<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>General</td>
<td>5</td>
</tr>
<tr>
<td>1.1</td>
<td>Instructions on using the manual</td>
<td>5</td>
</tr>
<tr>
<td>1.2</td>
<td>Explanation of symbols</td>
<td>5</td>
</tr>
<tr>
<td>1.3</td>
<td>Liability and guarantee</td>
<td>5</td>
</tr>
<tr>
<td>1.4</td>
<td>Incoming goods inspection</td>
<td>6</td>
</tr>
<tr>
<td>1.5</td>
<td>Contact and copyright information</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Application and Installation</td>
<td>7</td>
</tr>
<tr>
<td>2.1</td>
<td>Purpose and Application</td>
<td>7</td>
</tr>
<tr>
<td>2.2</td>
<td>Installation</td>
<td>7</td>
</tr>
<tr>
<td>2.3</td>
<td>Program Start</td>
<td>9</td>
</tr>
<tr>
<td>2.4</td>
<td>Project</td>
<td>10</td>
</tr>
<tr>
<td>2.5</td>
<td>File-Structure</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>User Interface</td>
<td>11</td>
</tr>
<tr>
<td>3.1</td>
<td>Menu Bar</td>
<td>12</td>
</tr>
<tr>
<td>3.2</td>
<td>Project Bar</td>
<td>12</td>
</tr>
<tr>
<td>3.3</td>
<td>Tool Bar</td>
<td>12</td>
</tr>
<tr>
<td>3.4</td>
<td>Device-tree</td>
<td>14</td>
</tr>
<tr>
<td>3.5</td>
<td>Desktop for Online Displays</td>
<td>14</td>
</tr>
<tr>
<td>3.6</td>
<td>Online Status Bar</td>
<td>15</td>
</tr>
<tr>
<td>3.7</td>
<td>Program Status Bar</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>Menu Bar</td>
<td>16</td>
</tr>
<tr>
<td>4.1</td>
<td>Menu “File”</td>
<td>16</td>
</tr>
<tr>
<td>4.1.1</td>
<td>Menu Item “New”</td>
<td>17</td>
</tr>
<tr>
<td>4.1.2</td>
<td>Menu Item “Open”</td>
<td>17</td>
</tr>
<tr>
<td>4.1.3</td>
<td>Menu Item “Close”</td>
<td>18</td>
</tr>
<tr>
<td>4.1.4</td>
<td>Menu Item “Save”</td>
<td>18</td>
</tr>
<tr>
<td>4.1.5</td>
<td>Menu Item “Save As”</td>
<td>18</td>
</tr>
<tr>
<td>4.1.6</td>
<td>Menu Item “Print”</td>
<td>19</td>
</tr>
<tr>
<td>4.1.7</td>
<td>Menu Item “Print preview”</td>
<td>20</td>
</tr>
<tr>
<td>4.1.8</td>
<td>Menu Item “Printer Settings”</td>
<td>21</td>
</tr>
<tr>
<td>4.1.9</td>
<td>Menu Item “Exit”</td>
<td>21</td>
</tr>
<tr>
<td>4.2</td>
<td>Menu “Edit”</td>
<td>23</td>
</tr>
<tr>
<td>4.2.1</td>
<td>Menu Item “Delete Module”</td>
<td>23</td>
</tr>
<tr>
<td>4.2.2</td>
<td>Menu Item “Determine Module Address”</td>
<td>23</td>
</tr>
<tr>
<td>4.2.3</td>
<td>Menu Item “Add Module”</td>
<td>24</td>
</tr>
<tr>
<td>4.3</td>
<td>Menu “Connection”</td>
<td>25</td>
</tr>
<tr>
<td>4.3.1</td>
<td>Menu Item “Bus Scan”</td>
<td>25</td>
</tr>
<tr>
<td>4.3.2</td>
<td>Menu Item “Connect”</td>
<td>25</td>
</tr>
<tr>
<td>4.3.3</td>
<td>Menu Item “Disconnect”</td>
<td>26</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------</td>
<td>----</td>
</tr>
<tr>
<td>4.3.4</td>
<td>Menu Item “Online View”</td>
<td>26</td>
</tr>
<tr>
<td>4.3.5</td>
<td>Menu Item “Close Online View”</td>
<td>26</td>
</tr>
<tr>
<td><strong>4.4</strong></td>
<td><strong>Menu “Commands”</strong></td>
<td><strong>27</strong></td>
</tr>
<tr>
<td>4.4.1</td>
<td>Menu Item “Authenticate”</td>
<td>27</td>
</tr>
<tr>
<td><strong>4.5</strong></td>
<td><strong>Menu “View”</strong></td>
<td><strong>28</strong></td>
</tr>
<tr>
<td>4.5.1</td>
<td>Menu Item “Symbol Bar”</td>
<td>28</td>
</tr>
<tr>
<td>4.5.2</td>
<td>Menu Item “Status Bar”</td>
<td>28</td>
</tr>
<tr>
<td>4.5.3</td>
<td>Menu Item “Font”</td>
<td>28</td>
</tr>
<tr>
<td><strong>4.6</strong></td>
<td><strong>Menu “Window”</strong></td>
<td><strong>29</strong></td>
</tr>
<tr>
<td>4.6.1</td>
<td>Menu Item “Cascade”</td>
<td>29</td>
</tr>
<tr>
<td>4.6.2</td>
<td>Menu Item “Tiled Windows”</td>
<td>30</td>
</tr>
<tr>
<td>4.6.3</td>
<td>Menu Item “Arrange Icons”</td>
<td>31</td>
</tr>
<tr>
<td>4.6.4</td>
<td>Display “1 ...”</td>
<td>31</td>
</tr>
<tr>
<td><strong>4.7</strong></td>
<td><strong>Menu “Options”</strong></td>
<td><strong>32</strong></td>
</tr>
<tr>
<td>4.7.1</td>
<td>Menu Item “User Administration ...”</td>
<td>32</td>
</tr>
<tr>
<td>4.7.2</td>
<td>Menu Item “User Log−in ...”</td>
<td>33</td>
</tr>
<tr>
<td>4.7.3</td>
<td>Menu Item “Logout”</td>
<td>33</td>
</tr>
<tr>
<td>4.7.4</td>
<td>Menu Item “Set Address”</td>
<td>34</td>
</tr>
<tr>
<td>4.7.5</td>
<td>Menu Item “Set Baud Rate”</td>
<td>34</td>
</tr>
<tr>
<td>4.7.6</td>
<td>Menu Item “Properties”</td>
<td>35</td>
</tr>
<tr>
<td>4.7.7</td>
<td>Menu Item “Global Properties”</td>
<td>37</td>
</tr>
<tr>
<td><strong>4.8</strong></td>
<td><strong>Menu “Language”</strong></td>
<td><strong>39</strong></td>
</tr>
<tr>
<td>4.8.1</td>
<td>Menu Item “German”</td>
<td>39</td>
</tr>
<tr>
<td>4.8.2</td>
<td>Menu Item “English”</td>
<td>39</td>
</tr>
<tr>
<td>4.8.3</td>
<td>Menu Item “Dutch”</td>
<td>39</td>
</tr>
<tr>
<td>4.8.4</td>
<td>Menu Item “Chinese”</td>
<td>39</td>
</tr>
<tr>
<td><strong>4.9</strong></td>
<td><strong>Menu “?”</strong></td>
<td><strong>40</strong></td>
</tr>
<tr>
<td>4.9.1</td>
<td>Menu Item “Help”</td>
<td>40</td>
</tr>
<tr>
<td>4.9.2</td>
<td>Info about MMS 6855 ...</td>
<td>40</td>
</tr>
</tbody>
</table>

