Tamp Applicator with Lift Cylinder
Type 1100 / Type 1200
Type 1100H / Type 1200H

Operating Instructions

Edition 3/03

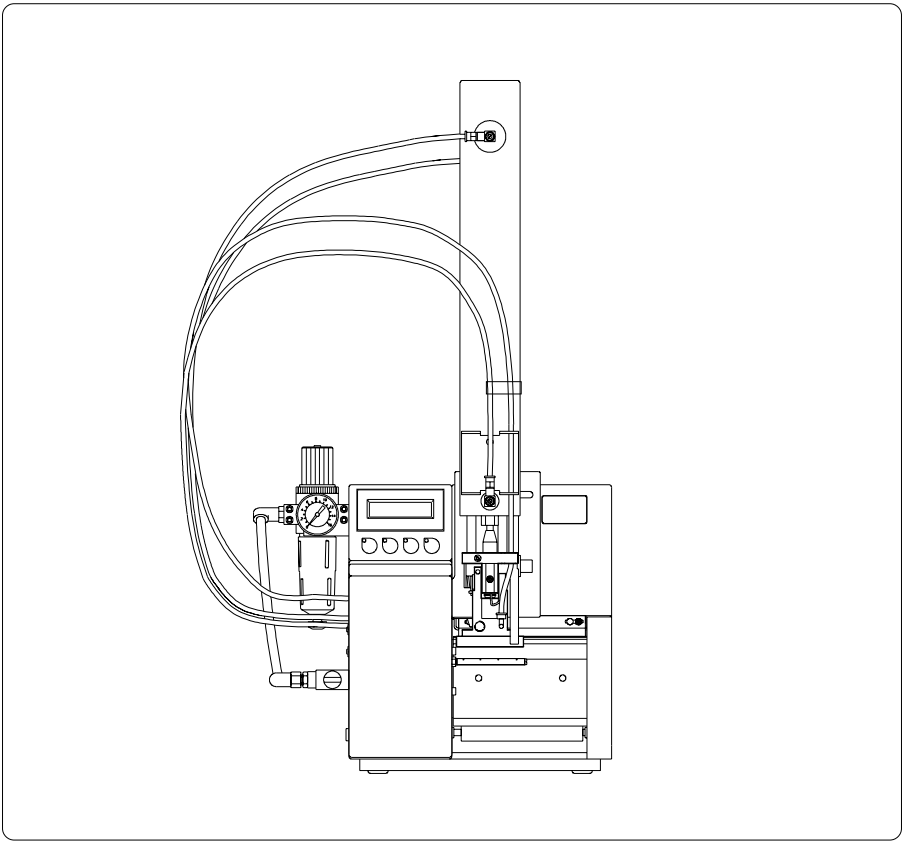


Table of Contents

1. Product Description

Function

The Tamp Applicator with Lift Cylinder is an extra device to use with the **Apollo** and **Hermes** label printer for automatically applying the printed label onto the product.

The labels are transfered with a pad, which moves between the two positions, starting position and labelling position, by a compressed-air driven pneumatic cylinder.
In the starting position, the label is picked up from the printer by the vacuum plate of the pad.
A sensor at the cylinder signals when the pad is in the starting position. The label is removed from the carrier ribbon directly at the dispense edge of the printer. It is sucked on the pad by a vacuum via drillings at the bottom of the pad. For support, the label is also blown against the pad with an air current coming from a blow tube. The correct transfer of the label is controlled by a vacuum sensor.
Next, the pad is moved down into the labelling position, which is confirmed by another sensor (labelling position sensor). Here, the label is stamped onto the product.
While the pad is moving back into the starting position, the vacuum sensor controls whether the label has been removed from the pad.

Specially adapted pads can be used for different label sizes.

The control unit of the applicator is connected with the label printer on its SPI interface using the peripheral connector of the printer.

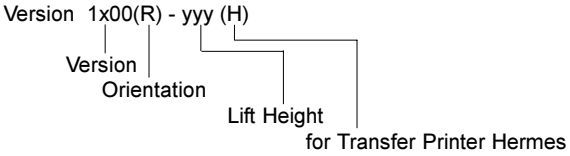
For operation in a networked system the applicator's PLC (programmable logic control) interface with potential free inputs and outputs can be used.

Technical Data

Label width in mm :	Apollo	12-112
	Hermes	10-116
Label height in mm :	Typ 1100	5-80
	Typ 1200	5-20
Air pressure :	4 until 6 bar	

Versions of the Tamp Applicator

Versions of the Tamp Applicator



Version :	2 different versions 1**1**00 and 1**2**00 dependent on the size of the labels
Orientation :	only for Transfer Printer Hermes dependent on the direction of dispensing Left orientated or **Right** orientated
Lift Height :	Height of the lift cylinder in mm dependent on the labelling distance

There are two different versions of the tamp applicator, the **Version 1100** and the **Version 1200**.
Mainly, the **Version 1100** is used.
The **Version 1200** is recommended for use of **small labels** (with a height up to 20 mm and a width up to 52 mm) with **extra space up to a height of 20 mm** around the place where the label is going to be (e.g. if there are electronic components around).
Because of the different shape of the pads (**2**) the Version 1200 has a shortened pad holder (**1**).

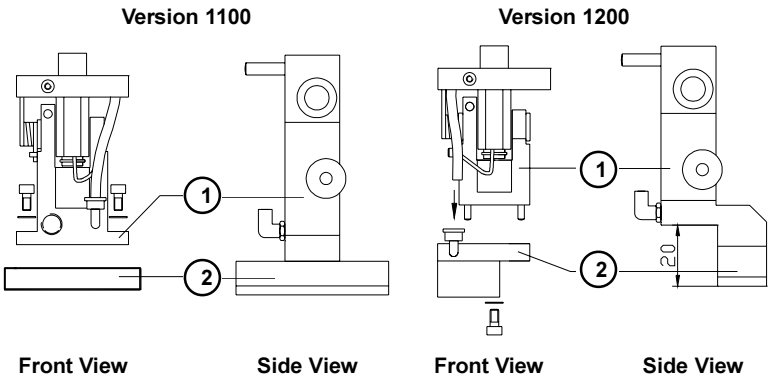


Fig. 1a **Versions of the Applicator**
pad holder (1) and pad (2)

Versions of the Pad

The pad is offered in several types.
Especially large and complicated pads are produced in two parts and following mounted. The complete mounted pads are delivered.

Mainly, pads (**2**) in one part with foam plate (**3**) are used.

By using pads (**2**) without foam plate (**3**) a spacer (**4**) is delivered to equalize the thickness differences.

