EN

DRIVEMANAGER

Manual

PC user software for
Drive contollers
of c-line DRIVES
CDA3000 / CDD3000

For commissioning, operation and diagnosis of drive units

LUST

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Overview of documentation

This manual describes the basic functions of the DRIVEMANAGER PC user interface. Commissioning of the devices and the functions of the parameters are described in the Operation Manual to the relevant device series.

Gerätereihe / Series	Dokument (deutsch)	Bestellbez.	Document (english)	Order ref.
CDA3000	Betriebsanleitung	0840.00B.x	Operation Manual	0840.00B.x
CDA3000	Anwendungshandbuch	0840.02B.x	Application Manual	0840.22B.x
CDD3000	Betriebsanleitung	0931.00B.x	Operation Manual	0931.00B.x
CDD3000	Anwendungshandbuch	0931.02B.x	Application Manual	0931.22B.x

DRIVEMANAGER Manual

Version: DRIVEMANAGER V3.x

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We reserve the right to make technical changes.

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1 Introduction to DRIVEMANAGER 3.x

1.1 Supply package

The DRIVEMANAGER 3.x package includes a CD-ROM, the manual, the license agreement and the registration card.

The CD-ROM holds all the program files, the motor databases for the Lust servomotor series and the manuals to the Lust device series in PDF format.

1.2 Application

The new DRIVEMANAGER V3.x is suitable for all series manufactured by Lust. This PC program offers you a user-friendly way of setting parameters for the Lust drives, commissioning them into operation, controlling them directly, or scanning status values from the connected device. The PC user interface automatically adapts to any devices from the following series.

- CDA3000
- CDD3000

1.3 System requirements

Hardware requirements:

- PC with Pentium processor (recommended: Pentium II)
- min.16 MB RAM (recommended: 32 MB)
- CD-ROM drive (recommended min. 24-speed)

Operating system:

- Microsoft Windows® 95/98/ME or Windows® NT 4.0, 2000, XP

What's new?

- The CDA3000 and CDD3000 series can be operated by way of setup screens. This makes handling of their complex functionality much easier.
- For each preset solution you will find key project planning notes presented in a dedicated window.
- The user-definable KEYPAD subject area is accessed by way of the “KP200 Einstellen” icon. Up to 14 parameters can be set up (CDA3000 only).
- You can now compare data sets or partial data sets with each other.

1.4 Registration

Registering is worth the effort!

Return the completed registration card (enclosed with the DRIVEMANAGER 3.x package or using the Regist.doc file on the CD-ROM) to us and we will keep you informed of relevant updates. As a registered user, you will of course also receive support if you have any problems with the DRIVEMANAGER.

Keyword:	DM-HOTLINE
Fax:	+0049 (0) 64 41/9 66-177
E-Mail:	info@lust-tec.de

Note: The DRIVEMANAGER may be installed on a PC. However, an installed version can only be opened once at any one time.

2 Installation and starting

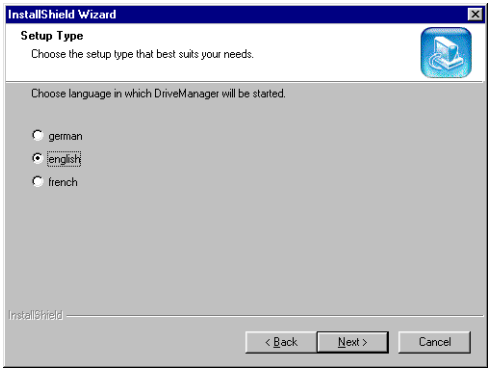
2.1 Installation

When the CD-ROM is inserted the installation starts automatically. Change to the menu „Install“ and select the installation of Lust DRIVEMANAGER V3.x. If it does not, double-click on the SETUP.EXE file on the CD-ROM to launch the installation process.

2.2 Selecting language

In the first dialog box of the InstallShield Wizard you are prompted to select the language in which you want the setup to run (German or English).

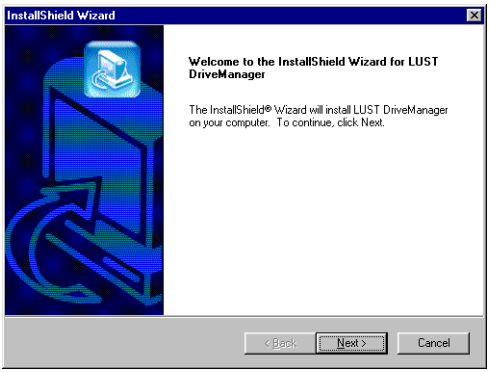
In the next dialog box you select the language of the DRIVEMANAGER user interface itself.



Note: To install the DRIVEMANAGER 3.x you will need at least 60 MB of available memory capacity on your hard disk.

2.3 Installing DRIVEMANAGER

If you are installing the DRIVEMANAGER on your PC for the first time, the following screen appears after you have selected your language. A number of steps are then run through in preparation for the installation.



