ENERDIS®
CHAUVIN ARNOUX GROUP

ENERIUM

A powerful solution for energy management and the environment

Sustainable development

A responsible commitment…

Vital for the production of all the products and services we consume, electricity is at the core of an economic challenge that must not make us forget our duties and responsibilities. Production, transport and energy consumption have major repercussions on the environment.

ENERDIS** is committed to its position as expert. It strives to support its customers with effective and responsible energy management, and provides powerful solutions. Its research and development strategy focuses on sustainable development and defines **technological solutions with greater respect for the environment.

& Industrial performance

ENERDIS, a recognised player in the management and supervision of electrical networks, intends to consolidate its technological advance and its involvment for constant innovation by offering a solution that combines industrial performance and sustainable development.

Industrial performance & sustainable development

The change in regulations determining the criteria for economic and environmental efficiency positions energy management at the top of the the list of concerns for all players in the electricity sector. The problems posed by network monitoring, installation sizing, energy and quality management remain a priority.

ENERDIS offers a safe and innovative system for controlling the use of energy and improving the yield of electrical installations.

ISO 14001 *= principle of continuous improvement of environmental performance by controlling impacts related to a company's business*

NQAP *(National Quota Application Programme) = a programme determining quotas on greenhouse gas emissions for major industry sectors*

Exploring and exploiting all possibilities of improving energy efficiency

Managing electrical supply and making it safe involves constant monitoring, checking and protection of the entire network. It also means optimising the cost of power consumption without harming business and without reducing safety or comfort. This is achieved via a global overview, in real time, of the electrical parameters of the entire installation.

Whatever the operating sector - utility, industry, services, **ENERDIS** products and services are present at every level to optimise productivity, flexibility and costs.

industrial applications

At the heart of



Whatever your scope of application, processing industry, infrastructure, services production or research, NETWORK MONITORING, INSTALLATION SIZING, ENERGY MANAGEMENT and electrical NETWORK QUALITY are all of concern to you.

Network monitoring

ENERIUM offers:

- Display and recording of electrical parameters in instantaneous, minimum, maximum, average, average minimum and average maximum values.
- 8 main alarms, each one associated with an "and" or "or" function.
- Recording of the last 64 events to be informed if normal operating values of the installation have been exceeded.

To be accurately informed as early as possible of drifts in the installation means being able to anticipate and solve problems in order to avoid operating losses that are often very costly for companies.

Installation sizing

ENERIUM offers:

- 4 trend curves to be selected among the parameters measured or calculated by the product (examples, the 3 line voltages and frequency every 10 minutes; the phase to phase voltage and the voltage between earth and neutral every second).
- Measurement and recording of cos φ and of power factor per phase (average, instantaneous, in the 4 quadrants).

Accurately determining the transformer's load makes it possible to optimise its operation. Using the two fundamental values of cos φ and PF makes it possible to estimate the distorting power caused by harmonics that contribute to an increase in the apparent power of the installation, and maximum heating of cables that provokes their premature ageing.

Energy management

ENERIUM offers:

- 8 load curves to be selected from 12 to monitor power consumed or produced.
- 0.5S accuracy class, in compliance with IEC 62053-22 standard.

All energy consumers are subject to a maximum demand. If this is exceeded, the utility applies penalties. In addition, current regulations concerning reduction of power consumption lead industrials to better control their consumption.

Quality of electrical networks

ENERIUM offers:

- Measurement of harmonics, by phase and by order with:
  - phase-to-ground voltage,
  - phase to phase voltage,
  - current up to 50th.
- Measurement of the THD-U, THD-V and THD-I.
- Measurement of crest factors.
- Measurement of unbalance.

Multi-fluid power assessment

ENERIUM also offers:

- Up to 8 inputs/outputs that are totally configurable for measuring natural gas, water and thermal energy.
- Automatic recovery of total consumption index.
- Load curve for each fluid measured.

Range

ENERIUM

ENERIUM includes the following languages : English, French, German, Italian and Spanish.

