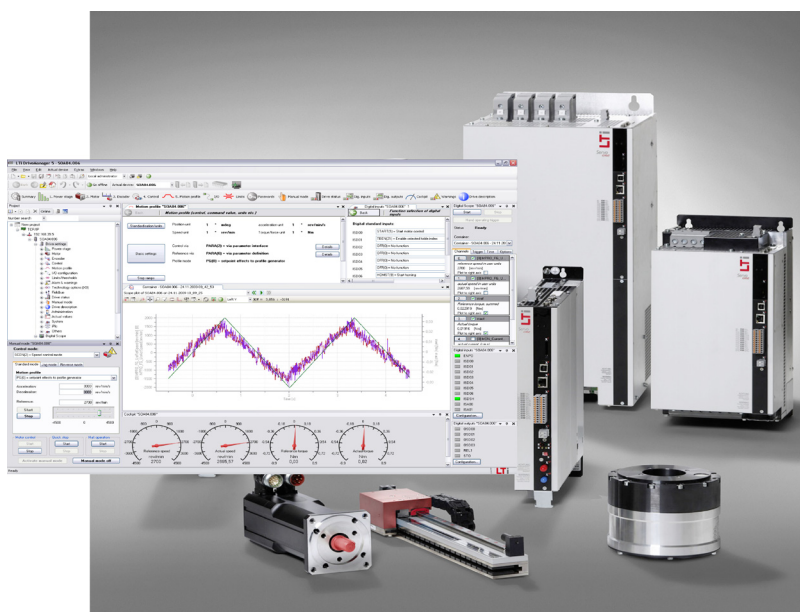
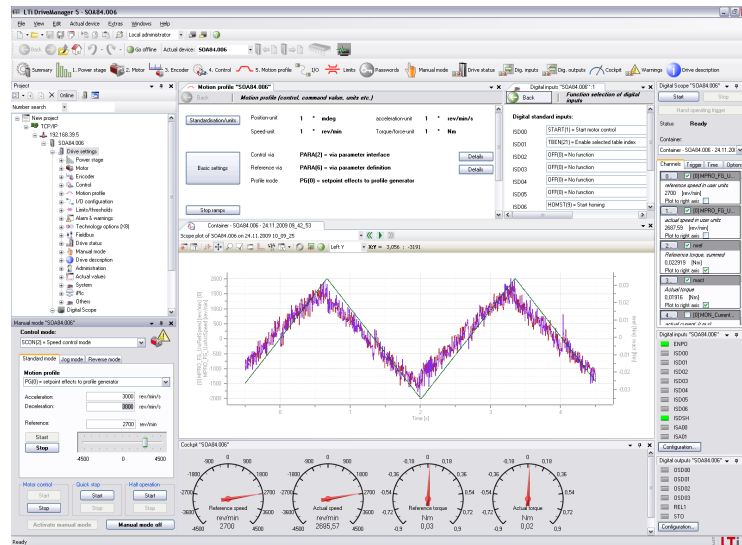


DRIVEMANAGER 5 Installation Manual





DRIVEMANAGER 5

DRIVEMANAGER 5 is a tool for communication between LTi DRIVES servocontrollers and a PC. Multiple devices can be managed within a project.

This service and diagnostics tool assists commissioning personnel in

- Commissioning
- Parameter setting
- Troubleshooting
- Analysis of control performance

DRIVEMANAGER 5 Installation Manual

ID no.: 0842.24B.1-00

Date: 12/2009

Applicable from software version: 5.3.9.7

The German version is the original version of the Installation Manual.

We reserve the right to make technical changes.

The content of our Installation Manual was compiled with the greatest care and attention, and based on the latest information available to us.

We should nevertheless point out that this document cannot always be updated in line with ongoing technical developments in our products.

Information and specifications may be subject to change at any time. Please visit www.lt-i.com for details of the latest versions.

How to use this Manual

Dear user,

We are happy that you have made a decision in favour of a product from LTI DRIVES. In order to be able to start using your new software quickly and without problems, we ask you kindly to read this Installation Manual thoroughly beforehand.

