Device Manager
Configuration software
User and Installation manual
## Contents

1. How to use this manual .......................................................................................................................... 4
2. Minimum system requirements ............................................................................................................... 5
3. Introduction ........................................................................................................................................... 6
   3.1. General description ......................................................................................................................... 6
   3.2. Main features ................................................................................................................................. 6
   3.3. Device Manager components ........................................................................................................ 6
       3.3.1. Software component ............................................................................................................. 6
       3.3.2. Device Manager interface component .................................................................................. 6
       3.3.3. Multi Function Key Component ............................................................................................. 6
       3.3.4. Connection cables .................................................................................................................. 6
       3.3.5. Network connection device .................................................................................................... 6
   3.4. Abbreviations and definitions ......................................................................................................... 6
4. Connection modes .................................................................................................................................... 7
   4.1. Network connection mode .............................................................................................................. 7
   4.2. MFK connection mode .................................................................................................................... 7
   4.3. Offline mode .................................................................................................................................... 8
   4.4. Operating/connection modes .......................................................................................................... 8
5. Software installation ............................................................................................................................... 9
   5.1. Foreword ......................................................................................................................................... 9
   5.2. “Device Manager” Software Installation ...................................................................................... 9
   5.3. Changing, re-installing or removing the “Device Manager” software ........................................ 13
6. Hardware installation ............................................................................................................................. 14
   6.1. Foreword ......................................................................................................................................... 14
       6.1.1. Connecting the interface to the PC ......................................................................................... 14
       6.1.2. DM interface setup ................................................................................................................. 14
       6.1.3. Reading the DM interface COM port .................................................................................... 16
       6.1.4. Changing the COM port setting .............................................................................................. 17
       6.1.5. DM interface setup with Windows 7 ...................................................................................... 18
7. Using Device Manager ............................................................................................................................ 22
   7.1. Preliminary operations .................................................................................................................... 22
   7.2. 1st program launch and program setup ......................................................................................... 22
       7.2.1. Setup – COM port ................................................................................................................... 22
       7.2.2. DMI Detection function ........................................................................................................ 23
   7.3. DM interface connection error ....................................................................................................... 23
   7.4. Recognition of Device .................................................................................................................... 23
       7.5.1. Language settings .................................................................................................................. 24
       7.5.2. LOG settings .......................................................................................................................... 24
8. Using Device Manager in Network mode ........................................................................................... 25
   8.1. Network Parameters Page ............................................................................................................... 25
       8.1.1. Description of parameter Values Table .................................................................................. 25
   8.2. Parameter Visibility Management .................................................................................................. 27
       8.2.1. Parameters selection mode .................................................................................................... 27
       8.2.2. Description of Parameters Page tool bar .............................................................................. 27
           8.2.2.1. Load File for Parameters Page function ....................................................................... 27
           8.2.2.2. Save File for Parameters Page function ....................................................................... 27
           8.2.2.3. Filter Group Function .................................................................................................... 28
           8.2.2.4. Filter Desc Function ....................................................................................................... 28
           8.2.2.5. Read Device Function ................................................................................................... 28
           8.2.2.6. Write Device Function .................................................................................................. 28
           8.2.2.7. Device Writing/Reading Mode Function ....................................................................... 28
           8.2.2.8. Stop Function ................................................................................................................ 28
           8.2.2.9. Copy Device Function .................................................................................................. 28
           8.2.2.10. Copy Default Function ................................................................................................. 28
           8.2.2.11. Print Parameters Function ........................................................................................... 28
           8.2.2.12. Copy Selection Function .............................................................................................. 29
   8.3. Resources Page ............................................................................................................................... 29
       8.3.1. Description of Resources Table ............................................................................................. 29
       8.3.2. Grouping Resources Function ................................................................................................. 30

EN

Invensys Controls
An Invensys Company
1 HOW TO USE THIS MANUAL

To allow quick, easy reference, the manual has been designed with the following features:

References
The reference symbols on the left of text indicate the different topics; this helps users find the information they need quickly.

Cross references
All the words in italics are listed in the analytical index together with the page number where the related topic is dealt with in more detail; in the following text passage, for example:
USB/TTL-I2C hardware interface, to be used in association with the software package, which allows:
- The use of the software itself.
- Connection to device/s for controlling it/them.
- Connection to Multi Function Key component”. The italics mean that, in the analytical index, the “Multi Function Key” items will be marked with references that tell the user which page to go to to find the Multi Function Key topic.
In the “on-line” (computer) manual, the words in italics are “hyperlinks” (i.e. mouse-clickable links), connecting up the different parts of the manual and making it “navigable”.

Highlighting icons:
Some text passages are marked by icons in the references column, which have the following meanings:

⚠️ Important! : information that, if mistaken, could have an adverse effect on the system or be hazardous to people, devices, data, etc.; users must read this information.

>Note / highlight: further information on the topic in question that the user should be aware of

💡 Tip: a suggestion that could help the user to understand and make better use of the information provided

User level symbols:
All functions marked with this symbol only are for use EXCLUSIVELY by the DMI Manufacturer.

🔧 All functions marked with this symbol only are for use EXCLUSIVELY by DMI Service.

👩‍💻 All functions marked with this symbol only are for use EXCLUSIVELY by DMI End User.

-----------------------------------------------
All functions marked with this symbol only are for use EXCLUSIVELY by both DMI Manufacturer and DMI Service interfaces.

👨‍grily This symbol means that the function is valid for ALL user levels.
2 MINIMUM SYSTEM REQUIREMENTS

Operating Systems

- Windows XP Pro SP2, Italian and English.
- Windows XP Home SP2, Italian and English.
- Windows 2000 Professional SP4, Italian and English.

Software components required in addition to operating system

- .NET Framework 2.0.

Note: As regards the operating systems supported and the minimum hardware requirements for the running of .NET Framework 2.0 on 32-bit client PCs, the information provided by Microsoft (*) can be summarised as follows:

Minimum Hardware

- 1024x768 graphic resolution.
- 700MHz CPU
- RAM 256MB.
- HD 1GB.
- Mouse or other pointing devices.


Note: A typical installation (2 languages, 50 models) requires about 500 Mbyte of disk space.
INTRODUCTION

3.1 General description
The purpose of this Device Manager software is to simplify and aid the installation and management of Eliwell-compatible devices.

3.2 Main features
- Device parameters management.
- Real-time monitoring and recording of system variables.
- Device alarms records management.
- Firmware updating.

3.3 Device Manager components
All the basic components and accessories are described below.

3.3.1 Software component
The software application has a graphic interface and its functions will be illustrated in this manual. The functionalities available to the customer depend on which Device Manager hardware interface he/she has purchased.

3.3.2 Device Manager interface component
The USB/TTL-I2C hardware interface, used in association with the software package, allows:
- The use of the software itself.
- Connection to device/s for controlling it/them.
- Connection to Multi Function Key component.

There can be three different types of interface, corresponding to three user levels:
- DMI 100-1 END USER.
- DMI 100-2 SERVICE.
- DMI 100-3 MANUFACTURER.

The functionalities available to the user are listed in the DMI – User Table, according to which type has been purchased.

3.3.3 Multi Function Key Component.
This is a memory support, which allows:
- The updating of the device's parameter values.
- The updating of the device's firmware.
- The downloading of the parameter values from the device.
- The downloading of the alarms records from the device.

3.3.4 Connection cables
- "Blue" cable with JST – JST terminals, see Connection Modes chapter for use instructions.
- "Yellow" cable with JST – molex terminals, see Connection Modes chapter for use instructions.
- "Purple" cable with inverted JST – molex terminals, see Connection Modes chapter for use instructions.
- USB-A/A extension lead, 2 m.

3.3.5 Network connection device
- BusAdapter 150.

3.4 Abbreviations and definitions
Device Manager: software described in this specification, abbreviated to "DM".
Device: name given to the control, i.e. "instrument".
Parameters model: file containing the parameters map structure, with preset values. The device is distinguishable by its structure and values.
DMI: Device Manager Interface.
MFK: Multi Function Key.

IMPORTANT: the software configuration/package illustrated in this manual is the MANUFACTURER user level. This configuration has been chosen because it contains all the features of the other ones. To compare the 3 configurations, see the DMI-User Table.
4 CONNECTION MODES

The user can interact with the device/s in a number of different ways:

**Network connection mode:**
- Direct network with device.
- Network with device/s via BusAdapter.

**MFK connection mode:**
- “PC – MFK” connection.
- “Device – MFK” connection.

**Offline mode**
- The user interacts with the software only, disconnected from all devices (e.g. for parameter configuration processing).