- ***Easy navigation*** *with menus*
- *Comprehensive information*

- ***Exhaustive energy measurement***

- ***Complete, direct visualisation*** *for each index*
- ***0.5S accuracy class*** *in compliance with IEC 62053-22 standard*

- ***Intuitive navigation*** *with icons using directional keys*
- ***A large backlit LCD screen*** *for optimum legibility*
- ***Well designed ergonomics*** *to provide* ***direct access to information***
- *3 user definable screens*

- *Accurate measurements to the nearest tenth*
- ***Measurement of voltage between neutral and earth***

- *Measurement of inductive and capacitive energy*
- *Visualisation of* ***receiver*** *or* ***generator*** *mode*
- *Indication of erroneous connections (reversal of U and I cabling or phase rotation direction)*

- ***Harmonics*** *measurement, order by order* ***up to 50th*** *(25th for ENERIUM 100/110)*
- *Indication of the highest harmonic order for each phase*

Main features

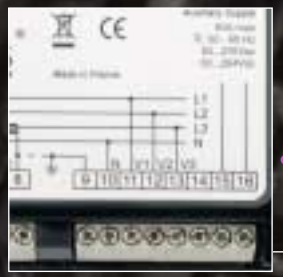
ENERIUM, 144 x 144 mm panel cut-out, is the first range on the market to provide effective solutions for both MONITORING and SIZING of electrical installations and ENERGY MANAGEMENT. ENERIUM meets the control, metering and analysis requirements of an entire installation and provides users the means to achieve optimum installation management.

- *An optical head with* ***3 functions:***
  - ***communication*** *local (visualisation, setting, downloading)*
  - *metrological LED for* ***testing*** *the instrument*
  - *updating and* ***upgradeability*** *of the product*
- *Also available with the ENERIUM 110/210 non-display versions*

- ***Ethernet output****, ModBus TCP protocole, RS485 output, ModBus/Jbus protocole*

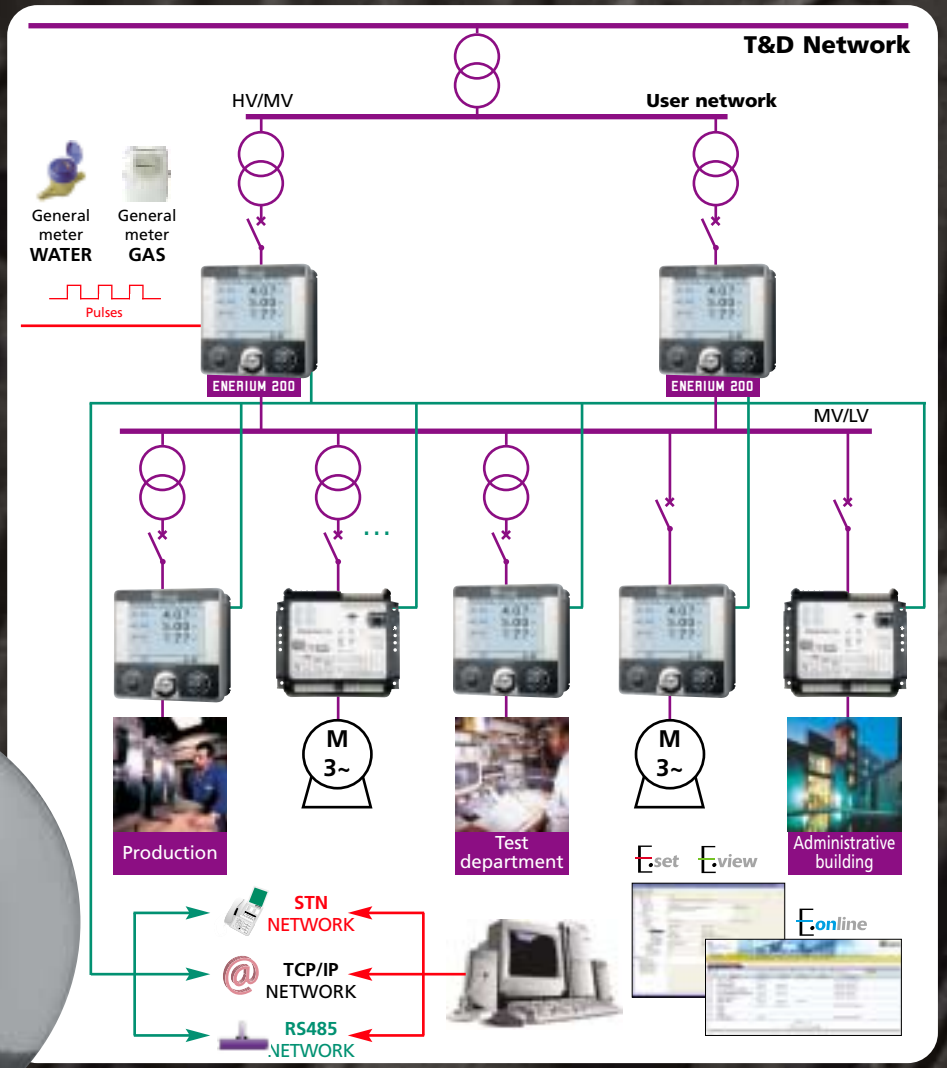
- *ENERIUM 110 and ENERIUM 210 non-display version available for* ***DIN rail*** *or* ***plate mounting*** *in cabinet*

- ***8 configurable inputs*** *or* ***outputs*** *available (by multiples of 0, 2 or 4)*
- *Pulse (meter), digital, and external synchronisation inputs*
- *Pulse, analog, digital, and alarm outputs*



- ***Measurement of voltage between earth and neutral***

A made-to-measure...



