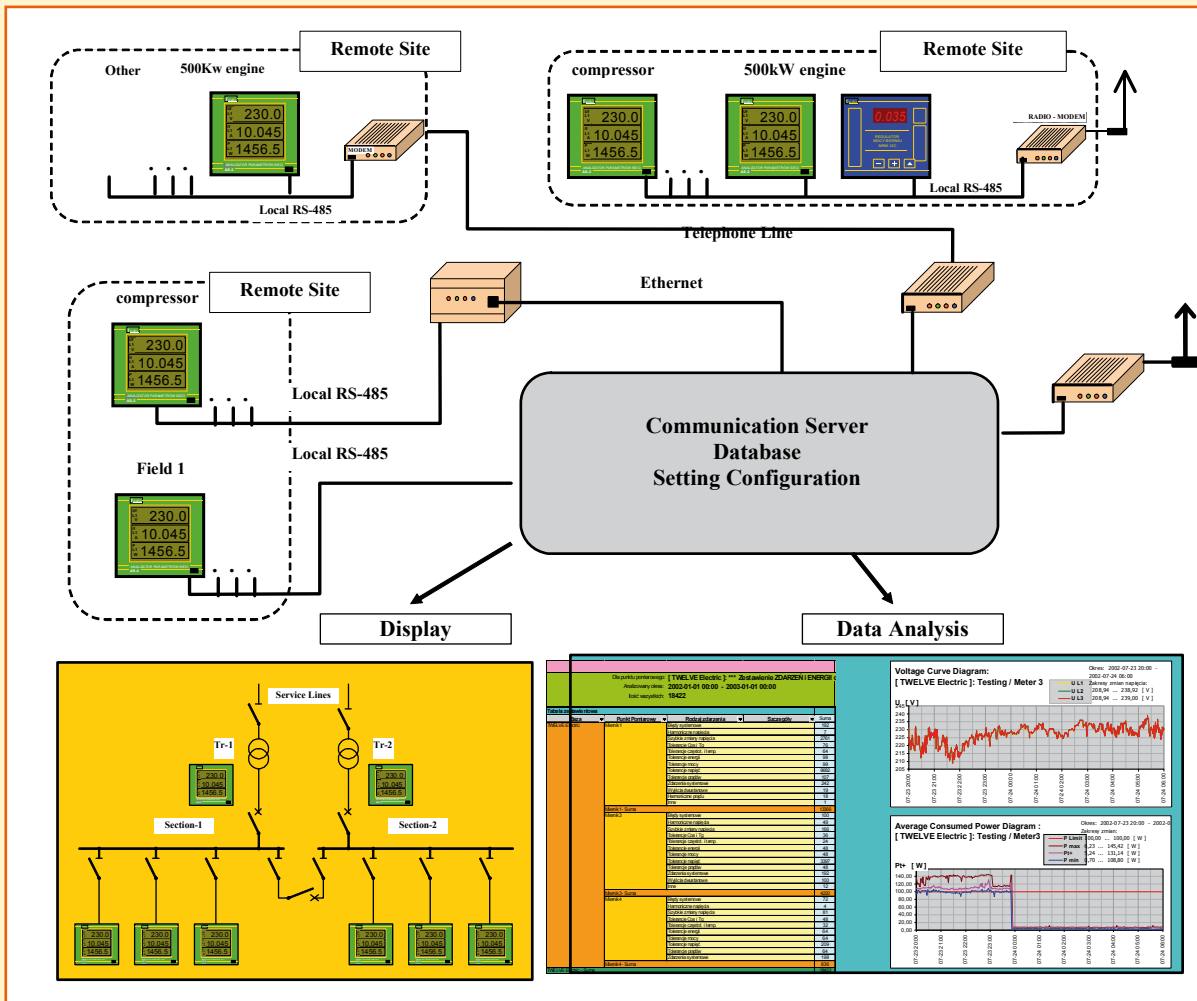


# AS-Multi system

MEASUREMENTS, IDENTIFICATION, COMMUNICATION, VISUALISATION, REPORTING



## APPLICATIONS

The AS-Multi 2002 system of parameters and interferences monitoring is a complete solution designed for both "small" power consumers and large industrial factories. It can be configured to work locally in a single distribution board or, if combined with an appropriate data transfer system, to handle multiple, dispersed objects (e.g. countrywide). Thanks to standard data exchange protocols the AS-Multi 2002 can make a part of more complex systems monitoring all of the supplies (electricity, gas, water).

