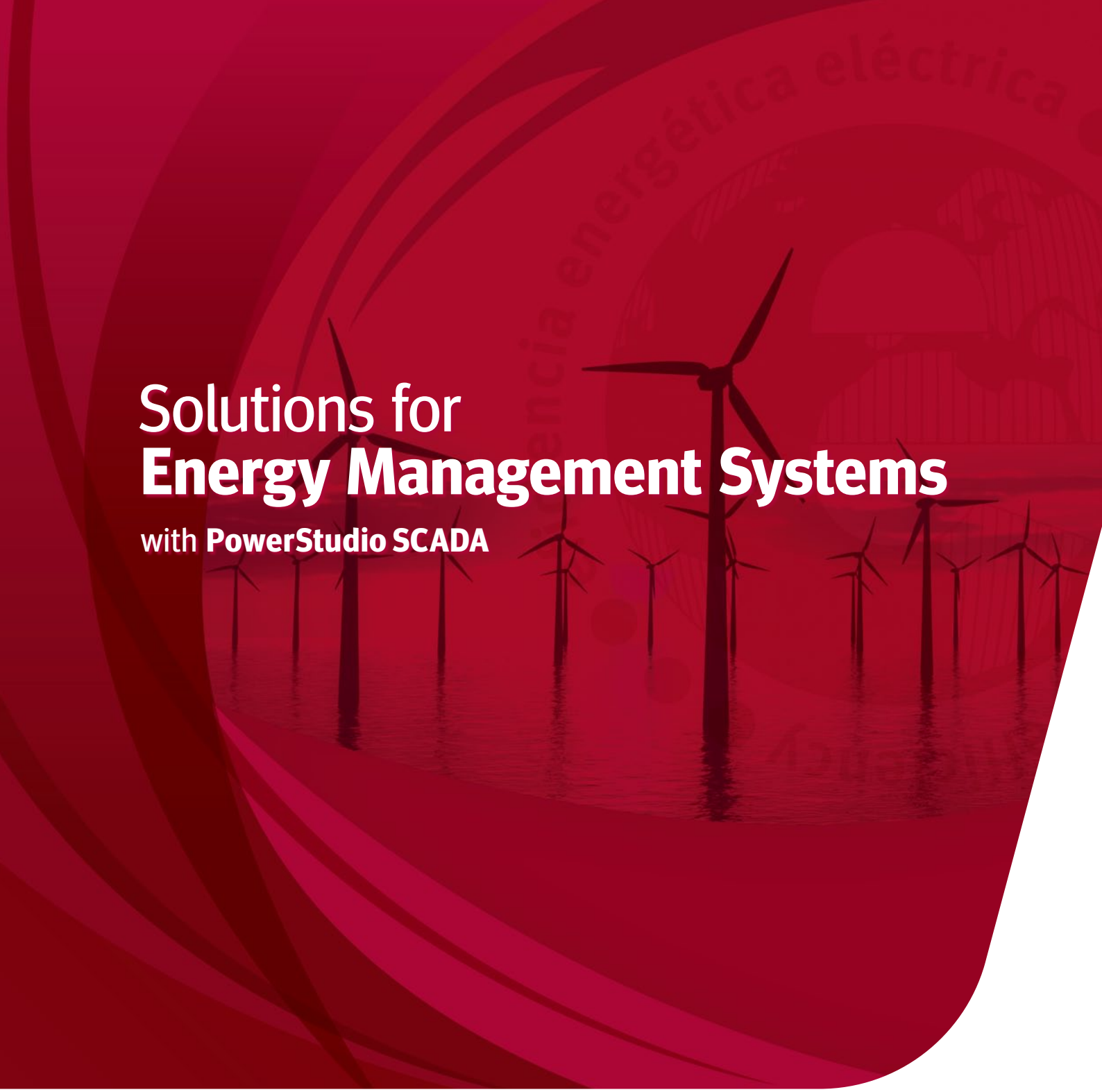


Solutions for **Energy Management Systems**

with **PowerStudio SCADA**

CIRCUTOR

Technology for energy efficiency

At **CIRCUTOR**, we have been manufacturing and distributing systems and equipment for electrical energy efficiency for more than 35 years. All the knowledge acquired during this time is reflected in our products, which are reliable, robust, easy to use and most importantly: innovative.

In keeping with this philosophy, in the eighties **CIRCUTOR** increased the benefits of their products by equipping them with communications for Energy Management Systems. This in turn created the need for management and control software, in response to which **CIRCUTOR** developed the first software of this kind in the market. As a result, all of the measurements of the equipment in the electrical network were centralised in a single location for fast and easy access.

Over time, this management software has evolved, incorporating all of the new equipment developed by **CIRCUTOR** and taking advantage of the powerful computer platforms available in the market.

CIRCUTOR's Electrical Energy Efficiency software (e^3) is currently called **PowerStudio** and encompasses all of the tools needed to manage your power control equipment: from electricity, gas and water meters to reactive energy compensation systems and powerful power analyzers.

Power studio
.circutor.com

PowerStudio

PowerStudio is a simple, powerful and user-friendly software application, enabling the following:

- *Complete energy studies*
- *Production ratios (energy consumption per unit produced)*
- *Power quality management*
- *Arrangement of the information obtained in graphic and table format.*

It enables complete energy monitoring of power analyzers, meters, earth leakage relays and total control of various magnitudes in the industrial process field.

PowerStudio, in conjunction with **CIRCUTOR** equipment and systems, adapts to your particular needs by providing tools for the supervision and control of your installations.

Features

Powerful

Software compatible with all **CIRCUTOR** equipment.

Measuring Equipment:
- Converters
- Impulse centralizers
- Meters
- Power analyzers
- Voltmeters, ammeters, process indicators

Protection Equipment
- Earth leakage relays
- Earth leakage relays centralizers

Quality & Metering Equipment
- Multifunction meters
- Power quality analyzers

Reactive equipment
- Intelligent power factor correction regulators

Smart charge of electric vehicles
- Smart electric vehicle charging systems

Versatile

Communications Platform
Service integrated with Windows®. Uninterrupted communications with units configured in the system.

Remote edition
Allows applications to be edited *online*, facilitating application editing tasks by integrators. This action allows for application editing, kilometres away, by means of an internet connection.

Real time remote query
Allows interaction with the communications motor, both for application viewing and parameter management.

Simple

Extremely easy-to-use Software. No programming knowledge required to develop the applications.

Current

32 and 64 bit technology compatible with:
- Windows® 2003 Server
- Windows® 2008 Server
- Windows® 7

Versions

Features

- Windows® service (it is not necessary to have a user session open for **PowerStudio** to communicate with the equipment)
- Online display of equipment parameters (including electric parameters, process signals, temperatures, etc.)
- Remote parameter setting
- Real time graphic display
- Historical records
- Historical data represented in graphic and table format
- Export of XML data (OPC and SQL with additional module).

