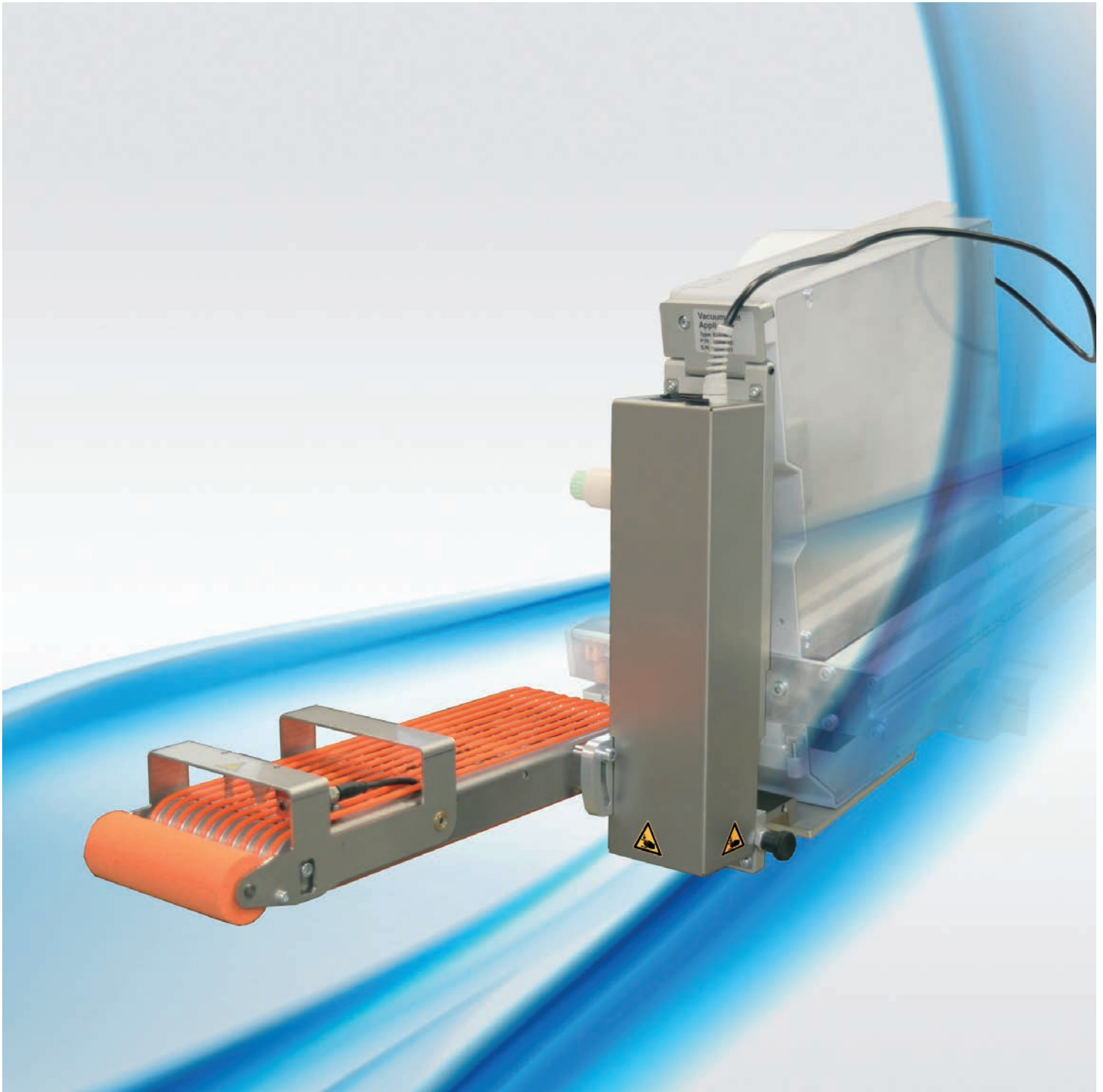


Operator's Manual



**Vacuum-Belt
Applicator**

5314 / 5316

Made in Germany

Family	Type
Vacuum-Belt Applicator	5314
	5316

Edition: 10/2017 - Part No. 9009884

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Germany

cab Produkttechnik
GmbH & Co KG
Postfach 1904
D-76007 Karlsruhe
Wilhelm-Schickard-Str. 14
D-76131 Karlsruhe

Telefon +49 721 6626-0
Telefax +49 721 6626-249

www.cab.de
info@cab.de

France

cab technologies s.a.r.l.
F-67350 Niedermodern
Téléphone +33 388 722 501

www.cab.de/fr
info.fr@cab.de

USA

cab Technology Inc.
Tyngsboro MA, 01879
Phone +1 978 649 0293

www.cab.de/us
info.us@cab.de

Asia 亚洲

cab Technology Co., Ltd.
希愛比科技股份有限公司
Junghe, Taipei, Taiwan
Phone +886 2 8227 3966

www.cab.de/tw
info.asia@cab.de

China 中国

cab (Shanghai) Trading Co., Ltd.
锐博(上海)贸易有限公司
Phone +86 21 6236-3161

www.cab.de/cn
info.cn@cab.de

Representatives in other countries on request

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1.1 Instructions

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



Danger!

Draws attention to an exceptionally great, imminent danger to your health or life due to hazardous voltages.



Danger!

Draws attention to a danger with high risk which, if not avoided, may result in death or serious injury.



Warning!

Draws attention to a danger with medium risk which, if not avoided, may result in death or serious injury.



