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# *Handling*

# **B**

## **B. Handling the display unit**

Main menu .....	B2
Help menus .....	B3
Store measurement result .....	B4
Restore and Delete measurement result .....	B5
Printouts and PC transmitting .....	B6
EasyLink™ PC software for Windows .....	B7
Measurement value filter .....	B19
Programming the laser (D22, D75, D146) .....	B20


## MAIN MENU

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MENU	
Unit (s) found:	02
1 Back Light	
2 Contrast	
3 Date:	1999.01.06
4 Time:	10:03
5 Auto Off Time:	30
6 Filter:	05
7 Unit:	0,01 mm
8 Print Screen	
9 Send	
0 Store	14
. Help	
Battery	L ***** H

*Shows the number of measuring units/detectors connected.*

*Number of measurements stored.*


The menu for main settings, print and store is shown when pressing . This can of course be done during measurement. When the display unit is shut off, all the settings will remain (*except measurement filter value and tolerance checked display of measurement result*).

*Press corresponding numeric key to change or execute settings. Only available choices are shown.*

*Battery condition is shown as a series of \*, Max. at H and Min. at L.*


### NOTE!

6: Program BTA DIGITAL; no filter available.  
7: Program BTA DIGITAL only uses the resolution level 0.1 mm, 5 mils, 5 thou. Therefore only the unit will be affected when you toggle between the choices, not the resolution.

- 1 Toggle the Backlight of the display between On and Off.
- 2 Each touch changes the Contrast of the display to one of ten steps.
- 3 Set the current Date in the system clock.
- 4 Set the current Time in the system clock.
- 5 Set the time until Auto-Off between 10 and 99 minutes. 00 disables Auto-Off.
- 6 Set Measurement Filter Value between 0 and 30. (see page B19)
- 7 Toggle the units of measurement between 0.1, 0.01, 0.001 mm: 5, 0.5, 0.05 mils: 5, 0.5, 0.05 thou.
- 8 Print the previous screen on a connected printer.
- 9 Send the measurement result to a connected printer or PC.
- 0 Store and Restore measurement results.
- . Help: Shows available program choices at each step of the measurement program procedure.
-  Return.


Help menus are available at most steps in the measurement program procedure. "Help menu" is a display page that shows available button choices (direct commands). This is for example usable when the printed manual is not available.

1. To show current Help menu, first press 

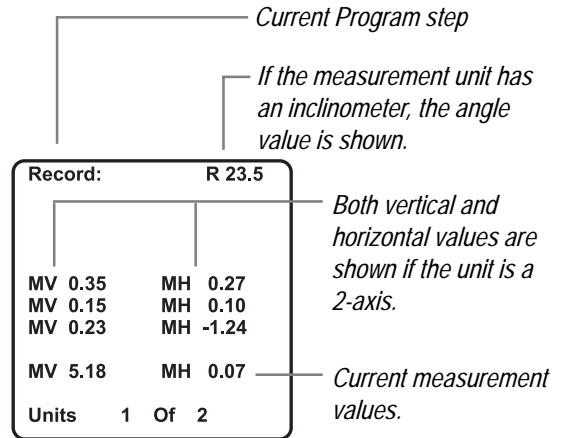
2. Then press  , and the current help menu is shown.

3. **NOTE!** The shown button choices are *only active in the measurement procedure*, and not when the Help menu is shown. Therefore, return to the Main menu and the measurement procedure by pressing Menu-button twice. Then press appropriate numeric key.

<	Prev. Page
>	Next Page
0	Set ref. points
1	Clear ref. points
4	Graph
9	Remeasure

Example from Straightness program when the measurement result is shown digitally. Press  and the result will be shown graphically instead.

What the display shows in most programs:



Current Program step

If the measurement unit has an inclinometer, the angle value is shown.

Both vertical and horizontal values are shown if the unit is a 2-axis.

Current measurement values.

