DREHMO® *i – matic*
Electric actuator for valve operation with integral control unit

DREHMO

This operating manual applies to on-off, inching and modulating actuators of type *i-matic*

DREHMO *i-matic* PDA

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NOTE
This instruction is part of the supply and should be kept for future use.

History

File version	Date	Changes
0	2008-08-18	Created (Ste)

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These installation, operating and service instructions apply to electrical actuators of the *i-matic* range (multiturn, partturn and linear actuators).

The product name is **DREHMO**® *i-matic* (DiM).

Attention !

This symbol signifies „warning!“
Failure to observe may result in damage and personal injury.

Attention !

Please read these instructions before installation and commissioning.
If the actuators are used improperly or used for other than the intended applications, no liability is assumed.

1 Introduction *i-matic* PDA

This document shows the device operation via Bluetooth-communication by using a PDA with installed software *i-matic* Explorer.

The *i-matic* Explorer attends to the control and parameterization of *i-matic* actuators with Bluetooth-interface.

System requirements

Software:
- Windows mobile 2005/2006
- Microsoft .Net Compact Framework 2.0 or higher
- Application software *i-matic* Explorer

Hardware (recommended):
- HP iPAQ hx2490, HP iPAQ 114

1.1 PDA condition as supplied to customer

In case of PDA delivery via **DREHMO** GmbH, all required installations are already done for the communication with an *i-matic* actuator with Bluetooth-interface

Following installations are carried out:

- Installation of the current Microsoft .Net Compact Framework
- Installation of the current *i-matic* Explorer version
- Activation of the Bluetooth-interface

Fig. 1 Installed DREHMO PDA

The starting of the *i-matic* Explorer can directly be carried out from the start menu.
The available functions are described in the following chapters.

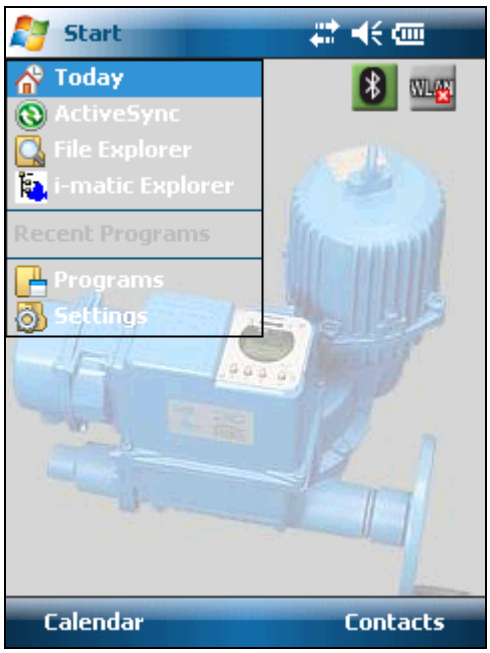

Fig. 2 Start *i-matic* Explorer from start menu

2 Description *i-matic* PDA

2.1 PDA i-matic Explorer start screen

An inspection and variation of the parameterization of *i-matic* actuators can be carried out offline by means of stored parameter sets. In case of an existing Bluetooth-connection it is possible to carry it out directly online at the device.
Offline-parameter sets can be provided by DREHMO as factory settings. The parameter sets can also be selected and stored directly out of the actuator.

Important basic settings such as the language selection and the assignment of the required COM Ports for the Bluetooth access are carried out in the menu.

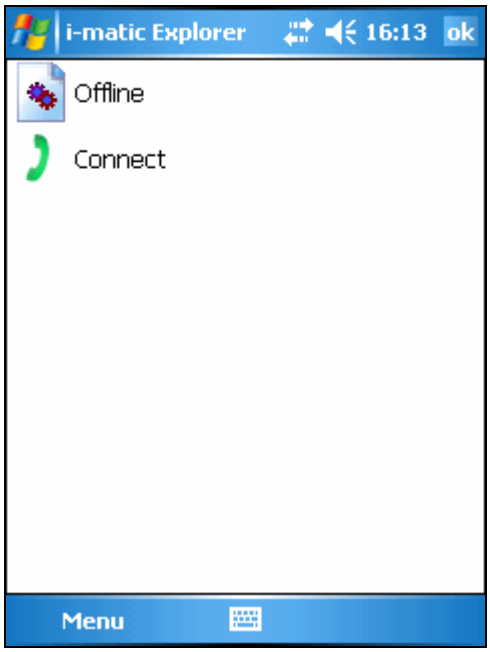

Fig. 3 *i-matic* Explorer Start screen

A detailed description of the menu, the offline operation and the possibilities of the connected device is carried out consecutively.

2.2 Menu

From the start screen in the menu it is possible to select „Offline“ or „Connect“.
The menu items „Options“ or „Information about ...“ are also available.

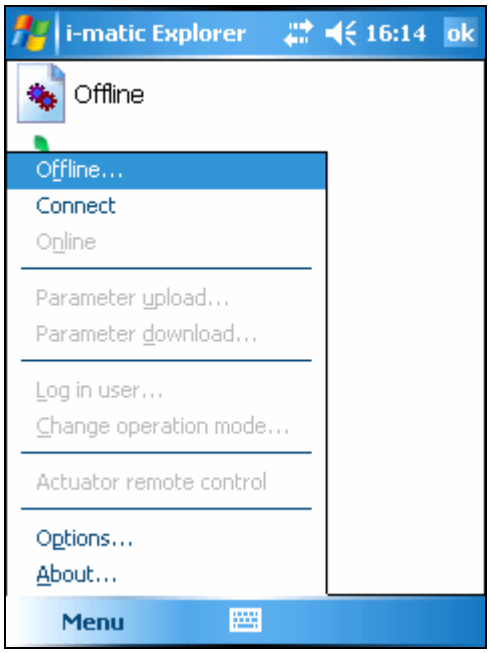

Fig. 4 Menu selection in the start menu

2.2.1 Options

In the dialogue „Options..", various basic communication and program settings can be carried out by selecting the corresponding folder.

