

Conveyor Belt

for MAESTRO 4M

2 Operator's Manual - Translation of the Original Version for the following products

2

Description	Type
Conveyor belt	1200 for MAESTRO 4M
Conveyor belt	1350 for MAESTRO 4M/600

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Editor

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Topicality

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1.1 Instructions

Important information and instructions in this documentation are designated as follows:



Danger!

Draws your attention to an exceptionally grave, impending danger to your health or life.



Warning!

Indicates a hazardous situation that could lead to injuries or material damage.



Attention!

Draws attention to possible dangers, material damage or loss of quality.



Notice!

Gives you tips. They make a working sequence easier or draw attention to important working processes.



Environment!

Gives you tips on protecting the environment.



Handling instruction



Reference to section, position, illustration number or document.



Option (accessories, peripheral equipment, special fittings).

1.2 Intended Use

- The device is manufactured in accordance with the current technological status and the recognized safety rules. However, danger to the life and limb of the user or third parties and/or damage to the device and other tangible assets can arise during use.
- The device may only be used for its intended purpose and if it is in perfect working order, and it must be used with regard to safety and dangers as stated in the operating manual.
- The device is intended exclusively as an option for the MAESTRO 4M PCB Separator, with which the separated PCB's can be transported out of the blade area. Any other use or use going beyond this shall be regarded as improper use. The manufacturer/supplier shall not be liable for damage resulting from unauthorized use; the user shall bear the risk alone.
- Usage for the intended purpose also includes complying with the operating manual, including the manufacturer's maintenance recommendations and specifications.



Notice!

The complete documentation can also currently be found in the Internet.

1.3 Safety Instructions

- The conveyor may only be used as an option for the MAESTRO 4M. Using the conveyor for other purposes is not allowed !
- Manipulations on the conveyor other than those described in the Operating Instructions must be carried out by authorized personnel only.
- Always take care that jewellerys, loose clothing, hair or similar items are kept out of the conveyor belt area during operation.
- There is a laser diode of laser class 2 (< 1 mW) installed on the conveyor to monitor the material handling.



Warning!

Do not look into the laser beam !

Looking accidentally into the beam for a short time (<0.25 s) will cause no harm to your eyes.



Danger!

Danger to life and limb from power supply.

► Do not open the device casing.

1.4 Safety Marking

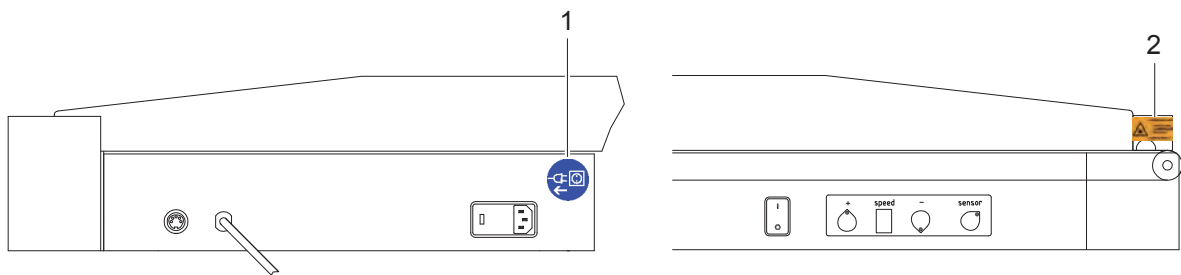


Fig. 1 Safety Marking

1		<p>Possible damage of electronics !</p> <p>► Disconnect the PCB separator from the electrical outlet before mounting or removing an optional conveyor belt.</p>
2		<p>Danger from laser !</p> <p>► Do not look into the laser beam ! Looking accidentally into the beam for a short time (<0.25 s) will cause no harm to your eyes.</p>

Table 1 Safety Marking

1.5 Environment



Obsolete devices contain valuable recyclable materials that should be sent for recycling.

► Send to suitable collection points, separately from residual waste.

The modular construction of the printer enables it to be easily disassembled into its component parts.

► Send the parts for recycling.

The conveyor belt is an option for the MAESTRO 4M PCB Separator. The conveyor transports the separated PCB's out of the blade area. It is possible to feed the PCB's directly into a box or to stop the transport by a light barrier at the end of the conveyor, if the PCB's are sensitive. In the last case the user can pick up the boards by hand.