**5** Configuration and Operation | 41 |

**5.1** Configuration | 42 |

**5.1.1** Offline | 42 |

**5.1.2** Online | 48 |

**5.2** Operation | 52 |
1 GENERAL

1.1 Instructions on using the manual

This manual contains information concerning the proper and correct use of the MMS 6855 software.

For correct and safe use of this device the operating manual must have been read completely prior to starting installation and operating of the device. In particular, all safety instructions contained in the manual must be complied with.

Do not provide the device to third parties without including the operating manual.

In addition, the following documentation is required for proper operation:

1. Installation instruction epro MMS Software: Installation of the configuration software
   Order number: 6540-00015

Please note
In correspondence concerning this device, we request that you specify the software version.

1.2 Explanation of symbols

- This symbol identifies text that contains important information.

- Instructions, which, if not heeded, result in functional disturbances and incorrect measurements without damaging the machine, are identified with this symbol.

- Safety and warning instructions are identified with this symbol. Non.observance of such instructions, results in material damage or personal injury.

1.3 Liability and guarantee

epro GmbH is not liable for damages that occur due to improper use. Proper use also includes knowledge of and compliance with this operating manual.
Customer changes to the device that have not been approved expressly by epro, will result in the loss of guarantee.

Due to continuous research and further development epro reserves the right to change technical specifications without notice.

1.4 **Incoming goods inspection**

Check the content of the shipment to ensure that it is complete; visibly inspect the goods to determine if the device may possibly have been damaged during transport. The following parts are included in the scope of delivery and must be contained in the shipment.

1. CD with Server Requester MMS 6855 (Part of the epro MMS software packet)
2. Dongle and dongle document
3. Installation instruction

If the contents are incomplete, or if any defects are observed, a complaint must be filed with the carrier immediately. Moreover, the responsible epro sales organization must be informed to enable repair or replacement of the device. Repairs or calibration that may be required, are only possible in the epro factory.

In this case, a non−detachable tag with customer name, defect observed and version of the software must be attached to the device.

