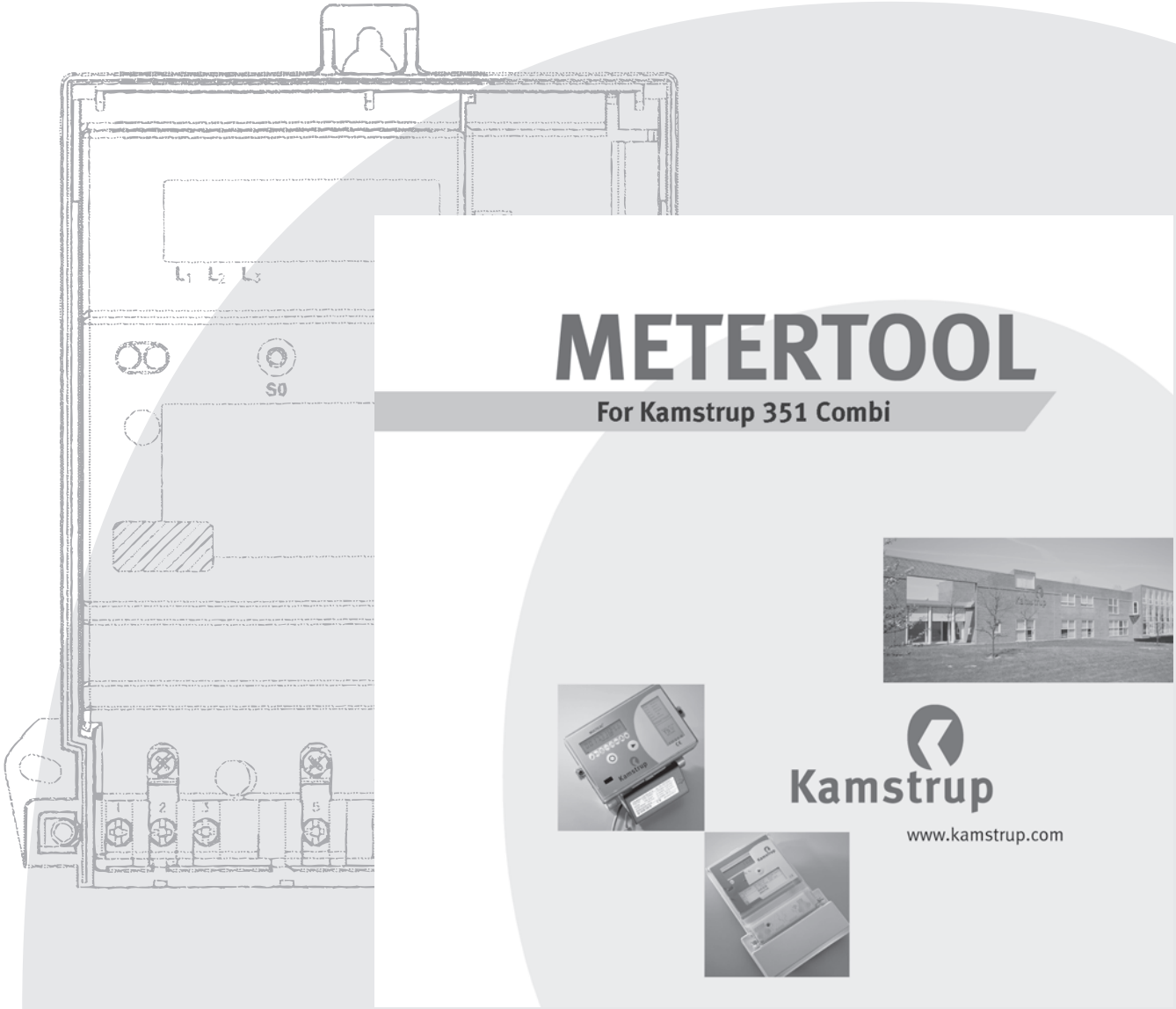
METERTOOL for Kamstrup 351 Combi

Manual



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Contents

5512-075 GB/06.2004/Rev. A2

Introduction

METERTOOL for Kamstrup 351 Combi is windows software to be installed on a PC which is used to configure and read out electricity meters type Kamstrup 351 Combi. METERTOOL has been developed to offer utilities and laboratories simple and effective access to the meter.