Powerstudio .circutor.com

Real time variable display, database creation, representation of recorded data in graphic and table format, xml server and export of data to files (.txt and .csv extensions)

Powerstudio .circutor.com SCADA

Power studio + SCADA screens, reports, events

Powerstudio .circutor.com SCADA Deluxe

Power studio + Modbus Driver Generic, OPC client

PowerStudio

PowerStudio SCADA

PowerStudio SCADA Deluxe

PowerStudio

PowerStudio enables the following:

- Configuration of **CIRCUTOR** control and measurement equipment connected to the communications network
- Real time display of the parameters of the measurement equipment installed
- Creation of databases
- Recording and consulting the historical data stored in a computer in graphic or table format
- XML Server inside
- Export to text files and spreadsheets
- Access to information through a conventional Internet explorer

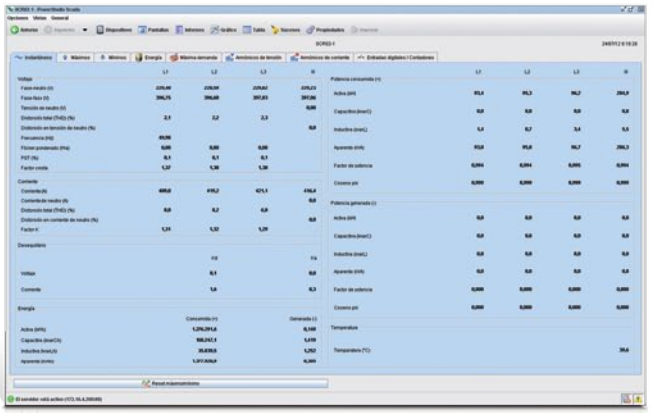
XML

XML Server used to access data from one or more applications

(Example of XML request)

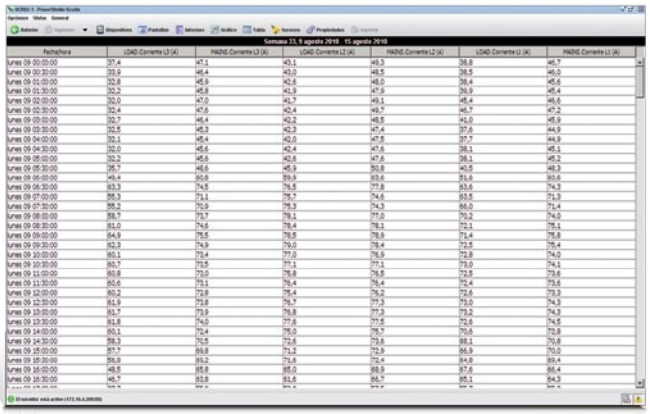
Real time variables

Real time display of all measured variables of all equipment.



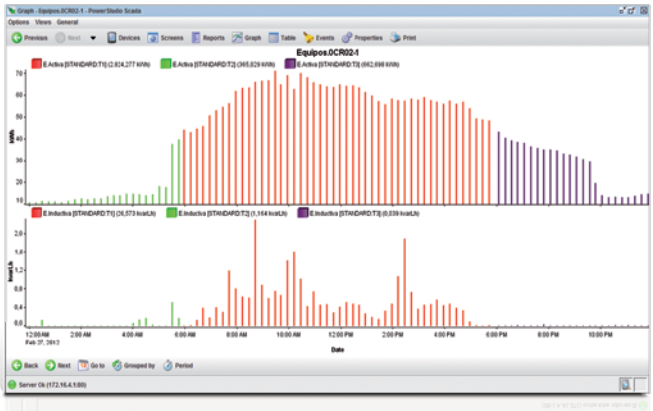
Tables

Data display in table format with the option of exporting txt and csv files.



Graphics

Graphic representation of the historical data recorded by software. Enables configuration of colours and layout individually.



Display multiple parameters simultaneously.

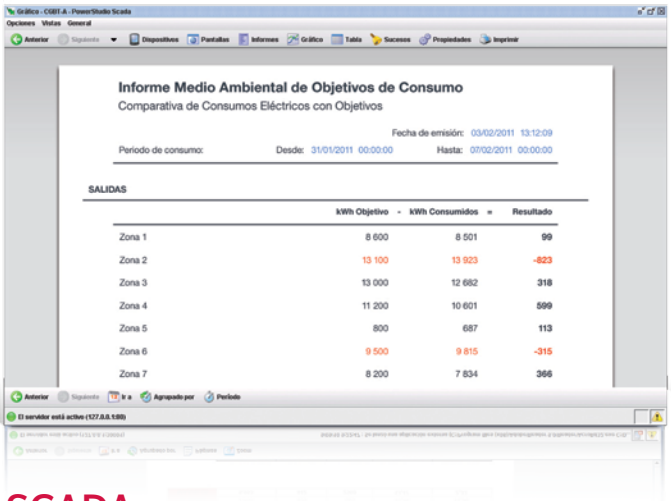
PowerStudio SCADA

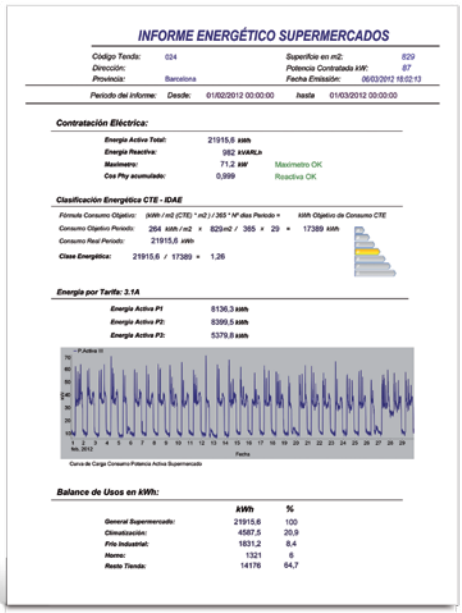
In addition to all of the options offered by **PowerStudio**, **PowerStudio SCADA** also allows you to:

- Create SCADA screens combining different parameters from different **CIRCUTOR** equipment connected to the communications network.
- Generate reports or simulate energy bills for the allocation of energetic costs.
- Manage and control events programmed by use of alarms or process automation actions.

