DOKOM MOBILE

SENSUS METERING SYSTEMS

MANUAL

8.6.2004

CONTENTS

Introduction

Dokom Mobile

Software for Mobile Reading. Required Hardware: Psion Workabout (portable) and PC

Dokom Mobile is a software for mobile read-out of counters of every energy type. First all data of the counters will be collected with a hand held PC (Workabout). With the PC program it is possible to plan and configure the data for a read-out. Two programs are required: the first, a Microsoft Windows based PC program, the second is a software which runs on the PSION Workabout. To run the system you need the components which are described in the system requirements.

Data collection is possible via manual input or automatic read-out

The program enables the user to capture data manually or via communication interfaces (M-Bus, MiniBus, ZVEI, HandTrack, optic and inductive data couplers).

To carry out the different aspects of a mobile read-out calculation,

two types of read-outs are supported

Tours

From all the meters, here can be arranged user defined tours, e.g. meter read-outs in specific places or regions or also different read-out frequencies. In this way can the order of the meters within a tour be changed any number of times. The advantage for the user is that all the information from the meters **and** the customers is saved on the Workabout and can be called up any time. The tours are suited for all recurring read-outs (for billing, to check them, etc,) and allow to retrieve historical data as well as to record the data of individual meters.

Free Readouts

The reader arrives without any saved information to the measuring place and takes there the measuring values and meter data as long as all the channels are available. It will be used often as a base for future tours or for service purposes.

About this manual

The manual is arranged as follows:

1. General description of the system components
2. Description of the program on the PC
3. Description of the program on the Workabout

System Requirements

PSI WIN SOFTWARE

Before installing DOKOM Mobile, the software PSI WIN has to be installed for communication between PSION Workabout and Desktop.

The components described in the following chapter are required for the use of DOKOM mobile. In addition, a software of the company PSION is essential to facilitate the communication between the PSION Workabout and the PC.. This software is called PSI WIN and can be found on the software CD. Begin the installation by opening the **SETUP**.

If there are problems during the connection set up, make sure that the transmission rate from PSI WIN (found under **PROPERTIES**) is set to 19200 Bauds. If the problems continue, instead of the PSI WIN version 2.3.3, install the PSI WIN version 2.3.1, which is also found on the installation CD.

You should use the version 2.3.3/2.3.1 for WIN 2000, NT and XP and the version 2.1/2.3.1 for WIN 95 and 98.

Requirments

98 or higher, for Windows NT 4.0, XP or Windows 2000 administration rights are required during the installation.

Minimum Requirements for the pc
Operating system: Windows 98 or higher, for Windows NT 4.0 (Intel) with service pack 3. If you use Windows NT 4.0, 2000 or XP, administration rights are required during the installation.
If used with systems lower than Windows 98 or ME, Internet Explorer 4.01 (SP2) or higher is required.
Main memory: 64 MB RAM (128 MB RAM recommended)
Graphic card: Super VGA with at least 800 x 600 pts
Serial Port (please make sure that the port is not being used / occupied by another program.

30 MB free hard disk memory required

To install the software on your hard disk around 30 MB of free memory are needed.

Workabout

The Workabout

The PSION portable PC (Type PSION Workabout) is delivered with a minimum of 1 MB RAM card storage space on a SSD (Solid State Disk). RAM and FLASH cards can also be used to operate the system and to save read out data.

Configuration and Functions of the PSION Workabout

Specifications

- 2 MB internal memory for the Workabout 2MX
- 2 ports for RAM/FLASH cards up to 16 MB
- 240 X 100 pixels LC display
- 57 key alphanumerical keypad
- 2 accumulators or conventional mignon cells can be used
- TTL and RS 232 interfaces
- Max. and min. temperatures: during use between –20°C and 60°C. In storage between -25 °C and 70 °C

The number of meters that can be saved depends on how big is the amount of information in each individual meter. 2 Kbyte of information per meter can be saved.

Port:D: for inductive readouts
Port G: for readio readouts

Port A: for optical readouts

LC -Display

ON / ESC key to switch on and off

Alphanumeric keypad

The psion key

Port C: Connection to the Dockingstation

Unused Port

Important Functions and Properties of the PSION Workabout

The PSION Workabout consists of a complete keypad to enter complete sets of sentences including numbers. Some keys are marked yellow, because they are used more often than others, thus making them easier to find. The Workabout has an LC display which is also readable in poor light conditions. The display can also be read in the dark, as it has a background light that can be turned on by pressing the key ⊗ .

The RAM / Flash Cards

The program and also the meter information can be saved on the RAM card. If there are problems to save the information, this can be due to the button cell found in the RAM card. The cell should be replaced as soon as possible. The Flash card saves the information without any batteries, therefore the safety of the information in this card is higher.

The Backup-Battery

On the left side of the slide-in drawer is the back-up battery. It helps to save data on the internal memory. Replace it as soon as the notice "Remove Backup Battery" appears in the bottom left corner of the display.

The Main Batteries

In the lower part of the slide-in tray are two Mignon accumulators. They provide the energy that drives the Workabout. Before the load of the accumulators gets too low to drive the hand held PC, the display will show "**Remove Main Batteries**". To recharge or care for the batteries use the docking station.

The date, time and the adjustments to the connection between PC and Workabout (Remote Link) will be reseted when you take out the batteries!

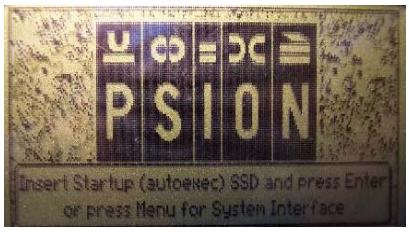
We recommend that the batteries be replaced while the PSION is connected to the docking station, so as not to reset the time, date and the Remote Link functions to their original positions.

How to adjust the data will be shown below.

PREPARING THE PSION WORKABOUT

Basic adjustments to the PsionWorkabout

Some basic adjustments are required on the Workabout so that the transfer of information with the PC works. The batteries should be charged, or you should connect the unit to the docking station.

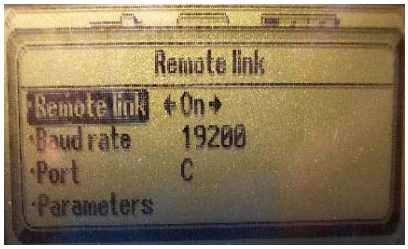


If there is a program that runs automatically on the Workabout when you turn it on, close the program to reach the operating system of the Workabout. The DOKOM Mobile can be closed with the key **ESC**. Enter the password "**dkmmbl**" and then the PSION screen will appear.

After pressing the key **Menu**, go to the System Screen and press **Enter.** Press **Menu** and use the right arrow to go to the index card "**Spec**" and then with the down arrow to "**Remote Link**" and press **Enter.**

Connect the PSION Workabout to the PC using the docking station or a proper cable, so that the interfaces can be checked, otherwise the commands will not be accepted.

Interface adjustment



Here you can change the adjustments by using the right and left arrows to enter**: Remote Link: ON** and **Baud Rate 19200**
Port C: (The port at the bottom for the docking station or the connection cable) If you do not have a docking station or a connecting cable, you can activate the RS232 interface on the top right hand side by entering ON and Baud Rate 19200 on Port A.
Port A: (Connection through No-Modem-Cable). Note however that you can not use this interface for read-outs anymore!

To finish confirm with **Enter**.

Memory capacity

Press **Menu** and go to the index card "**Info**". Here, under "**Disc Info**" you can find out how much memory you still have available on the card.

Leaving the system

If you want to leave the system, press Menu and go to "Spec" and then to "Exit". Confirm with Enter. Confirm by pressing "Y" on the newly opened window. You are now again on the PSION screen. By pressing Enter, DOKOM starts automatically, if it is already installed. The Invensys logo appears for about 2 seconds and then the main menu of DOKOM Mobil Software.

Locking the keypad

When you press MENU on the main menu the window on the left appears. By pressing on the function "Keypad Locked" the keypad can be blocked. By pressing the key Psion (bottom left, hold the key pressed) and then the keys A and B, the keypad can be unblocked.

Version number

As already shown on the photo for "Locking the Keypad", under "Version" can be found the version number of the DOKOM software.

Date and Time

The accumulator can lose its charge during storage or transport and the time and date will be altered.

To set the time and date press **Menu** on the main menu and then on the line "**Date & Time**".

Connection between PSION and PC

Data transfer between the PSION and the PC is effected via the above mentioned software PSIWIN. This software is absolutely essential, so that DOKOM mobile can transfer the data from the PSION Workabout to the PC. To check that this program functions correctly, proceed as follows:

Use a zero modem cable to connect the PSION to the PC. If you use the docking station of the Workabout connect it to the main power supply.

- Check to be sure that your Workabout is switched on. Click on “My Psion” of the PSI WIN software and follow these steps:

Symbol for a connection set up by PSIWIN with the PSION Workabout

(taskbar of the PC)

Symbol for no connection set up by PSIWN with the PSION Workabout

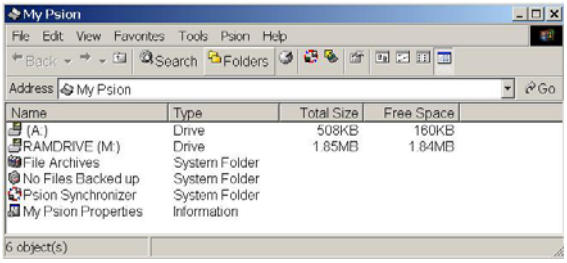
(taskbar of the PC)

Check to be sure that communication between PSION and PC exists. The program symbol must now appear on the taskbar of Windows. In case of an existing connection the symbol appears in the form of a sine curve.
If a horizontal line appears, no connection between the PSION Workabout and the PC’s desktop has been set up by the program PSIWIN so far. With the aid of the PSIWIN program menu (you can activate this menu by pressing the right mouse button while positioning the mouse arrow on the program connection). It is absolutely important that you take note of the settings for the Com-Port.

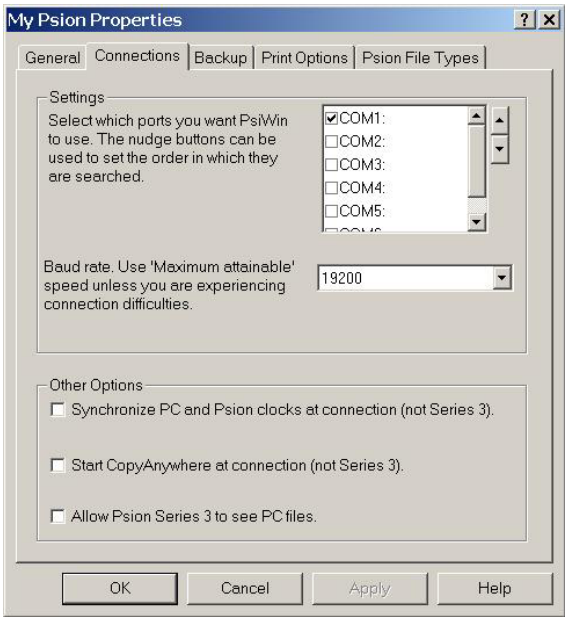
Check under **Properties** of “My psion” the transmission rate, it should be set at 19200 Baud. If there are still problems with the connection, then uninstall the PSIWIN 2.3.3 and install the version 2.3.1 / 2.1.

After successful connection between PSION and PC via PSIWIN you can consider each memory of the PSION Workabout as a normal drive and check the data contents. You can do this without the use of DOKOM mobile by using the program PSIWIN. Check the drives of your Workabout for no longer needed files in case you did not purchase the standard configuration together with DOKOM Mobile. The more free memory available on your Workabout, the more tours and meters you can import into it.