Caution!

Draws attention to a danger with low risk which, if not avoided, may result in minor or moderate injury.



Attention!

Draws attention to potential risks of property damage or loss of quality.



Note!

Advice to make work routine easier or on important steps to be carried out.



Environment!

Gives you tips on protecting the environment.



Handling instruction



Reference to section, position, illustration number or document.



Option (accessories, peripheral equipment, special fittings).

Time Information in the display.

1.2 Intended Use

- The device is manufactured in accordance with the current technological status and the recognized safety rules. However, danger to 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 applicator mounted on a cab printer of the Hermes+ series is intended exclusively for applying suitable materials that have been approved by the manufacturer. 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.



Note!

The complete and current version of the documentation can be found in the Internet.

1.3 Safety Instructions



Attention!

Initiation, adjustments and changing of parts are to be performed by qualified service personnel only.



Warning!

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

- Before mounting the delivered components disconnect the printer from the power supply and close the shutoff valve of the applicator.
- Only connect the device to other devices which have a protective low voltage.
- Switch off all affected devices (computer, printer, accessories) before connecting or disconnecting.
- In operation, moving parts are easily accessible.
This applies especially for the zone, where the pad is moved between the starting and the labelling position. During operation do not reach into that zone and keep long hair, loose clothes, and jewelry distant. Before any manipulations in those areas, close the shutoff valve.
- 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.
- Perform only those actions described in this operating manual.
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.

1.4 Safety Markings

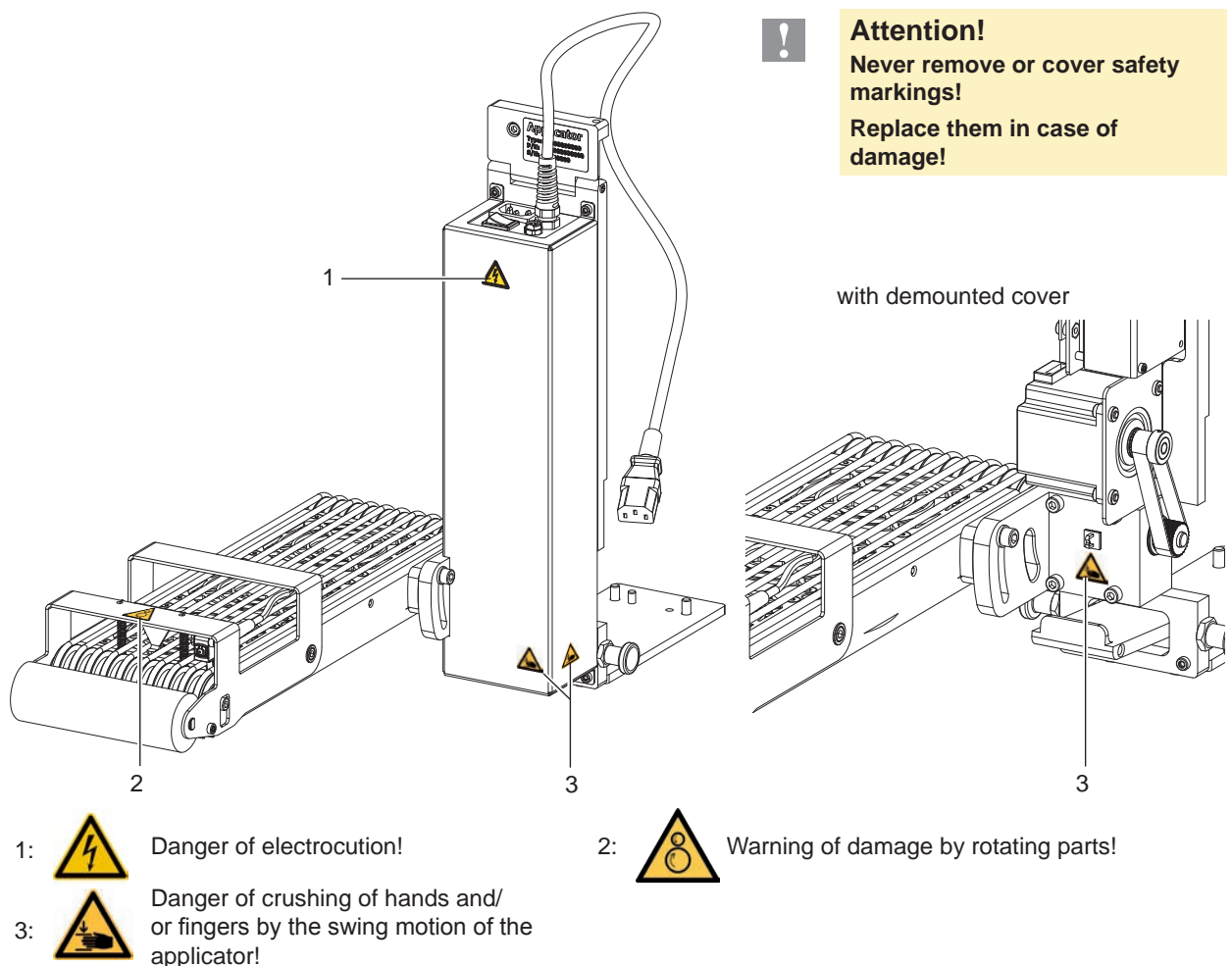


Fig.1 Safety marking

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 applicator enables it to be easily disassembled into its component parts.

- Send the parts for recycling.