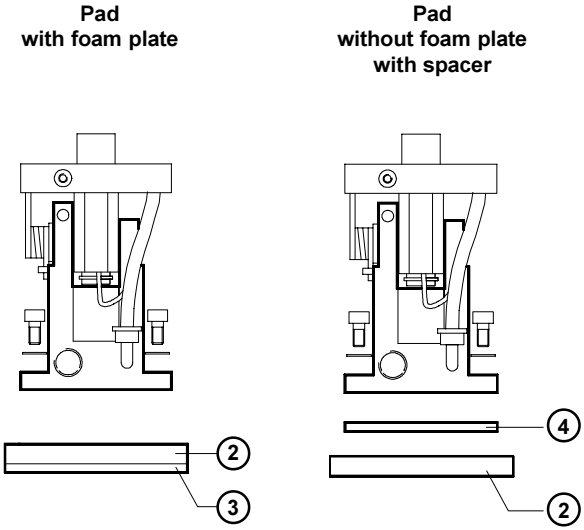
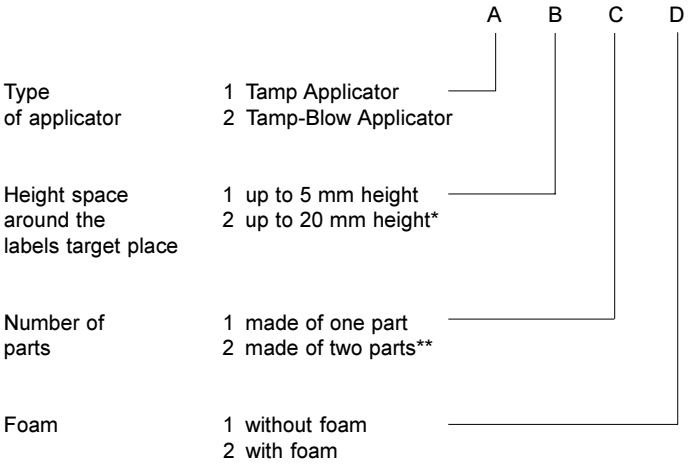


Fig. 1b Versions of Pads - Front View
pad (2), foam plate (3) and spacer (4)

Codes for the Pad Versions

The pad codes are made of four figures.



* for a label height up to 20 mm only
** for a label height more than 32 mm only

2. Equipment Supplied

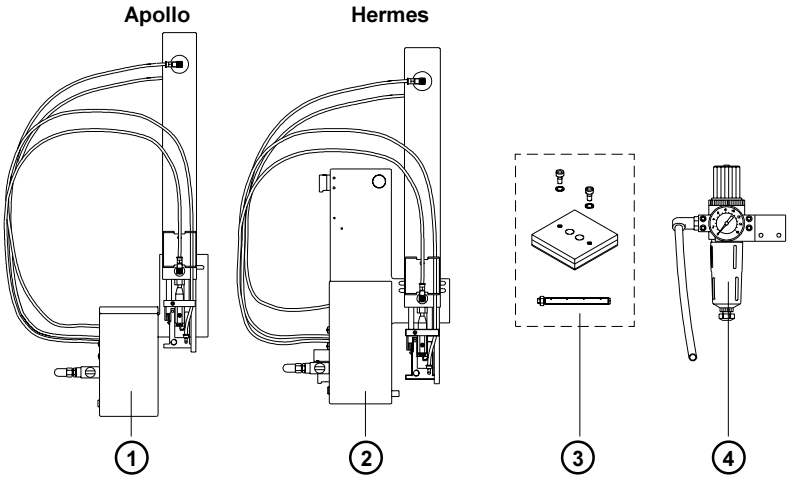


Fig. 2 Equipment Supplied

1 - Tamp Applicator with Lift Cylinder for Apollo
Tamp Applicator
4 cylinder-head screws
4 washers
4 spring washers

2 - Tamp Applicator with Lift Cylinder for Hermes
Tamp Applicator
2 hinges
4 flush screws
1 knurled screw

3 - Pad Unit (as required)
Pad
Blow Tube
Version 1100
2 cylinder-head screws
2 spring washers
bei Typ 1200
1 cylinder-head screw
1 spring washer

4 - Service Unit (optional)
Service Unit
2 Screws
2 Washers

Other options on request.

3. Safety Instructions

CAUTION !
Make sure that the printer is disconnected from the power supply and the valve at the service unit as well as the shutoff valve at the applicator are closed, while installing the delivered components.

CAUTION !
In operation, moving parts are easily accessible. Therefore, keep long hair, loose clothes, and jewellery distant. Before any manipulations in those areas, close the shutoff valve.

CAUTION !
Do not try to manipulate or repair parts that are not described in the manuals of the tamp applicator or the printer.

4. Installation

Mounting the Tamp Applicator on the Apollo

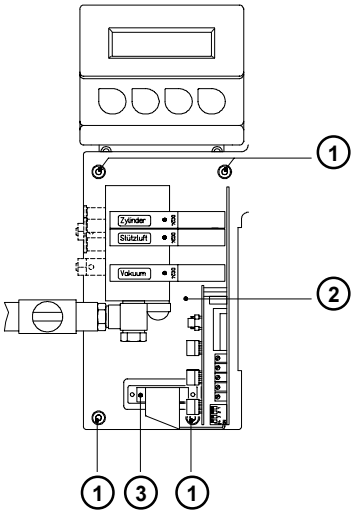


Fig. 4a Installation of the Applicator on the Apollo

1. Dismantle the casing of the manifold (**2**) by loosening the screws, two on the left and one of the right.

2. Fasten the applicator at the front of the **Apollo** using the four supplied screws (**1**) including the washers.

3. Plug the connector (**3**) of the applicator's electronic system in the peripheral port of the Apollo.

4. Reassemble the casing of the manifold.

Mounting the Tamp Applicator on the Hermes

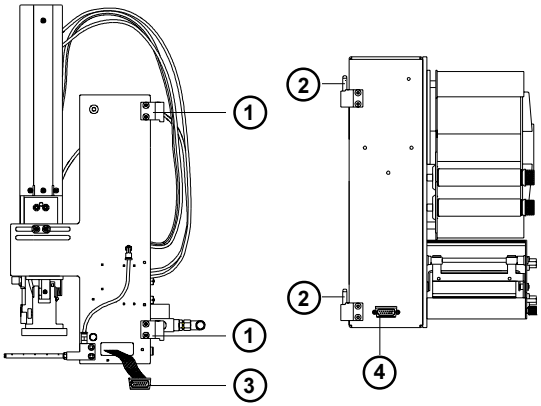


Fig. 4b Installation of the Applicator on the Hermes

1. Fasten the two hinges (**2**) including in the equipment on the Hermes using the supplied screws.
2. Hang the applicator with its two hinges (**1**) into the hinges (**2**) of the Hermes.
3. Turn the applicator towards the **Hermes** as far as necessary to plug the connector of the applicator-electronics into the peripheral connector for cab-applicators on the front of the printer.
4. Contact the connector (**3**) of the applicator-electronics to the peripheral connector (**4**) of the Hermes.