READ ALSO THE INCLUDED QUICKSTART INSTRUCTIONS FOR THE DOKOM MOBILE!



Under the PSION-Desktop you can activate the different connections. Make sure that your interface is not being used by another program, since this will not allow a connection with the PSION Workabout (check all the icons on the taskbar of the PC).



The connection works only when the correct COM-Port is set. The ticks should only be removed when you know exactly which connection is the PSION connected to. Set the Baud rate to 19200 as shown on the picture.

As long as the sine symbol in the taskbar can be seen, is the PSI WIN software using the correct COM port and cannot be used by another program.

The pc program

Software installation

Please insert the installation CD and start the program by running the file mo_inv3xxxinvwe.exe.

Installation is effected automatically after execution of the installation routine

The installation is effected automatically into a predefined directory. You should leave the preset values in order to avoid eventual program errors..

The program itself creates a program group in the start menu. Please remove all preceding DOKOM mobile installations from the system settings before installing the software.

Renewed installation by executing the installation routine

In case of a renewed installation please follow these instructions as well

Software deinstallation

Software deinstallation via system settings

Use the standard tools for program deinstallation. In the main menu of Windows select **Start/Settings/System Settings/Software/Add/Remove**.
Before removing please highlight the corresponding program group (DOKOM Mobile) in the list and then select **Remove**.

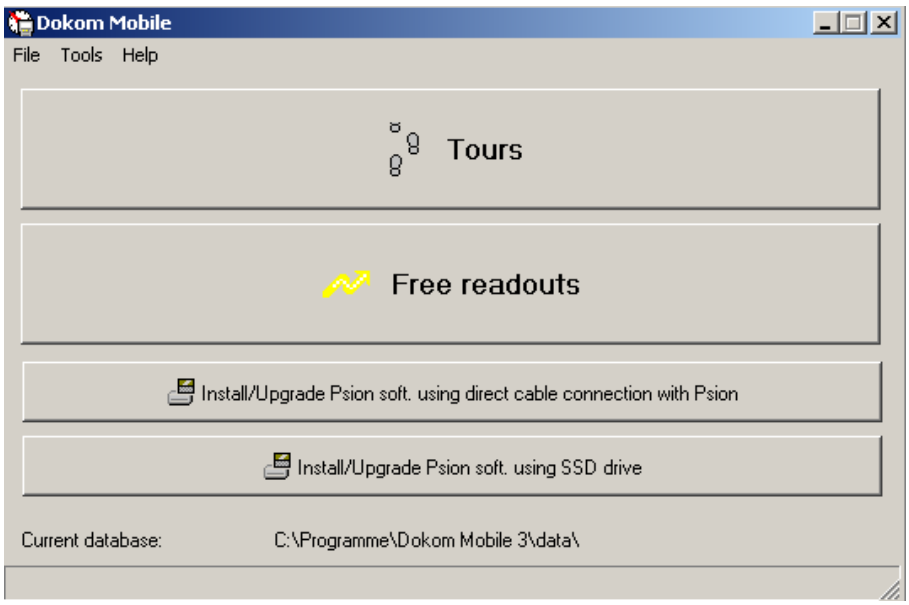
Starting the program

The program symbol in the program group

The program DOKOM Mobile can be started via the program symbol in the task bar in **Programs/DOKOM mobile/DOKOM mobile**. After the installation a link will be created on the desktop to start the program from there.

License Number

The first time that you run the program you will be asked for a Licence Number. The number appears on the inside of the CD cover of the purchased program. If the number is not entered, the program runs as a restricted test version temporarily. The required number can be entered later after the licence has been bought. Data already entered will not be lost.



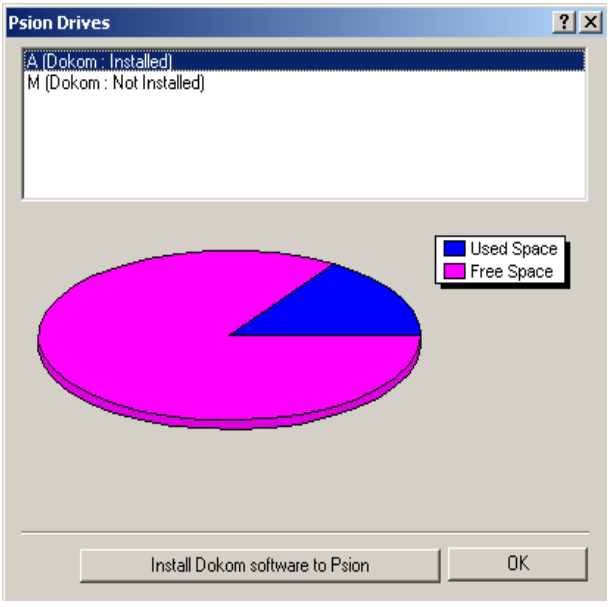
The main menu contents of Tours, Free readouts and Close

After the program starts, the main menu appears. By clicking on one of the two buttons you enter the individual basic program components.

Intallation und Update of the Software on the Workabout

Under the main menu points there are two menu points for first-time installation, to update the software on the Workabout or using SSD drives. After pressing the key the installation will be carried out through menu controls. After the first start, the key "**Install/upgrade from DOKOM Mobil on the Psion**" should be pressed. The following window appears.

Review of the drives to check an update or a new installation



Leaving the program during an update

Here can be seen which drives are already in PSION. The DOKOM Mobil should be installed on drive A. Unless you are running another program on the PSION, drive A should be empty. Delete before hand all unnecessary files using the PSION-desktop or re-format drive A. Click on the key "**Installation from DOKOM Mobil to the PSION**" and the software will be transferred automatically to the PSION Workabout. In case of an update, it is necessary to exit the DOKOM Mobil software on the Workabout. Press the key **ON/ESC** repeatedly until a password is requested. The password is **DKMMBL**. Now you are on the PSION level. See photo on the left. Start now the update. After finishing the update you can start the software by pressing **Enter**. The software is now updated.

Tours

After selecting this program component you enter the program window for the planning of new tours, the preparation of tours, for readout and processing of tour data and to prepare customer and meter information. As mentioned above, this part is mainly used for billing and check ups of all kinds.

Free

After selecting this program component, you enter the program window to take meter readings outside planned tours. This program component facilitates the analysis of meter data for technical analyses, service read-outs and the like. The data from the free read-outs will be transferred from the PSION to the PC.

Close

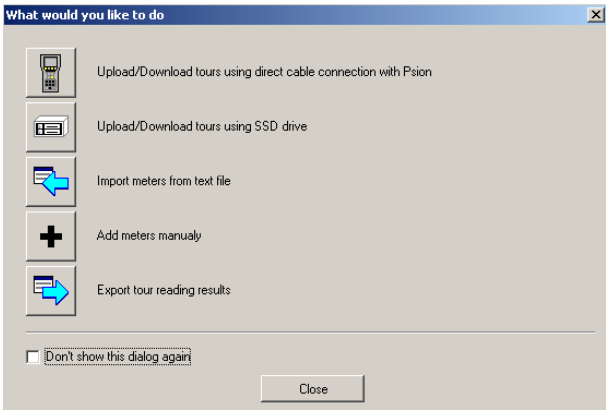
The program DOKOM Mobile will be closed by pressing the X symbol on the top right hand corner of the window.

Tour planning

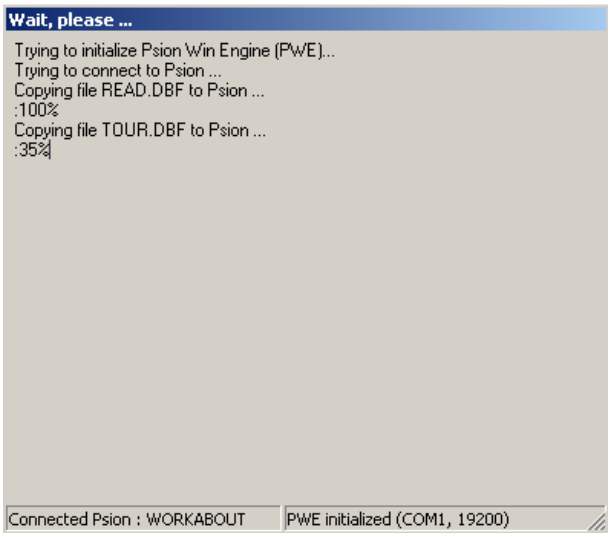
With the aid of DOKOM Mobile it is possible to fix the order of a group of meters as well as to record the data from the meters, the customers and the place. We will call this a **tour** on the following pages. The planning of a tour consists of different steps, which have to be followed by the user.

Management of the meters in the meter table	First, the meters have to be inserted into the meter table. All meters of the software are managed in a table. This way it is possible to export the meter data independently from their classification to defined read-out cycles. This meter table contains all details for meter identification such as the meter ID number, customer number etc., as well as instructions describing how to read the meters (M-Bus, MiniBus, radio, etc.). To avoid manually entering the meter data, this can be taken from the free read-out table or from a CSV (text) file.
Selecting a channel for a read-out (MBus, MiniBus, radio, etc)	A configuration of the meters regarding the type of data capture has to be effected afterwards. This step has to be carried out in DOKOM mobile. This information concerns the read-out via M-Bus, MiniBus, radio ZVEI or manually.
Collecting meters in a tour	In the last step meter groups can be combined into tours and also the number of tours can be given.

Psion Tour- Management

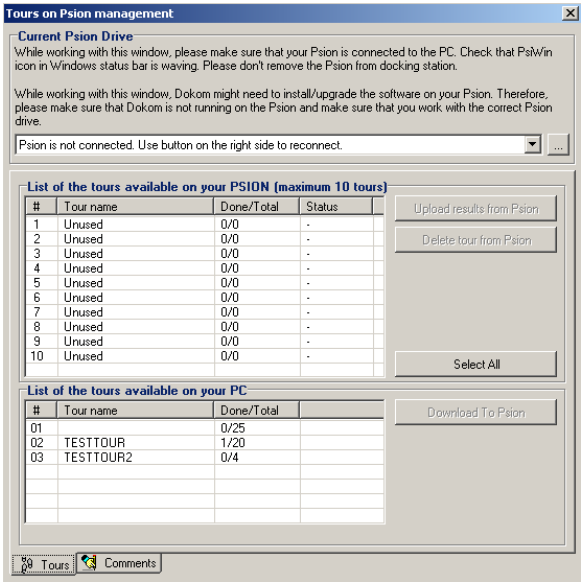


After pressing the button **Tours** on the main menu, a window appears with five menu points. Next to each menu point appears the description of the function that will be activated if the button is pressed.



After pressing the first menu point, a connection with PSION will be activated and the following window will appear.

PSION Tour-Management window with two registers



After successful connection to the PSION you enter the PSION Tour-Management window. This window consists of two registers.

The first register, **Tours,** contains information on the tours that have been saved and are available. In the upper part of the window you can find information regarding the handling of the program and the connection to the PSION Workabout.

Permanent connection between PSION Workabout and the PC is very important. An automatic synchronisation of the PSION program part is carried out

It is important that a connection between the PSION and the PC's desktop has been set up and that the PSION is not removed from the docking station. An automatic installation as well as an automatic upgrading of the PSION program component of DOKOM Mobile takes place during the com-munication. When updating, please pay attention carefully to the steps described in the chapter Installation!