2.1 Important Features

- Use the I/O interface of the printer for operation within a system.

2.2 Technical Data

Technical data		Vacuum belt applicator	
		5314-3	5316-3
Labeling		on the surface	on the surface
Label width	mm	20-114	46-174
Label height	mm	60-356	60-356
Product during labeling	in motion	■	■
Labeling on the product	from top	■	■
	from below	■	■
	from the side	■	■
Product distance	steady	■	■
Product height		steady	steady
Product speed	max. m/s	0,5	0,5
Distance between one product and the next	min. m	1,0	1,0
Vacuum belt speed ¹⁾	mm/s	100-500	100-500
Length	mm	390	390
Cycle time ²⁾	max. labels/min	30	30
Label distance to conveyor belt when labeling from the side	Y min. mm	20	20

¹⁾ The product speed must be higher than the vacuum belt speed.

²⁾ Calculated at label height 100 mm / print speed 250 mm/s

Table 1 Technical Data

2.3 Overview

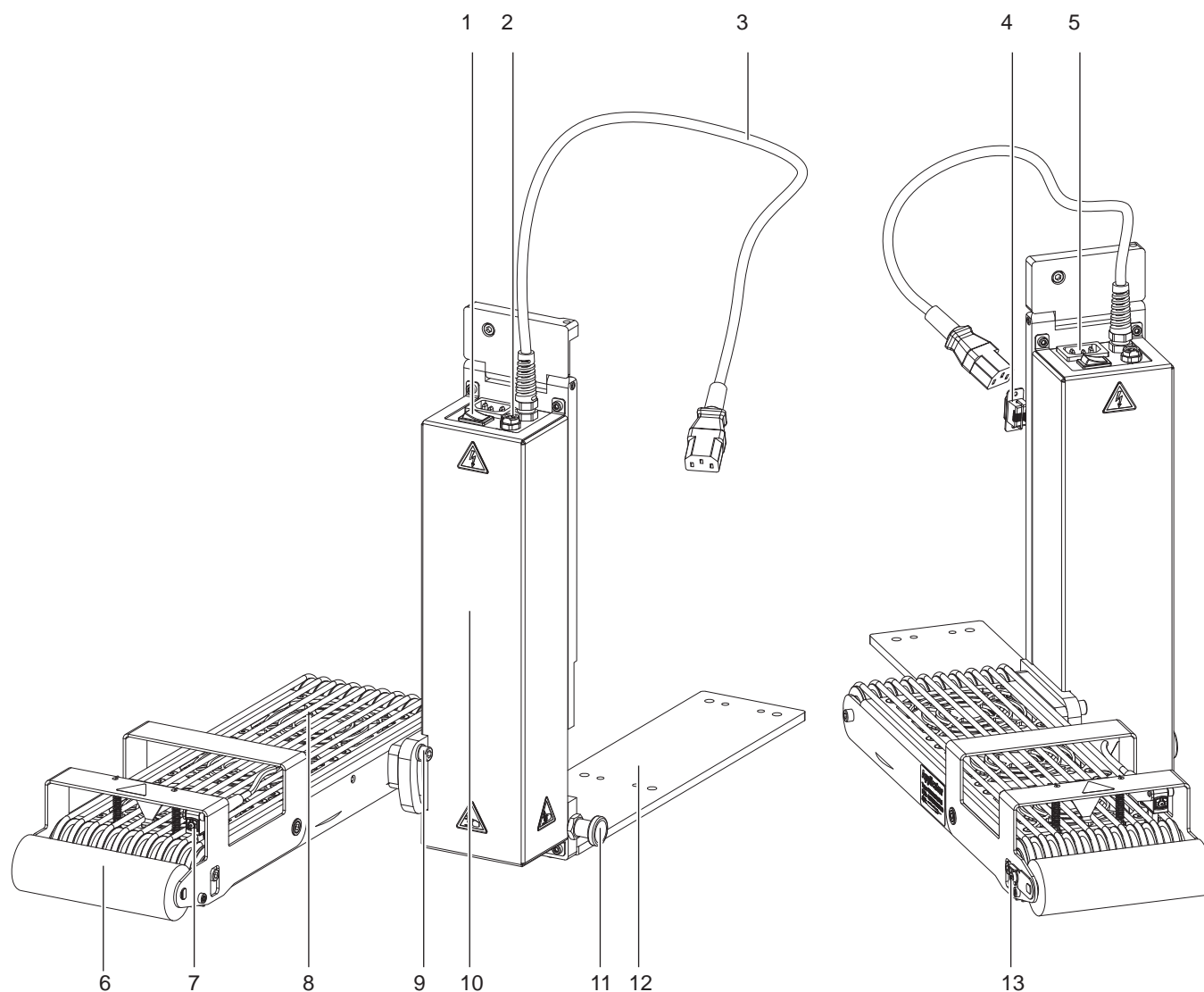


Fig.2 Device overview

- | | |
|--|---------------------------------------|
| 1 Power switch applicator | 10 Control unit |
| 2 3-pin female connector for a start sensor | 11 Locking pin |
| 3 Power cable (Voltage) to the printer | 12 Base plate for mounting on printer |
| 4 SUB-D 15 Interface to the printer | 13 Screw roller changing (pressure) |
| 5 Power module | |
| 6 Pressure roller | |
| 7 Sensor | |
| 8 Fans | |
| 9 Screws to adjust the angle of the applicator | |