Reports

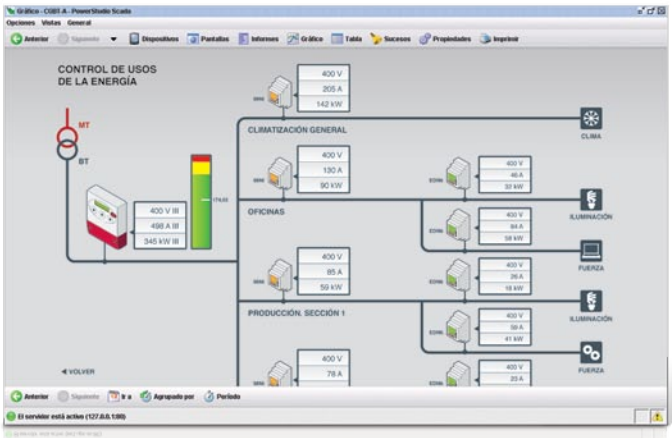
With **PowerStudio SCADA** you can generate reports allocating partial costs, production ratios, etc. predicting all kind of energy invoices.





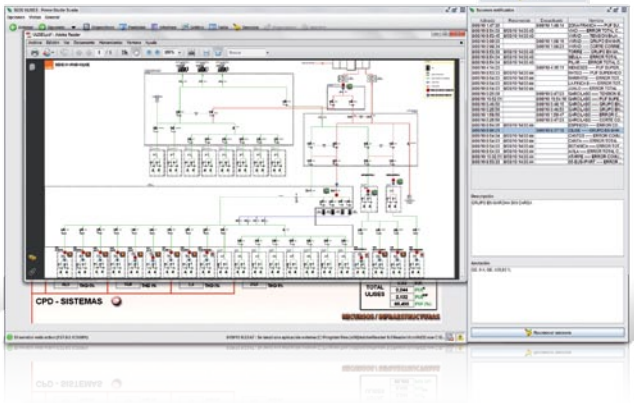
SCADA screens

Configure all kinds of interactive windows, create personalised screens and combine different parameters from different **CIRCUTOR** equipments in a simple way, thus obtaining the maximum amount of information in an intuitive and user-friendly environment.



Events

With the events module you can control and generate alarms and events, automatically controlling the most critical installations and important conditions.



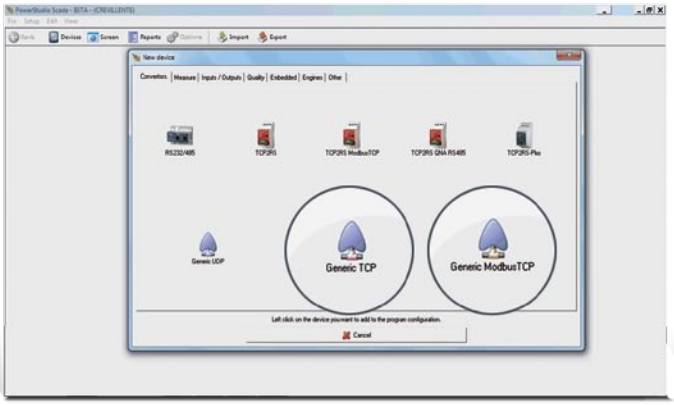
PowerStudio SCADA Deluxe

In addition to all of the options offered by **PowerStudio SCADA**, **PowerStudio SCADA Deluxe** also allows you to:

- Interact with any equipment equipped with Modbus/RTU or Modbus/TCP communications protocol.
- Interact with any SCADA application in the market using the OPC/DA server option.
- Possibility of UDP, TCP connections
- Cascade integration of other **PowerStudio**, **PowerStudio SCADA** or **PowerStudio SCADA Deluxe systems.**

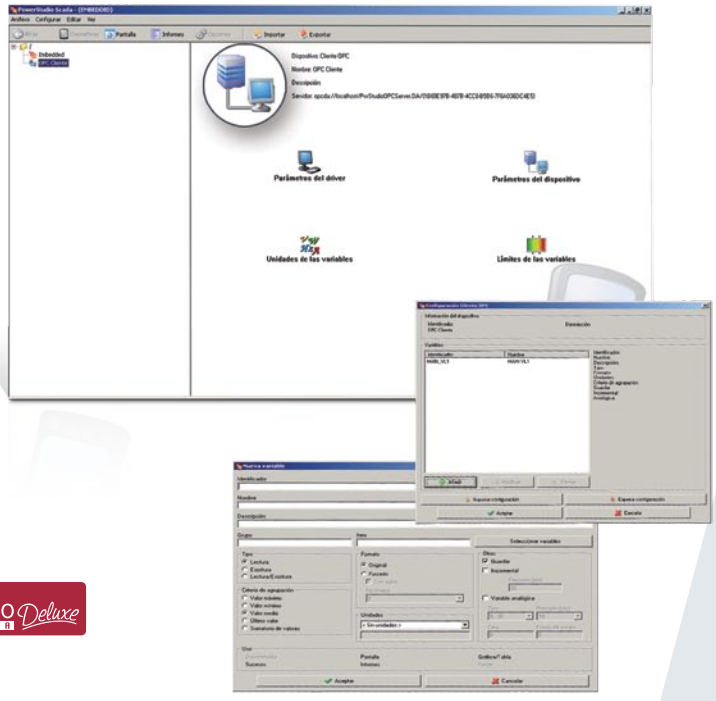
Generic MODBUS

It is a driver that allows you to integrate any MODBUS communications equipment in **PowerStudio SCADA Deluxe**.

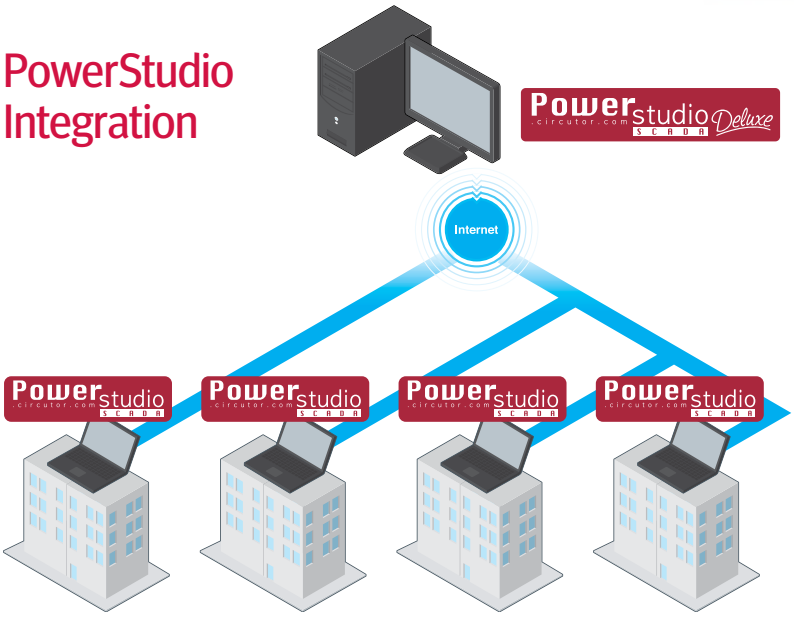


OPC Client

PowerStudio SCADA Deluxe includes OPC Client which allows you to integrate the information obtained by other SCADA in the market using OPC technology.



