

Operator's Manual



PCB Separator

MAESTRO 4S

MADE IN GERMANY

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

Description	Туре
PCB Separator	MAESTRO 4S

Edition: 05/2019 Part No.: 9009613

Copyright

This documentation as well as translation hereof are property of cab Produkttechnik GmbH & Co. KG. The replication, conversion, duplication or divulgement of the whole manual or parts of it for other intentions than its original intended purpose demand the previous written authorization by cab.

Editor

Regarding questions or comments please contact cab Produkttechnik GmbH & Co. KG.

Topicality

Due to the constant further development of our products discrepancies between documentation and product can occur. Please check www.cab.de for the latest update.

Terms and conditions

Deliveries and performances are effected under the General conditions of sale of cab.

Germany **cab Produkttechnik GmbH & Co KG** Karlsruhe Phone +49 721 6626 0 <u>www.cab.de</u>

France cab Technologies S.à.r.l. Niedermodern Phone +33 388 722501 www.cab.de/fr USA cab Technology, Inc. Chelmsford, MA Phone +1 978 250 8321 www.cab.de/us

Mexico cab Technology, Inc. Juárez Phone +52 656 682 4301 <u>www.cab.de/es</u> Taiwan **cab Technology Co., Ltd.** Taipei Phone +886 (02) 8227 3966 <u>www.cab.de/tw</u>

China **cab (Shanghai) Trading Co., Ltd.** Shanghai Phone +86 (021) 6236 3161 <u>www.cab.de/cn</u> China **cab (Shanghai) Trading Co., Ltd.** Guangzhou Phone +86 (020) 2831 7358 <u>www.cab.de/cn</u>

South Africa **cab Technology (Pty) Ltd.** Randburg Phone +27 11 886 3580 <u>www.cab.de/za</u>

Table of Contents

1	Introduction	4
1.1	Instructions	4
1.2	Intended Use	4
1.3	Safety Instructions	4
1.4	Safety Marking	5
1.5	Environment	5
2	Technical Data	6
3	Contents of Delivery	7
4	Control Panel	7
5	Installation	8
5.1	Electrical Links	8
5.2	Assembly of the Adjustable Platform	8
c	Switch on and Deceromying	•
0	Switch on and Programming	9
6.1 6.2	Switch on and synchronize the blade	9
63	Programmendation for cutting - depend of notch thickness and number of cuts	10
6.4	Changing the Program	.11
••••		
7	Adjustment the Cut Length	11
8	Operation	12
9	Maintenance	13
9.1	Changing the Upper Blade	13
9.2	Adjustment of the Upper Blade Stopper	14
9.3	Upper Guide Adjustment	15
9.4	Table Adjustment	15
9.0	Adjusting the Linear Blade	17
9.7	Check the Blade Alignment	18
9.8	Cutting of aluminium PCB's with roller blade FR4	18
10	Errors	19
11	EU Declaration of Conformity	20

1	Introduction
1.1	Instructions
	Important information and instructions in this documentation are designated as follows:
4	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.
1	Notice! Gives you tips. They make a working sequence easier or draw attention to important working processes.
ক্সা	Environment!
EB	Gives you tips on protecting the environment.
►	Handling instruction
\triangleright	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 for separating pre-scored PCB's. 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.

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

1.3 Safety Instructions

- The device is configured for voltages of 115 or 230 V AC. It only has to be plugged into a grounded socket.
- Hazard by electrical charge. Provide an earthing connection via press stud.
- Only connect the device to other devices which have a protective low voltage.
- Switch off all affected devices (e.g. conveyor belt) before connecting or disconnecting.
- Risk of hand injury. Wear protective gloves while PCB separating.
- Ensure that people's clothing, hair, jewelry etc. do not come into contact with the exposed rotating blade.
- In an emergency situation, actuate the emergency stop switch in the control panel by tight pressing. This interrupts the voltage supply to the device.
- The device may only be used in a dry environment, do not expose it to moisture (sprays of water, mists, etc.).
- Do not use the device in an explosive atmosphere.
- Do not use the device close to high-voltage power lines.

Notice!

1 Introduction

- Work going beyond this may only be performed by trained personnel or service technicians.
- Unauthorized interference with electronic modules or their software can cause malfunctions.
- Other unauthorized work on or modifications to the device can also endanger operational safety.
- Always have service work done in a qualified workshop, where the personnel have the technical knowledge and tools required to do the necessary work.
- There are various warning stickers on the device. They draw your attention to dangers. Warning stickers must therefore not be removed, as then you and other people cannot be aware of dangers and may be injured.



