

B Installation

B 1 Minimum computer configuration required

For operating the measurement system a computer is required. The following table gives an overview of computer systems and operating systems which can be used.

Computer	Operating system
IBM-compatible PC with Intel Celeron or AMD Athlon processor.	MS-Windows 2000
IBM-compatible PC with Intel Pentium 4 or greater	MS-Windows XP or MS-Windows Vista

Appropriately compiled programs can be supplied for each of the computer / operating system combinations listed. Attempts to install the programs on other operating systems supporting MS-Windows (e.g. OS/2) will not be successful.

B 1.1 Programs for Windows 2000

The table below specifies the hardware configuration required. **The "Recommendation" column describes a configuration allowing comfortable operation.**

	Requirements	Recommendation
Processor	Intel Pentium 4	Intel Pentium 4 or AMD Athlon 2000+
Main memory	128 Mbyte	512 MByte
Space on hard disk	1,5 MByte + 1 MByte per measurement program + space for data.	512 MByte
Pointer device	MS compatible mouse, trackball or touchscreen.	MS compatible mouse, trackball or touchscreen.
Graphics card	VGA colour, 640 x 480 pixels. With "ZLM Synchron" dynamic software and more than 3 measurement axes: 800 x 600 pixels.	VGA colour, 640 x 480 pixels. With "ZLM Synchron" dynamic software: 800 x 600 pixels.

For successful work with your ZLM software, observe the following notes.

Networks

We want to emphasize particularly that this program is not a network version. Installation of this program in a network is possible, but it can be run only on one workstation at a time.

B 1.2 Programs for Windows XP / VISTA

The table below lists the computer hardware requirements. The only software requirement is the successful installation of MS-Windows XP or VISTA.

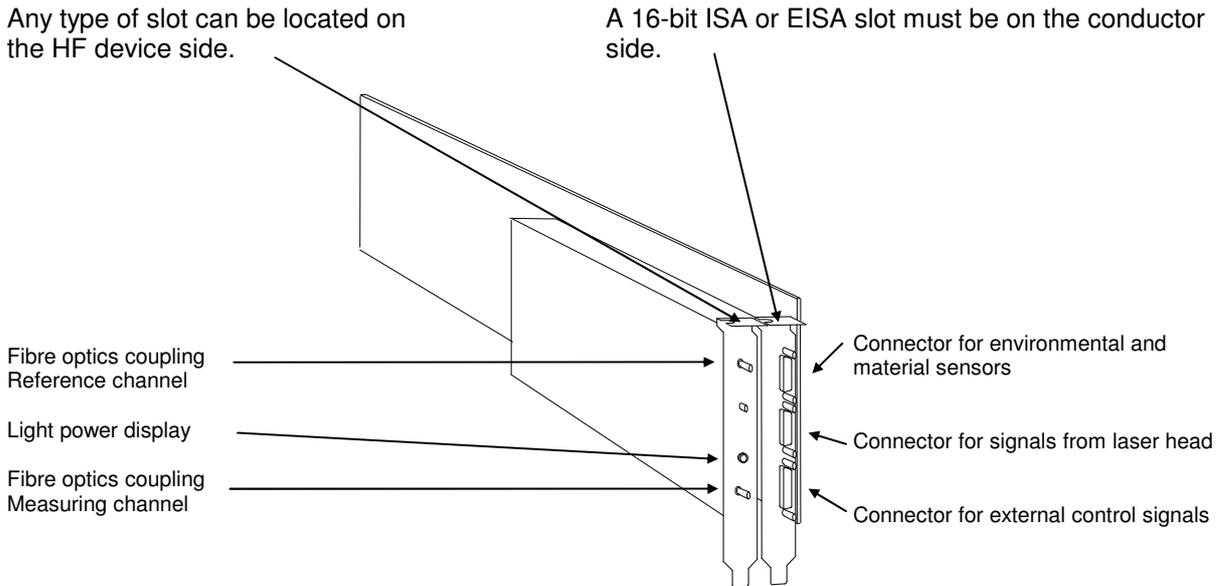
	Requirements	Recommendation
Processor	Intel Pentium 4 or greater AMD Athlon 2300+ or greater.	Intel Pentium 4 or greater AMD Athlon 2300+ or greater.
Main memory	512 MByte	1024 MByte
Space on hard disk	1,5 MByte + 1 MByte per measurement program + space for data.	512 MByte
Pointer device	MS compatible mouse, trackball or touchscreen.	MS compatible mouse, trackball or touchscreen.
Graphics card	VGA colour, 640 x 480 pixels. With "ZLM Synchron" dynamic soft- ware and more than 3 measurement axes: 800 x 600 pixels.	VGA colour, 640 x 480 pixels. With "ZLM Synchron" dynamic software: 800 x 600 pixels.