Address:  
epro GmbH  
Warenannahme Reparatur  
Jöbkesweg 3  
D-48599 Gronau  
Germany

1.5 **Contact and copyright information**

© epro GmbH  
Jöbkesweg 3  
D-48599 Gronau  
Germany  
Phone: (+49) 02562 709-0  
Fax: (+49) 02562 709-256  
email: mms.support@epro.de  

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2 APPLICATION AND INSTALLATION

2.1 Purpose and Application

The server / requester software MMS 6855 is used for data acquisition of bus-compatible MMS devices via an interface card. Data of MMS 3000, MMS 6000 and DOPS/DAPS systems, equipped with an RS 485 Bus, can be acquired. The server / requester MMS 6855 allocates the data to other applications (e.g. inVISU PMS).

2.2 Installation

The server / requester software MMS 6855 is part of the epro MMS software package. The installation of the software is described in the manual “Setup epro MMS Software” (order nr.: 6540-00020). This manual is delivered as hardcopy with the software.

If an OPC-Server is installed on the computer for the first time, additional operating system files must be installed for operation of the server.

The required installation files “OPC Core Components 2.00 Redistributable 2.30.msi” and “OPC_DA20.exe” can be found, after standard installation in the directory “C:\Program\Epro MMS\OPC_DA20”.

Start the installation of the required OPC components with a double click on the respective file.
Dongle installation

For the operation of the server / requester software a hardware-dongle is needed. The dongle is available for parallel port or USB port. First, install the software bevor you connect the dongle to the computer. During the installation, the dongle type must be set to LPT (parallelport) or USB (Fig 1).

If an USB-Dongle is chosen, at the first connection to the computer the dongle will be detected as a new hardware. Follow the installation instruction of the hardware-manager. After finishing the installation, the dongle is ready for use.

Do not disconnect the dongle during operation. The program controls continuously the availability of dongle. If the dongle is not recognised, the server / requester will be aborted.

If the server / requester MMS 6855 is used together with the process management system inVISU PMS, the server / requester can be unlocked in the inVISU PMS dongle. In this case, an additional dongle is not necessary.

If necessary, the dongle drivers can be installed one after another. After standard installation, the required files can be found in the directory "C:\Program\Epro MMS\Dongle". In the directory "Dongle" two directories are located "DRV_LPT" (parallelport driver) and "DRV_USB" (USB dongle driver). Start the driver installation with a double click on "DRV_INST.exe" in the corresponding driver directory"
2.3 Program Start

After the standard installation, the server / requester can be started via “Start → Programs → Epro MMS → MMS6855 Requester” (Fig 2).

Fig 2: Start menu

User name, ID and passwords have not yet been assigned at first login. That is why the initial settings of user ID and password have to be entered here, to enable the first start.

Fig 3: Window: User Log-in

In the ID input field enter **first**
and in the password field enter **user**

Confirm the entries by clicking on the “Log-in” button.

When entering ID and Password, pay attention to upper case and lower case characters.
2.4 Project

The server / requester MMS 6855 works project-oriented. Within a project several bus-lines can be combined. For each bus-line with MMS devices, a workspace will be created.

A server / requester project can be defined as a start project. At the program start, the online-connection to the MMS devices are established automatically.

The Fig 4 shows the project-structure, which generates the file-structure.

![Project Structure Diagram]

Fig 4: Overview projekt-structure

2.5 File-Structure

The epro MMS software works with a global data directory. The programs, which are contained in the software packet, save their data project-oriented in a project-directory. The project-directory is created during the software installation.

After standard installation you can find the “Default”-directory and new created projects in the directory “C:\Programs\Epro MMS\Project”.

The commands “open” and “save” works only with the global data directory. The storage location of the global data directory can be changed (see ...).
3 USER INTERFACE

The Fig 5 shows the user interface of the MMS 6855 software. The menus and status bars are described in the following sections.

Fig 5: User interface

1. Menu bar
2. Project bar (for each bus–line in a project one tab)
3. Tool bar
4. Device–tree (device overview)
5. Desktop for online–displays of the selected devices
6. Status bar: Connection
7. Status bar: MMS 6855 Software

The device–tree together with the online–desktop make up the workspace in form of a tap.

The program includes a context–sensitive online–help. With the button F1 the help text to the current user interface picture can be opened.
3.1 Menu Bar

Fig 6: Menu bar

The menu bar is subdivided in 10 menus. The menu commands are described in the following sections of this manual.

3.2 Project Bar

Fig 7: Project bar

For each bus-line within a project, a workspace-tab is needed. The workspace-tabs are located in the project bar. By clicking on a workspace-tab, the program moves the device-combination-flag and the online-displays of the corresponding bus-line to the front.

3.3 Tool Bar

Fig 8: Tool bar

The open workspace of the software includes a tool bar with buttons. This is where commands that are frequently used when working with the software can be simply and quickly executed with a single mouse click. The tool bar functions can also be called via the menu and specific menu options.

The functions of the individual buttons:

- „New”
  Create a new workspace. (see also section 4.1.1).

- „Open”
  Load workspace settings from the hard disk (see also section 4.1.2).

- „Save”
  Save the workspace settings / changes within the actual project on the hard disk (see also section 4.1.4).
„Print”
Position, address and device description of the devices, listed in the device-tree will be printed via the selected system printer (see also section 4.1.6).

Bus scan
The bus will be scanned and all detected devices listed in the device-tree (left window of the user interface, see also section 4.3.1).

