



DOKOM CS Manual V3.0

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Contents

INTRODUCTION.....	3
DOKOM CS	3
About this manual.....	4
SYSTEM REQUIREMENTS.....	5
SUPPORTED READOUT TYPES	6
PROGRAM STRUCTURE.....	8
3 PROGRAM PARTS.....	8
STEPS FOR INSTALLING THE DOKOM CS SOFTWARE.....	9
DOKOM CS CONFIGURATION.....	11
STRUCTURAL LAYOUT OF THE DOKOM CS	14
WORKING WITH DIFFERENT DRIVERS OF THE DOKOM CS	16
WORKING WITH THE MAP	23
WORKING WITH THE DATABASE	26
WORKING WITH DIFFERENT DRIVERS.....	29
DOKOM CS READING	35
FUNCTIONS OF THE PROGRAM PART READING	35
THE SCHEDULER.....	37
THE WINDOW OF READOUTS.....	39
CHANGES OF THE READOUT TASKS.....	41
THE GRAPHIC FUNCTION	42
EXPORT OF DATAS AND GRAPHICS.....	44
TECHNICAL HELP.....	52
INDEX	53

Introduction

Dokom CS

Software for a stationary read out

DOKOM CS is a software solution that enables the readout of devices with an M-Bus interface. These devices are primarily consumption meters, e.g. water meters, calorimeters or electricity meters, which are available through an M-Bus protocol. The software can be used for the readout of individual M-Bus devices and due to its modular structure is also adaptable for M-Bus-installations with hundreds of M-Bus devices.

Meter readout with help of the scheduler

The program allows the user to automatically read data from the meters manually or with the help of a scheduler. Different types of readouts are available to the user, the aim being an automatic readout and the eventual export of the data in 14 different formats.

About this manual

This manual is arranged as follows:

1. General description of the system's components
2. Description of the program part configuration
3. Description of the program part reading
4. MRAPI - Manager

System Requirements

PC

To use the DOKOM CS software the following pc requirements are necessary

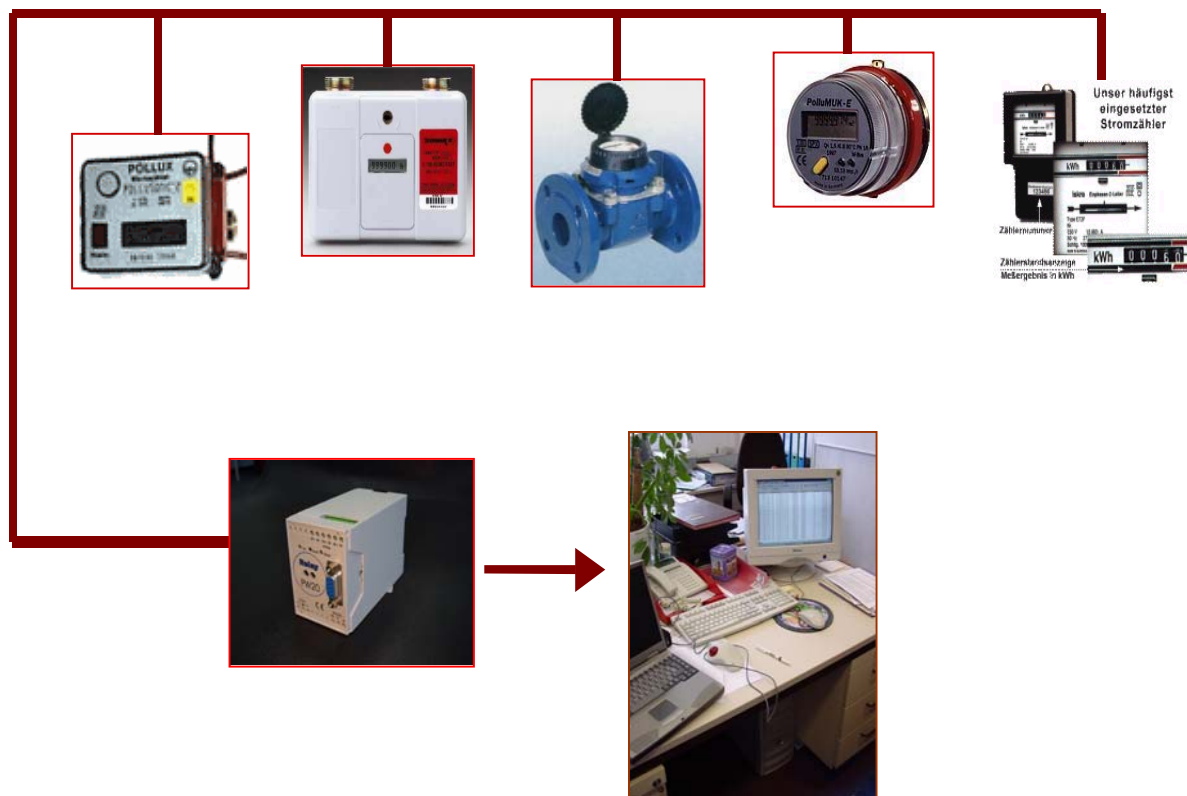
- Min. Pentium III System
- Microsoft Windows NT 4.0 (SP3), Windows XP, 2000 und NT.
- Regarding the systems NT, 2000 und XP you have to have administration rights
- Serial or PS/2 mouse
- Internet Explorer 4.01 oder higher
- Graphic adapter with 800 x 600 pixels and 256 colors
- 128 MByte RAM (typical 256 Mbyte) memory
- Harddisk with min. 30 MB free of space
- A parallel or usb interface for the dongle plug
- Min. 1 serial interface or 1 usb port (please use an usb to serial adapter)

Make sure that no application has access to the COM Port during DOKOM CS. Check for possible running applications in the background!

Supported readout types

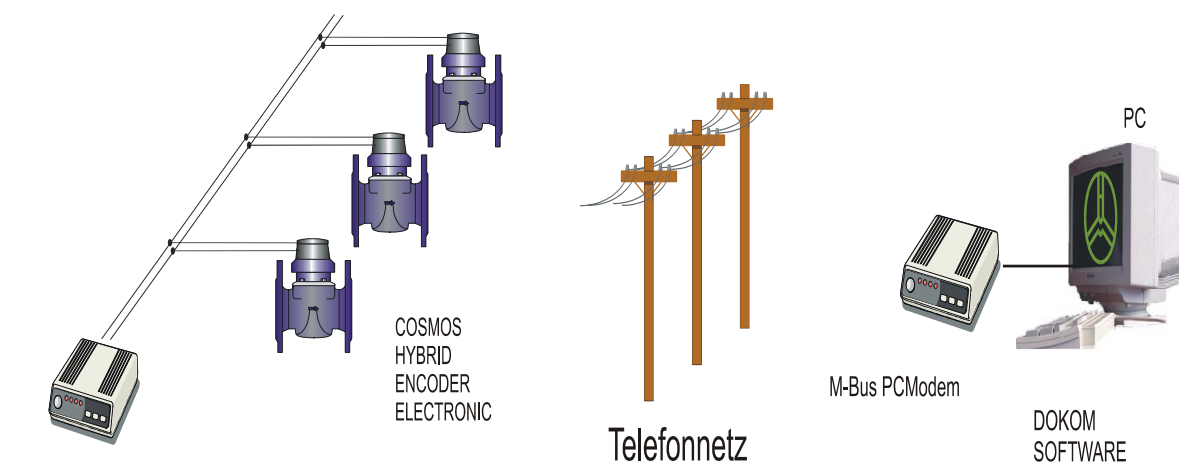
Central stationary readout

The datas of meters can be readout via different kinds. DOKOM CS supports the readout with help of a level converter. With this you can readout m-bus devices til more than many kilometres. As a wire you should take two shilded wires. Only one site of the installation has to be connected with the shild. The polarity of the wires is not important. Please use a wire with the recommened specification J-Y (st) Y 2 x 2 x 0,8mm.



Decentral stationary readout

If it's not possible to install a pc in the near of the level converter, it can also be used a special m-bus modem for the data transfer. For this a pstn plug is needed. M-bus datas can also be transferred with help of the gsm net. For this you have to be sure that you have a good gsm level in the near of your level converter or m – bus datalogger.



Program structure

3 program parts

DOKOM CS CONFIGURATION



The DOKOM CS configuration helps with the setup of the meter as well as with the entry of the necessary parameters of the communication group to prepare the readings. For test purposes it is possible already in this module to read from a communication group in the M-Bus unit. However, these readout data will not be saved. Later on in the configuration part, all the parameters can be adjusted, and then in the program part, with the required meter readings, a successful reading will be achieved.

DOKOM CS READING



The DOKOM CS reading is used for the installation of the readout task as well as for the automatic readout of the meter and the display of the data as an online graph. In addition can the readout data in this module be exported and later on processed. In this part of the program you can have a look at the different tables of the task where the current, as well as the historical, data of the readout can be found.

MRAPI MANAGER



The MRAPI Manager is used for the management of the different drivers. Depending on which driver is selected, the data can be read out spontaneously, per cable, telephone or radio. It is not possible to save or interpret the measurement results. After a readout the user can simply print or export the readout results. The MRAPI Manager is used to call up a specific driver and a related spontaneous readout.

Steps for installing the DOKOM CS Software

1. Switch on your pc
2. Put in the program cd in the cd drive
3. Execute the file CS3XXXINVWE.exe
4. Follow the instruction of the installation procedure
5. Now please plug in the dongle in the parallel or usb port

Generating a new program group

After the successful installation, the Setup Program will open a new program group with the name “DOKOM Collecting Station 3”. Now both, the DOKOM CS as well as the Driver Manager (MRAPI), are loaded.

Installation an update

To install an update it's necessary to remove the “old” version, unless you want to update from a 2.x.x.x version to a 3.x.x.x version, then you must keep the 2.x.x.x on your computer. If you have a 3.x.x.x version that is older than the 3.0.0.8, then you must do the following: go to **Start → Settings → System Control → Software**. Now you can select the DOKOM CS32 entry to start to remove. Now follow the steps described above.

Removing DOKOM CS

From the Window's main menu select **Start → Settings → System Control → Software → Add/Remove**. Before removing from the list mark the corresponding program group (Dokom CS) and then select **Remove**

Data protection. Data backup before a new installation

When installing an update from a 2.x.x.x version to a 3.x.x.x version, a data backup of the 2.x.x.x must be carried out to be able to continue to work with the data in the 3.x.x.x version. The 2.x.x.x version should **not** be removed from the computer!

DOKOM CS configuration

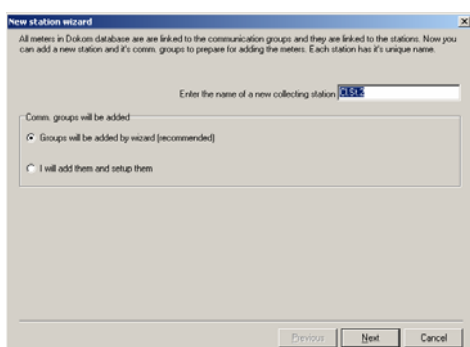
First steps for the configuration of the DOKOM CS

First call of the dokom cs configuration



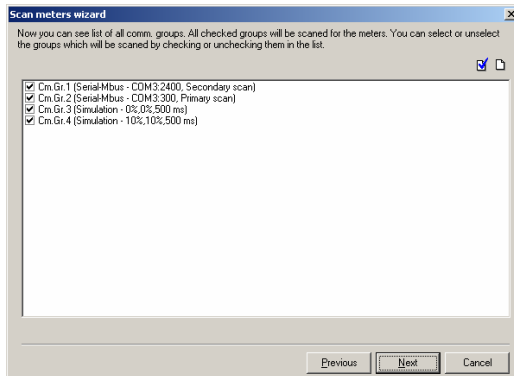
Instead of a red line, the red spots will show the necessary steps for setup. ●

Click on the **DOKOM CS CONFIGURATION** symbol on the Desktop to call up the configuration part of the DOKOM CS. After calling for the first time the DOKOM CS configuration, the name of a collecting station will be asked. After the creation of the collecting station a database is created in conjunction with it. Enter the name of the collecting station as shown on the screen.