Equipment

METERTOOL is suitable for and operates with Windows 98/NT/2000/XP on Pentium based PCs with at least 16 MB RAM, 20 MB hard disk and VGA monitor, min. 800 x 600 recommended.

In order to be able to install the program, the PC must have min. a 640 MB CD-drive.

To facilitate programming of Kamstrup 351 Combi, serial data connection (COM-port) between the electricity meter and the PC is used. An optical head type 66-99-102 can be used.

The optical head is placed between the 2 pins on the front. The optical head cable must always point downward ±20°.

The optical head must NOT be used or stored near diskettes or computers as the magnet can damage data. Always cover the magnet with the protection plate when not in use.

5512-075 GB/06.2004/Rev. A2

Installation

Insert the CD into your CD-ROM drive and wait, the program will start automatically.

Now select one of the following options:

- Install product
- View PDF manual
- View our web site
- Contact usInstall product

Install product
The program will install METERTOOL for Kamstrup 351 Combi on your PC, simply follow the instructions.

View PDF manual
Starts the manual

View our web site
If you have internet access you will be transferred to the official Kamstrup web address.

Contact us
If you have questions regarding the product, use this option to contact us.

5512-075 GB/06.2004/Rev. A2

Starting the program for the first time

From the menu Start select;
Programs-› Kamstrup METERTOOL -› METERTOOL for Kamstrup 351 Combi.

The main menu appears.

Click on the drop-down menu “Options” and select the COM port to which your optical head is connected as well as font and company.

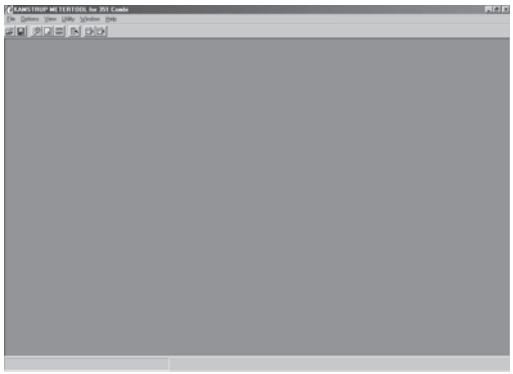
You are now ready to read and program Kamstrup 351 Combi meter.

5512-075 GB/06.2004/Rev. A2

Main window

The main window offers several possibilities and much information. The drop-down menus and window options are described later.

The main window also includes some frequently used short-cuts: *Load standard, Save standard, Configuration window, Data window, Display configuration window, Write to database, Read meter* and *Program meter*.



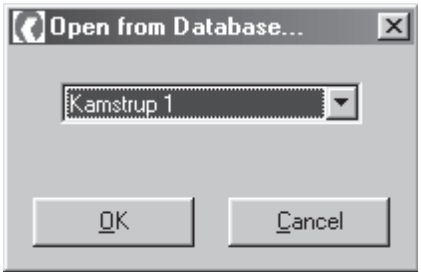
Load standard

The button “Load standard” is used for loading a frequently used configuration.

NOTE:
It is possible to configure a meter without first typing in the meter number.

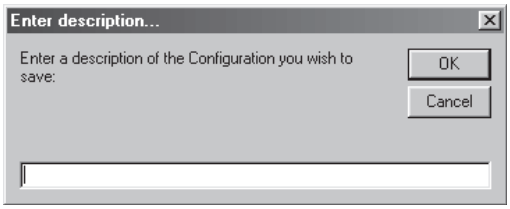
Save standard

The button “Save standard” is usen for saving a frequently used configuration under a recognizable name.

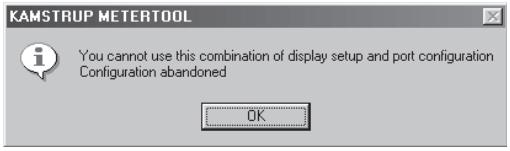


Configuration window

The “Configuration window” comprises the current configuration status of a meter and permits changes in configuration within the limitations set by Kamstrup A/S.