Connect
Communication with the selected device in the device-tree will be established (see also section 4.3.2).

Disconnect
The communication between device and computer will be disconnected. The online display will be switched off (see also section 4.3.3).

Open online view
Switch—on the online display. This button can only be activated if there is communication between computer and device (see also section 4.3.4).

Close online view
Switch—off the online display. This button can only be activated if there is communication between computer and device (see also section 4.3.5).

User Log—in
New user login (see also section 4.7.2).

User administration
Entering new user und their access authorizations (see also section 4.7.1).

Properties
Setting the communication data and the storage location (see also section 4.7.6).
3.4 Device-tree

Fig 9: Device-tree

All devices, detected with the bus scan, are listed in the left part of the user interface. To open a device-dependent online display, click on the device in this overview.

The “pointing Hand” marks a selected device.

3.5 Desktop for Online Displays

Fig 10: Desktop for online displays

The several online displays from the selected device will be displayed in the right part of the user interface. The online displays are described in the respective device manuals.
3.6 Online Status Bar

Fig 11: Online status bar

Information about online-status of the selected device will be displayed in these three fields of the bar.

1. Connection status: online or offline
2. Device type: e. g. 6110
3. Bus-address: e. g. 1

3.7 Program Status Bar

Fig 12:

The program status bar is subdivided into 5 areas:

1. Here a description will be displayed (tool tip) for the selected menu item. When the mouse pointer is moved over a menu item or a button in the tool bar, the meaning of this command will be displayed.
2. Name of the logged-in user, e. g.: First User
3. User-level information, e. g.: Operator
4. Refresh-time in millisecond (ms), time of the last data cycle.
5. These three fields shows the state of upper and lower case, number pad and scroll-function.
4 MENU BAR

The following sections describe the single menus and their menu items.

4.1 Menu “File”

In the following sections the menu items of the menu “File” are described.

Fig 13: Menu “File”
4.1.1 Menu Item “New”

Create a new workspace-tab within a project (Fig 14). MMS devices can be added manually or via scanning the connected bus.

Fig 14: Workspace tab

4.1.2 Menu Item “Open”

Open a MMS 6855 configuration file. After clicking on this command the program opens a window with a list of in the project saved files with the extension *.MCR.

The project, which contains the file can be selected with the list field “Project”. The desired name is entered in the row “File name”, via a click on the button “Ok”, the selected file will be opened. Alternatively, the file can also be opened with a double-click on the file name.

As file type, only “MMS 6855 configuration” is available.
4.1.3 Menu Item “Close”

With this command, the workspace tab will be closed after a safety request. The command will not close the program.

4.1.4 Menu Item “Save”

Saves the opened workspace tab. After clicking on this command, all data which belong to the workspace (device combination, settings of the communication interface, ...) are saved under the current name.

When a new workspace was opened, and has not been saved previously. When entering the command “Save”, a menu “Save as” will open where you can enter a name under which the file will be save (4.1.5).

4.1.5 Menu Item “Save As”

In order to save a copy of the MMS 6855 configuration file under a different name or in a different project (directory), click on this command and enter the name and / or the project under which the file shall be saved.

The project directory, in which the file is to be saved, can be selected with the list field “Project”. The desired name can be entered in the row “File name”. The file type can not be changed. The files are saved with the extension “MCR. With a click on button “Ok”, the file will be saved.
Fig 16: Save as

Click on the directory–symbol to create a new project. The window “New project” appears. Enter the desired project name and click on the button “Ok”. Now, the new project is listed in the “Save as” –window.

Fig 17: New project

4.1.6 Menu Item “Print”

Print the current workspace–data. Device address and the device–type from the devices on the bus can be printed. After clicking on this command, the program opens the Windows menu with the display of the currently selected system printer. In row “Name”, the desired printer can be selected and started by clicking on the “Ok” button.
4.1.7 Menu Item “Print preview”

Use this command to display a print preview of the parameters on the screen. An overview will be displayed in the following form:
If the preview satisfies the expectations, you can start the print process from this menu by clicking on the “Print” button in the upper left part of the print preview menu bar.

Fig 20: Menu bar print preview

The button “Next Page” and “Prev Page” enable paging through the pages.

The “One Page” button reduces the screen display to one printed page.

With the “Zoom In” or “Zoom Out” button the display size on the screen can be adjusted within three zoom steps.

The “Close” button closes the print preview, the system returns to the desktop of the server / requester software.

4.1.8 Menu Item “Printer Settings”

Use this function to select the desired printer for printing the parameters and to make settings in this regard. The Windows menu for setting printer parameters will be displayed:

Fig 21: Printer Settings

All parameters required for the print out can be specified here. Click on the “Ok” button to save the selected parameters.

4.1.9 Menu Item “Exit”

The server / requester software MMS 6855 will be terminated. If the current data has been changed, the safety request will be displayed.
Fig 22: Safety request

Confirm with “Yes” to save the current datasheet and end the program. Click “No” to exit the program without saving the last changes. Click on “Cancel” to cancel the function and return to the program.
4.2 Menu “Edit”

In the following sections the menu items of the menu “Edit” are described.