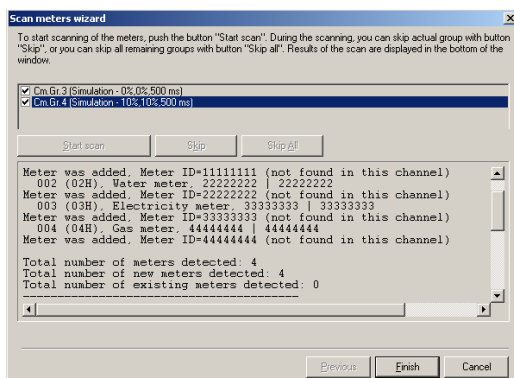


The name should have a maximum of 8 characters. The name will be found again at the bottom of the program window after the configuration or the meter readout has been called up. Now the type of the meter added can be selected. The function suggested should be taken, so that afterwards, if the configuration needed is available, it can be chosen directly to begin the scan for the meter.

Communication group selection for meter scan

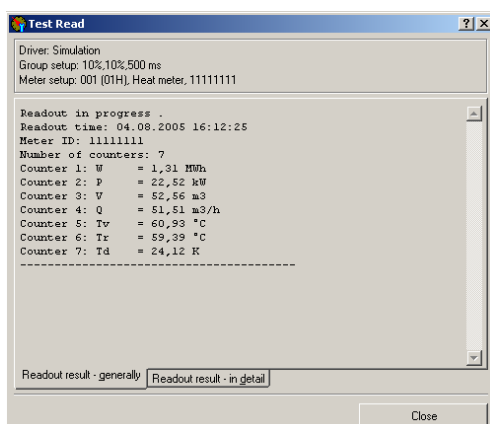


Choose now the right communication group from the system's desired configuration, so that the meter scan can begin. The DOKOM CS will show now a list of communication groups. One will rewrite the way of the readout of the meter (e.g. via modem, serial connection etc.). If the corresponding communication group is not listed, then close the window, and enter manually in the window Communication group, the new one with its specific data. Afterwards you can call up the **Wizard for the meter scan** and begin the scan.



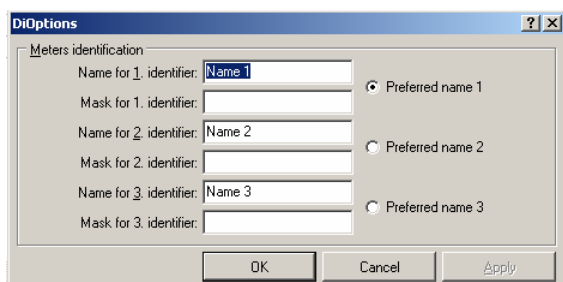
After choosing the right communication group, the window on the left appears. Press **Continue** and then **Start**. The scan for the meter will now begin with the help of the communication group selected. The found meters will be listed as shown on the window on the left.

Readout datas of a spontan readout



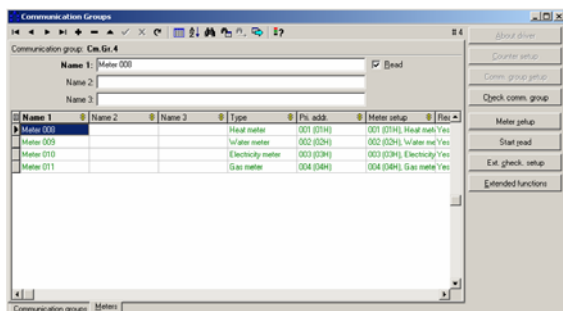
Behind the rider communication group you can find the rider meter, which is where the meter that has been found is. By pressing **Start** on the meter readout, you can read already the selected meter. But, these data will not be saved! The Red Line (spots) will continue in the section Reading on page 35, where it will be described how a task can be set up from your readouts.

Changing of the column identifiers



The individual meters can now be denominated and additional information can be entered in the individual rows. The preset identifiers here are: Name 1, Name 2, and Name 3. By clicking on the tool **Options**, your own identifiers can be selected for the description of the meter, as shown on the left. Also the highlighted identifiers can be selected. The specified identifiers will always be displayed on this window even when a data safety backup is made, where the identifiers are different. Consequently the identifiers have to be selected again.

View of the meter list

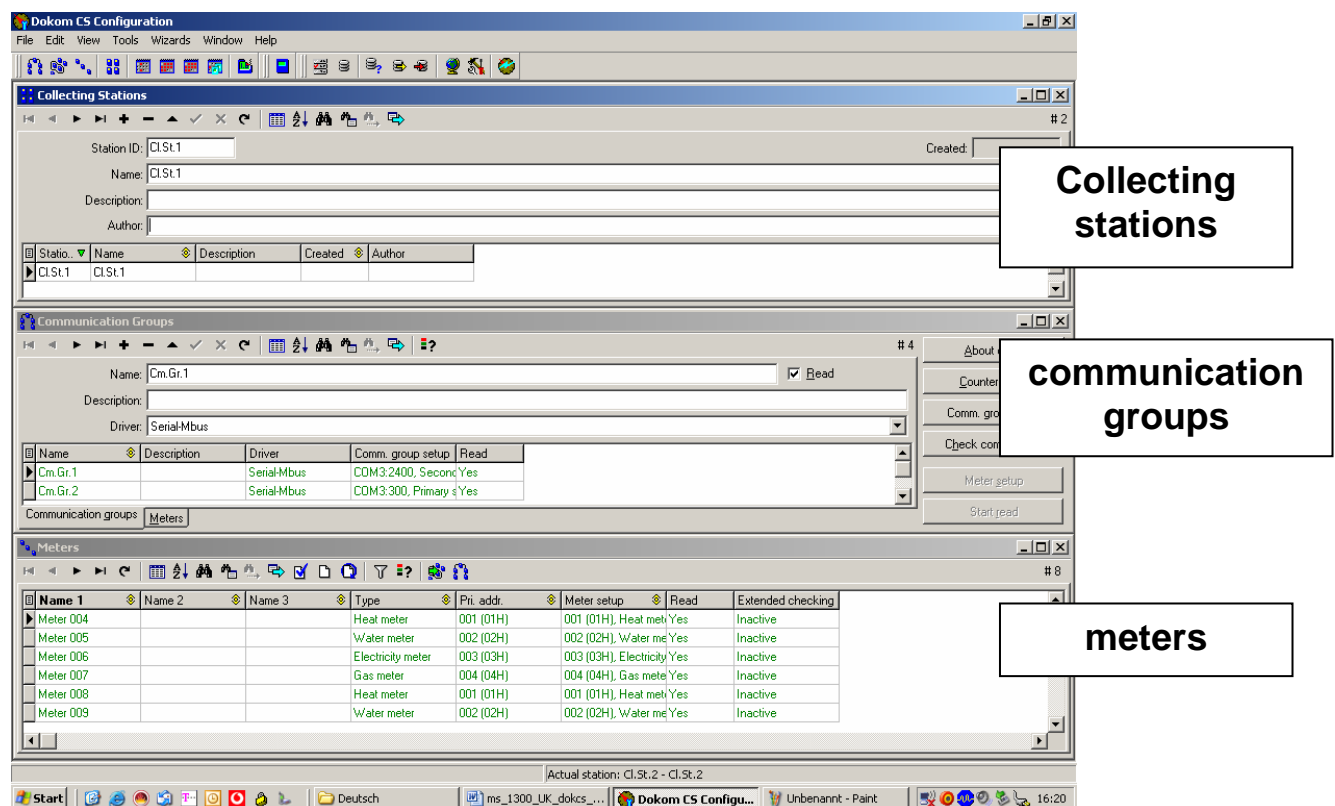


In the opened window you can see again the column identifiers that have been entered. Every row of the meter should be in green if it is correctly configured. If they appear in red, then the meter must be configured again. See the next step: Configuration of a Meter

Up to this point the basic configuration is finished. Individual configuration examples for the corresponding drivers will be found in the following chapters. In addition, information over further functions will follow in the Configuration section.

If the configurations selected are correct, then go directly to the chapter **DOKOM CS Meter Readout (Reading)** where the necessary steps for the setup of a task etc. can be found !

Structural layout of the DOKOM CS



Collecting collecting stations

In a **Collecting station** are saved the parameters as well as the Readout Data. A free selection of the name, e.g. name of the customer, readout location, task provider, is possible. It is recommended to create only one collecting station for the different tasks that are to be read within an active collecting station. Directly under it can be created the called Communication group.

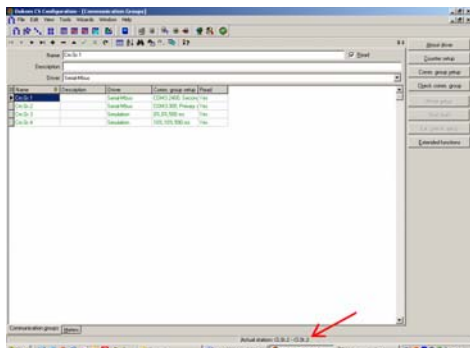
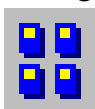
Communication groups

A **Communication group** describes the way of communication of a readout, e.g. via radio, level - converter, etc. Parameters are necessary here for the configuration. This is followed by the Meter Section

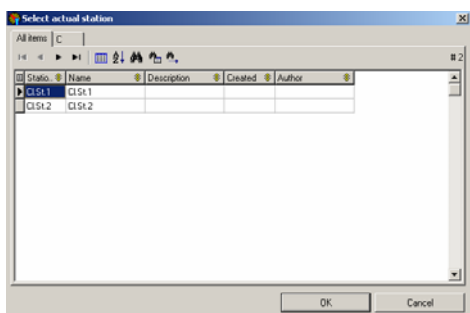
Meters

In the window **Meters** appears the corresponding filed meter. Data like M-Bus Address, possible meter readout values as well as three optional names can be set by the user.

Collecting stations

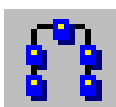


The name of the current Collecting station can be found at the bottom of the DOKOM CS software. A new set up will be called up using the Wizard. Select **Wizard -> New station wizard** to set up a new Collecting station. You will be guided through the different menus. In the first step you will be asked to give the name of the new collecting station. Then you can select a manual or automatic addition of the corresponding communication group. Finally there is also the possibility to scan for meters already connected. They will be inserted automatically in a table.



If several collecting stations have already been applied, you can change between them. Go to the menu point **Tools -> Select station** or simply select the symbol. By clicking on the name of the collecting station to be called up, this will be selected. To check, the name of the selected collecting station should be at the bottom of the program window.

Communication groups



A Communication group describes the way of a readout. Here can be used the different drivers that support the different readout hardware. It is possible to make a selection from a number of drivers in the Communication group. A readout over an M-bus modem, a radio transceiver, a level - converter (serial driver) or a magnetic data coupler (serial driver) and many more are possible. Currently the DOKOM CS software supports the following drivers. In the table below it can be found an overview of the available drivers and their corresponding supported hardware.

Working with different drivers of the DOKOM CS

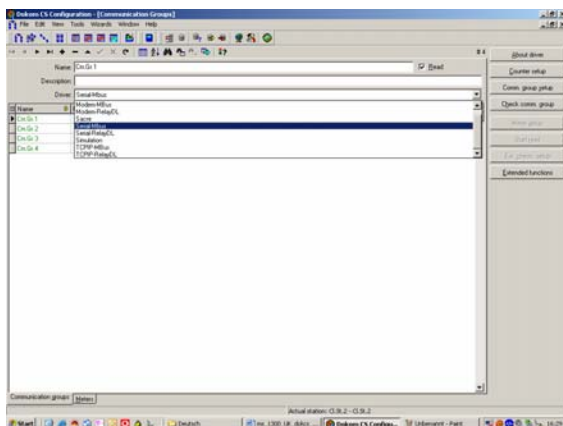
Supported driver	Supported hardware or purpose
M-Bus modem	For a readout with the help of an M-Bus modem, relay modem Zur
Serial driver	For a readout via a level converter, optical/inductive coupler
Modem Relay DL	For a readout of a Relay Data Logger via a modem
TCP / IP Relay DL	For a readout of a Relay Data Logger via a Network
Serial Relay DL	For a readout of a Relay Data Logger via a Serial Cable
Hand Track	For a readout from a Transponder via a Hand Track Transceiver
Simulation	For the creation of simulated values for presentation purposes

Setup and configuration of a communication group

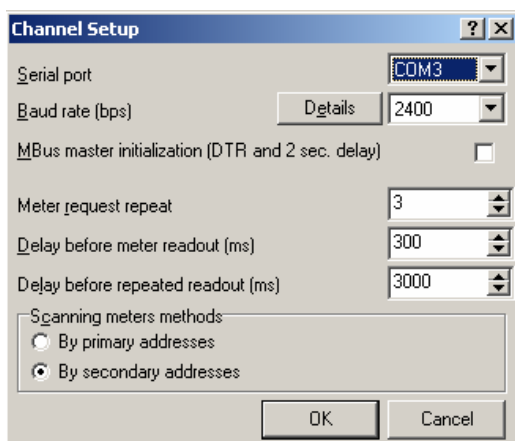
After the successful installation of a collecting station the communication groups can now be set up. If you used the Wizard for the set-up of the collecting station, then you have already configured eight communication groups. You can delete the ones that are not needed, or change the configuration from each single one at any time.