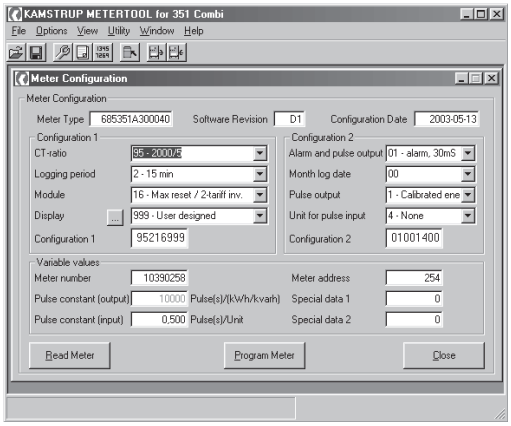


The “Configuration window” has three short-cuts: *Read meter, Program Meter* and *Close*.



Read meter
The command “Read meter” activates a reading of the meter in question.

Program meter
The command “Program meter” programs the meter with the selected configuration. If an invalid configuration is selected, an error message will occur when programming.



Close
The command “Close” simply closes the Configuration window.

5512-075 GB/06.2004/Rev. A2

The configuration information is divided into general meter information, configuration 1, configuration 2 and variable values.

General meter information is: *Meter number, Meter software revision* and *Date of the actual meter reading*.

Configuration 1 + 2 describe the actual meter configuration by an 8 digit code and can be changed within the preset values.

For further description please see the *data sheet on Kamstrup 351 Combi*.

Configuration 1
Configuration 1 includes set-up of:

- Current transformer ratio
- Logging period
- Module I/O
- Display, here is a short-cut to the "Display configuration window"

Configuration 2
Configuration 2 includes set-up of:

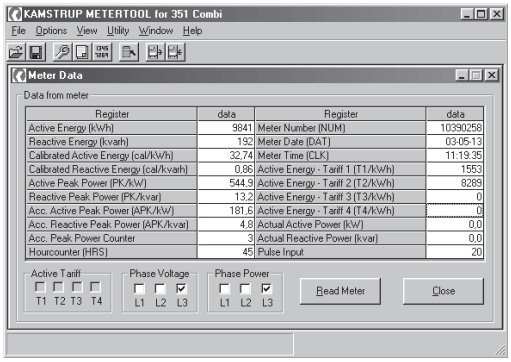
- Alarm and pulse output
- Monthly log date
- Pulse output
- Unit for pulse input

Variable values
Values to be entered are:

- Meter number
- Pulse constant output
- Pulse constant input
- Meter address
- Special data 1
- Special data 2

Data window

The "Data window" comprises the meter status including meter data.



The following data is presented:

- Active Energy [kWh]
- Reactive Energy [kvarh]
- Calibrated Active Energy [cal/kWh]
- Calibrated Reactive Energy [cal/kvarh]
- Active Peak Power [PK/kW]
- Reactive Peak Power [PK/kvar]
- Accumulated Active Peak Power [APK/kW]
- Accumulated Reactive Peak Power [APK/kvar]
- Accumulated Peak Power Counter
  Hour Counter [HRS]
- Meter Number [NUM]
- Meter Date [DAT]
- Meter Time [CLK]
- Active Energy - Tariff 1 [T1/kWh]
- Active Energy - Tariff 2 [T2/kWh]
- Active Energy - Tariff 3 [T3/kWh]
- Active Energy - Tariff 4 [T4/kWh]
- Actual Active Power [kW]
- Actual Reactive Power [kvar]

Apart from the register values this window indicates some status information:

Active tariff (if tariff is active), connected phases and phase power.

Besides the readings the short-cuts "Read Meter" and "Close" are available in this window.

Display configuration window

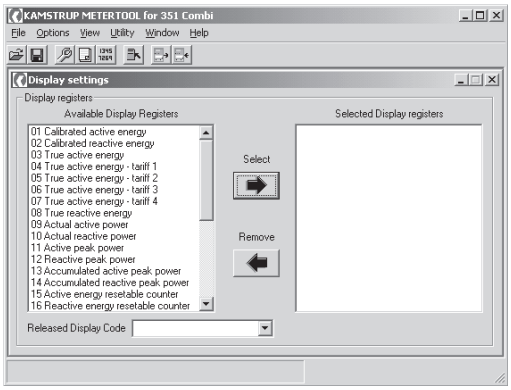
Preprogrammed display configurations can be selected from the display configuration window.

Select the desired display code in the field “Released Display Code”.

