



Troubleshooting Manual

EasyMarker



Table of content

1	Copyright.....	4
2	Exclusion of liability	5
3	Notes on operation of PCA controller.....	6
3.1	Operation of ControlSys software to read more error messages.....	6
3.2	Trouble with communication	14
3.2.1	Embedded graphic is too large.....	14
3.2.2	Complex font is used.....	15
3.2.3	Latency timer is set in a wrong way.....	15
4	Error messages UniMark software.....	16
4.1	Home position X or Y not reached.....	16
4.1.1	One axis doesn't move or both axes don't move respectively.....	17
4.1.2	The controller doesn't receive a signal from the sensor.....	17
4.2	Reset start signal.....	18
4.3	The marking area is exceeded	18
5	Error messages in the Signumeric software	20
5.1	System not ready	20
5.1.1	The controller is not switched on or has not booted	20
5.1.2	Problems with the interface.....	20
5.2	Invalid port number	20
5.3	No access to HPGL file.....	26
5.4	No access to font-file.....	26
5.5	Reading the old path.....	27
6	The type face is not alright.....	28
6.1	Pneumatic stylus for dot peen marking.....	28
6.1.1	Irregular marking.....	28
6.1.2	Marking depth is not alright.....	29
6.1.3	The lines are permanent	29
6.1.4	The marking is wiggly.....	29
6.1.5	Stylus not moving.....	29
6.2	Electric marking head for dot peen marking.....	30
6.2.1	Irregular marking.....	30
6.2.2	Marking depth is not alright.....	31
6.2.3	The lines are permanent	31
6.2.4	The marking is wiggly.....	31
6.2.5	Stylus not moving.....	31
7	Marking with EasyRot80	32
7.1	Unimark software.....	32
7.1.1	Setup a layout	32
7.1.2	Problems with the marking	34
7.2	Signumeric software.....	34
7.2.1	Setup a layout.....	34
8	Problems by moving the axis	39
8.1	Both axes don't move.....	39
8.1.1	With Signumeric software.....	39
8.1.2	With Unimark software.....	39
8.2	One axis doesn't move	40
8.3	One axis mismatches the position.....	40

8.4	Both axes position in the wrong way	40
8.5	Preventive maintenance.....	40
8.5.1	Every week.....	40
8.5.2	Every quarter	40
8.5.3	Every year	40
9	Replacement of wearing parts	41
9.1	Adjustment of the linear guide	41
9.2	Adjusting of X-axis	42
9.3	Replacing of ball bearings.....	43
9.3.1	Ball bearing X	44
9.3.2	Ball bearing Y	46
9.4	Replacement of a stepper motor	47
10	Notes.....	52
10.1	Notes on how to improve quality of marking	52
10.1.1	General	52
10.1.2	Pneumatic marking head for dot peen marking	52
10.1.3	Electrical marking head for dot peen marking	52
10.2	Notes on how to increase marking speed	53
10.3	Optimizing a graphic.....	54
10.3.1	Converting a TT font into Signumeric font.....	55
10.4	Unitest programme	55
10.4.1	Open the Unitest programme	55
10.4.2	Change language	55
10.4.3	Select I/O Byte	56
10.4.4	Set or reset the Outputs	56
10.4.5	Test the Sensors.....	57
11	Overview of the tool board.....	58
12	E/A Platine EM-Parallel Version 1 Seriennummer 7000-	59
13	E/A Platine EM-Parallel Version 2 7020-	60
14	Flowchart of a standard programme with Unimark	61

1 Copyright

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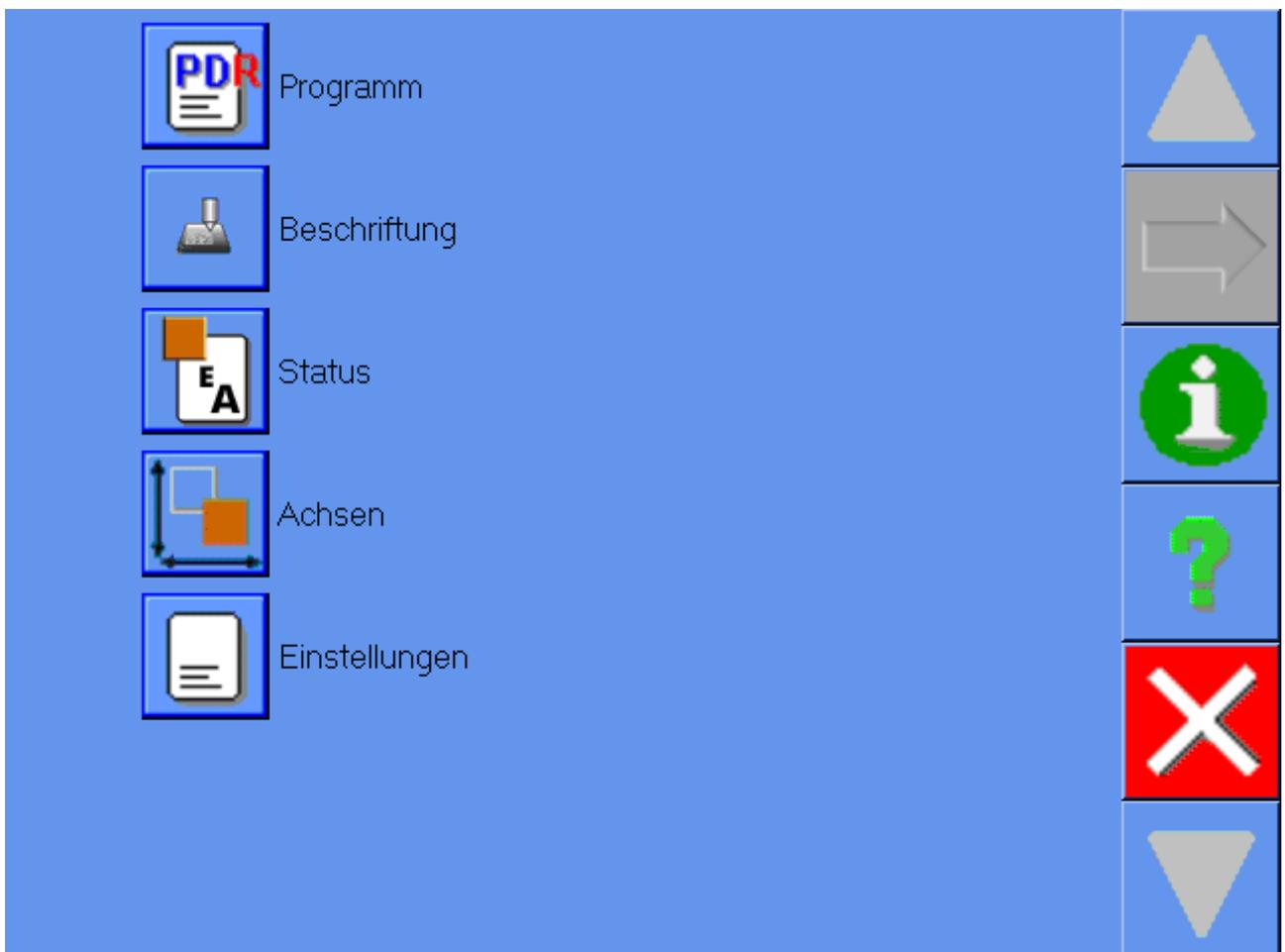
Despite all care we cannot exclude any kind of errors and/or errors in printing.

We would highly appreciate it if you helped us to improve this manual. So in case you notice an error or can suggest an improvement to this manual, please contact us.

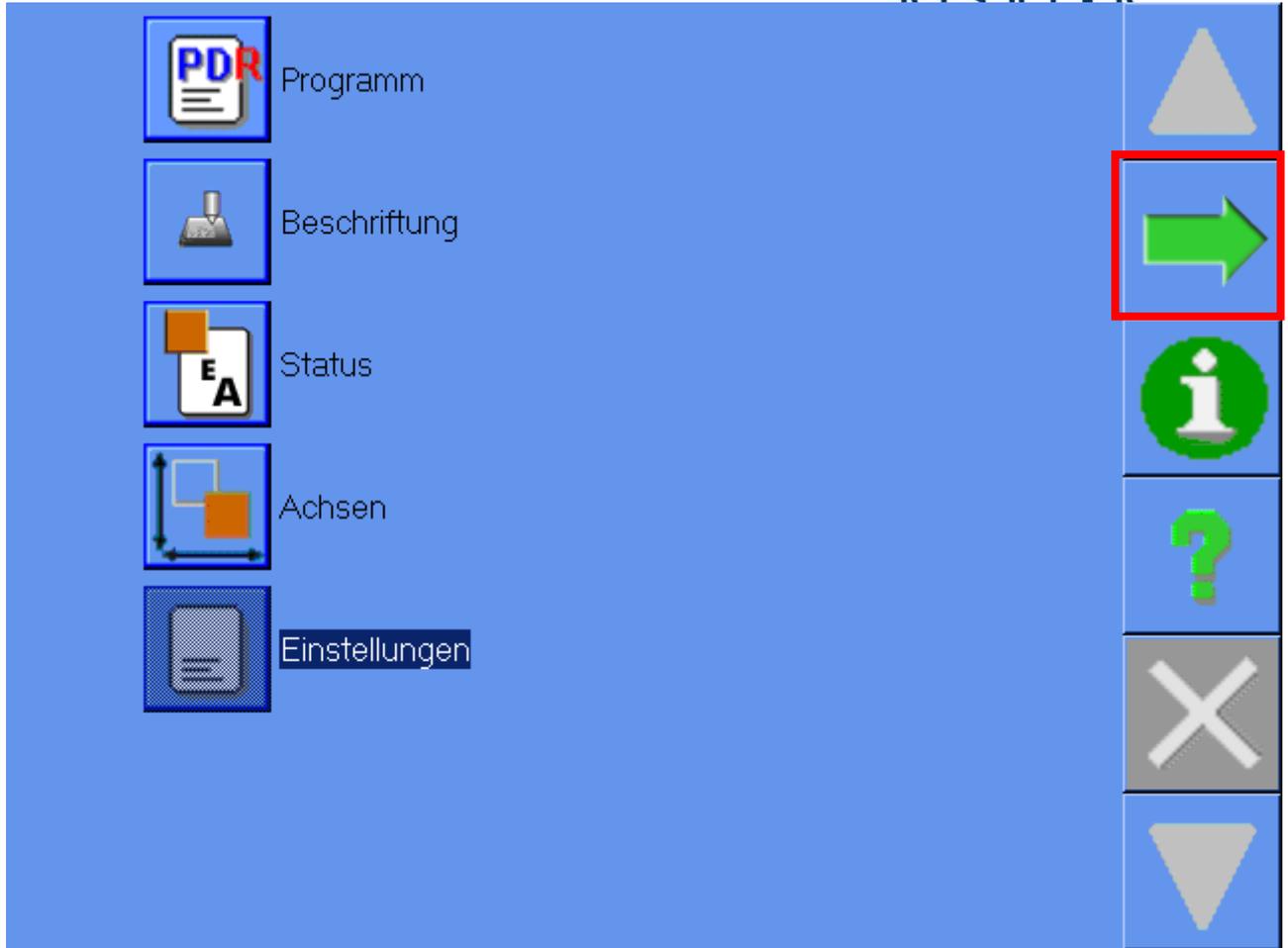
3 Notes on operation of PCA controller

There are Signumeric and ControlSys software installed on the controller. Advanced error messages can be read with the software ControlSys. During booting of PCA controller the software ControlSys will be opened first. This software initializes the hardware. After the process has been executed, the software is automatically closed and Signumeric software will be opened. In order to read more error messages the ControlSys software must be switched.

3.1 Operation of ControlSys software to read more error messages



Restart the PCA controller. The programme ControlSys is automatically started by Autostart. The programme initializes the hardware and after that it will be automatically closed again. As soon as the programme has been opened, the button “Settings” has to be activated and then confirmed by the green arrow icon. This must have been effected before the software is automatically closed.



After confirming your selection by pushing the error icon, the settings window opens up. Select the point "View design selection" in the settings. Also confirm this with the green arrow icon.

Einstellungen

Bezeichnung
Darstellungsauswahl
Sprache
Maschinenauswahl
Drehachse
Achse Z
Werkzeug
Steuerung
Benutzer
Multiboard
Controller
Profibus
TCP/IP
CAN
Programmauswahl
RS232
Kamera

Wert	Name
Signumeric	Darstellungsauswahl
100000	Anzeigebereichgrosse X [m...
100000	Anzeigebereichgrosse Y [m...

Wert	Name
Signumeric	Darstellungsauswahl
100000	Anzeigebereichgrosse X [m...
100000	Anzeigebereichgrosse Y [m...

The view design selection is set in Signumeric when operating a PCA controller with Signumeric software. Choose the line „Signumeric“ and confirm your selection via the green arrow icon.

Darstellungsauswahl

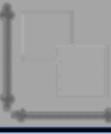
UniTouch

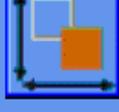
UniTouch

Signumeric

UniWin

Select „UniTouch“ in the ComboBox. Confirm your selection with the icon OK check.

Wert	Name		
UniTouch	Darstellungsauswahl		
100000	Anzeigebereichgrosse X [m...		
100000	Anzeigebereichgrosse Y [m...		
<p>Exit the menu via the green arrow backwards icon.</p>			
			
			

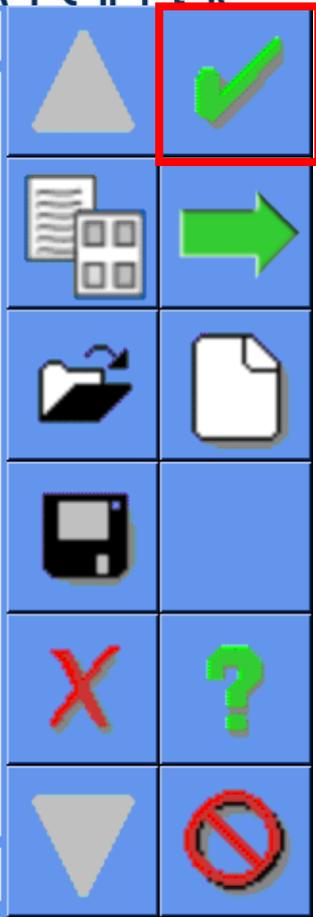
 Programm	
 Beschriftung	
 Status	
 Achsen	
 Einstellungen	
<p>Open a programme. Select the icon „Programme“ and confirm your selection with the green arrow forward icon.</p>	
	

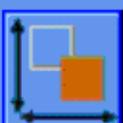
TEST.pdr

Name	Datum
 TEST.pdr	16.10.20...

A list of existing programmes appears. Select one programme (PDR-file) and confirm your selection with the green OK check.

TEST.pdr *.PDR



 Programm	
 Beschriftung	
 Status	
 Achsen	
 Einstellungen	
	

The main menu appears. Select the „Marking“ icon and activate your selection via the green arrow forward icon.

TEST.pdr

Wert	Name
100	Vp Positionierungsgeschwindigkeit ...
100	Vb Bearbeitungsgeschwindigkeit [%]
100	Ve Eilgangsgeschwindigkeit [%]
100	Vr Referenzgeschwindigkeit [%]
15	Zeit Ein [ms]
Kein	Werkzeugtyp
0	Anzahl der Schilder

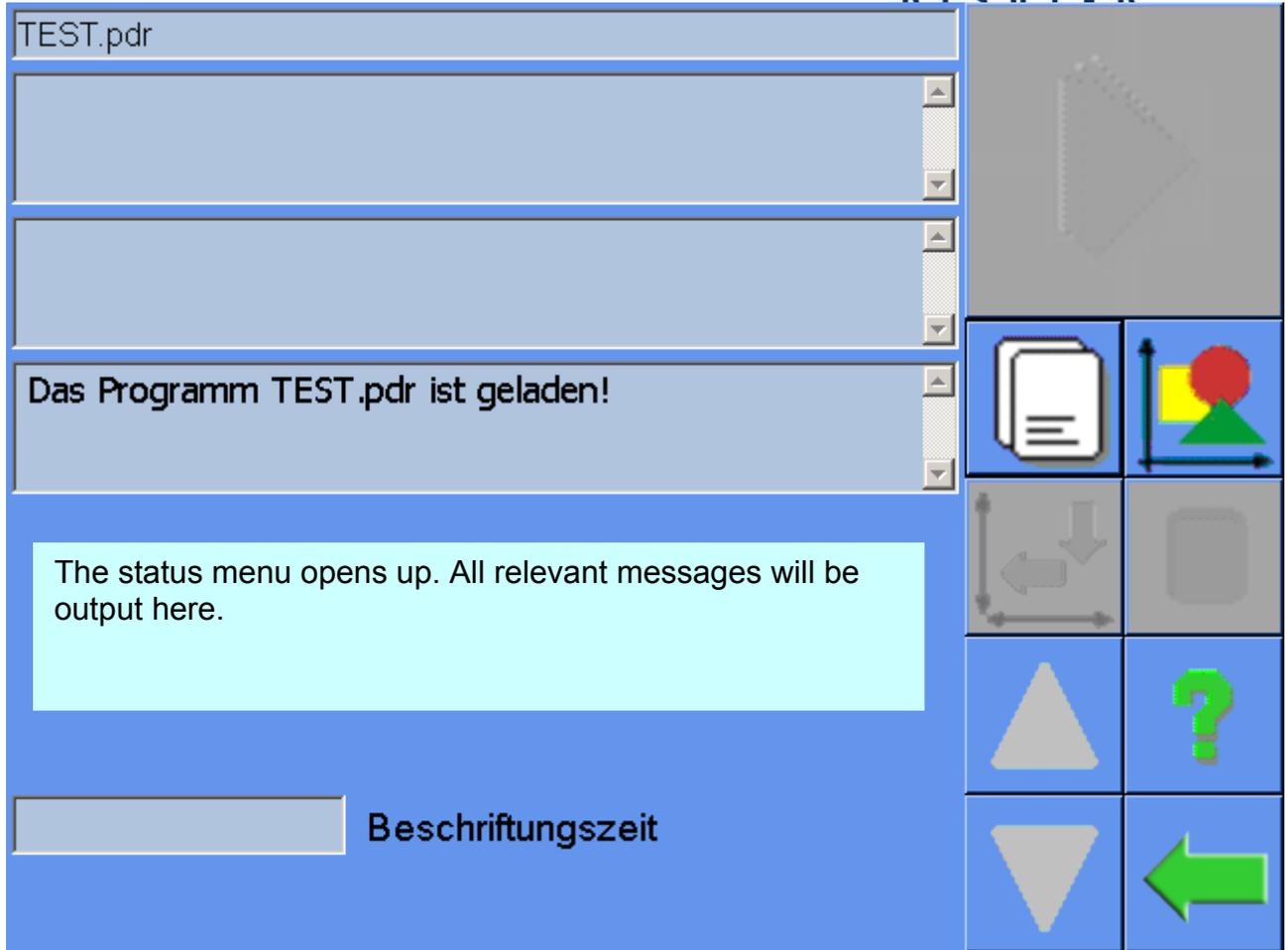
Activate the icon „Change view“ now (2 pages icon).