1. *License agreement (see also 1.4 Registrierung)*

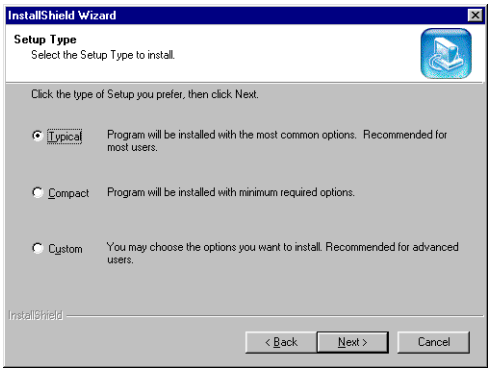
First you see the license agreement. If you agree to it, click on “accept”.

2. *Destination path*

Enter the path to the folder in which you want to install the program (we recommend using the default path). Then click on the “weiter” button.

3. *Setup type*

Next you choose from three setup types.



Standard (requiring approx. 30 MB of memory)

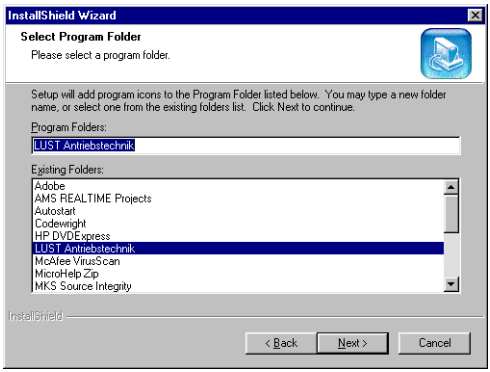
Minimal (requiring approx. 17 MB of memory)

Benutzer (requiring anything from 17 to 60 MB of memory)

Then click on the “Next” button.

***4.** Selecting the program folder*

This defines the entry on the Windows Start menu.



Click on the “Next” button to start the installation (this may take a few minutes).

***5.** Serial port*

Enter the number of the serial port on your PC via which you want to connect to the Lust drive unit. This usually means choosing a port from COM1 to COM4.

You can change your port selection later in the “Buskonfiguration” menu.

Then click on the “Next” button. The installation process concludes with the query “Start LUST DRIVEMANAGER now?”.

2.4 Installing the motor database (only for CDD3000)

All Lust servomotors, with their electrical properties, are entered in two motor databases. They are located in the

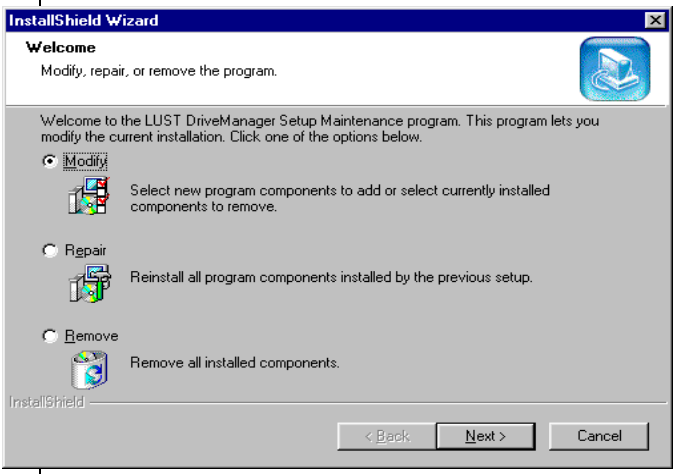
– menu „motordata“

on the DRIVEMANAGER CD-ROM. From that folder you can launch the setup program directly to install the database.

Note: By doing so, the data of all the Lust servomotors are available directly to the DRIVEMANAGER for use in commissioning.

2.5 DRIVEMANAGER maintenance

Once you have installed DRIVEMANAGER Version 3.x, you can upgrade the installation (<Modify>), repair it (<Repair>) or delete the current version (<Remove>). The screen shown below appears:



Explanation:

Modify

If you only performed a partial setup the first time you installed the program, and/or if you did not install any of the manuals (PDF files), you can make changes later using the “Programm ändern” function.

Repair

With this function you can restore damaged files or folders.

Remove

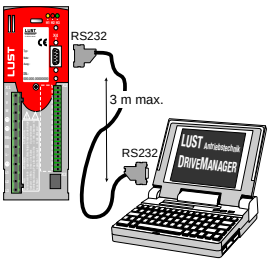
To install a new version of the DRIVEMANAGER V3.x, you must first remove the old one (e.g. V3.0 Beta).

Any user data you have saved (such as in the C:\programs\LustAntriebstechnik\drivemanager\userdata folder) are retained.

2.6 Connecting a device to a PC

The Lust device series are connected in different ways.

CDA3000/
CDD3000



For the CDA3000 and CDD3000 series a standard commercially available PC cable for RS232 interfaces (D-Sub 9-pin extension cable 1 to 1) is adequate.