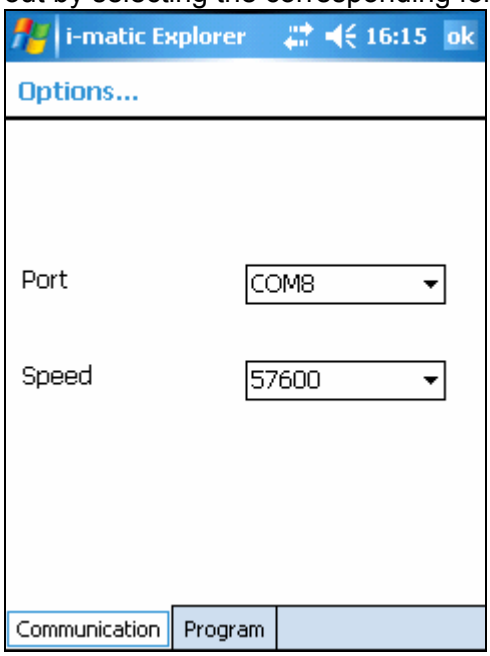

Fig. 5 Setting for the communication

The connection corresponds to the communication port selected in the Bluetooth configuration setting. The speed of the serial transmission is to be set to 57600.

Different languages are available for the application as a selection. These languages can be selected in the folder "program".

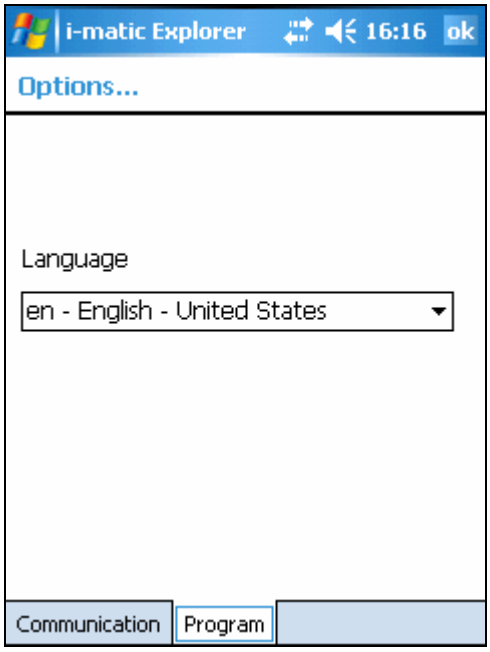

Fig. 6 Select a language

2.2.2 Information about ...

This menu point gives information about the installed program version. In case of queries concerning the functions of the program, this statement represents an important information.

Fig. 7 Version information

2.3 Online

An online connection via Bluetooth is only possible in position OFF. Before connection, the Bluetooth name of the desired actuator and the where appropriate required Bluetooth PIN has to be clarified. The range of the connection is dependent from the local ambient conditions.

Attention!

A variation of the parameterisation during an online connection as well as the direct actuator control unit can cause threats or damages. This circumstance is to be noted in all following points.

2.3.1 Overview

The basic manufacture of a Bluetooth-communication is constructed through the Bluetooth browser anchored in the operating system. The accessible participants register corresponding to the device parameterisation (as described in the manual of the actuator) with its Bluetooth name as shown in the following example.

INFORMATION:
Concerning *i-matic* actuators, the used Bluetooth-name can be defined by using a parameter.
Each actuator can be assigned an indivudual PIN 4 digits long. This PIN has to be the same for the PDA and the actuator to achieve a successfull connection.

Fig. 8 Bluetooth Browser for device selection

A successfull connection is signalised with an indication which has to be acknowledged.

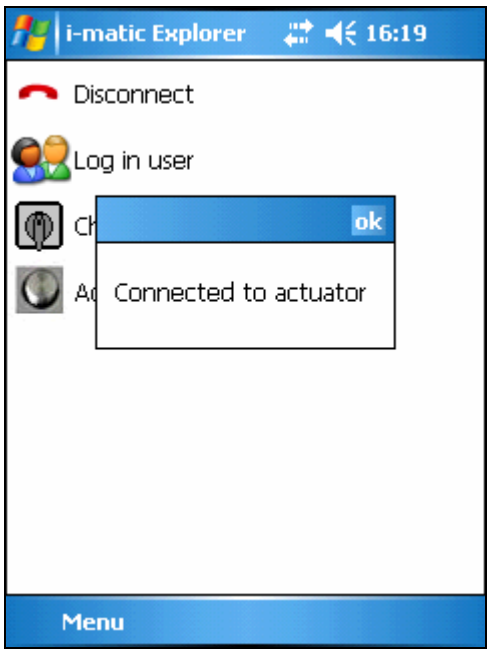

Fig. 9 Indication acknowledgement in case of a successfull connection

The available functions appear as labeled symbols on the desktop of the *i-matic* Explorer. They can also be activated out of the menu.