Danger!

Danger to life and limb from power supply.

Do not open the device casing.

1.4 Safety Marking



Fig.1 Safety marking

1		Emergency Switch
		Press it in a hazardous situation!
2	m	Risk of hand injury!
		Wear protective gloves while PCB separating.
3		Possible damage of electronics!
	- C	Disconnect the PCB separator from the electrical outlet before mounting or removing an optional conveyor belt.
4		Hazard by electrical charge!
		Provide an earthing connection via press stud.

Table 1 Safety marking

1.5 Environment

E.

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.

6 2 Technical Data

Technical data	a	4S/450	4S/600			
Separation type		Component side:	circular blade			
		Soldering side:	Soldering side: linear blade			
Operation		motorized and optimized				
Separation speedt		300/500 mm/sec. switchable				
Material		FR4, Aluminium				
Height of components		Component side/Soldering side	up to 34 mm			
Cutting length, continuous F		up to 450 mm	up to 600 mm			
Length D		702 mm	852 mm			
Depth storage table		200 mm				
Programming						
Home		Request drive to starting position	on, Acknowledge			
Speed		H (High): 500 mm/Sek.				
		L (Low): 300 mm/Sek.				
Program		9				
Step (cutting steps)		1 – 5				
Distance (between blades)		0,9 mm bis 0,05 mm				
Key switch button		Release of programming				
Mileage (Kilometer counter)		up to 99 km				
DEL		Reset of the kilometer counter				
Power switch		ON/OFF				
Foot switch		START Separation				
Safety switch		Emergency stop				
Voltage		100–240 V~ 50/60 Hz				
Emission sound pressure level		LpA < 70 dB (A)				
Temperature / humidity not	Operation	+10-35°C /	10–85%			
condensing Stock		0–60°C /	20–80%			
	Transport	-25–60°C /	20-80%			
Weight		38 kg	38 kg 46 kg			
Height/Depth		434x425 mm	1			
Width		702 mm	852 mm			
Approvals		CE, FCC class A				





- Maestro 4S/300 (600) Power Cable
- 3 Dial Gauge Assembly
- 4 Food Switch

1 2

5

- Hexagonal Wrench DIN911 2mm
- 6 Hexagonal Wrench
- DIN911 5mm
- 7 Documentation

Fig.2 Contents of Delivery

Control Panel

4



Fig.3 Control Panel

1	Button home	Synchronization after switch-onQuit of errors in operation
2	LED not ready	Is blinking in case of error or missing synchronization of thr blade.
3	Button speed	Choice of speed.
4	Display speed	Display the selected speed; L (Low) and H (High)
5	Button program	Program choice.
6	Display program	Display the selected program.
7	Button step	Choice the cut of the material separation in the program.
8	Display step	Show the current cut in the operation.Show the selected cut in the program.
9	Button distance -	Make the distance between blades smaller
10	Button distance +	Make the distance between blades bigger.
11	Display distance	Display the distance between blades.
12	Button key	Switch on the programming mode.
13	LED key	Is blinking in programming mode.
14	Button DEL	Reset display mileage
15	Display mileage	Total length of all cuts from zero position

Table 3 Control Panel Elements

8 5 Installation

Ĩ

5.1 Electrical Links

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.

Notice!

Clean the blade with a soft cloth before you start the machine at first time!



Fig.4 Connections

- Set up device on a level surface. For a secure stand you can change the foot highness by turning.
- ▶ Put in the foot switch round connector (4) from the foot switch (7) in the 5 pin female connector (2) and tighten it.
- Connect the electrical ground on the earth connection (6).
- Switch off the power module (1).Connect the power cable (5) to the power input module (3) and to an earthed socket.

5.2 Assembly of the Adjustable Platform



Fig.5 Assembly of the adjustable platform

The adjustable platform delivered with the machine is designed for use as a hand-rest, easing the placement of the PCB on the lineal blade. Thereby it is also preventing a possible premature tiring for the user.

The adjustable platform is delivered with 3 cylinder screws, washers and an Allen Screwdriver.

1. Mount the platform (2) by inserting the screws provided into the threaded holes (1) in the frame of the MAESTRO 4M.

Using the elongated holes in the retainer of the platform a rough height adjustment is possible.