	Type 1200	Type 1350
Conveyor length	1200 mm	1350 mm
Conveyor width	170 mm	
Conveyor speed	5 - 9 m/min	
Operating voltage	230 V~ 50 Hz / 115 V~ 60 Hz	
Max. current	0,5 A / 1,0 A	
Fuses	T 1,0 A / T 2,0 A	
Dimensions	1207 mm x 238 mm x 165 mm	1357 mm x 238 mm x 165 mm
Weight	13 kg	14,5 kg

Table 2 Technical Data

3 Installation

3.1 Unpacking and Setting-up the Device

- ▶ Lift the device out of the box.
- ▶ Check device for damages which may have occurred during transport.
- ▶ Check delivery for completeness.

Contents of delivery:

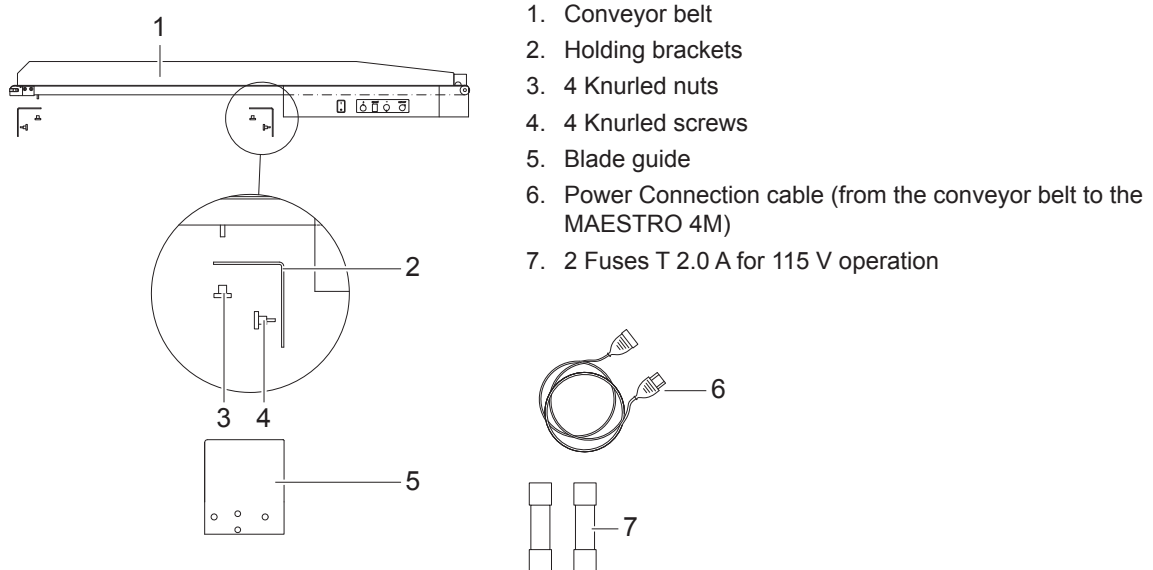


Fig. 2 Overview

Notice!



- ▶ Please keep the original packaging in case the device must be returned.

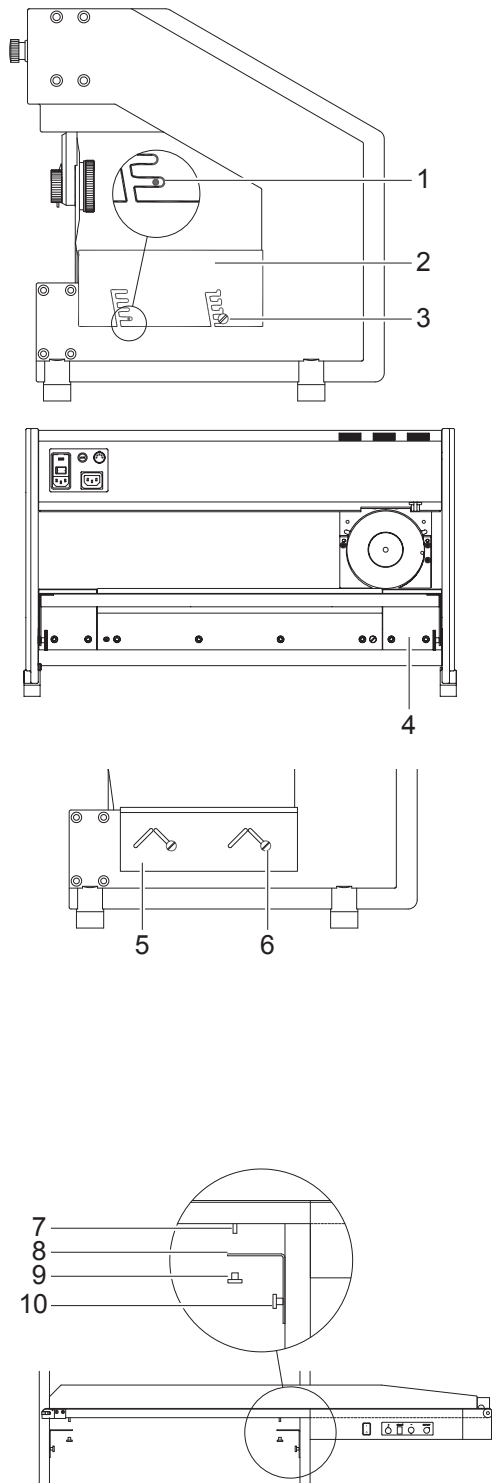
Attention!