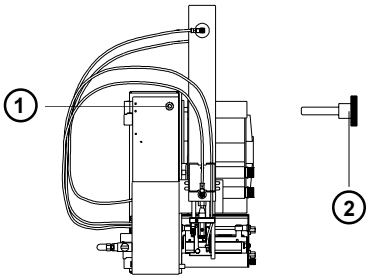


Fig. 4c Fastening the Applicator

5. Attach the applicator on the Hermes by screwing the knurled screw (**2**) into the hole (**1**).

Unlocking the Securing Device

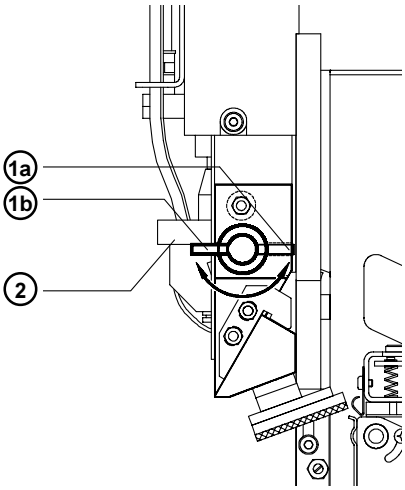


Fig. 4d Unlocking the Securing Device

When delivered, the lever (**1**) is in position **b** supporting the carrier (**2**). Therefore, the pad is kept in the upper position.

To unlock, slightly pull lever (**1**) and rotate anticlockwise by 180° until lever clicks into place (position **a**).

NOTICE !
In the event of a long working break, and especially when the compressed air is switched off, lock the securing device.

Installation of the Pad Unit

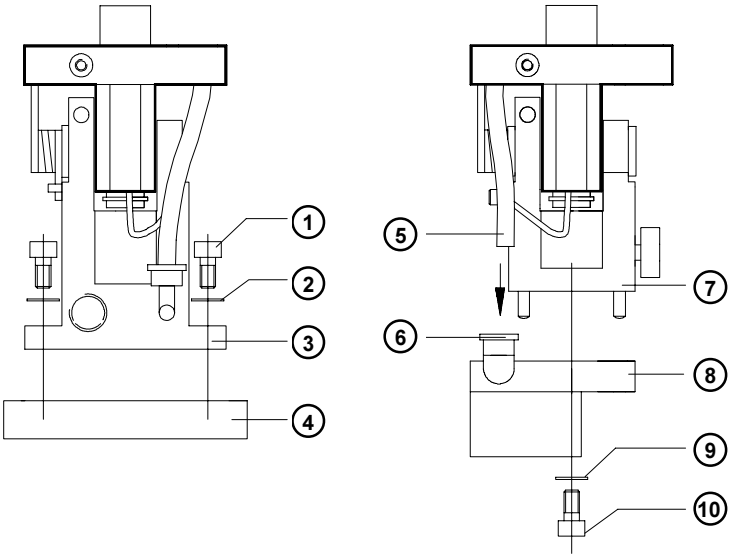


Fig. 4e Installation of the Pad

Pad Version 11xx for the Applicator Version 1100

1. Fasten the pad (**4**) with the washers (**2**) and the screws (**1**) at the pad holder (**3**).

Pad Version 12xx for the Applicator Version 1200

1. Attach the pad (**8**) to the pins of the pad holder (**7**).
2. Fasten the pad (**8**) at the pad holder (**7**) using the washer (**9**) and the screw (**10**).
3. Insert the vacuum tube (**5**) into the push-in-L-fitting (**6**).

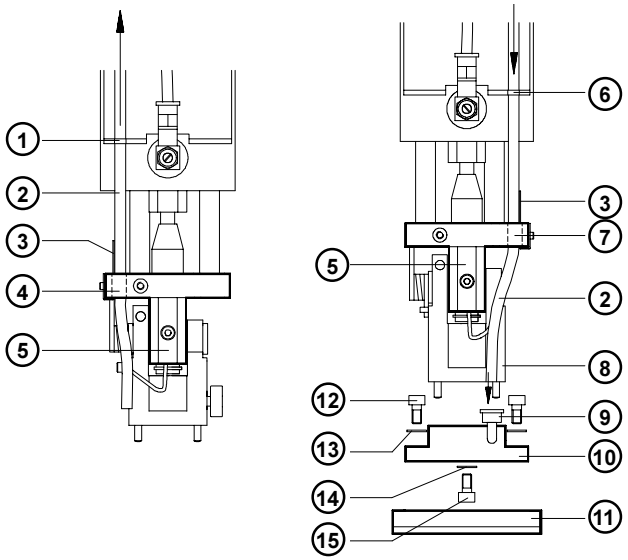


Fig. 4f Installation of the Pad with Adapter

Pad Version 11xx for the Applicator Version 1200

1. Loosen the tube guide (**3**) and move it out of the hole (**4**).
2. Screw off the PCB (**5**) and the cover plate belong to it.
3. Pull out the vacuum tube (**2**) with the PCB of the holes (**4, 1**).
4. Slide the vacuum tube (**2**) with the PCB into the holes (**6**, **7**) of the right side.
5. Fasten the PCB (**5**) and the cover plate belong to it with the screw.
6. Slide the vacuum guide (**3**) into the hole (**7**) too and fix it.
7. Fasten the adapter (**10**) with the washer (**14**) and the screw (**15**) at the pad holder (**8**).
8. Fix the pad (**11**) with the washers (**13**) and the screws (**12**) at the adapter (**10**).
9. Insert the vacuum tube (**2**) into the push-in-L-fitting (**9**).

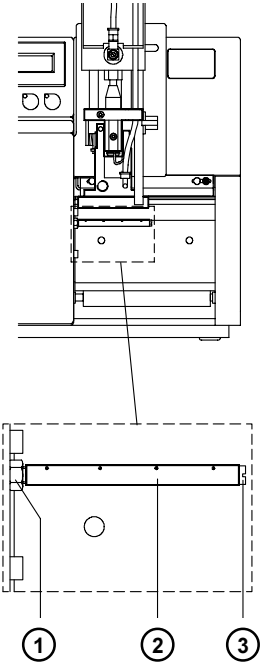


Fig. 4g Installation of the Blow Tube

1. Screw the blow tube (**2**) into the pneumatic module.

2. Turn the drillings of the tube to the dispense edge of the printer. Next, hold the slotted screw (**3**) with a screwdriver and fix the tube by fastening the counter nut (**1**).