2. By turning the knurled screw (4), the platform (3) can be raised or lowered sensitively. Rotating the knurled screw anti-clockwise will lift up the platform.

6 Switch on and Programming

Notice!

i

i

You can separate PCB panel with multiple cuts very softly. It means, more cuts are gentle for material and elements on the PCB board.

6.1 Switch on and synchronize the blade

1. Switch on the device by power switch (1). LED not ready is blinking.

Notice!

Are all connections ready and the device is swiched on and not in function check the emergency swith!



Fig.6 Power Switch

- 2. Press button home.
- 3. Press the foot-switch and hold it.
- Device will run to the start position or from the start position short out and back into the start position.
- 4. Loose the foot switch and the device is ready. LED not ready don't glow.

It's possible to use 9 program places.

After the first switch on the program 1 will be loaded.

Setting ex factory:

Material separation in 3 cuts, with increasing cut deepness respectively declining blade distance.

- 1. cut = blade distance: 0,6 mm
- 2. cut = blade distance: 0,3 mm
- 3. cut = blade distance: 0 mm

6.2 Programming

- 1. Press button **program** and hold it over 3 seconds. The display of the selected program is blinking.
- 2. Select desired program place by the button program.
- 3. Press the button key for 3 seconds up to the LED key is blink.
- 4. Select cut step by the button step.
- 5. With the button distance and distance + adjust the distance of the blades for this cut step.
 - maximum distance = 0,6 mm
 - Adjusting in steps of = 0,05 mm
 - minimum Distance = 0 mm
- 6. Select next cut step.
- 7. Adjust the blade distance
 - Blade distance smaller the former distance and higher 0 mm; back to point 5.
 - Blade distance = 0 mm or the same value as the former distance and pressing the button **step**; closing the programming mode. LED **key** don't glow.

In case of end programming with two same distance value with a value greater 0 mm is the last cut a cut in this distance.

Maximum 5 cuts are possible.

10 6 Switch on and Programming

6.3 Recommendation for cutting - depend of notch thickness and number of cuts



Notice!

i

The cutting is more gentle for the PCB's with a higher number of cuts.

The deepness of the last cut must be so that the PCB's are easily to separate.

The values are recommendation and it's possible to change it if it is necessary.

Number of cuts to separating PCB's	1. Cut	2. Cut	3. Cut	4. Cut	5. Cut
5	0,65 mm	0,50 mm	0,30 mm	0,15 mm	0,00 mm
4	0,65 mm	0,40 mm	0,20 mm	0,00 mm	-
3	0,60 mm	0,40 mm	0,20 mm	-	-
2	0,55 mm	0,25 mm	-	-	-
1	0,40 mm	-	-	-	-

Notch Thickness 0,8 mm

Notch Thickness 0,7 mm						
Number of cuts to separating PCB's	1. Cut	2. Cut	3. Cut	4. Cut	5. Cut	
5	0,60 mm	0,40 mm	0,30 mm	0,15 mm	0,00 mm	
4	0,55 mm	0,35 mm	0,20 mm	0,00 mm	-	
3	0,55 mm	0,35 mm	0,20 mm	-	-	
2	0,45 mm	0,25 mm	-	-	-	
1	0,35 mm	-	-	-	-	

Notch Thickness 0,6 mm						
Number of cuts to separating PCB's	1. Cut	2. Cut	3. Cut	4. Cut	5. Cut	
5	0,50 mm	0,35 mm	0,25 mm	0,10 mm	0,00 mm	
4	0,50 mm	0,30 mm	0,15 mm	0,00 mm	-	
3	0,45 mm	0,30 mm	0,15 mm	-	-	
2	0,40 mm	0,20 mm	-	-	-	
1	0,30 mm	-	-	-	-	

Notch Thickness 0,5 mm						
Number of cuts to separating PCB's	1. Cut	2. Cut	3. Cut	4. Cut	5. Cut	
5	0,40 mm	0,30 mm	0,20 mm	0,10 mm	0,00 mm	
4	0,40 mm	0,25 mm	0,15 mm	0,00 mm	-	
3	0,40 mm	0,25 mm	0,15 mm	-	-	
2	0,35 mm	0,15 mm	-	-	-	
1	0,25 mm	-	-	-	-	