The device and printing materials will be damaged by moisture and wetness.

- ▶ Set up the device only in dry locations protected from splash water.

3.2 Assembly of the Device



- ▶ To mount the conveyor belt, first remove the rear table (2) from the MAESTRO 4M ▷ Operating Instructions for the MAESTRO 4M. For it remove the knurled screws (3) completely from the machine base.
- ▶ After removing the rear table (2), detach the set screws (1) too.

- ▶ Replace the lower blade guide on the right (seen from back side) by the shorter blade guide (4) included in the contents of delivery.
- ▶ Take care that the rounded off edge points to the top right side (seen from back side) when mounting the new blade guide.
- ▶ Make sure that the upper edges of the shorter blade guide (4) and the linear blade are on a straight line.

- ▶ Fix the holding brackets (5) to the threaded holes of the rear table as shown in the figure on the left. For that purpose use knurled screws (6) included in the contents of delivery.

- ▶ Put the conveyor belt into place. Make sure that the set screws (7) on the lower side of the conveyor fit into elongated holes on the upper side of the holding brackets (8).
- ▶ The control panel of the conveyor must project to the right out of the MAESTRO 4M.
- ▶ Fasten the conveyor belt with the knurled nuts (9) included in the contents of delivery to the holding brackets.
- ▶ If you want to change the distance between the conveyor belt and the linear blade, loosen the knurled nuts (9) and change the distance. After that retighten the knurled nuts again.

To suit the conveyor belt to differing requirements, the height and the horizontal distance between the belt and the linear blade the conveyor belt can be adjusted as follows:

- ▶ To adjust the height, loosen the knurled screws (10) located on the inner side of the machine frame.
- ▶ Lift the conveyor belt slightly and retighten the knurled screws at the required position.
- ▶ To adjust the horizontal position, loosen the knurled nuts (9). Laterally displace the conveyor belt as required and retighten the knurled nuts.

Fig. 3 Installation

3.3 Connecting the Device

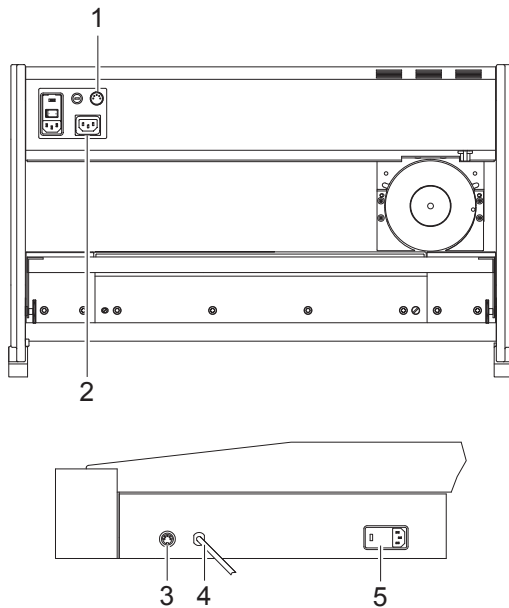


Fig. 4 Connections

- ▶ To operate the conveyor with a voltage of 115 V the setting on the power module has to be changed. The fuses have to be replaced by the 2A fuses (Fig. 2 - 7) included in the contents of delivery.
- ▶ Connect the plug (2) of the MAESTRO 4M to the power module (5) of the conveyor with the connecting cable (Fig. 2 - 6) included in the contents of delivery.
- ▶ Put the foot switch cable of the MAESTRO 4M into the input socket (3) of the conveyor belt (rear side of the machine). Then connect the switching cable (4) which is also located on the rear side of the conveyor to the input socket (1) of the MAESTRO 4M.
- ▶ Switch on the MAESTRO 4M and start the conveyor belt by operating the yellow switch (Fig. 5 - 1).