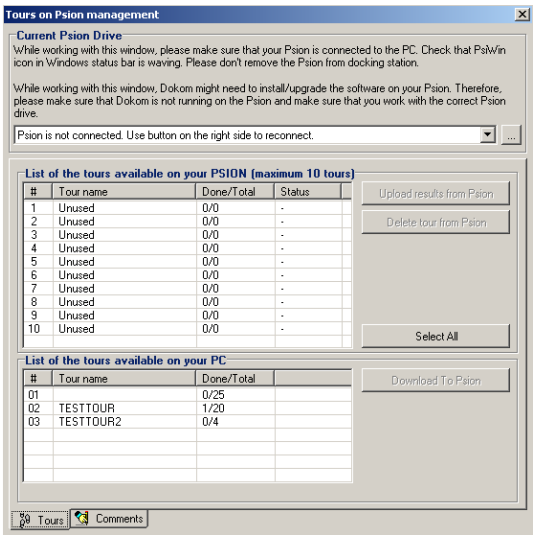
Up to 10 tours can be managed on the PSION

The tours that have already been installed on the PSION and their status are displayed in the middle part of the window. Up to 10 tours can be managed on the PSION. You can see from the status how many meters of this tour have already been read

Working on a tour on the workabout

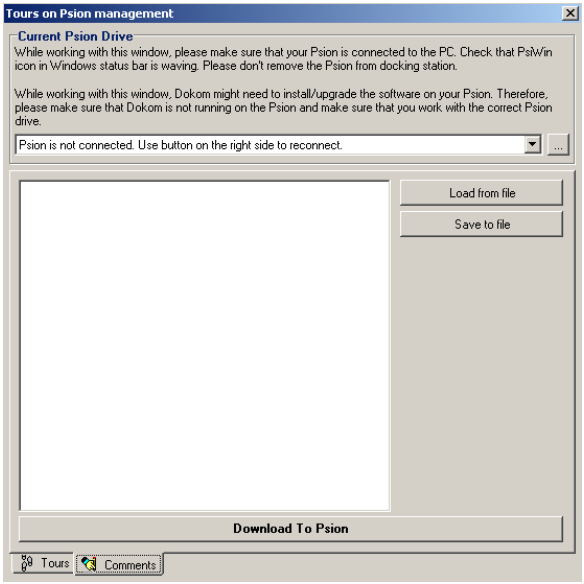
By highlighting one of these 10 tours the two buttons on the right of the list are activated. Saved information from the meter is displayed by pressing "**Read-out data from PSION**" and can then be transferred to the PC. By pressing "**Remove Tour from PSION**" this process is carried out.

Working on the tours on the PC



The tours which are already on the PC are displayed in the lower part of the window. Besides the active number and the tour name you can also see from the column "**Done/Total**" how many meters of this tour have already been read. By highlighting a tour the button on the right is activated and the transfer to the PSION can be carried out.

Commands and passwords

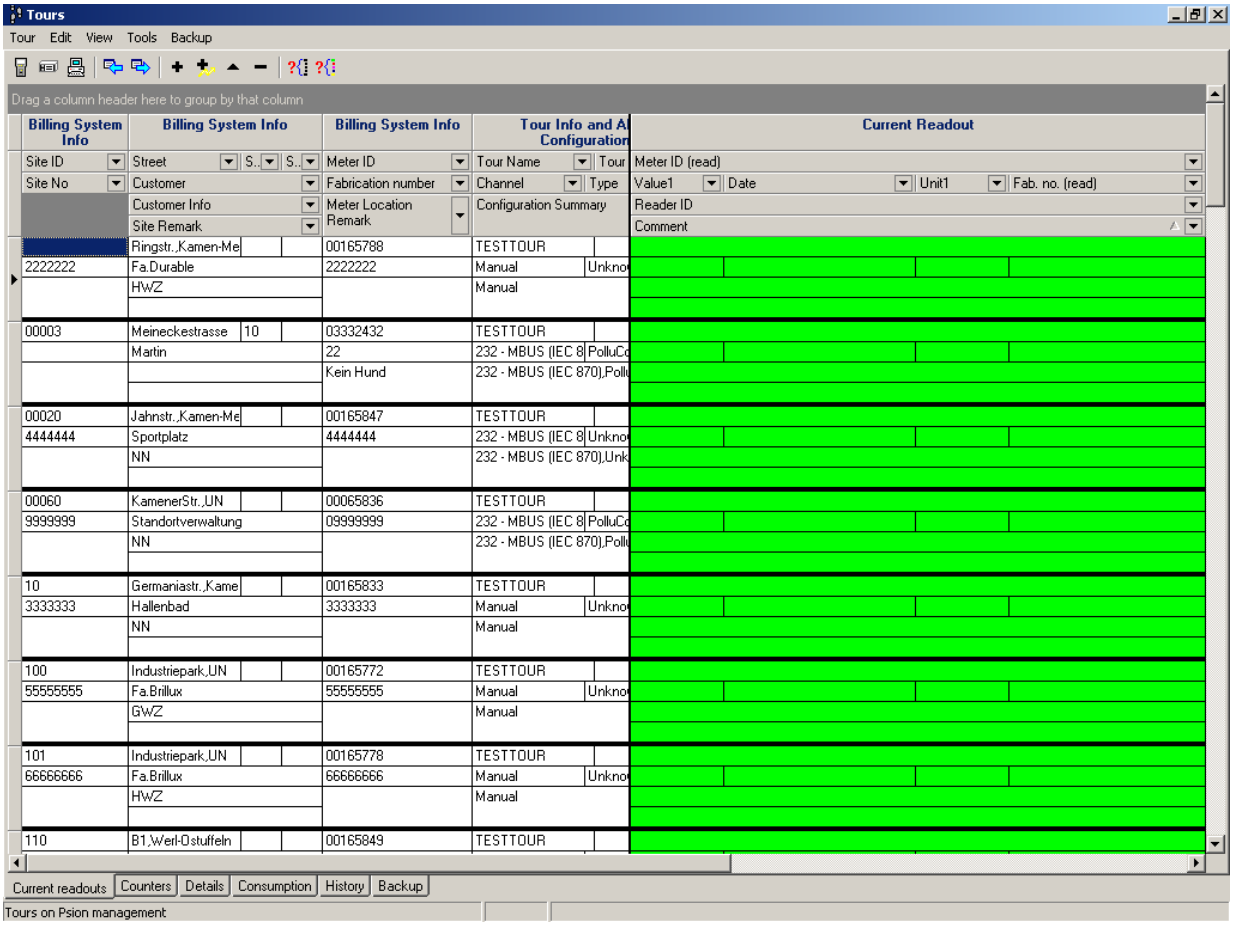


The passwords will be shown in the next register, **Comments**. You can a) exclude the use of a password, b) use one password for different tasks on the PSION, or c) give user passwords for the tour read-outs and record them in the Workabout. With the help of these passwords you can use the PSION Workabout as well as to regulate different access rights. **Close,** will exit the tour-management window, which takes you to the Meter Table.

Tour table

All specific meter data is visible in the meter tour table

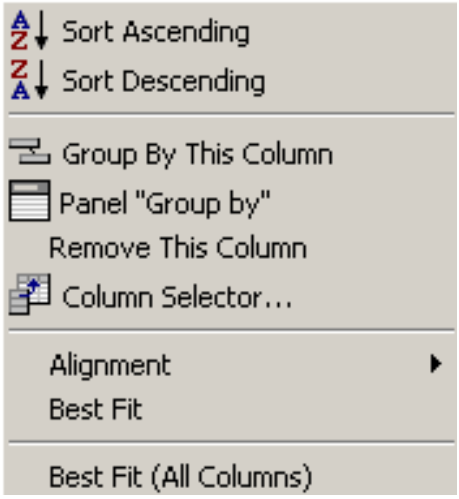
The tour table contains all the data of the meters managed by DOKOM Mobile. There are several icons on the top menu line. With their aid you can add, edit or remove meters, call up tour information on the highlighted meter, change into the PSION Tour-Management window or the PC Tour-Management window or import or export a meter list.



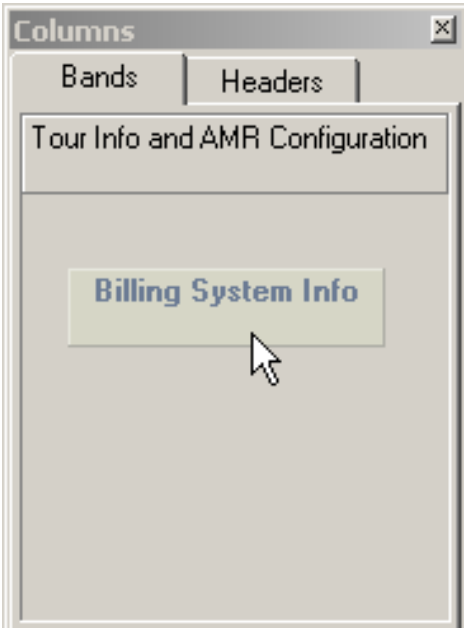
Column Identifier of the Meter Table

Billing System Info	Here can be found all the billing information
Tour Info and AMR Configuration	Here is the information on the configuration of the meter
Plausbility Check	Values of the meter and plausibility check
Current Readout	Date, time, place, etc. of the current read-out

The context menu on the tour table



After clicking with the right key of the mouse on a column identifier, e.g. ID, Customer, etc., appears the window on the left. If you click on the first two menu points, the order of the columns can be arranged. With the third button you can activate the grouping of the columns. By clicking on the menu point **Panel "Group by**" you can blend in or out the top grey line. If you click on the "**Remove Column**" The column that you have just clicked will be deleted.



You can also change and recall the arrangement and the description with the last three menu points. By clicking on "**column selector**" the window on the left appears.

On the first table you have the possibility to blend in the unused Main Column Identifiers (bands). Take the undesired identifiers from the field **BANDS** and the identifiers will no longer appear on the table.

Blending out the headers

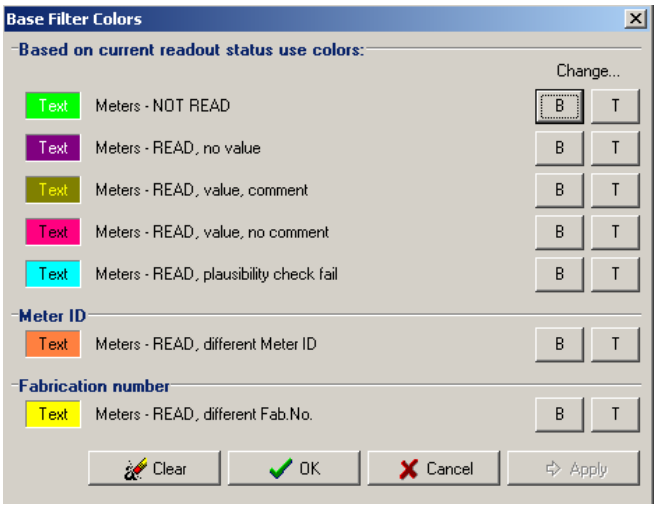
On the second table you have the possibility to blend out the headers which should not appear on the meter table. Also here choose the identifiers from the respective fields (Borders or Page Headings), and this column will no longer appear on the meter table

Functions on the taskbar on tours

Icons in the upper taskbar

In the upper taskbar there are some icons. They allow the following functions on the meter table

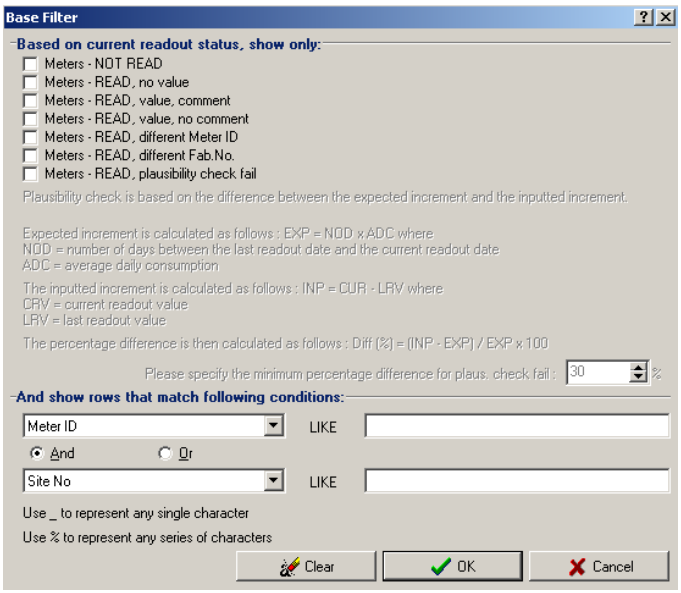
Choice of colours for the status display



By clicking on one of the coloured icons, the user can see which state the colours describe.