For connections see diagram

Note: If you want to connect multiple devices to your PC and control them with the DRIVEMANAGER (via LustBus), please contact us for further details: Tel: 06441/966-180

2.7 Starting DRIVEMANAGER

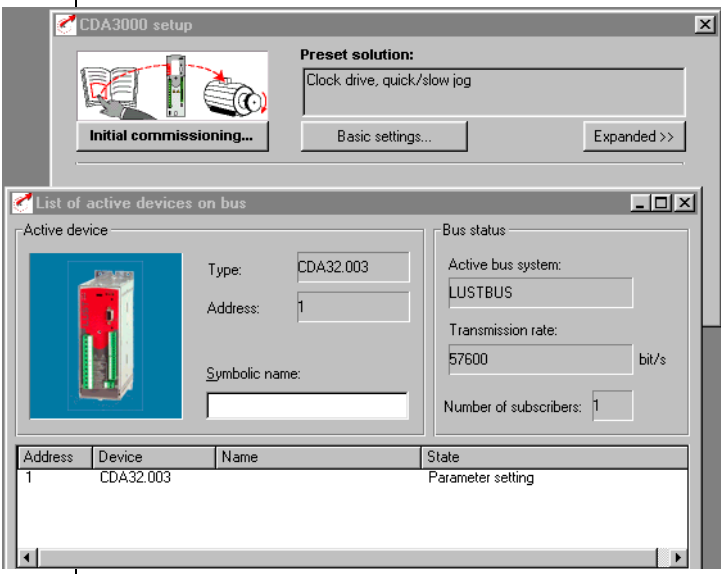
To start the DRIVEMANAGER in online mode a drive unit must be connected. Please make sure the connection is made correctly (see 2.6 Connecting a device to a PC) and that the device is switched on.

2.7.1 Online mode

On startup the DRIVEMANAGER automatically looks for a connected device.

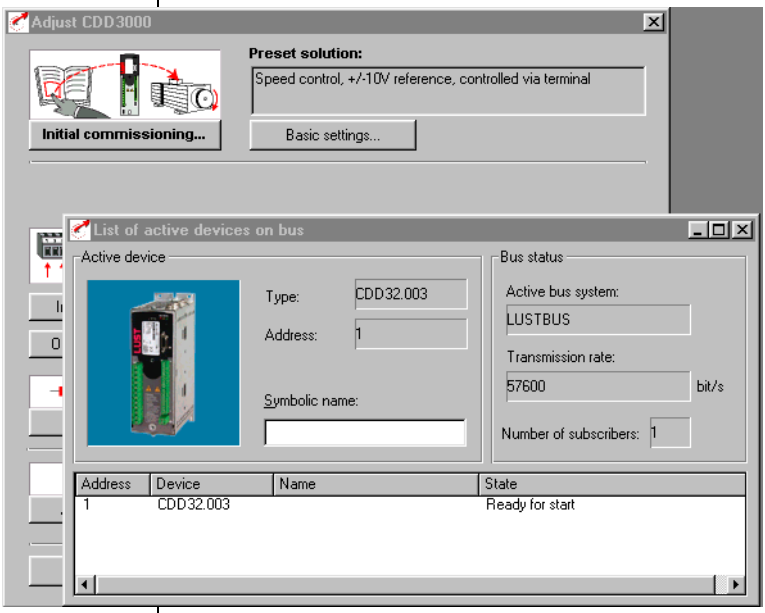
Note: If no connection is made to the connected drive unit, refer to section 3.3.2 Connect.

If the DRIVEMANAGER detects a **CDA3000 device** it opens up two start windows directly. The first indicates which device has been detected.



The second can be used to set up the detected device. For details of the commissioning procedure refer to the CDA3000 Operation Manual. If you want to customize your setup, you will find detailed information in the CDA3000 Application Manual.

If the DRIVEMANAGER detects a **CDD3000 device** it opens up two start windows directly. The first indicates which device has been detected.



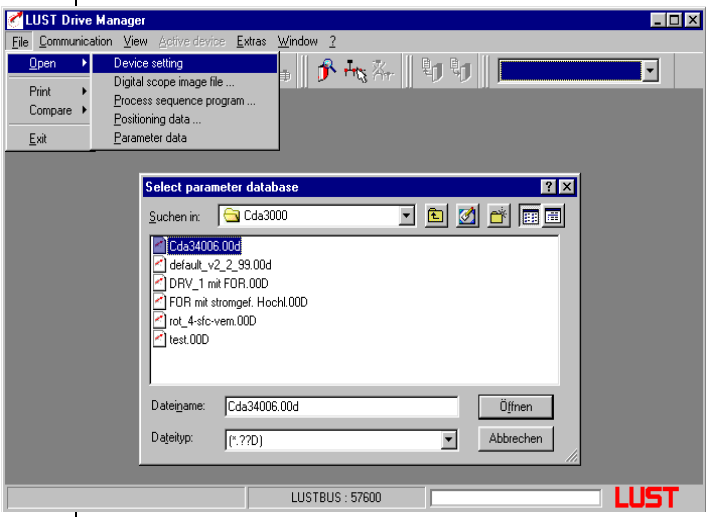
The second can be used to set up the detected device. For details of the commissioning procedure refer to the CDD3000 Operation Manual. If you want to customize your setup, you will find detailed information in the CDD3000 Application Manual.

Note: If no connection is made to the connected drive unit, refer to section 3.3.2 Connect.