Installation of the Service Unit

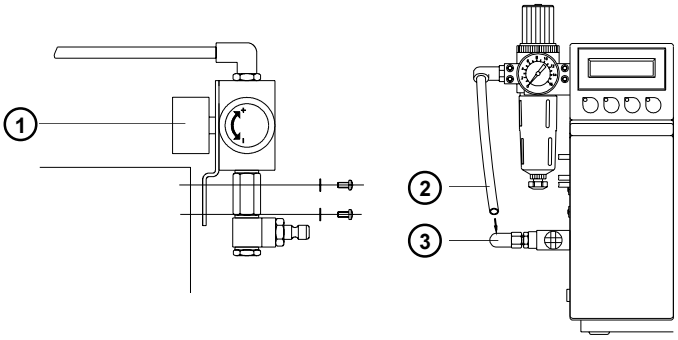


Fig. 4h Installation of the Service Unit on the Apollo

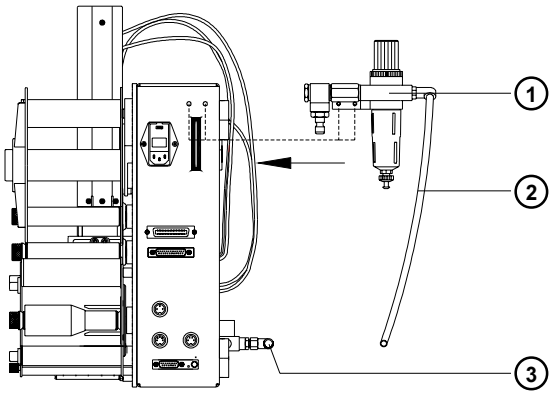


Fig. 4i Installation of the Service Unit on the Hermes

1. Fasten the service unit (**1**) at the back of the **Apollo** or the **Hermes** using the washers and the screws.

2. Insert the tube (**2**) of the service unit (**1**) into the push-in-L-fitting (**3**).
   Insert tube firmly.

Connections

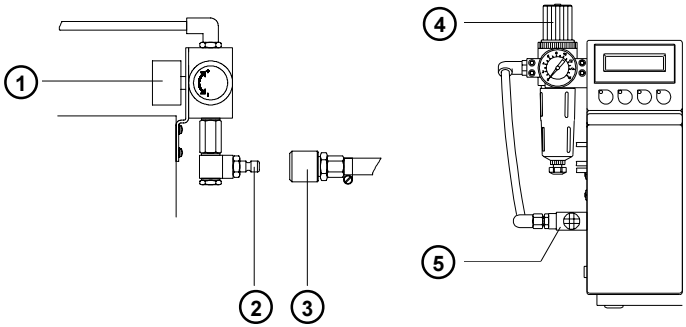


Fig. 4k Connections

1. Prepare the connections to the power supply and to the computer as described in the manual of the printer.

2. To contact the PLC interface use the 15-pin connector (for further details see appendix A).

3. Make sure that the shutoff valve (**5**) is closed (lever at the valve is turned vertical).

4. The connector (**2**) for the compressed air supply is located at the service unit (**1**) at the rear of the printer. The connector is suitable for a 1/4" coupling plug (**3**).

5. The air pressure for operating the applicator has to be adjusted at the service unit (**1**).
   - Pull knurled knob (**4**) up.
   - Turn knob to tune required operating pressure (4-6 bar). By turning knob clockwise the pressure rises.
   - Push knob down.

6. Switch on the power supply of the printer.

7. Open the shutoff valve. (**5**/ lever is turned horizontal)

5. Adjustments

All supplied label applicators have passed a previous run at the factory.
It may be useful to do some more fine tuning when the applicator is installed. This refers mainly to those parameters, which are significant as part of a networked system as well as pneumatic settings, which have an influence on the application rate.

5.1 Mechanical Adjustments

Swing Path of the Pad

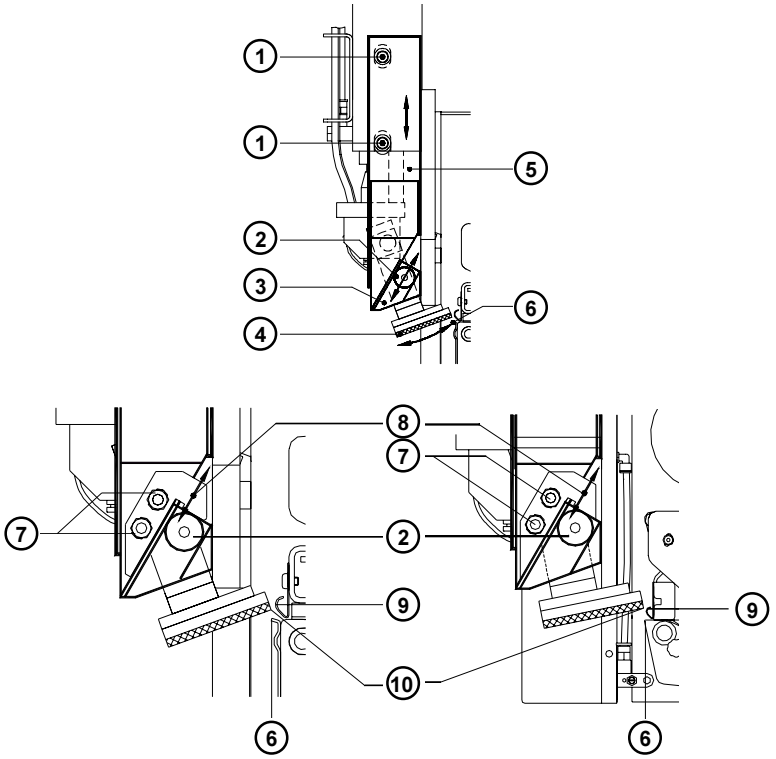


Fig. 5.1a Adjustment of the Swing Path of the Pad

In its upper (starting) position, the pad (**4**) faces the printer. The swing movement of the pad is caused by a guiding system with a pilot bearing (**2**) in the curve (**3**). The swing path and the end position of the pad can be adjusted by shifting the guide rail (**5**).

