European Directive 2012/27/EU, an opportunity for the sector.

What system do I need to install to comply with it?

Initial situation

The European Directive 2012/27/EU detailed the objectives for improving energy efficiency, it is focused basically on large companies. These objectives are aimed at decreasing energy consumption, reduced emissions of greenhouse gases and incentive the installation of renewable energy systems.

The main objective of the member states is what is called 20+20+20, for which three key targets have been set:

TARGET FOR 2020

- Reduction of 20% in energy consumption
- Reduction of 20% in emissions
- Increase of 20% in renewable energies

In Spain's case, the companies and social groups obliged to comply with the National Electric Code have two alternative options to achieve the set objectives:

- To carry out an energy audit, as set out in section 3 of article 3.
- To install an Energy Management System (EMS), in accordance with international standards such as ISO 50001, provided that an energy audit is included.
Designed for efficiency

The Solution

The Directive establishes the possibility of installing an Energy Management System (EMS) to record, verify and display actual energy consumption and emissions data.

To install an EMS heavy investment is normally required in energy measurement equipment and a software application that monitors and manages the information, as well as communications cabling, but CIRCUTOR offers a revolutionary solution through its CVM-B100 and CVM-B150 electrical power analysers with EMS functionality. In other words, these analysers have a built-in energy management system and there is no need to install any additional components.

These units have an Ethernet port that allows them to be accessed directly from any PC, to record over a year of data on energy, CO₂ emissions and operating time. Additionally, the EMS comes with powerful integrated software to monitor any variable in real time, record it and display it in a graphical format or in a table, to be exported in various formats. Its internal alarm system ensures the detection of any incidents and is capable of sending an email so that they can be quickly resolved.

Design to comply with the Directive and Spanish National Electric Code

These analysers are made to comply with the requirements of European Directive 2012/57/EU.
CVM-B100/B150 electrical power analysers

CVM-B100/B150 analysers with datalogger modules are units that are installed on panels, whose dimensions are 96x96 millimetres and 144x144 millimetres respectively, with integrated energy management (EMS) software that complies with the new industry standards.

These systems have high measurement accuracy and are able to analyse numerous electrical parameters, as well as harmonic decomposition in voltage and current, up to the 50th order.

Integrated management software (EMS).
Compatible with various web browsers (Firefox, Chrome, Safari etc.).

Graphical representation thanks to the VGA monitor, which allows the user to enjoy a new concept of power analysers based on a new SCV interface (slide, choose & view), designed exclusively and entirely by CIRCUTOR.

Some of the most outstanding features are:
- Integrated EMS software (through the datalogger module).
- Access via web browser (integrated web server).
- Data storage for over a year.
- Measures energy consumed and generated (0.5S accuracy class).
- Measures CO2 emissions (overall and by tariff).
- Measures costs in EUROS and other currencies (total and by tariff).
- Records operating time for maintenance tasks.
- Measures over 500 electrical parameters.
- IP 65 front panel protection (with sealing gasket).
- Ethernet and RS-485 point-to-point communication (Modbus RTU/ BACnet).
- High-resolution colour VGA monitor with customisable screens.
- Modular (option to connect up to 3 expansion modules + datalogger).
- Touch scroll buttons.
- 3 tariffs (can be selected by digital input or RS-485 communications).
- 2 outputs to relay for alarms.
- 2 outputs to transistor for alarms and impulse generation.
- 2 outputs for tariff selection or management of logic states.
Application

Where are the analysers installed?

More features:

Energy metering
- Electrical energy metering (consumed and generated)
- Pulse counting (water, gas, heating etc.)
- CO₂ emissions metering
- Operating time counter (preventive maintenance)
- EUROS counter

Alarm management
- Put that it has 4 outputs for managing alarms and sending emails.

Traceability
- Describe how the system internally records up to 500 variables for over a year.

Creates and sends consumption reports using PowerStudio Scada:
- Using PowerStudio Scada it is possible to create energy reports and automatically send them to different departments to make expenditure forecasts.

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Datalogger module
It provides the system with memory:
- With records for up to one year (over 500 variables)
- Integrated web server (via IP) with access to embedded PowerStudio through a browser (Internet Explorer, Firefox, Chrome etc.) or via XML requests for reading and configuration.
- Capable of reporting the data being monitored and recorded to a higher PowerStudio.

Communication modules
Adapts the system to multiple protocols:
- Modbus TCP (bridge)
- LonWorks
- Profibus
- M-Bus

Input/output modules
Monitors your systems and processes:
- 8 transistor outputs + 8 digital inputs
- 8 relay outputs + 8 digital inputs
- 8 outputs + 4 analogue inputs
  (0/4 ... 20 mA)