Setup a communication group

If you used the Wizard to set up a new collecting station, then you have already eight communication groups at your disposal. If you want to enter a new communication group, go to **Files → Communication groups**. The communication group window will open. By pressing the key **+** a new communication group will be set up.

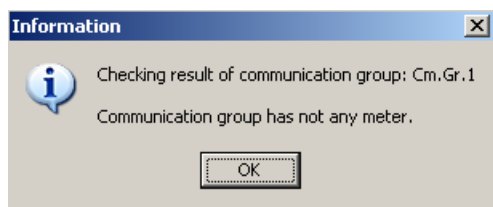


After the communication group window appears you can enter the information for Communication group 2. Enter these in the fields Name and Description. Then select the wanted drivers. A number of drivers are available. The window looks like this:



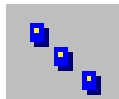
After selecting the drivers click on **Comm. group Set Up** for the parameterisation. There you must enter the corresponding parameter for the successful communication with the connected hardware.

Before you do this, the communication group entry is still in red. After the parameterisation the text colour changes to green. The communication group is now active. To make sure that the communication group is correctly configured, press on **Check Communication groups**. The following window appears after a successful parameterisation.



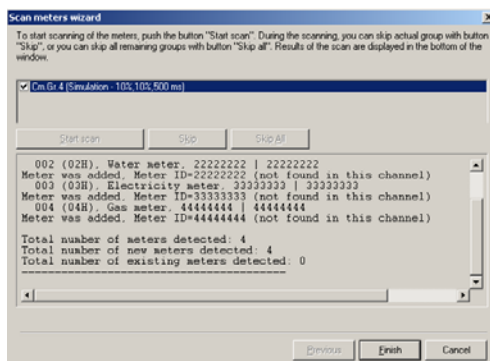
The window on the left shows that the communication group set up was successful. However, no meters have been set up. In the following chapters you will find the steps on how to add meters to a communication group. Because only then is the readout of a meter in a communication group possible. In the following chapters the support for the parameterisation of the different communication group can be found.

Meters



Every type of meter that is added to the DOKOM CS must be configured for it to be read successfully. In the next chapters you will find the necessary steps for configuration, setup and change of the desired meters.

Adding and configuring of a meter

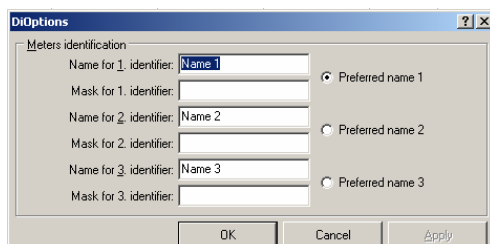


With the DOKOM CS software and help from the Wizard you can carry out a Meter Scan, where all the meters that have been configured under a corresponding communication group can be read. Click on **Wizard** → **scan meter wizard**. A window appears with the communication groups that have been configured. Select the desired communication groups that are necessary to scan for the connected meter. This is followed by a window with the found meters. On the screen can be seen the found meters from a Meter Scan with a Simulation Driver.

Adding a meter manually

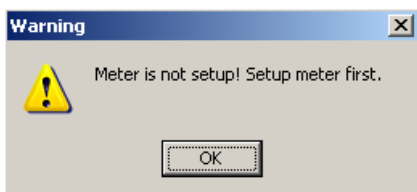
Change first from the Communication group Rider to the Meter Rider. Now you are on the Meter window. Press the key **+** to add a new meter manually.

Changing a column identifier

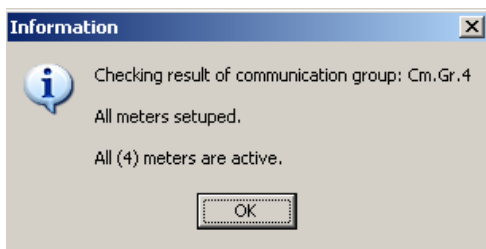


You can give the meter three open choice names. The name identifier can be changed under **Tools** → **Options**. After the input, the Identifier can be selected. Furthermore, the identifier can be highlighted so that it can stand out from the others.

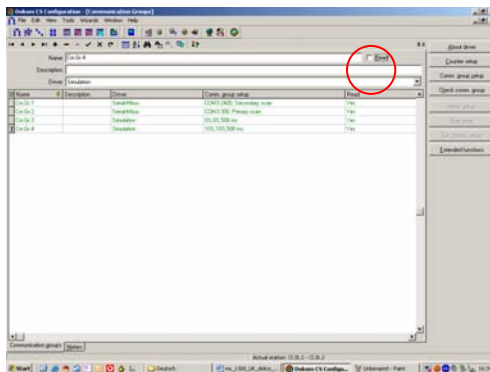
After the name is given, click on **Meter setup**. Here you must select from a list a Meter Type. Then the text from the meter description as well as from the communication group will change from red (inactive) to green (active). In the chapter Configuration you will find more information about this step. The following window should appear after pressing on **Check Communication groups**



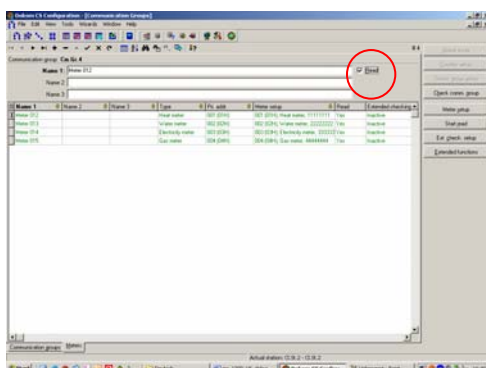
For meters that have not been set up.



For Meters that have been set up successfully. Now is the Communication group as well as the corresponding meters set up.

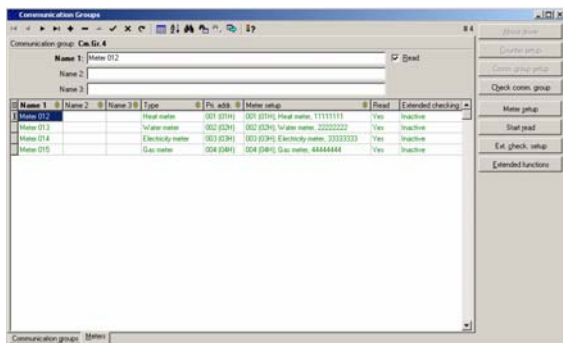
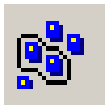


If for installation reasons should a Communication group from an already set up task not be readable, click on the Menu point **Read** (the tick (✓) is now no longer visible), which is found behind the first entry field.



Should only a single meter from a readout be inactive, click on the **Meter Rider** and then click on the Box **Read**, so that the tick (✓) is no longer visible.

User groups



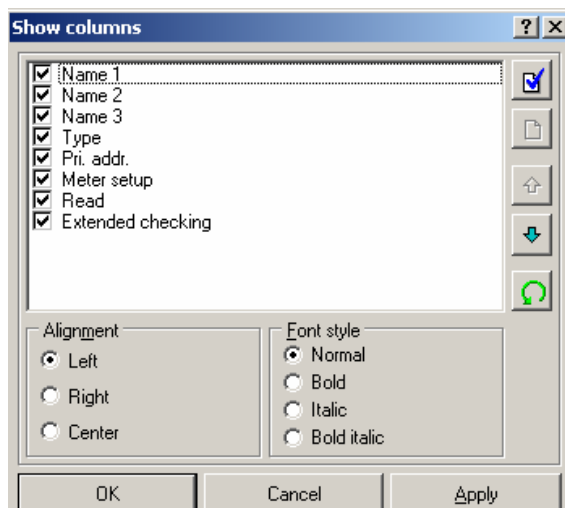
With the help of this function the meters can be organized into groups. They can be grouped according to e.g. meter type, or place of installation. To set up a user group select first a name and a description of the group and then add the corresponding meters to the group (list). Later in a task, the meters of a user group can be activated directly, with a single click.

Selecting language



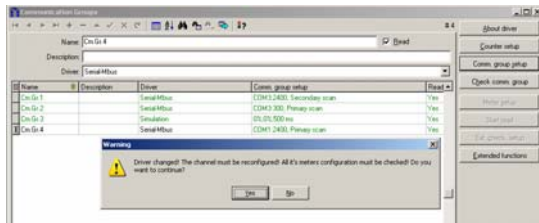
In the Menu point **Tools**, you can find the point **Language**. By clicking on it, the window with the available languages opens up.

Selecting a column identifier in a table

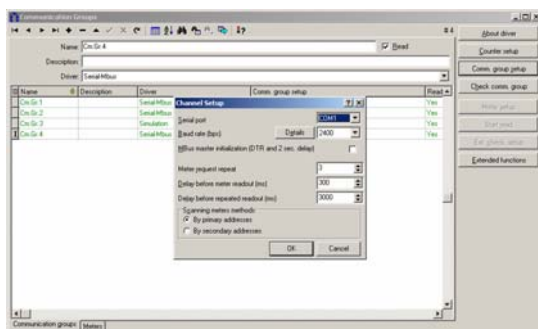


By clicking on the symbol that appears on the top left hand corner of a Table, the following window appears. Now you can select the meter value that you want to show on the list. Furthermore, the alignment and the style of the text can be changed. Use also Sort and Selection Spaces to change faster the order, the selecting and the deselecting of identifiers.

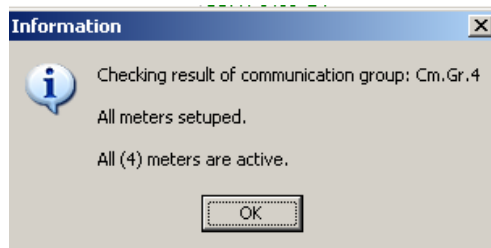
Changing a driver in a communication group



In case that meters found in an M-Bus network are to be read with an M-Bus Modem instead of from an M-Bus level converter or the way of the readout has changed in any way, the corresponding driver of the Communication group has to be changed as well. You can select the new desired driver by clicking on the Menu point **Driver**. The change will be confirmed by clicking on the tick (✓). A message appears that asks if the communication group should be changed. Confirm with **Yes**. (See screen above)

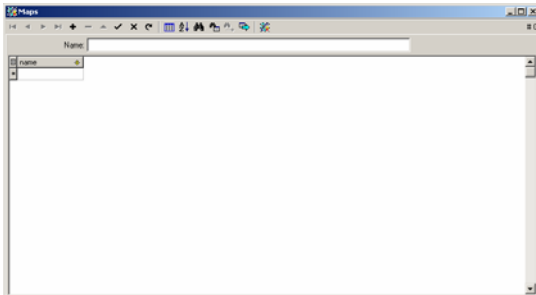


It is important to know if all the properties of the meters found already in the communication group must be changed. To finish, the parameters of the communication group have to be adjusted. The text changes now from red to green. With this is the newly set driver active and ready for a new readout. After changing the driver a new meter scan can be made or it can continue working with the already selected meter list and its changed settings.