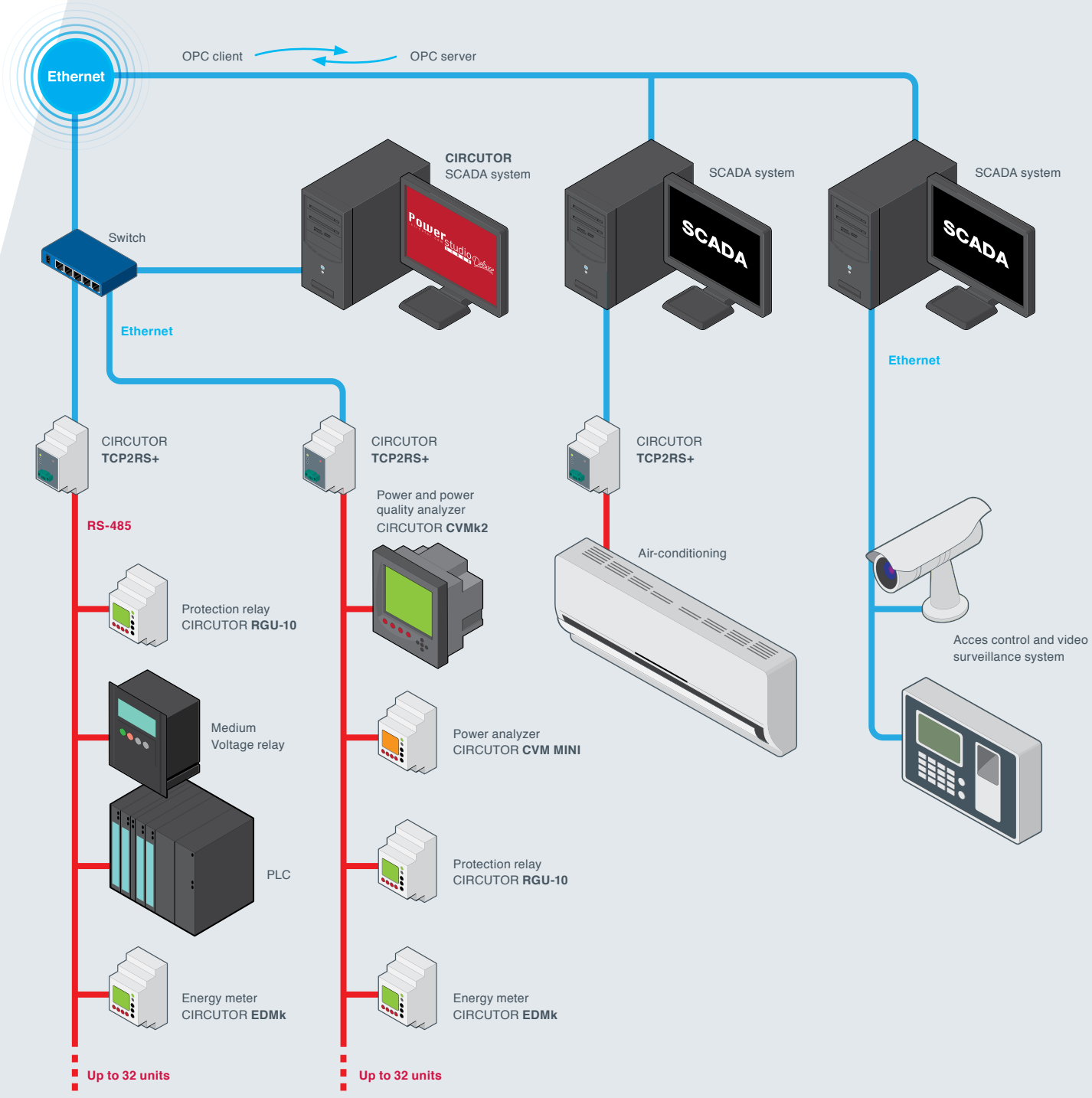
PowerStudio Integration



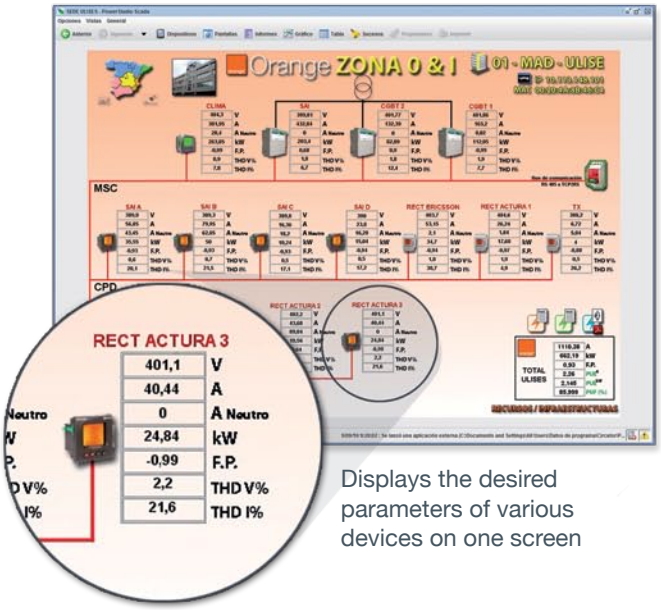
SCADA Applications

PowerStudio SCADA Deluxe allows you to create applications on any device equipped with OPC or Modbus communications. **PowerStudio SCADA Deluxe** allows you to:

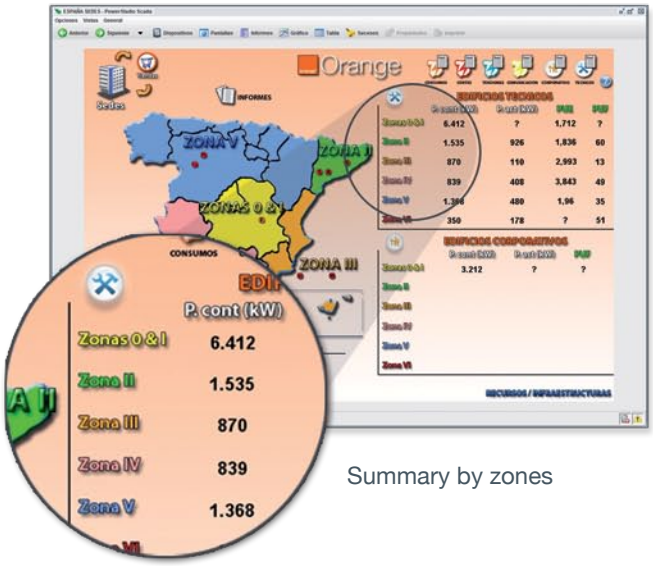
- Step-by-step instructions for configuring any Modbus unit driver on the market
- A driver that can be exported or cloned for integration in identical non-**CIRCUTOR** units in the **PowerStudio** platform
- Easy data integration from other real time data acquisition systems by OPC/DA
- Synchronisation of data from other systems in the databases of the **PowerStudio SCADA Deluxe** platform
- An all-purpose driver for communication with non-**CIRCUTOR** Ethernet units
- **PowerStudio SCADA Deluxe** allows for data integration in the **PowerStudio** platform of other systems