![Menu Bar]

4.2.1 Menu Item “Delete Module”

To delete a device from the device–tree.

The desired device is selected and highlighted in the device–tree. Menu option “Delete Module” can only be called if at least one device is available and has been highlighted in the device–tree. A selected device will be marked with a “pointing hand” (Fig 24)

![Selected device]

Before the command is carried out, the following safety request will be displayed.

![Safety request “Delete Module”]

The device will be deleted from the device–tree after confirming the safety request.

4.2.2 Menu Item “Determine Module Address”

Devices, connected to a busline, can be also added to the device–tree in the offline mode. The bus–address, stored in the device, can be adjusted with this function in the MMS 6855 software.
To set the address, select the desired device with a mouse click in the device–tree and call this function. Enter the desired address and confirm the entry by clicking “Ok”. The address will be assigned to this device.

![Determine Module Address](image)

**Fig 26:** Determine Module Address

### 4.2.3 Menu Item “Add Module”

This menu item is used to add offline a MMS device to the device–tree. In the device–tree the top level must be marked to select this command. Therefor click on “MMS Configuration” – the menu item “Add Module” will be enabled. Click on the menu item, the window “Choose module type” with all MMS devices which can be used with the server / requester will appear.

![Choose module type](image)

**Fig 27:** Choose module type

Choose the desired module type and confirm the selection with a click on “Ok”. Depending on the chosen device, further windows for selection of sub functions will appear. Information for this can you find in the corresponding device manual. Make the further settings corresponding to the selected device. The device appears in the device–tree, after finishing the entries.
4.3 Menu “Connection”

In the following sections the menu items of the menu “Connection” will be described.

Fig 28: Menu “Connection”

4.3.1 Menu Item “Bus Scan”

With this function the program starts querying the set interface. The devices connected on the bus and detected by the program, are displayed in the left part of the workspace.

When operating via the RS 232 interface, only one device can be operated. If this device has been detected, the type of this device will be displayed in the device−tree and the online display activated.

For an RS 485 bus connection, the possible module addresses 1 to 255 are read in from the bus. If a device is detected on the bus, the software generates an appropriate icon in the device−tree.

Addresses that are not assigned are not taken into account, these devices will not be displayed in the device−tree.

4.3.2 Menu Item “Connect”

The connection to the MMS devices in the device−tree will be established. If the communication was successfully established, the online view opens automatically.

If the communication could not be established then an error message is displayed. In this case check the settings of the interface and if necessary the wiring.

Fig 29: Selection of the wrong interface address (COM x) for the computer.
4.3.3 Menu Item “Disconnect”

The communication between monitor and computer will be disconnected. All windows and menus that are opened for online view will be closed. The modules in the device–tree remain unchanged.

4.3.4 Menu Item “Online View”

The online display of the marked MMS device ( ) will be opened. The displayed information and status indications depend on the current MMS device. Information about the online display you can find in the manual of the corresponding device. The Fig 30 shows exemplarily the MMS 6110 online display.

![Fig 30: Online display MMS 6110](image)

4.3.5 Menu Item “Close Online View”

The online–display will be closed, without disconnecting the online connection between computer and device.
4.4 Menu “Commands”

The commands in this menu directly effect the device that is connected to the computer and that is in the online mode. When operating via RS 485 bus, only that device is addressed that was previously selected via the device–tree.

If offline status is shown in the status bar, the commands can not be selected.

![Menu Bar](image)

Fig 31: Menu “Commands”

4.4.1 Menu Item “Authenticate”

This command can be used to identify the devices, addressed in the communication for communication over the RS 485 bus.

The command causes the integrated LEDs Channel Clear 1/2 as well as the alarm LEDs on the addressed monitor to flash for approximately 10 seconds in a circular pattern. The measurement function of the device is not influenced be execution of this command.
4.5 Menu “View”

This menu is used to switch the status displays of the program on and off, and to select the front. A check mark next to the function means that the respective function is switched on.

![Menu View Diagram]

Fig 32: Menu “View”

4.5.1 Menu Item “Symbol Bar”

The toolbar can be activated (displayed) or deactivated (hidden).

4.5.2 Menu Item “Status Bar”

The status bar can be activated (displayed) or deactivated (hidden).

4.5.3 Menu Item “Font”

Font, font size etc. can be changed for the print out.
4.6 Menu “Window”

![Menu Bar](image)

Fig 33: Menu “Window”

4.6.1 Menu Item “Cascade”

Use this command to arrange the workspace windows in an overlapping pattern.

![Cascade](image)

Fig 34: Cascade
4.6.2 Menu Item “Tiled Windows”

Use this command to arrange the configuration files next to each other.

Fig 35: Tiled Windows
4.6.3  Menu Item “Arrange Icons”

Use this command to arrange the individual icons of the workspaces in the user interface below.