In the window on the left are shown the colours with their corresponding status. To the right of the status description, with the button **B**, you can change the background colour and with the button **T** the colour of the text. There is a wide range of colours to be used, so that it is possible to make a clear order.

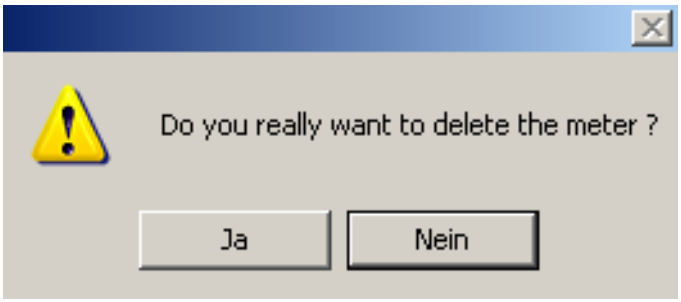
Basis filters to show the selected comments



By clicking on the **Basis Filter** icon , the user can blend in and out desired or undesired comments. In the shown window there is a list of possible comments which can be activated by clicking on them. Under this list it is possible to enter the percentage deviation from two read-outs (calculated by using the given formula).

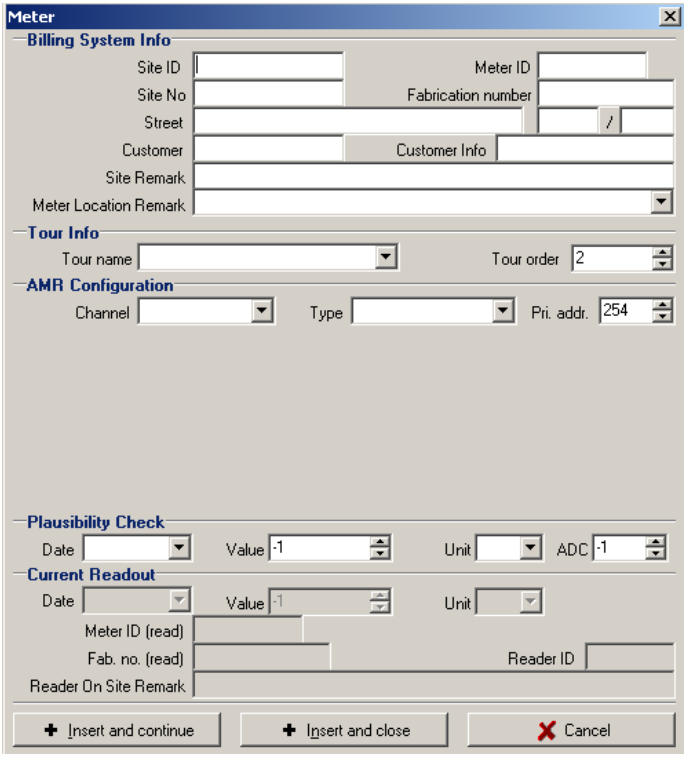
If the value of this percent is surpassed, then the plausibility check will be negative and the assigned colour of the basic filter colour menu will be displayed.

Deleting tour entries



If you press the shown key, the tour entry which is being used or is active, will be deleted.
Before the entry can be deleted, you must confirm the given order.

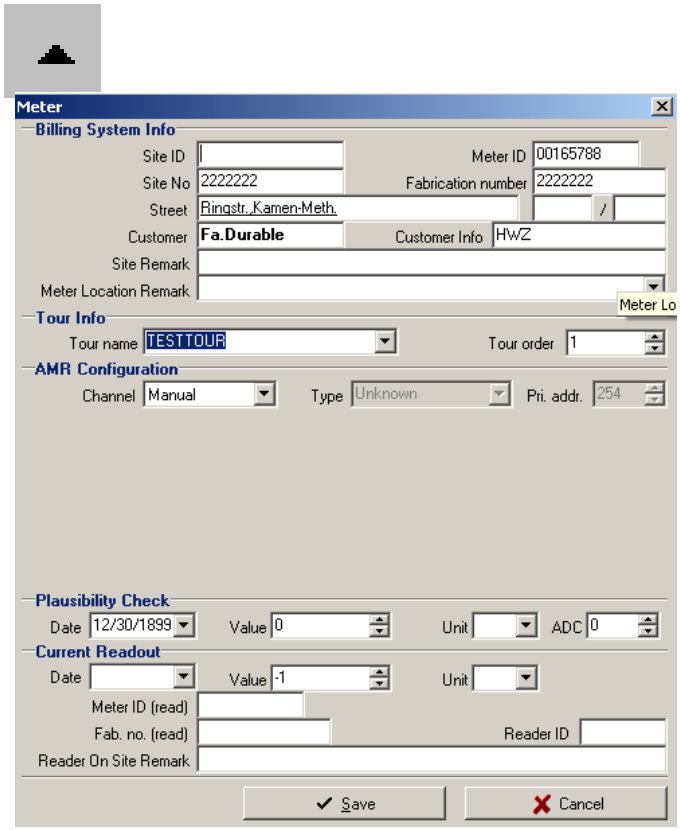
Adding tour entries



If you press the shown key, an empty field appears requesting the most important information to compile a tour entry. After entering all the information this can be saved on the Meter Table by pressing "**Save**". Please note that the given ID number can only be entered once, and this is to help with the sorting of the tour entries within the DOKOM.

The number of meters that can be saved can vary depending on the amount and size of the meters. If you want to save many meters with large amounts of information on them, you should use FLASH or RAM cards with higher capacity or more memory cards.

Editing a tour entry



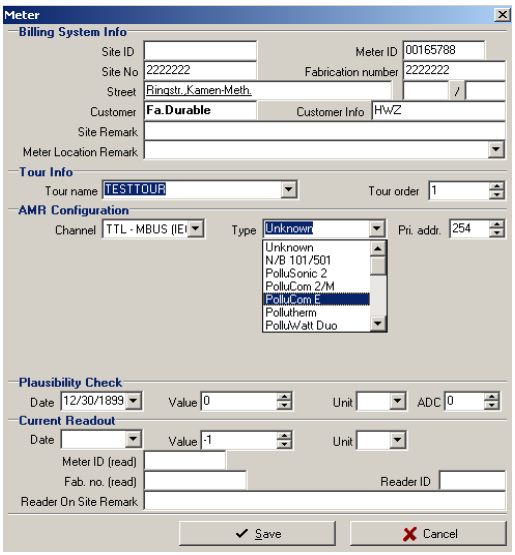
The tour entry can be edited by clicking on the shown key. The window opens and all the detailed information of the meter, the place, the customer and the plausibility test can be entered.

Press the button **Save**, which is found at the bottom of the window, and the changes to the tour entry will be placed on the tour table. On the top part of the window you must enter the specific data of the meter, the place, as well as that of the customer.

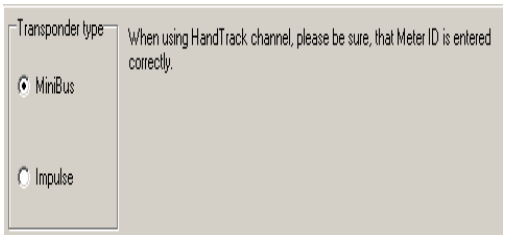
Under **Tour Info** you must enter the name of the tour and the contract number of the tour. Under **AMR Configuration**, the path (channel) of the read-out and the type of meter must be selected. The channels and types of meters that are available to be entered, can be selected with the arrow keys. To finish, can the data of the plausibility check be entered.

Site ID	Number for sorting the entries in a format XXX	required
Fabrication number	Serial / fabrication number	required
Meter ID	Customer number	optional
Site No.	Number of the site	optional
Street	Name of the street	optional
Customer	Name of the customer	optional
Cutomer Info	Additional informations about the customer	optional
Site remark	Remark of the site	optional
Meter location remark	Remark of the meter location	optional
Tour order	Order of the tour (sorting)	required

AMR – Configuration of a tour

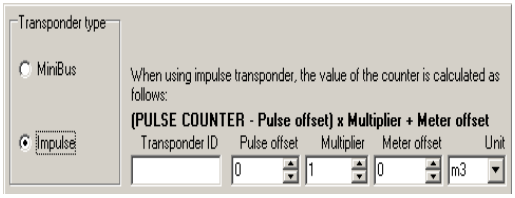


The third menu point of the meter window is the AMR configuration. The first box shows the different channels which describe the path of the read-out. The meters can be read out manually, inductively, optically or using radio waves. The meter to be read out can be selected using the second box. This selection is very important for the correct read-out of the meter information, e.g. the wake-up signal for the PolluStat will be automatically activated when the selection is entered. The user must then select the primary M-Bus address. This is necessary when more than one meter is installed in one read-out position, thus making the differentiation of the meters necessary. If there is a meter installed with an unknown primary M-Bus address in the read-out position, then the address **254** should be selected.



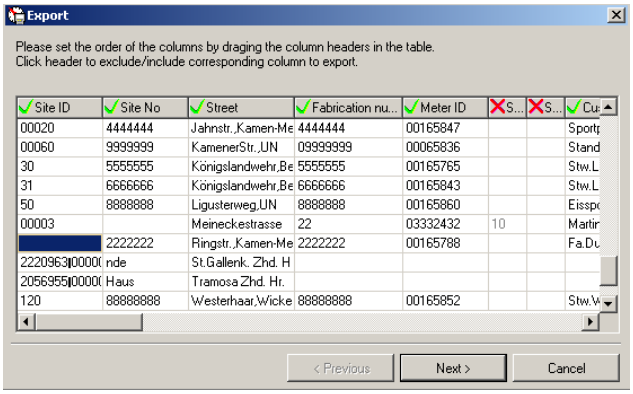
In case the Hand Tracks' channels are differentiated between two types of transponders, the type of Mini-Bus in the AMR-Configuration requires no further parameters.

In case of the impulse transponder following parameters have to be entered.
Enter the number **zero** in the first position and then the seven digit number of the meter or of the transponder number. When entering the type of transponder impulse, the parameters must be entered. In the first window the transponder ID must be entered. This can be found on the outer casing of the transponder. The first three numbers are **024**. Enter only the following numbers of the ID and place a **Zero** in the first position. In the second window the Impulse Offset of the transponders has to be taken. The original value can be read with the help of a free readout,. In the next window must be entered the value of the impulse in relation to the selected physical unit and in the next, the index of the meter at the time of connection of the transponder. Finally you must enter the units of measure of the value of the meter.