Besides the preprogrammed codes a free combination of display registers can be selected using the arrows: *Select* and *Remove*. Simply select the display registers in the order they need to be presented on the meter.

NOTE:
Selecting an optional display configuration, the program returns the display code 999. The code 999 CANNOT be supplied by Kamstrup.

NOTE:
Optional display configurations must always include the display registers “Calibrated active energy” for active meters and “Calibrated active energy” as well as “Calibrated reactive energy” for active/reactive meters.



Write to database

The command “Write To Database” copies the Data window information to the database.

Read meter - Main window

See page 6

Program meter - Main window

See Page 6

5512-075 GB/06.2004/Rev. A2

File

Load standard - Main window

See page 6

Save standard - Main window

See page 6

Print

Under the print option different print types can be selected. To print select company name and font, see *Print set-up page 10*.

Print Meter Data
"Print Meter Data" prints out the meter status.

The information presented is:

- Date of print
- Meter number
- Meter date
- Meter time
- Active Energy
- Reactive energy
- Secondary Active Energy
- Secondary Reactive Energy
- Active Peak Power
- Reactive Peak Power
- Accumulated Active Peak Power
- Accumulated Reactive Peak Power
- Accumulated Peak Power Counter
- Hour Counter
- Active Energy - Tariff 1
- Active Energy - Tariff 2
- Active Energy - Tariff 3
- Active Energy - Tariff 4
- Actual Active Power
- Actual Reactive Power
- Pulse Input

Status indications
- Active Tariff
- Phase Voltage
- Phase Power

Print Configuration Data
"Print Configuration" Data prints out the actual meter configuration.

The information presented is:

- Date of print
- Meter Number
- Meter Type
- Software Revision
- Configuration Date
- CT-ratio
- Load Profile period
- Module I/O
- Display
- Configuration 1
- Alarm and pulse output
- Monthly Log Date
- Pulse Output
- Pulse Input unit
- Configuration 2
- Meter Address
- Special Data 1
- Special Data 2
- Pulse Constant (Input)
- Pulse Constant (Output)

Print All Data
"Print All Data" combines the print-outs "Meter Data" and "Configuration Data".

Exit

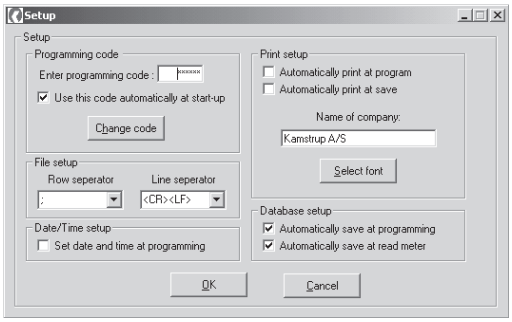
Select "Exit" to exit the program. All not saved data will be lost.

5512-075 GB/06.2004/Rev. A2

Options

Set-up

This window includes the basic program set-up, i.e. *Programming code, File set-up, Date/time set-up, Print set-up* and *Database set-up*.



Programming code
The programming code is the code the program uses to access the meter. The Kamstrup default code is: 123456. To change the code left click in the code window, delete the existing code and type in a new one in the range 0 to 999999.

Only numeric characters will be accepted.

To use this code when starting up, tick off "Use this code automatically at start-up".

To change the code in the meter left click on the button "Change code" or type *‹Alt›+H*.

It is now possible to enter a new code in the meter.

NOTE:
If the meter is programmed with a new code, the old one cannot be restored or read if forgotten, unless you return the meter to Kamstrup A/S.

File set-up
The meter data can be exported to other applications for further use with different set-ups.

Stored data will be saved in a separated table. The *Column* and *Row* separator options appear from the roll down menu, select and press *OK*.

‹CR›
‹LF›
‹CR›‹LF›
‹LF›‹CR›
,
,‹SPC›
;
;‹SPC›
#
#‹SPC›
-
-‹SPC›
_
_‹SPC›
‹SPC›
‹TAB›
‹SPC›‹TAB›

Date/Time set-up
By ticking of "Set date and time at programming" the meter time will be synchronized with that of the connected PC.

Print set-up
Tick off "Automatically print at program" for automatically printing configuration and register values when programming a meter.