Record:		R 23.5	
MV	0.35	MH	0.27
MV	0.15	MH	0.10
MV	0.23	MH	-1.24
MV	5.18	MH	0.07
Units	1	Of	2

Current measurement values becomes +++++ when loss of signal, for example if the laserbeam is interrupted.

When connection failure, for example if cable isn't connected, measurement values become -----

# STORE MEASUREMENT RESULT

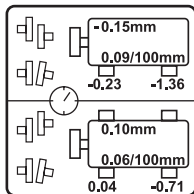
The measurement result with date, time and description can be stored in the internal memory, and will be kept even when the display unit is shut off. The stored result can later on be reviewed on the display, printed or transferred to a PC. Date and time are stored automatically. When you type the letters and figures in, the cursor jumps to the next position after 1 second. Repeated pressings will give the next letter or figure. The memory is very large. 1000 shaft alignments or 7000 measurement points can be stored. Occasionally, if the memory is full the oldest measurement stored will be erased and a new result is stored.

## Characters

- 1 *blank\_ - 1*
- 2 *ABC2*
- 3 *DEF3*
- 4 *GHI4*
- 5 *JKL5*
- 6 *MNO6*
- 7 *PQRS7*
- 8 *TUV8*
- 9 *WXYZ9*
- 0 */0*
- . *& ( ) .*

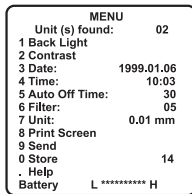
*Example: press **9** three times and you have entered Y.*

(Example from shaft alignment.)

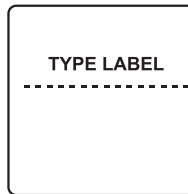


1. The measurement result is displayed...


2. Press the Menu-button 



3. Press **0** (Store)



4. Enter a label (Max. 20 characters).


5. Finish and store 

# RESTORE AND DELETE MEASUREMENT RESULT

**Restore a measurement** by turning the system on and then press the Menu-button *before* starting any program. Choose *Restore* and each stored measurement is displayed with Date, Time and Label. The measurements are sorted in chronological order with the latest at the first position (number 1). Up to five measurements

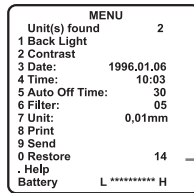
can be displayed at each time. Enter the corresponding number for the measurement to be restored or deleted, then select desired function. When the data is displayed it can be printed or transferred to a PC. This is done as usual via the Main menu by pressing Print or Send.

B

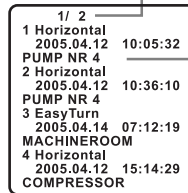
1. Start the system 





Number of stored measurements.




Page number and total amount of pages.

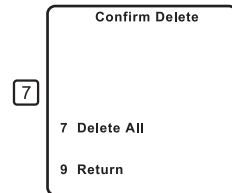
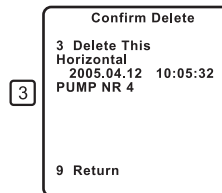
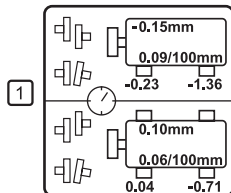
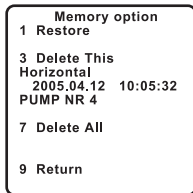


Your label

4. Press corresponding figure to display desired measurement.  
[Toggle between pages with   ]

2. Press Menu-button 

3. Press [0] (Restore)



5. Select desired function:  
Restore measurement [1]  
Delete this measurement [3]  
Delete all stored measurements [7]  
Back [9]

The measurement result is displayed.  
[Return to list by pressing [9] ]

Press [3] to confirm deletion of this measurement.  
[Return to list [9] ]

Press [7] to confirm deletion of all stored measurements.  
[Return to list [9] ]

# PRINT and SEND

Two options are available for measurement data transfers. These are carried out from the Main menu. The *Print Screen* command transfers a copy of what is shown on the display. Actually a screen-dump.