4.1 Network connection mode

The network connections are illustrated in the table below:

<table>
<thead>
<tr>
<th>Type of connection</th>
<th>Scenario</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct connection</td>
<td><img src="NetworkConnectionDiagram.png" alt="Diagram" /></td>
<td>The (“yellow JST-molex”) cable is used for the connection between the DM interface and the device.</td>
</tr>
<tr>
<td>Network connection (Network)</td>
<td><img src="NetworkConnectionDiagram.png" alt="Diagram" /></td>
<td>The (“purple inverted JST-molex”) cable is used for the connection between the DM interface and the busAdapter.</td>
</tr>
</tbody>
</table>

See the Network Connection Mode chapter for a description of the use of the Device Manager software in a system with a Network Connection Diagram.

4.2 MFK connection mode

The MFK connection is an indirect type connection in that it is made at 2 different times with 2 different connections, as shown in the table:

<table>
<thead>
<tr>
<th>Type of connection</th>
<th>Scenario</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC – MFK connection</td>
<td><img src="MFKConnectionDiagram.png" alt="Diagram" /></td>
<td>The (“blue JST-JST”) wire is used for the connection between DM interface and MFK.</td>
</tr>
<tr>
<td>Device – MFK connection</td>
<td><img src="MFKConnectionDiagram.png" alt="Diagram" /></td>
<td>The (“yellow JST-molex”) cable is used for the connection between MFK and device.</td>
</tr>
</tbody>
</table>

See the MFK Connection Mode chapter for a description of the use of the Device Manager software in a system with an MFK Connection Diagram.
4.3 Offline mode

The offline ("disconnected") mode is illustrated in the table below:

<table>
<thead>
<tr>
<th>Type of connection</th>
<th>Scenario</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Connection</td>
<td></td>
<td>Map processing in local</td>
</tr>
</tbody>
</table>

See the Offline Connection Mode chapter for a description of the use of the Device Manager software in a system with a Local Connection Diagram.

4.4 Operating/connection modes

The table below illustrates what operations can be done with the different types of connection.

<table>
<thead>
<tr>
<th>Type of macro function</th>
<th>Connection mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameter management</td>
<td>• Network</td>
</tr>
<tr>
<td></td>
<td>• MFK</td>
</tr>
<tr>
<td></td>
<td>• Offline</td>
</tr>
<tr>
<td>Real-time variables management</td>
<td>• Network</td>
</tr>
<tr>
<td>Alarm records management</td>
<td>• Network</td>
</tr>
<tr>
<td></td>
<td>• MFK</td>
</tr>
<tr>
<td>Firmware management</td>
<td>• Network (No BusAdapter)</td>
</tr>
<tr>
<td></td>
<td>• MFK</td>
</tr>
</tbody>
</table>
5 SOFTWARE INSTALLATION

5.1 Foreword
Please shut down all applications that might interfere with the installation.

5.2 “Device Manager” Software Installation
Start the “Setup.exe” installation program in the supplied CD-ROM.

The steps to be followed are described below.

Please note: the “Cancel” button stops the installation procedure, notifying the user that the procedure is being stopped. If confirmed, the situation goes back to what it was before the installation started.

1. On the start page, click “Next”.

2. To continue with the installation, you must accept the License Agreement. Click on “Yes”.

3. Next, enter your details to register the program.
4. Select one of the options to decide whether the installation should be on one specific user's account or for all users.
5. Click “Next”.

![Device Manager - InstallShield Wizard](image1)

**Customer Information**
Please enter your information

- **User Name:** [Input Name]
- **Company Name:** [Input Company]
- **Install this application for:**
  - [ ] Anyone who uses this computer (all users)
  - [ ] Only for me (Client Name)

![Device Manager - InstallShield Wizard](image2)

6. Click “Next”.

![Device Manager - InstallShield Wizard](image3)

**Select Features**
Select the features you will install

- **Device Manager**
  - Description: Device Manager Application

- 1.85 MB of space required on the drive
- 15.84 MB of space available on the drive

![Device Manager - InstallShield Wizard](image4)
7. Click 'Next'

8. The next page gives a summary of the previously selected/set settings. Click "Next".
9. The "restart my computer now" option is recommended at the end of the installation.

10. Click on "Finish" to complete the installation.
    The computer will restart, if the restart option was selected previously.
5.3 Changing, re-installing or removing the “Device Manager” software

To add and/or remove one or all of the components of the “Device Manager” software, simply open the operating system’s “Control panel”, select the “Add or Remove Programs” function, select “DeviceManager” from the list of installed programs and click on the “Change Remove” button.

The installation program will start as shown in the picture.

The options listed are:

Modify

1. Modify currently installed features of the software. Or add or remove single software features. The picture gives an example of a modification.

Remove

2. Reinstall the entire software package.
3. Remove the entire “Device Manager” software package.

Simply select one of the listed options and click on “Next” to make the selection.
6 HARDWARE INSTALLATION

6.1 Foreword
You are advised not to connect up the DM interface until the Device Manager software has been installed and the PC restarted.
Please shut down all applications that might interfere with the installation.

DM interface installation

6.1.1 Connecting the interface to the PC
Connect the DM interface to one of the PC USB ports.
You are advised to use the supplied USB extension lead for the connection.

6.1.2 DM interface setup
As soon as the DM interface is connected, the Windows XP operating system installation wizard will start the installation procedure.
The steps to be followed are described below.

1. On the start page, select the "No, not this time" option and click on "Next".

2. Set the second option, as shown, and press 'Next'.
The path to specify is the path of the installation programme directory.
3. Click on ‘Next’ and/or browse the suggested path

4. The operating system will prompt for confirmation for installing the drivers. Click on “Continue Anyway”.
5. When the operating system recognises the device as "AT90USBxxx CDC USB to UART MGM", click on "Finish".

6.1.3 Reading the DM interface COM port

Follow the steps below to check which COM port the operating system has assigned to the DM interface.

1. Click the right mouse button on the "Resources" icon.
2. Select the "Computer Management" option in the contextual menu.
3. Click on "Peripherals Management" in the left window.
4. Open the "Ports (COM & LPT)" options in the right window.
5. Read the port setting at the end of the "AT90USBxxx CDC USB to UART MGM" string or the string giving the DM interface data.
6. In the example shown in the illustration, the setting is: COM 3.
6.1.4 Changing the COM port setting
If there are contradictions, or for any other reason, another port can be assigned to the interface, as shown in the illustration below.

1. Right mouse click on the COM port in question.
2. Click on “Properties”.
3. Select the port settings window.
4. Click on the Advanced button.
5. Change the COM port number as desired.
6.1.5 DM interface setup with Windows 7
As soon as the DM interface is connected, the Windows 7 operating system recognises the newly connected hardware. The steps to be followed are described below.

1. Once the hardware is connected, the message shown in the figure will appear:

Click on the message to start the guided installation procedure

2. The screen shown below will appear; select the second option to identify the driver

3. In the next screen, select the installation path for the DeviceManager programme. Unless changed during installation, the path will be as shown in the figure.
4. Once you have selected the correct path, the screen shown below will appear: select “Install this driver software anyway.”
1. The screen shown below will appear, indicating that the action has been performed.

![Installing driver software](image1)

2. On completion of the process, the screen shown below will appear.

![Windows has successfully updated your driver software](image2)
To check correct installation of the driver and the port to which the hardware has been allocated, check the Windows screen shown below.
7 USING DEVICE MANAGER

7.1 Preliminary operations
To use the “Device Manager” program properly, the user must:
1. Connect the DM hardware interface to the PC before launching the program.
2. Make sure that the interface has been recognised by the program, as specified in the chapter Setup – COM port.

7.2 Ist program launch and program setup
If, after launching “Device Manager”, it is found that the COM port the DM interface is connected to is different to the one set for the application, then a window will appear, as shown in the picture.

Click OK to close the window.
The program appears as shown in the picture:

The procedure for getting the DM interface recognised by the program is described in the next chapter.

7.2.1 Setup – COM port
In the drop-down menu, select the COM port read/set previously in “Peripherals Management” (see chapter on Setting COM port for DMI) and start the “DMI detection” procedure for recognising the DMI. If there are errors, refer to the section “DM interface connection error”.

The value selected for the COM port will be saved and will reappear each time the program is accessed, until it is changed.