2.4 Contents of Delivery

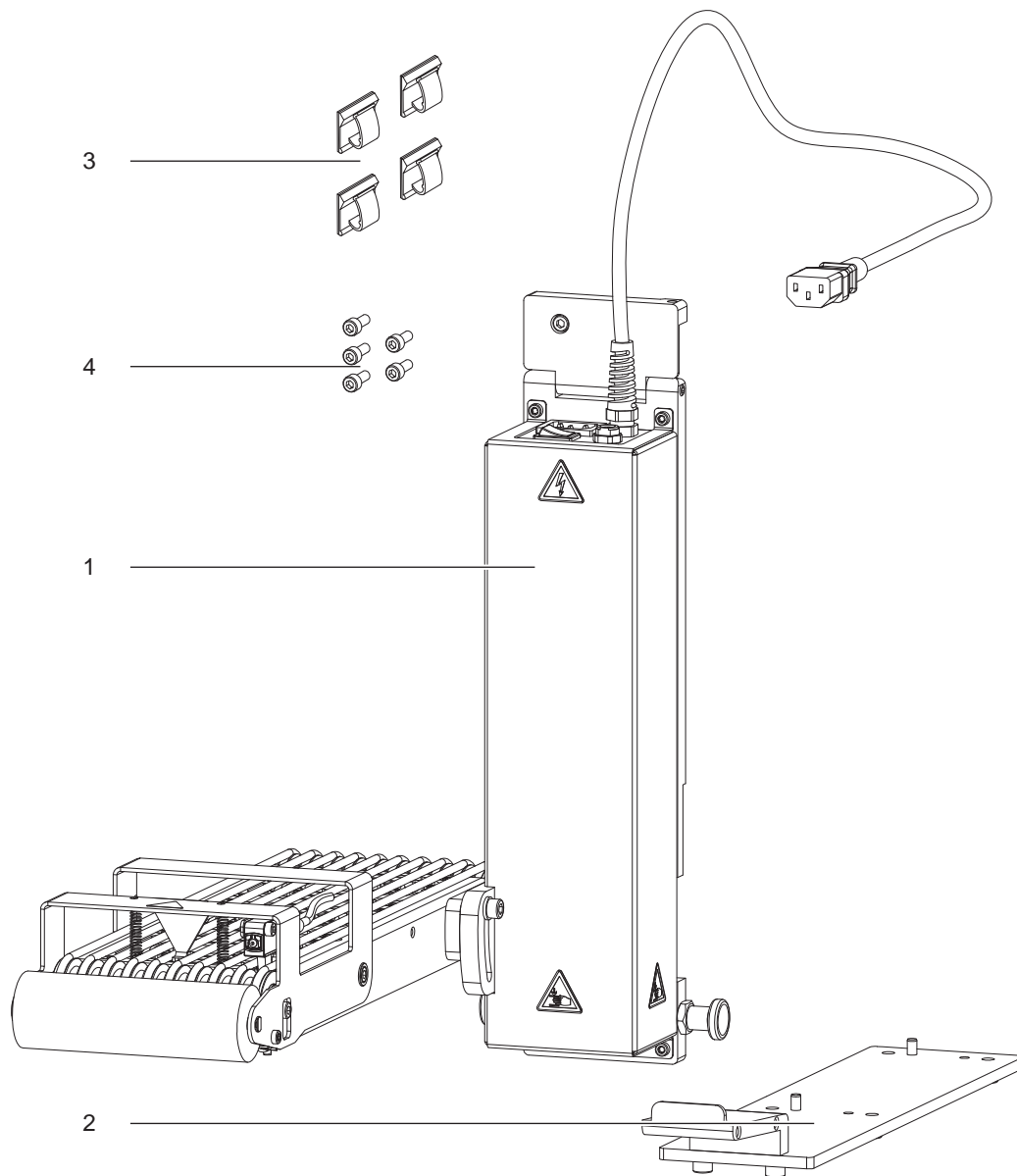


Fig.3 Contents of delivery

- Applicator mounted (1)
- Base Plate to mount to the printer (2)
- Cable-clip self-adhesive 4x (3)
- Screws to mount on the printer (4)
- Documentation

2.5

**Note!**

Please keep the original packaging in case the applicator must be returned.

**Attention!**

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

► Only set up label printer with applicator in dry locations protected from moisture and splashes.

3.1 Standard Operation

- ▶ Check all external connections.
- ▶ Load the material. Ensure that the locking system is locked ▷ "Operator's Manual" of the printer.
- ▶ Switch on the printer.
- ▶ Press the **feed** key on the printer.
A synchronization feed is released. The processed labels have to be removed manually. After a few seconds the printer carries out a short backfeed to position the front edge of the next label at the printing line.

**Note!**

The synchronization also has to be carried out when the print job has been interrupted with the cancel key. Synchronizing is not necessary when the print head was not lifted between print jobs. This also applies if the printer was powered down between print jobs.