The *Send* command transfers a complete set of information, in text mode. Transferring a previously stored measurement also includes description if available.

When using the programs *Offset and Angle* and *Values*, measurement values can be sent directly from the detector to the serial port. The EasyLink™ software (or other similar terminal program) can receive the data sent.

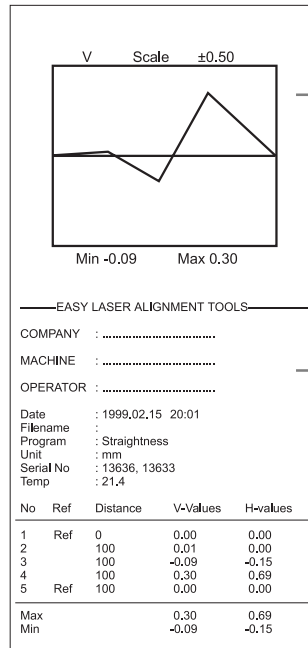
1. Press 

2. Press  (print) or  (send)

(For installation of EasyLink™, see next page.)

Easy-Laser® is equipped with an RS 232 C, 9 pin D-sub connector for printer or PC. The printer must be Epson compatible to achieve a proper graphic printout.

Port settings:  
9600 Baud, no parity check, 8 data bits, 1 stopbit



*Print Screen performs a graphic screen dump.*

*Send transfers a complete set of information about current measurement in text mode. The serial number of the equipment used and the measurement temperature will also be specified.*

Example: printout from Straightness-program.

**EasyLink™** is a data transfer and database software for Windows. The export function supports the Excel, Works and Lotus programs.

The import function supports, besides Easy-Laser®, also measurement systems from some other manufacturers. Up to 16000 measurements per database can (at the time of publication of this manual) be handled/stored by the program.

**For the best functionality** the EasyLink™ program should be upgraded continuously. The latest version is always available for download at our web site:

*[www.damalini.com](http://www.damalini.com)*

Because of this some of the functions in the program might differ from what is described on the following pages. When necessary, please check the internal Help files of the program.

## Installing the program

1. Place the Easy-Laser® CD in the CD drive of your PC. The presentation program that also includes the installation files for EasyLink™ will normally autostart. Choose language. Then the image according to Fig. 1 will appear. Click on the image (at the arrow), then choose type of installation ("full installation" if this is the first time the program is installed).

*If the CD doesn't start automatically, do like this:*

*Under the [Start]-menu, choose [Run]. Then type the path "D:\Software\Easylink\Install.exe". Press [OK].)*

**EasyLink™** requires; DOS: Windows® 98, NT, 2000 or XP. RAM: 32 MB

Available hard disk space for program files: 5 MB.

Serial cable – nullmodem type (i.e. serial LapLink cable).

B



Fig.1

2. The program will be installed with preset alternatives if you don't choose otherwise ( Fig. 2–3). Press [Next] in the following dialogs until the program installation starts (Fig. 4).

3. Press [Finish] to finish the installation.

4. Remove the CD from the CD drive.

**When installation is complete** the program icon appears at the desktop. You can also find the program in the [Start]-menu.



Fig.2



Fig.3



Fig.4

The first time you start EasyLink™ the program asks for registration data (Fig. 5). You should e-mail this to get information on program updatings.

## Update EasyLink™ via the internet

If you want to update an older version of EasyLink™ for Windows, do as follows :

1. Under "Help" in EasyLink™, choose "Update via internet"
  2. The dialog in Fig. 6 will appear.
  3. Press "OK" and your internet browser starts\* and locates the address assigned in the dialog.
  4. In the next dialog, choose "Save to disc"
  5. Download the file to C:\Program\Well (which is the EasyLink™ folder)
  6. Under the "Start" menu, choose "Run" and browse for the file (C:\Program\Well\Update.EXE) where x is the update version)
- \*Some browsers doesn't support this function. Then you have to download the file manually from [www.damalini.com](http://www.damalini.com) instead.