The next picture shows that the program, after launching the DMI detection function, has recognised the DM interface.
7.2.2 DMI Detection function

If the program is to be operative, the DM interface must be recognised with the DMI Detection function. If the DMI is recognised, the following information is displayed:

- The status of the communication port (in Status Bar, "Connected").
- The user level associated to the DMI, "Authorization Level". i.e. “Manufacturer” in the example shown.
- Version and Serial Number of the DMI.

The “DMI Detection” function is also useful when reinitializing the program, if you want to change connection mode or model.

7.3 DM interface connection error

If the “Error opening serial port” message appears, proceed as follows:

1. Check that the COM port setting in the program is the same as one read in the COM port reading by the DM interface.
2. If they are the same, physically disconnect and reconnect the the DM interface from the USB port. This should make the operating system recognise the interface.
3. Repeat the DMI Detection function.

7.4 Recognition of Device

The recognition of the device and the association of the parameters model are done automatically and correctly if the correct models are present and installed. If there are devices in the network that suitable models have not been detected for, this will be stated in the list but without specifying the associated model. If the detection of these devices does not lead to the detection of a model: an error message will appear and it will not be possible to control them.
7.5 Settings Tab

The Settings Tab is used to program:
- Localization: Language Settings
- Log: Log Settings

7.5.1 Language settings
The user can select, via a drop-down menu:
- Application language: the default language of the application (for the description of commands, labels, etc.)
- Model Default language: the default language for models when they are loaded from the device or from file

7.5.2 LOG settings
The user can select the Timestamp format, i.e. the format of the report 'log on file' (logged values for the variables). The format may be:
- Relative (default): the first line of the report will indicate the date and time at which the data was logged, while subsequent lines display the date and time of the first log entry
- Absolute: all lines list the 'absolute' date and time of the corresponding log entry
8 USING DEVICE MANAGER IN NETWORK MODE

See the Connection Modes chapter for information on the physical connections.

Launch the program as described in the chapter Using Device Manager, Program Launch.

Each time the program is launched, the Network operating mode is selected by default. The following settings are made in the Network section:
1. Type of network - either Micronet or Modbus - of the connected devices.
2. The address interval of the family of devices.
3. The address interval of the devices.

The type of network and addresses can be taken directly from the parameters of the single devices. For further details, see the device user manuals.

In Modbus network the data transmission speed and parity type can also be selected. The program will automatically attempt to connect to the single device at the maximum speed allowed from amongst all those selected.

Network scanning

If the previously made settings are correct, the “Scan network” procedure will find the devices. If the search is not successful, the settings made previously in the “Network setup” stage must be re-checked.

The picture below shows a network connection made with a single device.

After recognising the device/s, the program will apply the model, if present in the PC, to the device and activate the related pages (Parameters, Resources, etc.). If more than one device is detected, this information will be displayed for all the devices, ordered by address.

8.1 Network Parameters Page

As soon as a device is connected, the Parameters page can be viewed. The following settings can be viewed simultaneously on the Parameters page:
- The parameter values preset by the model.
- The values read by the device.
- The values set by the user in a modification.
### Description of Parameter Values Table

The Parameter Values Table is illustrated below.

**Parameter Values Table legend**

<table>
<thead>
<tr>
<th>ID</th>
<th>Description</th>
<th>Units</th>
<th>Min</th>
<th>Max</th>
<th>Valore Default</th>
<th>Valore Device</th>
<th>Valore User</th>
<th>Protezione Default</th>
<th>Protezione Device</th>
<th>Protezione User</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CF01 - Tasso ingresso analogico A2</td>
<td>num</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>CF02 - Tasso ingresso analogico A3</td>
<td>num</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>CF03 - Tasso ingresso analogico A4</td>
<td>num</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>CF04 - Valore fondo scala ingresso analogico A3</td>
<td>°C/Bar</td>
<td>0 [10]</td>
<td>95.9</td>
<td>50</td>
<td>50</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>CF05 - Valore fondo scala ingresso analogico A2</td>
<td>°C/Bar</td>
<td>0 [10]</td>
<td>95.9</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>CF06 - Valore fondo scala ingresso analogico A1</td>
<td>°C/Bar</td>
<td>0 [10]</td>
<td>95.9</td>
<td>50</td>
<td>50</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>CF07 - Valore inizio scala ingresso analogico A3</td>
<td>°C/Bar</td>
<td>0 [11]</td>
<td>50</td>
<td>50</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>CF08 - Tasso ingresso analogico A3</td>
<td>°C</td>
<td>-12</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>CF09 - Tasso ingresso analogico A2</td>
<td>°C</td>
<td>-12</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>CF10 - Tasso ingresso analogico A1</td>
<td>°C</td>
<td>-12</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>CF11 - Tasso ingresso analogico A3</td>
<td>°C/Bar</td>
<td>-12</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>CF12 - Tasso ingresso analogico A2</td>
<td>°C/Bar</td>
<td>-12</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>CF13 - Tasso ingresso analogico A1</td>
<td>°C/Bar</td>
<td>-12</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>CF14 - Tasso ingresso analogico A3</td>
<td>num</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>15</td>
<td>CF15 - Tasso ingresso analogico A2</td>
<td>num</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>16</td>
<td>CF16 - Tasso ingresso analogico A1</td>
<td>num</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

In the status bar under the table, the number of lines in which the Device Value/ User Value and Device Protection/User Protection columns are different is given in red.
8.2 Parameter Visibility Management

There are four visibility levels, settable by allocating values to each parameter:

- 3 = parameter or folder always visible.
- 2 = Manufacturer level; these parameters will be visible only if the Manufacturer Password is entered (all parameters specified as always visible, the Service level parameters and the Manufacturer level parameters will be visible).
- 1 = Service level; these parameters will be visible only if the Service Password is entered (all parameters specified as always visible and the Service level parameters will be visible).
- 0 = parameter or folder NOT visible.

Parameters and/or folders with visibility level <=3 (i.e. password protected) will only be visible if the correct password is entered (Manufacturer or Service):
Parameters and/or folders with visibility level =3 are always visible on the device and no password is required.

8.2.1 Parameters selection mode

1 or more parameters can be selected at a time in the parameters table. This is useful for reading/writing parameter values when the Device Writing/Reading mode is in “SEL”.

The selection mode is the same as that of the operating system:

- Single interval mode, from parameter to parameter:
  - Select the first parameter of the interval.
  - Press and hold the “Shift” key while selecting the last parameter of the interval.

- Single parameter select/deselect mode
  - Select the parameter whilst pressing and holding the “CTRL” key. If the parameter has been selected previously this action will deselect it.

E.g., as shown in the picture.

8.2.2 Description of Parameters Page tool bar

A description of the tool bar is given below:

**8.2.2.1 Load File for Parameters Page function**

Loads a configuration that is saved on the PC and applicable to the device into the User Value and User Protection column. A reading of the device parameters is done automatically. The configuration file extension is .DAX.

**8.2.2.2 Save File for Parameters Page function**

Saves a parameters configuration written in the User Value and User Protection columns. The configuration file extension is .DAX.

The labels configured in the Resources page are also saved in the file.
8.2.2.3 Filter Group Function
Filters the parameters by parameter type (e.g. CF, Ui, tr, etc).
The default setting is ALL, i.e. view all parameters.
Works in combination with the Device Writing/Reading Mode Function.

8.2.2.4 Filter Desc Function
Filters the viewing of the parameters by Description. The input string is not case-sensitive.
This tool is useful for viewing a single parameter; in this mode the user will be prevented from accidentally changing the other parameters.
If just the first two digits of the description are entered then the action of the filter is the same as in the Filter Group Tool.
Works in combination with the Device Writing/Reading Mode Tool.

8.2.2.5 Read Device Function
Reads the device values that will be displayed in the columns:
- Device Value
- Device Protection
Works in combination with the Device Writing/Reading Mode Function.

8.2.2.6 Write Device Function
Writes the device values that will be displayed in the columns:
- Device Value
- Device Protection
Works in combination with the "Device Writing/Reading Mode Function".

8.2.2.7 Device Writing/Reading Mode Function
The selection of the 2 ALL/SEL options affects the way that the program reads or writes the parameters on the connected device. The default Device Writing/Reading mode is "SEL".