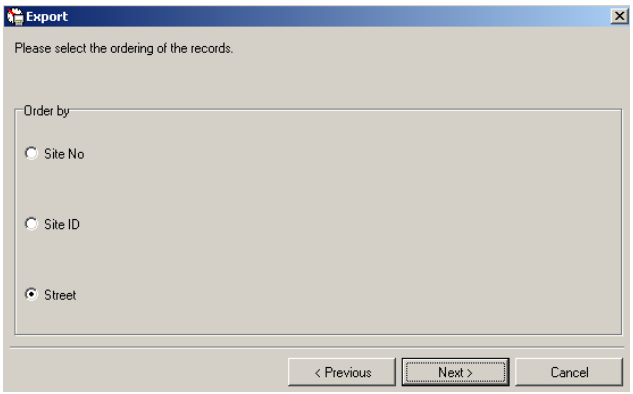


Export data

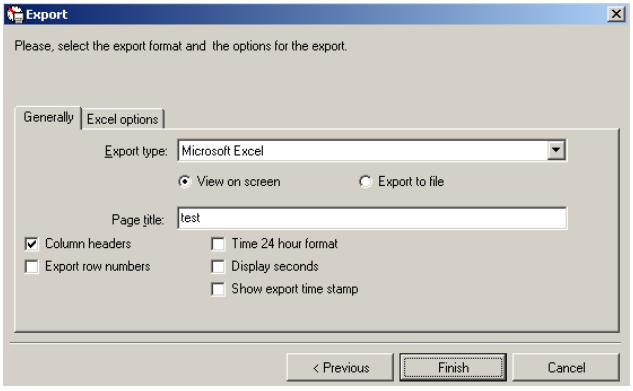
Clicking on the key "**Export Data Information**" opens the following window.



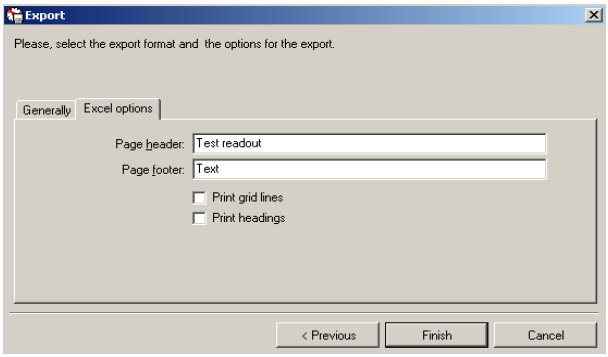
The export begins by showing the meter list and the complete information that the read-out contains. Now the desired columns can be selected to be exported.



The order in which the list should be shown can be selected in the next window. The sorting can be done by property number, ID or street.

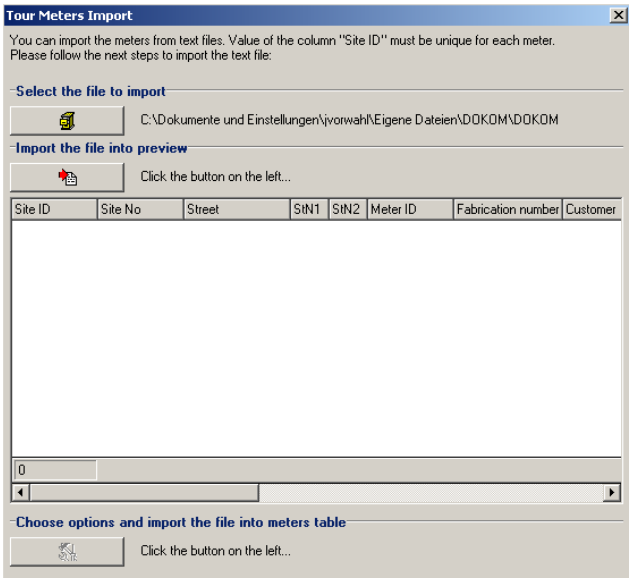


If you want to see the details in a window, this can be selected in **Options** (in which case the selected program will open and the selected information will be shown); or if the information should be saved. Here the first tab offers the possibilities and the different details of the display (24hr format, invisible columns, etc.)

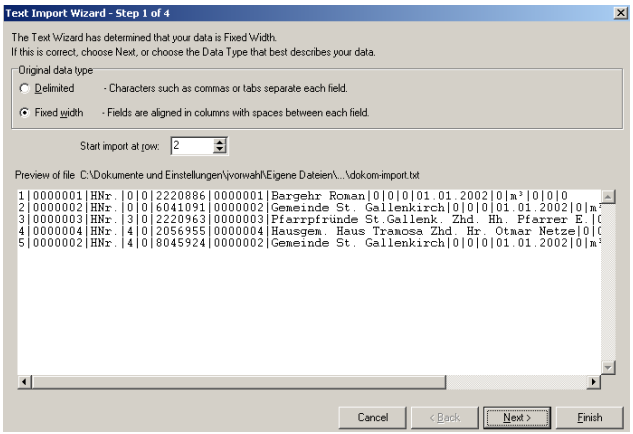


The different names of the headings and the footings can be entered with the tab "**Excel options**". Helping lines and page markers in the exporting data can also be shown.

Importing meter information

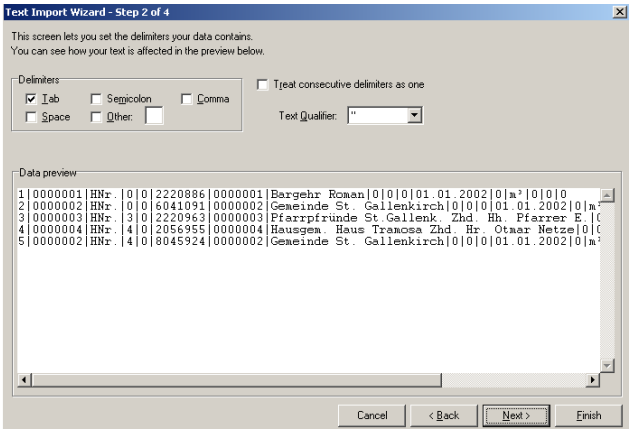


Clicking on the key "**Importing Meter Information** " opens the following window. By pressing the first symbol to select the import file, the corresponding path next to the symbol will be shown. Under this symbol there is a second key that generates a preview of the data to be imported. The content of the imported file can look as follows .- See next picture.



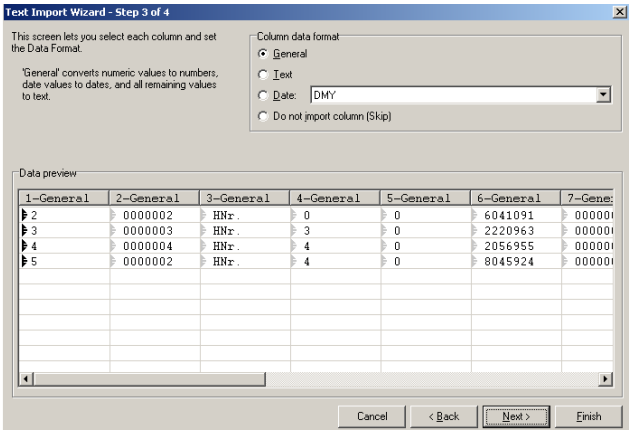
Select the corresponding word indicator, so that Dokom Mobil can add the information to the correct columns. You can confirm afterwards from which line onwards should the import take place.

Selecting the separation type



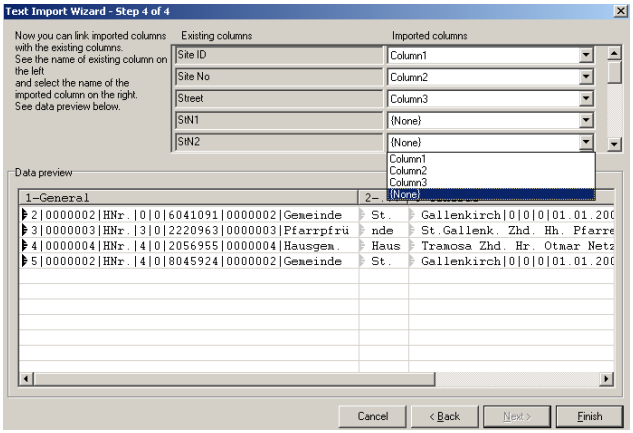
Decide which type of symbol should separate the data entries. If you have e.g. a file where the data entries are separated by semi-colons, then select as separation type Semi-colon. Depending on the type of import, you can use a space, a semi-colon, a comma, etc. or other type of symbol you define. The result of the separation can be found in the next display.

Assigning the columns by type information



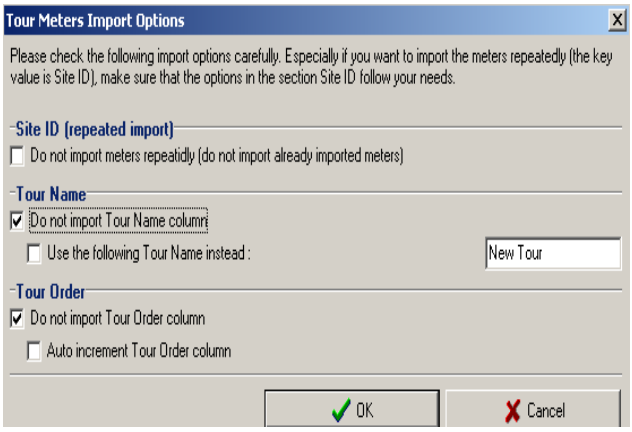
Click on the column title and select from the list on the top right side the corresponding data type. Do the same with all the columns. If you are not sure of the data type then use the type **General**.

Assigning the columns using an identifier



To finish you must put the columns in order with their corresponding identifier, so that you get your information shown in the tour list in the right order. Click **End** to close the import.

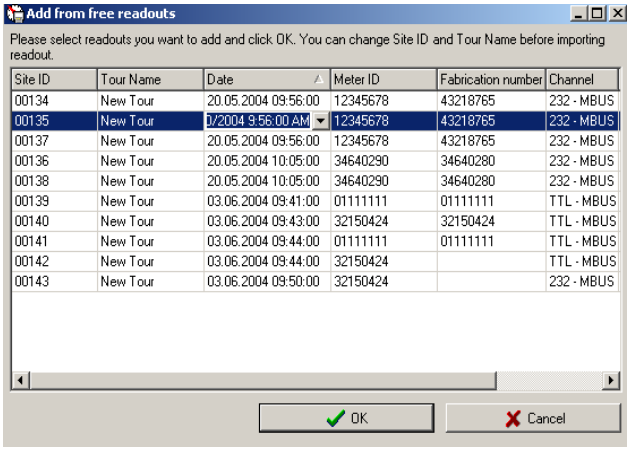
By clicking the symbol at the bottom you will go to the next menu.



The already read information can now be given a name. You can decide if you want to give a Tour Contract Number automatically to fix the order of the tours. In case there is already a meter in the tour list on the PC, the import of such a meter can be bypassed.

All the imported meters appear with their respective information in the meter table.

Adding meter information from a free readout

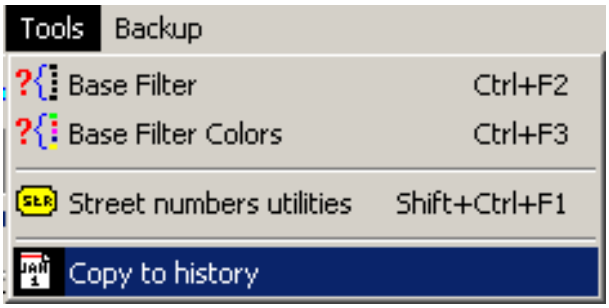


With the help of this function can the meter information from a free read-out be used to compile a tour entry. If you click on this key a table with the meter information from a read-out appears. After clicking the desired metres, these will be taken into the tour entry (new tour) and then you can continue to work on them.

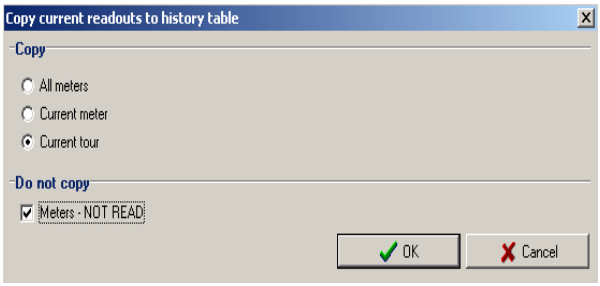
Using SSD drives

With the help of an SSD drive to read the PSION'S RAM cards, the read-out information can be transferred, as well as downloaded, from compiled tours without the use of the Workabouts.