**EasyLink Registration**

EasyLink must be registered to be used. Enter your information below.

User Name:

Company:

Address:

Tel / Fax:

User Email:

Send registration by Email  
 Print registration

Fig.5

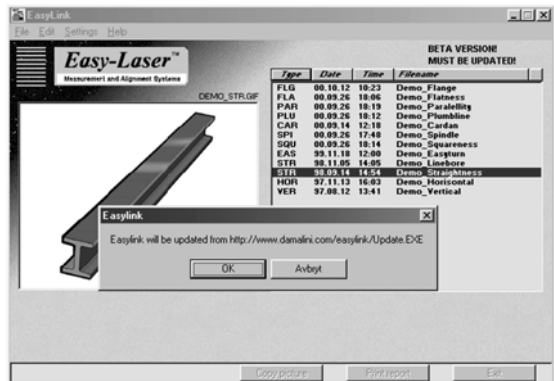


Fig.6

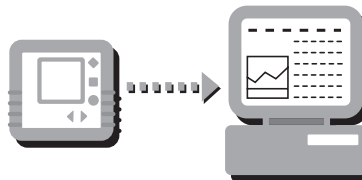
Continued →

B

## Communication setup

Start the EasyLink™ program.


Under "Settings", choose the Com-port to which the serial cable is connected. Only available ports can be selected. Note that a port that appear to be available sometimes can be assigned to camera or phone programs in your PC, which makes it necessary to reconfigure these.





## Transferring data from the Display unit.

Connect the Display unit to the PC with the serial cable that came with the measurement system.

In the Display unit, display the measurement you want to transfer to EasyLink™ by pressing ,

then  (*restore*),

and finally choose your measurement file.

Press the menu button  again, and then  to transfer the data to the PC.

When the transfer is finished the current measurement will appear in the data window in the EasyLink™ program.

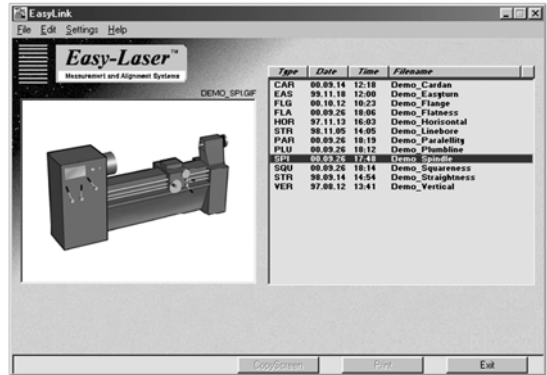


**Important!** When transferring data to a PC, be sure that there are no reference points set, otherwise the EasyLink™ program cannot calculate absolute values.

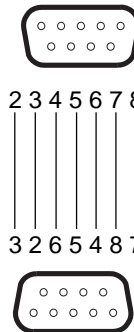
Note that it is only from the Start page of EasyLink™ communication with the Display unit can be established. The program automatically assigns a suitable picture, but you can change this picture later to one of your own.

A serial cable for EasyLink™ can usually be bought from any computer store. The cable is a "null modem" cable (also known as Laplink). The connections of the cable must be configured as in the picture to the right.

*Note! The length of the cable should not exceed 3 meters.*



Start page for EasyLink™ with saved measurements to the right (image can vary).



Null modem cable

Continued ➡

# EASYLENK™ PC program for Windows

When you start the EasyLink™-program the START WINDOW appears with all saved measurements listed to the right. You can sort these by *type of measurement, date, time* or *file name* by clicking at the buttons right above the list.

Open a saved measurement by double clicking on it in the list.

To right-click at a measurement in the list gives you more options (see below).