B 2 Hardware installations for ZLM 700/800

B 2.1 Required Slots

ZLM 700/800 multi-axis systems are described in the "Manual on multi-axis laser interferometer systems". The following refers to the single axis ZLM 700/800 data acquisition card.

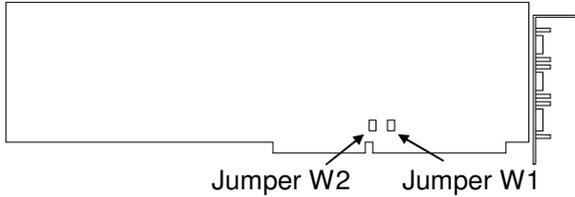
The ZLM data acquisition card contains all electronic components which are required for measurement data analysis. For installing this card you need two slots adjacent to each other.



B 2.2 Storage addresses (only ZLM 500)

The ZLM data acquisition card can be accessed via a storage area. To ensure error-free function of the card, this storage area must not be used by any other hardware components. Especially SCSI-devices are using the storage area from C8000 up to CFFFF. That's why you have to change the factory pre-selected setup.

Unscrew the HF electronics. Then the storage address area can be selected via Jumper W1 and W2. We recommend, however, to have the storage address area changed by one of our service technicians.

ZLM 500 data acquisition card		
Jumper W2	Jumper W1	Storage area (RAM)
open	open	C8000 - CBFFF (hex), factory pre-selected
open	connected	CC000 - CFFFF (hex)
connected	open	D0000 - D3FFF (hex)
connected	connected	D4000 - D7FFF (hex)

Configuration with EISA computers On a computer with an EISA bus system you can assign memory addresses to the slots. In general, free slots are pre-assigned by the computer manufacturer or dealer to the memory addresses not in use. Therefore the system configuration does not need to be changed.

Along with the computer, the computer manufacturer provides a system configuration program on floppy or hard disk. This program finds out whether the provided memory addresses of the ZLM 500 data acquisition board are in use or not. If they are in use, we recommend the memory addresses of the new cards to be changed.

If you want to exploit all the advantages of the EISA bus system and obtain information about reserved and free system resources when installing additional cards, you need to configure the slots with the memory addresses of the card to be installed.

The manuals of EISA computers contain a detailed description of the configuration program. No special configuration files are available for the ZLM data acquisition card. For its configuration, use the "General ISA adapter" configuration file and type in the memory addresses used.

Before installing the cards, you should find out about the available resources. Then plug in the cards and note down the numbers of the slots used for the conductor side of the cards, written above the slots on the computer rear panel. Then configure the system with the system configuration program.

B 2.3 Installation of the card

Open the computer housing according to the description in your computer manual.

Use a screwdriver to unscrew the slot covers from the desired slots on the computer rear panel.

If necessary, set the memory address space of the card. If you change it, Note down the new memory address space.

Plug the card into the slots and fix it with the screws.

Close the computer housing.

B 3 Installing the software

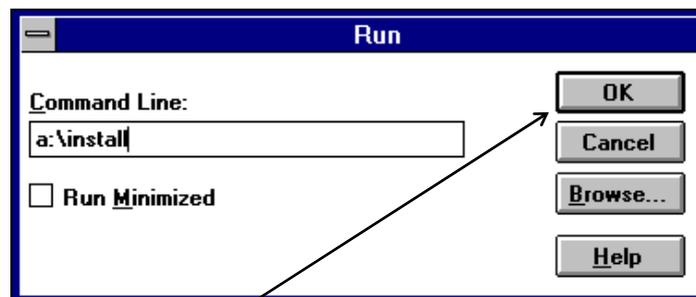
Three different cases of installation must be distinguished:

- | | |
|-----------------------------------|---|
| Initial installation | Section "B 3.1 Initial installation" describes how to proceed if none of ZLM program modules has been installed yet. |
| Complementary installation | Section "B 3.2 Complementary installation" describes how to proceed when the installation of additional measurement programs is required. |
| Update | If no installation instructions are sent with an Update, see section "B 3.3 Update" for instructions. |