TEST.pdr

Das Programm TEST.pdr ist geladen!

The status menu opens up. All relevant messages will be output here.

Beschriftungszeit



The image shows a software interface with a blue background. At the top, there is a dotted line and the text 'R RICHTER'. Below this, there are several horizontal panels. The first panel contains the text 'TEST.pdr'. The second panel is empty. The third panel contains the text 'Das Programm TEST.pdr ist geladen!'. Below these panels is a larger blue area containing a light blue box with the text 'The status menu opens up. All relevant messages will be output here.' At the bottom left of this area is a grey box labeled 'Beschriftungszeit'. On the right side of the interface, there is a vertical toolbar with several icons: a document icon, a zoom icon, a navigation icon, a question mark icon, and a back arrow icon.

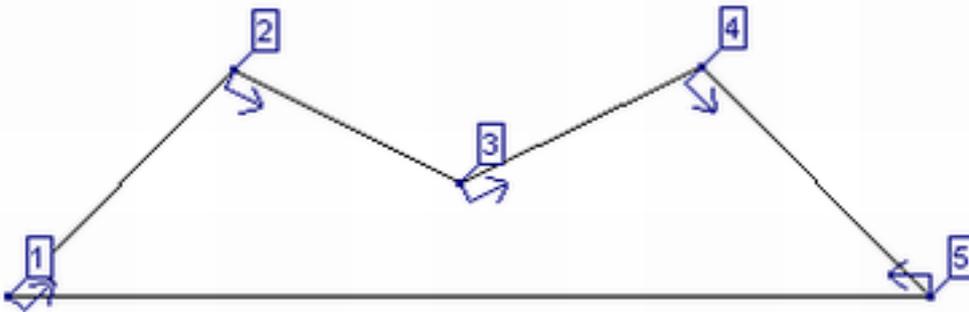
3.2 Trouble with communication

In the event of the communication being too slow or cancelling, this might be caused by the following:

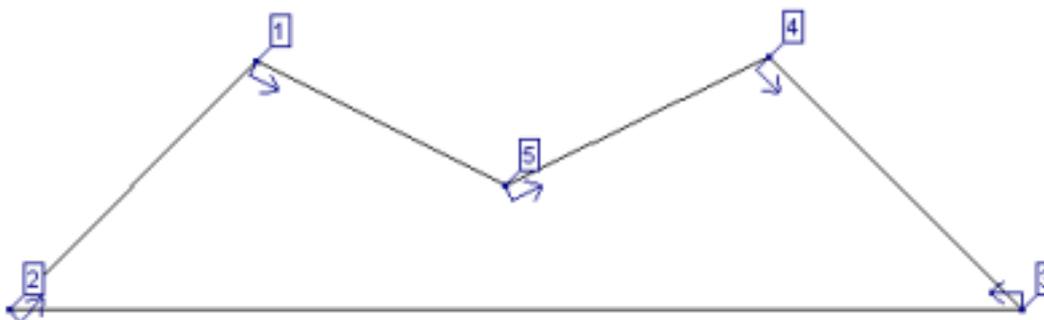
3.2.1 Embedded graphic is too large

A graphic may be created in each vector-based drawing programme (e.g. Corel Draw, Auto CAD). In order to integrate this graphic into a marking layout, it must be saved in HPGL format (plt). Many programmes enable this export feature. In case your programme is not supporting this format, it can also be saved as DXF file (R12). There is a DXF/PLT converter integrated into the Signumeric software. The graphic can be converted with this integrated converter.

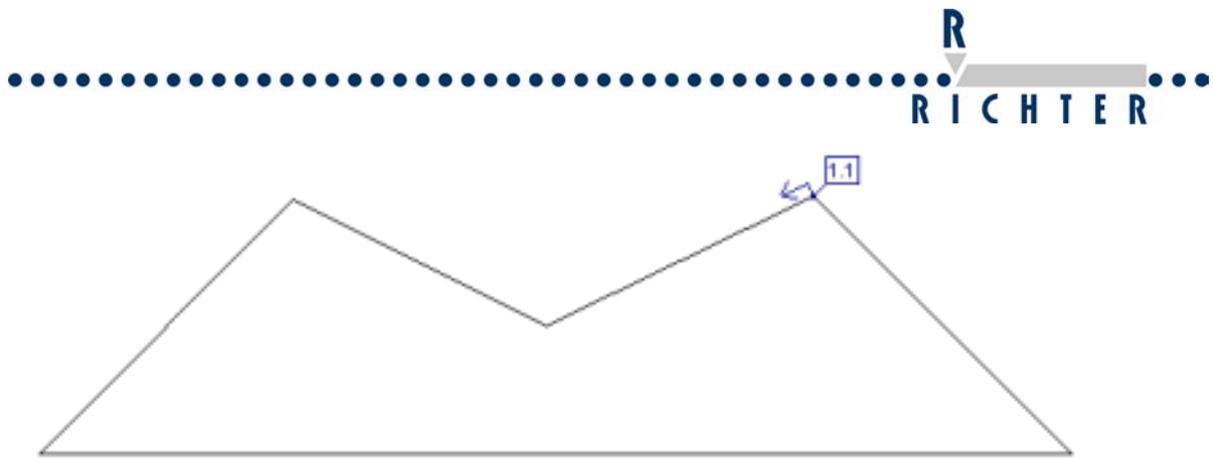
During creation of graphic the sequence of objects must be considered. The lines should be drawn as complete lines. After completion of every vector, the stylus of the marking system will be lifted and does not touch the workpiece anymore.



Object sequence and direction can be displayed and modified in almost every graphic programme. In order to optimized the cycle time of the marking, the vectors need to be consolidated. Please see the picture below.



For some drawn lines it is possible to generate. See the picture below. It is advantageous that no PU (PinUp) or PD (PinDown) commands are being sent. This even saves some cycle time.



If a graphic consists of splines or complex Bezier curves, those will be treated as a row of vectors. On request we are able to optimize your graphics.

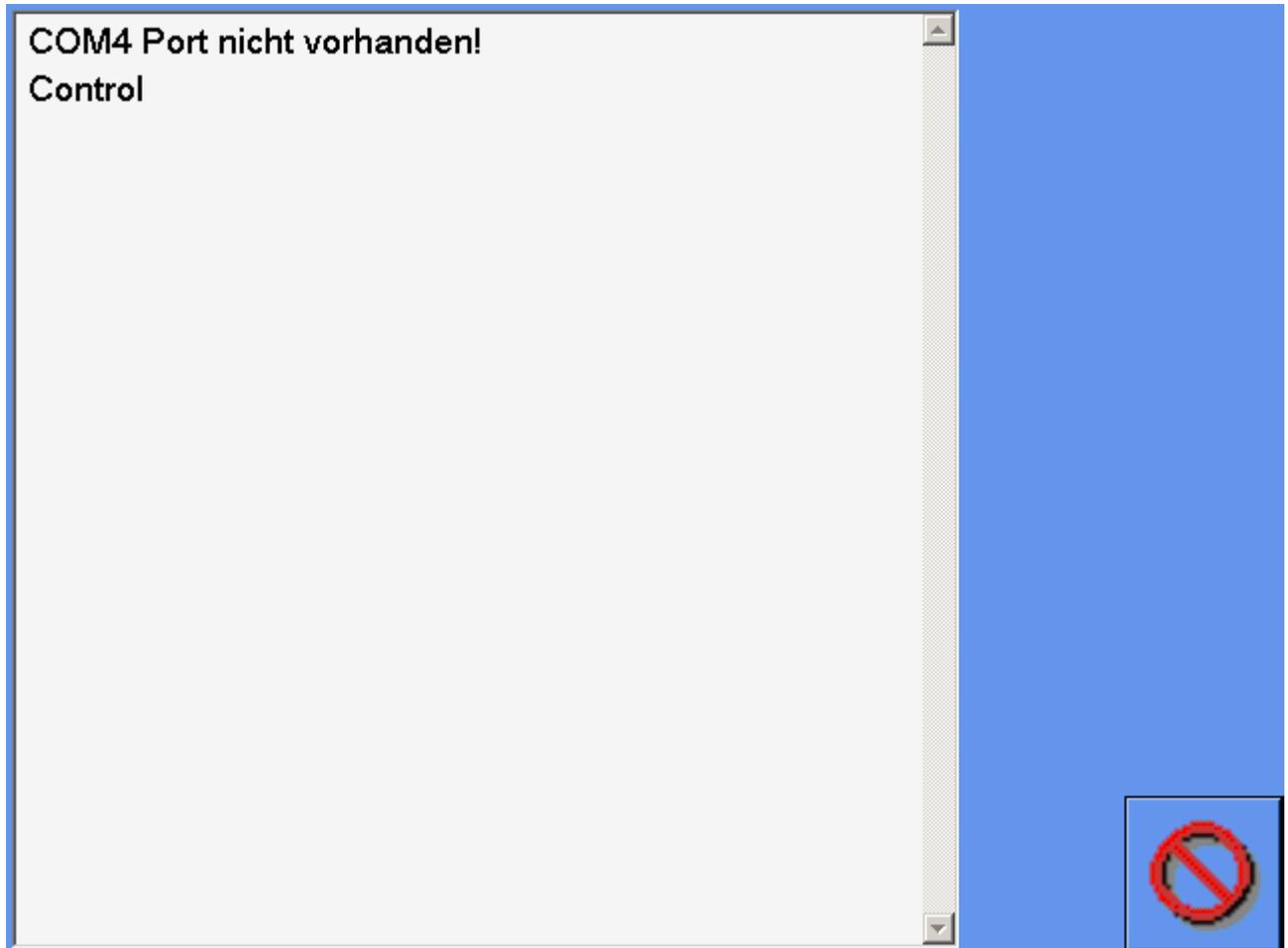
3.2.2 Complex font is used

If a graphic consists of splines or complex Bezier curves, those will be treated as a row of vectors. This may lead to a delay in communication. Please use a simple font.

3.2.3 Latency timer is set in a wrong way

See operating manual of latency timer.

3.2.4 MessageControlSys COM3 or COM4 is not available



COM3 and COM4 are virtual USB – Ports (USB).
 Please open the control Panel and check if the ports are adjusted correctly.
 In case the Portnumber is wrong, please adjust them to COM 3 and COM 4 .

4 Error messages UniMark software

Please note that the messages coming up refer to the error occurring.

Example: “Z-axis in home position”

The software is waiting, that the z-axis is travelling to its home position. (Sensor home position is not active)

4.1 Home position X or Y not reached

Brief explanation: The respective sensor is not active. This may be caused due to the following 2 reasons:

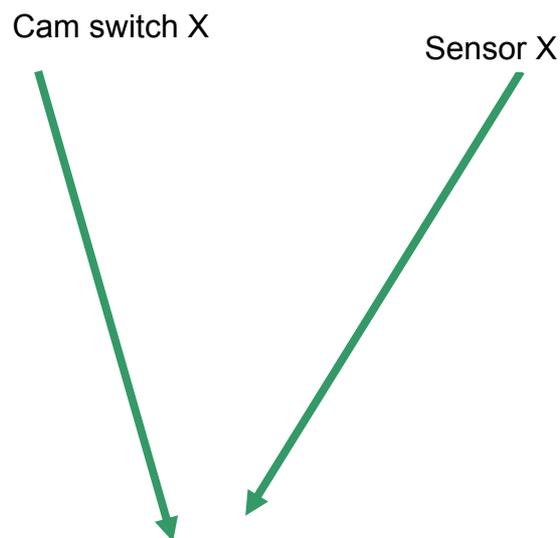
4.1.1 One axis doesn't move or both axes don't move respectively.

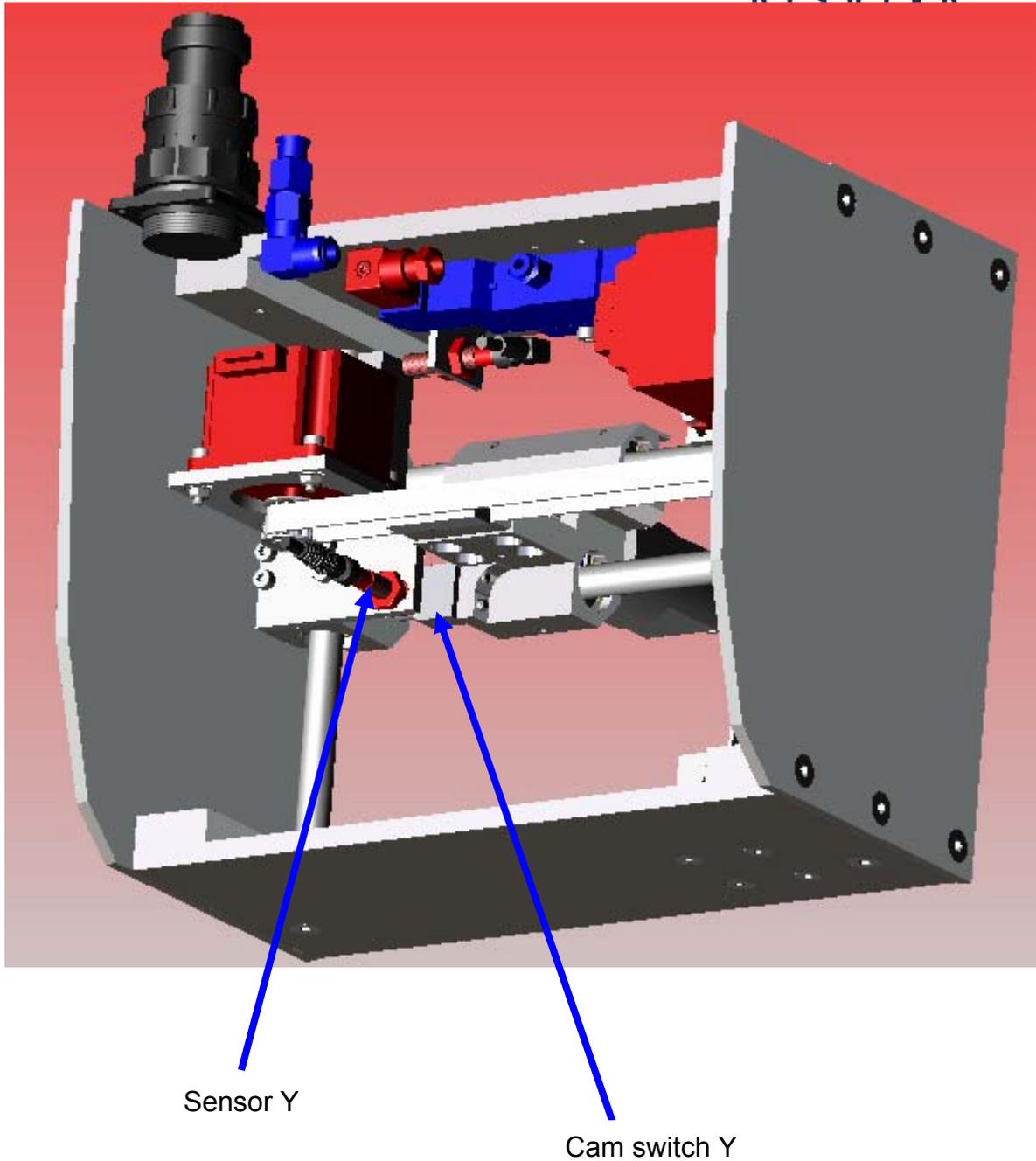
Please look chapter 8.2

4.1.2 The controller doesn't receive a signal from the sensor

Possible reasons:

- The sensor is broken
- The signal wire of the sensor cable has got a cable break.
- The cam switch has not been adjusted correctly so the maximum traverse path has been reached before the sensor switches.
- There is a failure in the power supply of the sensor. (e.g. a cable break, fuse is burnt through ,24V power supply is interrupted)
- The opto-coupler of the I/O board is faulty
- No connection between I/O board, connecting cable of machine and controller.
- Cable break of the connecting cable of machine (connection of controller to EasyMarker).
- • The permissible operating distance between sensor and cam switch has been exceeded. Adjust the sensor in such a way that the distance is less than 0,5mm. (See picture below).