2.7.2 Offline mode

On startup the DRIVEMANAGER first looks for a connected device. If it does not find one, you can open a data set and edit it.

To do so:



- From the <File><open><Device setting ... menu option select the folder of the series you want, e.g. CDA3000 (folder: .../userdata/samples/«devicefamily»/«dataset»).
- It contains one or more specimen devices. Choose one and click on <open>.
- This opens up a new window showing the setup options for the selected device.

Note: In offline mode not functions of the device can be set.
If the DriveManager has already connected to a linked device, you can still open and edit a data set at the same time.

To disconnect from a device, click on the relevant button.

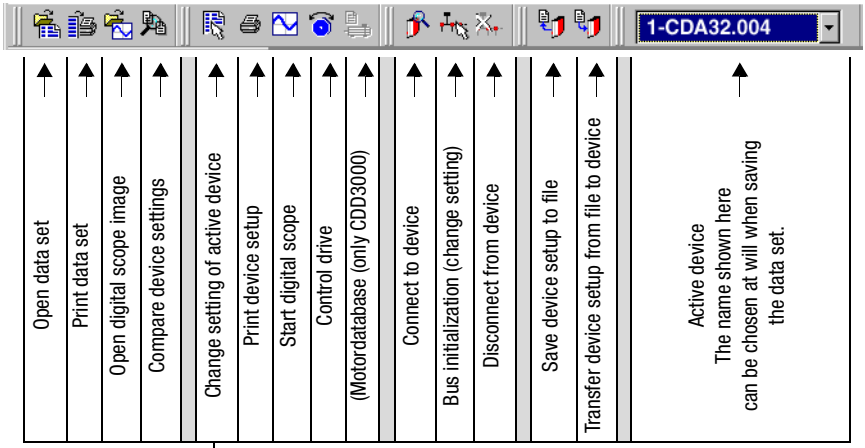
3 The DRIVEMANAGER FUNCTIONS

The graphical user interface of the DRIVEMANAGER version 3.x has been substantially changed relative to version V2.35, because of the functional upgrades carried out. To enable you to find your way around as quickly as possible, we have restructured the DRIVEMANAGER.

Note: These new features are available for the CDA3000 and CDD3000 series.
All examples in the following function descriptions are based on the CDA3000.

3.1 Functions on the toolbar

The toolbar at the bottom corresponds to the basic setup of the DRIVEMANAGER. It enables all the key functions to be launched by a single mouse-click. You can customize the layout as you wish.



The following function descriptions all make use of the menu bar. The associated buttons in the left margin are additionally inserted.

3.2 Functions in offline mode

Offline mode means that you can open and edit data sets or digital scope image files.

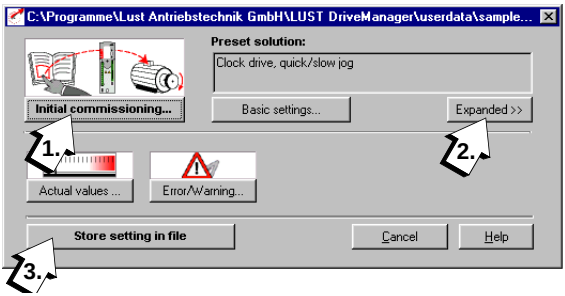
3.2.1 Opening/editing/saving a data set

With the <File><open><Device setting> menu option you can open the data set of a specimen device in the .../userdata/samples/«devicefamily»/«dataset» folder.

Note: We recommend that you also use this folder to store your customized data set. This will make it easier to manage your own data sets.
The folder is retained whenever the DRIVEMANAGER is updated.

Edit data set

To start with it is advisable to use the ***Initial commisioning(1)*** menu on the start screen to set up the data set.



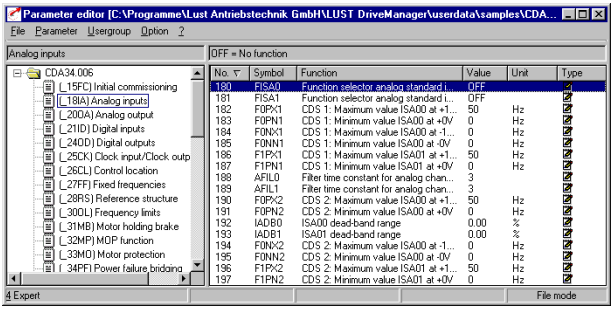
More advanced users can access additional setup options by clicking on the **Expanded(2)** button.

Save data set

Click on the ***Store setting in file(3)*** button to save the changes power failure save.

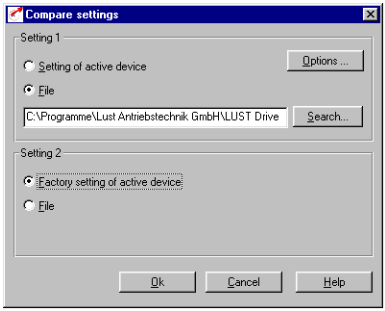
Parameter Editor

DRIVEMANAGER experts can additionally use the Parameter Editor, accessed by way of the <File><open><Parameterdata> menu option. It provides direct access to subject areas and individual parameters.