4 Adjustments

4.1 Adjustment of the Conveyor Speed

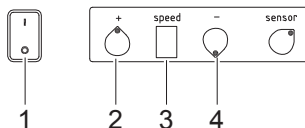


Fig. 5 Conveyor speed

The current conveyor speed (in meters/minute) is shown on the display "speed" (3) of the control panel.

- ▶ Vary the speed within a range of 5..9 m/min by pressing the two keys <+> (2) and <-> (4) shortly (less than 0.25 s).

4.2. Adjustment of the Transport Length

When the key <+> (2) is pressed longer than 1 sec., the transport length is shown on the display flashing.

- ▶ By using the keys <+> (2) or <-> (4) settings from 0 until 9 are possible.
The figure 0 corresponds to a length of 1000 mm.
The figures 1 until 9 correspond to different lengths from 100 to 500 mm in steps of 50 mm. Tolerances of approximately 5 % are possible.

4.3 Activate the Sensor "End of Belt"

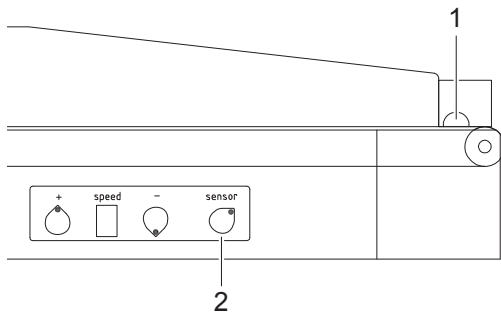


Fig. 6 Sensor "end of belt"

There is a light barrier (1) at the right end of the conveyor belt. It recognizes the presence of a PCB fitted with components at the end of the belt and stops the conveyor. Side strips without components are not detected.

► Activate or deactivate the sensor by pressing the key <sensor> (2) on the control panel.

LED inside the very right key lights up when sensor is active.

► For switchover, keep the key pressed until the LED shows the desired status.



Warning!

A laser diode of laser class 2 (<1 mW) has been installed as a sender inside the light barrier.

Do not look into the laser beam !

Looking accidentally into the beam for a short time (<0.25 s) will cause no harm to your eyes.

5 Adjustment of the Belt



Attention!

The conveyor belt is already adjusted at delivery.

Do only adjust and tighten the belt when required!

Do only rotate the threaded pins extremely carefully. Otherwise the belt can be damaged!

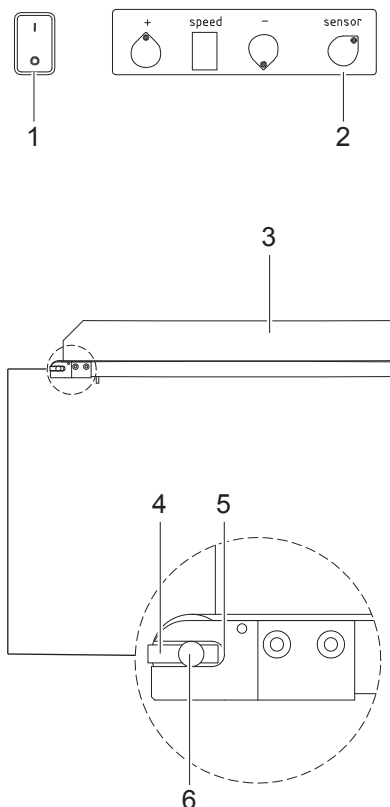


Fig. 7 Adjustment of the belt

To realize a correct transport of the separated PCB's it is necessary that the conveyor is tightened and inserted in the right way.

1. To re-adjust and tighten the belt switch the device into the setting mode by pressing and holding the key <sensor> (2) and switching on the conveyor with the switch (1) at the same time until the LED flashes.

After activating the foot switch, the conveyor is running for 10 minutes. Now the belt can be adjusted.

By pressing any key the time of the setting mode is extended.

The belt is tight placed around a shaft (6). The shaft is kept in a long hole (5) and is fixed with threaded pins (4) at both sides of the belt.

2. Rotate the threaded pins (4) at both sides alternately to regulate the running of the belt. Rotate as long as necessary to reach the correct adjustment:
 - rotate front pin clockwise to tighten the belt at the right side.
 - rotate front pin counterclockwise to loosen the belt at the right side.
 - rotate rear pin clockwise to tighten the belt at the left side.
 - rotate rear pin counterclockwise to loosen the belt at the left side.