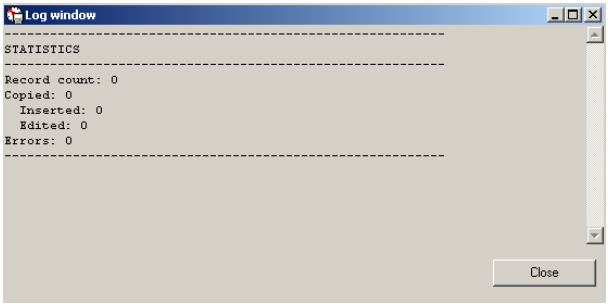
protocol of tour data



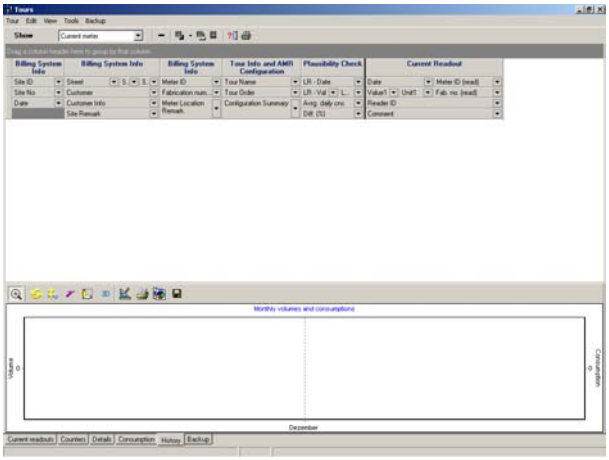
To record read out data from a tour, it is necessary to use the command " **Copy in Records**" which is under the menu point, **Tools**. The information saved can be called up with the tab **Records** and secured using a backup and a second backup any time. This way you can have a view (tabular and graphic) of the measurement data at this measuring point.



Apart from the icons in the menu list, you can also find under **Tools** the menu point "**Secure Records**" . Here you can place the results from all the read-outs of the current meters or current tour in the file card **Records**. This way you record the results of the file card "**Current Read-outs**".

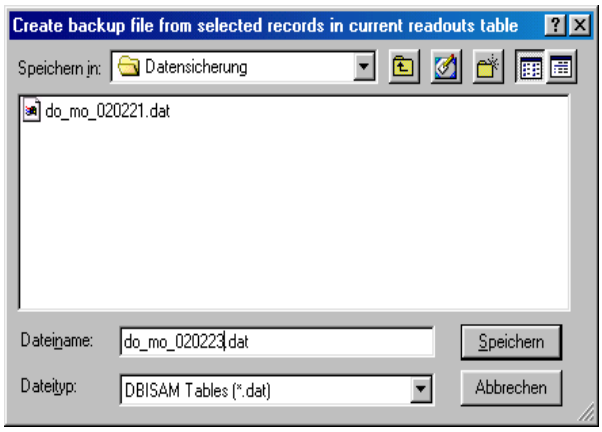


The result of securing and therefore of the number of copied meter readings will be shown in the "**Log Window**"



If you take readout history, a graph to the use of the meters can be shown in the file card **Records**.

Backup



Before you do a software update, always do a Backup !

With the menu point **Backup** you can secure the data. You should do backups regularly of your tour and read-out information. Specially important is a backup before you install a new updated version of the DOKOM Mobil on your computer. Here, the data banks can be re-written and all your tours deleted. Only by doing a backup and at the end a second backup can your tours be kept secure.

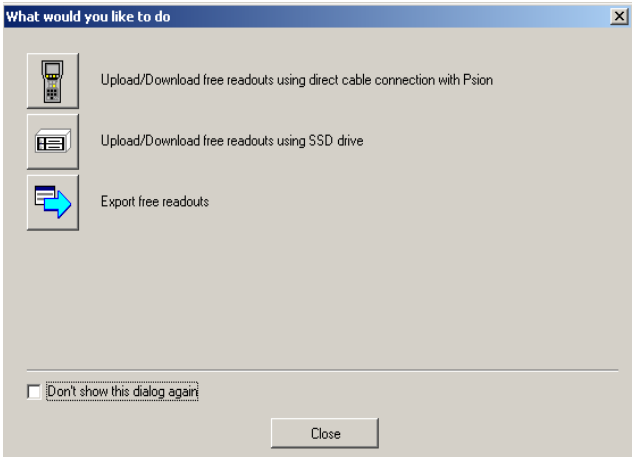
Enter under File Name a reliable name and select a file in your computer where you can find the data again.

Tour Management of the Psion

See the chapter Psion Tour Management

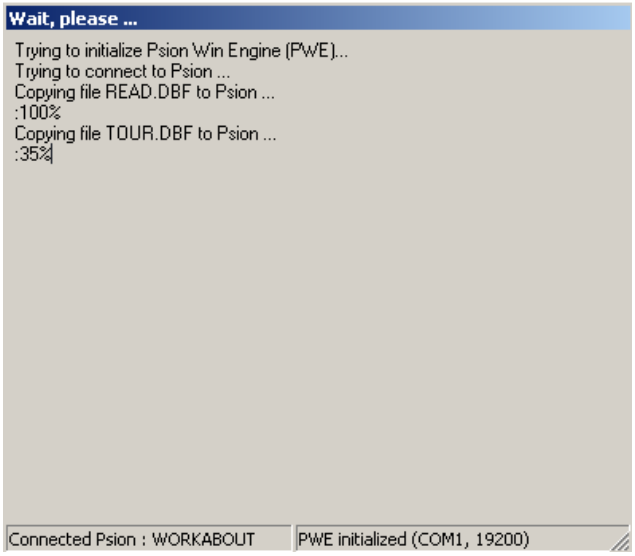
Free readouts

Spontaneeous readout using the free readouts

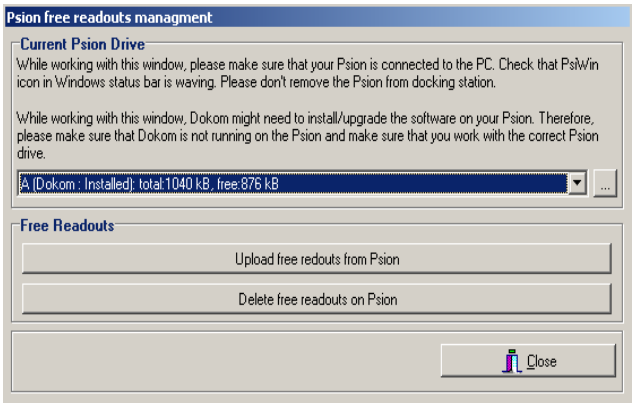


With the DOKOM Mobil it is also possible to take an spontaneous read-out, apart from the already planned tour . All the meters that you would read with the help of the free read-out through the Workabout, can be read and played on the window **Free Read-Out**.

After clicking on the main menu point **Free Read-Out,** appears the window on the left. If you press the first point on the menu, the meter data found in the Workabout will be transferred to the table of the **Free Read-Out**.



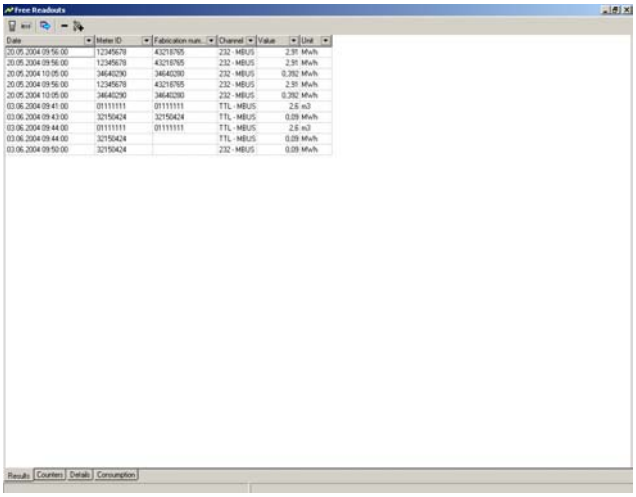
After successfully connecting the PSION to the PC, the software status of the DOKOM Mobil on the PC will be compared with that of the PSION Workabout and individual program parts of the Psion Workabout will be actualised. So is guaranteed that the current software status of the portable machine is always transferred so, that the correct data can be read.



The read-out data can be downloaded onto the PC by pressing "**Download from the Psion's Free Read-out**".

Later on the read-outs on the PSION can be deleted to make place for new read-outs.

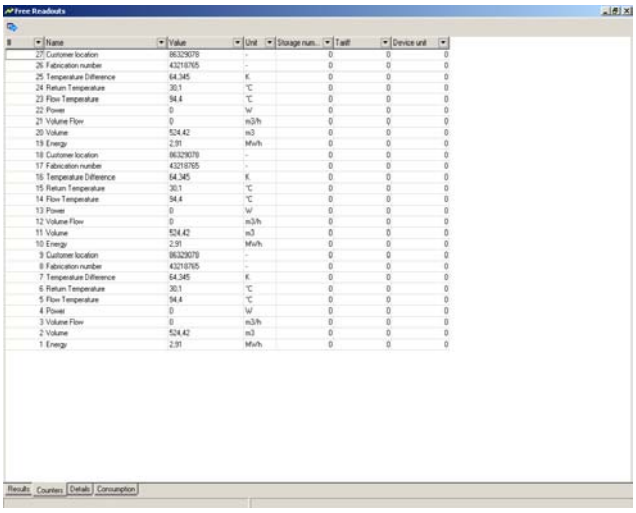
meter results



The meter data from the Free Read-out will be transferred to the Free read-out table. The meter data is available for the user to be viewed and worked on. By clicking on the triangular grey arrows next to the date appears a menu, where, by using a filter function, different groups from read-out meters can be displayed.

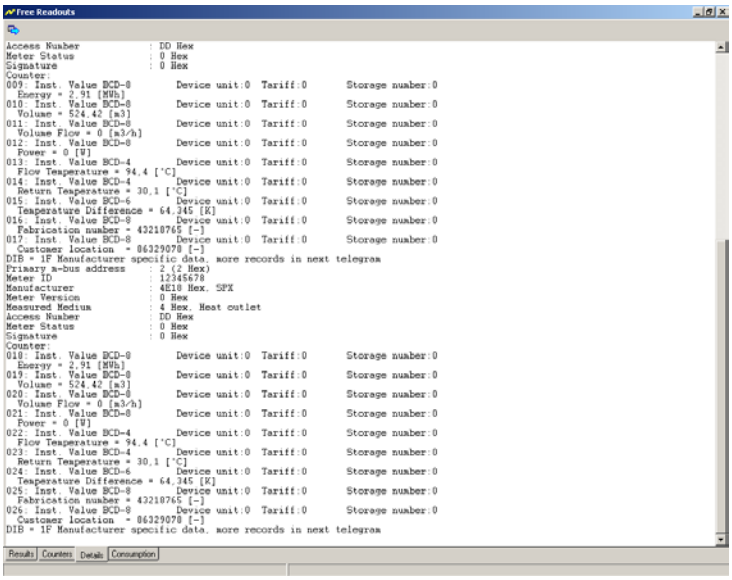
By clicking on all the headings of the black triangular arrows, you can change the order of the data, e.g. you can order by date or meter number.

counters



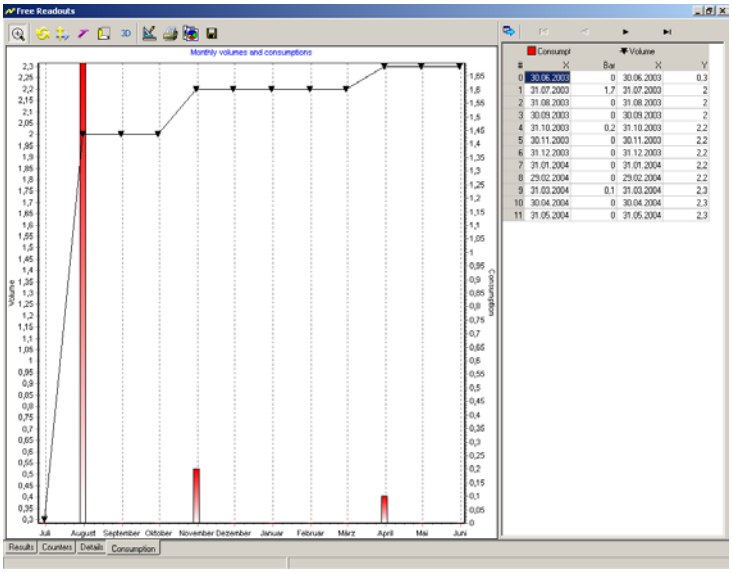
In the next tab of the Free Read-out you can find the **counters** tab. This shows the individual values of the read meter works as well as the value of the account delivered. These could be key day values or extreme values or others.