ENERGY:
measures the 4 quadrants in 0.5S class according to IEC 62053-22 standard

8 LOAD CURVES
to be selected from 12

4 TREND CURVES
to be selected from the parameters measured or elaborated by the product

HARMONICS DISPLAY
by order and by phase up to 50th (25th for ENERIUM 100/110)

ELECTRICAL PARAMETERS DISPLAY
in instantaneous minimum, average, maximum, average minimum and average maximum values

UP TO 8 INPUTS/OUTPUTS
(digital, pulse, analog, alarm, metering)

UP TO 8 CONFIGURABLE ALARMS
each with 2 conditions "and" or "or"

EVENT RECORDING
with date, time, duration and the highest value of event

COMMUNICATION AND SETTING USING OPTICAL HEAD,
Ethernet or RS485 output

FIRMEWARE UPGRADING
with new features via an optical head

400 Hz NETWORK MEASUREMENT (optional)

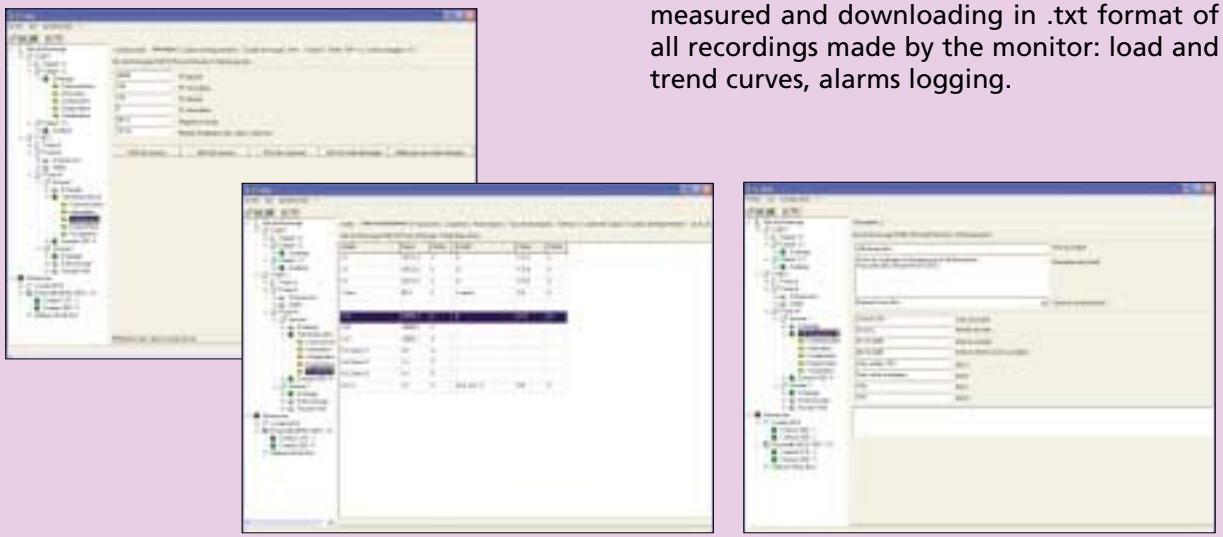
...Solution

ENERIUM is above all a comprehensive solution with associated software

E.set

Configuration software

E.set ensures local or remote configuration of the power meters and diagnoses the installation.



E.view

Data transfer and visualisation software

E.view provides the possibility of remote consultation of the main parameters measured and downloading in .txt format of all recordings made by the monitor: load and trend curves, alarms logging.

E.online

Operating system

E.online* is the powerful tool for network supervision and energy management.. It remotely processes and analyses all electrical data for an installation via the products it is associated with (power monitors, meters).

It provides multi-site and multi-user management by means of a user friendly web browser.

** Available mid-2006*

A VERITABLE ON-SITE MEASUREMENT SERVICE

ENERDIS, team of experts capable of making any on-site measurements necessary for the sizing, maintenance and safety of your electrical networks.

906 211 132 - Ed. 1 - 03/2006 - Characteristics subject to modifications according to technological developments. Athana

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