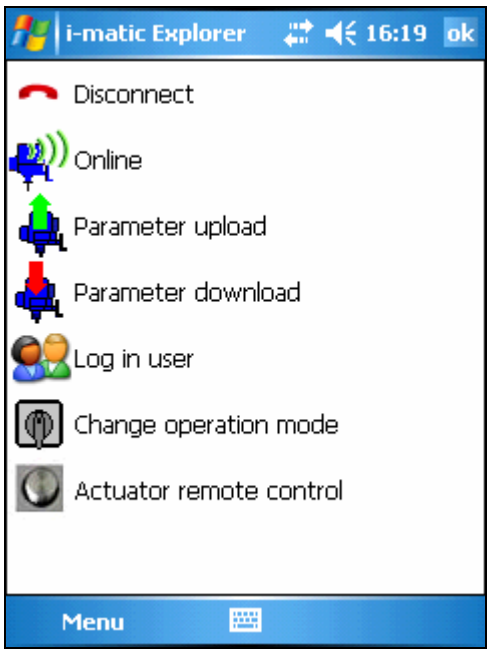

Fig. 10 Functions in the Online mode (connected device)

Different functions are available in case of an active communication connection. These will be described in detail in the following chapter.

2.3.2 Online

In the selection „Online“ parameters of the actuator can be edited.
The structure of the parameters in the PDA is like the structure at the device.
The screen is splitted to display the information. The upper window displays the structure of the parameters. The lower window lists all available parameters of the selected sub-menu.

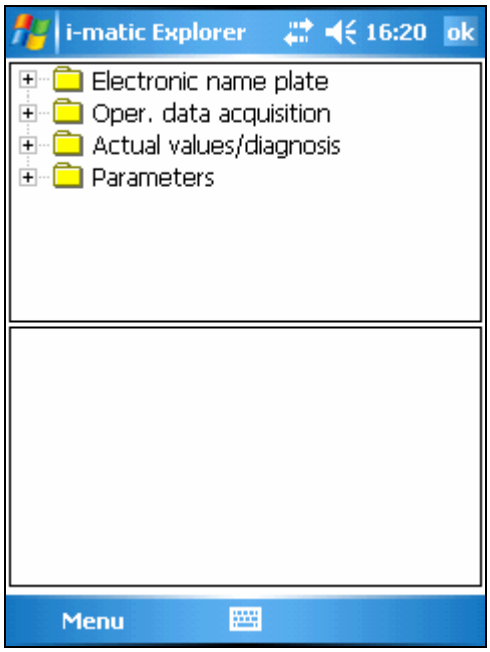

Fig. 11 Structure of parameters

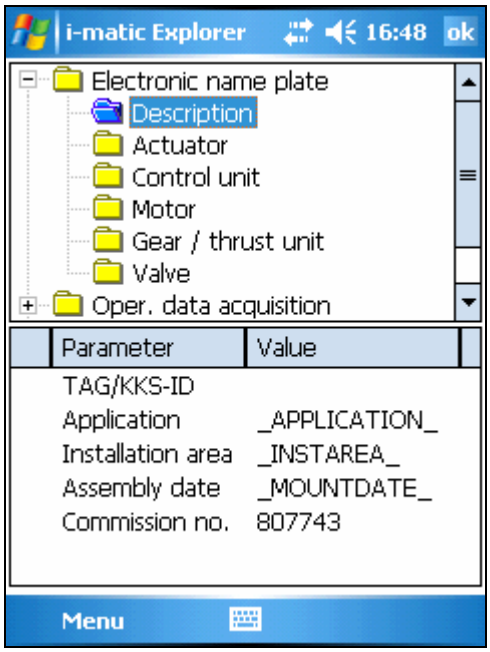

Fig. 12 Parameters of a sub-menu

The modification of single parameter is possible after individual selection in a separate operation screen. The available commands "edit", "update out of the device", "write into the device" as well as "interrupting of the operation" are available by corresponding symbols.
In the lower part of the screen additional information regarding e.g. maximum string length or rights of access are shown.