![Arrange Icons](image)

Fig 36: Arrange Icons

4.6.4  Display “1 ...”

The complete path as well as file name of the current open workspace is displayed in this line.
4.7 Menu “Options”

4.7.1 Menu Item “User Administration ...”

In “User Administration” new users can be created or user entries, such as password or user level, changed. However, only information for users on a lower user level than that of the currently logged-in user can be entered.

The meaning of the fields:

- **Name:** Last name of the user (optional entry)
- **First name:** First name of the user (optional entry)
- **Company:** Name of the company (optional entry)
- **Department:** Name of the department (optional entry)
- **ID:** Initials, any name, numeric string or equivalent
- **Password:** Login password
- **User level:** Access authorization for the user
- **Password confirmation:** Password confirmation entry

The user has the possibility to select between two user levels:
Display: Only allows establishment of the connection and the online displays.

Operator: All program functions can be used with this user level.

### 4.7.2 Menu Item “User Log-in ...”

The dialog for user Log-in (Fig 39) is called, a menu is displayed for entering ID and password.

![User Log-in Dialog](image)

Fig 39: Window “User Log-in”

If the entry in the two fields is correct, the program will be released and logged-in for the appropriate user profile.

### 4.7.3 Menu Item “Logout”

The logged-in user will be logged-out and the program switch to display mode. Only online displays can be made visible in this mode.
4.7.4 Menu Item “Set Address”

For operation via the RS 485 bus it is necessary to assign an address to the device. The device address of the cards is set to “−1” as factory default. An address in the range 1 ... 255 must be entered, each address can only be assigned once.

Entry of an RS 485 address is only possible with an online connection via the RS 232 interface. Additional information can be found in the respective device manual.

If this menu item is selected, the following menu will be displayed:

Fig 40: Window “Set address of monitor”

Enter the address and confirm the entry by clicking on the buttons “Set address” and “Ok”.

The command “Set address” is a direct command. The address set here will be sent directly to the monitor where it is saved.

4.7.5 Menu Item “Set Baud Rate”

If MMS devices are operated via the RS 485 bus, for those modules, the device address and the transmission speed (baudrate) must also be set.

Entry of the baud rate is only possible via online connection with the RS 232 interface. Additional information can be found in the respective device manual.

If this menu item is selected, the following menu will be displayed:

Fig 41: Window “Set baud rate of monitor”
Enter the desired baud rate and confirm the entry by clicking on the buttons “Set baud rate” and “Ok”.

The command is a direct command. After confirmation the baud rate set here is sent directly to the monitor where it is saved.

4.7.6 Menu Item “Properties”

If this menu item is selected, a window with the two property tabs “Connecting” and “Global data directory” will be displayed. The tab “Connecting” is used for the settings of communication interface and is dedicated to the current work space. In the tab “Global data directory” will be entered the path to the global data directory. This setting is related to the program.

Tab “Connecting”

Setting up of the communication interface for one work space.

![Properties window](image)

**Fig 42: Tab “Connecting”**

**Port No.:** Selection of the COM port of the computer for the dialog with the devices.

**RS 232:** A black dot in the circle indicates activation, clicking on the circle activates the communication type. The associated field shows the fixed baud rate for communication via the RS 232 interface.

**RS 485:** A black dot in the circle indicates activation, clicking on the circle activates the communication type. Activating the RS 485 interface results in automatic deactivation of the RS 232 interface. The communication speed will be adjusted with the list field “Baud”.

**Gateway 6824:** Selection of the communication for the MMS 6824 gateway. If you click on this field, the protocol for communication with the MMS 6824 will be started via the RS 485 interface.
If the communication runs over the RS 485 bus, the baud rate can be set to 38400, 57600 or 115200 baud. The baud rate for the RS 485 communication must be the same at all devices on the bus.

Tab “Global data directory”

![Fig 43: Tab “Global data directory”](image)

The path for the global data directory will be defined in the entry field “Path name”. In the directory defined here the program creates automatically the directories:

```
\Project\Default
```

for saving the files.

If the path is changed, then the directories remain unchanged, the changed paths with the subdirectories \Project and \Default will be created additionally.
4.7.7 Menu Item “Global Properties”

If this menu item is selected, a window with the property tabs “Global”, “OPC” and “Global Properties” will be displayed.

Tab “Global”

In the tab “Global” is defined, which data of the MMS devices should be collected. Changes of this setting have effect on the cycle time.

The cycle time depends not only on the selected data collection level (e.g. Main values). Number of devices on the RS 485 bus and the used interface card (e.g. MMS 6831) have additional influence on the cycle time.

As a result of this, an absolute cycle time can not be declared.

A benchmark is a cycle time of approx. 1000 ms at 10 MMS 6000 monitors (MMS 6110 and MMS 6210), the interface card MMS 6831 and the data collection level “Main values”.

![Tab “Global”](image)

Fig 44: Tab “Global”

Via the list field three levels of data collection can be selected.

- **Main values** (shortest cycle time)
  All main values (main values, limit settings, alarm state, channel clear state, etc.) will be collected.

- **Time functions** (medium cycle time)
  Main values and time functions (amplitude and phase of the order analysis, time signals, etc.) will be collected.