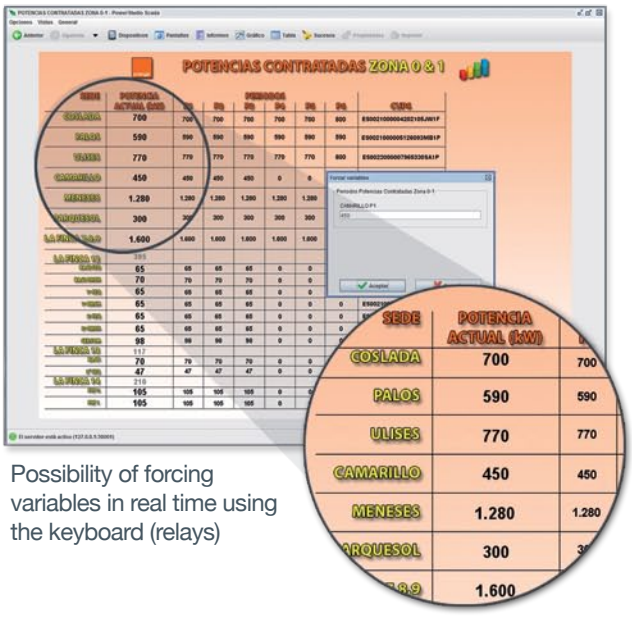
Multipoint applications



Displays the desired parameters of various devices on one screen

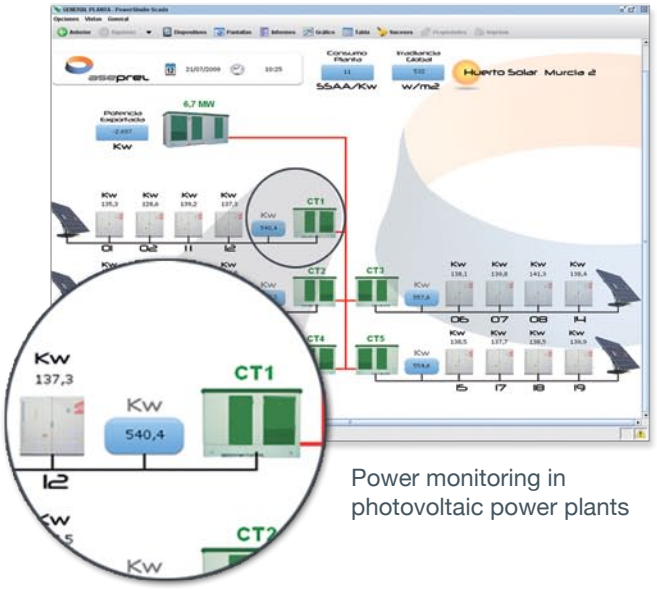


Summary by zones

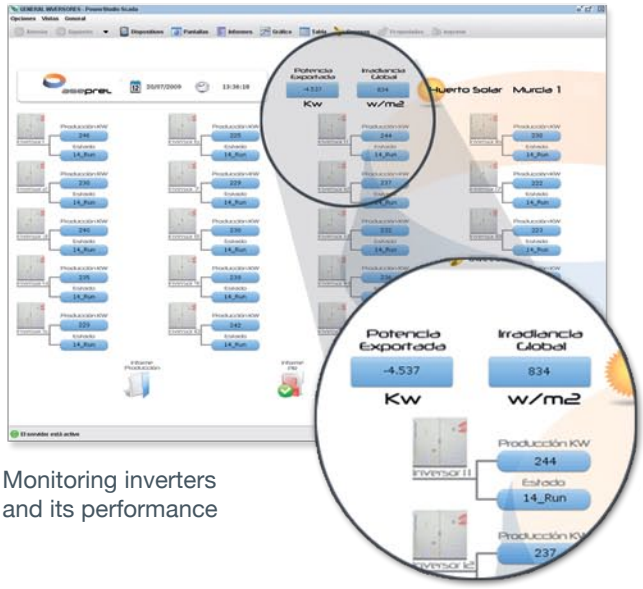


Possibility of forcing variables in real time using the keyboard (relays)

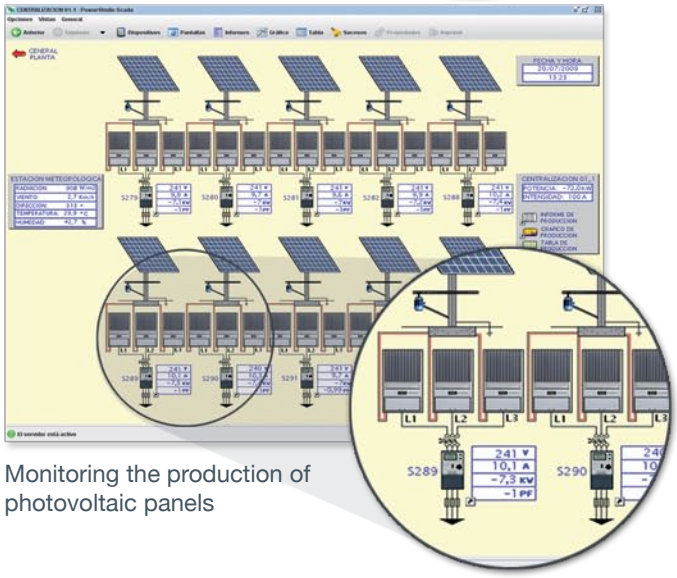
Photovoltaic applications



Power monitoring in photovoltaic power plants



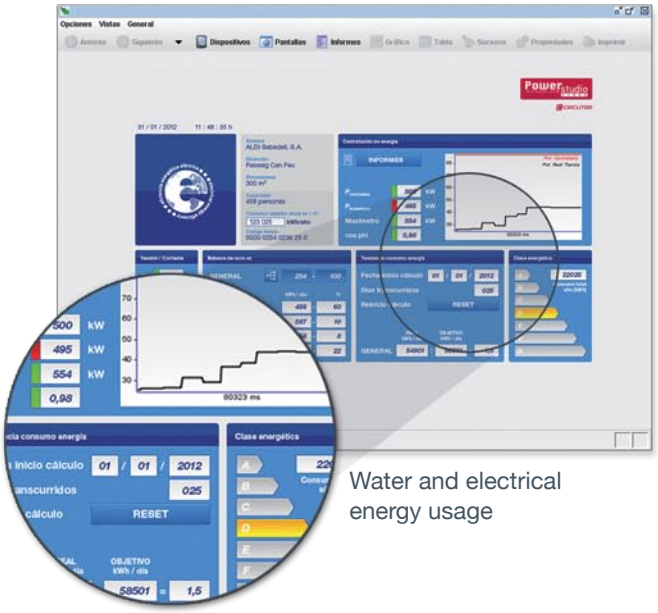
Monitoring inverters and its performance