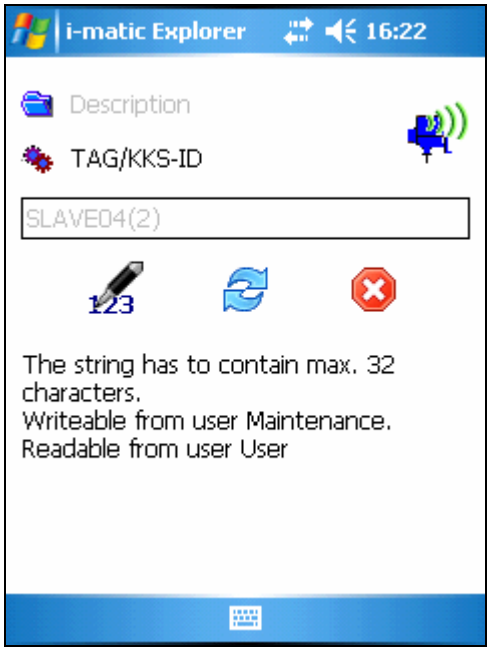

Fig. 13 Selected display of a parameter

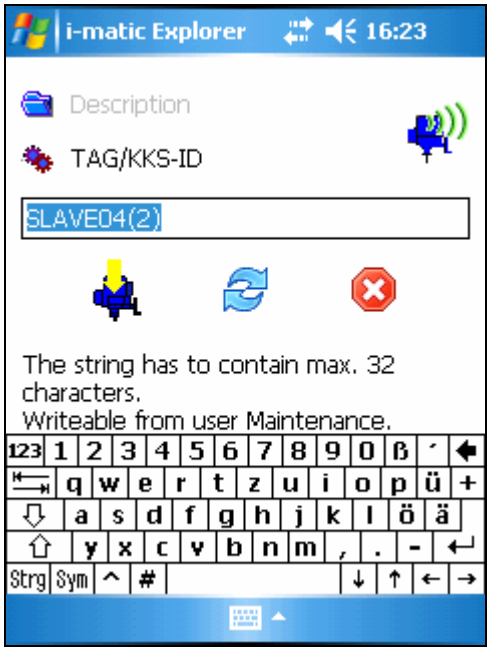

Fig. 14 Editing of a single parameter

2.3.3 Parameter upload

In the selection "parameter upload" it is possible to select a complete set of parameters out of the device in order to save this in a parameter file. The number of parameters and the duration of the "parameter uploads" are dependent on the firmware version.
The status of the transmission is visualised using a progress indicator, and the result is summarised as clear text after conclusion of the process.

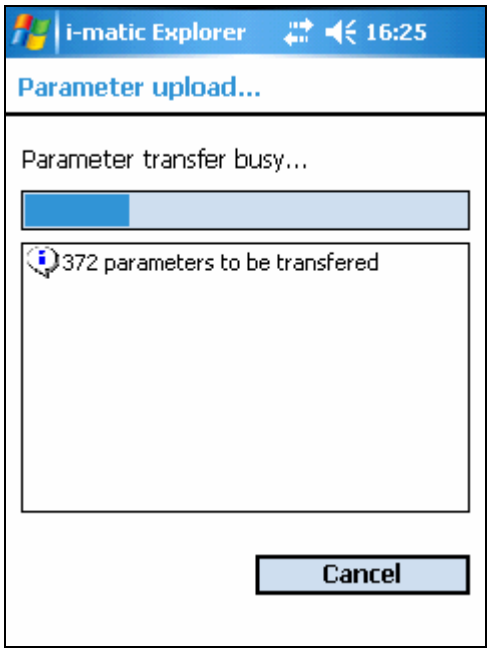

Fig. 15 Progress indication while uploading a set of parameters

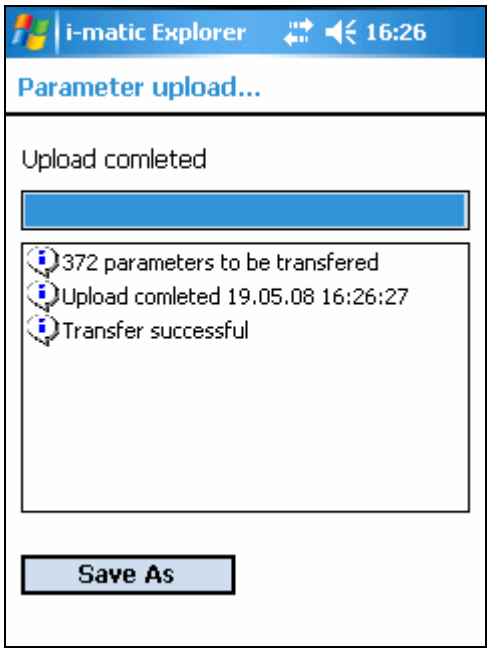

Fig. 16 Results after parameter upload

A file selection dialogue allows to store the parameter set under a free definable name on the PDA.

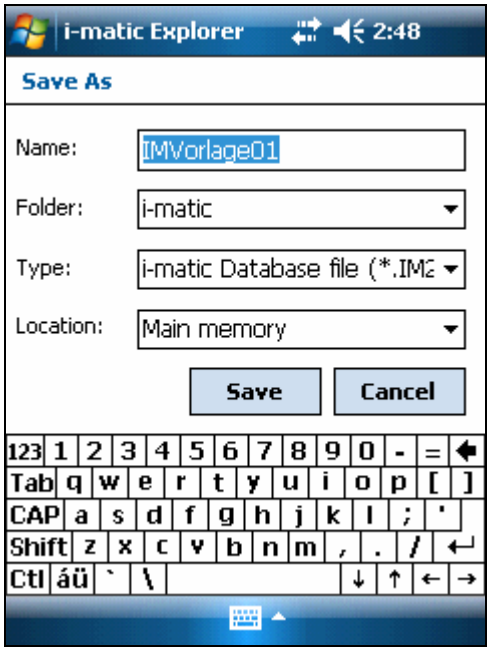

Fig. 17 File selection screen

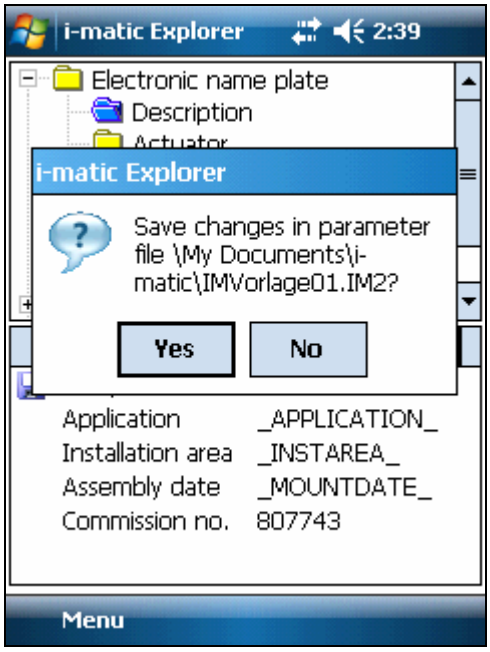

Fig. 18 Confirmation prompt for saving a file

2.3.4 Parameter download

In the selection „Parameter download“ it is possible to write a complete set of parameters - stored on the PDA - into the device.