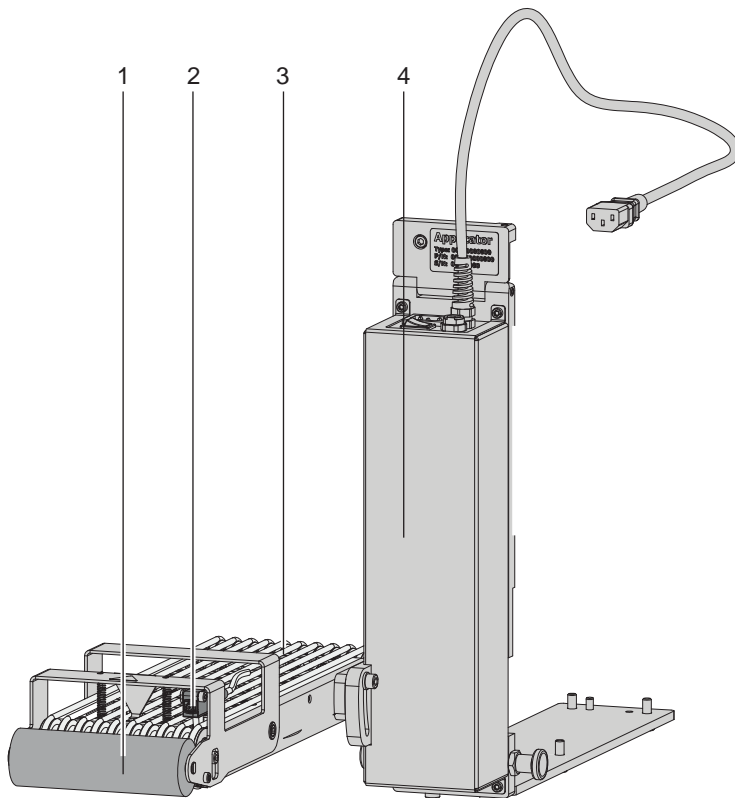
- ▶ Start a print job.
- ▶ Start the labelling process via PLC interface.

Error messages during labelling process are shown in the display of the printer ▷ Error Messages.

3.2 Cleaning

**Attention!**

Never use solvent and abrasive.



- ▶ 1: Clean the pressure roller with multi purpose cleaner.
- ▶ 2: Use glass cleaner to clean the reflex sensor.
- ▶ 3: Clean the fan area with a soft brush and/or a vacuum cleaner.
- ▶ 4: Clean the outside surfaces and transport belts with a multi purpose cleaner.

Fig.4 Cleaning

3.3 Mounting

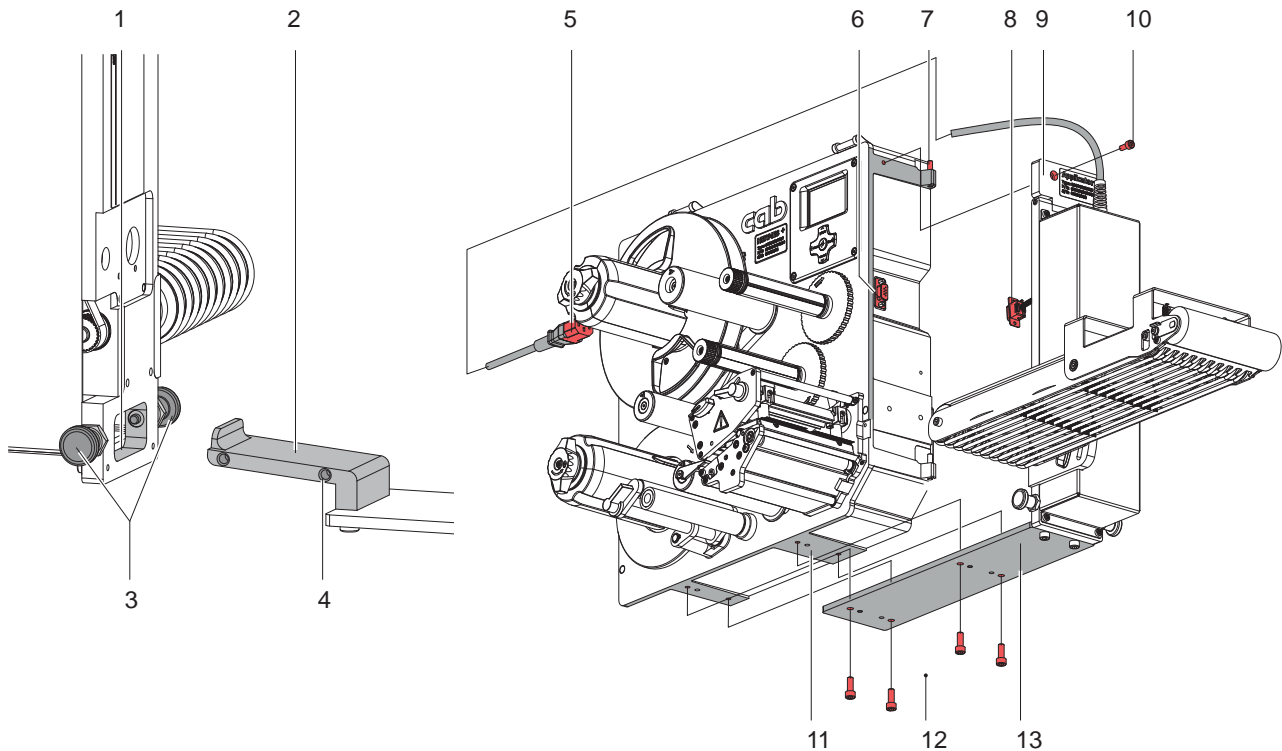


Fig.5 Mounting

To clean the applicator and printer it's sometimes necessary to turn away or even dismount the applicator from the printer.

Do not adjust the setting screws, throttle valves or other alignment elements. This will enable use of the applicator directly after cleaning.