- Open database → Choose alternative database
- Export to spreadsheet → Export to spreadsheet
- Print report → (only in measurement window)
- Print picture → (only in measurement window)
- Download from other instrument → Download measurement data from instrument other than Easy-Laser®
- Exit → Exit Program

- Copy picture → (only in measurement window)
- Copy value list

Options → (see next page)

- Help
- Update via internet
- Send Email for support
- EasyLink registration
- About

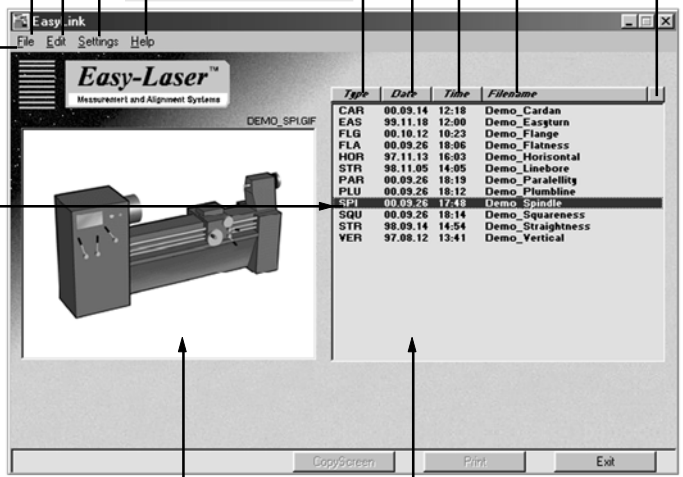
Sort list by: Back to unsorted list

Roll-down menus

**[Right-click at a measurement]**

- View report
- View graph
- Export to spreadsheet
- Rename item
- Delete item
- Add photo
- Remove photo

The Start Window



Picture window

Saved measurements

In the Options dialog you can make settings suitable for you.

Choose to which format you want to export your measurement data.

Settings for graphic functions for some geometry programs.

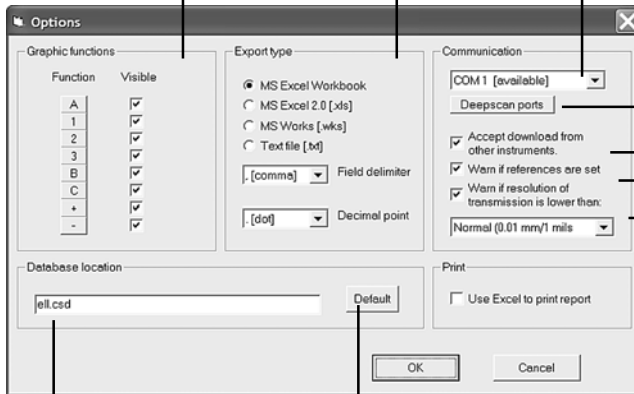
Set Com-port. Only available ports can be selected.

When having problem finding a Com port that is available a Deepscan can be made. This means that the program tries to release Com-ports.

Allows for downloading of measurement data from instruments other than Easy-Laser®.

Warn if references are set on the measurement data being transmitted, i.e. if there are points set to 0.00. Then the EasyLink™ program cannot calculate absolute values.

Warn if the measurement data being transmitted is at a low resolution.



The data base that is displayed when the program is started (default).

Set data base to default (ell.csd).

# EASYLINK™ PC program for Windows

The different **MEASUREMENT WINDOWS** are all handled similarly to each other, but in some of them some functions are not possible, such as "Rotate object".