Notch Thickness 0,4 mm

Number of cuts to separating PCB's	1. Cut	2. Cut	3. Cut	4. Cut	5. Cut
5	0,35 mm	0,25 mm	0,15 mm	0,10 mm	0,00 mm
4	0,30 mm	0,20 mm	0,10 mm	0,00 mm	-
3	0,30 mm	0,20 mm	0,10 mm	-	-
2	0,25 mm	0,15 mm	-	-	-
1	0,20 mm	-	-	-	-

Notch Thickness 0,3 mm

Number of cuts to separating PCB's	1. Cut	2. Cut	3. Cut	4. Cut	5. Cut
5	0,25 mm	0,20 mm	0,10 mm	0,05 mm	0,00 mm
4	0,25 mm	0,15 mm	0,10 mm	0,00 mm	-
3	0,25 mm	0,15 mm	0,10 mm	-	-
2	0,20 mm	0,10 mm	-	-	-
1	0,15 mm	-	-	-	-

Table 4

Recommendation for cutting

6 Switch on and Programming

6.4 Changing the Program

Switch between program 1 - 9

- Press button program and hold it over 3 seconds. The display of the selected program is blinking.
- Select the program by pressing the program button.
- If the button program not used for 3 seconds, the program display will end the blinking and the new program is selected.

7 Adjustment the Cut Length

Notice!

The adjusted cut length must be orientated on the separated PCB. Then, the display "mileage" for the cut length shown a realistic value.



Fig.7 Length of cut

1. Loosen easy knurled screw (1 and 2) and move it to the maximum outside position.

Notice!

Don't loosen the knurled screws (1 and 2) complete. loosen it only easy.

- 2. Activate the foot switch to start and run the program one times. The carriage will be now in a Endposition and the lower blade is free.
- 3. Hold the PCB on an any position between the both knurled screw.
- 4. Move the knurled screws (1 and 2) to the outside edges of the PCB and tighten the screws.

Notice!

The distance between the knurled screws (1 and 2) must be 20mm minimum. In case of a smaller distance, the sensors will not detected and the blade will run over the full length.

- 5. Activate the foot switch to start and run the program one times.
- 6. The carriage is standing now in the first cut position.
- 7. Put the PCB into the adjusted cut area (a to b) on the lower blade and move it in direction to the round blade midpoint ca. 10 mm under the carriage (3).
- 8. Check the setting with a test cut and maybe make a fine adjustment.

12 8 Operation

If the device switched of an d on it' will start in the last program before switched off.



Switch on the device by the power-switch (1). LED not ready blinking.



- 1. Press button home.
- 2. Press the foot-switch and hold it.

Device will run to the start position or from the start position short out and back into the start position..
Synchronization of the blades.

- 3. Deblock the foot-switch device is ready for operation. LED not ready don't glow.
- 4. Select program. If you switch of and on, the last used program is selected. After first switch on program 1 is selected.
- 5. Put in the PCB panel.

Pre-scored groove in the PCB (2) put onto the linear blade (3) and hold the PCB in the horizontal plane by hand. Ensure that the PCB is positioned within the area between the green knurled screws, the pre-selected area of cutting way of the upper blade.



Fig.9 Put in PCB

6. Press the foot-switch to start the program. Foot-switch must be pressed over the length of the program.

7. Deblock the foot-switch after program end.

Notice!

In case of uneven number of cuts will be an other start position for the next program start.

Reset the display of cut length

- Press button DEL for 3 seconds. Display mileage blinking.
- ▶ In the next 3 seconds press button **DEL** again to reset the display to Zero.

9.1 Changing the Upper Blade

In case of wasting, damage or material cahange it's necessary to change the upper blade.



Risk of hand injury!

Wear protective gloves while changing the blade.



Danger!

Risk of cutting damage by rotating blade! Disconnect device before you start service work!









Fig.10 Changing the upper blade

- 1. After switching off the device and disconnecting from power supply, pull connector (2) out from female connector (3) on the motor.
- 2. Slide the carriage to the left end position (front view). Like upper picture.
- 3. Set the setting knob (5) on value 16 blade on the highest position.
- 4. Swing lever (6) in position a to decouple.
- 5. Loosen screws (4) and remove table (1) by movements back and top.
- 6. Loosen screws (8).
- 7. Remove motor carriage with mounted motor (7).
- Hold the setting knob (5) and loosen the knurled nut(12).
- Remove blade (11). It's possible that the washer (10) are adhere on the blade. Remove the Washer (10) from bladeand take it back on the axle (9).
- 10. Take the new blade (11) on the axle (9).
- 11. Hold the setting knob (5) and tighten the knurled nut(12).
- 12. Set the setting knob (5) on value 16.
- Mount motor carriage with mounted motor (7), check the connection of the coupling motor/axle and tighten screws (8).
- 14. Swing lever (6) in position b to couple.
- 15. Hang up the table (1) and tighten screws (4).
- 16. Put in connector (2) into female connector (3) on the motor.



i

Adjust the stopper of the upper blade before you start operation. \triangleright chapter 9.2



9.2

Adjustment of the Upper Blade Stopper

Notice!