Abbreviations

DM5	DRIVEMANAGER 5
PC	Personal Computer

Table 0.1 Abbreviations used

Pictograms



Pictograms	Explanation
	ATTENTION! Important notice which, if not observed, will potentially impede commissioning.
	NOTE: Information

Table 0.2 Explanatory notes to pictograms

Documentation system

Document	Contents
Installation Manual	Installing and starting DM5
Operation Manual	Safety, technical data, initial commissioning of the servocontroller
Application Manual	Function description of the servocontroller
CANopen and EtherCAT User Manual	Application of the CANopen- and EtherCAT profiles
SERCOS User Manual	Application of the SERCOS profile
PROFIBUS-DP User Manual	Application of the PROFIBUS profile
CANopen + 2 Analog Outputs Specification	Description of the two analog outputs
EnDat2.1/SinCos Module Specification	Description of the EnDat2.1 / SinCos channel

Table 0.3 Available documents

How do I read the documents?

- First be sure to read the Installation Manual, so as to install DM5 correctly.
- With regard to installation, basic configuration and operation of the controller and motor, refer to the Operation Manual and the Application Manual.
- If the device is controlled by a variant featuring a field bus, please use the separate user manuals for the individual bus systems.
- If using analog outputs and additional encoders, please refer to the relevant specifications.
- Once wired up, the drive unit can be parameterized with DM5 and commissioned into operation.

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Space for your own notes

1. Installation

Be sure to follow this procedure when installing DM5. Start by checking the minimum system requirements.

1.1 Minimum system requirements

Operating system	Microsoft Windows XP (SP2) or Windows Vista
Add-on software	Microsoft .NET Framework 2.0
Interface (Follow the instructions given)	A free Ethernet port <i>or</i> A free USB port (<i>not necessary for all devices</i>)
Processor	1.5 GHz
Memory	1 GB RAM
Hard disk	2 GB free hard disk capacity
Drive	CD drive
Monitor	1024 x 768 pixels at 96 dpi recommended

Table 1.1 Minimum system requirements



NOTE: The required cables are not supplied with the DM5!

For the Ethernet interface a crosslink Ethernet cable "CC-ECL 0x", CAT 5 with 2 x RJ45 connectors is required, and for the USB interface (e.g. on ServoOne) a USB cable "CC-USB 0x", type A to type B as appropriate.



NOTE: The cable designation is at the same time the order code for purchase of interface cables.

If your PC meets the minimum system requirements, you can continue preparing the installation (section 1.2).

1.2 Preparing installation

Operating system

Make sure your operating system is up-to-date and all Service Packs (under Windows XP at least Service Pack 2) and updates have been installed.



NOTE: You will need administrator rights for this. Contact your system administrator if you are in any doubt.

Procedure:

- Start
- Programs
- Internet Explorer
- On the "Tools" menu bar
- Windows Update

Install all displayed updates as appropriate.

Add-on software

If the Microsoft .NET Framework 2.0 program is not installed on your computer, it will be automatically installed before installing DM5. The installation is carried out in the language in which DM5 is installed.



NOTE: You will need administrator rights for this. Contact your system administrator if you are in any doubt.

Monitor

To provide an adequate quality of display of the user interface, the monitor resolution should be set to 96 dpi. A higher resolution, such as 120 dpi, will cause segments of text in dialog boxes to disappear partially or entirely.

Check the setting and adjust it to 96 dpi as necessary:

- Right-click anywhere on the desktop
- Properties
- "Settings" tab, "Advanced" button
- "General" tab, "Display" section
- Select "Normal size (96 DPI)"
- Click "OK" twice