4.2 Reset start signal

Brief explanation: The cycle has been interrupted.

Please reset the start signal (E4)

Only machines for automation (EM 200 – 400)

4.3 The marking area is exceeded



Brief explanation: The marking is out of the traverse range.

Please correct the marking position in teach in mode.

5 Error messages in the Signumeric software

5.1 System not ready

Brief explanation: There is no connection from PC to the controller.

5.1.1 The controller is not switched on or has not booted

Possible reasons:

- The controller is not switched on or has not booted. Please connect a monitor at the controller to check if the controller has booted. If the controller has booted correctly the message “Programme is in LCD Mode” will be displayed on the monitor.

5.1.2 Problems with the interface

- Ensure that the serial cable is connected correctly
- Ensure that the bios settings at the controller are correct. If the bios battery is empty the controller will load the default.
- The serial interface cable is not connected from PC to Com1 at the EM Controller. Please check the connection.
- A wrong serial cable is used. Please use one with the following connections

9pol. jack	1	7	2	3	4	6/ 8	5	9
9pol. jack	7	1	3	2	6/ 8	4	5	9

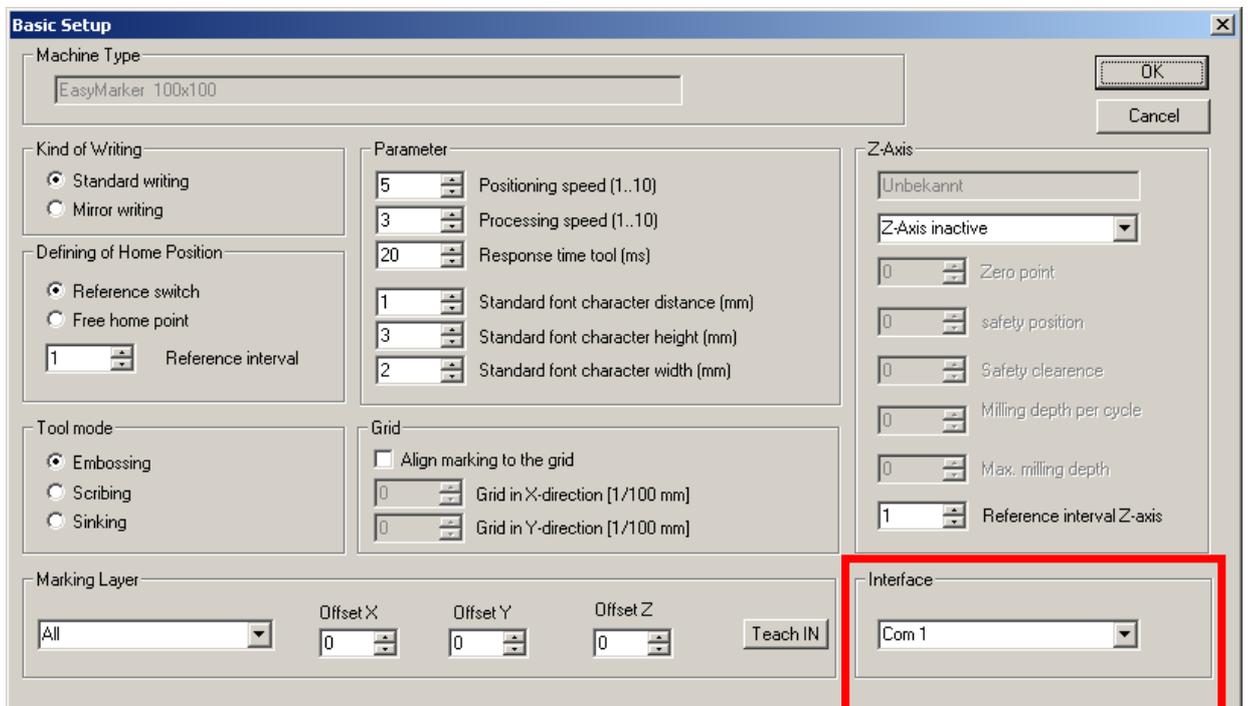
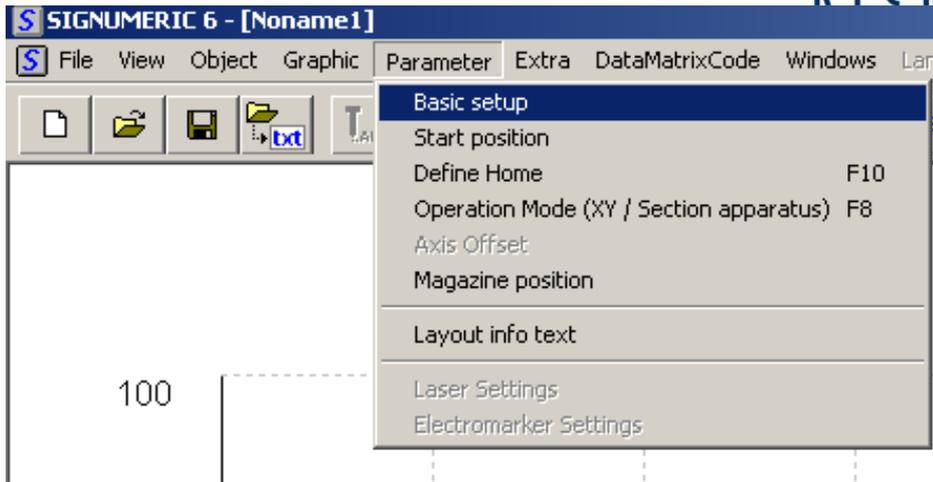
- In case a USB/serial converter is used, the converter may cause the problem. Some converters are incompatible to the settings of the controller.

5.2 Invalid port number

Brief explanation: The port number in the software doesn't correspond to the connected port.

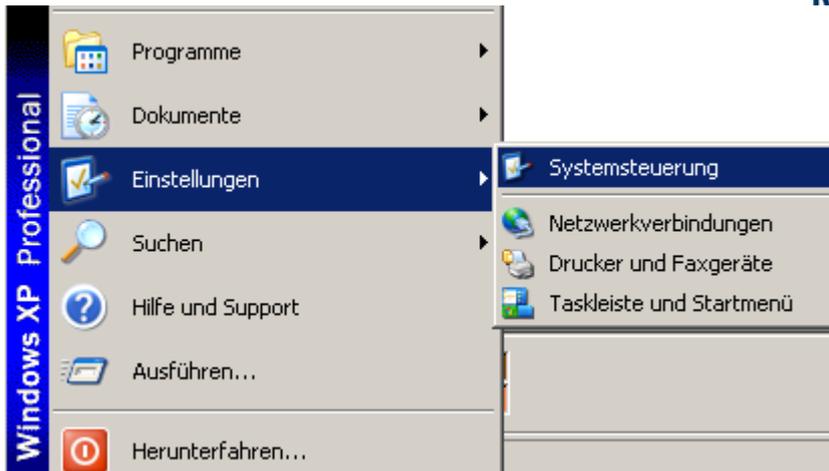
Suggestion: Please adjust the port number in the Signumeric software. In order to adjust it, choose parameter / basic setup/port.

Please change the port number in the Signumeric Software or control panel.



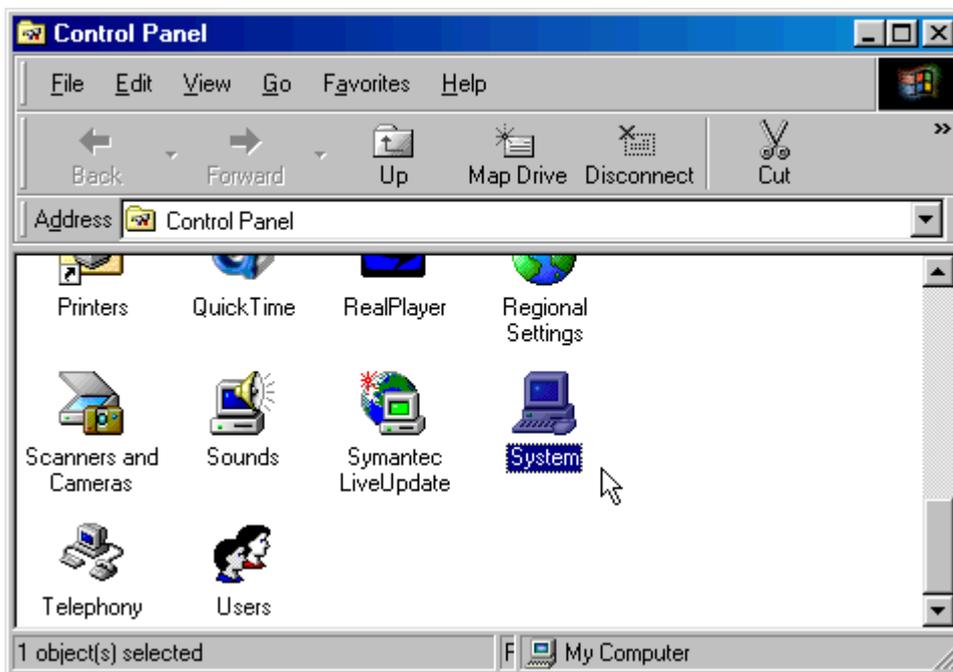
Illustr. 1 Basic setup

It is also possible to adjust the port number in the control panel. In order to do that, please open the control panel.

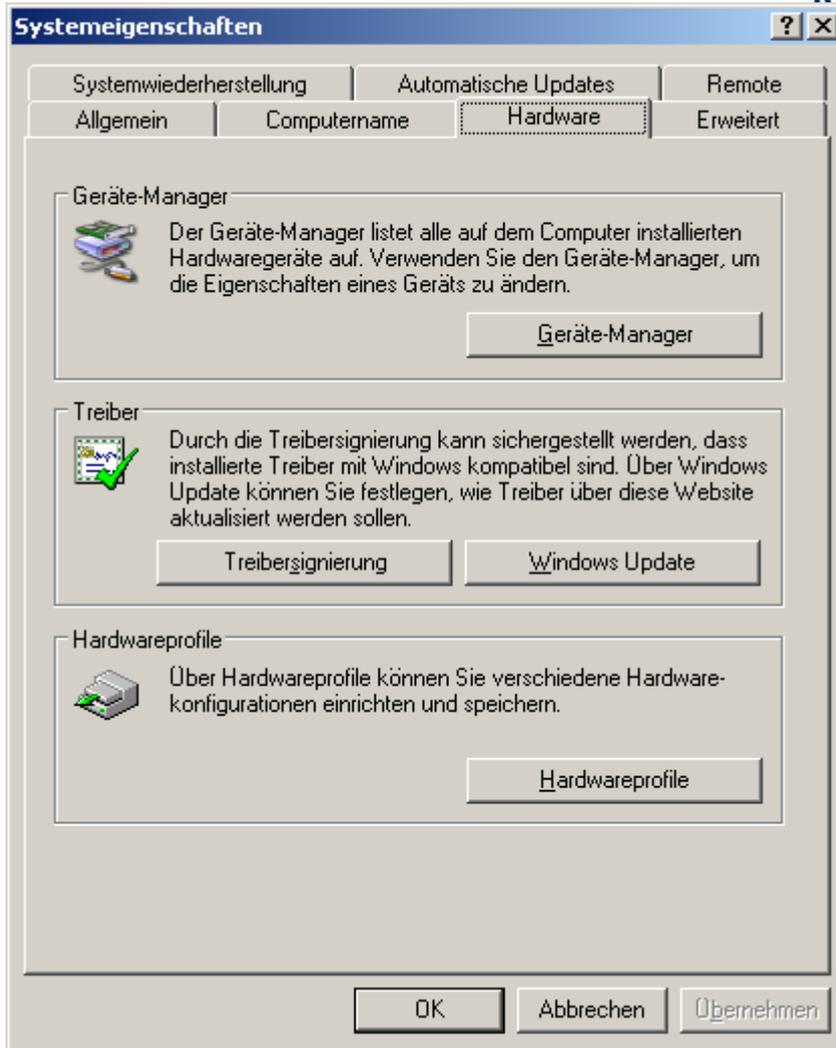


Illustr. 2 Opening the Control Panel

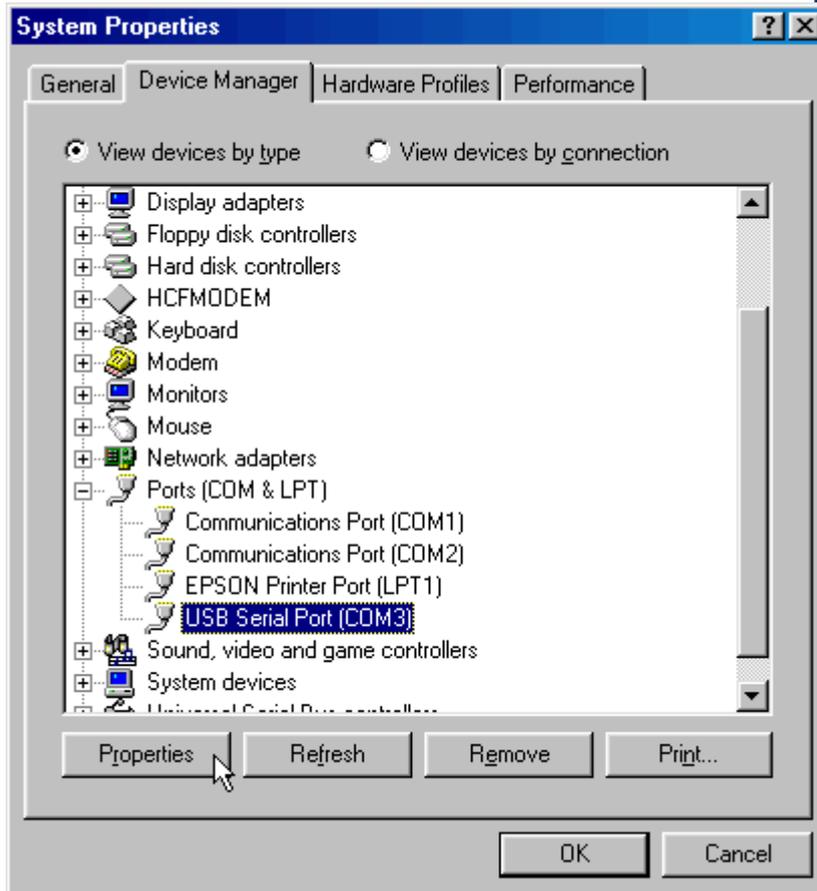
Select the menu point "System".



Illustr. 3 Control panel

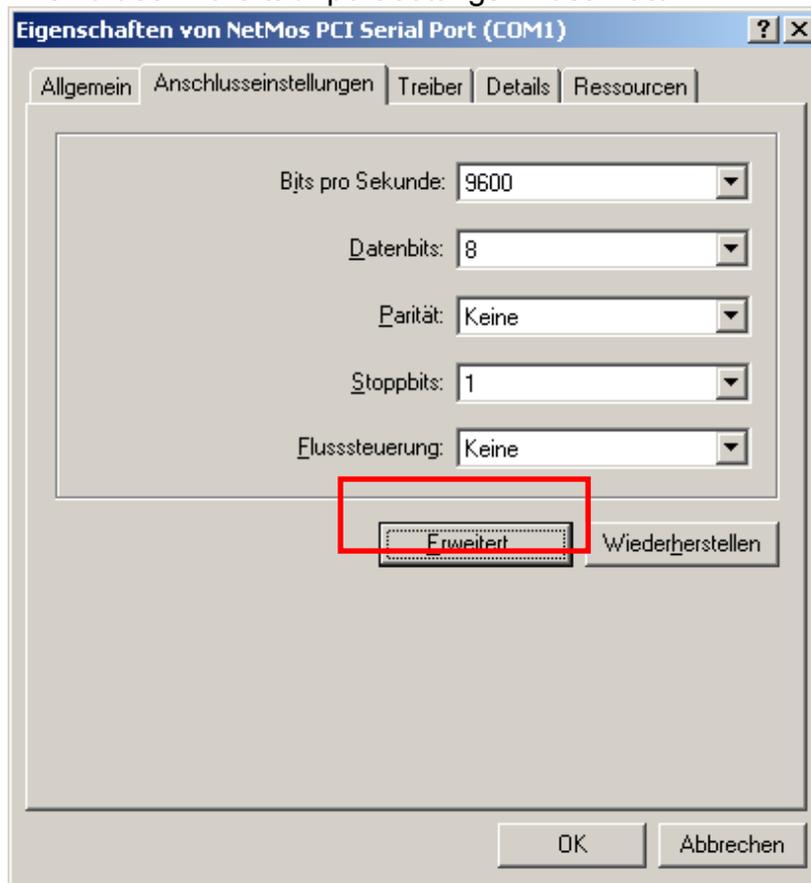


Illustr. 4 System properties



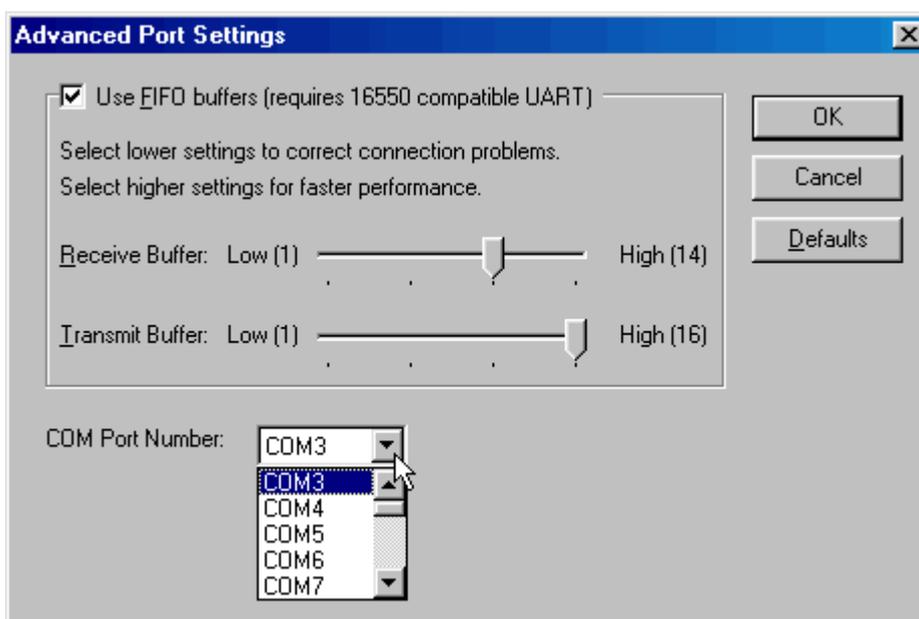
Illustr. 5 Device manager

The values in the tab “port settings” must match.