Monitoring the production of photovoltaic panels

Airports Ports Industries Hotels Photovoltaics Universities Hospitals

Energy monitoring

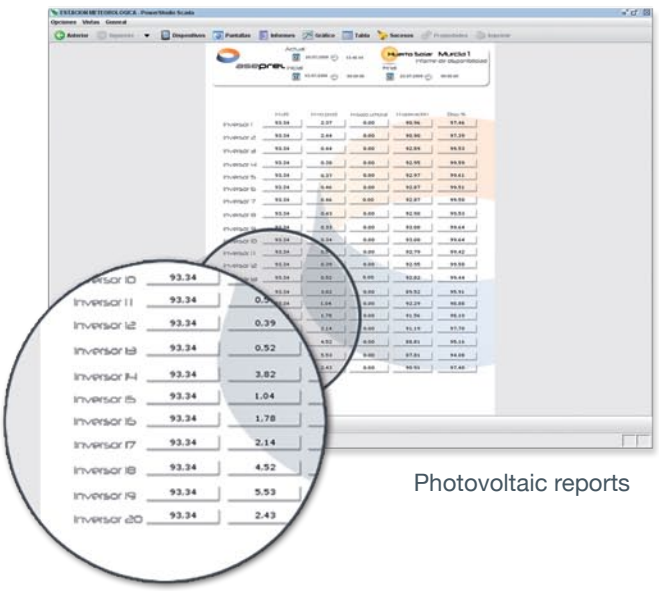


Water and electrical energy usage

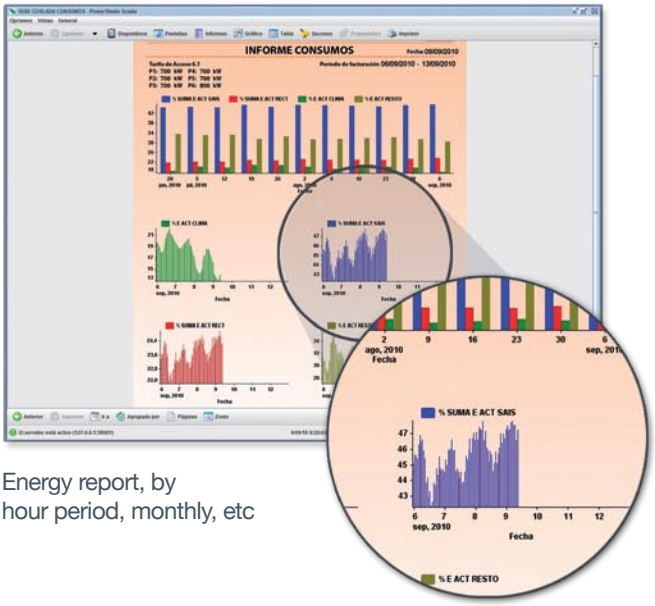
Monitor and manage of charging of Electric Vehicles

Controlling the relevant electrical parameters of an installationin a single line diagram screen

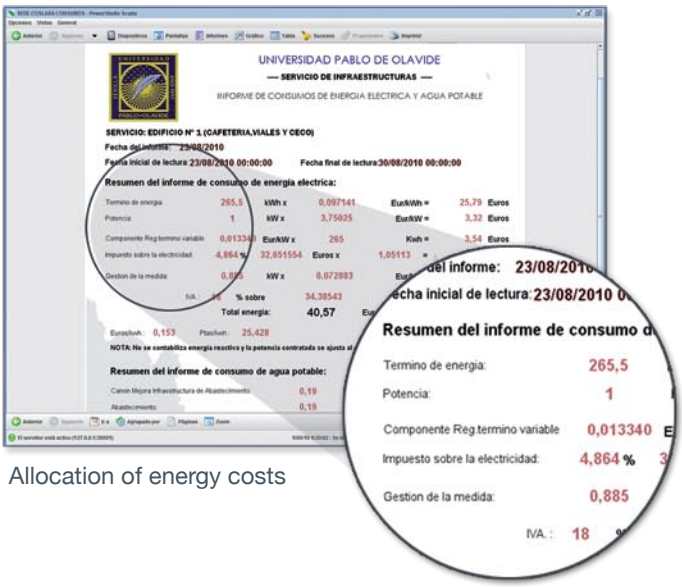
Cost allocation and energy reports



Photovoltaic reports



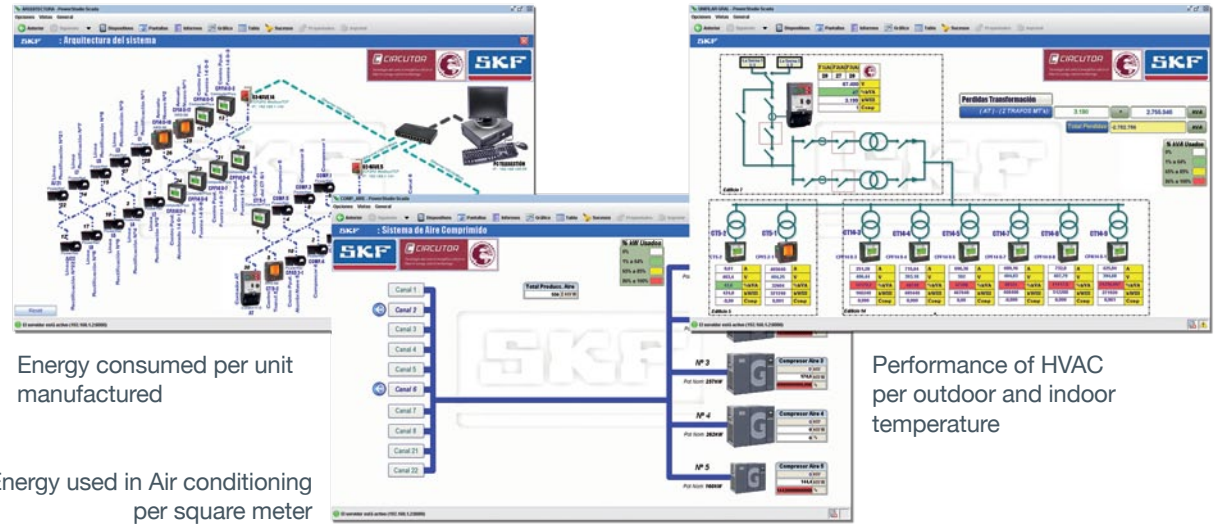
Energy report, by hour period, monthly, etc