3.2.2 Compare data sets

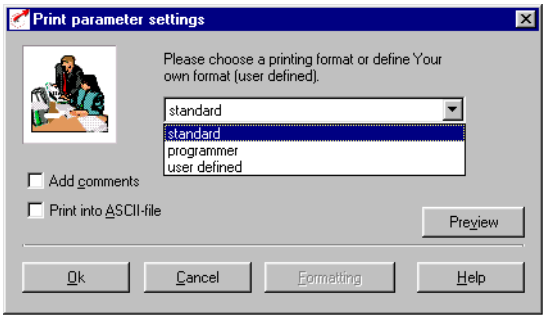
To identify the differences between two data sets, the <File><Compare> menu option provides you with a comparison function.



In the default factory setting the result is displayed in a text editor window, from which it can also be printed.

3.2.3 Print data sets

With the <File><print><Parameter file> menu option you select the data set for printing. When you have selected your data set the following print menu appears.



The settings signify:

- Standard = All parameters are printed in a plain-text list
- Programmierer = All parameters are printed in a list also containing programming information (e.g. hex value, data type, memory type etc.)
- User defined = Only the parameters of the selected subject areas are printed

3.3 Functions in online mode

In addition to the functions described under “Functions in offline mode”, this section also deals with functions under the <active device> menu.

3.3.1 Select user level

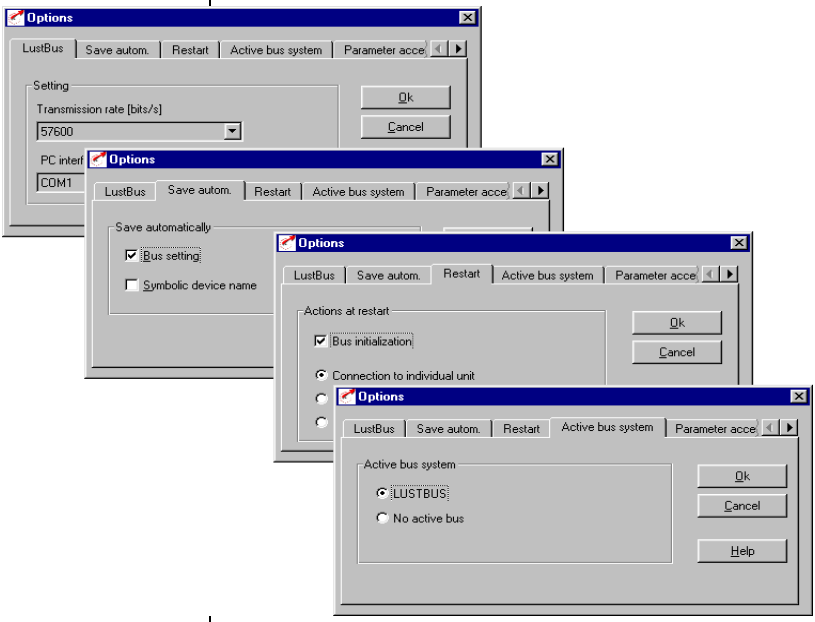
The user level can be selected with the <Extras><select new user level> menu option. Level 1 is intended for users who are not entitled to make any settings in the device. User level 4 provides experts with unlimited access to the individual parameters.

3.3.2 Connect

When the DRIVEMANAGER is started it automatically connects to the linked device. (see also section 2.7.1, Starting DRIVEMANAGER)

If no connection is made:

- Click on the “Bus configuration” button or choose <Communication><Bus configuration> from the menu. The following windows appear:



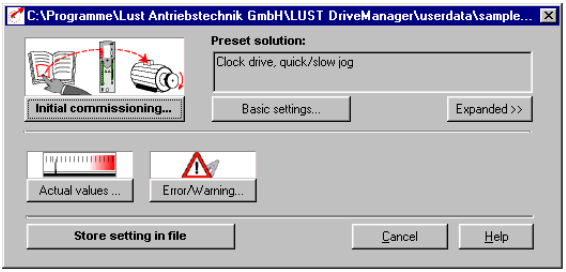
Check:

- the settings against the example above
- the physical connection between the PC and the device

- Then reconnect

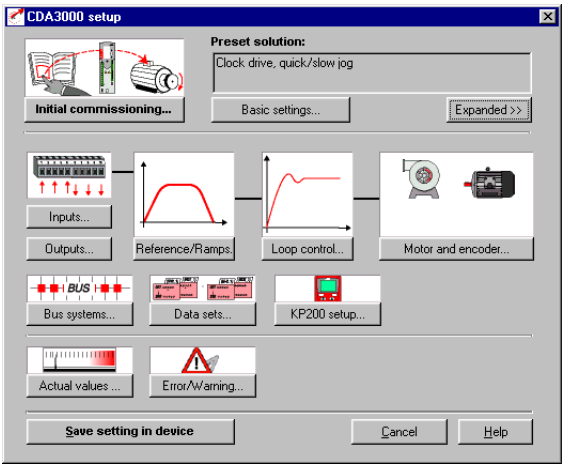
3.3.3 Changing/saving settings

The main window is automatically opened once the connection is made, allowing you to make settings for the active device.