<table>
<thead>
<tr>
<th>Filter Group Function or Filter Desc Function</th>
<th>Device Writing/Reading Mode</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unfiltered</td>
<td>SEL</td>
<td>Data reading/writing only for the individual parameters selected. See also Parameters Selection Mode.</td>
</tr>
<tr>
<td>Filtered</td>
<td>SEL</td>
<td>Data reading/writing only for the individual parameters selected. See also Parameters Selection Mode.</td>
</tr>
<tr>
<td>Filtered</td>
<td>ALL</td>
<td>Data reading for all parameters, mass mode. Data writing for Filtered group.</td>
</tr>
<tr>
<td>Unfiltered</td>
<td>ALL</td>
<td>Data reading/writing in mass mode (&quot;in toto&quot;). See notes.</td>
</tr>
</tbody>
</table>

IMPORTANT: The Unfiltered ALL mode implies the reading/writing of ALL the parameters, both visible or invisible to the user. The parameters are managed by the program and therefore the wrong order in the parameter management sequence could cause unwanted errors.

8.2.2.8 Stop Function
Stops the enacting of the following commands:
- Load file.
- Save file.
- Read Device (see note below).
- Write Device (see note below).

Note: for the last 2 commands, if the Reading/Writing mode is in "SEL" the Stop Function is disabled.

8.2.2.9 Copy Device Function
With this command the Device Value column is copied into the User Value column, according to the modes set in Device Writing/Reading Mode values.
Example: if the Device Writing/Reading Mode is in "SEL", only the selected parameters will be copied into the "yellow" User Value edit column.

8.2.2.10 Copy Default Function
With this command the Default Value column is copied into the User Value column, according to the modes set in Device Writing/Reading Mode values.
You are advised to work with Device Writing/Reading Mode always in "SEL".

8.2.2.11 Print Parameters Function
This command is for printing the Parameters Table as it appears on the video. Thus, the information given will be according to the Filter Group Tool or Filter Desc Tool.
8.2.2.12 Copy Selection Function
The parameter Values Table or a selection of the values can be copied into the operating system’s “notes”.
- Press the “CTRL” + “C” keys on the keyboard.
- Right-click with the mouse to enable the “Copy selection into notes” command.
The copy can be pasted into applications such as Microsoft MS Excel.

8.3 Resources Page
- The variables controlled by the device can be displayed in real time on the Resources page:
  - Normally, the variables that can be managed are:
    - values of analogue inputs (AI);
    - values of digital inputs (DI);
    - values of digital outputs (DO);
    - values of analogue outputs (AO);
    - values of variables in the RAM representing the Setpoints and related cooling and heating hysteresis... (setpoint, offset, hysteresis, differential);
    - time and counter variables;
    - alarm variables;
    - state and mode variables;
    - other variables.

With the options on the “Resources” page, the user can:
- define new groups for ordering the variables;
- associate selected variables to a chosen group;
- select a single group for monitoring the variables of that group alone (Read and Read Continuous) functions;
- In the same way, to create a log on file for the values of the variables in the selected group (function: Start Logging function). The LOG format (relative or absolute) is configured in the Settings Tab (see corresponding paragraph)
- in the same way, graphing the values of some of the variables in the selected group (by making a further selection);
- specify a Description (alphanumeric strings of maximum length...) associated to each variable.

8.3.1 Description of Resources Table
The Resources table is illustrated below.

---

### Resources Table Legend

<table>
<thead>
<tr>
<th>ID</th>
<th>Description</th>
<th>Label</th>
<th>Group</th>
<th>Axis</th>
<th>Unit</th>
<th>Min</th>
<th>Max</th>
<th>Value</th>
</tr>
</thead>
</table>

- **ID**: ID number of variable.
- **Description**: Description of variable.
- **Label**: Description left free for user. Can be saved together with all the other information by means of the “save file” tool.
- **Group**: A variable can be assigned to a group, to aid the action of the filter. See Grouping Resources.
- **Axis**: To operate with variables in a different unit of measurement or scale, either the right axis can be set, in green, or the left axis, in blue. See Graph Management.
- **Unit**: Unit of measurement used by the variable.
- **Min**: Minimum interval value of the action of the variable.
8.3.2  Grouping Resources Function
With this tool, variables can be grouped at the user's discretion.
The previous picture shows how all the variables regarding Analogue Inputs in group 1 can be grouped together.

8.3.2.1  Procedure for creating and assigning a resources group
To create a new group, simply:
1. Click the “New” button.
2. Enter the chosen item in the Description box.
3. Click the “Apply” button.

To edit the description of a group:
1. Select the group.
2. Repeat steps 2 and 3 of creating a new group.

To delete a group:
1. Select the group.
2. Click the “Delete” button.

To assign a group to a variable
1. Select the variable.
2. Select the chosen group ID from the Group column.

8.3.3  Resources Page tool bar
A description of the tool bar is given below:

8.3.3.2  Load File for Resources Page function
Loads a configuration that is saved on the PC and applicable to the device.
IMPORTANT the file is identical to the one used for the parameters. Therefore, these parameters will also be loaded. See Save File for Parameters Page Tool.

8.3.3.3  Save File for Resources Page
Saves a configuration on the PC.
IMPORTANT the file is identical to the one used for the parameters. Therefore, these parameters will also be saved. See Save File for Parameters Page Tool.

8.3.3.4  Filter Group for Resources Page Function
This tool filters the variables for the groups that are in Grouping Resources and properly set in the Group column.

8.3.3.5  Start/Stop Reading Function
These commands start or stop the procedure for reading the values of the selected variables, as described in the Graphs and Logs chapter.

8.3.3.6  Start/Stop Log Function
These commands start or stop the procedure for logging the values of the selected variables on file, as described in the Graphs and Logs chapter.

8.3.3.7  Log Period Function
Changes the period for the sampling of the data to be read/saved, from a minimum of 10 to a maximum of 3600 seconds. The scanning is done in a continuous cycle.

8.3.4  Graphs and Logs
The program has a dedicated function for displaying the trends of the selected variables (Analogue Input variables only) in graphic mode (within the individual selected group).
The same function can also be used to select the variables to be graphed with reference to the left scale and those to be graphed with reference to the right scale.
The allocation of the resources to the axis follows a simple rule:
0 = RESOURCE NOT GRAPHED
1 = RESOURCE GRAPHED WITH REFERENCE TO LEFT AXIS
2 = RESOURCE GRAPHED WITH REFERENCE TO RIGHT AXIS

Operations that can be done with the mouse in the graphic section
- Zoom in/out with mouse wheel
- With right mouse button
  - Copy graph in “Notes”
  - Show value of Points
  - Zoom out
  - Cancel zoom
8.4 Alarms - Network Page

On the "Alarms" page, downloads can be done from the device (or MFK) using the "Download" button and the Alarm records can be viewed, with the same information that can be obtained directly from the ST device: alarm code, alarm start and end date and time, etc.

E.g., as shown in the picture.

Zoom in, selecting specific areas with the cursor for zooming in.

This information can also be saved to file by clicking the "Save" button: the file name and destination are requested. The file will be in text format, the same format as the variables log file (table form).

Below is an example of an alarm records file

[Alarm of M343MP] 31/01/2008

<table>
<thead>
<tr>
<th>Number</th>
<th>Code</th>
<th>Type</th>
<th>State</th>
<th>Date Start</th>
<th>Time Start</th>
<th>Date End</th>
<th>Time End</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.01</td>
<td>Er60</td>
<td>Reset Automatic</td>
<td>State Open</td>
<td>11/04</td>
<td>23:46</td>
<td>--/--</td>
<td>--/--</td>
</tr>
<tr>
<td>B.02</td>
<td>Er60</td>
<td>Reset Automatic</td>
<td>State Closed</td>
<td>11/04</td>
<td>21:31</td>
<td>13/04</td>
<td>23:46</td>
</tr>
<tr>
<td>B.03</td>
<td>Er60</td>
<td>Reset Automatic</td>
<td>State Open</td>
<td>11/04</td>
<td>21:39</td>
<td>--/--</td>
<td>--/--</td>
</tr>
<tr>
<td>B.04</td>
<td>Er60</td>
<td>Reset Automatic</td>
<td>State Open</td>
<td>11/04</td>
<td>13:05</td>
<td>--/--</td>
<td>--/--</td>
</tr>
<tr>
<td>B.05</td>
<td>Er60</td>
<td>Reset Automatic</td>
<td>State Open</td>
<td>11/04</td>
<td>03:16</td>
<td>--/--</td>
<td>--/--</td>
</tr>
<tr>
<td>B.06</td>
<td>Er60</td>
<td>Reset Automatic</td>
<td>State Open</td>
<td>10/04</td>
<td>06:21</td>
<td>--/--</td>
<td>--/--</td>
</tr>
<tr>
<td>B.07</td>
<td>Er60</td>
<td>Reset Automatic</td>
<td>State Open</td>
<td>10/04</td>
<td>05:02</td>
<td>--/--</td>
<td>--/--</td>
</tr>
<tr>
<td>B.08</td>
<td>Er60</td>
<td>Reset Automatic</td>
<td>State Open</td>
<td>10/04</td>
<td>04:53</td>
<td>--/--</td>
<td>--/--</td>
</tr>
<tr>
<td>B.09</td>
<td>Er60</td>
<td>Reset Automatic</td>
<td>State Open</td>
<td>10/04</td>
<td>04:43</td>
<td>--/--</td>
<td>--/--</td>
</tr>
</tbody>
</table>

The alarm records can also be read from MFK (but not vice versa).
The procedure is the same, but in the MFK Operating Mode.
The number of actual alarms (= number of alarm records) loaded in the MFK is indicated at header level, and the alarms in the MFK are ordered starting from the oldest to the most recent.