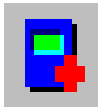
Working with the map

Selecting a map



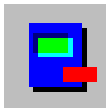
The DOKOM CS offers the possibility of using individual graphs or maps and then fixing the location of the meter at the end. In this way the user can get an overview of the meters installed in an area. Click under **File** on the symbol to open the window on the left. Now you can give the map a name and with the Plus Key add a Graphic File. The following Graphic Files are supported: CGF, SHP, DGN, BMP and JPG.

Adding meter in a map



While in the map window, you can carry out the following functions with the described symbol. By clicking on the symbol on the left, meters from the current meter list can be placed on the map.

Removing meters in a map



By clicking on the symbol on the left the placed meters can be removed once again from the map. You will find yourself then once again on the meter list and can with the help of the Add Function place them in another position. It is also possible to move the meters quickly from one place to another.

Zooming in and out of a map area



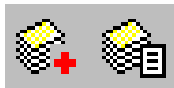
Click on the **World** symbol to get a fitted version of the map. The arrow next to it allows the selection of the corresponding meter, so that changes (removing, moving, etc.) can be made. The other two functions help with the selection and then with the zooming in and out of the selected area.

Moving the map



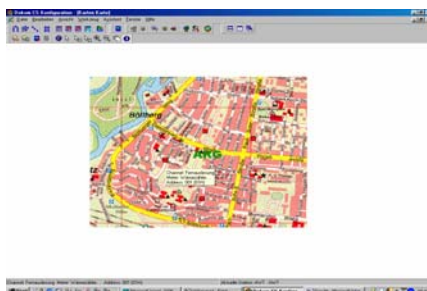
By clicking on the **Hand** symbol the map sections can be moved.

Layer Function, Adding from Several Map Layers

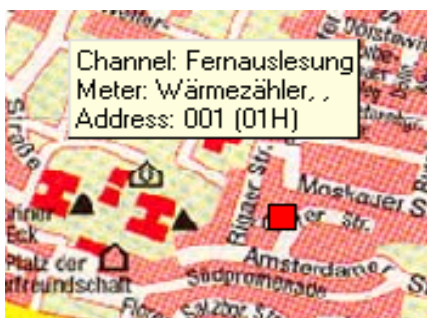


Certain graphic and map formats allow parts of areas to be imported, in this way different map layers can be shown or hidden, e.g. suburbs from a city map.

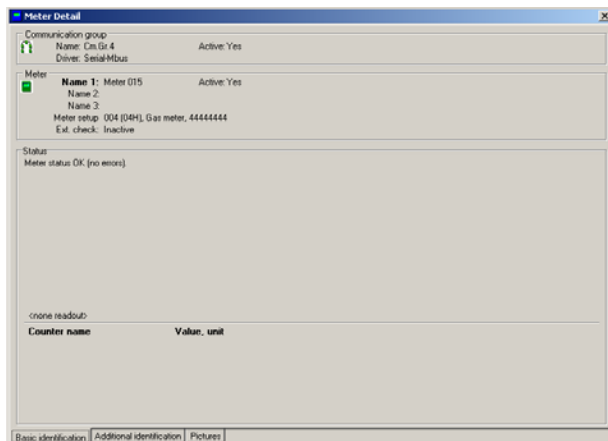
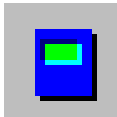
Recalling meter datas



The information of the meter can be recalled by clicking on the symbol on the left and then on the symbol of the meter. The communication groups the type of meter and the address will be displayed.



Recalling meter details window



By clicking on this symbol the last readout data can be recalled as well as the properties of the meter that was last marked on the meter list. In addition, a picture e.g. from the position of the Meter or from the Meter itself, can also be saved to the meter. These can be carried out in the Rider Pictures. If a meter is not read out, then it is possible to generate a consumption value in the spare identification rider manually, e.g. to issue a receipt. This should only be allowed to authorised personnel.

The display of the meter details is possible in all parts of the program. Also in the tables is possible at any time for the file data to be shown with the help of the Function.

Order of the window



The symbol on the left is used to optimise the display of the windows.

Working with the database

The database



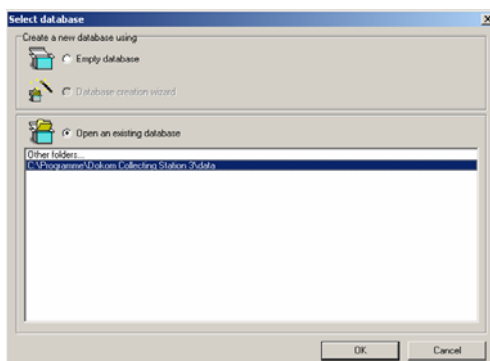
After starting the program a new data base will be opened where the configuration and readout data can be saved. This is the highest level of the hierarchy in the structure. After the data base the DOKOM CS opens a collecting station. The name for this collecting station can be selected freely. The request to name the new collecting station will appear directly after the setup of a new data base. It can be entered there e.g. a location, the name of a customer, etc.

Structure of the database

Starting the database for the first time.

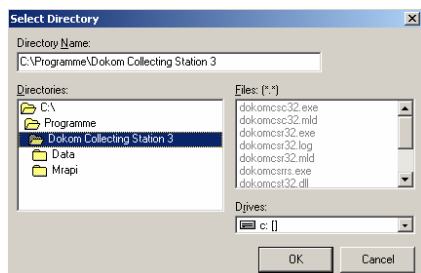
A data base will be automatically started after the first program call up. Dokom selects here a directory in the DOKOM CS installation directory. In the next point it can be read how to start a new data base and how to change to it.

How to call an existing database



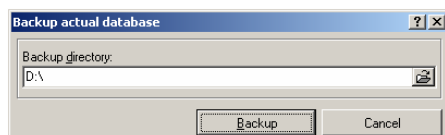
If you plan to set up a new data base then select the following Functions: Click on **Tools** and then select the **Database**. The following window opens:

Here it is possible to select between the already set up databases. See the lower Menu point. For a new setup, click on the upper menu point to set up an empty (new) data base. After this selection the window below appears:



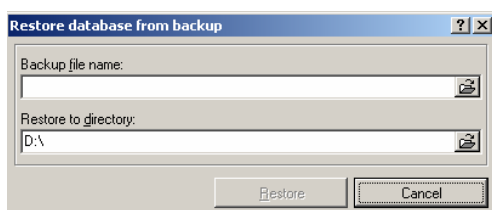
Enter in the upper entry box a new directory. The following format must be followed. After writing the name of the directory enter: **New Name**. Then the Wizard will be started, without which the set up of a new collecting station is not possible. In the next chapter details can be found about how to work with a collecting station. After finishing the setup of a new collecting station it is possible to work using the new data base.

Backup actual Database



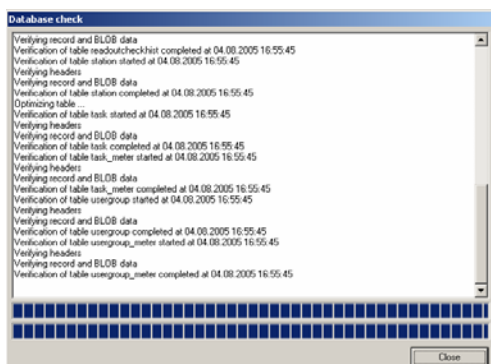
In the Menu point **Tools → Backup actual database** can be saved the content of the current data base in a desired directory. After clicking on the Menu point the following window appears to select the directory. Now the directory can be selected where the data base should be stored.

Restoring Database



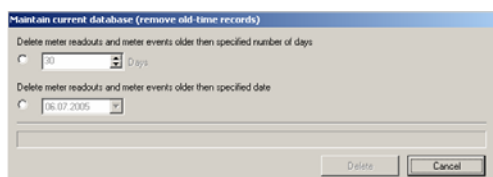
If you want to open a saved database to read the meters in it, click on **Tools → Restore Database**. The following window appears: Search for the directory where the wanted data base is found. Press **Open** and a new window opens. Select the directory (or enter a new one) in which the database is found that should be restored. Now the data is uploaded and a readout of the meters found in the database can be read.

Checking actual database



In case there are problems during a readout from meters, it could be because of a faulty database. To check the current data base press on **Tools** → **Check the actual Database**, the following window appears: should the check-up show failures then follow the instructions that appear at the end of the Check Report. In the window on the left can be seen the report of a successful data base check.

Maintain current database (remove old – time records)



When the amount of data in a data base becomes too large, you should not delete these data, but save it in the Data Backup, in case it may be needed at some other time. Click on the Menu point **Tools** → **Options** → **Maintain current Database** to delete the entries that are no longer needed. Select up to what date the old entries should be deleted or select the number of days from which the data should be deleted that is older than the number of given days.

Deleting single data entries



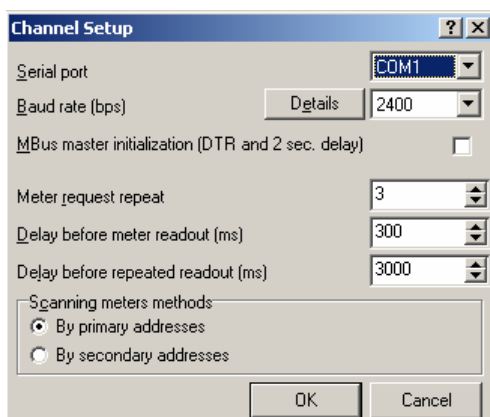
In all the tables, except in the Table for Checking Readouts, the possibility exists to delete readout results. These can be removed by clicking on the readout result (highlighting) and then on the Minus symbol.

Working with different drivers

Setup of different drivers

Name, description, as well as driver must be given to setup a communication group. After clicking on the Arrow Box of the Driver Box, all the available drivers will be shown. By clicking on the “-” key the given data will be deleted, by clicking on the “+” key they will be added and with the tick symbol saved. In the following sub-chapters you will find about how to configure the desired drivers in the communication group.

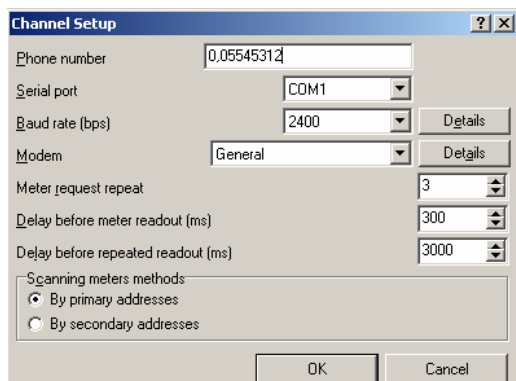
Serial M-Bus driver



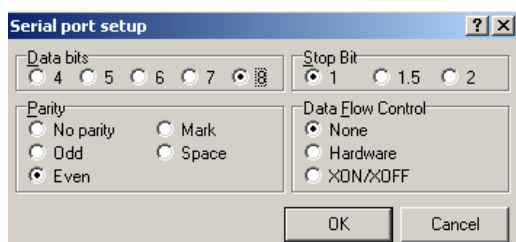
This Driver supports the communication with an M-Bus level converter. The level converter is connected to the PC via a serial cable. The Menu point Communication group Set up contains the parameters to fix the readout repetitions, the readout speed and the times for readout response. Under the Menu point Details, the parameters for a serial communication can be set. Parity, number of data bits, etc. are changeable here. The setup values are Experience Values and are necessary settings that should not be changed.

→ The prepared communication group is now active (the text is green)

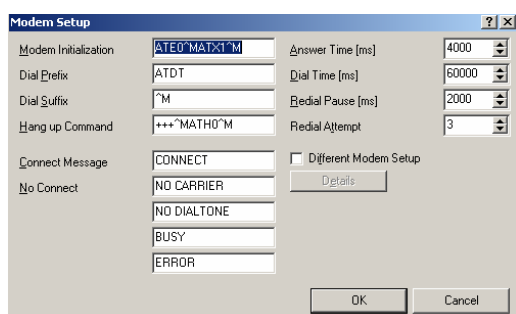
M-Bus modem driver



The M-Bus modem driver supports the communication with a special M-Bus modem. Here it is possible to enter in the window Settings, important parameters like the telephone number of the dialed modem, the interface used, as well as the Baud rate. In addition the number of the tried readouts and the time before and after the readout can be set here. In an M-Bus installation with several meters the time should be set to at least 300 ms, to make sure that all the meters respond.