- 1 Pull out the locking bolt (3) and put the base plate (2) into the opening (1).
- 2 Let the locking bolt (3) snap into the holes (4).
- 3 It may be necessary to lay the printer on its side or back to gain access to the bottom of it.
- 4 Put the hole of mounting plate (9) over the pin (3).
- 5 Connect SUB-D 9 male connector (8) to the female connector (6) of the printer.
- 6 Swing the applicator to the printer and turn in the screw (10) loosely.
- 7 The holes in the mounting plate (13) must be aligned to the holes in the printer base plate (11).
- 8 Place the screws (12) and tightening them.
- 9 Tighten screw (10).

**Attention!**

Initiation, adjustments and changing of parts is to be performed by qualified service personnel only.

▷ Initiation/Service Manual Applicator

**Attention!**

► Disconnect the printer and applicator from the power supply before mounting the applicator!

► Ensure the printer is in a stable position!

3.4 Power Supply of the Devices

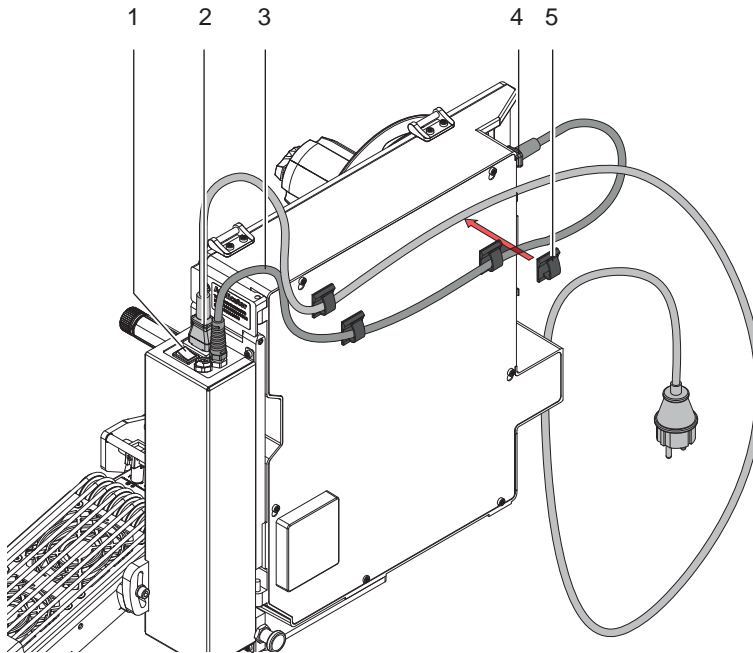


Fig.6 Power supply of the applicator and printer



Attention!

The connected power cable delivers the full voltage to the printer module.

The switch on the applicator only provides power to the applicator.

1. Plug in the power supply cable (2) from the printer into power input module of the applicator.
2. Plug in connector (4) of the support cable (3) from applicator into power input module of the printer.
3. Switch on the applicator via the on switch (1).
4. Switch on the printer.



Note!

If only the printer and not the applicator is switched on the error message: Air pressure ins. will appear.

5. For better cable guidance and organization use the four self-adhesive cable-clips (5) within the scope of the delivery. These are freely applicable to suit the individual setup of the system.

3.5 Start Signal via External Sensor

The start signal for applying labels can be initiated by an external sensor that is connected to the 3-pin female connector (1) directly on the applicator.

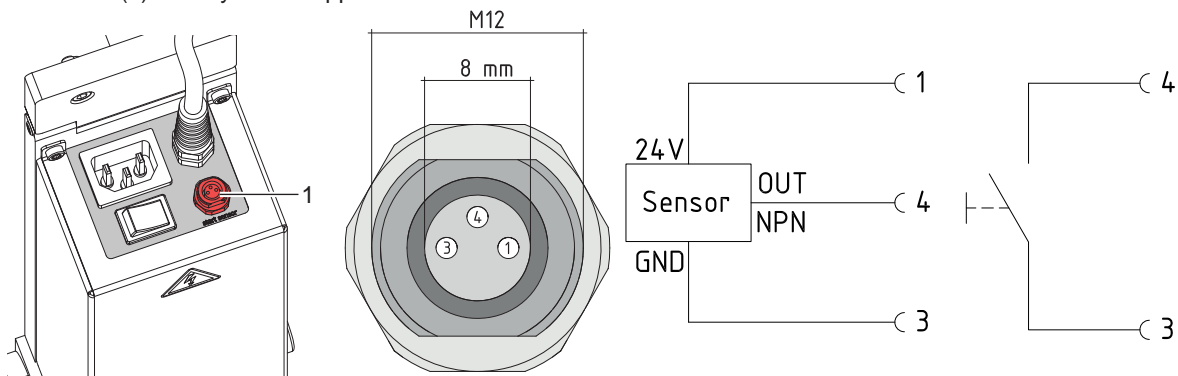


Fig.7 Connector for the starting sensor of the applicator

The start of the printing order is still initiated via the I/O interface of the printer.

To configure the external sensor see the above illustration and ▷ „4.3 Signals on page 14.