Allocation of energy costs

Shopping centres | Camping sites | Wind farms | Offices | Telecommunications | Energy distribution | Treatment Plants

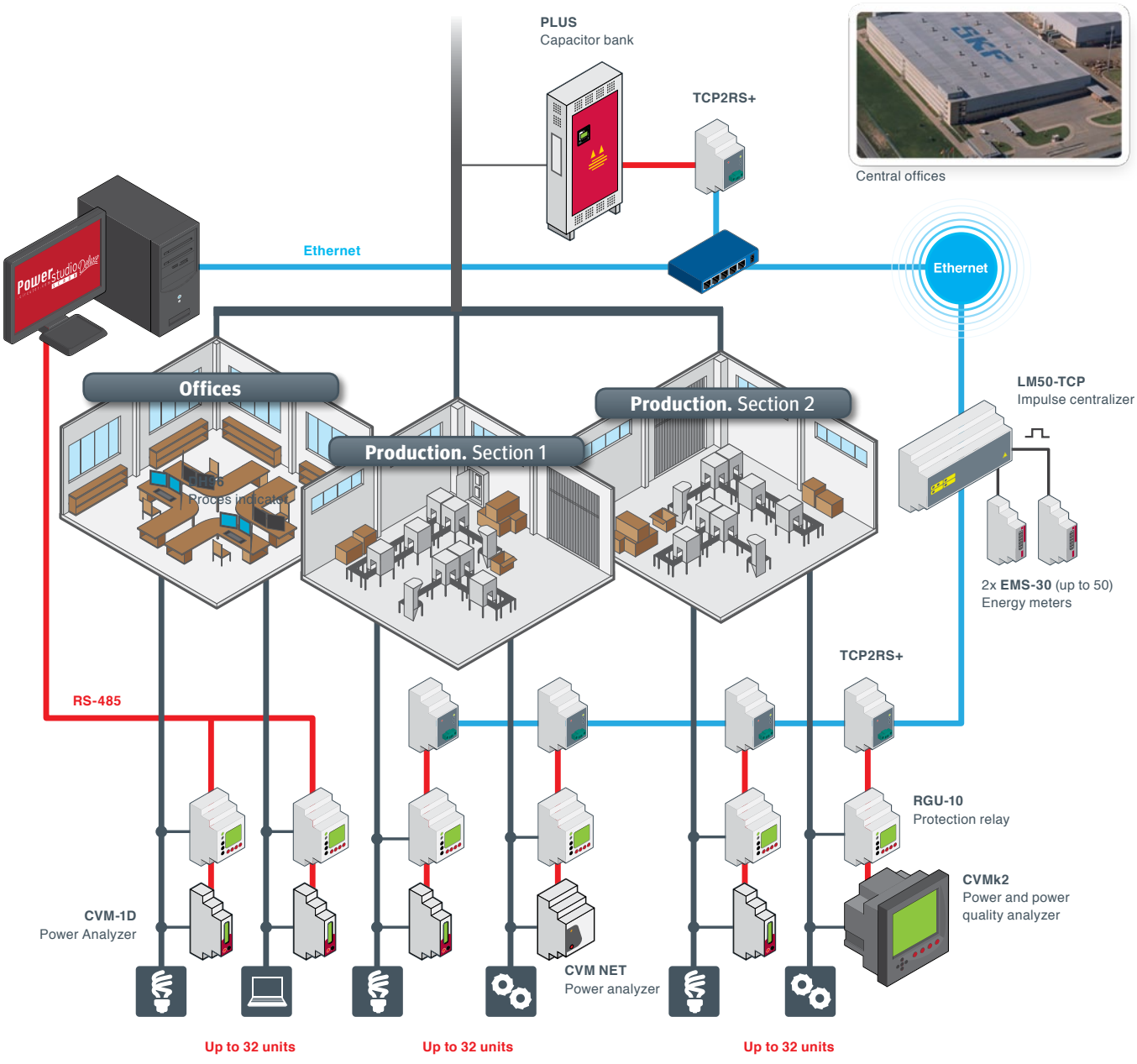
Architectures



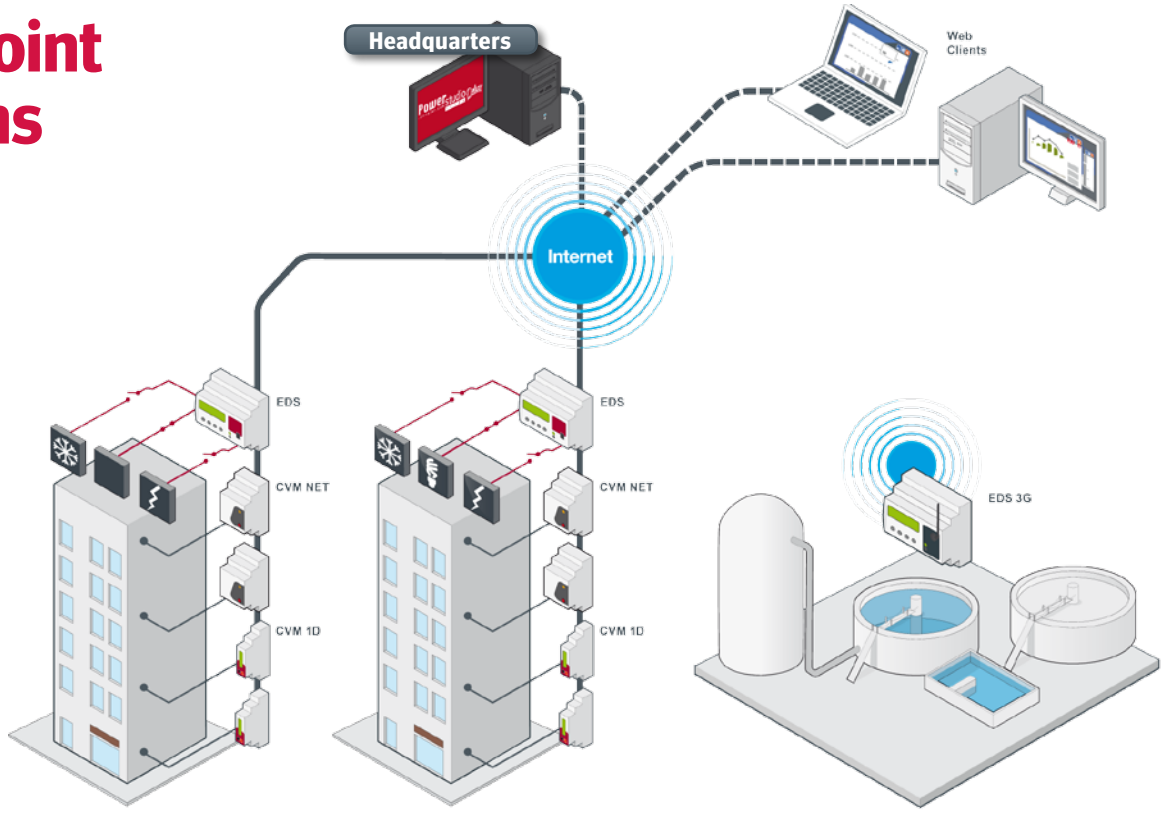
Energy consumed per unit manufactured

Energy used in Air conditioning per square meter

Performance of HVAC per outdoor and indoor temperature



Multipoint systems

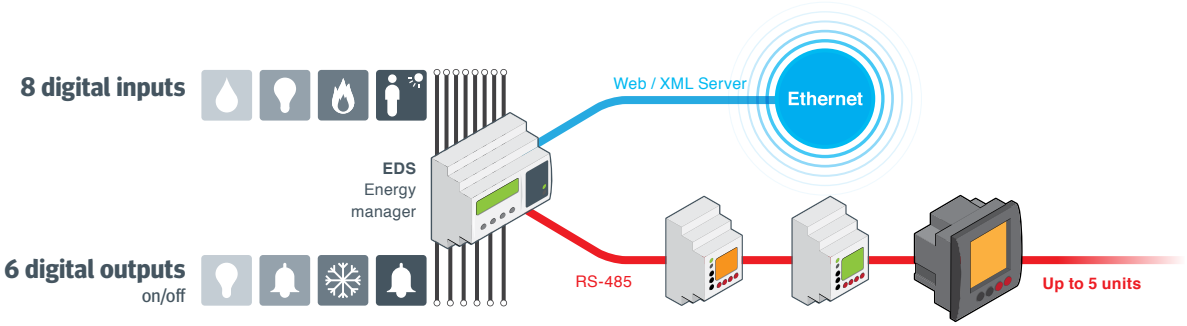


EDS, EDS-3G

Energy manager equipped with four voltage-free digital inputs and outputs. The device is equipped with an **Embedded PowerStudio** with built-in web server with Data Logger which makes it easy for the user to consult any variable without having to install any additional software into the LAN computer.

Embedded PowerStudio Technology

- Includes monitoring software and **Embedded PowerStudio** energy control
- Real-time display, calculation and recording of parameters from devices connected.
- Creation of tables and graphics (export option)
- Creation of access users and profiles
- Automatic event management and parameterisation
- Alarm logging and event management
- Alarms sent by email
- Integrated XML server
- OPC integration by optional module



Products

CVM Series with display

Three-phase power analyzers with LCD display

Power analyzers for High and/or Low Voltage balanced and unbalanced three-phase networks. Measures over 230 electrical parameters and has RS-485 Modbus/RTU and Modbus/TCP communications to establish communications with the master *software*. Backlit display. Assembly on DIN rail or panel base, depending on the model.

CVM NET Series

Three-phase power analyzers

Power analyzers for low voltage balanced and unbalanced three-phase networks. Measures over 230 electrical parameters and has RS-485 Modbus/RTU communications to establish communications with the master software. They do not have a display for installation in places where data cannot be directly displayed. For assembly on DIN rail.

LM Series

Impulse concentrators

Devices with digital/analogue inputs/outputs that centralise the incoming impulses from market meters (energy, water, gas, etc.). They can detect the logical status of inputs, stating the detection of an alarm to the master communications system. They have different communications protocols installed, such as RS-485 (Modbus/RTU) or Ethernet (Modbus/TCP).

TCP2RS+

Ethernet communication gateway

Gateway designed to convert the Ethernet physical environment to RS-232 or RS-485. The Web Server is a console from which the user can configure the whole unit. The unit can work with a fixed IP address or in DHCP mode using name identification. Transducer with high reliability, stability and durability against industrial environments.

EDMk

Three-phase energy meter

Active and reactive energy meters, up to 3 tariffs (**EDM3k**). Measures current with external transformers …/5 A or …/1 A or .../250 mA (**MC** Series). Optional measurement of low and medium voltage networks. The model complies with the **MID regulations.** Backlit LCD display, DIN rail measurement: 3 modules.