8.5 Application - Network Page

The firmware can be upgraded directly, i.e. via PC – individual device connection.
The firmware can be upgraded from PC to device, but an upgrade cannot be downloaded from device to PC.
See also the chapter Application – MFK Page.

8.5.1 Procedure for upgrading firmware in Network

1. Check the release version of the firmware on the Connections page, on the line where the device is selected.
2. Go to the Application page.
3. Initially, the program appears as shown in the picture.
4. Click the Load File button to import the firmware file. The file extension is `.fwX`. The program will appear as shown in the example in the picture, where values have been entered in the Family and Release fields.

5. Click the "Write" button.

6. Important: during this procedure the device must not be powered from other sources, as this would make it impossible to do the reset during the sequence!

7. Wait until the program writes in the device and then restart it.

8. When the upgrade is finished, a window will appear saying that the operations have been completed.
9.1 Using Device Manager in MFK Mode

See the MFK Connection Mode chapter for information on the physical connections.

1. Launch the program as described in the chapter Using Device Manager, Program Launch.
2. Select the Multi Function Key operating mode. As shown in the picture.

The operating scenarios with MFK are shown below.

9.1.1 MFK not connected
If the interface is connected but the MFK is not connected, the program will display the message: “Unable to communicate with Multi Function Key”.

9.1.2 MFK not formatted
The user is advised to format the MFK from the device and then do an upload, again from the device.

If the MFK is not formatted, but connected, the program will display the message: MFK NOT Detected.

IMPORTANT: Although formatting and loading parameters directly from the program is permitted, it is not recommended, as it will mean that the default values of the model's parameters will be written on the device and will not be visible to the user. These values could be different in the device, and overwriting them could cause errors.

9.1.3 MFK containing a configuration different to the one requested
If the MFK contains a configuration different to the one requested, but is connected, the program will display the message: “Model not detected”. Proceed as if the MFK were not formatted.

9.1.4 MFK containing a requested configuration of the device

1. Click on the “Detect MFK” button. An example of how the program may appear is given in the picture below.
Note that the program will detect the device if present in the MFK. The characteristics of the device will be shown in the “Multi-Function-Key Header” box on the bottom right.

### 9.2 MFK parameters page

To configure the parameters correctly, you are advised to proceed as described below.

**The correct sequence** is as follows:

1. **Formatting** MFK (see the device’s manual for instructions).
2. **UPLOAD** from device to MFK (see the device’s manual for instructions). Connection and identification of the MFK with the program, with the automatic detection of the model contained in the MFK.
3. **READING** the MFK from the Parameters page.
4. **COPY DEVICE.** Parameters Tab (to transfer the device settings, both visible and invisible, to the User column). If necessary, editing parameters or opening .dax files compatible with the model.
5. **WRITING** the MFK from the Parameters page.

**NOTE:** The opening of a .dax file will automatically enable the read and copy device actions (pts. 3+4).

**Important:** If you want to write directly on the MFK without doing a Formatting + UPLOAD (pts. 1+2) on MFK from Device --> The program will display a warning message about overwriting the hidden parameters. See Mass Writing message.

See **Description of Parameters Page tool bar** for a description of the commands.

### 9.3 Alarms - MFK Page

See **Alarms - Network Page**.
9.4 Application - MFK Page

The user can also upgrade the firmware via MFK. To upgrade the firmware correctly, you are advised to proceed as described below.

1. **Formatting** MFK (see the device's manual for instructions).
2. Connection and identification of the MFK with the program.
3. **Import** the Firmware file from the page with the Load File command.
4. **Check** the firmware version.
5. **Writing** the MFK from the Application page.
6. **Notification** of completion of upload.

7. **Uploading** firmware from MFK to device.
10 USING DEVICE MANAGER IN OFFLINE MODE

After launching the “Device Manager” application and checking that the DM interface has been detected, the user must select the “Local” setting, as shown in the picture.

The user can now decide whether to:
- work on a new configuration based on loaded models:
  o Select a model from the drop-down text box.
- work on a configuration that has been saved previously
  o Either launch the “load file” procedure from the Connections page;
  o or select the model, go to the Parameters page, now visible, and load a configuration compatible with the selected model, using the “load file” procedure.

After loading the model, proceed with configuring the parameters. The settings can be saved at the end of the work session; see Save File for Parameters Page Function.
11 USING DEVICE MANAGER WITH EWCM EO

11.1 Using DeviceManager with EWCM EO
This chapter refers to using Device Manager with EWCM EO controllers for compressor rooms
Software, hardware installation and operations common to Eliwell controllers are illustrated in the other manual chapters.
This chapter just describes operations using EWCM EO.
Note: the firmware release can be checked on the EWCM display in the Service Menu (requires Administrator password, see EWCM EO user manual)

| SERVICE | 03/03 |
| Service Password | FW 504.01 |
| 16/11/12 |

Note: only available from versions 504.01 onwards.
If there are any doubts over the firmware mask, please contact Eliwell Technical Support

11.1.1 SOFTWARE INSTALLATION
Before using EWCM EO for any purpose, install the DEVICE MANAGER software as instructed in the relevant chapter.

11.2 Connection mode
Note. USB Copy Card is seen as a mass USB storage peripheral by the PC.
Its operation does not depend on the correct installation of DeviceManager.

The user can interact with EWM EO in two different ways:

**Network connection mode:**
- Network mode with EWCM EO through BusAdapter150.

**USB Copy Card mode**
- The user interacts with the software only, disconnected from EWCM EO (e.g. for Parameter configuration processing).

11.2.1 Network connection mode
The network connections are illustrated in the table below:

<table>
<thead>
<tr>
<th>Type of connection</th>
<th>Scenario</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection Network (Network)</td>
<td>Components NEEDED: BUS ADAPTER + DMI + purple cable</td>
<td>The (&quot;purple inverted JST-molex&quot;) cable is used for the connection between the DMI interface and the BusAdapter</td>
</tr>
</tbody>
</table>

11.3 USB Copy Card mode
The offline ("disconnected") mode is illustrated in the table below:

<table>
<thead>
<tr>
<th>Type of connection</th>
<th>Scenario</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection Local USB Copy Card</td>
<td></td>
<td>Local map processing</td>
</tr>
</tbody>
</table>
11.4  Operating/connection modes

The table below illustrates what operations can be done with the different types of connection.