The lower stop of the upper blade adjustment is already adjusted by delivery.

• After a long operation time, while working at strongly varying temperatures or else after replacing a blade, it is recommended to re-adjust the lower stop.



Fig.11 Adjustment of the upper blade stopper

- 1. Move the lever (8) to the position 'a'. The motor drive to the blade carrier (1) is now disconnected.
- 2. Rotate the pointer (2) with the knob (4) counterclockwise to position "16".
- 3. Move the upper blade carrier (1) in the middle position of the lower blade.
- 4. Loosen the screw (3).
- 5. Move the knob (4) clockwise until the upper and lower blades are in a distance of 0.03 mm. Use a thickness gauge.
- 6. Swing the strut (5) clockwise until you reach the stop and tighten the screw (3). This adjustment locks the upper blade in place to prevent it from moving out of adjustment.
- 7. Move the lever (8) to the position 'b'. The motor drive to the blade carrier (1) is now reconnected.

9.3 Upper Guide Adjustment



Fig.12 Upper guide adjustment

- Using a pre-scored PCB, check the clearance "A" between the upper guides (1,3) and the lower blade (4). The clearance should be set so that the edge of the upper guide is located correctly into the pre-scored groove of the PCB. The PCB can be smoothly moved backwards and forwards but cannot move sideways. The upper guides (1,3) prevent the PCB from slipping to the side and therefore ensures that it is not separated other than at the pre-scored groove.
- 2. As required, the clearance A should be adjusted as described above by turning the eccentric adjusters (2).

9.4 Table Adjustment



Fig.13 Table adjustment

To suit the MAESTRO 4M to differing requirements, the height of the table can be adjusted as follows:

- 1. Loosen the knurled screws (7) located on the inner side of the machine frame.
- 2. Lift the table (5) slightly and move it towards the rear until the stop.
- 3. Slide the table on the slots (6) and mount it at the height required.
- 4. Pull the table gently forwards until it locks into place.
- 5. Tighten the knurled screws (7).
- 6. Whilst the knurled screws are loose, the table can be removed completely from the machine frame as the elongated slots (6) have an opening underneath. Complete removal of the table is required especially for replacement of the lower blade or mounting the optional conveyor belt.

Additionally, by sliding the table towards the rear it is possible to form a space between the table and the lower blade through which the edge strips of the PCB can fall through into a container placed underneath.



9.5

Changing the Linear Blade

Warning!

Risk of cutting injury in handling of the linear blade.

Risk of hand injury!

• Wear protective gloves while changing the blade.



- 1. Loosen shouldered screw (4).
- 2. Hold the linear blade (1) to avoid an uncontrolled fall of the blade.
- 3. Loosen screws (3). The eccentric (2) will used for guiding and will not loosened.
- 4. Pull out the linear blade (1) in direction of the device rear side from eccentric (2).
- 5. Move out the linear blade (1).
- 6. Mounting of the new linear blade in revers order.

9

9.6

Adjusting the Linear Blade

Warning!

Risk of cutting injury in handling of the linear blade.

To ensure a constant cutting quality and to prevent damaging of the blades must adjust the linear blade so that the distance between upper blade and linear blade is constant of the full cutting length. 2



(Front view)



- 1. Decouple the carriage (1) from motor by the lever (3).
- 2. Turn upward the upper blade by the setting knob on the carriage (1).
- 3. Pull the carriage (1) over the full cutting length. The Distance between upper blade and linear blade (2) must be constant over the full length.
- 4. Repeat this activity with reduced distance between upper blade and linear blade (2) up to a possible variation in the distance is visible.
- 5. Are variation in the distance visible, loosen screws (5).
- 6. Turn the eccentric (4) to adjust the linear blade (2). The should red screw (6) are the axle of rotation and by turning the eccentric (4) will the linear blade (2) lifted or put down.
- 7. Repeat the setting and check up to the distance is over the full cutting distance the same.
- 8. Tighten screws (5).