Tick off "Automatically print at save" for automatically printing configuration and register values when reading a meter.

"Name of company" makes it possible to add your company name to the printout.

Click on the button "Select font" or type *‹Alt›+S* to alter the printout font.

Size of font only concerns company name.

To accept changes made press *OK*.

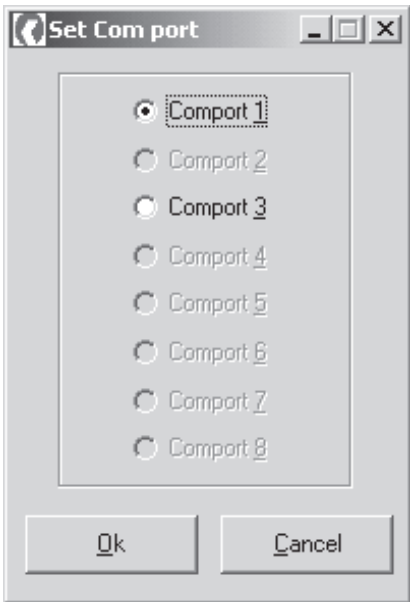
To discard changes press *Cancel*

Database set-up
Tick off "Automatically save at programming" for automatically saving configuration and register values to the database when programming a meter.

Tick off "Automatically save at read meter" for automatically saving configuration and register values in the database when reading a meter.

Com Port

Depending on your PC-set-up, please select the Com port, to which the communication cable is to be connected, by simply left clicking on the number.



5512-075 GB/06.2004/Rev. A2

View

The Drop-down menu opens the configuration window, data window or display configuration window.

Meter Configuration

Meter Configuration, see page 6

Meter Data

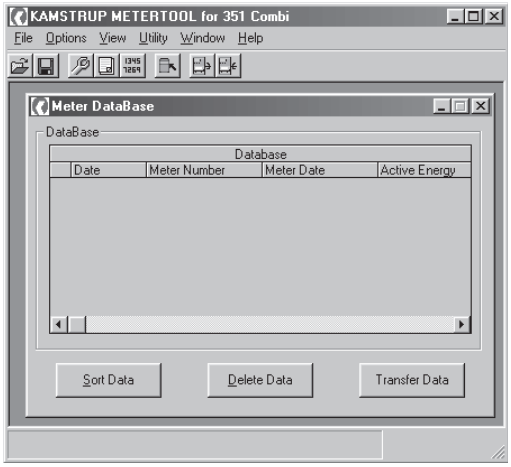
Meter Data, see page 7

Display Settings

Display Settings, see page 8

Meter Database

The “Meter DataBase” comprises data of meters read or programmed, see *Database set-up page 11*.



The window includes the following data:

- Date:
  The date the meter was read
- Meter Number
- Meter Date
- Active Energy
- Reactive Energy
- Calibrated Active Energy
- Calibrated Reactive Energy
- Active Peak Power
- Reactive Peak Power
- Accumulated Active Peak Power
- Accumulated Reactive Peak Power
- Accumulated Peak Power
- Hour Counter
- Active Energy Tariff 1
- Active Energy Tariff 2
- Active Energy Tariff 3
- Active Energy Tariff 4
- Actual Active Power
- Actual Reactive Power
- Pulse Input
- Configuration 1
- Configuration 2
- Type Number
- SPC 1
- SPC 2
- Meter Address
- Pulse Input Constant
- Pulse Output Constant
- SW Revision
- Configuration Date

The meter DataBase window includes the additional options,

- Sort Data
- Delete Data
- Transfer Data

Sort Data
It is possible to sort the data of the database. Simply left click on the headline of a column and press the button Sort. All data is then sorted in increasing order.

Delete Data
Delete makes it possible to delete a row of data from a meter or from the database.

Transfer Data
Data from the database can be transferred to the “Data window” for programming a meter or for print out.

5512-075 GB/06.2004/Rev. A2

Utility

The “Utility” menu opens different possibilities of reading, programming, reading historical values, loading profiles' setting time and switching between normal and test mode.