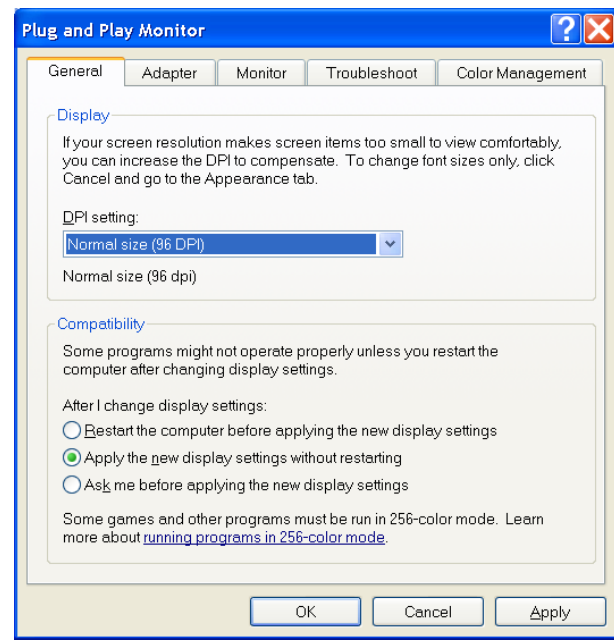


Figure 1.1 Monitor display properties

If your operating system is up-to-date and the monitor is correctly set up, start installing DM5 (section 1.3).

1.3 Installing DM5



NOTE: Be sure to observe the instructions set out in the preceding sections 1.1 and 1.2 in order to ensure smooth installation.

DM5 installation procedure:

- If you received DM5 as a file (e.g. by e-mail or as a download), run "setup.exe".
- If you have an installation CD, insert it into your PC's drive. If the installation does not start automatically after a few seconds, click on the "setup.exe" file in the root directory of the CD to start the installation manually.
- Follow the instructions given by the setup wizard.

Following successful installation, the DM5 and MadCap HelpViewer (Online Help) icons will be placed on your computer's desktop. Double-click on the DM5 icon to start the program. The MadCap HelpViewer is needed to view the Online Help, but does not need to be started specially.



Figure 1.2 DM5 and MadCap HelpViewer desktop icons

If you want to connect the servocontroller by TCP/IP, continue with section 1.4 "Configuring the TCP/IP network connection" on page 9. If you want to connect the device via USB (possible on the ServoOne, for example, for user-friendly configuration of the IP address using DM5), first work through section 1.5 "Installing the USB driver" on page 10.

1.4 Configuring the TCP/IP network connection

The easiest way to connect the servocontroller via TCP/IP to a PC, without further configuration on the servocontroller, is to assign the PC's Ethernet port a static IP address. Provided the first three octets of the IP address are "192.168.39" (e.g. 192.168.39.155), DM5 will be able to find the servocontroller.



ATTENTION! To use TCP/IP, it is essential that the PC/device network should not be configured for dynamic IP address assignment by DHCP, but should use static IP addresses. Otherwise the PC will not be able to find the network devices. If your PC is also connected to a network administered via DHCP (such as a corporate network with a central data server or printer), the PC will need an additional network adapter with a static IP address in order to connect servocontrollers. Contact your network administrator if you are in any doubt.

If you want to use different IP addresses:

To configure the network adapter, first open the network adapters list box on the PC:

- Start
- Settings
- Network connections



NOTE: You will need administrator rights in order to perform the following steps.

From the open dialog box, select the network adapter you want to use for communication with the servocontroller. Right-click on the relevant adapter and choose:

- Properties
- "General" tab
- Internet protocol (TCP/IP)
- "Properties" button

The IP address assignment must be in accordance with **Class C (192-223)**. That means:

- The first three octets of the IP addresses on the PC and the device must be *identical*.
- The fourth octets of the IP addresses on the PC and the device must be *different*.
- The fourth octet of the IP address on the first device is by default 5.

Example:

- **PC IP address**

Must differ from the device IP address in its last digit.
The device and PC addresses must never be identical.

e.g. PC: 192.168.39.**155**
Enter the subnet mask 255.255.255.0.

- **Device IP address**

For the controllers in a network:

1st controller: 192.168.39.**5**.
2nd controller: 192.168.39.**6**.
3rd controller: 192.168.39.**7**. etc.



NOTE: The first three octets in the above examples ("192.168.39") are the factory default. To be able to find the PC and the devices in your network, you may need to adapt the first three octets to the IP addresses of your network.

When you have configured the IP address of the PC network adapter, adapt the IP address of the device according to the above precepts to the conditions of the destination environment. You can set the device IP address using the two buttons T1 and T2 on the front of the device. For details on this refer to the servocontroller Operation Manual.



NOTE: On devices with a USB port (e.g. ServoOne), the IP address (parameter 671) can also be configured using DM5 via a USB connection. If you have configured the IP address in this way, close the current DM5 project and cut the USB connection.