Attention!

A variation of the parameterisation during an online connection as well as the direct actuator control can cause threats or damages.
Make sure that the selected parameter set matches the connected actuator!

INFORMATION:

A parameter download may only be performed in the operation mode OFF.

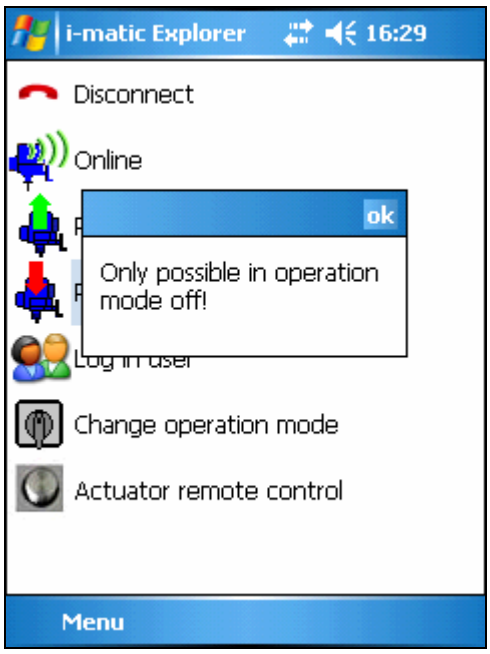

Fig. 19 Security advice for „parameter download“

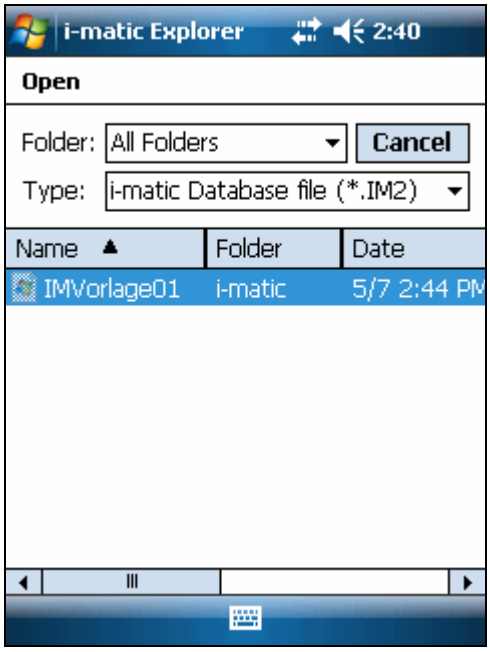

Fig. 20 Selection file dialogue

Attention!

Only a completely and faultless transmitted parameter set guarantees a correct function of the actuator. In case of premature or defective completion of the transmission, the actuator might behave faultily.

2.3.5 User administration

The user administration available can be carried out via PDA. Please refer to the instruction manual of the *i-matic* actuator for information regarding the user administration. The parameters have different write access. The necessary user level to change a parameter is listed in the operating manual of the *i-matic* actuator. You can protect parameters from being changed by using the password protection of the user level.

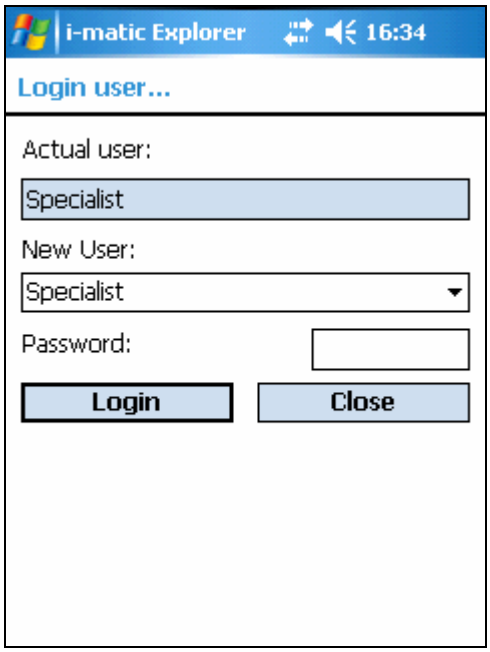

Fig. 21 User administration

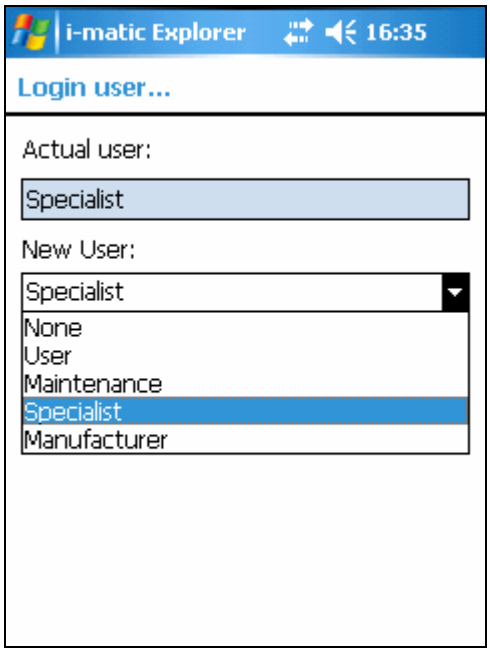

Fig. 22 Selection of user

Dependening on the selected user registration it is necessary to enter a password to change a specific parameter.
In case of registration as manufacturer, a numerical code is given. On this numerical code a uniquely valid password has to be entered. The password can be ordered from our DREHMO service.