1. Switch the applicator on.
2. Switch the compressed air on.
3. Loosen the screws (**1**).
4. Loosen the hexagonal nuts (**7**).
5. Move the guide rail (**5**) straight up until the rear edge of the pad (**10**) in its upper (starting) position is located vertically above the dispense edge (**6**) of the printer.
   Do not touch the ribbon shield (**9**).
   By shifting the guide rail downwards, the pad moves closer to the ribbon shield.
6. Tighten the screws (**1**).

A stud (**8**) is fixed at the guide rail to avoid the pad swinging too far and, thus, to avoid it beating against the ribbon shield (**9**), when the applicator moves back.

7. Move the stud (**8**).
   The stud is adjusted correctly if it is possible to push a piece of normal paper between the stud (8) and the bearing (2) while the compressed air is switched on.

8. Tighten the hexagonal nuts (**7**).

Adjusting the Level and the Sides of the Cylinder Unit

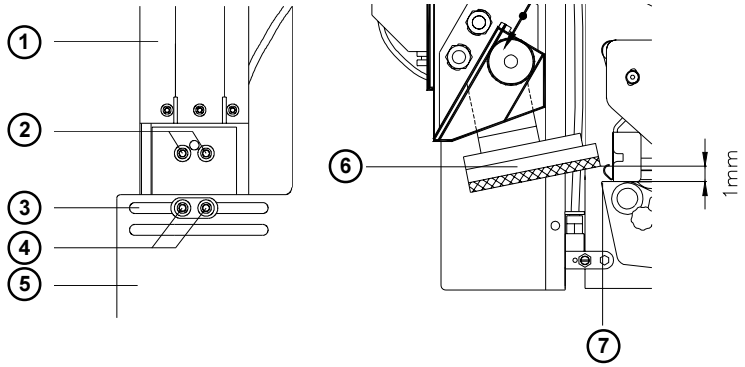


Fig. 5.1b Level Adjustment / Side Adjustment

There are four screws (**2, 4**) at the rear carrier plate (**5**) of the applicator.

1. For side adjustment of the cylinder unit (**1**), loosen the bottom screws (**4**). The unit can be moved within the longish hole (**3**). Adjust until the dispensed label is aligned centrally to the pad. Tighten the screws (**4**).

2. For level adjustment, loosen the upper screws (**2**). Move the whole unit until in its upper (starting) position the pad is located slightly above the dispense edge of the printer. The distance between the pad and the dispense edge of the printer is recommended to be around 1 mm.
   Tighten screws (**2**).

Tuning of the Blow Tube

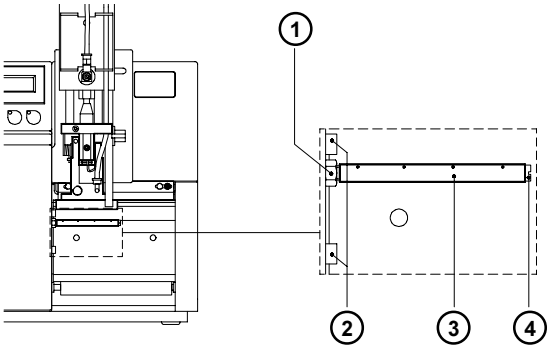


Fig. 5.1c Tuning the Blow Tube on the Apollo

The blow tube (**3**) for the supporting air can be adjusted vertically and also be rotated around its longitudinal axis.

1. For vertical adjustment, loosen the two screws (**2**) and shift the tube (**3**) as required. Tighten screws (**2**).
2. To rotate the blow tube and, consequently, change the direction of the air current, hold slotted screw (**4**) with a screwdriver while loosening counter nut (**1**). Adjust the tube until the air current is aligned with the dispense edge of the printer. Tighten counter nut.

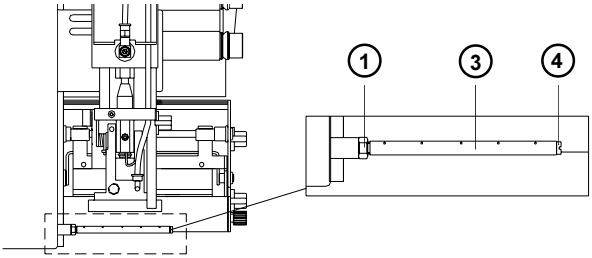


Fig. 5.1d Tuning the Blow Tube on the Hermes

The blow tube (**3**) for the supporting air can be rotated around its longitudinal axis.
To rotate the blow tube and, consequently, change the direction of the air current, hold slotted screw (**4**) with a screwdriver while loosening counter nut (**1**). Adjust the tube until the air current is aligned with the dispense edge of the printer. Tighten counter nut.

Adjustment of the Stamp Angle of the Pad and the Labelling Position Sensor

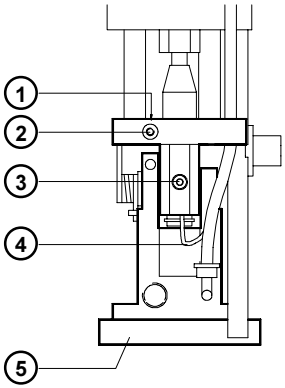


Fig. 5.1e Adjusting the Stamp Angle of the Pad
Adjusting the Labelling Position Sensor

The pad has to be adjusted in such a way that the pad (**5**) is in a horizontal position when it hits the product.

1. Close the shutoff valve.
   (pad moves downwards)
2. Loosen securing screw (**2**).
3. Turn the adjusting screw (**1**) until the pad is horizontal.
   By turning clockwise the pad (**5**) swings to the printer.
4. Tighten securing screw (**2**).
5. Open the shutoff valve.

The labelling pressure for stamping the label onto the product can be altered by moving the labelling position sensor.

6. Loosen the screw (**3**).
7. Move the sensor on the cable (**4**).
   Moving the sensor upwards will reduce the labelling pressure.
8. Tighten screw (**3**).

5.2. Pneumatic Adjustments

Control Valves

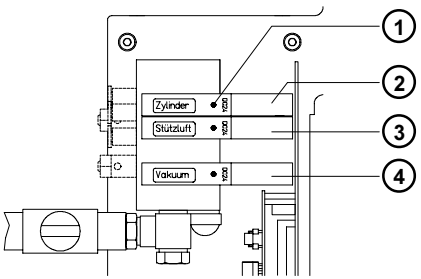


Fig. 5.2a Control Valves

To reach the control valves, the casing of the manifold has to be removed. Therefore, loosen the screws at the cover, two on the left and one on the right.
That way, three electric switchable control valves for compressed air become accessible. For manual tuning, the valves can also be operated by integrated keys (**1**).

The functions of the valves are as explained below.