<table>
<thead>
<tr>
<th>Type of macro function</th>
<th>Connection mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameter management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Network</td>
</tr>
<tr>
<td></td>
<td>USB Copy Card</td>
</tr>
</tbody>
</table>

11.4.1  USING DEVICE MANAGER WITH EWCM EO

*Network connection mode*

Once the DMI has been identified

Detect DMI

select the Network’s “Operating Mode” and “Scan Network” to detect the EWCM EO model connected
To operate on the parameter table, select “Parameters”

11.4.2 Parameter filter for Folders and Units of Measurement

EWCM EO foresees a group of parameters representing the same variable in different units of measurement. Parameters are duplicated / quadrupled depending on the unit of measurement displayed. For example, the parameter for the Compressors folder 131 – LSE minimum setpoint is quadrupled like this:

- 141 – LSE – 1 minimum setpoint °C
- 141 – LSE – 2 minimum setpoint °F
- 141 – LSE – 3 minimum setpoint bar
- 141 – LSE – 4 minimum setpoint PSI

In the Device Manager parameter table, the parameter is repeated 4 times in 4 different lines with suffix – 1,…,4. Once the folder has been filtered using the ‘Group Filter’ drop-down menu, you can ‘filter’ further for the description entering the Unit of Measurement (e.g. centigrades i.e. °C)

Folder filter
If you change and select one (or more) lines or just change one or more measurement units of the same parameter (present with more UMs) EWCM EO also converts the other "connected" parameters automatically using specific conversion tables. To disable conversion EWCM EO provides a dedicated command illustrated below:

### 11.5 Parameter management

Unlike other Eliwell instruments, there are two buttons on the tool bar and a drop-down menu to the top right (also see the Note at the end of the chapter):

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>°T &gt;&gt; P On</td>
<td>enables automatic conversion</td>
<td>The buttons are in On or Off mode based on the state of EWCM EO</td>
</tr>
<tr>
<td>°T &gt;&gt; P Off</td>
<td>manually disables automatic conversion</td>
<td></td>
</tr>
<tr>
<td>Quick Start Off</td>
<td>QuickStart Parameters disabled for writing</td>
<td></td>
</tr>
<tr>
<td>Quick Start On</td>
<td>QuickStart Parameters enabled for writing</td>
<td></td>
</tr>
<tr>
<td>Menu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without allocation</td>
<td>Leaves I/O allocation unchanged</td>
<td>English language selection. The relative description in the language appears in the other languages</td>
</tr>
<tr>
<td>With allocation</td>
<td>Modifies the I/O allocation automatically</td>
<td></td>
</tr>
</tbody>
</table>

#### 11.5.1 Management of parameters and UMs

The °T >> P On-Off button disables automatic conversion manually before writing the parameters.

You have two cases, writing just one parameter and writing 2 or more parameters: a 'warning' message appears based on mode or writing without manual user confirmation:

<table>
<thead>
<tr>
<th>Single writing</th>
<th>'Multiple' writing 2 or more parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>°T &gt;&gt; P Off</td>
<td>Writing parameters</td>
</tr>
<tr>
<td>'warning' message</td>
<td>Last writing parameter will not be saved</td>
</tr>
<tr>
<td>°T &gt;&gt; P On</td>
<td>Writing parameters</td>
</tr>
<tr>
<td>'warning' message</td>
<td>DO NOT use this mode for parameters presenting the same variable in several units of measurement</td>
</tr>
</tbody>
</table>

(*)Note. Multiple writing for some parameters is allowed for all parameters that do not involve conversion of measurement units.
Managing Quick Start parameters
The Quick Start >> Off → On button manually enables writing of central compressor ‘system’ parameters, present in the Quick Start folder.

To be able to modify the Quick Start parameters, the EWCM EO must be in Configuration mode, that is the QUICK START screen visible from EWCM EO keypad must be as in the example (Enable = Yes).

Pressing the Quick Start >> Off → On button the EWCM keypad displays Enable No → Yes

For the description of Quick Start parameters, please refer to the EWCM EO manual.

The list of parameters is as follows:

Manual I/O “allocation”

The drop-down menu Without allocation >> With allocation allocates inputs/outputs or not automatically, associating settings set with with compressor room ‘system’ parameters, present in the Quick Start folder, with physical resources:

Without allocation leave this default setting if you do not want to change the I/O allocation
On the EWCM EO keypad display this corresponds to Manual Yes

With allocation on the contrary this setting automatically changes I/O allocation
On the EWCM EO keypad display this corresponds to Manual No
11.5.2 USING DEVICE MANAGER IN LOCAL MODE / USB Copy Card

This mode is selected automatically whenever DeviceManager DOES NOT identify a DMI connected at programme start-up. Mode used to process maps locally (on own PC) to be uploaded on EWCM EO later on.

Select the EWCM EO model you want to prepare the map for from the “Connection” panel and select the language.

Having configured the parameters map from the “Parameters” panel save the map by pressing “Save”.
The file name must have max. 8 characters ALL UPPER CASE (including the extension)
The file name will have a .DAT extension

The .DAT file must then be saved on the USB Copy Card to download the map directly onto the device

To modify an existing map upload from EWCM EO to USB Copy Card, copy the DAT file on your PC and import the file with Device Manager repeating the above procedure

Consult the EWCM EO manual for all map upload/download operations

N.B
Based on screen size or resolution buttons

might not be visible; in that case click on the right menu bar to display the EWCM EO functions correctly. See example with Win 7
12 USING DEVICE MANAGER WITH UNICARD

12.1 USING DeviceManager with UNICARD

This document refers to the use of UNICARD when connected to the DeviceManager software via USB; for operation with an instrument, please refer to the UNICARD documentation. N.B.: UNICARD can also be used as an MFK; see chapter 9 for information.

12.1.1 SOFTWARE INSTALLATION

Before using UNICARD for any purpose, install the DEVICE MANAGER software as instructed in the relevant chapter. Remove the seal from the UNICARD cap and connect UNICARD to the PC by means of the USB connection, only after installing the software (see chapter 5. Manual).

IMPORTANT: UNICARD is not a USB mass storage device. Its operation does not depend on the correct installation of DeviceManager.

12.1.2 HARDWARE INSTALLATION

When installation is completed, connect UNICARD to the PC to install the respective driver (see chapter 6. Manual) N.B.: if the DeviceManager software has already been installed and used with the DM interface (any version), you will not be asked to install the driver for UNICARD, because it is the same as for DMI.

12.1.3 USING DEVICE MANAGER IN UNICARD MODE

This mode is selected automatically whenever a UNICARD is found on start-up of the DeviceManager programme. After start-up, the following screen will appear if UNICARD does not contain any parameters list.

In order to be able to work on the parameters tables, select one of the compatible instruments from the “Model” box. If you select an instrument that is not compatible with UNICARD, the software will display the following error message:
If you select a compatible model, the "Parameters" option will appear, enabling you to work on the table for the selected instrument.

If, alternatively, DeviceManager identifies a UNICARD containing a parameters list upon start-up of the programme, the screen shown below will appear, and the software will automatically go to the model relating to the parameters list contained in UNICARD. The parameters page will already be active.
12.1.4 Writing parameters in UNICARD

When you select the parameters page, the table for the selected instrument will appear. Work on this table as described in chapter 8.1.1 to customise the parameters list. On completion of the operation, one of two possible messages will appear when you click the “Write” button:

The message will appear when writing on a formatted UNICARD. In this case, all the parameters not visible in the DeviceManager table will be written on UNICARD with the Eliwell default value.

### Eliwell Device Manager

**ATTENZIONE - Scrittura di Unicard Formattata: per i Parametri NON Visibili saranno usati Valori di Default. CONTINUARE?**

[Si]  [No]
This message appears when UNICARD already contains a parameters list and alerts the user that all unmodified parameters (from the DeviceManager table) will be written with the default value shown in the software, and all the parameters not visible in the table of DeviceManager will be written on UNICARD with the Eliwell default value.

The parameters list will therefore be written in UNICARD. During the procedure, the LED inside UNICARD will illuminate, indicating that the operation is in progress; on completion, the following message will appear:

IMPORTANT: you cannot save more than one parameters list on UNICARD simultaneously. To change parameters list, you need to format UNICARD first and then re-write the programming.

12.1.5 WRITING PARAMETERS TO THE CONNECTED DEVICE

When you have finished writing to UNICARD you can start the programming procedure on the connected device:

Keep UNICARD connected to the PC.

Connect the instrument by means of the TTL 5-way standard or mignon cable.

The red LED inside UNICARD will remain ON during the transfer, while the instrument’s display will be OFF. On completion of the operation, the UNICARD LED switches off and the instrument's display switches on. The instrument's display will show the outcome of the operation (typically “dLy”, see the specific documentation for each individual instrument for details).

IMPORTANT: the operation indicated is only possible if the connected instrument supports automatic download-DL. See instructions for UNICARD and the devices for further details. The operation is therefore divided into two phases: writing to UNICARD and connecting the instrument. It is not possible to write parameters directly to the instrument via UNICARD.