- Open database
- Export to spreadsheet
- Print report
- Print picture
- Download from other instrument
- Exit

Export to spreadsheet  
 Print Data window  
 Print Picture window

- Copy picture
- Copy value list

Copy picture window  
 Copy Data window as picture

## Example of a Measurement Window

Picture window

Change visible scale

Change picture angle (possible for 3D-graph)

Data window  
 (Active measurement data;  
 updates when reference  
 points are moved)

Rotate object (possible for 3D-graph)

Copy Picture window

Print Picture window and Data window

Return to Start window

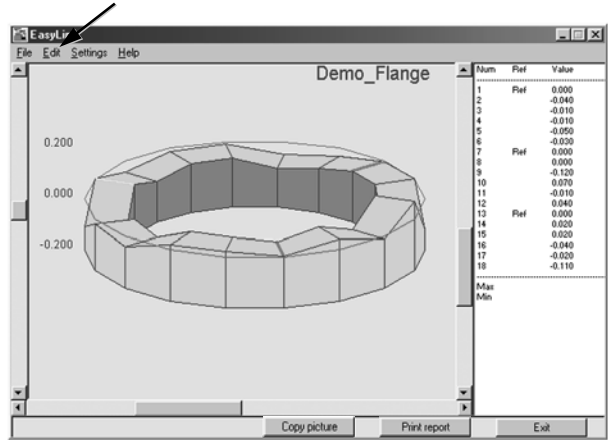
Num	Ref	Value
1		0.000
2	Ref	-0.040
3		-0.010
4		-0.010
5		-0.050
6		-0.030
7		0.000
8		0.000
9		-0.120
10		0.070
11		-0.010
12		0.040
13	Ref	0.000
14		0.020
15		0.020
16		-0.040
17		-0.020
18		-0.110
Max		
Min		

## Copy the DATA WINDOW to other programs

In the Data window to the right the current data is shown. This window can be copied as a picture, and then pasted in to another document, e.g. Word or Excel documents.

*Do like this:*

1. Under "Edit", choose "Copy value list"
2. Open your document
3. Paste the picture in [ Ctrl+V ]



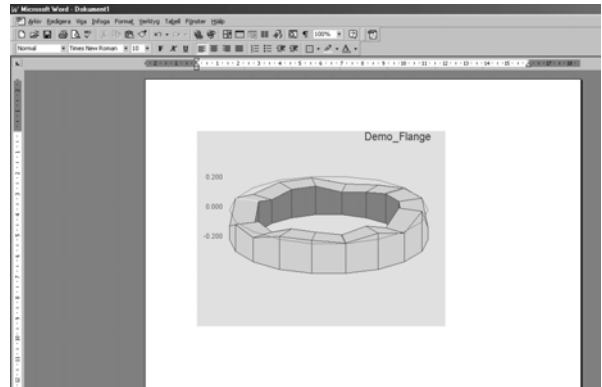
B

## Copy the PICTURE WINDOW to other programs

"Copy Picture" copies the picture in the Picture window, which you then can paste in to another document.

*Do like this:*

1. Press **Copy picture**, or under "Edit", choose "Copy picture"
2. Open your document
3. Paste the picture in [ Ctrl+V ]



Example: Word document with the Picture window pasted

Continued ➡

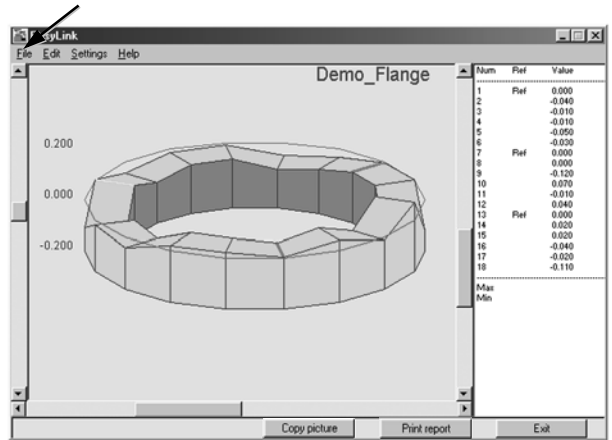
# EASYLINK™ PC program for Windows

## Print the DATA WINDOW and the PICTURE WINDOW

You can make a printout of both the picture and the measurement data at the same time.