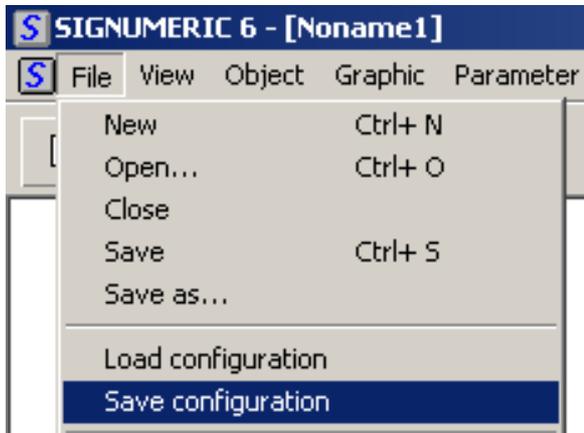
Illustr. 6 Properties of COM1

By pushing the button “Advanced”, the advanced settings will be displayed. In the advanced port settings page, there is a drop down menu that enables a change of the COM port number.



Illustr. 7 Change of COM number

The port number in Signumeric and in the control panel (connected port) have to match. In the event of the port number being changed in the Signumeric software, the settings must be saved.



Illustr. 8 Save configuration

5.3 No access to HPGL file

Brief explanation:

The imported graphic does not exist in the current directory anymore.

The graphic is no longer in the path out of which it was imported. Signumeric software does not store the graphic in the layout. It just links it. Due to this reason the graphic has to stay in the path out of which it was imported.

In order to solve this problem, please copy the graphic into the folder out of which it was imported or import the graphic out of the recent path again.

5.4 No access to font-file.

The font is no longer in the path out of which it was imported. Signumeric software does not store the font in the layout. It just links it. Due to this reason the font must stay in the path out of which it was linked.

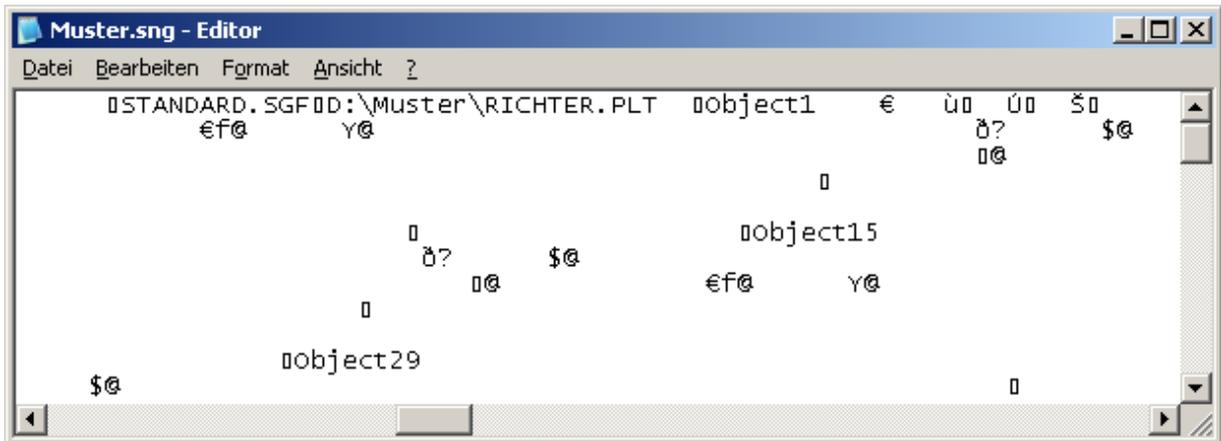
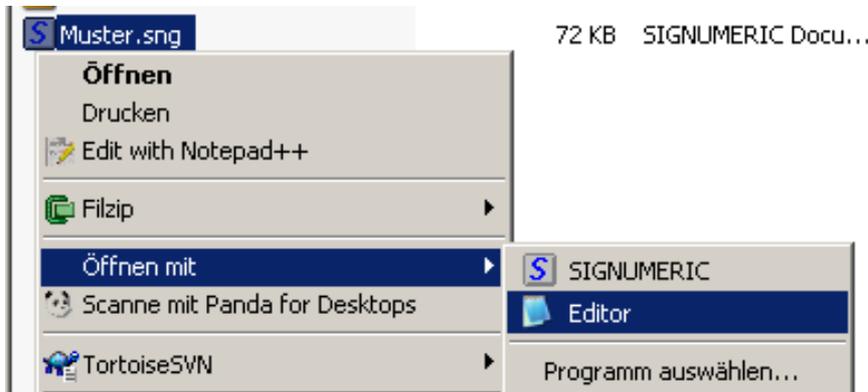
In order to solve this problem please copy the font into the folder out of which it was linked or link the font of the recent path.

From version 6.98

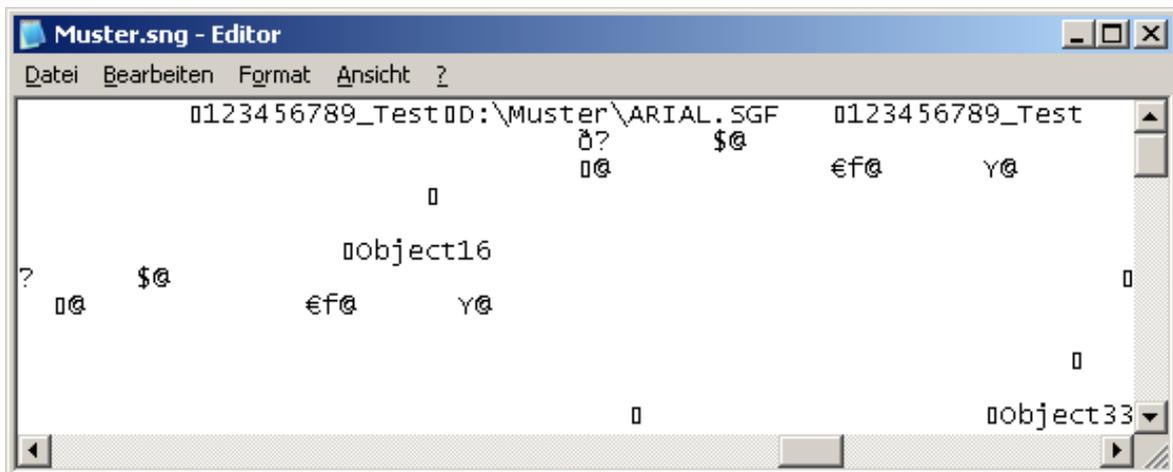
In case that Signumeric can not find the selected text font it will automatically use the default text font.

5.5 Reading the old path

It is possible to read the path of the graphic or font in the Signumeric layout. You have to open the layout with the editor in order to do this.



The paths and the imported font are visible. This information will be separately saved for each object in the layout. The picture above shows object 1, the picture below object 2 which is a text..



After reading the paths you can copy the font files and graphics into the path.

6 The type face is not alright

6.1 Pneumatic stylus for dot peen marking

Please note: Use only dry compressed air.

The most problems are caused by a dirty stylus guiding. Please de-assemble the stylus and clean the stylus and the case without lubricating.

Most problems are caused by a dirty guiding of the pestle case. Please clean the pestle case. No strong detergents may be used for cleaning, they can damage the O-ring.

6.1.1 Irregular marking

Suggestions:

- Ensure the guiding is clean.
- Ensure the O-ring is clean and dry. It may not show any cracks or damages.
- Check the air pressure (2-5 bar)
- Check the distance between stylus tip and workpiece. (2-5mm)
- Ensure that the workpiece is put on an even surface in front of the marking machine. Check if the workpiece is clamped tightly. It may not be clamped diagonally, as otherwise the distance to the marking stylus is changing as well as the marking result.
- Check the spring. Is the spring OK and not too weak?
- Ensure that the pneumatic hose doesn't bend too much and the air supply is working.
- Check if marking stylus can be easily moved in the pestle case.
- Check the tip of the marking stylus.

Hint: You can check the correct function of the stylus. Please adjust the column up so the stylus can move freely. Now switch on the stylus.

In Signumeric software: Choose parameter/ define home. Now press the button on and the stylus starts to move permanently. It is possible to check now if the stylus swings correctly.

In Unimark software: choose manual mode and then press **End** to switch on the stylus and **Home** to switch it off.

6.1.2 Marking depth is not alright

Suggestion:

- Check air pressure. Kontrollieren Sie die Druckeinstellung des Druckregelventils (2-5 bar)
- Check distance between the stylus tip and the workpiece. Short distance causes a deep marking. Long distance causes a weak marking.
- Change the stylus e.g. heavy pen for light pen
- Kontrollieren Sie ob sich der Prägestift im Gehäuse leicht bewegen lässt.
- Kontrollieren Sie die Spitze der Prägenadel.

6.1.3 The lines are permanent

- Please check the distance between the stylus tip and the workpiece. Ensure that the distance is not too close.
- Check the valve of the marking head.
- Check the spring of the stylus. Ensure it is not damaged and the spring is not too weak.
- Check if marking stylus is stuck in the guiding of the pestle case.

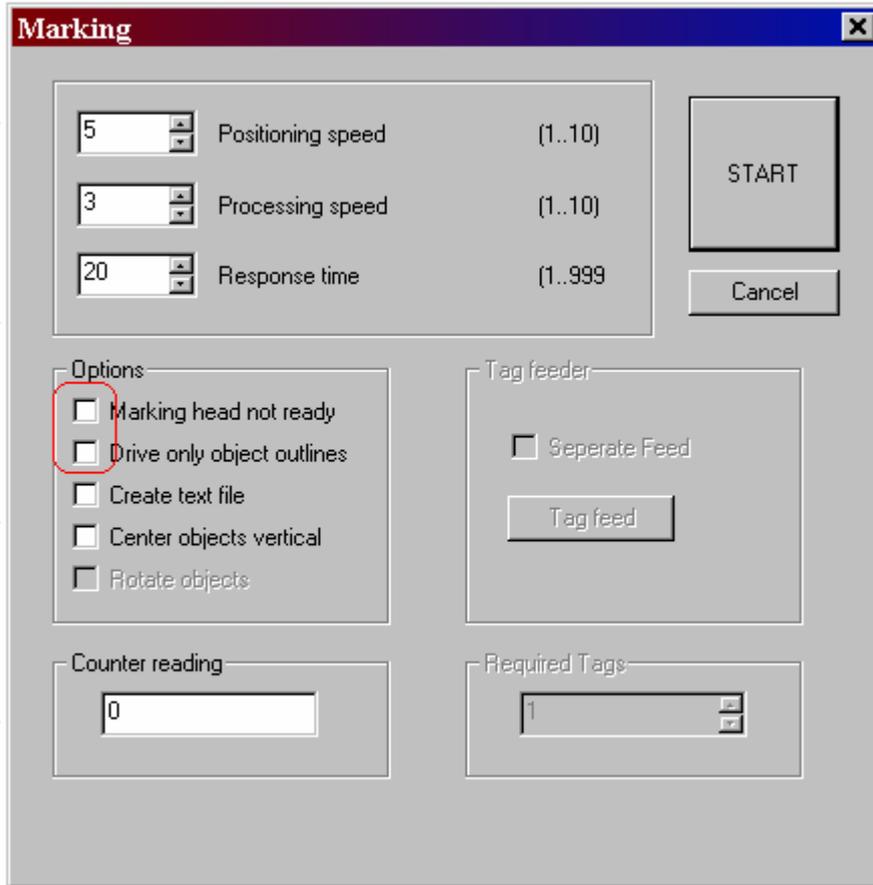
6.1.4 The marking is wiggly

Suggestion:

- Decrease the traverse and the positioning speed in the software. Je höher die Geschwindigkeit, desto geringer ist die Qualität des Schriftbildes.
- Check if the stylus guiding is clearance-free.
- Check if the axes from EasyMarker are clearance-free.
- Check if the workpiece is not loose.

6.1.5 Stylus not moving

- In the Signumeric software please make sure that there is no check in the field file/markings/markings head not ready or drive only objects lines.



- Ensure that the stylus is moving smoothly.
- Check the valve of the marking head.
- Check the compressed air supply.

6.2 Electric marking head for dot peen marking

6.2.1 Irregular marking

Suggestions:

- Clean the guiding of the pestle case.
- Check the distance between stylus tip and workpiece. (2-5mm)
- Ensure that the workpiece on an even surface in front of the marking machine.
- Check the spring. Is the spring OK and not too weak?
- Check the settings of the electric marking head. In Signumeric choose parameter/electrical head. In UniMark software main menu/F8/Arrow Key down/electric head.
- Check the peak of the stylus and ensure that the tip is alright

Hint: You can check the correct function of the stylus. Please adjust the column up so the stylus can move freely. Now switch on the stylus.

In Signumeric software: Choose parameter/ define home. Now press the button on and the stylus starts to move permanently. Now it is possible to check if the stylus is smoothly running.

In Unimark software: choose manual mode and then press **End** to switch on the stylus and **Home** to switch it off.

6.2.2 Marking depth is not alright

Suggestion:

- Check if the stylus moves smoothly.
- Check the tip of the stylus. Ensure that the tip is not damaged.
- Ensure that the frequency of the settings is not too high or the power is not too low.
- Ensure that the distance between the workpiece and the stylus tip is not too close.
- Ensure that the workpiece doesn't swing and if it is a metal name plate that it is fixed on an even surface.

6.2.3 The lines are permanent

- Please check the distance between the stylus tip and the workpiece. Ensure that the distance is not too close.
- Check if the stylus moves in smoothly.
- Check the spring of the stylus. Ensure it is not damaged and the spring is not too weak.

6.2.4 The marking is wiggly

Suggestion:

- Decrease the traverse and the positioning speed in the software.
- Check if the axes from EasyMarker are clearance-free.
- Check if the workpiece is not loose.
- Check that the guide of the stylus is clearance-free

6.2.5 Stylus not moving

- In order to control the switch at the SM/UC is in the position scratching or dot-peen and not in the central position. (Not necessary by EasyMarker with EM-Controller)
- Please check the 6,3 A fuse at the rear side of the controller
- Check the settings of the electric marking head (depth and frequency). The higher the frequency has been set, the larger the depth is.

7 Marking with EasyRot80

7.1 Unimark software

7.1.1 Setup a layout

```
Programme selection
Manual mode
Marking
On-line mode
```

Please choose programme selection and press the Enter Key.

```
NONAME.PRG →
```

Now press the F5 Key

```
[ .PRG]
```

Type the name of your programme and press Enter.

Hint :the maximum length of the programme name should not be more than 9 characters.

```
[EXAMPLE .PRG] →
```

Press Enter.

```
Object selection
```

Text
Date
Incrementing number
Incremt. gl. number

Now select the kind of object you want to mark.
Hint: With the arrow down key you can choose the type of object.
 If the cursor is on the type of object you like to mark, press Enter.
 We choose a text object as an example in this manual.

EXAMPLE TEXT

Type in the text and press F6.

XY

Now keep the arrow key pressed until the word Rotator is displayed.

Rotor
Xp 0
Yp 0
Diameter

Now press ALT + the Arrow keys. That way you can define the start position.

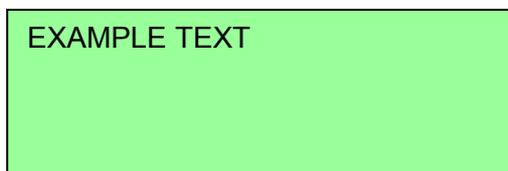
Declaration of the values:
 Xp Start position of the X Axis.
 Yp Start position of the Y axis. This is the middle of the bar you want to mark.
 Diameter is the diameter of the bar you would like to mark.
 After completing the settings, please press F2 to save them.
 Afterwards press Enter to return to the text.

EXAMPLE TEXT

Now press Enter

Ap0	Select N
Yp 0	Ang 0
H 3	Horiz.
W 2	Rad 0
...	

With Alt + the Arrow Keys you are able to teach in the position of the marking.
Hint: The position X will be added to the position X which you have defined yet. The position Y is the rotator axis now.
 The explanations of the other values are a part of the Unimark software manual.
 After finishing please press Enter and then press F2 to mark.



With F3 you can start the marking now.

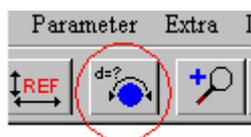
7.1.2 Problems with the marking

- If the font is anti-proportional please check the diameter you have entered.