Description of the meter details



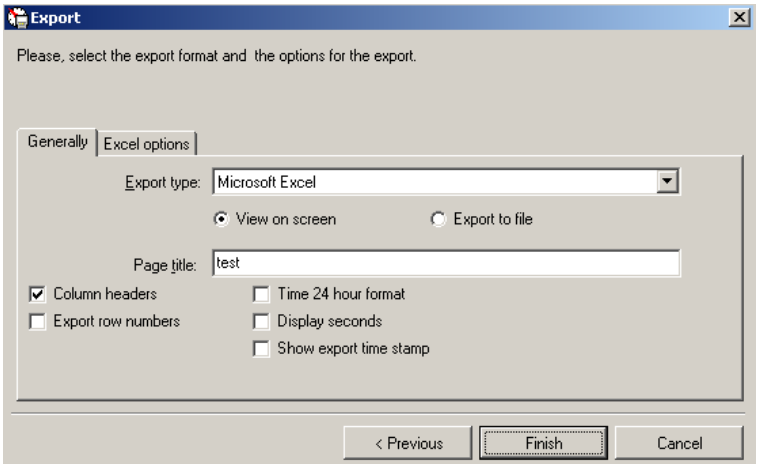
When you select the tab "**Details**", you get information about the recording of data from a meter data transfer or a read out. This information can be useful later to find faults in case of read-out problems.

View of the consumption



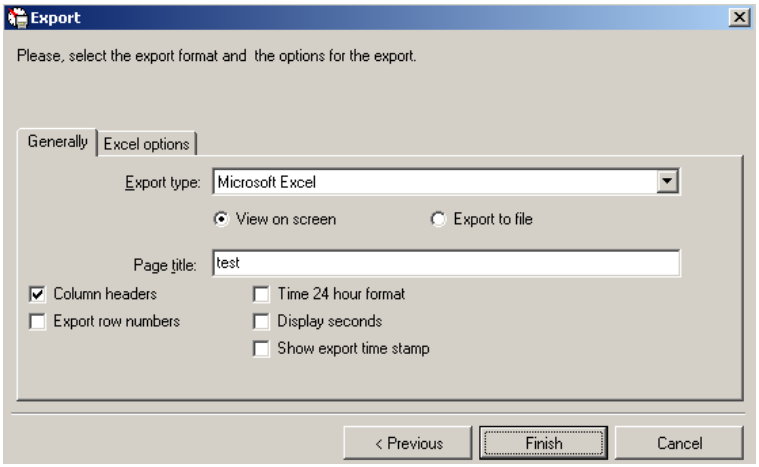
If a meter delivers historical read-out data, these values can also be graphically displayed. These graphs can also be changed and saved using the corresponding functions on the taskbar at the top. 3-D display, rotation of the graph, zooming, etc. can be done using these functions. On the right side of the picture, shown on the left, will the tabular read-out data still be shown. The data can still be exported with the Export function on top of the table.

Exporting meter data



Exporting into a file or a connected view into a selected Microsoft program (Word, Excel, etc.) are also possible. The first tab offers the possibility to show the different details (24 hr format, invisible columns, etc.).

The different names of the headings and the footings can be entered with the tab "**Excel options**". It can also show the helping lines and page markers to set the lay-out of the page.



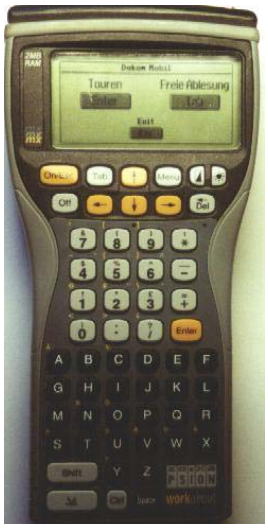
Exporting into a file or a connected view into a selected Microsoft program (Word, Excel, etc.) are also possible. The first tab offers the possibility to show the different details (24 hr format, invisible columns, etc.).

The different names of the headings and the footings can be entered with the tab "**Excel options**". It can also show the helping lines and page markers to set the lay-out of the page.

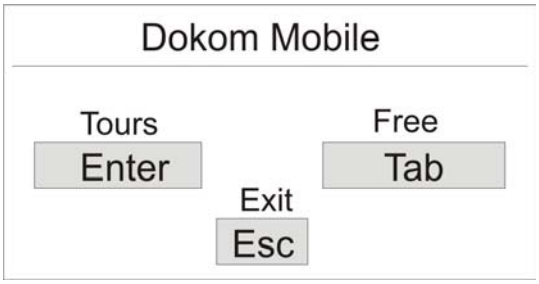
Dokom Mobile on the workabout

Starting Dokom Mobile on the Workabout

Starting the dokom mobile on the workabout



To switch on the Workabout, press the yellow **On/Esc** key which you find in the upper left corner. The software will now be started on the Workabout. The opening screen is shown in the picture below, which appears with the following menu points. To select the menu points, press the keys shown below the menu points. For the selection of tours press the yellow **Enter** key, for Free Readout press the grey **Tab** key.

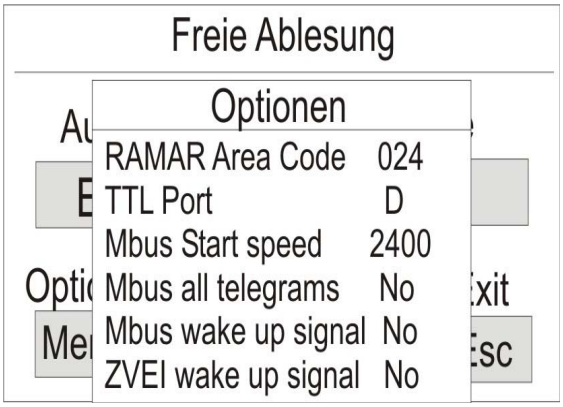


Blocking the keypad

To block the keypad on the Workabout press **MENU** then on "**Block Keypad**". To unblock press the key **PSION** (bottom left, keep pressed) + **A** + **B**.

Checking the interfaces before starting the Dokom mobile on the workabout

Click on the key **TAB** to start the free read-out . Then click on the key **MENU**. A window appears with the interface parameters of the PSION Workabouts. The following parameters have to be set for the functioning of the machine without problems:



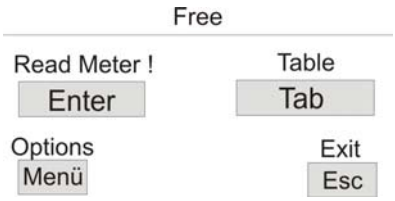
- RAMAR Funk Code 024
- TTL Interface: **D**
- M-Bus Start Baudrate 2400
- M-Bus all telegramms: No
- MBus WakeUp Signal **No**
- ZVEI WakeUp Signal : No

The Wake up signal must be set to **YES** for a read-out from the 2WR4 PolluStat E heat meter!

If you want to read the monthly values of the heat meters PolluComE, PolluTherm and PolluStat E , then you must set "**M-Bus All Telegrams**" to **YES**

Free readout

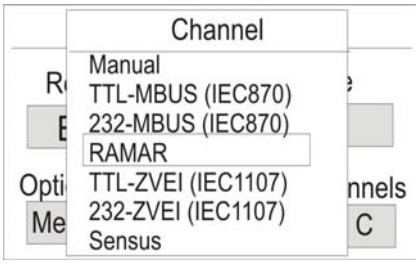
Starting a free readout



To set the menu to free read-out, press the grey key **Tab**. It is found next to the yellow key **On/Esc (**on the right) in the Workabout. The menu on the left appears.

Before the first read-out you should press the key **Menu** to check the basic settings.

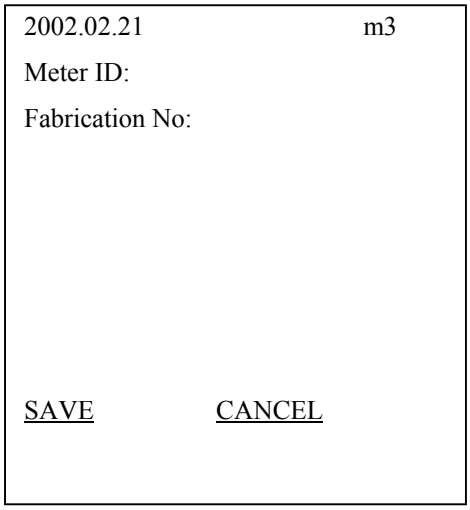
Choosing a channel



After pressing **Enter** the menu with the different channels appears. The desired channel can be selected with the arrow keys. The function of the different channels is described in the following section. By pressing the key **C** (channels), the number of channels offered for selection can be reduced to only the most necessary. Then after a second call of the read-out , only the channels that you have selected will appear.

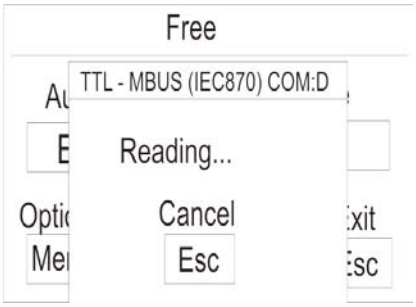
Manual readout

The following menu appears after pressing the point "**Manual**".



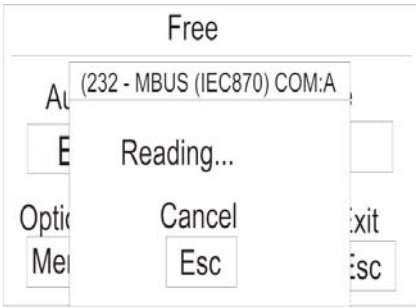
The date appears on the first line. Immediately after, the meter status can be manually entered. The unit will be shown behind the meter status. By using the arrow keys the different units can be selected. You can enter on the next line the Series Number and on the next one the customer number. With the help of the up and down arrow keys you can select the different points. After entering the meter data, the information can be secured by pressing **Save**. If you need to interrupt the procedure or if it is no longer needed, press **Esc**. After cancelling or saving you will go back to the main menu of the free read-out.

TTL M-Bus readout via inductive coupler



Press “TTL M-Bus” and the following display appears. The read-out occurs in this case through the COM Port D. The COM Port D is an interface of the Psion Workabout. Through this interface is possible a read-out with the aid of a magnetic data coupler (MDK), e.g. a meter works optoencoder through the MiniPad, Heat meter B101, B501, PolluSonic 2, PolluStat E or Polluterm, and using optic and inductive interfaces. The read-out can be stopped by using the yellow key **Esc**.