12.1.6 Reading parameters from UNICARD

The key is active only if UNICARD contains a parameters list, otherwise it is disabled. It enables you to load the parameters list from UNICARD for subsequent reading/editing.
12.1.7 USING DEVICE MANAGER IN LOCAL MODE

1. This mode is selected automatically whenever DeviceManager DOES NOT identify a connected **UNICARD** at programme start-up. After start-up, the following screen appears:

2. To recognise the **UNICARD** connected subsequently, press

3. You can also access Local Mode from **UNICARD** mode, by selecting the “Local” option

4. To work on the parameters table, select one of the instruments from the “Model” box
12.1.8 CLONING FUNCTION
This function is only accessible if DeviceManager detects a UNICARD connected at start-up. The function is also active in Local mode, but selected from a previous UNICARD session.

If you press the key, the system will read the entire memory of the connected instrument. The operation is divided into 4 phases, and may take time, according to the instrument connected.

By pressing the key, you can save the data read in a single file with extension .BIN to a customisable destination. The .BIN file will only be editable by Eliwell.

It enables you to write the .BIN file made available to DeviceManager to UNICARD by pressing “Upload”.

Using this key, you can make a previously created .BIN file available to DeviceManager; the file will be downloaded to UNICARD by pressing “Write” as previously explained.
12.1.9 OTHER FUNCTIONS

The key enables the software to identify the type of UNICARD connected and its properties, which are then displayed in the "DM interface information" box.

The key enables the software to identify and delete the contents of the UNICARD. The operation is preceded by the message shown below. Once activated, the function cannot be reversed or interrupted.

The key allows you to upload, from a selectable path, a .DRX file, with which a new model is added to DeviceManager. The function serves to add new models without having to re-install the software.

12.1.10 COMPATIBLE INSTRUMENTS

- IDPlus version 2-ALL MODELS
- EW-ALL MODELS
- EWPlus-ALL MODELS
- For all other instruments in use, contact Eliwell for compatibility
The DM interface functionalities are shown in the table below.

<table>
<thead>
<tr>
<th>MANUFACTURER</th>
<th>Parameters Page</th>
<th>Application Page</th>
<th>Resources / Alarms Page</th>
</tr>
</thead>
</table>
| Device programming | Reading/Writing of all parameters (according to the model), including protected values from/to device. | The uploading of the firmware on to the device is done:  
- Directly from PC via direct network connection.  
- Via MFK connection. | Alarms chronology: direct file acquisition/saving. |
| MFK programming | Reading/Writing of parameters: from/to MFK. | Reading/Writing of file of (single) application from/to PC to MFK. | Alarms chronology: MFK reading/reset. |
| File management | Reading/Writing/Editing (from/to PC) of DAX files. | Loading application file (for MFK acquisition) from PC hard disk. | Reading/Writing alarms chronology file. |
| Other | Manager of parameters of main functionalities if working on old model (ST500). | Monitoring. I/O/mode/main setting.  
Defining/saving labels for I/O.  
Timers and counters control (selection, max 60 variables).  
Alarms control.  
Recording I/O on file.  
Selectable interval from 10 sec to 1 h. | |
| Display | Parameters on table, with code based on division/groups. | Alarms chronology: File display (in table form).  
Graph: Analogue inputs only. | |
| Print | Print with parameter coding in division/groups. | | |
### SERVICE - INSTALLER

<table>
<thead>
<tr>
<th>Device programming</th>
<th>Parameters Page</th>
<th>Application Page</th>
<th>Resources / Alarms Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading/Writing of parameters (excluding protection parameters) from/to device.</td>
<td>The uploading of the firmware on to the device is done:</td>
<td>Alarms chronology: direct file acquisition/saving.</td>
<td></td>
</tr>
<tr>
<td>Importing parameters/structure from device (only those with protection value 1 and 3 visible).</td>
<td>• Directly from PC via direct network connection.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MFK programming</td>
<td>Reading/Writing of parameters: from/to MFK</td>
<td>Reading/Writing of file of (single) application from/to PC to MFK.</td>
<td>Alarms chronology: MFK reading/reset.</td>
</tr>
<tr>
<td>File management</td>
<td>Reading/Writing/Editing (from/to PC) of DAX files. The visibility of the parameters is retrieved from the device anyway.</td>
<td>Loading application file (for MFK acquisition) from PC hard disk.</td>
<td>Reading/Writing alarms chronology file.</td>
</tr>
<tr>
<td>Display</td>
<td>Parameters on table, with code based on division/groups.</td>
<td></td>
<td>Alarms chronology: File display (in table form).</td>
</tr>
<tr>
<td>Print</td>
<td>Print with parameter coding in division/groups.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SERVICE – END USER

<table>
<thead>
<tr>
<th>Parameters Page</th>
<th>Application Page</th>
<th>Resources / Alarms Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programming device</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Reading/Writing of parameters (excluding protection parameters) from/to device.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Importing parameters/structure from device (visible only those with protection value 3 = no password).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MFK programming</td>
<td>Reading/Writing of parameters: from/to MFK.</td>
<td></td>
</tr>
<tr>
<td>File management</td>
<td>Reading/Writing (from/to PC) of DAX files. The visibility of the parameters is retrieved from the device anyway.</td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td>Parameters on table, with code based on division/groups.</td>
<td></td>
</tr>
<tr>
<td>Print</td>
<td>Print with parameter coding in division/groups.</td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX B

### 14.1.1 DMI product codes

<table>
<thead>
<tr>
<th>Device Manager Interface</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMI 100-1 End User</td>
<td>DMI1001002000</td>
</tr>
<tr>
<td>DMI 100-2 Service</td>
<td>DMI1002002000</td>
</tr>
<tr>
<td>DMI 100-3 Manufacturer</td>
<td>DMI1003002000</td>
</tr>
</tbody>
</table>

### 14.1.2 Multi Function Key product code

<table>
<thead>
<tr>
<th>Multi Function Key</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi Function Key 100</td>
<td>MKF100T000000</td>
</tr>
</tbody>
</table>

### 14.1.3 BusAdapter product code

<table>
<thead>
<tr>
<th>BusAdapter</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>BusAdapter 150</td>
<td>BA10000R3700</td>
</tr>
</tbody>
</table>

### 14.2 USB extension lead

<table>
<thead>
<tr>
<th>USB extension lead</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB-A/A 2MT extension lead</td>
<td>COLV000016200</td>
</tr>
</tbody>
</table>
### 14.3 UNICARD

<table>
<thead>
<tr>
<th>UNICARD</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNICARD USB/TTL</td>
<td>CCA0BHT00U00</td>
</tr>
</tbody>
</table>

### 14.4 USB Copy Card

<table>
<thead>
<tr>
<th>USB Copy Card</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB Copy Card</td>
<td>CCA0BUU02N000</td>
</tr>
</tbody>
</table>
15 LIABILITY AND RESIDUAL RISKS

Eliwell shall not be held liable for any damage incurred as a result of:
- installation/use other than those intended, and, in particular, failure to comply with the safety instructions specified by applicable regulations and/or provided in this document;
- use with equipment which does not provide adequate protection against electric shocks, water and dust under the effective conditions of installation;
- use with equipment which permits access to hazardous parts without the use of tools;
- installation/use with equipment which does not comply with current regulations and legislation.
LIMITATION OF LIABILITY

ELIWELL CONTROLS srl shall not be liable for damages originating from the installation/use of the software that do not comply with the instructions of this manual.

While reasonable efforts have been made in the preparation of this document to assure its accuracy, ELIWELL CONTROLS srl assumes no liability resulting from the information contained herein.

