results on the first field tests of our Multilink concentrator, from the point of view of interoperability and the use of different communication technologies. This equipment is part of a strategic project called 'Development of National Technology for Intelligent Electric Grids', whose main objective is the development of Brazilian technologies that contribute to the reduction of losses, improvement of the quality and security of the network", says Neoenergia's R&D manager, Eng. Jose Antonio Brito.

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