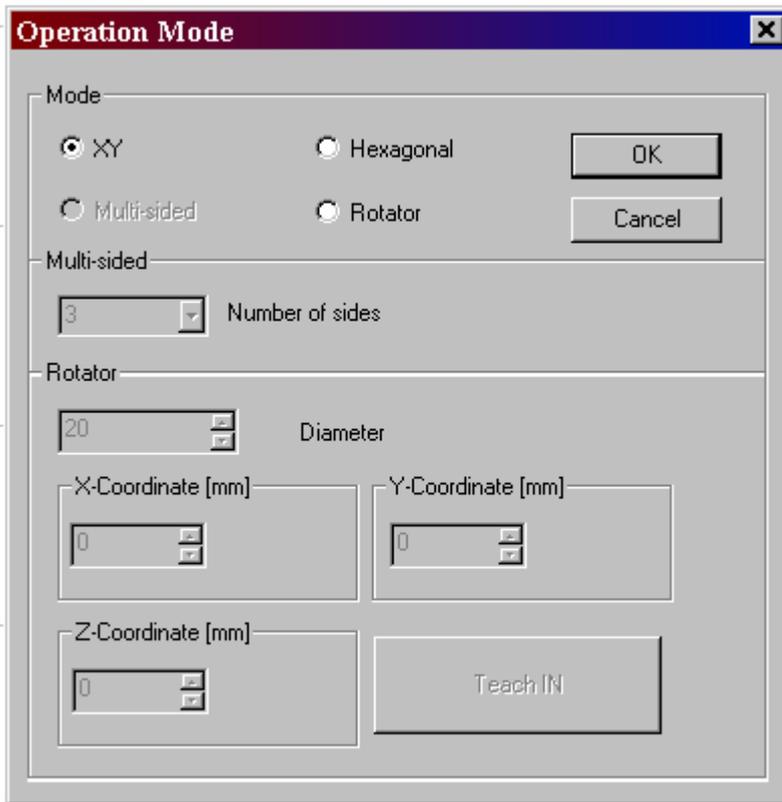
7.2 Signumeric software

7.2.1 Setup a layout

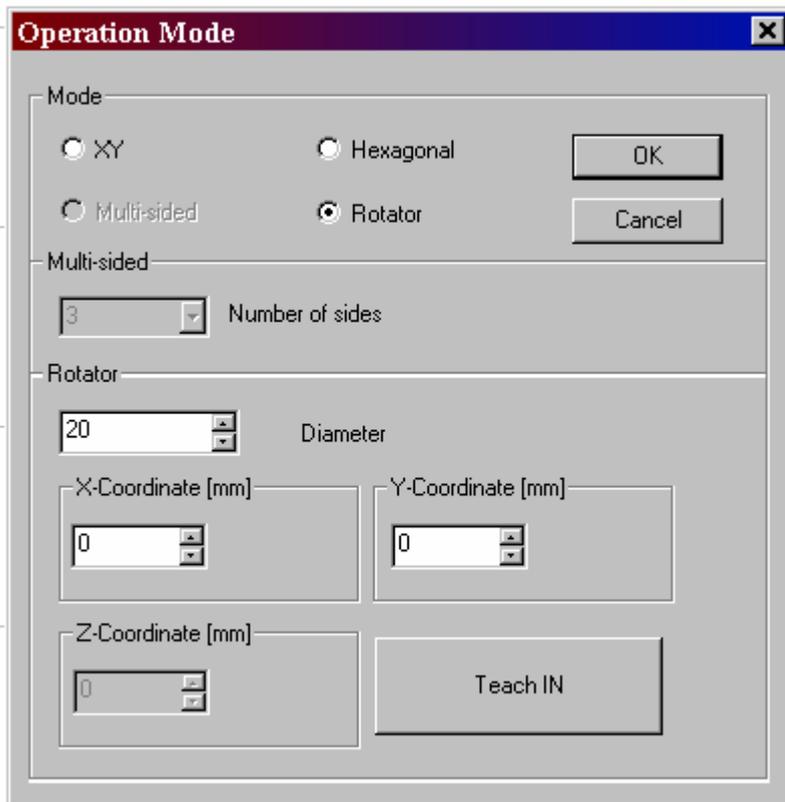
At first you have to change the operation mode from XY Mode to Rotator.
 In order to change the mode presses the Rotator icon. It is shown in the drawing below.



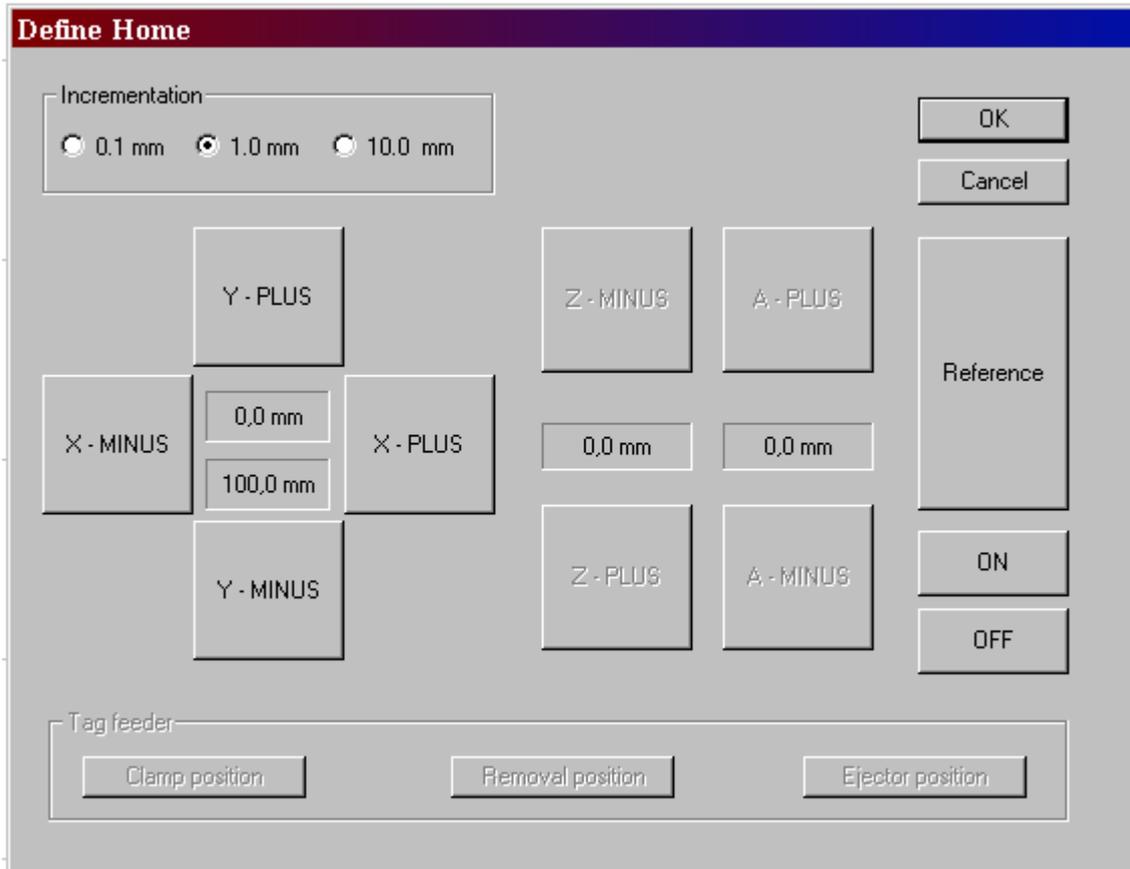
The Operation mode windows will pop-up. Change the mode now.



The diameter box is activated now.
Type in the diameter of your workpiece.

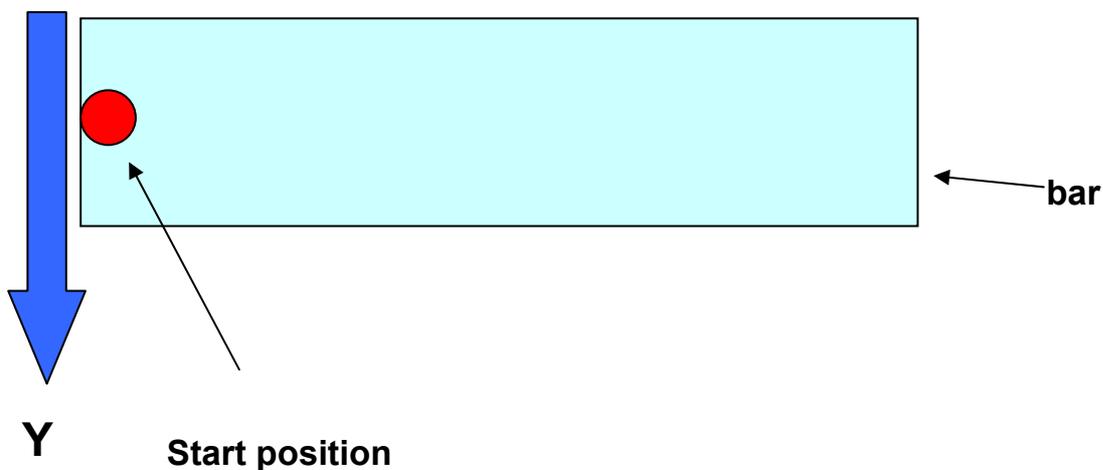


Afterwards press the button “ Teach IN ”.
The following window will be displayed then.



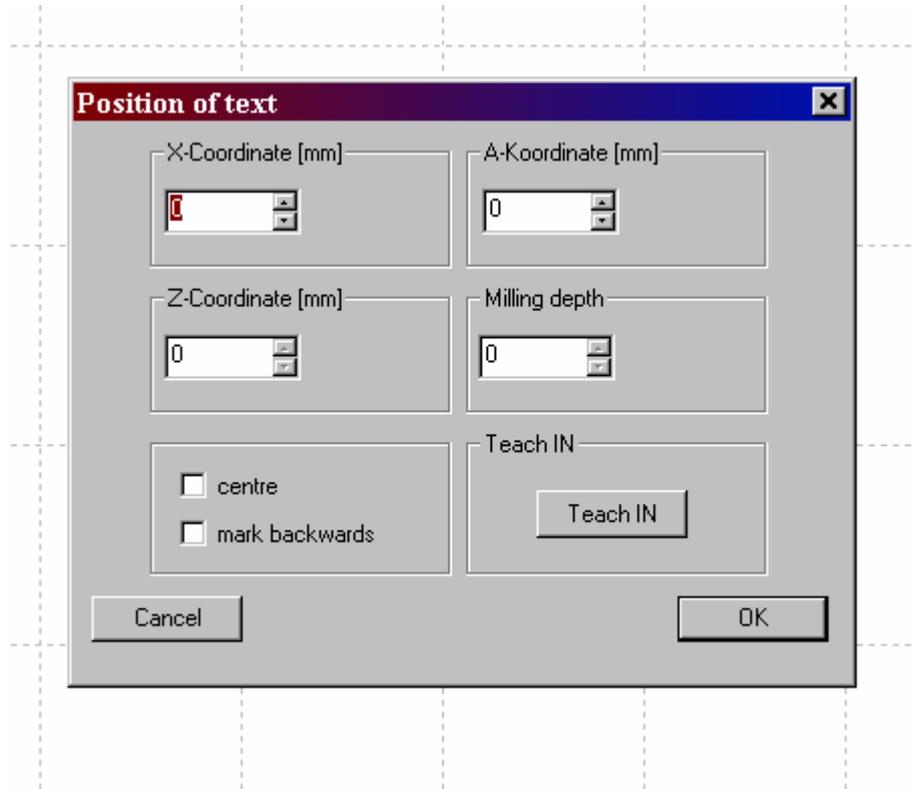
By pressing the buttons Y-MINUS or Y-PLUS move the Y to the point you want to start the marking.

The Y position is normally the middle of your workpiece.
The X axis has no function in this menu.



In order to confirm the position press OK.

Create your object and choose the “Teach In” mode to position it.



The „Define Home” window will appear again.
 But the Y axis is not relevant now. The Y axis can be moved but the values have no consequence.

In order to move the Rotator press the button A-Minus or A-Plus

8 Problems by moving the axis

8.1 Both axes don't move

8.1.1 With Signumeric software

8.1.1.1 With error message

Message: "System not ready"

Please see chapter 5.1

Message: "invalid port number"

Please see chapter 5.2

Message: "emergency stop"

- Ensure that the emergency Stop is not active
- Please check the 2 A fuse at the rear side of the controller

8.1.1.2 Without an error message

- Please check the bios settings of the controller board. The parallel port must be on the address 378 and the mode has to be normal. (Board Controller not PC)
- Ensure that the ribbon cable is connected with the motherboard and the controller board.

8.1.2 With Unimark software

8.1.2.1 With error message

Message: "emergency stop"

- Ensure that the emergency stop is not active
- Please check fuse at the rear side of the controller.
- Check the interface (only for machines used in automation)
- Check the jumper on the printed circuit board. It can be put into position LPT or I/O. This position has to match the software version used.

8.1.2.2 Without an error message

- Please check the bios settings of the controller board. The parallel port must be on the address 378 and the mode has to be normal. . (Board Controller not PC)
- Ensure that the ribbon cable is connected with the motherboard and the controller board.

8.2 One axis doesn't move

Possible causes:

- cable break (Connection between SM/UC and Stepper)
- motor is out of order
- driver card is out of order

8.3 One axis mismatches the position

Possible causes:

- cable break (Connection between SM/UC and Stepper)
- motor is out of order
- the belt pulley is loose at the shaft of the motor
- the axis moves stiffly
- Cable break or loose contact between driver and motor (e.g. machine cable).
- Motor is defective.
- Driver is defective.
- Belt pulley is loosened.
- Sluggish axis.
- Defective opto-coupler on I/O board.
- Parallel interface is defective.
- Sluggish axis caused by defective ball bearing.

8.4 Both axes position in the wrong way

- Parallel interface is defective.
- Speed is too high (board clocking and marking speed).

8.5 Preventive maintenance

8.5.1 Every week

- Clean the pneumatic case and the stylus

8.5.2 Every quarter

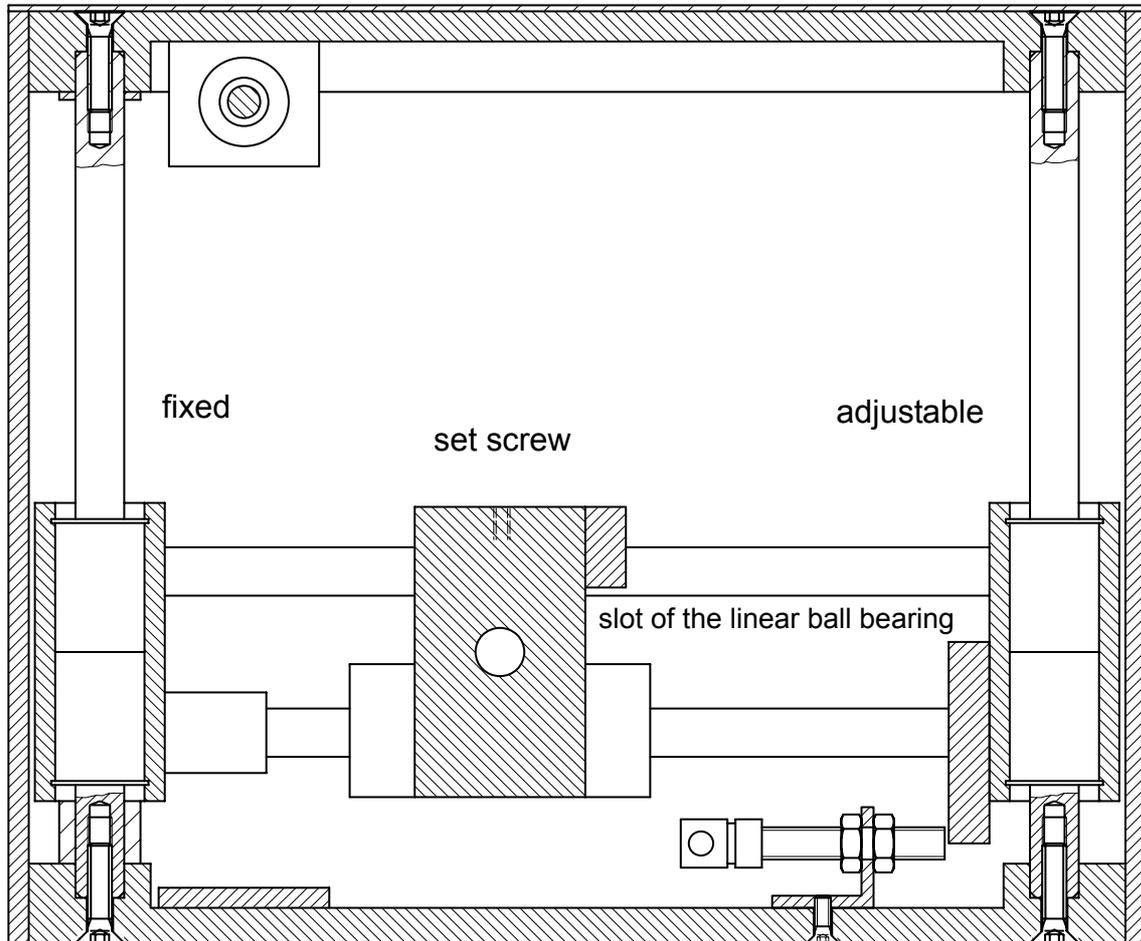
- Check the strainer of the fan at the controller and clean it if required.

8.5.3 Every year

- Clean the guiding of the axes and lubricate them with oil.