9.7

Ĩ

Check the Blade Alignment

Notice!

When the machine is put into operation for the first time, or following a move of equipment or a change of blades, it is advantageous to re-check the alignment of the blades in relationship to one another. For this purpose a dial gauge assembly (Part No. 8970208) is available as an option.



Fig.18 Check the blade alignment

- 1. Move the blade carrier (1) to the middle of its range of travel.
- 2. Affix the dial gauge assembly onto the threaded hole (2) in the blade carrier and screw tight with the knurled screw (4) provided.

Ensure that the small spigot (5) mounted on the inside of the lever (6) locates correctly into the hole (3) provided in the blade carrier.

- 3. Swing the lever (6) upwards until the tip of the gauge feeler (7) presses onto the upper blade (9) at 2 mm of the edge of the blade. Rotate the scale on the dial gauge until the pointer in the 1/100 mm division is lined up with the "0" on the scale.
- 4. Swing the lever (6) downwards until the tip of the gauge feeler (7) presses onto the lower blade (10) at 2 mm of the edge of the blade..
- 5. In the event of the values obtained by the above procedure being greater than the values, the servicing agent responsible for your machine should be contacted.
- 6. Remove the dial gauge assembly.

9.8 Cutting of aluminium PCB's with roller blade FR4

Attention!

The using of a roller blade FR4 (cab part No.: 8930509.001) for cutting aluminium PCB's reduced the durability of the blade by higher abrasion.

For using a roller blade FR4 for cutting aluminium PCB's it's necessary to make a couple of modification:

- implement a side offset between the blades from 0,2 to 0,3 mm
- confirm the lower stopper of the upper blade

Implementation of the offset between the blades





- Remove the existing roller blade
- Shift the added fitted washer (cab part No.: 5903026.001) on the axle. Attach the roller blade FR4 (cab part No.: 8930509.001) like the description of the Operator's Manual..
- Check the offset.

Setting of the lower stopper



Fig.20 Setting knob on the carriage

- ▶ Turn the setting knob (3) clockwise up to the stopper.
- Loosen screw (2).
- ▶ Hold the lever (1) and turn the setting knob (3) with indicator clockwise for two increments.
- Tighten screw (2).
- Decouple the motor.
- Pull the carriage via hand over the full cutting length. The roller blade must not rotate.

If the roller blade rotate:

Repeat the setting with a little turn of the setting knob (3) to a small distance between the blades, so that the roller blade is free over the full cutting length.

10 Errors

Cause of error	Effect / Display	Error recovery
The food-switch is clear in the moment of synchronization	LED not ready Display step Display distance Display cut length	 Switch of the device and switch it on again. New synchronization
The device is switched on and the carriage with the upper blade will moved by hand out of the start position		
The carriage with the upper blade	LED not ready blink	Press button home
is blocked in operation.		Press the foot-switch and hold it
The food-switch will be clear if the program is running.		S Device will run into the start position
		 Clear the foot-switch
		A new activation of the food-switch will continue the program with a replay of the last cut.
Material is not separated after program end	er	Switch of the device and make a new synchronization.
		 Chang programing
		- More cuts
		 Reduce the distance between upper and lower blade in smaller steps



cab Produkttechnik GmbH & Co KG Wilhelm-Schickard-Str. 14 D-76131 Karlsruhe Deutschland

EU 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 EU 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.

Description:	PCB Separator	
Device:	MAESTRO 4S	
Applied EU-Directives and Standards:		
Directive 2006/42/EC on machinery	• EN ISO 12100:2010	
	• EN ISO 13857:2008	
	• EN 349:1993+A1:2008	
	• EN 60204-1:2006+A1:2009	
	• EN 62841-1:2015	
Directive 2014/30/EU relating to electromagnetic compatibility	• EN 61000-3-2:2014	
	• EN 61000-3-3:2013	
	• EN 61000-6-2:2005	
	• EN 61000-6-4:2007+A1:2011	
Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment	• EN 50581:2012	
Person authorised to compile the technical file:	Erwin Fascher	
	Am Unterwege 18/20	
Signature for the producer:	Sömmerda, 13.05.2019	
cab Produkttechnik Sömmerda Gesellschaft für Computer-	Oken and	
und Automationsbausteine mbH	Erwin Fascher	
aao in Soumeiga	Managing Director	