3.6 Mounting & dismounting the Applicator

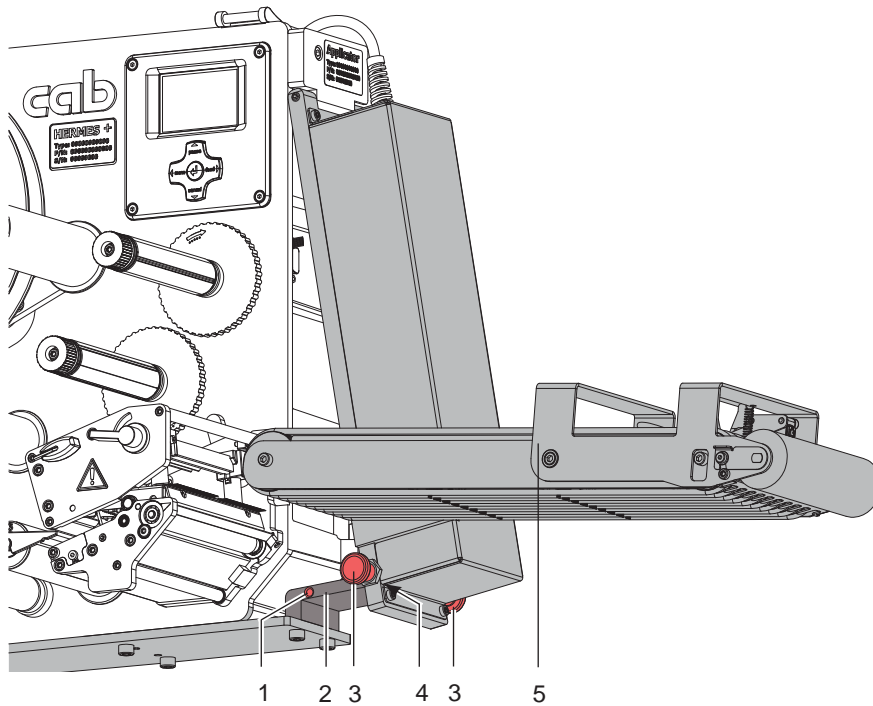


Fig.8 Mounting/dismounting the applicator



Attention!

Danger of crushing to hands and fingers by the swinging motion of the applicator!

When releasing the locking pins be aware of the downward motion caused by the weight of the applicator.

1. To dismount the applicator (5) for cleaning or loading material pull both locking pins (3) outward from the control unit.
2. Raise the applicator (5) with pulled out locking pins (3) so that they snap into the holes (4) of the mounting plate (2).
3. Remount the applicator (5) by pulling out the locking pins (3) and moving the applicator toward the printer until the locking pins (3) can snap back into the holes (1) of the mounting plate (2).

**Note!**

The alignment of the applicator to the printer is fixed according to factory standards and should not be altered to ensure a safe label application. Only the angle to the printer may be changed.

4.1 Setting the Angle to the Printer

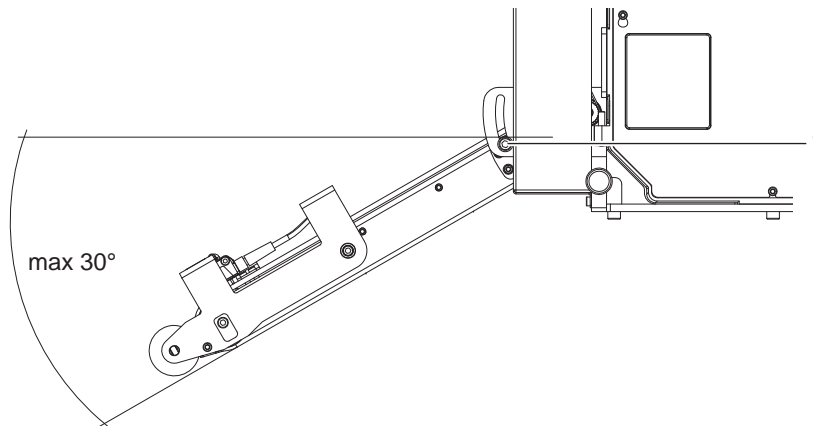


Fig.9 Setting the angle to the printer

**Warning!**

Take care when loosening screw (1). The device drops due to its own weight.

- Loosen screws (1) to adjust the angle and thus the depth of the applicator to the printer.
- Set the angle or depth of the product and tighten the screws (1). ► 4.2 Adjust the Setup of the Printer

4.2 Adjusting the Setup of the Printer

The configuration parameters of the applicator can be found in the menu `Setup > Machine param.`

Speed

**Note!**

The speed of the belt and the label transportation will set by the parameter `Support del. OFF`. The value is displayed in ms and not in real value used mm/s.

**Note!**

It's necessary to set exact the values in the table. Deviations will result in automatic defaulting back to the standard value of 100.

Parameter to set the speed of the belts.

Four steps are available.

100 ms :	100	mm/s speed of the transportation belt
150 ms :	150	mm/s speed of the transportation belt
220 ms :	220	mm/s speed of the transportation belt
300 ms :	300	mm/s speed of the transportation belt
500 ms :	500	mm/s speed of the transportation belt