On the Menu point **Baud rate** → **Details** as in the serial M-Bus driver, it is possible to set the parameters of the driver for the transmission of start bits, stop bits etc. individually.



Furthermore, on the Menu point Modem a detailed display in which the sequence order of the modem being set up can be fixed.

Modem-Relay DL

The Channel Setup dialog box for Modem-Relay DL configuration includes the following fields and options:

- Phone number: 0,055443332
- Serial port: COM1
- Baud rate (bps): 9600
- Modem: General
- Passcode: 00001767
- Meter request repeat: 3
- Delay before meter readout (ms): 300
- Delay before repeated readout (ms): 3000
- Scanning meters methods: ☒ By primary addresses, ☐ By secondary addresses

For a readout from Relay M-Bus Data logger the following parameters are necessary for the selection of a modem. The telephone number, the COM port of the calling modem as well as the Baud rate have to be entered. Select 9600 Baud for the DR004DL and 57600 Baud for DR005/006DL data loggers. Then select the type of modem. The password for the data recorder should not be changed. The rest of the parameters should also not be changed.

Serial-Relay DL

The Channel Setup dialog box for Serial-Relay DL configuration includes the following fields and options:

- Serial port: COM1
- Baud rate (bps): 9600
- Passcode: 00001767
- Meter request repeat: 3
- Delay before meter readout (ms): 1000
- Delay before repeated readout (ms): 3000
- Scanning meters methods: ☒ By primary addresses, ☐ By secondary addresses

For a direct serial readout, as well as for “normal” serial drivers, the parameters shown on the left have to be set. Note also here that the Baud rates for the DR004DL should be 9600 Baud and for the datalogger DR005/006DL 57600 Baud. Also here the password for the Datalogger is 00001767.

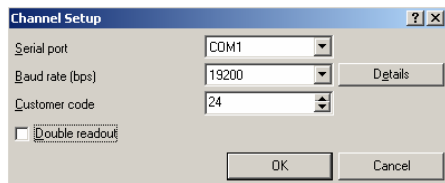
TCP/IP-Relay DL

The Channel Setup dialog box for TCP/IP-Relay DL configuration includes the following fields and options:

- TCP/IP options:
 - Remote host (TCP/IP address): 192.168.100.94
 - Remote port: 1001
 - Timeout to create connection (ms): 3000
- TCP/IP Converter:
 - TCP/IP Converter type: DS100 (Relay)
 - Baud rate (bps): 2400
- General options:
 - Meter request repeat: 3
 - Delay before meter readout (ms): 300
 - Delay before repeated readout (ms): 3000
- Scanning meters methods: ☒ By primary addresses, ☐ By secondary addresses

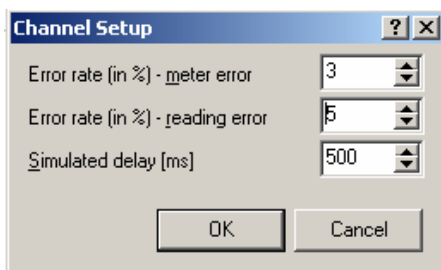
If the datalogger is to be read over a so called TCP/IP serial converter then the parameters here shown have to be set. Here is the IP address important, because it may be requested beforehand by the software delivered with the converter. If having readout problems the times can be changed under General Options.

Hand – Track driver



With the aid of this driver is possible the radio readout from M-Bus meters. The necessary Hand track (transceiver) must be connected to one of the PC's serial interfaces. For a successful communication the following parameters must be set: first the interface must be selected where the Hand track is connected. The Baud rate should be set to 19200 Baud. Depending on the transponder, the identification number must be entered. The identification number is the first two digits from the serial number of the transponder, e.g. 24. The current value of the M-Bus device will be transmitted after two readouts. Consequently, the option Double Readout should be selected.

Simulations driver



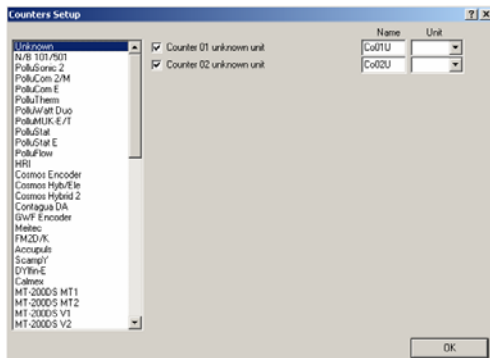
With the help of a simulation is possible to carry out a readout without connecting a meter. As readout results will be generated meter values that lie within a specific value range. To activate the communication group you still have to enter the simulated Error Rate and the Cyclical Readout Time. These values can be entered in the corresponding boxes by pressing the option **Setup Communication groups** (See the window on the left).

To enter the values more easily, the arrow key should be used. The Error Rate should not be 100%; otherwise a graph cannot be displayed.

→ *The set up Communication group is now active (the text is green).*

Supported meter types in different drivers

Meter of the m-bus and serial driver



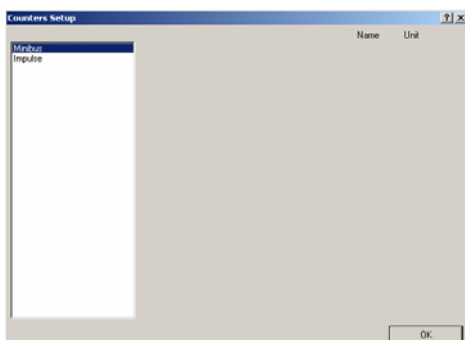
By pressing the Menu point **Meter Settings** the window on the left appears. Now a meter type for the readout can be selected. If several meters have to be installed onto the Bus, the required primary M-bus address must be given. If the connected device does not have a primary address, then a secondary one can be fixed. This can be set by clicking on Secondary Address.

→ The set up meter is now active (the text is green).

Meter of the handtrack driver

If the Hand track driver has to be adjusted to the connected meter, there must be differences between the two types of transponders.

MiniBus transponder



This type of transponder takes over the serial number of the connected M-Bus device (here MiniBus) e.g. an Encoder Register. The Meter name can also be selected here.

Impulse transponder

The screenshot shows a Windows-style dialog box titled "Einstellung Zähler". It contains several input fields and buttons. The "Transponder Typ" section has two radio buttons: "Minibus" and "Impuls", with "Impuls" selected. Below this are fields for "Seriennummer" (1801108), "Zählername" (Trans), "Name der Einheit" (Volumen), "Einheit" (m3), "Faktor" (100,00), "Anfangsstand - Impulse" (500), and "Initialisierungswert" (0,00). Each of these fields has a small icon with up and down arrows. At the bottom are "OK" and "Abbrechen" buttons.

With this type of transponder is necessary to enter the Initial Meter Impulse Stand of the transponder (Initial stand – impulses, are received when using a radio readout), as well as the Factor (the value of an impulse). So that the corresponding volume or the energy value can be calculated, is necessary that the accumulated meter stand of the readout values at the time the readout is entered (initialization value).

Now the meter impulses produced by the Reedimpulser of the stand of the meter can be reproduced and you get immediately after a readout the corresponding value (number and unit) of the Impulse Meter as readout result.

The list of the supported meter of the DOKOM CS

A = Automatic baudrate detection

P = programmable baudrate

F = fixed baudrate

Meter name	Meter type	rec. Baudrate	A/P/F	Internetsite
Cosmos ENCODER	Water meter	300	F	http://www.sensus.com
Cosmos Hybrid	Water meter	300/2400	A	http://www.sensus.com
Cosmos Electronic	Water meter	300/2400	A	http://www.sensus.com
N/B 501	Calculator	300	F	http://www.sensus.com
PolluSonic 2	Heat calculator	300	F	http://www.sensus.com
PolluCom 2/M	Heat calculator	300	F	http://www.sensus.com
PolluDuo	Calculator	300/2400	A	http://www.sensus.com
PolluStatE	Ultrasonic meter	300/2400	A	http://www.sensus.com
PolluFlow	Ultrasonic meter	300/2400	A	http://www.sensus.com
HRI	Intelligent Impulser	300/2400	A	http://www.sensus.com
Contagua	Water meter	300/2400	A	http://www.sensus.com
GWf Encoder	Water meter	300	F	http://www.gwf.ch
FM2D/K	Frequency converter	300/2400	A	http://www.sensus.com
Scampy	Water meter	300/2400	A	http://www.hydrometer.de
Calmex	Calculator	300/2400	A	http://www.kamstrup.com
DZG S30	Electricity meter	300	F	http://www.dzg2.de
EBZ-EDW	Electricity meter	300/2400/9600	P	http://www.emh-meter.de
NDWH	Electricity meter	300/2400/9600	P	http://www.nzr.de
PAD Pulse M1/2/4	Impulser	300/2400/9600	A	http://www.relay.de
Multicall III	Calculator	300/2400	P	http://www.kamstrup.com
Multidata Zenner	Calculator	2400	F	http://www.zenner.de
ABB F2	Calculator	300/2400	P	http://www.abb.de
WSD (L&G)	Ultrasonic meter	300/2400	A	http://www.landisgyr.com
WSF (L&G)	Water meter	300/2400	A	http://www.landisgyr.com
U1187/U1189	Heat meter	300/2400/9600	P	http://www.gmc-instruments.com
Dialog WZ	Heat calculator	300/2400/9600	A	http://www.nzr.de
CF50	Calculator	300/2400	P	http://www.schlumberger.com
Qae 10 (Elster)	Gas meter	300/2400	A	http://www.elstermesstechnik.com

DOKOM CS Reading

Functions of the program part Reading

The program part reading



This section of the program contains all the functions necessary for the manual and automatic readout of different meters. The program section now uses the parameters which were set up in the configuration section.

In this part of the program the data from a readout will be automatically saved. Therefore when a readout is finished and then the program is closed, all the data will be saved in the data base.

The main function of the readout section of the DOKOM CS is the scheduler. In the next chapter its functions will be seen. The readout results will be written in the corresponding table after a readout and can also be seen in the configuration section if changed.

The different types of readout

Automatic readout

To set up an automatic readout with the help of the scheduler, change from the Configuration Section to the Readout Section of the DOKOM CS software. Click on the symbol  and then on the symbol  to start the scheduler. The following forms of readouts are available.

Billing readouts

Every meter that is read out will be saved in the table and can thus later be read at any time.

Check readouts

Checks the communication with the connected meters. As a result is possible to see the corresponding table with the readout results of the last readout. Historical data will be overwritten.

User readouts

Offers the largest range of setting possibilities for a readout. It is able to read from one second up to a period of one year. The entire readout results will be logged. In this type of task is an online graph possible.

Exporting readout results

With this function is possible to export the table's readout results, but a table with readout data must already exist.

Special task

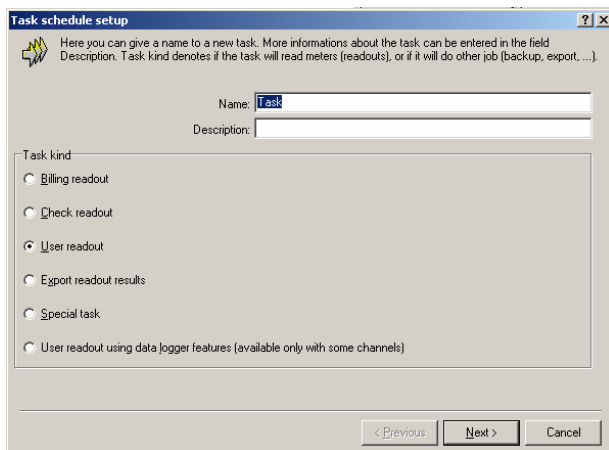
Special support from special types of PC (ATX), as well as an automatic data base backup.

User readout using datalogger features

Reading out the m-bus datalogger

The scheduler

Settings of the scheduler



The 'Task schedule setup' window shows the first step of configuration. It includes a title bar with a help icon, a close button, and a maximize button. Below the title bar is a small icon of a clock and a text box with instructions: 'Here you can give a name to a new task. More informations about the task can be entered in the field Description. Task kind denotes if the task will read meters (readouts), or if it will do other job (backup, export, ...)'.