'Zylinder' (**2**/ lift cylinder) :
Two-way valve to control the lift cylinder.
When the valve is switched off the pad is kept in the starting position. Switching on the valve will move down the pad into the labelling (stamp) position. Normally the disconnection of the valve is controlled by the signal of the labelling position sensor. When operated manually, there is no controlling by the labelling position sensor. The pad moves to the bottom as far as possible and stays in that position until the key is released.

'Stützluft' (**3**/ supporting air) :
This valve controls the switch-on of the supporting air at the blow tube.

'Vakuum' (**4**/ vacuum nozzle) :
This valve operates the vacuum nozzle and, consequently, controls the vacuum on the pad for picking up the label.

Throttle Valves at the Cylinder

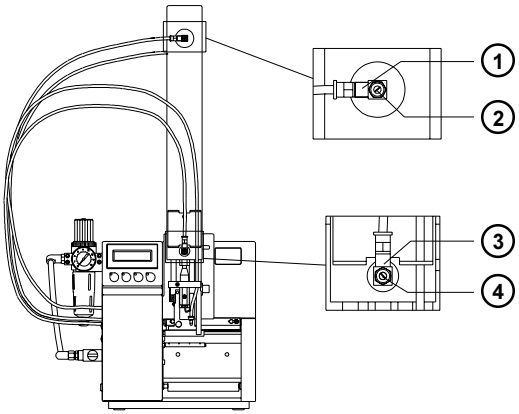


Fig. 5.2b Throttle Valves at the Cylinder

The setting of the lift cylinder can be regulated via two throttle valves (**1, 3**). Those valves regulate the speed with which the compressed air escapes the two air containers.
The valves are adjustable by turning the throttle screws (**2, 4**). Turning clockwise will close the valves.

A wider opening of the bottom valve (**3**) speeds up the pad moving down, a wider opening of the top valve (**1**) accelerates the upward movement.

Throttle Valves at the Manifold

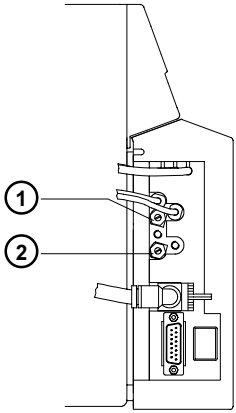


Fig. 5.2c Throttle Valves at the Manifold

Throttle valve to regulate the supporting air (1)

With this, valve the supporting air to blow the label onto the pad can be adjusted.
Turn the throttle screw to adjust the valve. Turning clockwise will close the valve.
The valve has to be tuned in such a way, that the label is blown onto the pad without turning or swinging.

Throttle valve to regulate the vacuum (2)

With this, valve the vacuum to suck the label onto the pad can be adjusted.
Turn the throttle screw to adjust the valve. Turning clockwise will close the valve.
The vacuum can be adjusted until the label totally sticks on the vacuum plate.

5.3. Selection of the Operation Mode

The stamp applicator, with its standard components, can be operated in two different ways. While the original process stays the same, the operation mode can be chosen within the control electronics.
The two operation modes differ in the order of printing and labelling within one labelling cycle. A mode can be selected through actuating a DIP switch. Both of the operating modes can be adjusted by setting different time delays.
Furthermore, there is a special mode using the pre-dispense key for adjusting, etc.

Operation Mode 'Printing / Labelling'

The print of a label is released by an external start signal (via PLC interface). At the same moment the vacuum on the pad as well as the supporting air from the blow tube are switched on. When the label is printed and picked up from the carrier ribbon, the supporting air is switched off. Then the lift cylinder is driven to move the pad down towards the labelling position. A sensor signals when the labelling position is reached.
Following, the vacuum is switched off and the label is placed onto the product by the pressure of the stamp.
After that, the lift cylinder is driven to move the pad back into the starting position. Thus, the labelling cycle is finished.

Operation Mode 'Labelling / Printing'

Before starting the mode 'labelling/ printing' the printing and picking up of the first label has to be released separately by a special signal (via PLC interface).
The pad with the printed label is in the starting position. The vacuum on the pad is switched on.
By an external start signal the lift cylinder is driven to move the pad down into the labelling position. The sensor signals when the labelling position is reached.
In the following, the vacuum is switched off and the label is placed onto the product by the pressure of the stamp.
After that, the lift cylinder is driven to move the pad back into the starting position. The print of the next label is released. At the same moment the vacuum on the pad as well as the supporting air are switched on. When the label is printed and picked up, the supporting air is switched off. Thus, the labelling cycle is finished.

Function of the Pre-dispense Key

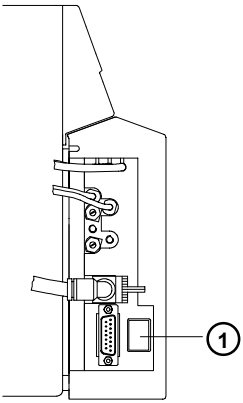


Fig. 5.3a Pre-dispense Key

By pressing the pre-dispense key (**1**), half cycles of the labelling process can alternately be released, provided that there is a print job.

1(st) half cycle

Pressing the key will release the print of one label. At the same moment the vacuum at the pad as well as the supporting air (blow tube) are switched on. After the label has been printed and picked up by the pad, the supporting air is switched off.

2(nd) half cycle

Pressing the key will drive the lift cylinder to move the pad down into the labelling position. The sensor signals when the labelling position is reached.
Following, the vacuum is switched off and the label is placed onto the product by the pressure of the stamp. Then, the lift cylinder is driven to move the pad back into the starting position.

If the label is removed from the pad manually after the first half cycle of the labelling process, the print process will be repeated when the pre-dispense key is pressed again.

If there is no print job, only the movements of the pad as described for the second part of the labelling cycle are carried out, when pressing the key.

The first half cycle of the labelling process can also be released by pressing the  key on the control panel of the printer. In that case, a blank label is picked up by the pad. That way, the whole labelling process can be simulated by alternately pressing the  key and the pre-dispense key without the need of a print job or a connection to a computer.

Setting the Operation Mode and Delay Times

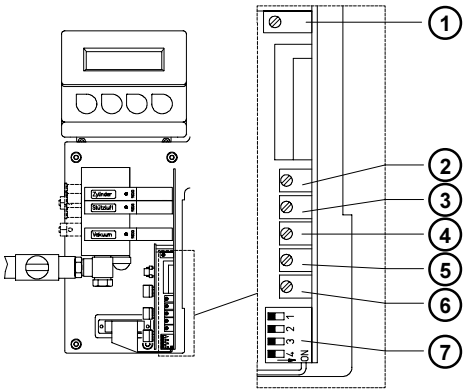


Fig. 5.3b Potentiometers and DIP Switches

For best adaptation, the applicator offers several methods to adjust to the whole system and, therefore, to the required needs. After removing the cover of the manifold, 6 potentiometers as well as 4 DIP switches become accessible by which the parameters can be set.