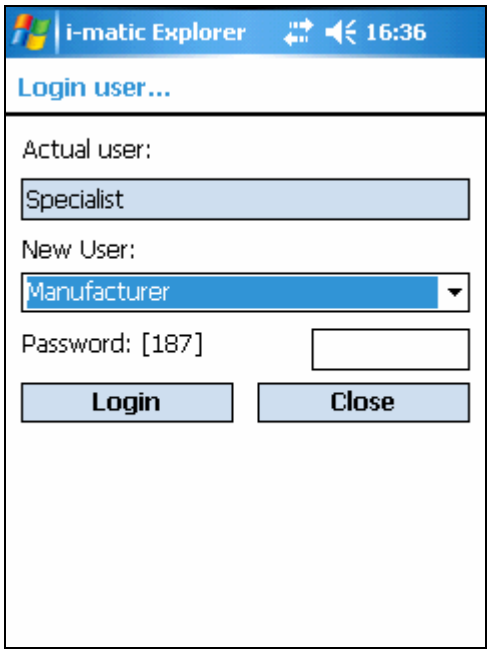

Fig. 23 Manufacturer administration

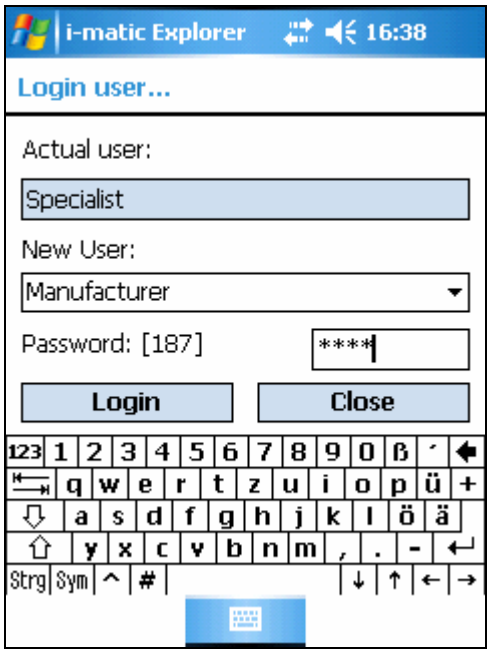

Fig. 24 Enter password

A successfull user administration is acknowledged by a corresponding dialogue.

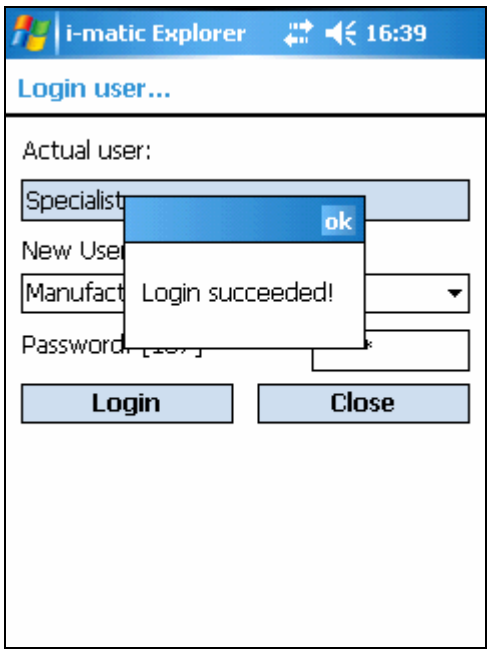

Fig. 25 Login confirmation

2.3.6 Change of operation mode

It is possible to display as well as to change the operation mode of the actuator.

INFORMATION:

The comissioning (operation mode LEARN) is only possible locally at the actuator for security reasons and therefore not available via PDA.