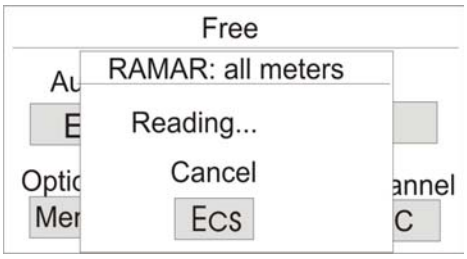
RS 232 M-Bus readout via an optical data coupler



The following display appears after selecting the point **232 M-Bus**. The read-out occurs in this case through the COM Port A. The COM Port A is the RS232 interface of the Psion Workabouts. Through this interface is the read-out possible by using an optic data coupler e.g. The Heat Meter PolluCom E, PolluTherm or the Water Meter PolluMUK.. An M-Bus installation can also be read through an M-Bus Master. The read-out can be stopped by pressing the yellow key **Esc**.

Before a reading with the PolluComE, PolluStatE or PolluTherm, the red key must be pressed for 2 seconds, until a message appears on the LC display. Afterwards is necessary to press the key again for a further 3 seconds, so that within 3 minutes a read-out is possible over the interface.

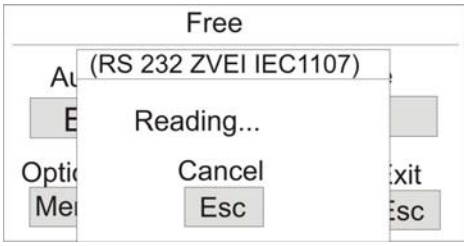
Radio readout



The HandTrack read-out describes a remote read-out with the aid of a transceiver, also known as HandTrack. The serial connection cable of the HandTrack should be connected to the TTL interface D of the Workabout. The power supply to the HandTrack comes through the PSION Workabout. This way can be read the remote modules with Minibus and impulse entry which are connected to heat and water meters.

Please note that in the first read-out the memory capacity, which will be renewed every 6 hours, will be read. Not until the second read-out will the current meter values be transferred

232-ZVEI (IEC 1107) Read-out through an Optic Data Coupler ZVEI Data Recording.



The following display appears after selecting the point 232-ZVEI. The read-out occurs in this case through the COM Port A. The COM Port A is the RS232 interface of the PSION Workabout. Through this interface is the read-out possible by using an optic data coupler on a heat meter 2WR4/5 (ACTIVATE WAKE UP SIGNAL) that will not produce an M-Bus recording, but a ZVEI data recording. The read-out can be stopped by pressing the yellow key **Esc**.

Displaying the readout results

No	Meter ID	Code	value
1	06089919	086	00000122
2	00165608	040	00024214

If the read-out is successful this will be shown by an acoustic signal. The resulting data of a read-out (e.g. by a remote read-out) will be shown as on the left. The number of the read out values will match itself to the type of meter and its data recording.

DT	Meter ID	Customer ID	Value
2002.02.20 09:12	6089919	00224488	122 m³
2002.02.20 09:23	02151234	00113377	15 MWh

Saving and Overview of the readout results

By pressing **On/Esc** you return to the main menu of the Free Read-out. Before that, it will ask again if the last read-out values should be saved. By pressing **Enter,** the data of the last read-out will be saved on the table. By pressing **Tab** you get an overview of the read-out results in the form of a table. In the individual lines is all the important data from the read-out e.g. date, time, meter ID, customer number and value with measuring units. In a remote read-out no measuring units will be shown, since the remote module can not know them. The arrangement occurs later in the software DOKOM Mobil.

Tours

Starting a tour

Press the yellow **Enter** key in the basic menu to enter the tour menu. After that the table on the left appears. You can select the appropriate tour with the yellow arrow keys and confirm with **Enter**. If there is only one tour saved on the PSION, the option will not be shown and the tour will be opened immediately.

Selecting Place of readout

Tour: Hannover 2/4

?	No	Street	customer
--	1	Hauptstr. 5	Meyer, Otto
--	2	Hauptstr. 7	Schulz, Franz
OK	3	Bahnhofstr. 1	Lehmann, Heinz
OK	4	Bahnhofstr. 3	Müller, Paul

The places of the read-out with street and number are listed on the table on the left. The addresses of the meters already read are listed below and marked with an OK before the entry. Therefore all the read-outs are shown on the following table, no matter which channels were used. You can select individual read-out places from the tour by using the arrow keys. Put the cursor on the first column and press **Enter** to begin the read-out of the meter. In the top part of the display can be seen how many meters from the tour have already been worked; here two out of four read-outs.

Readout from meters via different chanels

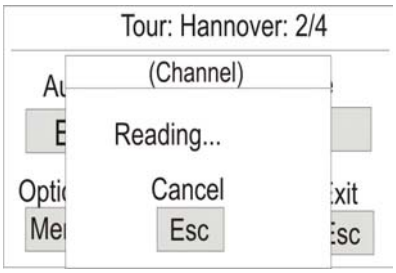
The configured meters in the PC can now be read in Workabout with the aid of a tour plan. After calling the tour entries, the corresponding meter will be read via the already defined channels in the PC (manual, minibus, M-Bus, hand track or a Combination Data Coupler KDK)

The manual readout in a tour

	000129	**m3**
2002.02.21		**m3**
Meter ID		**00000815**
Comment		
Save		**Canc el**

After calling up a tour, in which the meter has been configured for a manual read-out, the following menu appears.
The meter status appears on the first line. Next to this the unit is shown. In the following line the serial number is displayed. The customer ID as well as the possibility of adding a comment are displayed below. With the aid of the up and down arrow keys you can choose from these points. Press **Save** to secure the recorded meter data. **Esc.** stops the procedure in case the input is interrupted or no longer needed. After escaping or saving you re-enter the main menu of the free readout.

Readout via defined chanel



The menu on the left appears after calling up a tour entry in which the meter has been configured for a read-out. The compilation of data from a meter occurs automatically. A bleeping signals that the communication between the coupler and the Workabout works correctly. The data transfer follows. The transfer is finished as soon as a table appears on the Workabout with the read-out data.

Description of the results table

On the top line appears first the manufacturing number followed by the customer number of the meter. The primary M-Bus address of the meter appears if it is an M-Bus read-out. In the following lines you can find the typical data supplied by the meter.

After the read-out, all the data will be transferred to the tour table. With the arrow keys, the individual sets of read-out data can now be displayed. All the read-outs can be found in this table, with date, time and specific data that was delivered by the meters. After leaving this menu you go back to the menu of the tour entries of a tour.

Menu functions

Meter	*Tour*	*Special*
Show Details	**Open**	**Batterie status**
Read Meter !	**Exit**	**Options**
Manual		**Backup to M**
Filter		**Backup from M**
Order		**Lock keyboard**

On the table on the left are shown the menu functions that can be reached by using the menu and arrow keys.
Under Details is shown all the data from the meters
Under Manual you can enter the values for each meter manually.
Under Filters you can search for meters by street.

Under Options you can set the interfaces (see Free Read-out)

Checking the Manufacturing and Customer Numbers after a Tour Read-out

If the manufacturing or the customer numbers are different after a tour read-out, the DOKOM Mobil system recognises this and sends a message to confirm if the read out data should be accepted or not. The user has the possibility to give the reason e.g. a change of meter in the read–out recording

Shortcuts in the tour menu

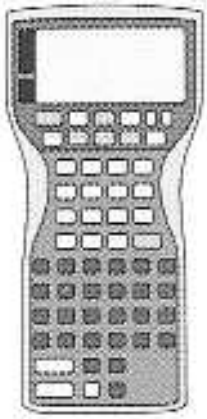
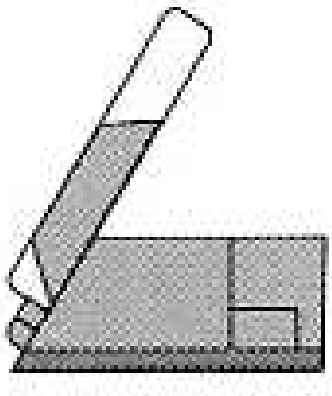
With the help of the **Psion** key (bottom left) and pressing a second key, information about the meter can be requested or functions carried out. Hold the Psion key pressed and type the corresponding key as shown on the table.

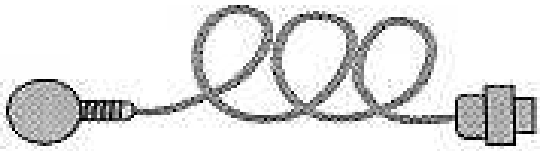
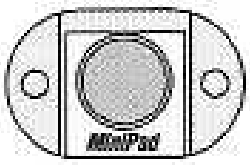
Shortcuts	Function
PSION + D	(METER) Displays Meter Details
PSION + S	(METER) Starts the Meter Read-out
PSION + M	(METER) Starts the manual Meter Read-out
PSION + F	(METER) Puts the Filter of the Street Field in the Meter Table
PSION + R	(METER) Sorts the Meters by Street or Tour Number
PSION + O	(TOUR) Opens a Tour
PSION + X	(TOUR) Jumps back from a Tour into the Main Menu
PSION + B	(SPECIAL) Displays Battery Status
PSION + P	(SPECIAL) Options
Button A	Calls up the next available meter which has not yet been read, so that it can be read. Go to the first read-out meter on the table so that the next non-read meter can be shown.
Searching for entries:	Go to the corresponding column of the tour entries on the Workabout. If you enter the first number of the entry you are looking for, the cursor will jump to this row and then you can e.g. begin a read-out

Technical Support

	If you need technical support, you can contact the following people.		
City	Name	Phone	eMail
Hanover	Jörn Vorwahl	+49 510274200	Joern.Vorwahl@sensus.com
Hanover	Michael Andre	+49 510274172	Michael.Andre@sensus.com
Ludwigshafen	Rudolf Krupp	+49 62169041183	Rudolf.Krupp@sensus.com
Berlin	Michael Zobel	+49 3054398518	Michael.Zobel@sensus.com

EQUIPEMENT AND ACCESSORIES

Workabout (Mobile Read-out Instrument)		
Type	**Order No.**	**Uses**
PSION Workabout for DOKOM incl. RAM Card	181999	Mobile readout instrument
Protective bag for the workabout	181994	
Dockingstation for Workabout	181987	Connection to the PC, incl. Re – cahrge
Interface cable including power supply and wall carrier	181988	Alternative to the dockingstation
PSION Workabout	**Dockingstation for Workabout incl. Re-charging**	
		

Data coupler		
Type	**Order No.**	**Uses**
Minipad, inductive meter-readout coupler for wall mounting	182079	To connect to water meters with Optic-Encoder Meter Works or a Heat meter with Minibus exit (OUT)
Magnetic Data Coupler-(TTL) transistor-transistor logic, mobile data coupler, inductive	182081	For read-outs over MiniPad and the Heat meter NB1500,PolluSonic2
Optic data coupler	04410230	For read-outs of the Heat meter PolluCom E, PolluTherm, PolluStat
Data coupler	**Minipad**	
		

Radio readout		
Type	**Order No.**	**Uses**
Transponder (Unit to convert the meter signals into radio signals)		
Radio Module Transponder MiniBus	181989	For meters with Minibus-interface optic-encoder meters, Heat meters
Radio Module Transponder Impulse entry	181991	For meters with impulse output
Handtrack (sender and receiver unit to connect to the Workabout)	181992	Portable radio unit in connection with the PSION Workabout
TTL connection cable Handtrack- Workabout	181993	Connection Handtrack- Workabout
Transponder	**Handtrack Tranceiver**