RGU-10C

Earth leakage protection relay

Immunised earth leakage protection relay with real time display showing the value of the leakage. Sensitivity and trigger time can be programmed (0.03 to 30 amperes depending on toroidal) and possibility of parameterisation of automatic reclosing system. Backlit LCD display, DIN rail measurement: 3 modules.

Computer Series

Power factor regulators

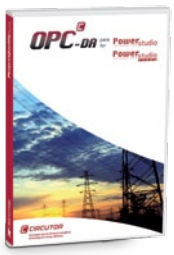
Three-phase reactive energy regulators. They compensate the presence of inductive reactive power, regardless of the existing load. Displays the cos φ, and acts as a power analyzer, displaying multiple electrical parameters. Equipped with a capacitor control system: reports any anomalies related to capacitor capacity.

CIRWATT B

Power billing energy meter

CIRWATT B is designed for power billing applications (**EN 50470-1** and **EN50470-3** (**MID**) Standards). Wide variety, from small single-phase energy meters to energy meters for large energy consumers. Built-in PLC communications (Power Line Carrier).

Additional Software



OPC-DA

OPC-DA for **PS/PSS/PSSD** is a software tool created to quickly and easily integrate all of the electrical parameters from **PowerStudio**, **PowerStudio SCADA** or **PowerStudio SCADA Deluxe** software to a second control SCADA used by an **OPC-DA** client.

OPC-DA for **PS/PSS/PSSD** incorporates the Tunneling function for easy, safe and reliable communications between various networked computers (LAN/VPN/IP). This integration method solves problems associated with the Windows® DCOM configuration.

- Multiple architectures and network topologies.
- Easy configuration and start-up of **PS/PSS/PSSD** software
- Allows the direct integration of **EDS** and **EDS-3G** devices
- Automatic integration of **OPC-DA** and **PS/PSS/PSSD**
- Immediate integration between the **OPC server** and **OPC client**.
- System robustness (Windows® service)
- IP architectures with the Tunneling function.

SQL DATA EXPORT

SQL Data Export for **PS/PSS/PSSD** is a software tool for integrating **PS/PSS/PSSD** data into a new or existing SQL type database. With **SQL Data Export**, the user can integrate the data from field equipment connected to the monitoring system through SQL queries.

SQL Data Export connects to the **PS/PSS/PSSD** system by means of an IP connection, thereby facilitating the installation of the SQL export software in the most appropriate computer for the consulting or data integration project.

- Allows the direct integration of **EDS** and **EDS-3G** devices
- Export of historical data in PS/PSS/PSSD to SQL type databases.
- Downloading frequency programming.
- Option of selecting devices or databases to be exported.
- Multiple architectures

Solutions for
Energy Management Systems
with **PowerStudio SCADA**

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