*Do this:*

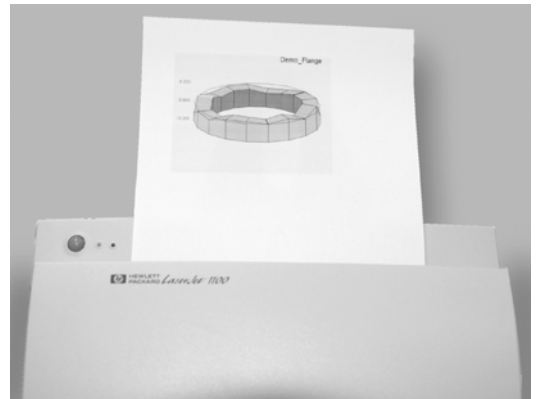
1. Under "File", choose "Print report",  
or press
2. Printout is done on your default printer.



## Print the PICTURE WINDOW

*Do this:*



1. Under "File", choose "Print picture"
2. Printout is done on your default printer.

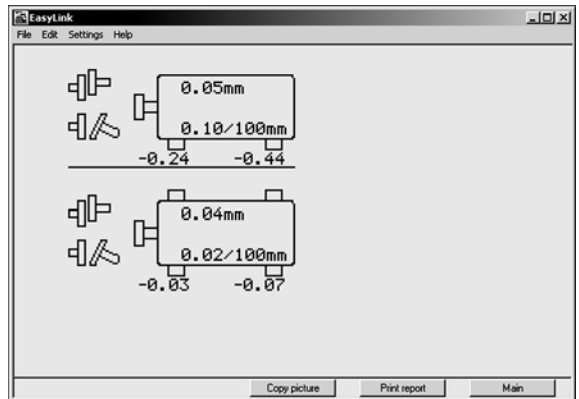


Example: Printout of the Picture Window

## Copy the screen of the Display unit directly to the EasyLink™ program

*Do this:*

1. Connect the Display unit to the PC.
2. Start the EasyLink™ program.
3. Show the display you want to copy from the Display unit.
4. Press  to go to the Main menu.
5. Press  and the display is directly copied into the EasyLink™ program, and opened in a new window.



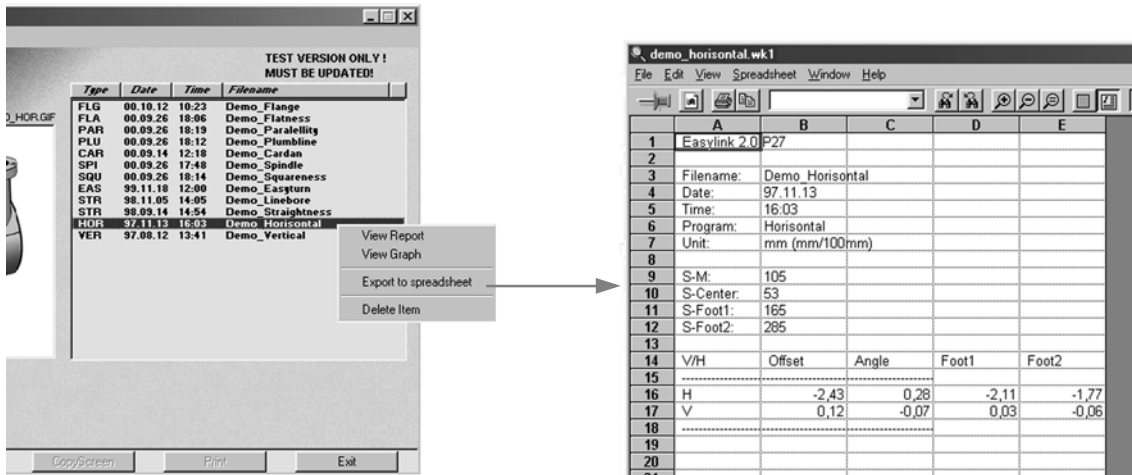
*Continued* 

# EASYLENK™ PC program for Windows

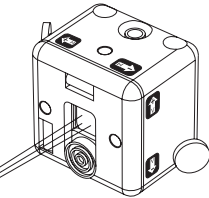
## Exporting measurement data to spreadsheet

