

# Power Management

## Energy efficiency in industrial clients

The creation of ISO 50001/2011 for Energy Efficiency launched a challenge for all energy consumers: optimizing consumption and a desirable reduction of energy costs.

In order to optimize it is necessary to know the consumption profiles of the various consumers.

Thus it will be necessary to implement a system that allows to read and record the consumptions, for later analysis.

Actemium developed the ViewGest, a solution for collecting and storing consumption values of Energy or other quantities (eg water, gas).

The system consists of a central platform that can be in the client's premises or on a server accessible through the Internet. Data is collected through local units that transmit to the central system via the Internet.

## Central System



The central system developed in WEB platform and database SQL type, allows access from any computer with a web browser. It thus provides the relevant information to all possible actors in the process with the possibility of setting levels of access by password.

In addition to the collection and storage of data, the system also offers the following functionalities:

- Real-time monitoring of process variables, with the possibility of creating alarms and automatic sending via SMS or email;
- Sampling period of 15 minutes allowing the analysis of consumption by electricity tariffs;
- Visualization of the consumptions in graphs or tables, allowing the comparison of several quantities in a same graph (including comparison with arithmetic operations of the same ones);
- Issuance of Reports in Excel or pdf format according to a predefined provision by the customer, with the possibility of defining tariffs in price and tariff periods;
- Export data to other systems in Excel format or other adaptable and compatible with billing and / or SAP systems;
- Import data from existing automation and SCADA systems.

The system allows its management by the end user, which can enter new counting and measurement points by entering the type of equipment and address.

## Concentrating Unit

It has the function of communicating, concentrating and storing the information of the Local Units of an industrial unit or of a certain area of an infrastructure, making them available to the Central system.

Communication with the Local Units is done by radio (RF) in free band 868/869 MHz and, or RS485 on copper. Communication with the Central System

can be done through an Ethernet network, Wi-Fi or remotely through an ADSL or GPRS connection. The protocol used allows the time / date on the source and its storage for several months. Thus, in case of communication failure, the data is stored and then sent to the Central System without losing consumer profiles.

The Concentrator Unit allows interconnection with SCADA systems or other existing automation systems. This ensures uniformity of the data collected and avoids duplication of data collection system whenever they are already available.

## Local Unit

The Local Unit is installed next to the counters and analyzers and has as a function to collect the data and sends them to the Concentrator Unit, via RF or RS485. It can be powered by battery or any other voltage source (12 Vdc, 24, Vdc, 48 Vdc, 230 Vac) available on site. When powered through a battery, it guarantees autonomy for 5 to 10 years.

Each Local Unit can connect 4 to 10 digital inputs for pulse counting and 2 analog inputs (0 (4) – 20mA and 0 – 10V) for analogue quantities;

The Local Unit also has an RS485 port for connection to analyzers by Modbus RTU, DLMS / COSEM or other protocols.

The Local Unit allows the storage of the collected information, a maximum of 20.000 records hourly, thus guaranteeing the recovery of the profiles of the consumers in case of failure of communication with the Concentrator Unit.

## Repeater Unit

To overcome large distances by low power RF. The Local Units themselves may accumulate the Repeater Unit function.



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