We recommend beginners initially follow the steps laid out in the “Initial commissioning” menu. They will enable you to make the key customization settings safely and easily.

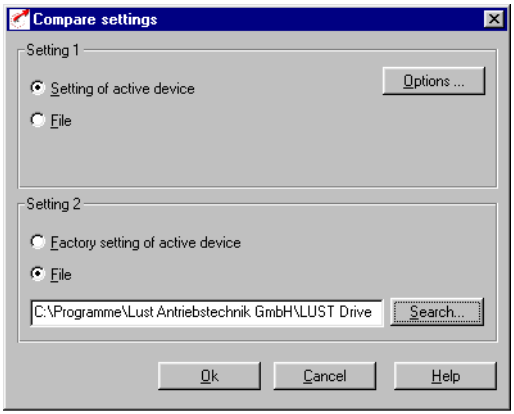
DRIVEMANAGER experts can use the “Expanded>>” button to customize more features, such as to optimize the reference ramps or loop control.



All changes are saved by clicking on the “Save setting in device” button.

3.3.4 Comparing data of active device with data set

Under the <Datei> menu item you will find the <Compare> function.



To compare the settings of your active device with a stored data set, choose

- as setting 1 “Setting of active device”
- as setting 2 “File”, specifying the path.

In the default factory setting the result is displayed in a text editor window, from which it can also be printed.

You can also compare the current setting of the active device with the factory setting.

3.3.5 Saving/loading/ printing a setting

Once you have changed the settings of the active device, you can save them as a data set, on your PC for example.

To do so, from the <Active File> menu choose <Store device settings on -> File>. In the window which then appears you need to specify a location and a new name for the data set you are saving.

To load a data set into your drive unit, from the <Active File> menu choose <Load device settings from -> File>. In the window which then appears you need to specify the location and name of the data set you are loading.

Note: You can reset to state of delivery the device settings by choosing <Active File><Reset to factory setting> from the menu.

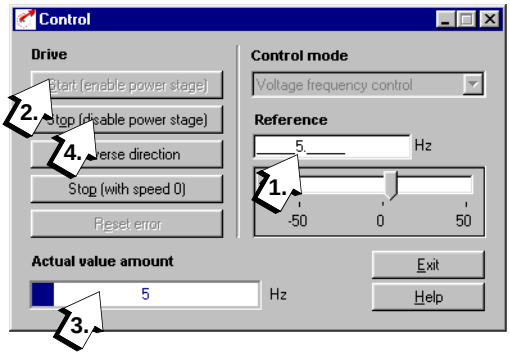
You can print out a list of the settings of the active device by way of the <Active File><Print settings> menu (see section 3.2.3 "Print data sets").

3.3.6 Controlling a device

With this function you can control your Lust drive unit directly from the DRIVEMANAGER. The only requirement for this is that the hardware enable (ENPO) has been issued via the control terminal of the drive unit.

Attention: Before you can launch this function, your drive unit must be commissioned into operation as set out in the relevant Operation Manual.
Also be sure to follow the safety instructions set out in the Operation Manual.

Start by clicking on the “control” button. The following window appears:

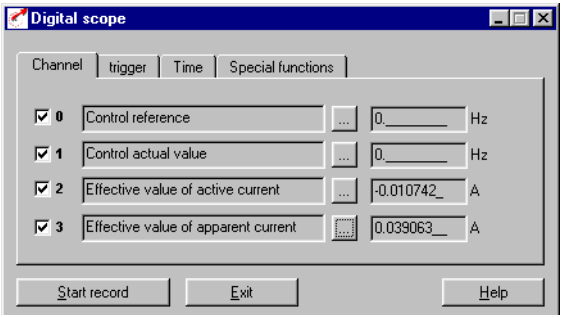


1. In the “Reference” field specify the rotating field frequency.
2. Click on the “Drive” button to start up your drive.
3. From the bar graph “Actual value amount” you can observe this process, etc.
4. Click on the “Stop” button to brake the drive down to speed 0 and disable the power stage.

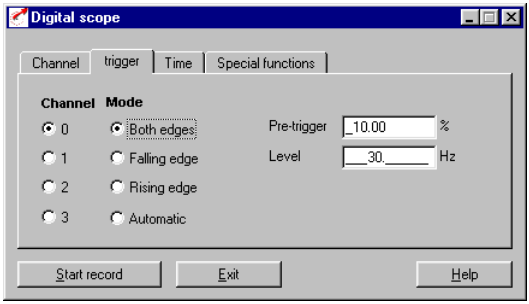
3.3.7 Scope function

The digital scope records the time characteristics of control variables. This is useful when commissioning controlled systems (step response) or to detect errors.

The digital scope has four channels, to which you can assign the desired measurement variables.