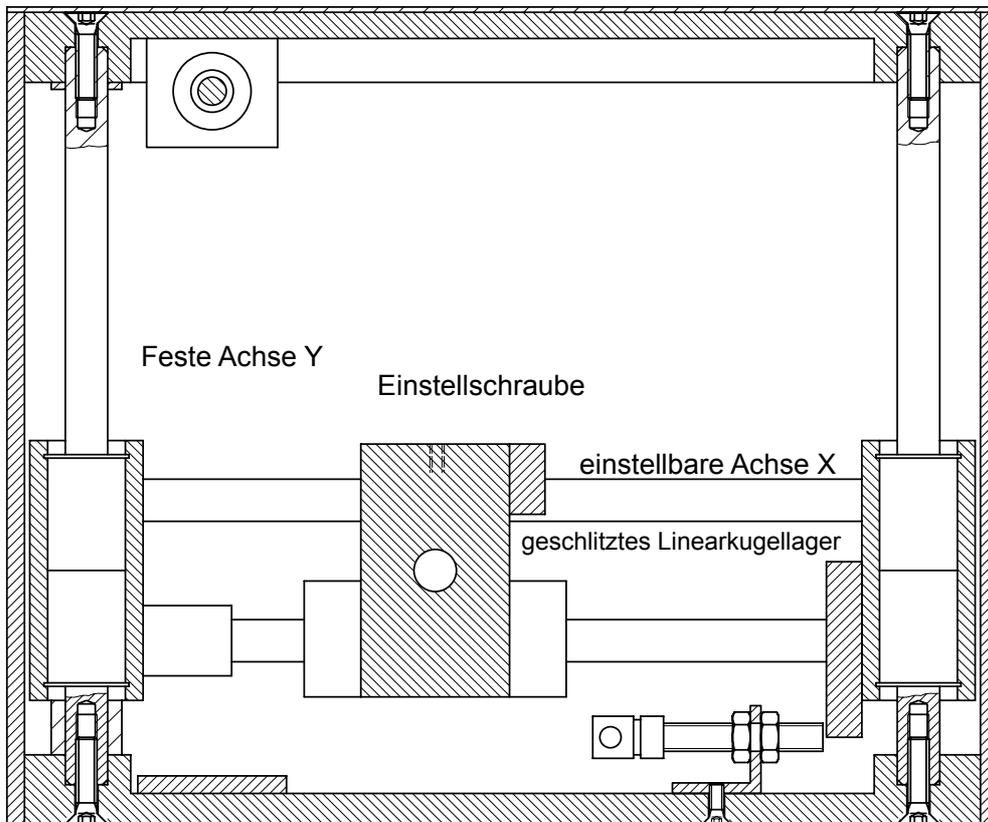
9 Replacement of wearing parts

9.1 Adjustment of the linear guide



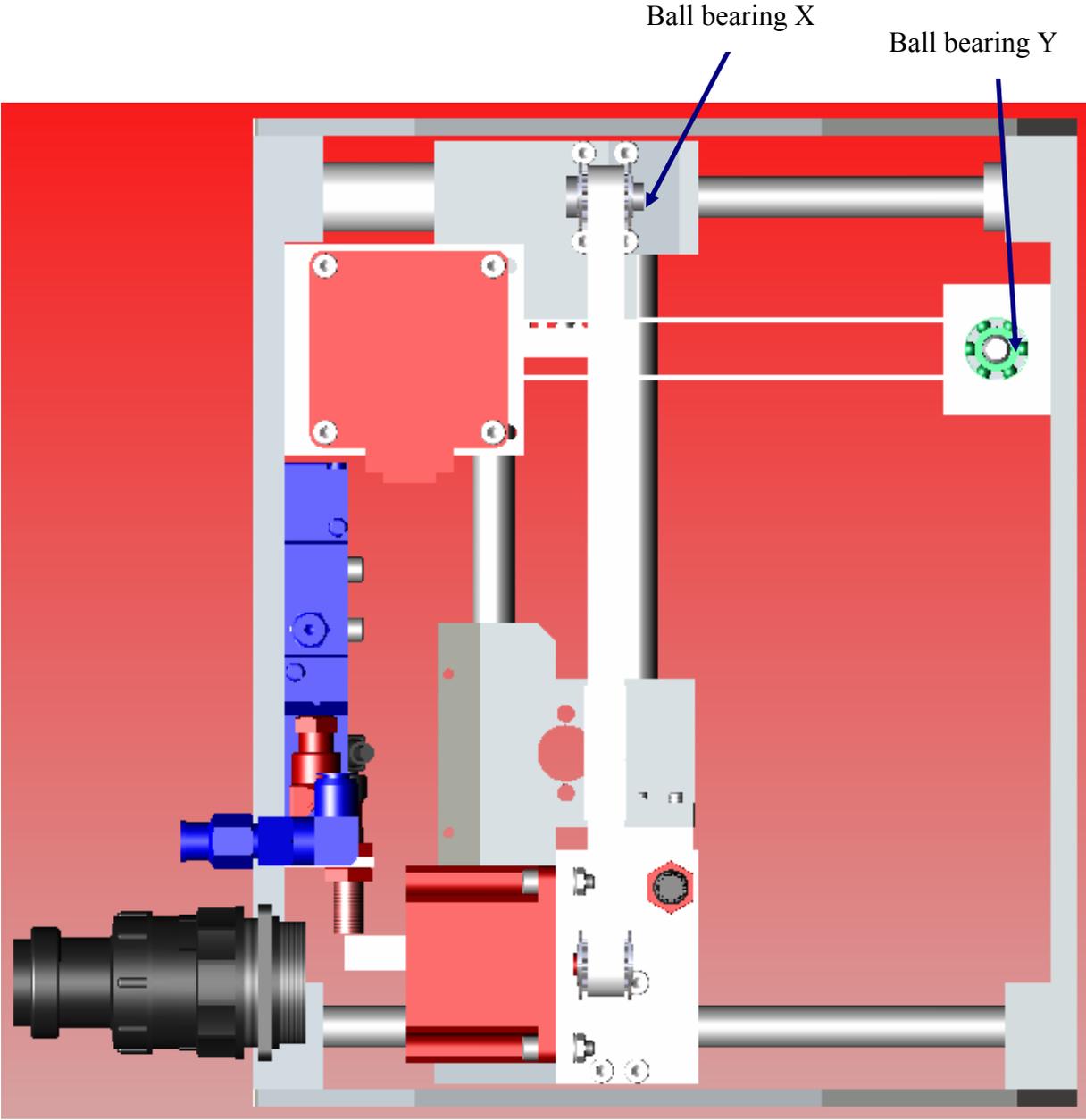
It is possible to adjust the linear guides. In order to make the X-Axis clearance-free please adjust the set screw.

9.2 Adjusting of X-axis



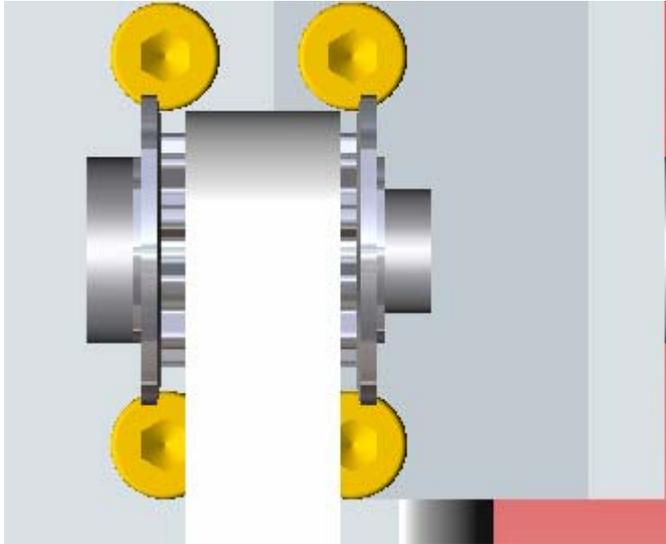
The X-axis of the EasyMarker is adjustable. Please correct the clearance at the adjusting screw if required.

9.3 Replacing of ball bearings

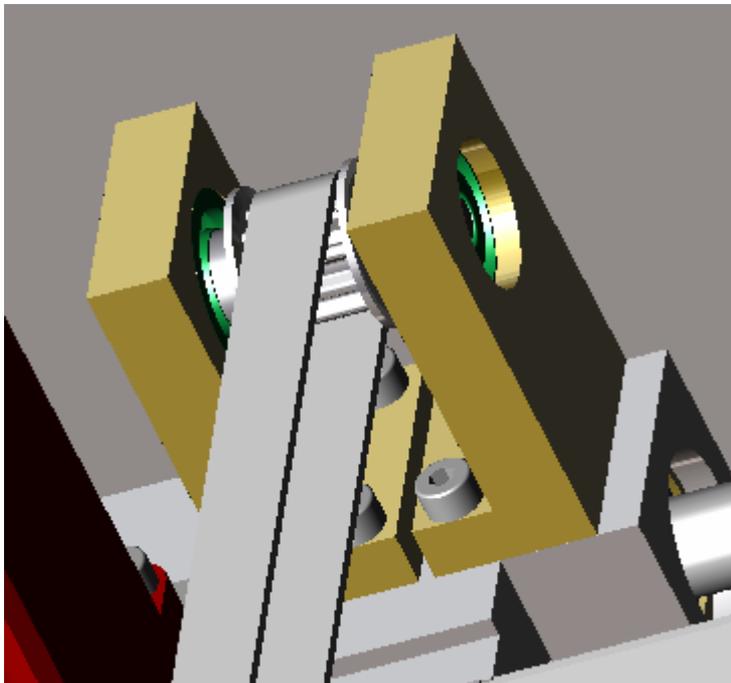


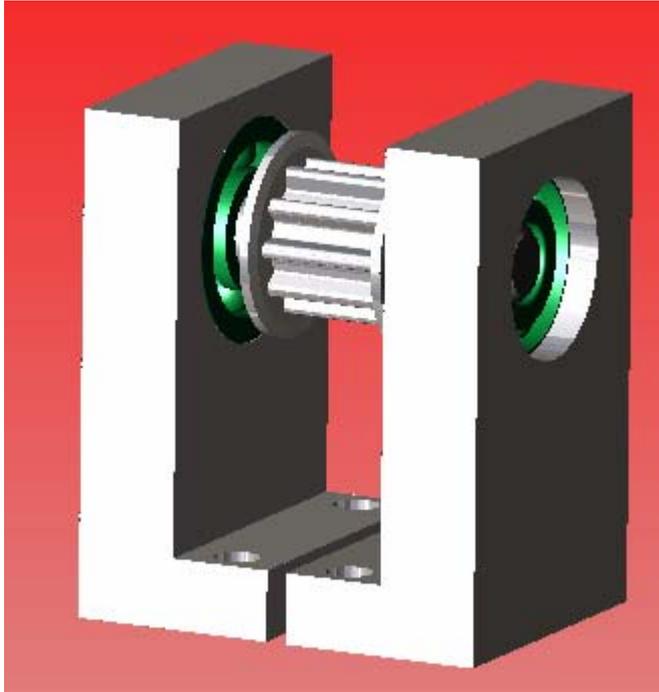
9.3.1 Ball bearing X

👉 Loosen the 4 screws.

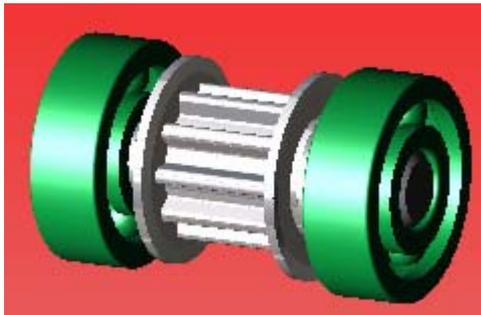


👉 Take the bearing block out of the drive belt.
👉

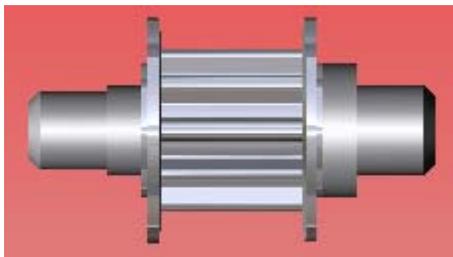




☞ Loosen both sides of the bearing block.

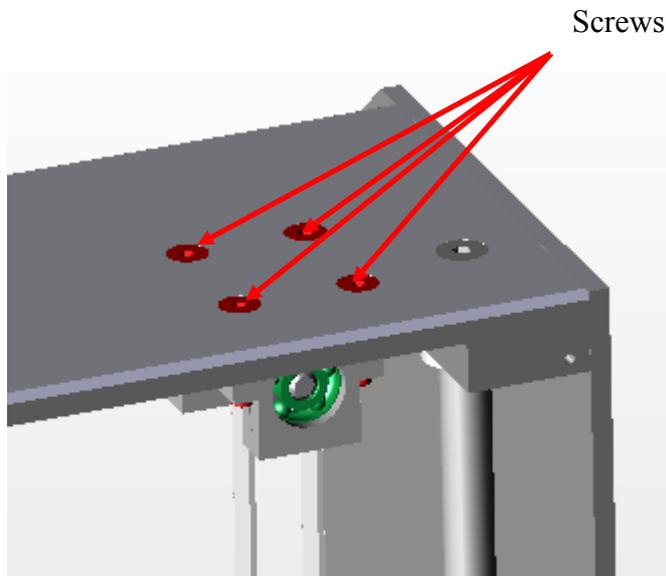


☞ Take off the bearings with care.



- ☞ Mount the new bearings via a press. Please consider that the two different diameters of the shaft.
- ☞ Put both bearing fasteners onto the bearings again.
- ☞ Insert the complete bearing block into the belt.
- ☞ Fix the bearing block again.
- ☞ The tension of the belt is not changing. In case it shall be optimized, loosen the screw of the motor. The tension of the belt can be modified via the elongated holes of the motor's mounting angle.

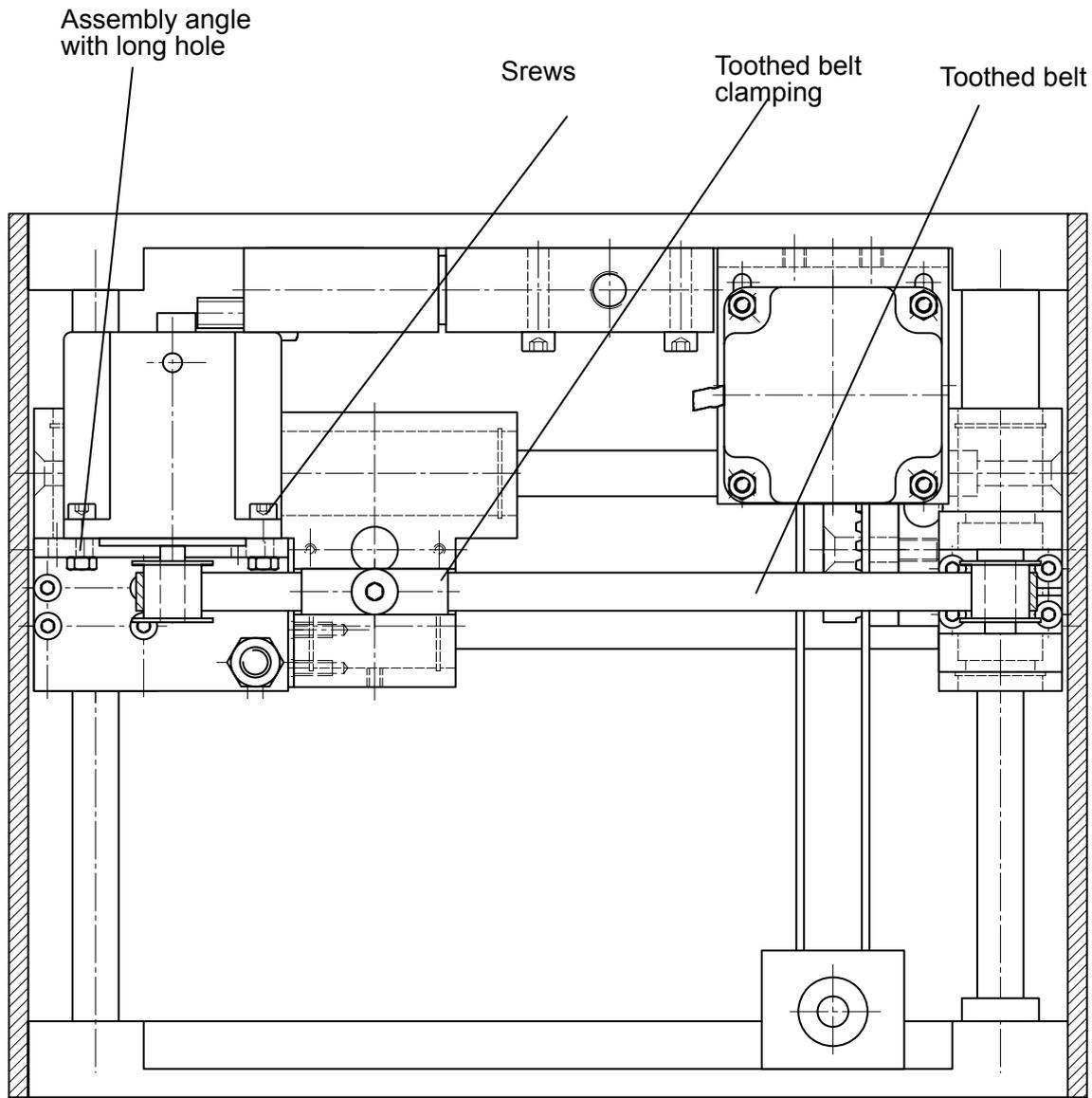
9.3.2 Ball bearing Y



Illustr. 1 Ball bearing Y

Loosen the screws. Proceed as described in the previous chapter for replacing of the bearing.