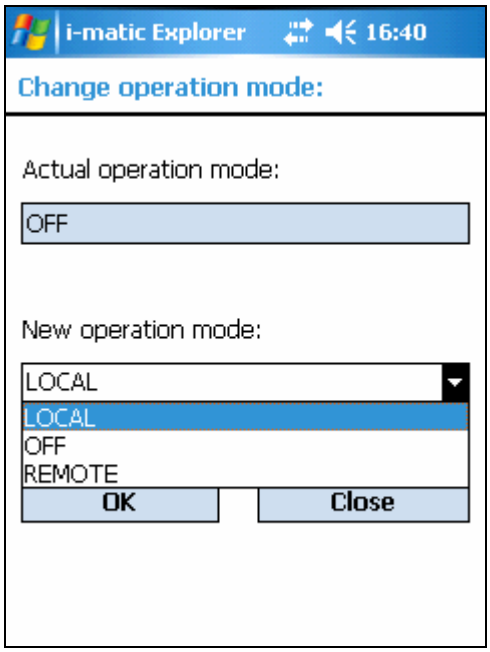

Fig. 26 Selection of operation mode

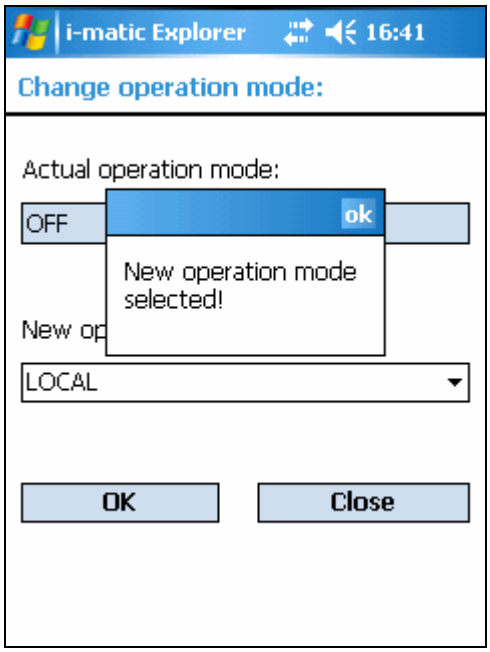

Fig. 27 Confirmation of operation mode change

2.3.7 Actuator remote control operation

The actuator can be operated by using a PDA. To be able to do so this remote control must be enabled in the actuator. Contact our service to order a device key which enables this remote control function via PDA (serial number of the actuator required!).

Attention !

Every actuator action can cause danger because you are not near to the actuator to detect malfunctions or danger!
Therefore a danger warning will be indicated which has to be observed!

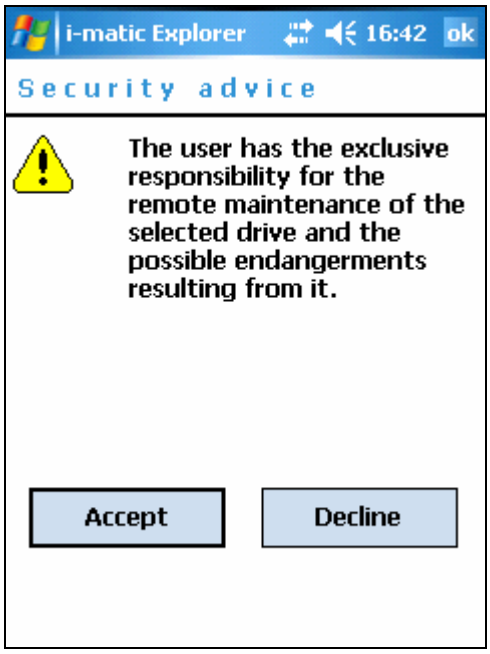

Fig. 28 Security advice

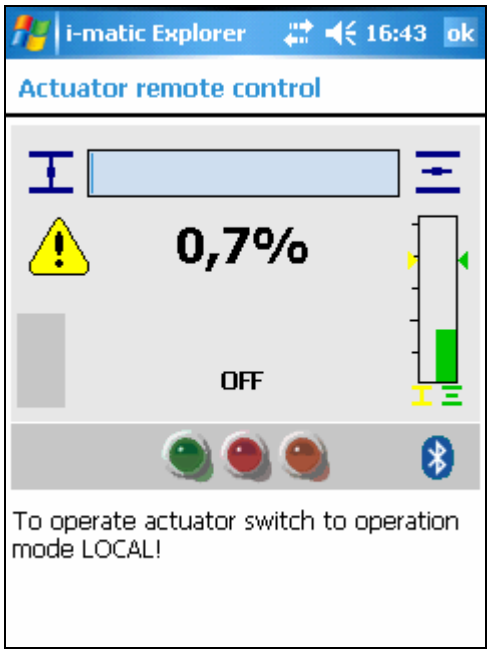

Fig. 29 Remote control only in LOCAL mode

The local operation via the PDA surface is carried out via the buttons "command OPEN" or "command CLOSE". An actuator stop is only carried out through a stop command (stop key appears after activation of either the command ON or OFF) or if the Bluetooth connection is lost. The actuator feedback position, limit positions, torque, bus status etc. are displayed exactly as on the display of the actuator. A Bluetooth symbol with interchangeable colours displays the quality of the existing transmission. In case of connection breakdown the actuator automatically stops any movement. Operate an actuator only if the Bluetooth connection is good (colour blue). Otherwise (colour red) the motor might be started and stopped with every loss and re-establishment of the connection.

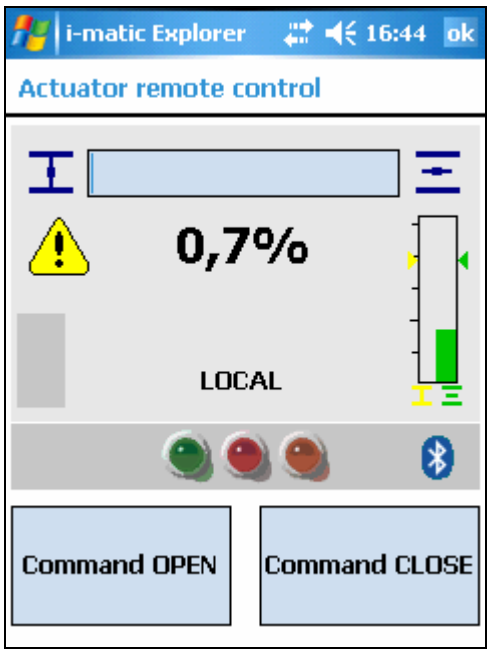

Fig. 30 PDA display emulates local operation of actuator

2.4 Offline

In the PDA selection offline it is possible to edit the stored sets of parameters.
Normally you stored a set of parameters using an online connection with the function „parameter upload“. It is also possible to get a set of parameters as factory settings for a specified actuator (serial number required).