To the maximum extent permitted by the law, ELIWELL CONTROLS srl assumes no liability for special, accidental, direct or indirect damages (including, without any whatsoever limitation, the loss of income or profits, interruption of work, loss of data or income) originating from the use of the software or from the failure to use it, and from the supply or failure to supply technical support, even when informed of the likeliness of said damages.
## ANALITIC INDEX

<table>
<thead>
<tr>
<th>A</th>
<th>Abbreviations and definitions .................................................................</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Alarms - MFK Page .........................................................................................</td>
<td>34</td>
</tr>
<tr>
<td>A</td>
<td>Alarms - Network Page ..................................................................................</td>
<td>31</td>
</tr>
<tr>
<td>APPENDIX A</td>
<td>..................................................................................................................</td>
<td>51</td>
</tr>
<tr>
<td>APPENDIX B</td>
<td>..................................................................................................................</td>
<td>53</td>
</tr>
<tr>
<td>Application - MFK Page .................................................................</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Application - Network Page ..........................................................</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>BusAdapter .....................................................................................................</td>
<td>6</td>
</tr>
<tr>
<td>B</td>
<td>BusAdapter image ..........................................................................................</td>
<td>53</td>
</tr>
<tr>
<td>B</td>
<td>BusAdapter product code ..............................................................................</td>
<td>53</td>
</tr>
<tr>
<td>C</td>
<td>Changing the COM port setting .................................................................</td>
<td>17</td>
</tr>
<tr>
<td>C</td>
<td>Changing, re-installing or removing the .....................................................</td>
<td>13</td>
</tr>
<tr>
<td>CLONING FUNCTION</td>
<td>........................................................................................................</td>
<td>49</td>
</tr>
<tr>
<td>COMPATIBLE INSTRUMENTS</td>
<td>................................................................................</td>
<td>50</td>
</tr>
<tr>
<td>Connecting the interface to the PC ....................................................</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Connection cables ..................................................................................</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Connection mode .....................................................................................</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>CONNECTION MODES</td>
<td>.................................................................................................</td>
<td>7</td>
</tr>
<tr>
<td>Copy Default Function ........................................................................</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Copy Device Function ..........................................................................</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Copy Selection Function ...................................................................</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Cross references</td>
<td>........................................................................................................</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>Description of parameter Values Table ....................................................</td>
<td>26</td>
</tr>
<tr>
<td>D</td>
<td>Description of Parameters Page tool bar ..................................................</td>
<td>27</td>
</tr>
<tr>
<td>D</td>
<td>Description of Resources Table ..................................................................</td>
<td>29</td>
</tr>
<tr>
<td>D</td>
<td>Device Manager components .......................................................................</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>Device Manager Interface ...........................................................................</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>Device Manager interface component ......................................................</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>Device Writing/Reading Mode Function ....................................................</td>
<td>28</td>
</tr>
<tr>
<td>D</td>
<td>DM interface connection error ..................................................................</td>
<td>23</td>
</tr>
<tr>
<td>D</td>
<td>DM interface setup ......................................................................................</td>
<td>14; 18</td>
</tr>
<tr>
<td>D</td>
<td>DM interface setup with Windows 7 ...........................................................</td>
<td>18</td>
</tr>
<tr>
<td>D</td>
<td>DMI Detection function .............................................................................</td>
<td>23</td>
</tr>
<tr>
<td>D</td>
<td>DMI End User ...............................................................................................</td>
<td>52</td>
</tr>
<tr>
<td>D</td>
<td>DMI image ....................................................................................................</td>
<td>53</td>
</tr>
<tr>
<td>D</td>
<td>DMI Manufacturer .......................................................................................</td>
<td>51</td>
</tr>
<tr>
<td>D</td>
<td>DMI product codes .......................................................................................</td>
<td>53</td>
</tr>
<tr>
<td>D</td>
<td>DMI Service .................................................................................................</td>
<td>52</td>
</tr>
<tr>
<td>E</td>
<td>Error opening serial port .........................................................................</td>
<td>23</td>
</tr>
<tr>
<td>F</td>
<td>Filter Desc Function ...................................................................................</td>
<td>28</td>
</tr>
<tr>
<td>F</td>
<td>Filter Group for Resources Page Function ...............................................</td>
<td>30</td>
</tr>
<tr>
<td>F</td>
<td>Filter Group Function ................................................................................</td>
<td>28</td>
</tr>
<tr>
<td>F</td>
<td>Foreword ......................................................................................................</td>
<td>9; 14</td>
</tr>
<tr>
<td>G</td>
<td>General description ....................................................................................</td>
<td>6</td>
</tr>
<tr>
<td>G</td>
<td>Graphs and Logs ..........................................................................................</td>
<td>30</td>
</tr>
<tr>
<td>G</td>
<td>Grouping Resources Function ....................................................................</td>
<td>30</td>
</tr>
<tr>
<td>H</td>
<td>HARDWARE INSTALLATION .........................................................................</td>
<td>14; 44</td>
</tr>
<tr>
<td>H</td>
<td>Highlighting icons: ....................................................................................</td>
<td>4</td>
</tr>
<tr>
<td>H</td>
<td>HOW TO USE THIS MANUAL .......................................................................</td>
<td>4</td>
</tr>
<tr>
<td>I</td>
<td>INTRODUCTION .............................................................................................</td>
<td>6</td>
</tr>
<tr>
<td>I</td>
<td>Ist program launch .....................................................................................</td>
<td>22</td>
</tr>
<tr>
<td>I</td>
<td>Ist program launch and program setup .....................................................</td>
<td>22</td>
</tr>
<tr>
<td>L</td>
<td>Language settings ......................................................................................</td>
<td>24</td>
</tr>
<tr>
<td>L</td>
<td>Launching program .....................................................................................</td>
<td>23</td>
</tr>
<tr>
<td>L</td>
<td>LIABILITY AND RESIDUAL RISKS ................................................................</td>
<td>55</td>
</tr>
<tr>
<td>L</td>
<td>LIMITATION OF LIABILITY .........................................................................</td>
<td>56</td>
</tr>
<tr>
<td>L</td>
<td>Load File for Parameters Page function ...................................................</td>
<td>27</td>
</tr>
<tr>
<td>L</td>
<td>Load File for Resources Page function ....................................................</td>
<td>30</td>
</tr>
<tr>
<td>L</td>
<td>Local Connection Diagram .......................................................................</td>
<td>8</td>
</tr>
<tr>
<td>L</td>
<td>Log Period Function ..................................................................................</td>
<td>30</td>
</tr>
<tr>
<td>L</td>
<td>LOG settings ..............................................................................................</td>
<td>24</td>
</tr>
<tr>
<td>M</td>
<td>Main features .............................................................................................</td>
<td>6</td>
</tr>
<tr>
<td>M</td>
<td>Management of parameters and UMs ........................................................</td>
<td>40</td>
</tr>
<tr>
<td>M</td>
<td>Message: Error opening serial port ..........................................................</td>
<td>22</td>
</tr>
<tr>
<td>M</td>
<td>Message: MFK NOT Detected .....................................................................</td>
<td>33</td>
</tr>
<tr>
<td>M</td>
<td>Message: Unable to connect with MFK .....................................................</td>
<td>33</td>
</tr>
<tr>
<td>M</td>
<td>MFK Connection Diagram ..........................................................................</td>
<td>7</td>
</tr>
<tr>
<td>M</td>
<td>MFK connection mode ................................................................................</td>
<td>7</td>
</tr>
<tr>
<td>M</td>
<td>MFK containing a configuration different to the one requested ...............</td>
<td>33</td>
</tr>
<tr>
<td>M</td>
<td>MFK containing a requested configuration of the device .......................</td>
<td>33</td>
</tr>
<tr>
<td>M</td>
<td>MFK not connected ...................................................................................</td>
<td>33</td>
</tr>
<tr>
<td>M</td>
<td>MFK not formatted ...................................................................................</td>
<td>33</td>
</tr>
<tr>
<td>M</td>
<td>MFK parameters page ................................................................................</td>
<td>34</td>
</tr>
<tr>
<td>M</td>
<td>Minimum Hardware ....................................................................................</td>
<td>5</td>
</tr>
<tr>
<td>M</td>
<td>MINIMUM SYSTEM REQUIREMENTS ............................................................</td>
<td>5</td>
</tr>
<tr>
<td>M</td>
<td>Modify ........................................................................................................</td>
<td>13</td>
</tr>
<tr>
<td>M</td>
<td>Multi Function Key ...................................................................................</td>
<td>6</td>
</tr>
<tr>
<td>M</td>
<td>Multi Function Key Component ..................................................................</td>
<td>6</td>
</tr>
<tr>
<td>M</td>
<td>Multi Function Key images .......................................................................</td>
<td>53</td>
</tr>
<tr>
<td>M</td>
<td>Multi Function Key product code ............................................................</td>
<td>53</td>
</tr>
<tr>
<td>N</td>
<td>Network connection device .......................................................................</td>
<td>6</td>
</tr>
<tr>
<td>N</td>
<td>Network connection mode .........................................................................</td>
<td>7; 37</td>
</tr>
<tr>
<td>N</td>
<td>Network connection table .........................................................................</td>
<td>7</td>
</tr>
<tr>
<td>N</td>
<td>Network Parameters Page .........................................................................</td>
<td>25</td>
</tr>
<tr>
<td>N</td>
<td>Network scanning ......................................................................................</td>
<td>25</td>
</tr>
<tr>
<td>N</td>
<td>Network setup ............................................................................................</td>
<td>25</td>
</tr>
</tbody>
</table>