B 3.1 Initial installation

Start of installation program

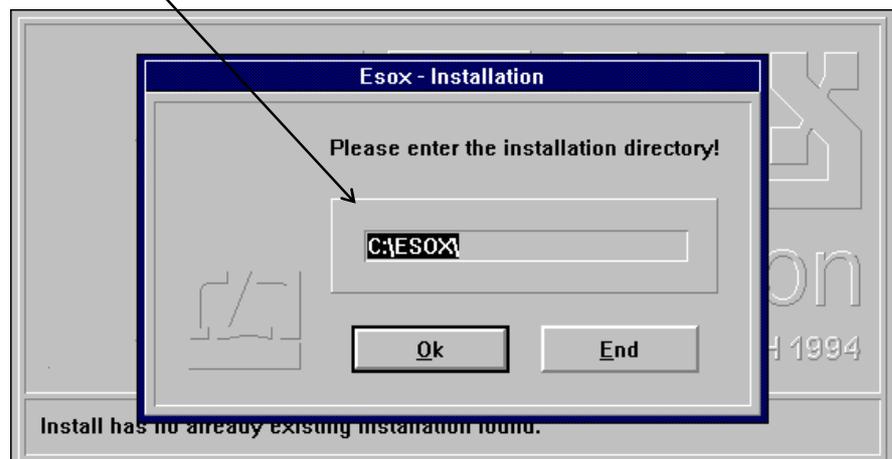
1. Insert the "Esox installation" disk into drive A or B. With the MS-Windows Program Manager being active, activate the "File" menu and choose the "Run..." option.
2. Type "A:\install" or "B:\install" in the dialog box, depending on whether the floppy disk is in drive A or B.



3. Click the  button to confirm.

Typing in the installation directory

The installation program searches all drives for any previous versions of this program. If no such version is found, you are asked to type the installation directory into the dialog box.



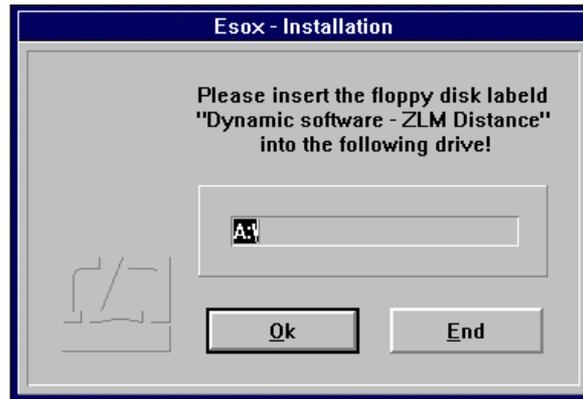
Choose a drive with sufficient free disk space (see section B1).

1. Type in the name of the directory in which you want to install the programs.
2. Confirm this entry by clicking the button.

Subsequently, the program files of the first disk will be copied.

Inserting the next floppy disk Then you will be asked to insert the next disk.

1. Insert the respective disk.



2. Confirm that the disk has been inserted, by clicking the button.

Depending on the number of measurement programs purchased, this step may have to be repeated several times.

Installation of further measurement programs

The installation program asks you if you want to install further disks.



If you have purchased more than one measurement program, it may be possible that not all of the disks had to be inserted in the copying process so far.

If so, insert the next disk and click the button.

If you are not sure whether you copied a certain disk already, just insert it (again) to find out. The installation program will copy only program files that have not been copied yet.

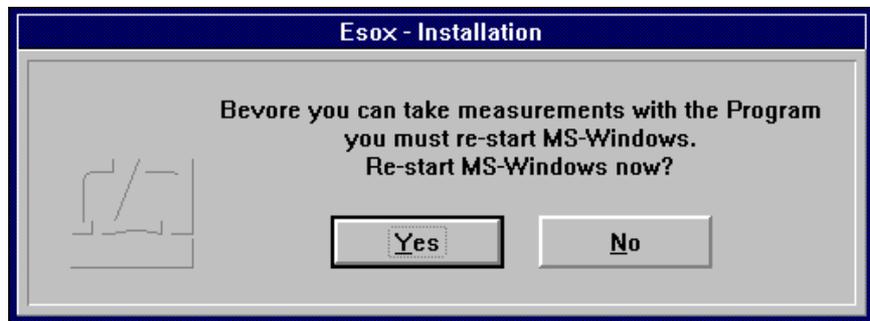
If there are no further disks to be installed, click the button.

Program icon

The installation program creates a program group "Carl Zeiss" in the Program Manager with the program icon of the Esox management program. A message box informs you about the successful completion of the installation.

**Re-start of MS-Windows**

Before you can make measurements with the installed program, you must re-start MS-Windows. Just before the installation program is completed, it will ask you whether you want to re-start MS-Windows now or continue working with MS-Windows without re-start.



In the latter case, you have to exit MS-Windows and re-start before you start working with the measurement program.

B 3.2 Complementary installation

In two cases a complementary installation will be necessary:

1. You have purchased an additional measurement program.
2. A measurement program was not installed during the initial installation.

In a complementary installation, more than one measurement program can be installed at the same time.