- **Service** (longest cycle time)
  Main values, time functions and service information (device state, etc) will be collected.
Tab “OPC”

The server / requester **MMS 6855** can be started from an OPC client (e. g. inVISU PMS). In this tab, the project and the data collection level can be adjusted, with which the server / requester shall be started.

![Tab “OPC”](image)

**Fig 45:** Tab “OPC”

Tab “Global Properties”

The “Redundancy data directory” is a future function, which is not available yet.

![Tab “Global Properties”](image)

**Fig 46:** Tab “Global Properties”
4.8 Menu “Language”

Use this menu to select the desired language for displays, menus and messages. Languages can be switched via a mouse click.

Fig 47: Menu “Language”

4.8.1 Menu Item “German”

Click on this line to switch the texts of the program to german.

4.8.2 Menu Item “English”

Click on this line to switch the texts of the program to english.

4.8.3 Menu Item “Dutch”

Click on this line to switch the texts of this program to dutch (not available for all devices).

4.8.4 Menu Item “Chinese”

Click on this line to switch the texts of the program to chinese (not available for all devices).
4.9 Menu “?”

Fig 48: Menu “?”

4.9.1 Menu Item “Help”

Calls Online Help. It follows the Windows standard structure. It enables the search for a description (for menus, tabs, commands, etc.) or definitions via table of contents, index tabs or search menus. The appropriate sections are displayed in the help window and can be printed out.

4.9.2 Info about MMS 6855 ...

The window shows version and release of the opened software.

Fig 49: Window “Info about MMS 6855”

If a fault should occur with your software, this information must be forwarded to the responsible sales office or the repair organization in Gronau.
5 CONFIGURATION AND OPERATION

This section describes setting and operation of the server / requester MMS 6855. The procedure will be described with the following hardware:

- 4 MMS 6000 monitors → subdivided on 2 RS 485 bus lines
- Interface card MMS 6825

Information about the listed devices can be found in the respective manuals.

The Fig 50 shows the principle structure of a data acquisition system. The number of the RS 485 bus lines depend on the used interface card (e.g. MMS 6831 → one RS 485 bus line; MMS 6825 → up to 6 RS 485 bus lines).

![Diagram of data acquisition system]

Fig 50: Structure of a data acquisition system
5.1 Configuration

This section describes the setup of the server / requester. There are two possibilities to configure the server / requester:

- **Offline**: It must be known, which devices with which bus address and in which operating mode (subtype) are connected to the individual interface bus lines.

- **Online**: The individual interface bus lines will be scanned. The data of the devices, connected to the interface bus lines, do not have to be known.

5.1.1 Offline

For each bus line a workspace (tab) will be created. The program always starts with a clear workspace. Make the following steps for the offline setup:

1. Click in the device-tree with the right mouse button on the field “MMS Configuration” → a pop-up menu (Fig 51) appears. Click with the left mouse button on the menu item “Add Module”.

![Fig 51: Pop-up menu “Add Module”](image-url)
2. The window “Choose module type” (Fig 52) will be opened. All MMS devices, which can be used with the server / requester MMS 6855, are listed here. Choose, according to the RS 485 bus structure, the first device on the bus (left click on the according icon). Confirm the selection with a click on “Ok”.

![Choose module type](image)

Fig 52: Window “Choose module type”

3. After selecting the device, a window for selecting the subtype (Fig 53) will be displayed. Choose the subtype according to the device configuration and confirm the selection with a click on “Ok” → the device appears in the device tree.

![Subtype](image)

Fig 53: Window “Subtype”

If a device of the MMS 3000 system is selected, the hardware identification of the MMS 3000 transmitter (Fig 54) must be entered.

![Hardware identification](image)

Fig 54: Window “Hardware identification”
Delete a Device From the Device−tree

Click in the device−tree with the right mouse button on the desired device → a pop−up menu appears (Fig 55).

Fig 55: Pop−up menu “Delete Module”

Click with the left mouse button on the menu item “Delete Module”. After confirmation of the safety request (Fig 56), the device will be deleted from the device−tree.

Fig 56: Safety request “Delete module”

4. An RS 485 device address must be assigned to the new device in the device−tree. Click with the right mouse button on the device in the device−tree. A pop−up menu (Fig 57) appears. Click in the menu with the left mouse button on the menu item “Determine Module Address”.

Fig 57: Pop−up menu “Determine Module Address”
Set the device address in the window “Determine Module Address” (Fig 58), which corresponds to the address in the device on the bus. Confirm the entries with a click on “Ok”.

Fig 58: Window “Determine Module Address”

Repeat the steps until all devices on the RS 485 bus are listed in the device-tree. For example, the Fig 59 shows a device-tree with three monitors.

Fig 59: Device-tree with 3 MMS 6000 monitors

5. Now the communication interface settings for the bus line must be made. Open window “Options → Properties → Properties” (Fig 60).

Enter in the tab “Connection” the port number of the computer and the baud rate. The baud rate of all devices on an RS 485 bus must be the same.

Fig 60: Window “Properties”
6. Save the settings. Click therefor in menu “File” on the menu item “Save As ...”. The following window appears.