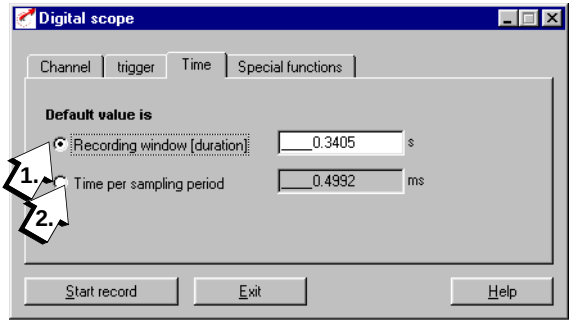
In the “Trigger” window you define the event to which you want the digital scope to respond (= begin recording).



The “Pretrigger” function begins recording before the actual trigger point, e.g. 10 % referred to the recording duration.

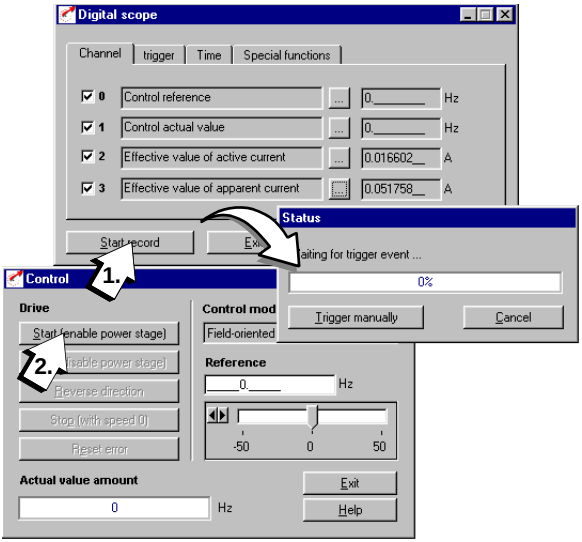
In the “Time” window with the ...

- **Recording window (1)** function you can specify the desired duration of recording (for events covering a lengthy period of time), or
- **Time per sampling period (2)** function you can specify the time cycle in which the variables are to be measured (suitable for very fast signal changes).

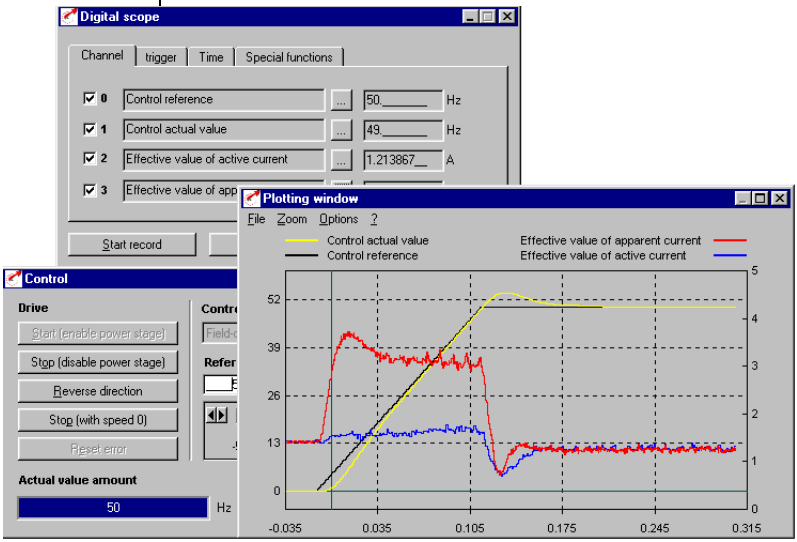


Note: Initially choose a sampling period of 3 seconds, for example, and then delimit the period or time division in the second sampling operation.

Prepare (1.) and start (2.) sampling by way of the “Control” menu



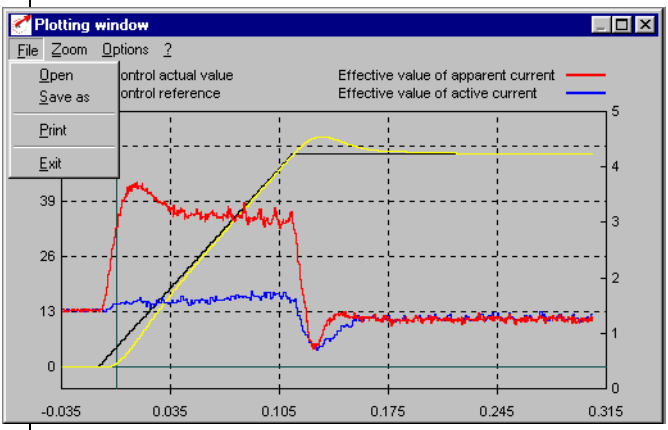
Result of sampling in plot window:



3.3.8 Saving/printing the plot window

From the <File> menu of the plot window choose <save as> to save the digital scope image.

With the <Print> option on the same <File> menu you can print out the image as a black-and-white picture.