## DESCRIPTION

The main characteristic of the system is that it passes the measuring and identification of parameters and phenomena onto AS-3 and AS-3 plus analysers. Use of their large memory gives the independence of measuring and identification from the supervising software. The software receives ready-processed information from individual analysers. The system includes:

**The AS-3 family of analysers** - parameters analysers and registers

**AS-Koncentrator** - communication program for remote control of analysers and for archiving the information they gather

**AS-Wizualizacja** - graphic data presentation environment producing analogue and digital graphs

**AS-Raport** - Excel tools for automatic preparation of reports from selected periods consisting of graphs and tables with measured parameters and oscillograms of disturbances

# FUNCTIONALITY DESCRIPTION

## The AS-3 family of analysers:

- measurement of TrueRMS voltages and currents, four-quadrantal power analysis
- measurement and analysis of rapid voltage alterations to 10ms (1/2 network cycle)
- measurement of harmonics in voltages and currents, THDU, THDI, K-factor
- registration of threshold overrides and normal state resumptions for each parameter
- four-quadrantal registration of loads and the range of rapid alterations of energy extraction
- registration of average voltages and currents, and fluctuations
- oscillographic recording of 'U' and 'I' waves, with frequency of 1.6/6.4Hz, triggered by events
- UPS up to 2h, insulated 'I' inputs, the Central Office of Measures' Type Approval
- control of equipment operating conditions

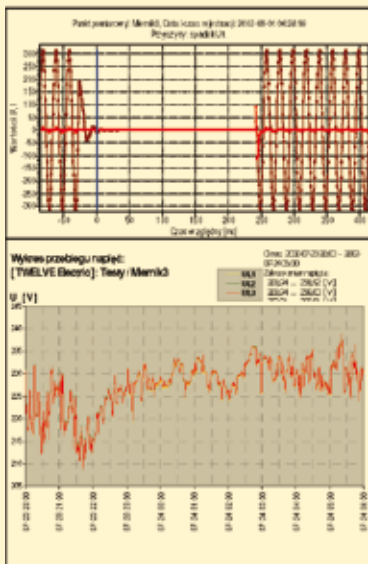
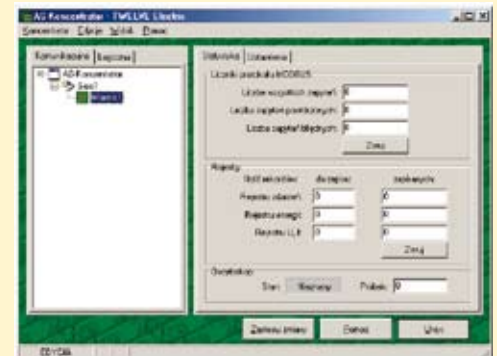


## AS-Koncentrator – communication program:

- provision and control of communication with analysers
- management of the system's structural configuration
- automatic archiving of registers contents
- maintenance monitoring of running parameters
- remote controlling and setting
- registers' time synchronisation
- distribution of running parameters readings to other applications (DDE server)
- firmware monitoring and updates
- statistics
- efficiency

## AS-Wizualizacja - software for graphic presentation of data:

- multi-testpoint presentation of running parameters
- intuitive analog and digital graphics form
- running parameters alterations history graphs
- events history (overrides, alarms, system events)
- utilisation of raster and vector graphics elements
- digital signals recognition (displaying, control)
- DDE client
- overrides and hazards alarms



## AS-Raport – quality analysis:

- statistics statements
- tables with parameters values
- time graphs
- oscillograms of disturbances including the time of an event
- analysis of loads and energy consumption within tariff slots
- statistical analysis of parameters alterations: interruptions, shut-downs, decays, short circuits, etc.
- graphs pre-sorted for quick statistical analysis of disturbances
- automatic data processing for selected objects in a predefined range

option	AS-3 plus	AS-Koncentrator	AS-Raporty	AS-Wizualizacja
minimal	1	1	1	-
single-testpoint	1-(n)	1	1	1
multi-testpoint	1-(n)	1	1-(n)	1-(n)
maximal	1-(n)	1-(n)	1-(n)	1-(n)

n - indicates the number of testpoints necessary for measuring

## TECHNICAL REQUIREMENTS:

<b>environment:</b>	Windows NT / 2000 / XP Microsoft Office 2003
<b>database:</b>	Professional MS Access/Firebird
<b>communication:</b>	RS-232 / 485 / Ethernet / modem / GSM
<b>protocols:</b>	MODBUS / TCP/IP
<b>data exchange:</b>	TCP/IP/DDE

## Twelve Electric Sp. z o.o.

04-987 Warszawa ul. Wał Miedzeszyński 162

tel. (22) 872 20 20; fax. (22) 612 79 49

skype: t12e\_1, t12e\_2, t12e\_3

e-mail: twelvee@twelvee.com.pl

www.twelvee.com.pl