Potentiometers

Potentiometer 1 is sealed. Certain voltage settings are pre-adjusted from the factory and not to be changed by the user.

The potentiometers 2 - 6 offer the adjustment of the labelling process by changing certain time delays. If any one of the settings is changed the actual value is briefly shown in the printer display.

Potentiometer (**2**) : t_B - blowing time 0 ... 2.5 s

This parameter has no meaning for the 'Tamp applicator with lift cylinder'.

Potentiometer (**3**) : t_{SA} - switch-off delay supporting air 0 ... 2.5 s

Delayed to the process of the label being picked up, the supporting air is switched off.
In many cases, after being picked up by the pad the label edge may still stick on the carrier ribbon. This may affect the accuracy of the label positioning or even cause faults in the labelling. Therefore, switching off the air blow delayed can be useful to separate the label from the carrier ribbon and neatly place the label on the surface of the pad.

Potentiometer (**4**) : s_{SE} - switch-on delay supporting air 0 ... 20mm

The supporting air from the blow tube is not immediately switched on when the print of the label is released but delayed. The air is switched on, when the label has covered a certain distance s_{SE}.
This delay helps to prevent a turning or swinging at the front of the label and, consequently, avoids faults when the label is being picked up from the printer.
The parameter measures the distance covered by the label before the supporting air is switched on, and it is not depending on the print speed. This way, the position of the label can be determined until the air is switched on.

Potentiometer (**5**) : t_{SP} - locking time 0 ... 2.5 s

All start signals coming in following the first start signal are ignored when they arrive within the locking time t_{SP}.

Potentiometer (**6**) : t_{VS} - start delay 0 ... 2.5 s

The parameter t_{VS} determines the time period between the start signal and the start of the labelling process. With this delay it is possible to release the start of the labelling process sensor controlled, for instance, when a sensor is located on an assembly line in front of the labelling place.

DIP Switches

With the DIP switches (**7**) the operation mode as well as the firmware of the applicator can be determined.

DIP Switch	Parameter	ON	OFF
1	(no meaning for tamp applicator)		
2	Applicator	Tamp applicator	Tamp-blow applicator
3	Operation mode	printing / labelling	labelling / printing
4	Save potentiometer settings	no	yes

If switch No. 4 is OFF the setting of the potentiometers is automatically stored in the printer when switched on. Therefore, in case the applicator has been changed (e.g. in case of an accident) the settings are still saved and can be transferred to a replacement (see also Print info display).

Print Info Display

Apollo and Hermes offer a convenient option for recalling information about the configuration and hardware problems in the printer info display (see also Operator's Manual of the printer).

First, press the 

key to switch from ONLINE mode into OFFLINE mode. Next, to recall the printer information desired, press the 

key to see the first of the five display pages available. Press key repeatedly to view the other pages. When an applicator is installed, this display is extended by another five pages. After the standard pages, the following parameters are shown :

- start delay
- locking time
- switch-off delay supporting air
- blowing time (no meaning for tamp applicator)
- switch-on delay supporting air.

When the reviewing is completed, switch back into ONLINE mode by pressing the 

key.

In case the applicator has been changed (e.g. in case of an accident) the stored parameters can be viewed as described above and the new device can be adjusted accordingly. For that purpose the DIP-switch 4 at the new applicator has to be 'ON' during switching on the device the first time.

6. Operation

1. **Check all external connections before starting to print.**

2. Load the media corresponding to the instructions in the Operator's Manual of the appropriate printer.
   Apollo : chapter "Options"
   "Present Sensor / Inserting the Labels for Peel-off"
   Hermes : chapter "Media Loading"
   "Loading Labels"

3. Check that the transfer ribbon is loaded properly before starting to print.

4. Make sure that the pad is not covered by the label when switching on the device.

5. Open the shutoff valve.

6. Make sure that the securing device has been unlocked (see also chapter 4).

7. Switch into the present mode of the printer during programming and set the peel position to remove the labels from the carrier ribbon corresponding to the size of the label.

8. **Before starting the first print job press the** 

key on the printer.

   This generates a synchronous running. Remove the processed labels manually. After a few seconds the printer carries out a brief rewind and the edge of the next label is positioned at the print line.

   This synchronizing also has to be carried out when the print job has been interrupted with the 

key.

9. Start the print job.

10. Start the labelling process via PLC interface.

If an error occurs while the applicator is operating, this is shown in the display of the printer (for types of errors and how to treat them see appendix B).

Appendix A - PLC Interface

For use in a networked system the applicator is equipped with a PLC interface to start and interrupt the labelling process. It also passes on state information as well as error messages of the applicator to the system control.
The interface has a 15 pin SUB-D connector.

Pin Assignment of the PLC Interface

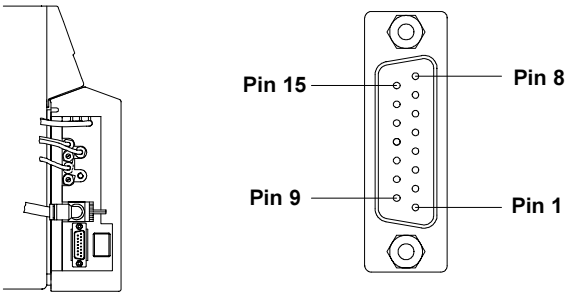


Fig. A-1 Connector of the PLC Interface

PIN	Signal	Direction	Function
1	XSTRT	input	start signal
2	XSTP	input	stop signal
3	XDREE	input	print first label
4	XDNB	output	printer not ready
5	XEDG	output	no existing print job
6	XSAA	output	general error message
7	XSOE	output	pad in starting position
8	GND	output	grounding (0V)
9	XSTRTR	(input)	start signal (reverse line)
10	XSTPR	(input)	stop signal (reverse line)
11	XDREER	(input)	print first label (reverse line)
12	XSUE	output	pad in labelling position
13	XETF	output	applicator fault
14	RÜL		reverse line (for all output signals)
15	24P	output	operating voltage +24V, Si T 100mA

Table A-1 Pin Assignment of the PLC Interface

Circuit Diagrams of Inputs and Outputs

The **inputs** are optocouplers with a current limiting resistor of 2.4kΩ in the input circuit.
For each signal X[IN] there is a separate reverse line X[IN]R via the plug connector. From that, the following matching pairs of signals result :