The selection of the requested set of parameters takes place via a corresponding dialogue.

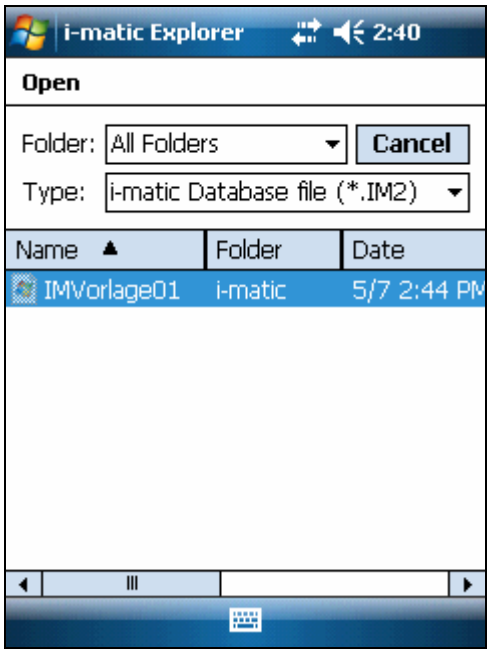

Fig. 31 „File open“ – dialogue to access a set of parameters offline

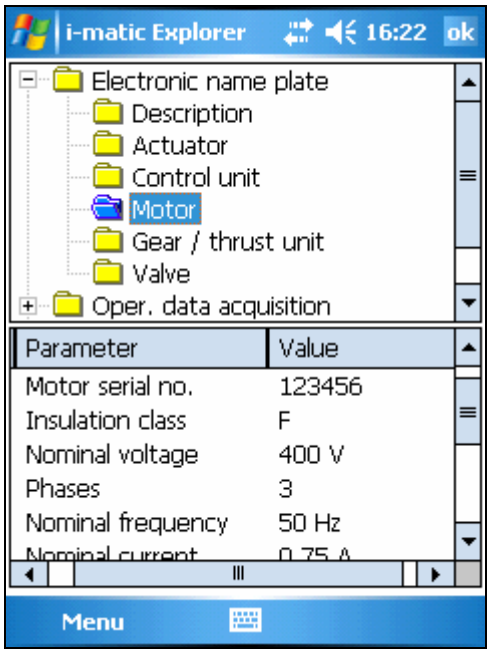

Fig. 32 Offline changed parameter set

The kind of the offline-operation is similar to the online parameterisation.The changes are not carried out directly, but may be stored on leaving the offline-operation mode.

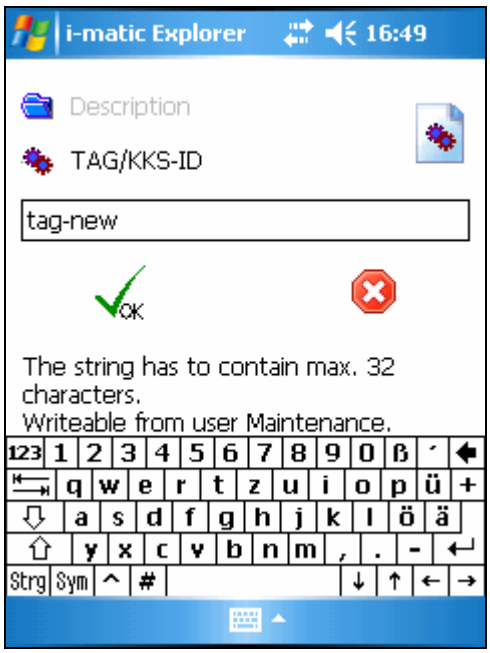

Fig. 33 Edit function in the offline - mode

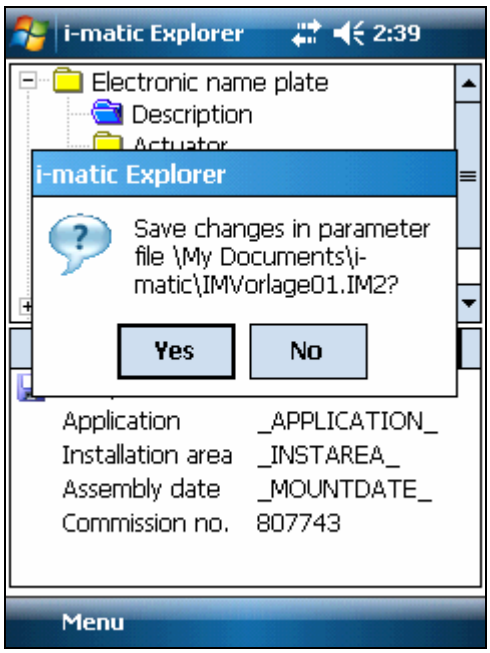

Fig. 34 Request to store all changes

Our scope of supply:

Electrical actuators for on-off, inching and modulating duty*:*

Actuators:

Multiturn actuators	D30-D1000	Max. 1000Nm
Partturn actuators	DP30-DP1599	Max. 1600Nm
Linear actuators	DL15-DL80	Max. 80kN

Actuators with integral controls:

Multiturn actuators	DMC30-DMC1000	Max. 1000Nm
Partturn actuators	DPMC30-DPMC1599	Max. 1600Nm
Linear actuators	DLMC15-DLMC80	Max. 80kN

Additional gear available:

worm gear
bevel gear
spur gear

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