![Window “Save As”](image)

Fig 61: Window “Save As”

Select a existing project from the list field or create a new project. To create a new project, click with the left mouse button on the directory symbol (marking in Fig 61). The window for creating a new project appears. Enter an explicite project name in the input field. With clicking on the button “Ok” the new project will be created and the window closed.

![Window “New project”](image)

Fig 62: Window “New project”

In list field “Project” the new project is selected. Enter an explicite name in the input field “File name” and save the data with a click on “Ok”. The file type (*.MCR) cannot be changed.

![Window “Save As” with the new project](image)

Fig 63: Window “Save As” with the new project
Don’t save data files, which use the same COM ports within the same project. If the project is used as start project, the software opens all COM ports which are saved in the single data files. In the case of a double used COM-port, this port cannot be opened.

7. To add workspaces for additional bus lines, click in the menu “File” on the menu item “New” or in the symbol bar on the “new workspace” symbol 🖼️. Repeat the steps until all bus line are adjusted.

8. For finishing the server / requester setup, the start project and the data level must be adjusted. Open therefor the window “Global Properties” (Fig 64) in menu “Options” via the menu item “Global Properties…”. Select the parameter for the start of the OPC server in the tab “OPC” with the list fields “Start project” and “Data level”. The settings will be saved automatically by closing the program.

Fig 64: Window “Global Properties”

9. Close the server / requester **MMS 6855** (menu “file” → menu item “Exit”). The offline configuration is finished.
5.1.2 Online

For each bus line a workspace (tab) will be created. The program always starts with a clear workspace. Make the following steps for the online setup:

1. Make the settings for the communication interface. Open therefor the window “Properties” (Fig 65) in menu “Options” via the menu item “Properties”. Enter in the tab “Connection” the port number of the computer and the baud rate. The baud rate of all devices on an RS 485 bus must be the same. The settings will be saved and the window closed with a click on the button “Ok”.

   ![Fig 65: Window “Properties”](image)

2. After the settings for the communication interface were made, the RS 485 bus can be scanned → the server / requester MMS 6855 scans the RS 485 bus, all detected devices will be listed in the device tree. For scanning the bus, click on the magnifying glass in the symbol bar.

   ![Fig 66: Magnifying glass in the symbol bar.](image)

If there are any devices in the device–tree before scanning the RS 485 bus, a safety request (Fig 67) appears. If the data are not longer needed, confirm this safety request.

   ![Fig 67: Safety request](image)
The progress of the scan will be displayed in the window “Bus Scan” (Fig 68). All 255 addresses will be scanned. The scanning can be stopped if all devices were detected. Click on button “Ok” to stop the scanning.

![Bus Scan](image)

**Fig 68:** Progress bus scan

All detected devices are listed in the device–tree.

![Device tree](image)

**Fig 69:** Device–tree with 3 **MMS 6000** monitors.

3. Save the settings. Therefor, click on menu item “Save As ...” in menu “File”. The following window appears.

![Save as](image)

**Fig 70:** Window “Save As”

Select an existing project from the list field or create a new project. To create a new project, click with the left mouse button on the directory symbol (marking in Fig 70). The window for creating a new project appears. Enter an explicit project name in the input field. With clicking on the button “Ok” the new project will be created and the window closed.
Fig 71: Window “New project”

In the list field “Project” is the new project selected. Enter an explicit name in the input field “File name” and save the data with a click on “Ok”. The file type (*.MCR) cannot be changed.

Fig 72: Window “Save As” with the new project

Don’t save data files, which use the same COM ports within the same project. If the project is used as start project, then the software opens all COM ports which are saved in the single data files. In case of a double used COM-port, this port cannot be opened.

4. To add workspaces for additional bus lines, click in the menu “File” on the menu item “New” or in the symbol bar on the “new workspace” symbol ⊕. Repeat the steps until all bus line be adjusted.

5. For finishing the server / requester setup the start project and the data level must be adjusted. Open therefor the window “Global Properties” (Fig 73) in menu “Options” via the menu item “Global Properties...”. Select in the tab “OPC” with the list fields “Start project” and “Data level” the parameter for the start of the OPC server. The settings will be saved automatically by closing the program.
Fig 73: Window “Global Properties”

6. Close the server / requester **MMS 6855** (menu “file” → menu item “Exit”). The online configuration is finished.
5.2 Operation

The OPC server cannot work if the server / requester is in the configuration operation. The OPC server will start when the server / requester software **MMS 6855** is started from a other software (e. g. inVISU PMS) with a defined start project. The Fig 74 shows the server / requester **MMS 6855** in OPC server operation.

The configuration of the server / requester cannot be changed if the server / requester is in the OPC server operation.

The OPC server will be closed automatically if the calling program (e. g. inVISU PMS) is be closed. In case of errors and new software starts, the calling software will start the opc sever again.

![Image of OPC server configuration](image)

Fig 74: m in OPC server operation

Information about the starting of the OPC server from other programs can be found in the manual or in the online-help of the respective programs.