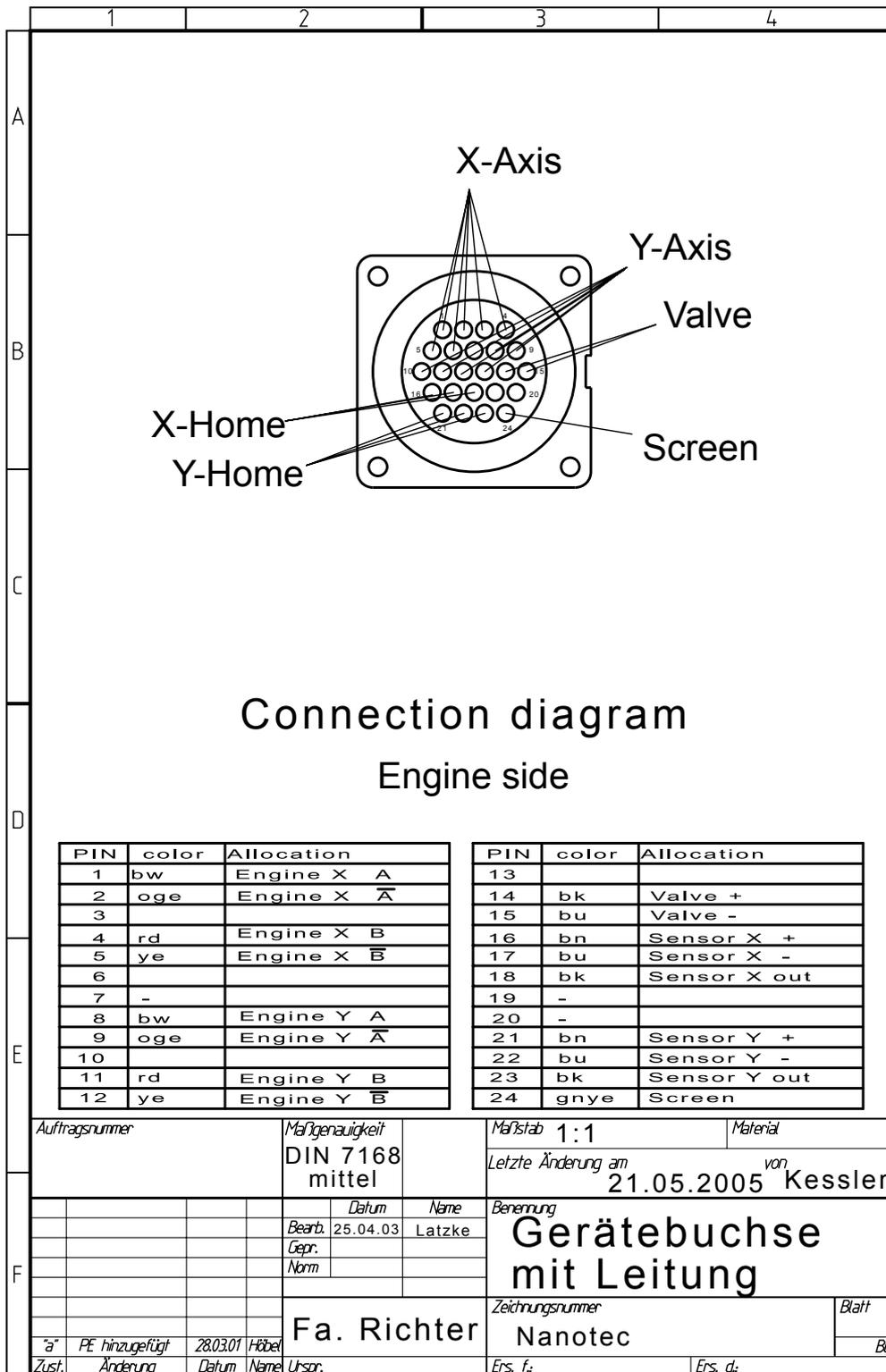
9.4 Replacement of a stepper motor



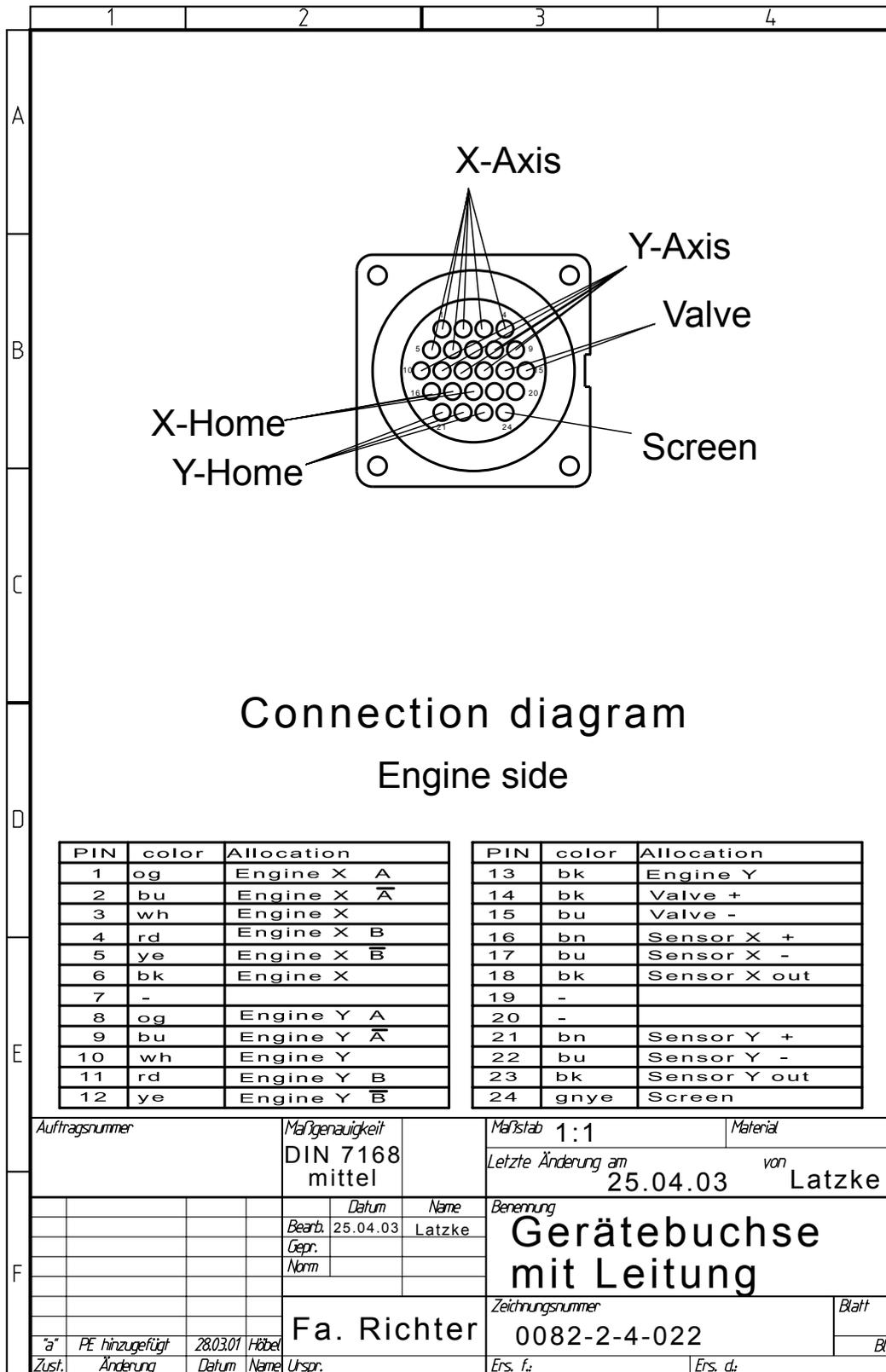
After the cover is taken off please loosen the screws of the stepper motor. Now it is possible to take the stepper motor out of the mounting angle. With a special tool it is possible to disconnect the stepper motor of the marking device. In order to put the new stepper motor in, the wires must be crimped with the connectors and the belt pulley must be fixed at the stepper motor. Reconnect the wires to the plug in the device and mount the stepper motor again to the angle. It is possible to tighten the toothed belt again via the elongated holes.

If it is not possible to get the belt pulley back into the toothed belt please loosen the toothed belt clamping. If you change the X-stepper please make sure that the cord grip is mounted correctly.

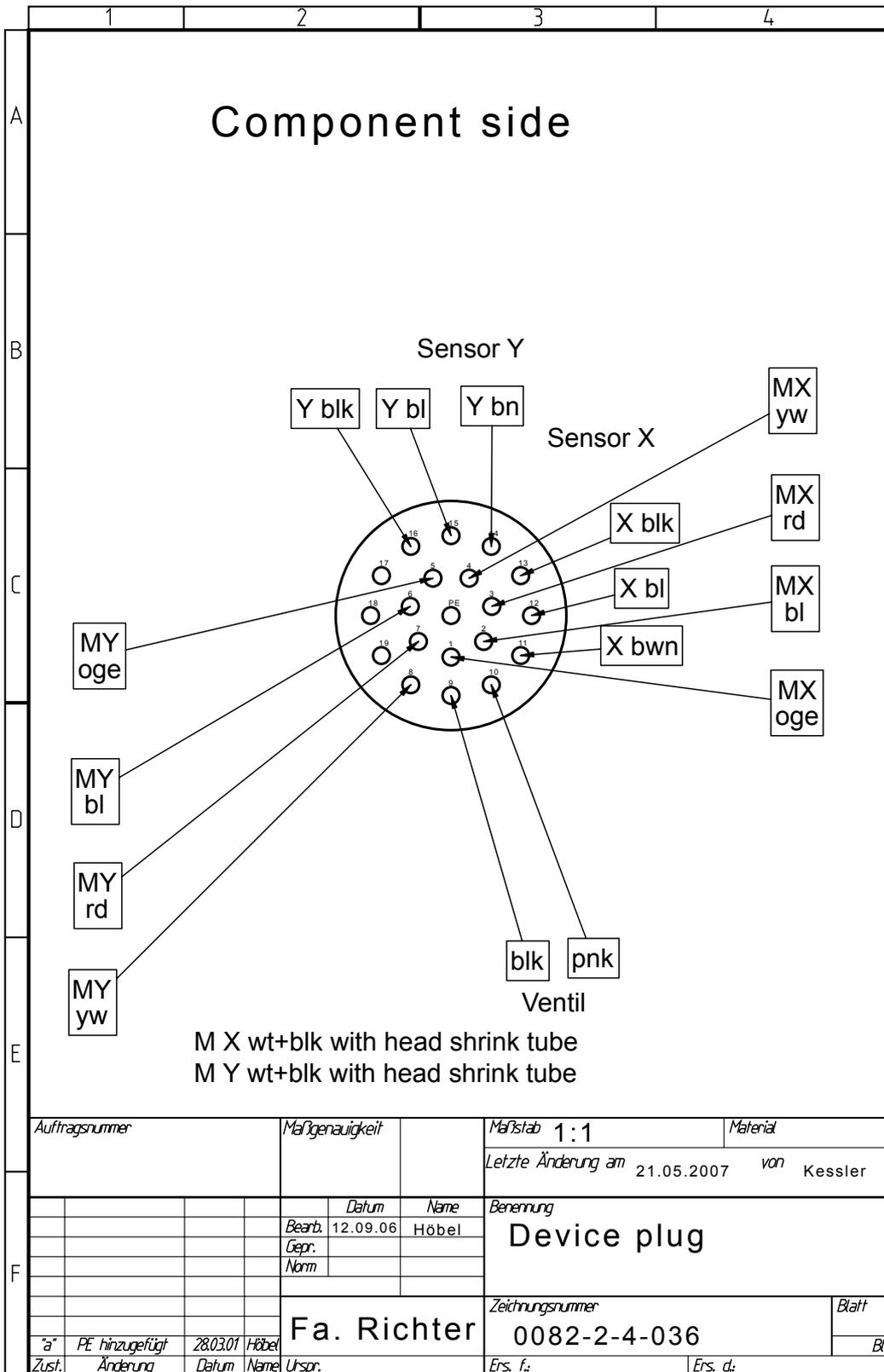
Connection diagram before year of build 2004.



Connection diagram Ser.No. 0082-001-000-xxxxx



Connection diagram Ser.No. 0082-001-001-xxxxx



Auftragsnummer		Maßgenauigkeit		Maßstab 1:1		Material	
				Letzte Änderung am 21.05.2007		von Kessler	
			Datum	Name	Benennung		
			Bearb. 12.09.06	Höbel	Device plug		
			Gepr.				
			Norm				
Fa. Richter				Zeichnungsnummer			Blatt
				0082-2-4-036			
*a	PE hinzugefügt	28.03.01	Höbel	Urspr.	Ers. f.:	Ers. d.:	
Zust.	Änderung	Datum	Name				

Tool	Ordernumber	Serial Number of marking device
Eject tool	1004343	0082-001-000-xxxxx
Eject tool spare bush	1004344	0082-001-000-xxxxx
Eject tool	1001846	0082-001-001-xxxxx
Crimp Connectors		
female		0082-001-000-xxxxx
male		0082-001-001-xxxxx
Crimper		
Crimper		0082-001-000-xxxxx
Crimper		0082-001-001-xxxxx

10 Notes

10.1 Notes on how to improve quality of marking

10.1.1 General

- Reduce the marking speed. A slow marking speed results in a deeper marking.
- The quality of the marking gets poorer when increasing the marking speed.
- Use another type of font
- The distance between workpiece and tip of marking stylus can be modified. By changing the distance also the typeface changes (2-5 mm).
- By using another type of marking stylus the quality of marking can be changed (see operating manual of EasyMarker).

10.1.2 Pneumatic marking head for dot peen marking

- We offer carbide marking pins with 3 different cuts/angles. Standard is 60°, but we offer 90° and 120° as well. Which pin is suitable for your marking depends on the material you mark. In order to mark soft materials you should use pin with a large angle is a pin instead of a small one.
- We also offer two different pins. A strong pin with steel piston for tough materials and a light pin with aluminium piston for soft materials. Standard is the light pin.
- High air pressure causes a deeper marking (2 to 5 bar).
- Modify the distance between marking stylus and workpiece (2-5 mm).
- Slow marking speed results in a deeper marking.
- Use another type of marking stylus.

The marking styluses available are listed in the manual of EasyMarker.

10.1.3 Electrical marking head for dot peen marking

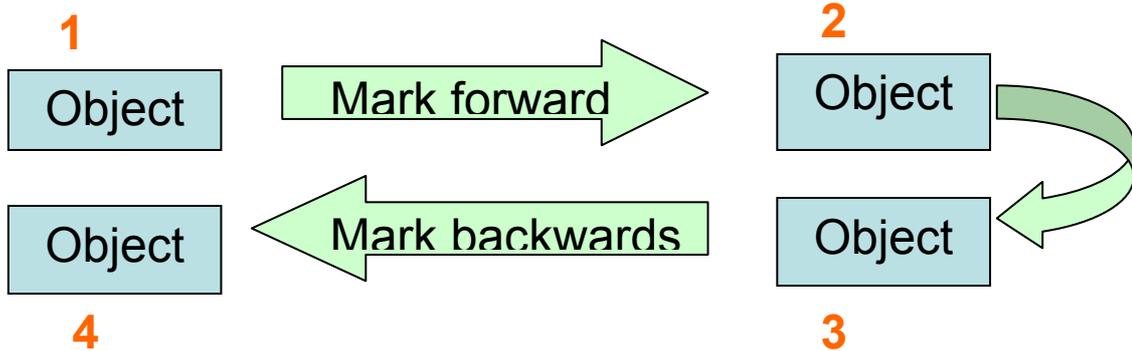
- We offer carbide pins with 3 different cuts/angles. Standard is 60°, but we offer 90° and 120° too. Which pin is suitable for your marking depends on the material you mark. In order to mark soft materials you should use pin with a large angle is a pin instead of a small one.
- Modify the distance between marking stylus and workpiece (2-5 mm).
- Slow marking speed results in a deeper marking.
- A high frequency causes a weak marking and a low frequency a deep marking.
- A high force causes a deep marking and a low force causes a weak marking.
- Use another type of marking stylus.

The marking styluses available are listed in the operating manual of EasyMarker.

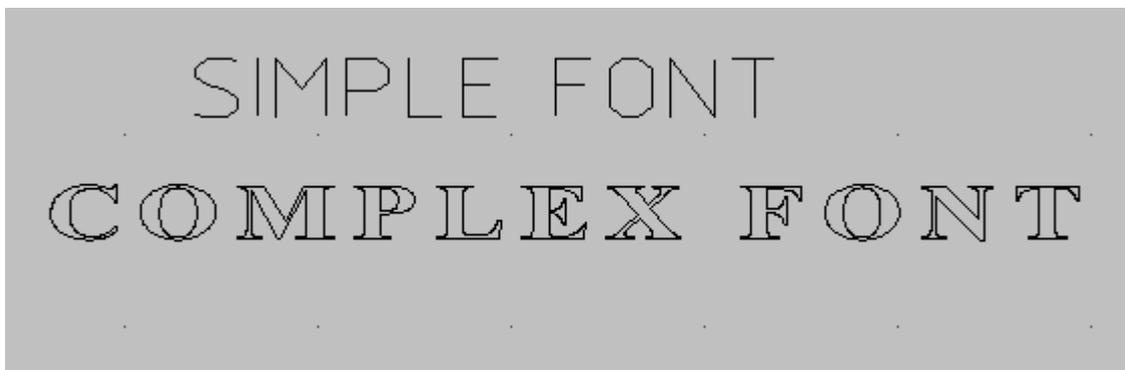
10.2 Notes on how to increase marking speed

- In order to increase the marking speed it is possible to change the order and the direction of the objects. How to do this is explained in the software documentation on the software disc.