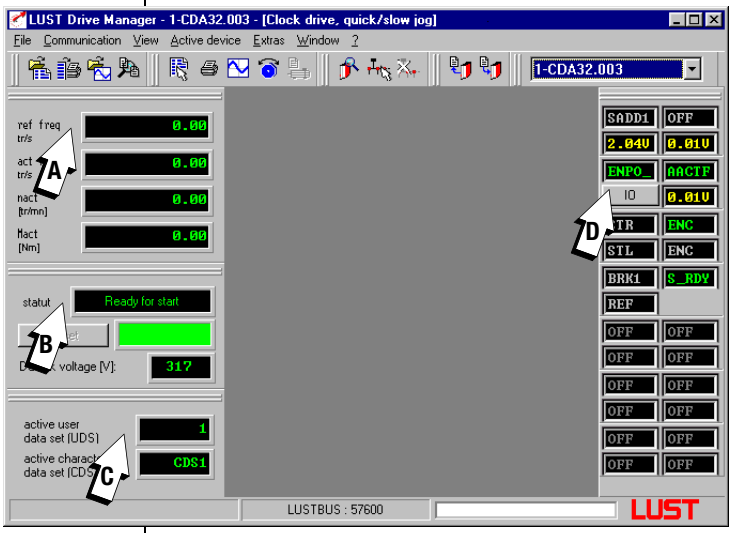


Stored digital scope images can be reopened on-screen by way of the <File><open> menu option.

4 Status display and actuals

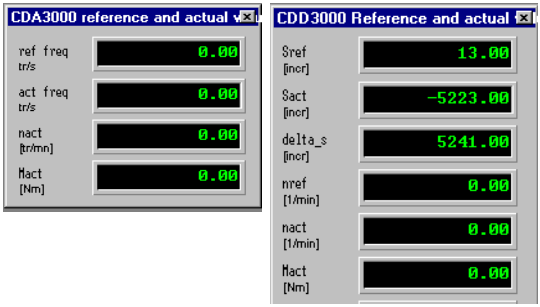
4.1 Status display

The new DRIVEMANAGER user interface now directly includes the key status displays of the drive system.



(A)
Status of reference and actual values

Depending on the connected device (CDA3000/CDD3000) and the selected operation mode (VFC, speed control, etc.) the current reference and actual values of the device are displayed here.



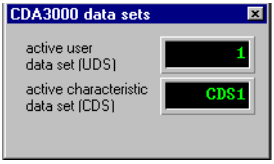
(B)
Status of device

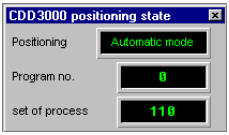
Indicates the current device status, e.g.

Switch-on inhibit =	ENPO off
Ready =	ENPO on
Control enabled =	STR/STL on

etc.

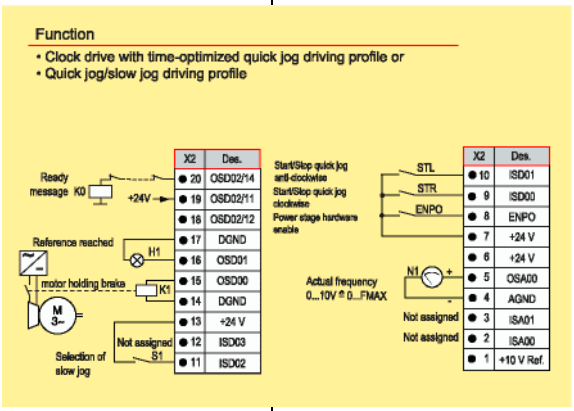
(C)
Indicates the active data set

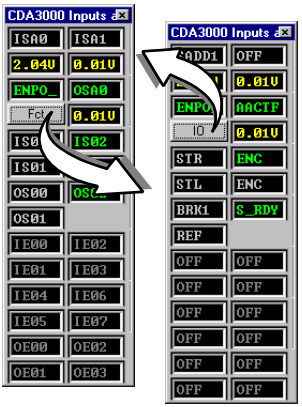




(D)
Indicates the current terminal assignment and the terminal states

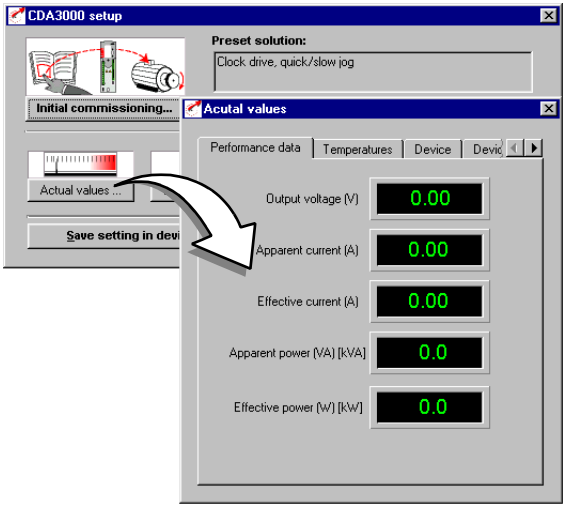
Click on the “Fct” or “IO” button to toggle the display. The example below shows the terminal assignment for the preset solution “DRV_1” (with connected CDA3000).





4.2 Actuals

The actual values of the device are accessed from the main window under the button of the same name.



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We reserve the right to make technical changes.