Starting the installation program

1. Insert the (first) measurement program disk into drive A or B depending on the disk format.
2. In the MS-Windows Program Manager activate the "Run..." option of the File menu.
3. Depending on the drive used, type in either "A:\install" or "B:\install" in the respective dialog box.
4. Confirm the entry by clicking the  button.

Directory of installation

The installation program searches your hard disk(s) for already installed management programs. When the directory with the management program is found, you are asked if you want to install the new measurement program on this directory.



Click the button. The disk program files will be copied.

Installation of further measurement programs

The installation program asks you if you want to install further disks. If you want to add more than one measurement program, insert the next disk into the drive and click the button.

If there are no further disks to be installed, click the button.

Re-start of MS-Windows

Before working with the new measuring program(s) you should re-start MS-Windows. If you respond with to the question of the installation program for a re-start of MS-Windows, you have to exit and re-start MS-Windows before you start to work with the measurement program.

B 3.3 Updating

The installation program can replace an old program version by a new version without having to delete the old version.

Starting installation program

1. Insert the "Esox Installation" disk in the respective drive (A or B) Choose the menu item "File-Run" of the program manager.
2. Enter "A:\install" or "B:\install" depending on whether you inserted the disk in drive A or B.
3. Press the button to confirm.

Installation directory

The installation program searches your hard disk(s) for management programs already installed. When the directory with the management program is found, you are asked if you want to install the new measurement program in this directory.



Click the button. The disk program files will be copied.

For the further steps, proceed same as in a first installation.

NOTE: If you prefer to delete the old program version from the hard drive before you start installing the new one, be sure not to delete your measured data. The measured data file "esoxm.dat" is located in the old installation directory. The measured data files for the drives are named "\ESOXDAT\esox.dat" and are located in the respective drive.

B 3.4 Changed hardware resources

If you change the hardware resources before installing the cards, the program needs the respective information to work properly.

The procedure differs depending on your operating system.

B 3.4.1 Operating system MS-DOS with MS-Windows 3.x

Retrieve the MS-Windows program "Notepad" in the program group "Accessories" of the program manager. For instructions on how to handle "Notepad" see your MS-Windows manual.

Retrieve the data file "system.ini" from the directory in which MS-Window was installed.

Find the section "[386Enh]" of the Windows system initialization data file, and enter the message that the storage address area of the card is not available as a standard work area.

Find the entry "EMMExclude".

If you cannot find this entry, add "EMMExclude".

EMMExclude = mmmm-nnnn

"mmm-nnnn" stands for the hexadecimal storage segment area of the card

Storage address area	Entry
C8000-CBFFF	EMMExclude = C800-CC00
CC000-CFFFF	EMMExclude = CC00-D000
D8000-DBFFF	EMMExclude = D800-DC00
DC000-DFFFF	EMMExclude = DC00-E000

If the storage area already exists, it must be combined with the new excluded storage area so that afterwards both storage areas will be excluded.

Some MS-DOS drivers will probably try to reserve the storage area of the data acquisition card for themselves. These drivers may have been installed during installation of different MS-DOS programs. MS-Windows has no use for these drivers. If you only have MS-Windows programs installed on your computer, you can disregard the following information.

The drivers can be retrieved via the data files "C:\conf.sys" or "C:\autoexec.bat". These drivers can be stopped from occupying storage area by using the following options:

Driver name	Activated via	Option	Example
emm386.sys	C:\config.sys	X=....-....	device=emm386.sys X=C800-CC00
emm386.exe	C:\autoexec.bat	X=....-....	emm386 X=C800-CC00
386max.sys (Qualitas Inc.)	C:\config.sys	EXCLUDE=....-....	device=386max.sys EXCLUDE=C800-CC00
qemm386.sys (Quarterdeck Inc.)	C:\config.sys	X=....-....	device=qemm386.sys X=C800-CC00

All changes in the "C:\conf.sys" or "C:\autoexec.bat" data files can be performed in the "Notepad" program. Changes in these data files require re-start of the computer before they become effective.

B 3.4.2 Operating System MS-Windows NT/9x

PC-card:

No changes are necessary. The driver finds out the storage area automatically (B 2.2).

ZLM500 with IEEE488-interface:

The driver looks for information about IEEE488-interface in the registry. You must fill in the correct information of your hardware installation.

In the MS-Windows NT/9x operating system all system configuration information is filed in a data file named "Registry". You can retrieve the required "regedit.exe" program via "Start" "Run...".

Choose on the left side of the program window the key

\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Zlm500\Resources

Values for ZLM 500 (default values):

(Standard)	(No values)
AddressStep488	0x00000400(1024)
BaseAddress488	0x000003e1(737)

To change the entry, double-click on the respective entry. A dialogue field will appear in which you can make the necessary change. The changes will become effective when you next restart the system.