> `Support del. OFF`

Waiting position of the label

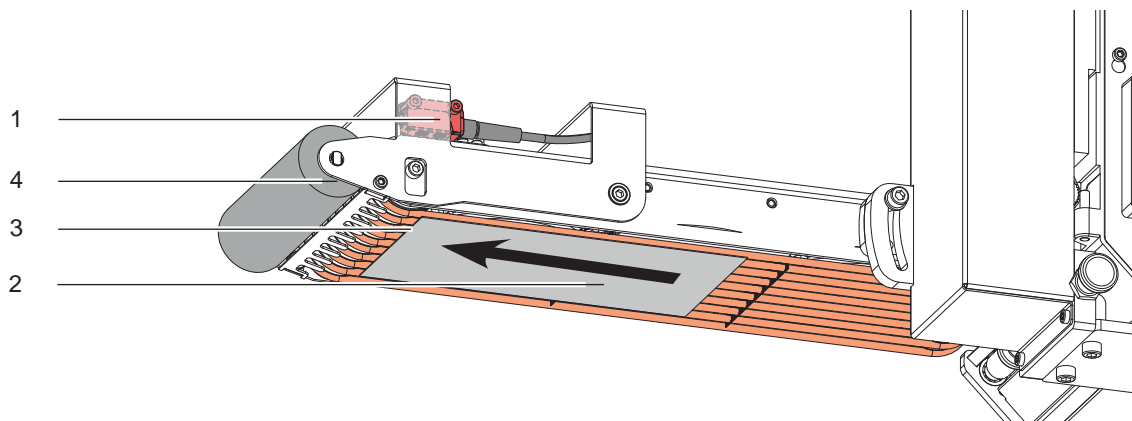


Fig.10 Label transport / Reflex sensor

In the setup the operation mode "Blow on" must be selected to gain access to the parameter "Blow time".

After reaching the reflex sensor (1) and the detection point (3) the transportation process continues a certain time to ensure that the label (2) it is applied by the pinch roller (4). The time and distance of this process can be adjusted via the parameter:



> Blow time

A higher value means the label will be transported further.

200 ms represents about 10 mm.

Follow up feed of the label

After the label (2) has left the the reflex sensor area (3) the application will continue transportation will continue to apply the label to the product. This length of this transportation process can be adjusted via the parameter:



> Support del. ON

4.3 Signals

- The signal **DREE** will start the print the label and move it to the reflex sensor before the pinch roller.
- The signal **START** will feed the label past the reflex sensor including the follow up transportation of the pinch roller.

In the apply-mode "**Apply - Print**" will print the next label of the print job after it has applied the previous label. In the apply-mode "**Print - Apply**" the printing of a new label depends on the signal DREE.

Pin	Signal	Name	Description		Activation / Active State
			without applicator	with applicator	
1		DREE	-	Print first label in mode "Apply-Print"	Switch on +24V between Pin 1 and Pin 25
13		START	Starting of the printing process dependant on: Superior control has confirmed the ETE signal, previous label has been taken from the peel-off position.	Print/application start signal	+24V between Pin 13 and Pin 25

Table 2

Pin assignment of the I/O interface ▷ Interface description of the label printer Hermes+

5.1 Error Messages of the Printer

For detailed information about printer errors (e.g. 'Paper out', 'Ribbon out', etc.) ▷ Operator's manual of the printer
Error treatment:

- ▶ Clear the error results.
- ▶ Press the **feed** key to synchronize the label feed, remove the peeled labels manually.
- ▶ Press the **pause** key to quit the error state.

After error correction, the printing of the label causing the error will be repeated.

5.2 Error Messages of the Applicator

The following table contains an overview of error messages and their possible causes. It also suggests methods to resolve the problem:

Error Message	Possible Cause
Vac. plate empty	The Label has been lost on the way or at the waiting position in front of the pinch roller before the START signal was received.
Upper position	The label has not arrived at the sensor area 5 sec. after printing or it wasn't detected.
Air pressure ins.	Applicator is not switched on.

Table 3 Error messages of the applicator

Error treatment:

- ▶ Clear the error results.
- ▶ Press the **pause** key to quit the error state.



Note!

When receiving errors check the settings and adjustment parameters in the service manual.

- ▶ After error correction, the printing of the label causing the error cannot be repeated without re-starting the print job.
Except at the error "Vac. plate empty". In this case, the last label will be printed again after the error state has been exited with the **pause** key and by then pressing the Enter button ↵.
- ▶ In the application mode "Apply/Print" sends the signal "Print first label" and pressing the button ↵ will send the printed label to the applicator.

6.1 Declaration of Incorporation




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, 1.3.2, 1.5.2, 1.5.8, 1.6.3, 1.7

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:	Vacuum-Belt Applicator
Type:	5314/5316
Applied EU Regulations:	Applied Standards:
Directive 2006/42/EC on machinery:	<ul style="list-style-type: none"> • EN ISO 12100:2010 • EN ISO 13849-1:2015 • EN 60950-1:2006 +A11:2009+A12:2011+A1:2010+A2:2013
Other Relevant Directives: <ul style="list-style-type: none"> • Directive 2014/30/EU relating to electromagnetic compatibility • Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment 	
Person authorised to compile the technical file:	Erwin Fascher Am Unterwege 18/20 99610 Sömmerda
Signed for, and on behalf of the Manufacturer:	Sömmerda, 04.10.2017
cab Produkttechnik Sömmerda Gesellschaft für Computer- und Automationsbausteine mbH 99610 Sömmerda	 Erwin Fascher Managing Director

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.

6.2 EU Declaration of Conformity



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.

Device:	Vacuum-Belt Applicator
Type:	5314/5316
Applied EU Regulations:	Applied Standards:
Directive 2014/30/EU relating to electromagnetic compatibility:	<ul style="list-style-type: none"> • EN 55032:2012 • EN 55024:2010 • EN 61000-6-2:2005
Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment:	<ul style="list-style-type: none"> • EN 50581:2012
Signed for, and on behalf of the Manufacturer:	Sömmerda, 04.10.2017
cab Produkttechnik Sömmerda Gesellschaft für Computer- und Automationsbausteine mbH 99610 Sömmerda	 Erwin Fascher Managing Director