Fields include:

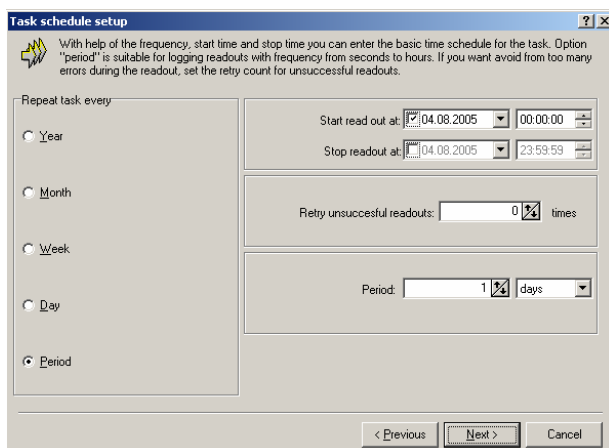
- Name:
- Description:

Task kind section with radio buttons:

- ☐ Billing readout
- ☐ Check readout
- ☒ User readout
- ☐ Export readout results
- ☐ Special task
- ☐ User readout using data logger features (available only with some channels)

Navigation buttons at the bottom: < Previous, Next >, Cancel.

Press the **Alarm Clock** symbol on the top bar. Then click on the Menu point **New Task** from the scheduler. The window on the left appears. Now the different forms of tasks can be selected. In addition is possible to enter in two fields a description of the task. An exact description of the different types of tasks can be found in the next chapter.



The 'Task schedule setup' window shows the second step of configuration. It includes a title bar with a help icon, a close button, and a maximize button. Below the title bar is a small icon of a clock and a text box with instructions: 'With help of the frequency, start time and stop time you can enter the basic time schedule for the task. Option "period" is suitable for logging readouts with frequency from seconds to hours. If you want avoid from too many errors during the readout, set the retry count for unsuccessful readouts.'

Repeat task every section with radio buttons:

- ☐ Year
- ☐ Month
- ☐ Week
- ☐ Day
- ☒ Period

Start read out at:

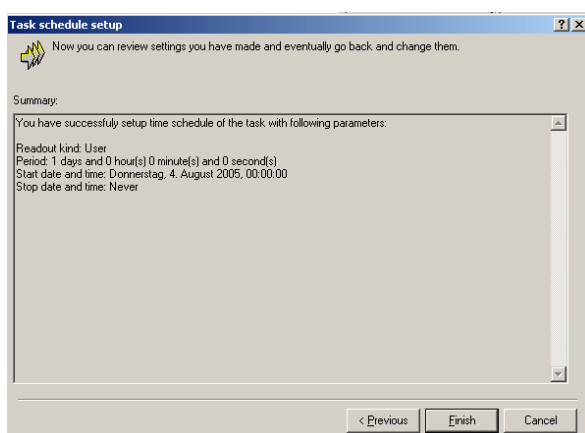
Stop readout at:

Retry unsuccessful readouts: times

Period: days

Navigation buttons at the bottom: < Previous, Next >, Cancel.

This is followed by the entry of the time period, from second by second up to yearly. See if it is possible (depending on the number of meters) to set low time periods. In case a meter does not respond, it is possible to set the number of the requests in the window Repeat Readout, maximum five. This way you know that the program has made every effort to read the meter.



The 'Task schedule setup' window shows the third step of configuration. It includes a title bar with a help icon, a close button, and a maximize button. Below the title bar is a small icon of a clock and a text box with instructions: 'Now you can review settings you have made and eventually go back and change them.'

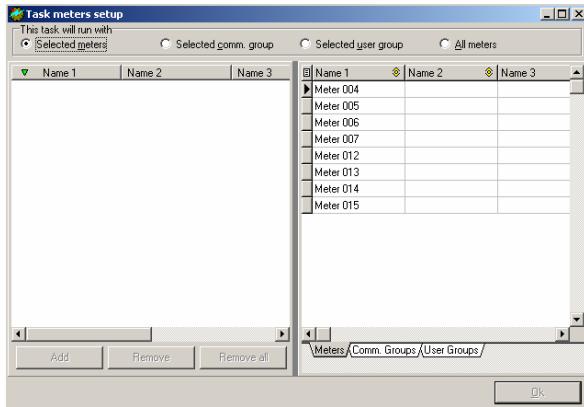
Summary section:

You have successfully setup time schedule of the task with following parameters:

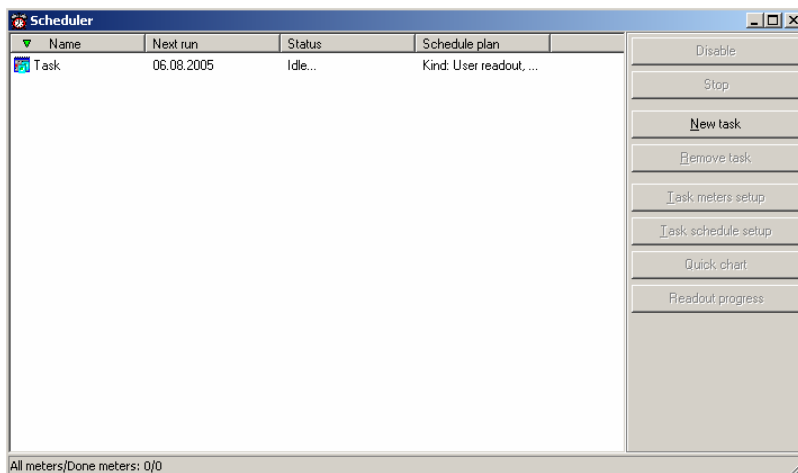
- Readout kind: User
- Period: 1 days and 0 hour(s) 0 minute(s) and 0 second(s)
- Start date and time: Donnerstag, 4. August 2005, 00:00:00
- Stop date and time: Never

Navigation buttons at the bottom: < Previous, Finish, Cancel.

The next window shows an overview of the set configuration. In case some entries do not match, you can press **Back** to go to the previous Menu window. By pressing on **Close** is the configuration finished and leads to the next window.



The readout meters are now ready to be added to the scheduler. If all the meters in a communication group are to be read, then click on the rider communication group and add them. All the meters will be shown on the left side of the window. The task will be sent to the scheduler window by clicking on OK and is ready to begin with the meter readout. A choice is possible by selecting the rider meter, communication group and user group.

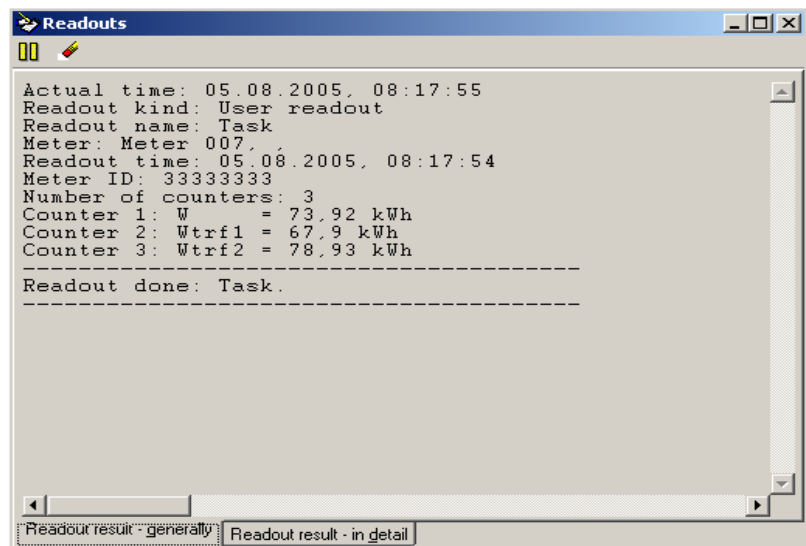


The newly setup task is now ready for readout. It can be started by pressing **Start**.

The window of readouts

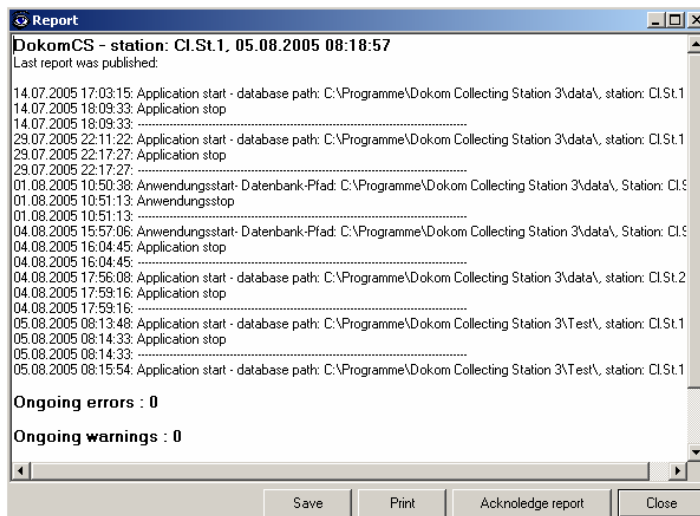
The readout window

By clicking on **Readout Window** this window will be opened. In this window the user gets shown online the data from the read out M-Bus device before they appear in the table. In the window of the Rider General Readout Results, the data of the expected sizes will be ordered and clearly listed. The un-worked raw data will be listed in the window of the rider readout results in detail.



This data can contain extra information about the readout M-Bus device. By clicking on the **Pause** symbol on the upper left side the log can be stopped. The protocol can be restarted by pressing the button again. To the right of the Pause symbol is an **Eraser** symbol. Press this and the content of the window of both riders will be deleted.

The report window

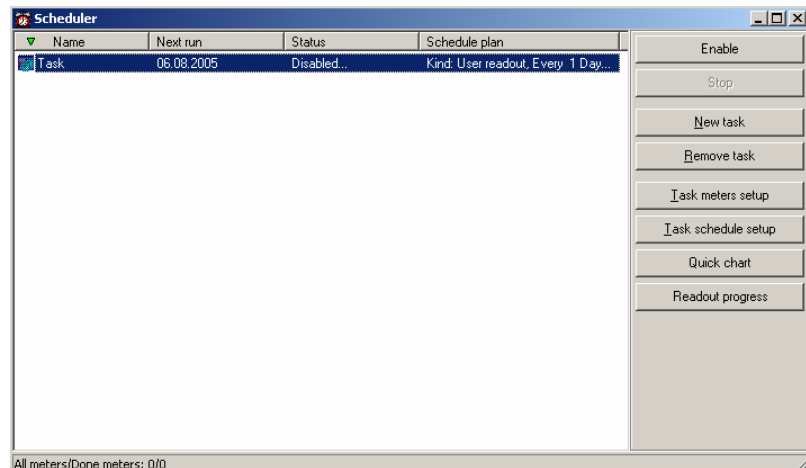


In the report window you can see the logged process of a task. Furthermore you get information about errors or breaks in a readout. You can save and print the log. By pressing the button **Confirm Log** all the old logs will be deleted and a new recording will begin. After the DOKOM CS is working, the entries in the Log Window should not be deleted!!

Changes of the readout tasks

Changes of the readout tasks

To change current tasks, the corresponding task has to be marked in the scheduler list. The task will be interrupted by clicking on the key **Stop**.

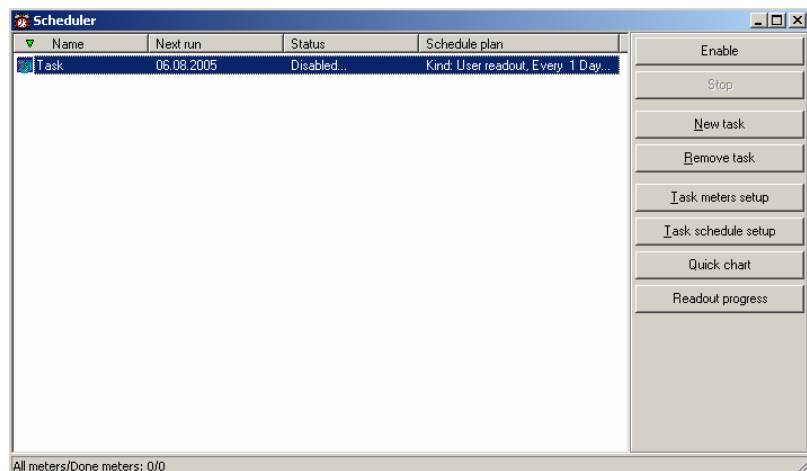



Then the meter set-up can be changed using **Task Meter Settings**. Under scheduler Settings is possible to change the parameters of the tasks. To activate the task you must press the key **Enable** again. It is also possible while the task is interrupted to call up online graphs and then to activate them. A task can be stopped at any time by pressing the key **Stop** and by pressing **Enable** and **Start** manually restarted.