Read Meter

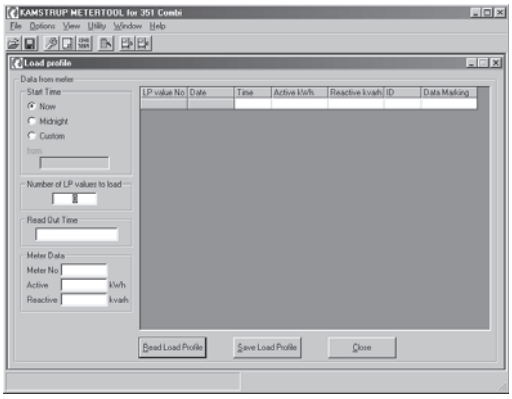
To read the meter, see page 6

Program Meter

To program meter, see page 6

Load Profile

The window “Load profile” is a tool offering read out of selected data sets from the meter.



To read out a load profile first select start time, then the number of value sets and left click on “Read Load Profile”. From the “Start Time” the load profile values back in time will be read.

Tick off *Now* if values from now and backwards are needed.

To start from the latest meter time 00.00.00 tick off midnight, and to select a custom time tick off *Custom*.

In the field *From*: hold the mouse cursor in the field for 2 sec. to see the date and time format.

The box read out time is the time the rading was performed, according to the time in the meter.

Along with the load profile values also the following actual meter counts are read:

- Meter number
- Active primary energy
- Reactive primary energy

The load profile data set includes:

- Load profile value no.
- Date
- Time
- Active energy
- Reactive energy
- ID:
  ID is the number of the log value in series of 15.
- Data marking:
  Markings for time adjustment, time setting etc.

Read Load Profile
The command button “Read Load Profile” reads the wanted meter profile.

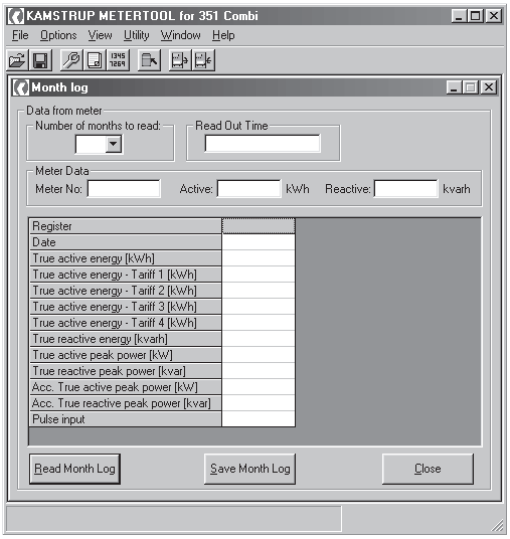
Save Load Profile
“Save Load Profile” saves the actual data in a CSV file.

Close
“Close” simply closes this window.

5512-075 GB/06.2004/Rev.A2

Month Log

The meter saves monthly data, which can be read and processed, for 36 months.



Along with the *Month Log, Read Out Time, Meter Number, Active Energy* and *Reactive Energy* is displayed.

Read Month Log
To read a meter select the number of months to be read and left click on the button “Read Month Log”.

Save Month Log
To save the “Month log”, left click on the button “Save Month Log”.

Close
To exit the program left click on the button “Close”.

IEC1107 Request

A IEC 1107 read-out is made by left clicking on the button “Send IEC Request”.

To save IEC data left click on the button “Save IEC Request”.

Verification Mode
For test purposes it is possible to enter a test mode where the active and reactive energy registers are displayed with 4 decimals. Switch between active and reactive energy by pressing the pushbutton on the meter. In verification mode the LED indicates the same as the display.

The meter automatically switches to normal mode after 16 hours.

Normal Mode
To switch back from verification mode, simply select “Normal mode”.

Set Clock
Meter time and date can be set either via the connected computer or by entering a custom time and date. To see the time and date format hold the mouse cursor over the field.

To set the clock press *Write*.

To exit this window press *Close*.

5512-075 GB/06.2004/Rev. A2

Window

The window menu can be used to change between the active windows as well as for setting up how the window is displayed.

5512-075 GB/06.2004/Rev. A2

Help

In order to obtain information about the program or the PC system select *About* from the drop-down menu “Help”.

This window provides information about *Type number*, *Program no. + revision* and *Config Database no. + revision*.

Please contact the electricity product department of Kamstrup if you experience any problems with this program.

5512-075 GB/06.2004/Rev. A2