Then start a new project, as set out in section 2.2, and in the "Network connections" dialog box choose "TCP/IP" mode.

1.5 Installing the USB driver

If the servocontroller has a USB port (as the ServoOne does) and is to be connected by it to the PC, you need to install a driver before connecting for the first time.



ATTENTION! The USB port is designed only as a service interface for parameterization of the servocontroller, and not for the function of a higher-level control.



NOTE: You will need administrator rights in order to perform the following steps. Contact your system administrator if you are in any doubt. Procedure for installing the USB driver:

- Connect 24 V control voltage to the device (terminal X9 or X10).
- Interconnect the PC and the device. To do so, connect a USB cable to a free USB port on the PC and to USB port X2 on the servocontroller (on the front of the device).
- When the connection has been made, the “Find new hardware wizard” automatically launches on the PC.

- Procedure:
 - In the first dialog box select the bottom option, “No, not this time”, and click “Next” to confirm.



Figure 1.3 USB driver installation - Welcome

- In the second dialog box select the bottom option, "Install from a list or specific location (Advanced)". Click "Next" to confirm.

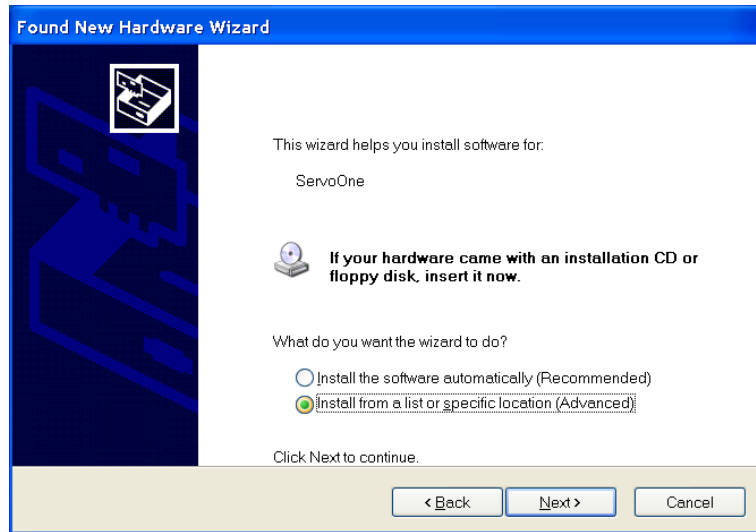


Figure 1.4 USB driver installation - Installation method

- In the third dialog box select the top option, "Browse these sources for the most suitable driver", check the "Also browse the following source" checkbox and specify the subdirectory "drivers" as the path in the DM5 installation directory (e.g. "C:\Program Files\LTi DRIVES GmbH\LTi DriveManager 5.x.x\drivers"). Click "Next" to confirm.

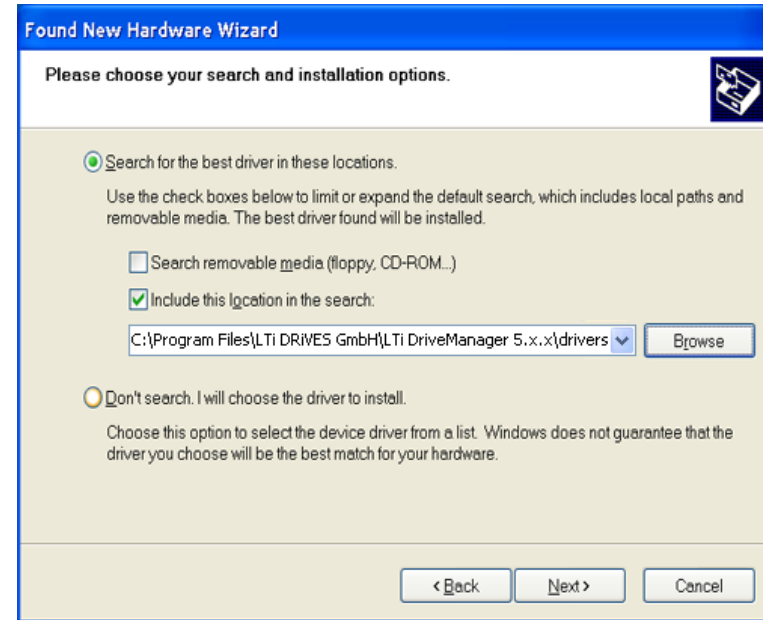


Figure 1.5 USB driver installation - Source path

- Click “Finish” in the last dialog box to complete installation of the USB driver.