Order of marking



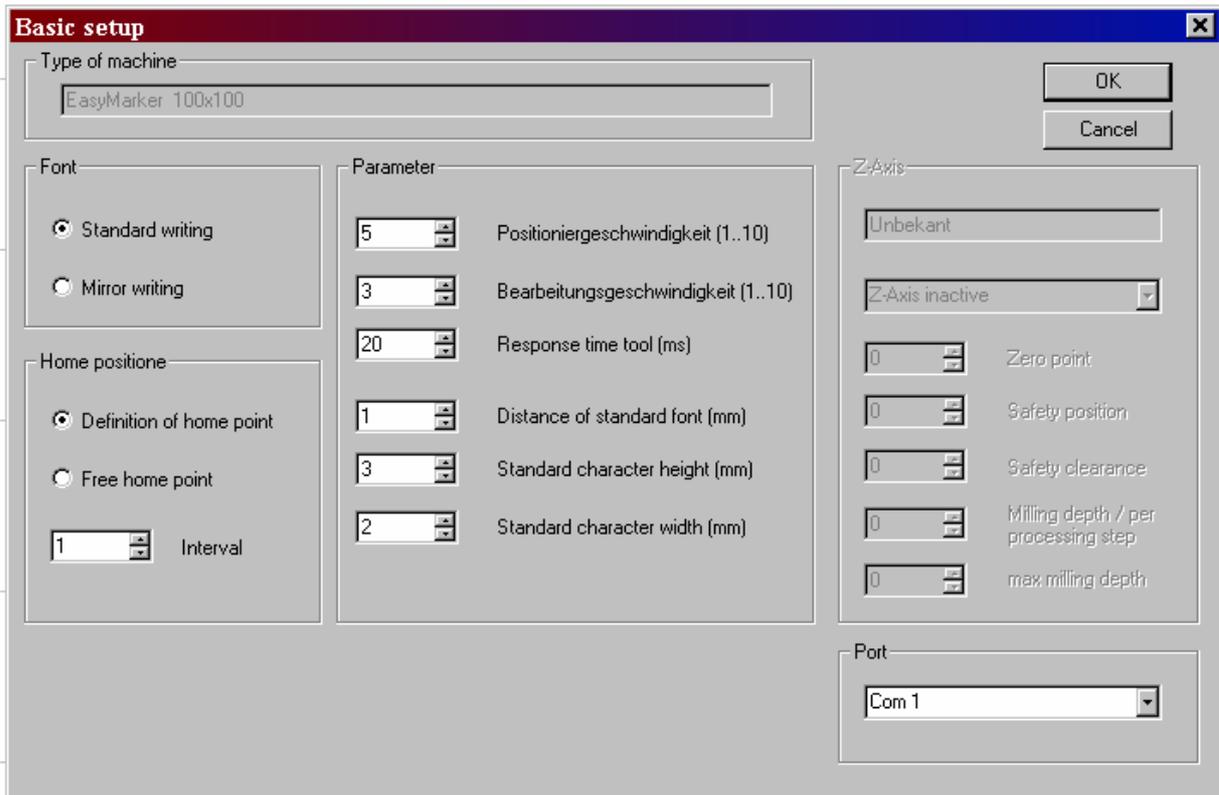
- The marking speed also depends on the font type. In order to increase the speed please use a simple font type.



In Signumeric software: Mark the object, then click on the font icon of the symbol bar and choose the font you want to use.



In Signumeric software



It is also possible to optimize a graphic or generate another font type to optimize the marking.

10.3 Optimizing a graphic

Some graphics require a long marking time.

Those graphics can be optimized.

- Max. vector length can be limited.
- Consecutive PU or PD commands can be deleted.

We provide you with a graphic converter for this. For details please see operating manual of the converter. .

10.3.1 Converting a TT font into Signumeric font

Each installed font can be converted into a Signumeric font. For more details please see operating manual of the converter.

10.4 Unitest programme

10.4.1 Open the Unitest programme

Connect the monitor on the EM Controller at first. The message “The programme is in LCD mode” is displayed on the screen.

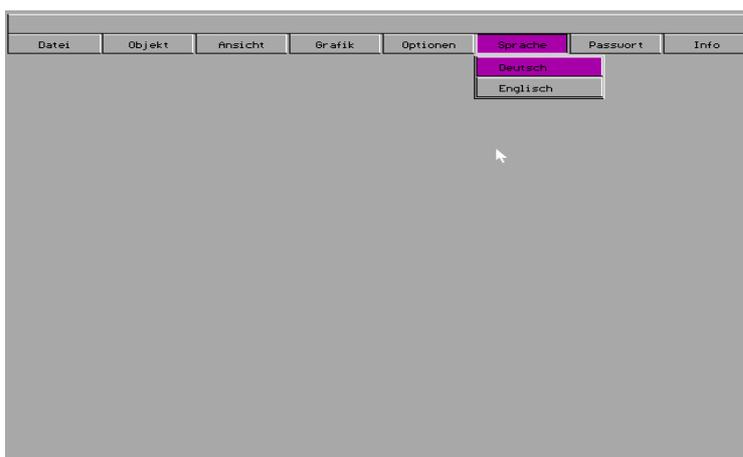
When pressing the Esc Key you leave the working mode and enter the main menu

- | | |
|---|-----------|
| <ul style="list-style-type: none"> • programme selection • manual mode • marking • On-line mode | Main menu |
|---|-----------|

Now press the Ctrl and the Q Key simultaneously.
The monitor displays now C:\Unimark>

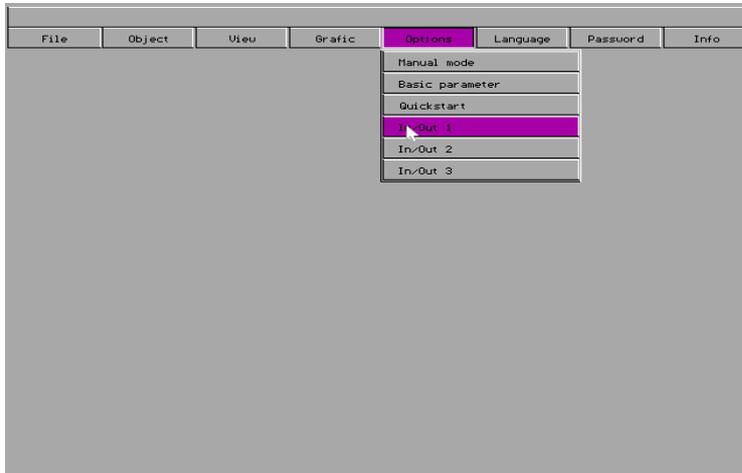
Type in Unitest and press Enter

10.4.2 Change language



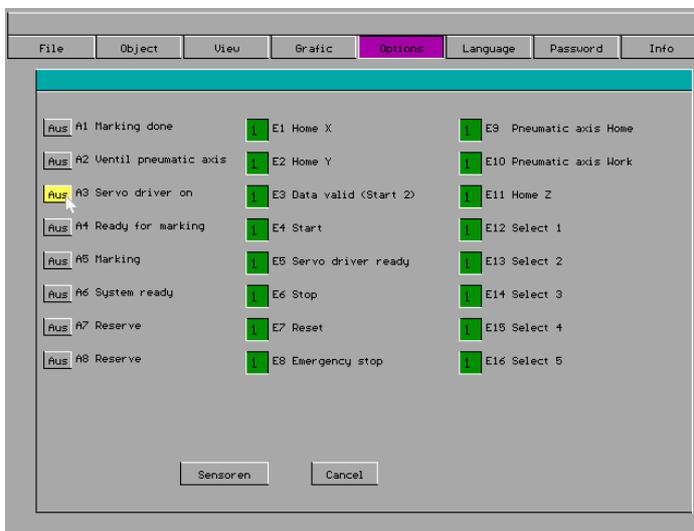
With the Tab Key move to Sprache (language) and choose English

10.4.3 Select I/O Byte



Move with Tab key to menu point options press Enter and select In-Output 1, 2 or 3 and press Enter

10.4.4 Set or reset the Outputs

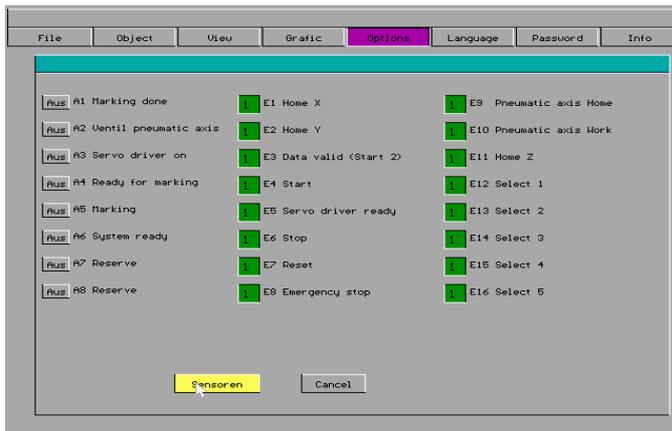


You can choose by pressing the tab key the output you want to set or reset. Select the output you want to set and press F4 to set it. With F5 it is possible to reset the Output.

Attention!!

Please ensure the there will be no Crash if the Output is active, because of the movement of an actuator.

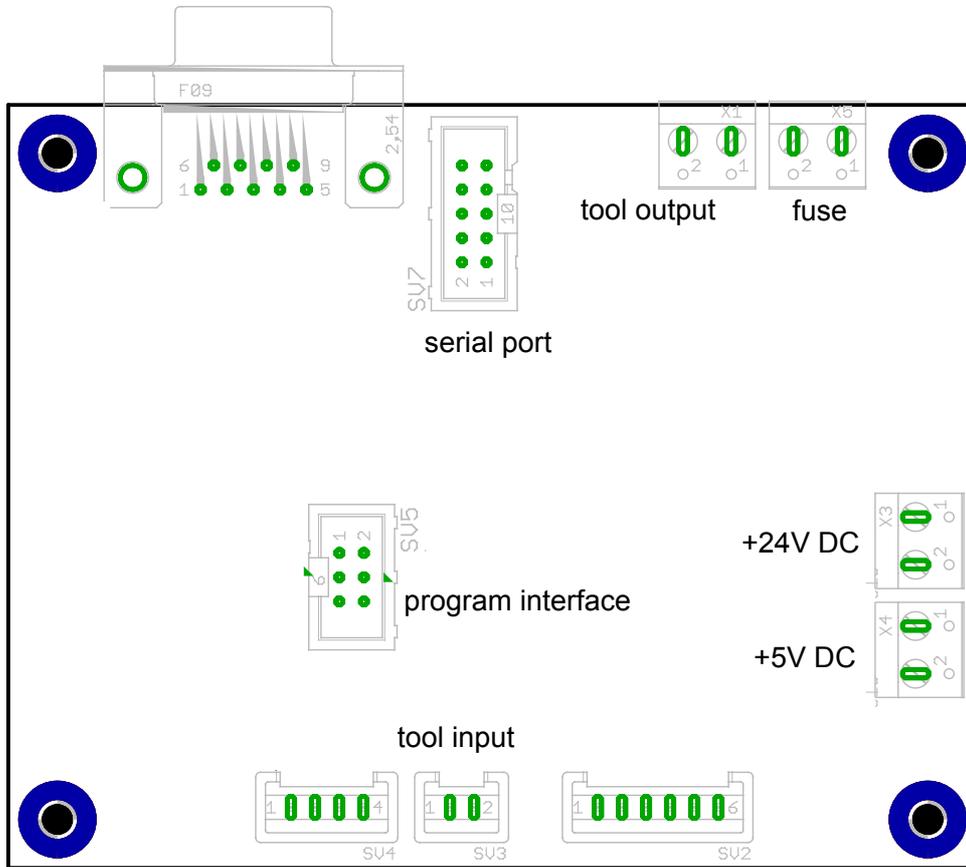
10.4.5 Test the Sensors



For testing the Inputs move via the Tab key to Sensoren (sensors) und press enter. Now you can set an Input and see if it is active or inactive.

In order to leave the Unitest programme and restart the Unimark software again it is necessary to reboot the controller.

11 Overview of the tool board



12 E/A Platine EM-Parallel Version 1 Seriennummer 7000-

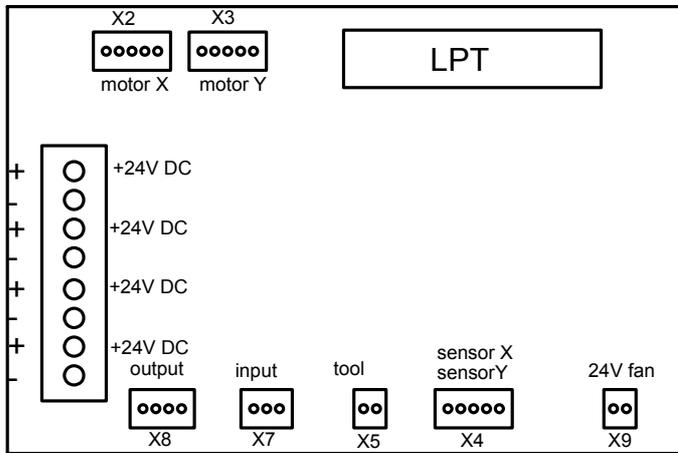


Abbildung 2 E/A Platine EM-Parallel Version 1

13 E/A Platine EM-Parallel Version 2 7020-

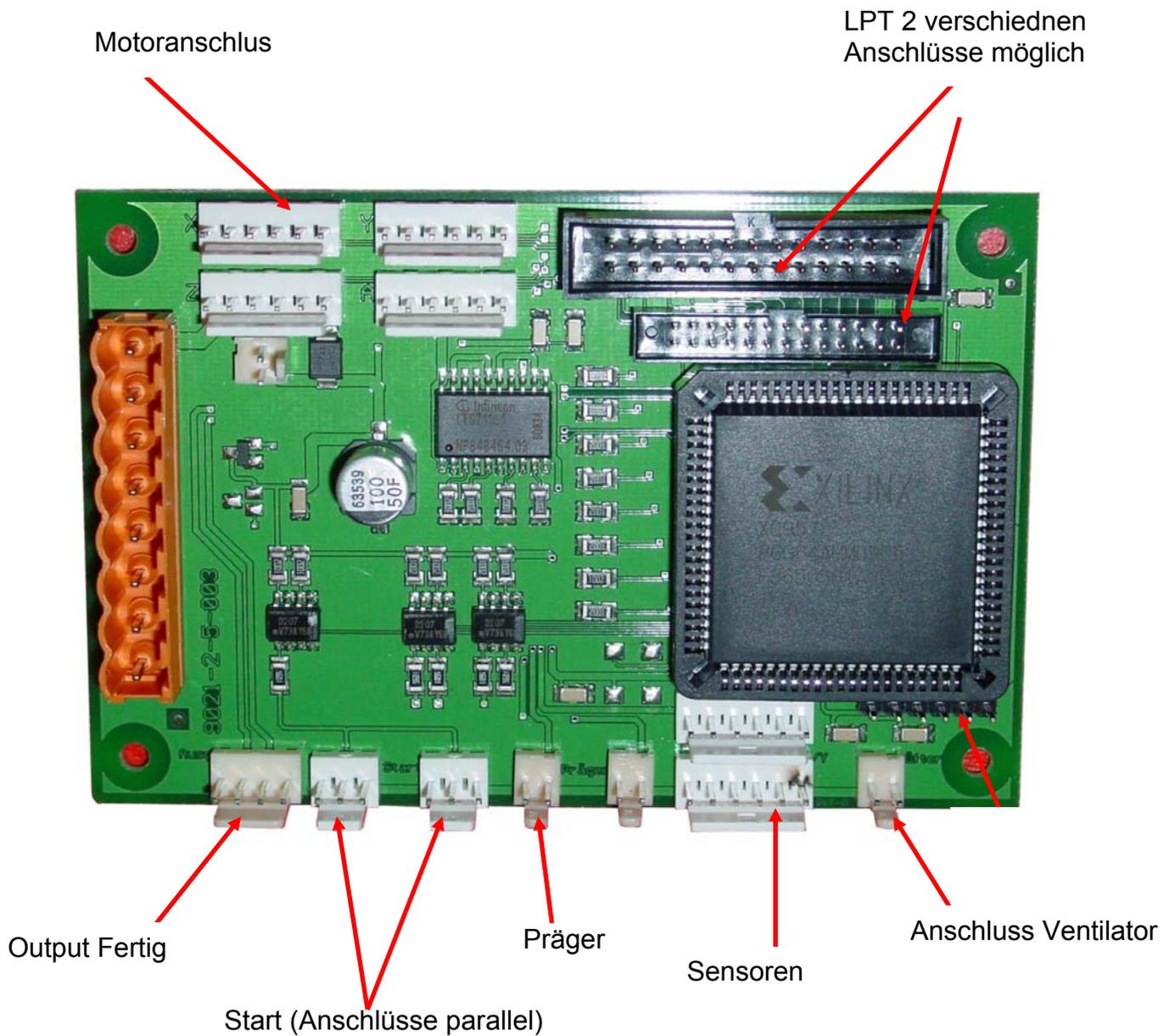


Abbildung 3 E/A Platine EM-Parallel Version 2

14 Flowchart of a standard programme with Unimark

Standard marking cycle