When exporting to **MS Excel**, do this (the Excel program must be installed on your computer):

1. In the Start window, first left-click once on the measurement, then right-click it to see the pop-up menu.
2. Choose "Export to spreadsheet" in the pop-up menu.
3. Excel automatically starts and the data is exported to a new spreadsheet.



MV	23.5	MH
0.35		0.27
0.15		0.10
0.23		-1.24
5.18		0.07
Units	1	Of 2



Unstable..

1. Unstable values...

2. Press

MENU	
Unit (s) found:	02
1 Back Light	
2 Contrast	
3 Date:	1999.01.06
4 Time:	10:03
5 Auto Off Time:	30
6 Filter:	05
7 Unit:	0.01 mm
8 Print Screen	
9 Send	
0 Store	14
. Help	
Battery	L ***** H

3. Press (filter).

4. Select suitable value.

5. Press to return to measurement.

When measurement values are registering, "WAIT 5" is displayed, where the number corresponds to chosen filter value and counts down to 0. **NOTE!** Do not interrupt the laserbeam or move the detector before countdown is complete.

If the laser beam passes through air with varying temperature, this may influence the direction of the laser beam. If measurement values fluctuate, this could mean unstable readings. Try to reduce air movements between laser and detector by, for instance, moving heat sources, closing doors etc. If the readings remain unstable, increase the filter time (more samples will become available to the statistical filter). In the Main menu, choose a filter value between 1 and 30. Use as short a time as possible that still produces acceptable stability during the measurement.

Filter value 0=filter not active.

Note! Settings for filter value are not saved when the Display unit is turned off.

Note! Filter is not available for program BTA digital.

**Always ensure a good measurement environment.**

## PROGRAMMING OF THE LASERS

---

The laser transmitters **D22**, **D75** and **D146** can be programmed to minimize the consumption of electricity, and you can choose between two modulation frequencies to fit other systems than Easy-Laser®.

When the laser lights up, current modulation is shown with four blinks for 32 kHz and five blinks for 5 kHz.

Default settings for Easy-Laser® are 32 kHz modulation and no Auto-Off.

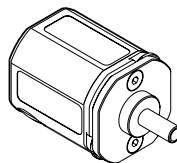
### Programming

*A. Turn the laser on by pressing the ON-button.*

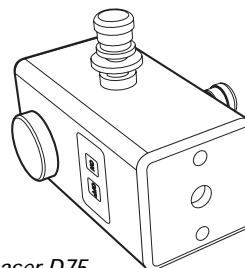
*B. Press and hold the ON-button at the same time as you press the OFF-button the number of times corresponding to the list below:*

- 0 (just press ON)      Restarts Auto-Off (if enabled)*
- 1      Disables Auto-Off*
- 2      Auto-Off after 30 minutes*
- 3      Auto-Off after 60 minutes*
- 4      Sets the modulation frequency to 32 kHz*
- 5      Sets the modulation frequency to 5 kHz*
- 6      Disables modulation*

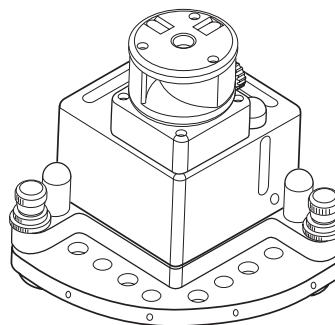
*C. When you release the ON-button the laser transmitter confirms selected function with one to six blinks according to the list above.*



*Spindle laser D146*



*Laser D75*



*Swivelling laser D22*