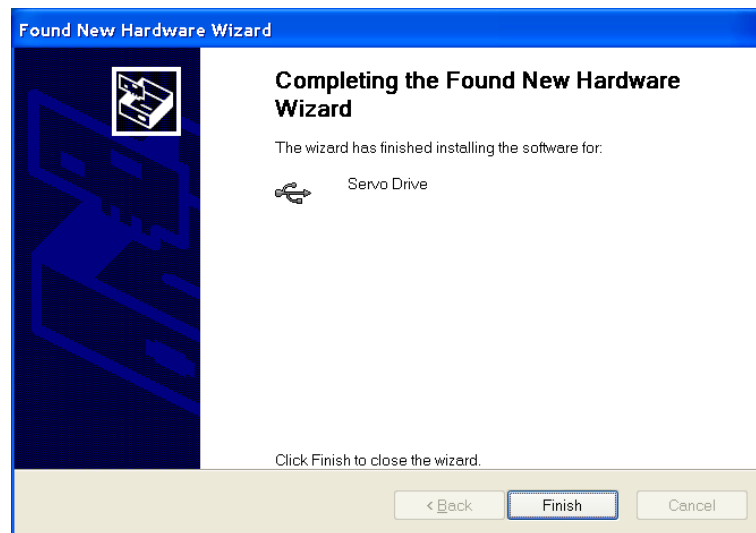


Figure 1.6 USB driver installation - Finish

Then continue connecting via USB and start a new project (see section 2.2 “Creating a new project” on page 14).

1.6 Uninstalling

Procedure under MS Windows XP:

- Start
- Settings
- Control Panel
- Software
- Select “LTi Drive Manager 5.x.x”
- Click “Remove”

DM5 has been removed from your PC.

2. STARTING DM5

2.1 USER INTERFACE

Following successful installation, start DM5 by double-clicking on the DM5 icon on the desktop.



NOTE: Before starting DM5 and connecting, check the following points:

- The controller is being supplied with 24 V control voltage (X9 or X10).
- An Ethernet cable or USB cable is connecting the PC to the controller.
- For a connection via Ethernet, the IP addresses on the PC and on the device are matched (as detailed in section 1.4 "Configuring the TCP/IP network connection" on page 9).
- For a connection via USB, the USB driver is installed (as detailed in section 1.4 "Configuring the TCP/IP network connection" on page 9).

The empty DM5 user interface appears. For details on the design and function of the user interface refer to the DM5 Online Help.