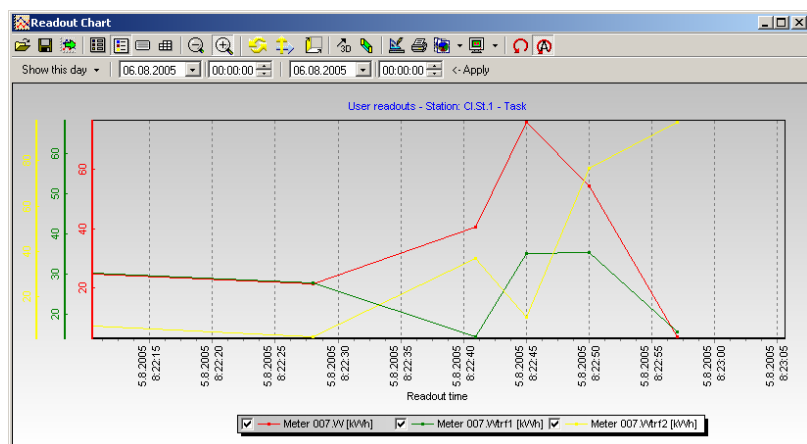
The graphic function

Online graphic

One of the special features of the DOKOM CS is the possibility to display readouts instantly in graphic format. If the corresponding readout procedure is marked then the Graphics key is enabled. The key is also enabled when the readout is cancelled. However, the current readout procedure is then also cancelled. A graphic display is only possible with a user readout. Make sure that the number of displayed values is as few as possible so that the graphic remains more clearly visible.



After the Quick chart key is pressed, the graphic representation of all the meters within the readout procedure is shown. The key  must be pressed so that the graphics are constantly actualised.



Functions in the graphic window



Open graphic file



Saving graphic files



Wizard for loading the graph information file



Graphic legend



3 dim. moving of the graph



Table of readout values



Zooming out of the graph



2 dim. Moving of the graph



Rotating the graph



Zooming into the graph



Perspective display of the graph



Automatic refreshing of the graph



Copy the graph



Single refreshing of the graph



Displaying time periods



Printing the graph



3-D display of the graph



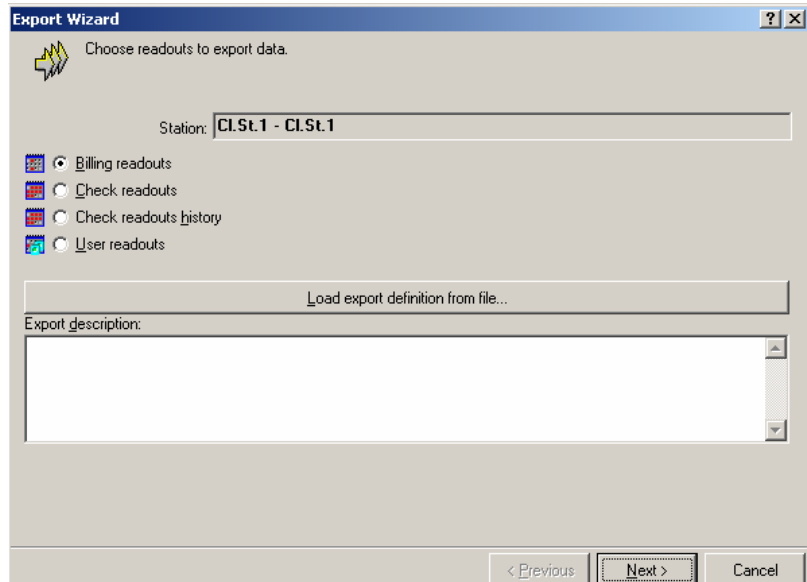
Graph editor

Export of datas and graphics

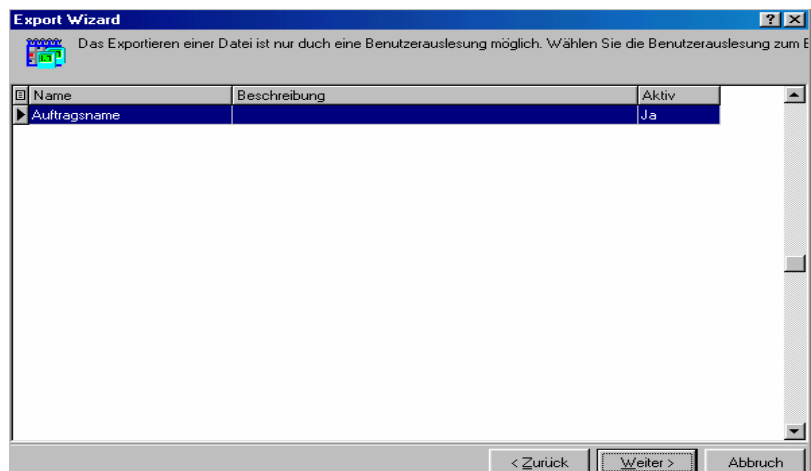
Automatically export of the readout results All the data from a readout, no matter what type, can be exported.

To do this click on the symbol displayed. You are here supported by an Wizard that will ask you to enter the type of readout. You can load data fitting to that already saved in the graphic settings.

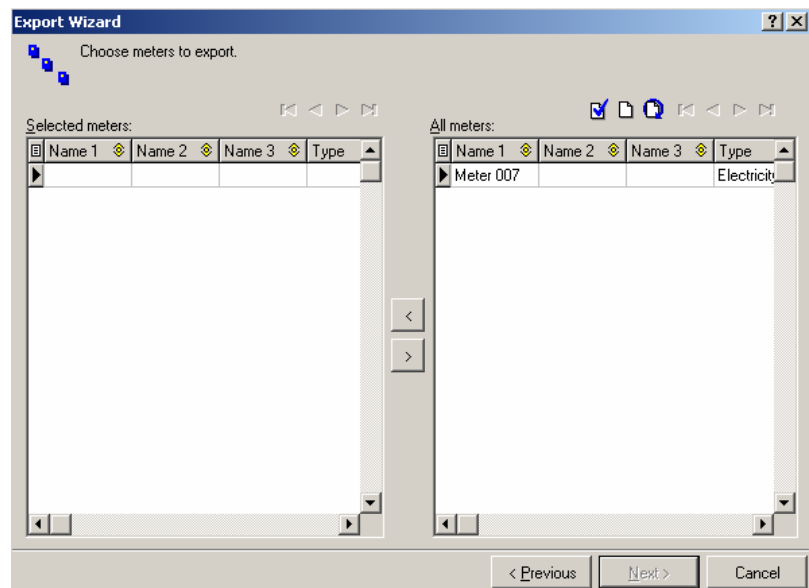
Data export



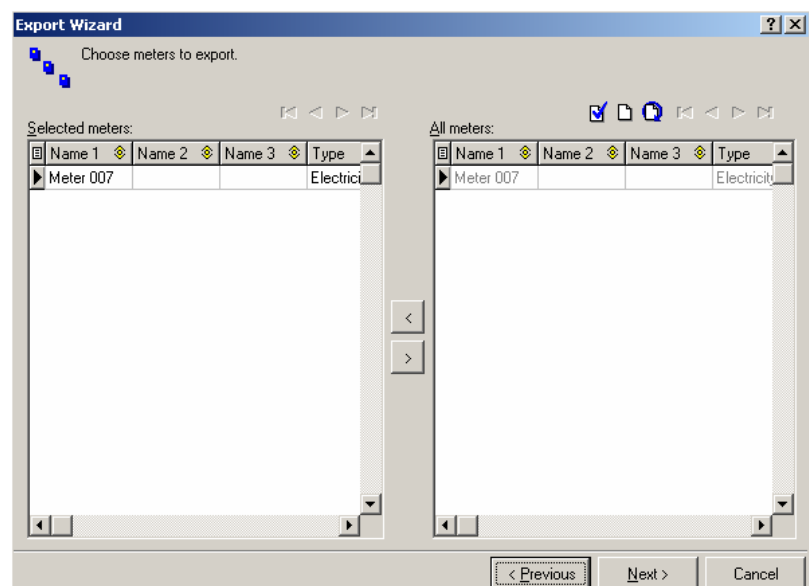
In the Menu point below you can see the possibility to load a graphic already saved. Select before hand the readout type with which you did the readout.



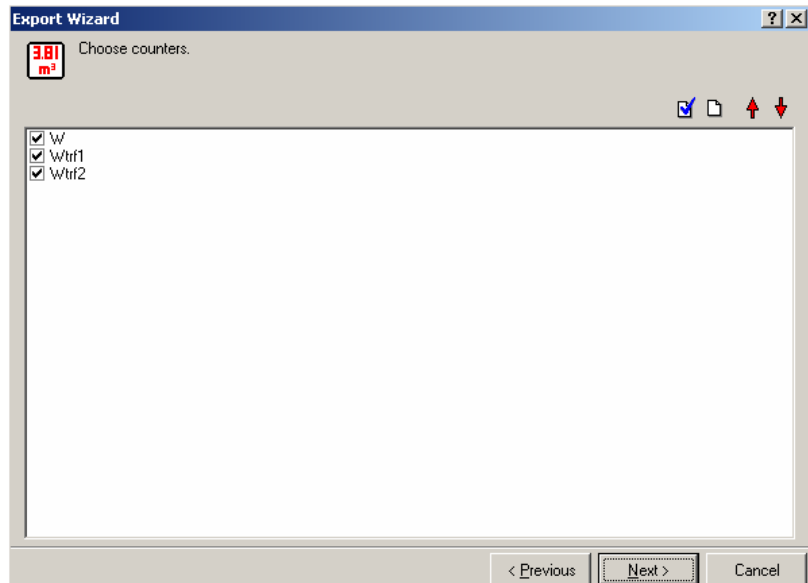
Select now the corresponding procedure.



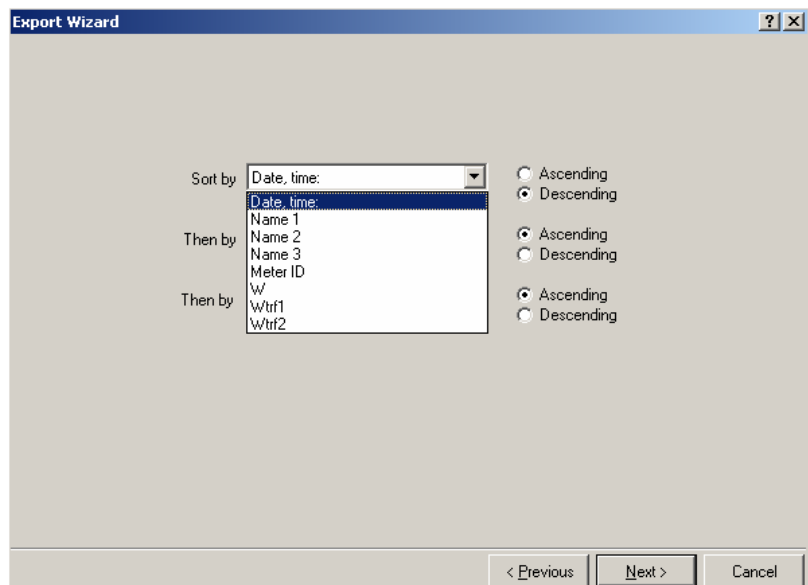
Select the meters that you want to export. The selected meters will be shown on the window on the left.