3. After finishing the adjustment, switch off the conveyor.

Now the conveyor can be put into operation. The setting mode can be stopped at any time by switching off the device.

When operating the system MAESTRO 4M the separation of PCB's as well as the start of the conveyor belt are triggered by pressing the foot switch.

The conveyor belt continues to operate either until the sensor "end of belt" has detected a PCB or until a conveying distance of the adjusted length has been reached.

If the belt has been stopped by the sensor "end of belt", the belt restarts immediately by picking up a PCB from the belt.

The different operating modes of the MAESTRO 4M and of the conveyor belt do not influence one another.

7 Error Messages

Errors during the operation of the conveyor belt are indicated by a message in display (1).

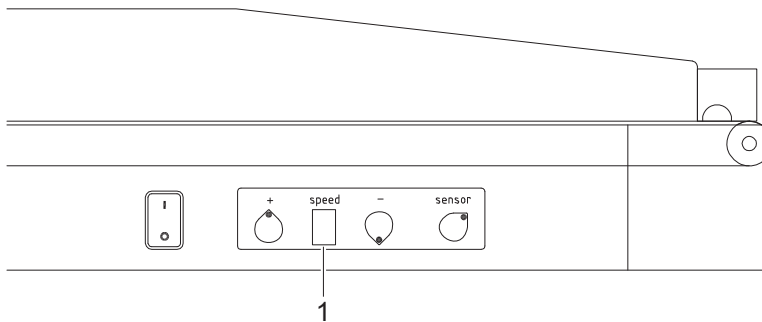


Fig. 8 Error display

Error message	Cause	Remedy
"F" is shown on the display	Transport is blocked	Remove the object that causes the blockade

Table 3 Error messages



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und Automations-
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Wilhelm-Schickard-Str. 14
D-76131 Karlsruhe,
Germany


EC Declaration of Incorporation

We declare herewith that the following „partly completed machinery“ as a result of design, construction and the version put in circulation complies with the essential requirements of the **Directive 2006/42/EC on machinery** :

Annex I, Article 1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.2.1, 1.2.4.1, 1.3.2, 1.5.1, 1.5.2, 1.5.8, 1.6.3, 1.7

The „partly completed machinery“ additionally complies with the Directive 2004/108/EC relating to electromagnetic compatibility.

In the event of any alteration which has not been approved by us being made to any device as designated below, this statement shall thereby be made invalid.

Device:	Conveyor belt
Type:	1200 for MAESTRO 4M, 1350 for MAESTRO 4M/600
Applied EC Regulations and Standards:	
Directive 2006/42/EC on machinery	<ul style="list-style-type: none"> • EN 61029-1:2009 • EN 60825-1:2007 • EN 61558-1:2005+A1:2009
Person authorised to compile the technical file :	Erwin Fascher Am Unterwege 18/20 99610 Sömmerda
Signed for, and on behalf of the Manufacturer :	Sömmerda, 02.11.11  Erwin Fascher Geschäftsführer
cab Produkttechnik Sömmerda Gesellschaft für Computer- und Automationsbausteine mbH 99610 Sömmerda	

The product must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of the Directive on machinery

The documents according annex VII part B from the incomplete machinery are created and will commit to state agencies on request in electronic kinds.


Declaration of Conformity according Directive 2004/108/EC relating to electromagnetic compatibility on the next page



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und Automations-
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D-76131 Karlsruhe,
Germany

EC Declaration of Conformity

We declare herewith that the following device as a result of design, construction and the version put in circulation complies with the relevant fundamental regulations of the EC Rules for Safety and Health. In the event of any alteration which has not been approved by us being made to any device as designated below, this statement shall thereby be made invalid.

Device:	Conveyor belt
Type:	1200 for MAESTRO 4M, 1350 for MAESTRO 4M/600
Applied EC Regulations and Standards:	
Directive 2006/42/EC	<ul style="list-style-type: none"> • EN ISO 12100:2010 • EN 61029-1:2009+A11:2010 • EN 60825-1:2007 • EN 61558-1:2005+A1:2009
Directive 2004/108/EC	<ul style="list-style-type: none"> • EN 61000-3-2:2006+A1:2009+A2:2009 • EN 61000-3-3:2008 • EN 61000-6-2:2005 • EN 61000-6-4:2007+A1:2011
Signed for, and on behalf of the Manufacturer :	
cab Produkttechnik Sömmerda Gesellschaft für Computer- und Automationsbausteine mbH 99610 Sömmerda	Sömmerda, 20.06.13  Erwin Fascher Managing Director

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