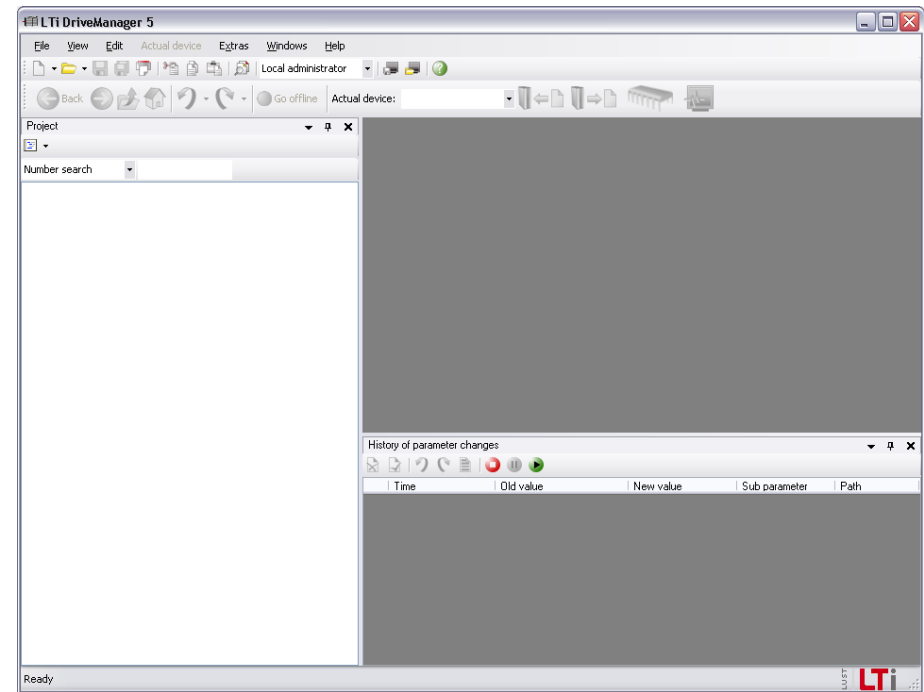


Figure 2.1 Empty DM5 user interface

2.2 Creating a new project

The first time you run the program a Welcome screen is displayed. On it, you can choose whether to create a new project or open an existing one. If you do not want the Welcome screen to be displayed when you launch the program in future, you can deselect it in the bottom right-hand corner.

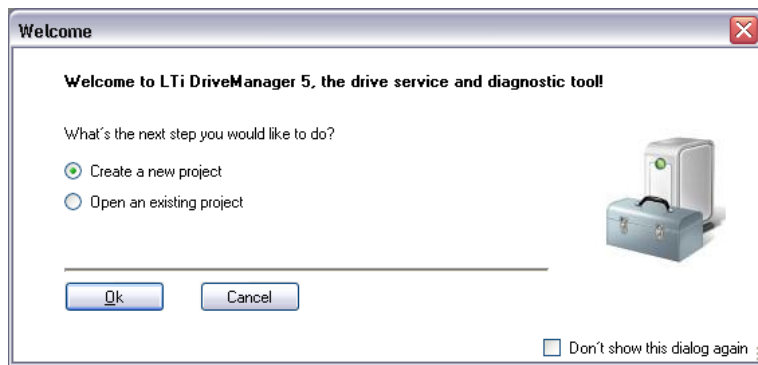


Figure 2.2 Welcome screen

To create a new project manually, from the “File” menu choose “New” and then “Project”.

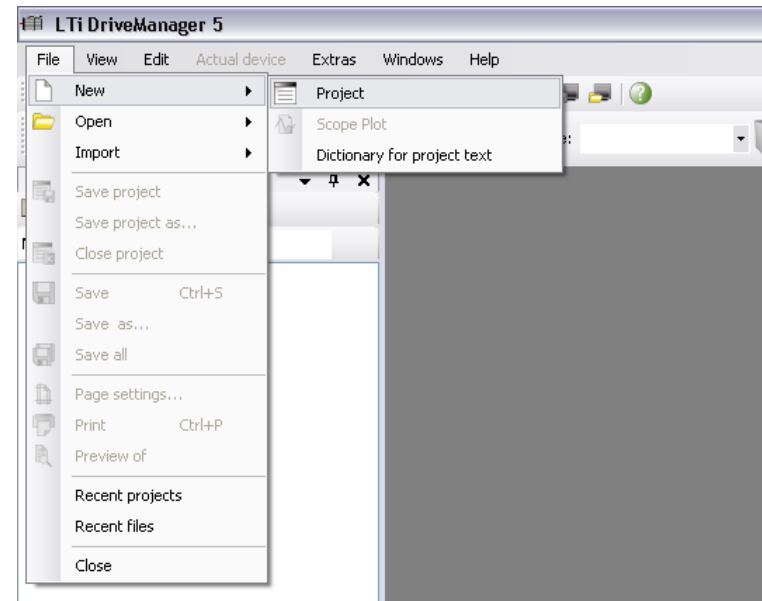


Figure 2.3 Creating a new project

In the dialog box which opens up, assign a unique name to the project. You can optionally add a brief description of it. You can also specify the path to the project folder. Click "OK" to confirm all your input.