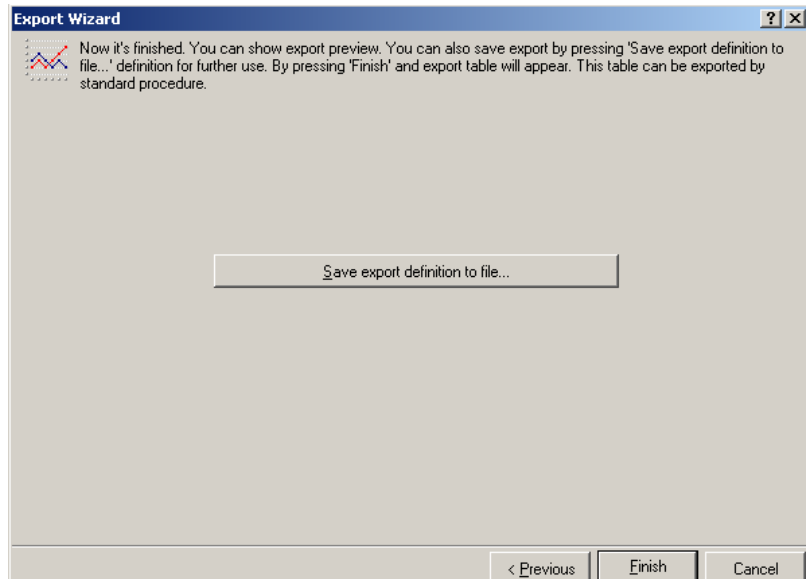
Now select the time period of the defined data setup that you want to export.



Select now the desired meter values of the meter, to prevent that the amount of data to be exported goes too high.



Now the order of the identifiers and their grouping can be set up.



Press now the symbol to save the settings. Press **Finish** to see the display of what was exported. Then the results of what was exported can be seen on the table underneath. From here, the transfer of the data can only be done using Excel, Word, etc. as described in the following section.

Date, time	Name 1	Name 2	Name 3	Meter ID	W
05.08.2005 08:17:54	Meter 007			33333333	73.3

Graphic export



After a successful readout e.g. a user defined readout, (see screen above) a graphic will be generated on the basis of the readout values after a readout. Select here the **Graphic wizard**.

Chart Wizard

Choose readouts to create chart from.

Station: Cl.St.1 - Cl.St.1

☒ Billing readouts
☐ Check readouts history
☐ User readouts

Load chart definition from file...

Chart description:

< Previous Next > Cancel

Select the readout type as shown on the window above.

Grafik Assistent

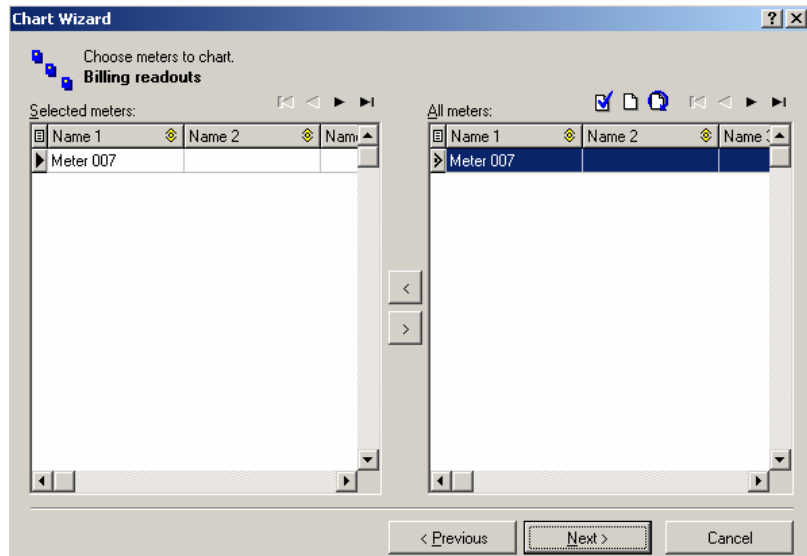
Ergebnisgrafik ist nur nach einer benutzerdefinierten Auslesung darstellbar.

Benutzerdefinierte Auslesungen

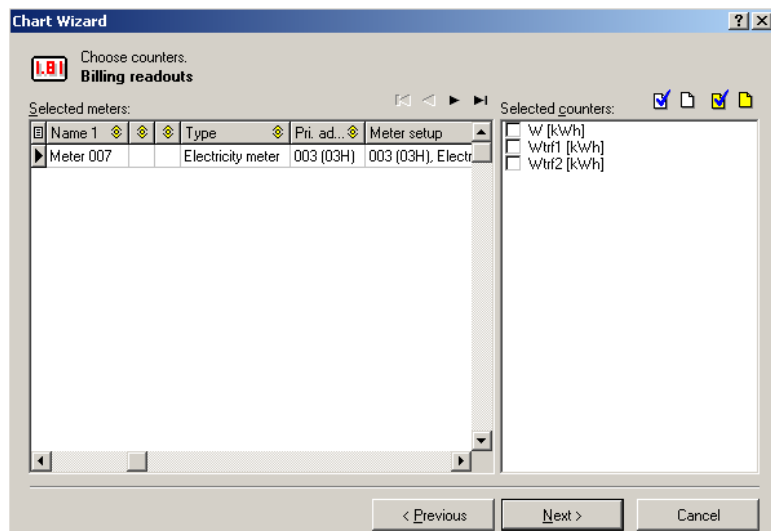
Name	Beschreibung	Aktiv
Auftragsname		Nein

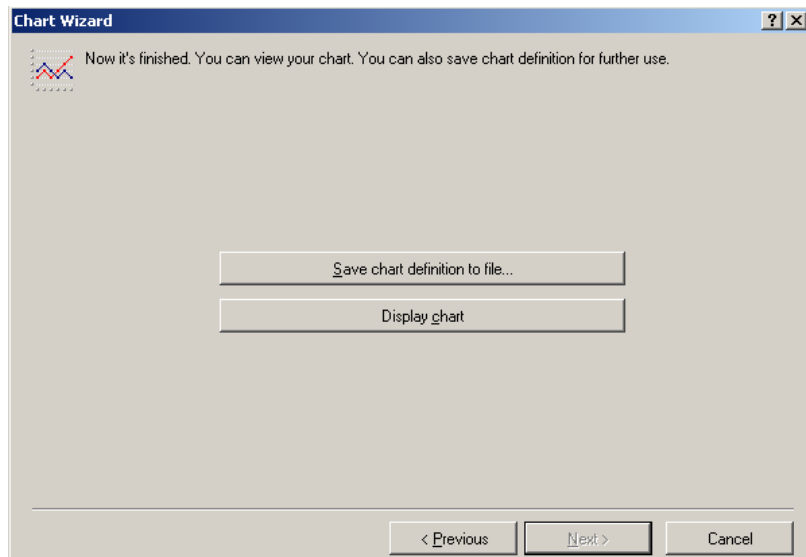
< Zurück Weiter > Abbrechen

Select now the readout that should be displayed graphically.

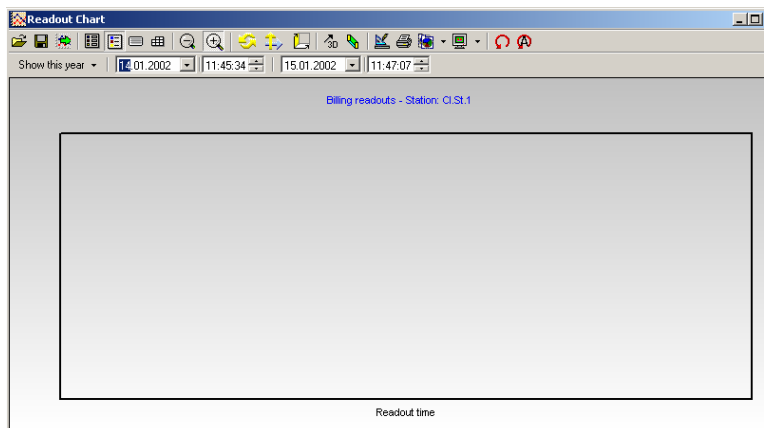


You have now the possible meters within the task available for Graphic display

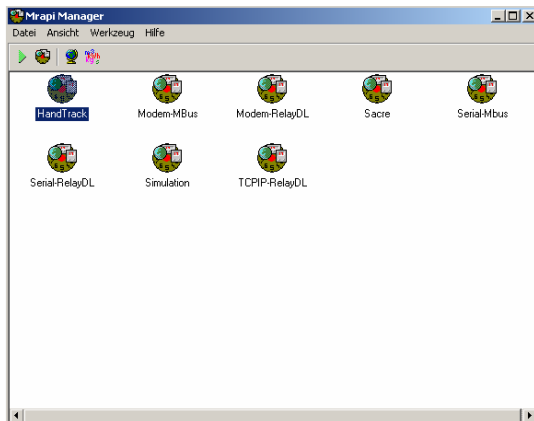




Press **Save** to safeguard the settings. Press **Graphic** to see a preview of the graphic to be generated. A generated graphic can look as follows:



MRAPI – Manager



In the program group, besides the individual drivers and the two program sections, is also found the MRAPI Manager. With its help is possible to make fast and spontaneous readouts, without having to save the data in the data base. But the data can be exported in different formats. All the settings that are available in the program section of the DOKOM CS configuration can be run here as well. This is possible by pressing on the corresponding symbol. Instead of an Wizard to do a meter scan, a function for a direct meter scan is available.

The following functions in the MRAPI drivers are offered:

1. Readout
2. Readout (Logging function)
3. Meter Settings
4. Meter Value Settings
5. Settings of the Names of the Units
6. Meter Scan
7. No Function
8. Special Function for Cosmos Hybrid
9. No Function
10. Copy Readout Results
11. No function
12. Delete Readout Results
13. Print Readout Results
14. Export Readout Results
15. Version Number and Manufacturer

Technical help



If you need technical assistance please contact the following specialist.

city	name	phone	e - Mail
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INDEX

3 program parts.....	8	Layer Function, Adding from Several	
About this manual	4	Map Layers.....	26
Adding a meter manually.....	19	M-Bus modem driver	33
Adding and configuring of a meter ...	19	Meter of the handtrack driver.....	37
Adding meter in a map	25	Meter of the m-bus and serial driver .	37
Automatic readout	41	Meters	15, 19
Automatically export of the readout		MiniBus transponder.....	37
results.....	50	Modem-Relay DL.....	35
Billing readouts.....	41	Moving the map	26
Central stationary readout.....	6	MRAPI - Manager.....	4
changes of the readout tasks	46	MRAPI MANAGER	8
Changing a column identifier.....	19	Online graphic	47
Changing a driver in a channel.....	23	Order of the window	27
Changing of the column identifiers ...	13	PC requirements.....	5
Channel selection for meter scan.....	12	Program structure.....	8
Channels	15, 16	Readout datas of a spontan readout	12
Check readouts	41	Recalling data details of a meter	27
Checking the database.....	31	Recalling meter datas	26
Data protection. Data backup before a		Removing meters in a map.....	25
new installation.....	10	Removing DOKOM CS.....	10
Decentral stationary readout	7	Restoring the current database	30
Deleting single data entries	31	Saving the current database.....	30
Description of the program part		Selecting a coulumn identifier in a	
configuration.....	4	table.....	22
Description of the program part		Selecting a map.....	24
reading	4	Selecting language	21
DOKOM CS configuration	11	Serial M-Bus driver	32
DOKOM CS CONFIGURATION.....	8	Serial-Relay DL	35
DOKOM CS Reading	39	Service of the current database.....	31
DOKOM CS READING	8	Settings of the scheduler	42
Eporting readout results	41	Setup a channel.....	17
First call of the dokom cs configuration		Setup of different drivers	32
.....	11	Simulations driver	36
First steps for the configuration of the		Special task	41
DOKOM CS.....	11	Starting the database for the first time	
General description of the system's		28
components.....	4	Stations	15, 16
Generating a new program group	10	Steps for installing the DOKOM CS	
Graphic export.....	54	Software	9
Hand – Track driver.....	36	Structural layout of the DOKOM CS .	14
Impulse transponder.....	38	Structure of the database	28
Installation an update	10	Supported driver	17

Supported meter types in different drivers	37	The scheduler.....	42
Supported readout types	6	User groups	21
System Requirements	5	User readout using data logger features	41
TCP/IP-Relay DL.....	35	User readouts	41
Technical help	58	View of the meter list	13
The database	28	Working with different drivers of the DOKOM CS	17
The different types of readout	41	Working with different drivers	32
The list of the supported meter of the DOKOM CS	38	Working with the database	28
The readout window	44	Working with the map	24
The report window.....	45	Zooming in and out of a map area....	26