



University of Zaragoza energy management system



The **University of Zaragoza** recently implemented an energy management system in its facilities. The objectives were as follows:

- To find out the electric consumption of its buildings and to allocate the corresponding energy costs.
- To conduct a comparative study with a view to implementing the good practices being used in buildings where lower consumption is detected.
- To detect deviations in electrical energy consumption caused by potential breakdowns, failures of the air conditioning timing and control systems and misuse of the various installations.

Until now, a part of the distribution of low-voltage electrical energy at the University of Zaragoza has been carried out from 4 transformers, but it has not been possible to break down the energy billing data. By installing 9 **CIRCUTOR CVMK2-ITF-405** power analyzers with **K2-EXP-SD-MODBUS/**

TCP cards, the University has been able to solve this problem, as they can now monitor consumption through the **PowerStudio Scada** program, letting them not only visualise data on instantaneous consumption but also save logs of supply voltages, power consumption, harmonic content, wave quality and power factor. At the same time, with this software they can get alarm signals when deviations in the nominal voltage values, disconnections of the main switch or excess consumption of reactive energy are detected.

These 9 **CVMk2** power analyzers have been installed in the following buildings:

- Ada Byron (Río Ebro Campus).
- Mathematics (San Francisco Campus). 3 units.
- Faculty of Education (San Francisco Campus).
- Sports centre Pavilion (San Francisco Campus).
- Pedro Cerbuna Student Residence (San Francisco Campus).



- Faculty of Sciences (San Francisco Campus).
- Construction and Maintenance Technical Unit (San Francisco Campus).

The distances between these buildings made it impossible to connect the analyzers using an RS-485 bus, so it was necessary to assign an IP address to each device to then capture all the information provided through the **Power Studio Scada** program via Ethernet.

The power analyzers and the software programming were installed by personnel from **EffiTool**, which received **CIRCUTOR's "Expert"** qualification in 2008.

The software configuration displays the supply tension, phase current and power consumed by the 9 power analyzers on a single screen, or, with a simple click on the map of the campus served by the analyzer in question, provides more detailed information. ▶

EffiTool

Gestión y Eficiencia Energética

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