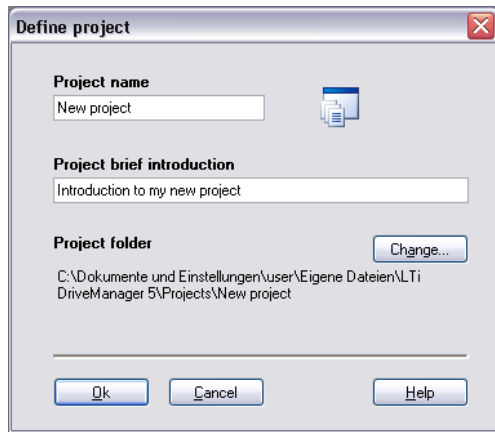


Figure 2.4 "Define project" dialog box

Select the network connection method you want to use and click "OK" to confirm.



Figure 2.5 "Network connections" dialog box

2.2.1 USB network connection

If you selected "USB" for the network connection, no further configuration is required. Skip to section 2.2.3 "Completing the network connection" on page 16.

2.2.2 TCP/IP network connection

Another dialog box follows, in which you can choose how you identified the connected device.



Figure 2.6 "Network operation mode" dialog box



ATTENTION! If the Ethernet port is used for communication between DM5 and the device, an installed and enabled software firewall may hinder communications. Make sure the firewall is configured correctly, and also check your network settings. Contact your network administrator if you are in any doubt.

- **Connect a single device with well-known IP address**

When you choose this option, no automatic identification takes place, but instead, after confirming with "OK", you can enter the IP address of the connected device manually in the dialog box which opens up and again click "OK" to confirm.

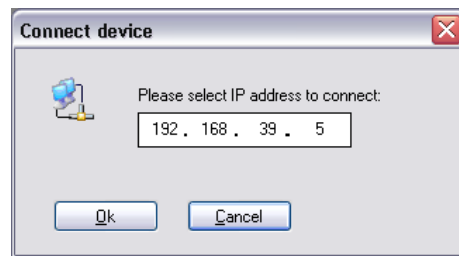


Figure 2.7 "Connect device" dialog box for device IP address

• Search for devices in one network

If your PC has multiple network adapters, you can use this option to select an adapter. The network connected to the selected adapter is browsed when you click "OK" to confirm. You can restrict the range of addresses to browse if you wish. When a device is found, a connection is automatically made.

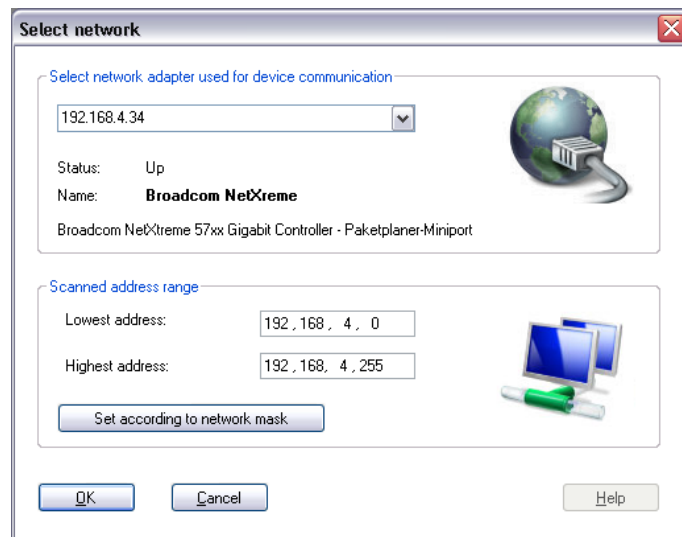


Figure 2.8 "Select network" dialog box

• Search for devices in all available networks

Select this option if you want to browse all the networks connected to your PC for devices, without further prompting. Note that this search may take several minutes, depending on the network topology and the number of connected devices! When a device is found, a connection is automatically made. Then continue with section 2.2.3, "Completing the network connection".

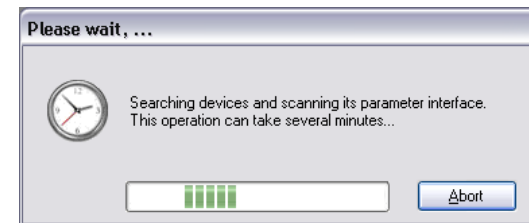


Figure 2.9 "Please wait" message box

2.2.3 Completing the network connection

As soon as all necessary settings for the desired connection have been made, the data of the connected device are read and the connection setup is completed.

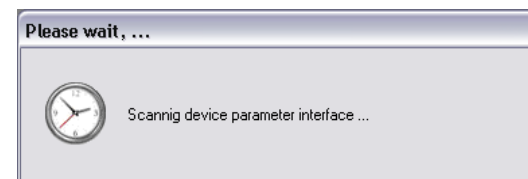


Figure 2.10 "Scanning device parameter interface..." message box

You can now configure the connected device by way of the tree structure in the "Project" window.

- For details on the tree structure refer to the following section 2.3, "Information on the current connection".
- For details on configuring the device, refer to the relevant Operation Manual (section 4, Commissioning) or the DM5 Online Help.

2.3 Information on the current connection

In the tree (explorer) structure of the "Project" window you can see the status of the current connection(s) at any time. The structure is as follows:

- If the tree structure is displayed **in black**, communication has been successfully set up and the device is in Online mode.
Blue type signifies that the device is in Offline mode; parameter changes are not updated.

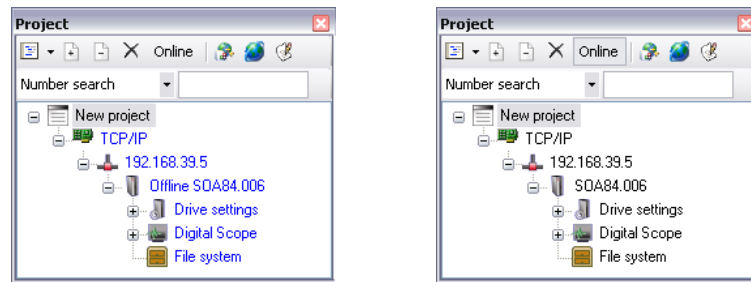


Figure 2.11 Device in Offline mode (left) or Online mode (right)

- The first level of the tree structure is the current project.

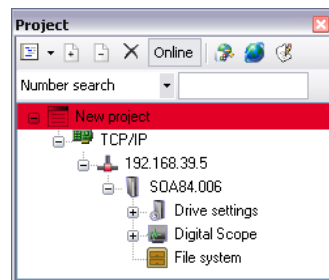


Figure 2.12 First level of tree structure

- The network connection method (e.g. USB or TCP/IP) is displayed as the second level.

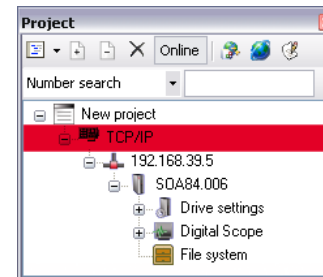


Figure 2.13 Second level of tree structure

- At the third and fourth levels, the individual devices are displayed, with details of their connections (e.g. port number or IP address) and type (in the screenshot a ServoOne 400 V device with 6 A rated current).

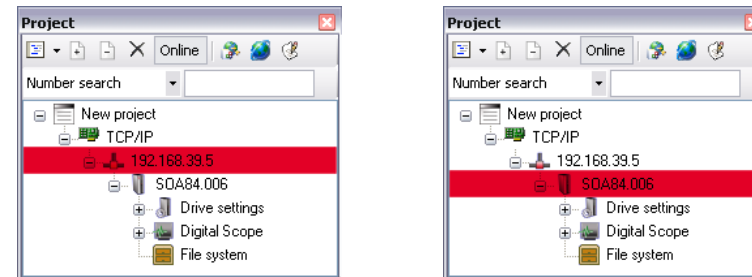


Figure 2.14 Third and fourth levels of tree structure

- Below the fourth level are the drive settings and the Digital Scope of the individual devices.

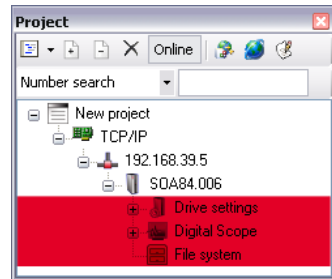


Figure 2.15 Functions and parameters

All further information on DM5 and on configuring your drive is to be found in the DM5 Online Help, which you can access from the menu by choosing ►Menu ►Help ►Contents or by pressing function key "F1" to get context-sensitive help.

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