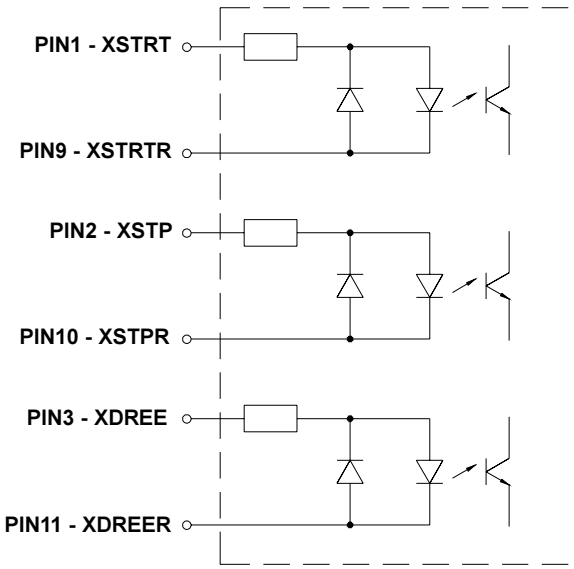


Fig. A-2 Circuit of the Inputs

All **outputs** are realized through solid state relays which outputs are connected among one another one-sided. The joint line is lead to the plug connector as RÜL signal.
The switch function of the outputs is to open or close the contact between the joint line RÜL and the respective output.

Electrical requirements : U_{max} = 42V
I_{max} = 100mA

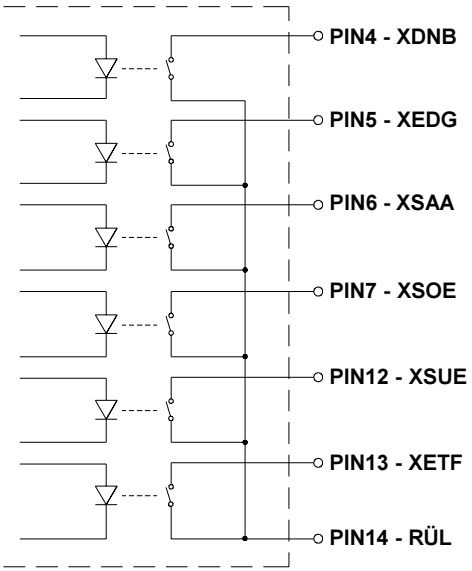


Fig. A-3 Circuit of the Outputs

Comments on the Signals

PIN1 - XSTRT - Start signal

This signal will release the start of the labelling process. It is active when a current flows between PIN1 and PIN9.

PIN2 - XSTP - Stop signal

The signal is active when a current flows between PIN2 and PIN10.
It releases following functions :
- to finish the print of a label and its picking-up by the pad
- to interrupt or to stop the beginning of the labelling process
- to make the pad moving back into the starting position
- to command the disregard of all following signals
- if the stop signal has been activated during the labelling phase, the display will show the message 'Host stop/ error'. (does not show message during print process)

PIN3 - XDREE - Print first label

When current flows between PIN3 and PIN11 the print of the first label and its picking-up by the pad is released within the operation mode 'Labelling / Printing'.
When the labelling process is started by the XSTRT signal within the operation mode 'Labelling / Printing', the cylinder will start to place the label onto the product at once. Only after that, a new label is printed. Therefore, the provision of the first label has to be assigned by a separate signal.
In the 'Printing / Labelling' mode this signal has no function.

PIN4 - XDNB - Printer not ready

This is an error message of the printer.
The details and type of error can be learnt from the printer display. ('Ribbon out'; 'Paper out'; 'No label')
In this state the contact between PIN4 and PIN14 is opened.
After error correction, the print of the last label will be repeated.

PIN5 - XEDG - No existing print job

State message.
There is no print job currently available.
In this state the contact between PIN5 and PIN14 is opened.

PIN6 - XSAA - General error message

General error message of both, printer and applicator.
This message is shown when one of the two errors either XDNB or XETF occurs. This signal is important in case that only one error signal of the applicator can be analysed from the system control.
In this state the contact between PIN6 and PIN14 is opened.

PIN7 - XSOE - Pad in starting position

The signal is active when the pad is in the starting position where it picks up the label from the printer.
In this state the contact between PIN7 and PIN14 is opened.

PIN8 - GND - Grounding (0V)

PIN9 - XSTRTR - Reverse line of the start signal XSTRT

PIN10 - XSTPR - Reverse line of the stop signal XSTP

PIN11 - XDREER - Reverse line of the print first label signal XDREE

PIN12 - XSUE - Pad in labelling position

The signal is active when the pad is in its labelling position where the label is removed from the vacuum plate and positioned onto the product.
In this state the contact between PIN12 and PIN14 is opened.

PIN13 - XETF - Applicator fault

This is an error message of the applicator.
This message is shown when one of the following errors occurs at the applicator :

- pad has not reached the labelling position within 2s after the movement of the cylinder
- pad has not reached the starting position within 2s after the movement of the cylinder
- a printed label has not been picked up by the pad properly or it fell down during the movement of the cylinder (message of the vacuum sensor)
- the label is still on the vacuum plate of the pad when the cylinder moves back up (message of the vacuum sensor)

The type of fault is shown in the display of the printer.
In this state the contact between PIN13 and PIN14 is opened.
After fault correction, the print of the last label printed before the fault occured will not be repeated.

PIN14 - RÜL - Reverse line (for all output signals)

PIN15 - 24P - Operating voltage +24V, Si T 100mA

There is an operating voltage of 24V available on PIN15 provided from the applicator system.

CAUTION !
You must not apply any external voltage on PIN15 !

The operating voltage on the plug connector allows the use of the applicator without being part of a networked system. The start signal which is required for releasing the labelling process may be caused, for instance, by a suitable foot controlled switch with a 15 pin SUB-D plug.

Examples for Circuits to Creating a Start Signal

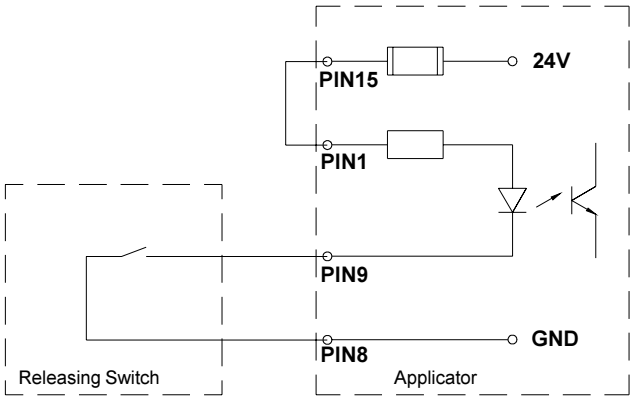
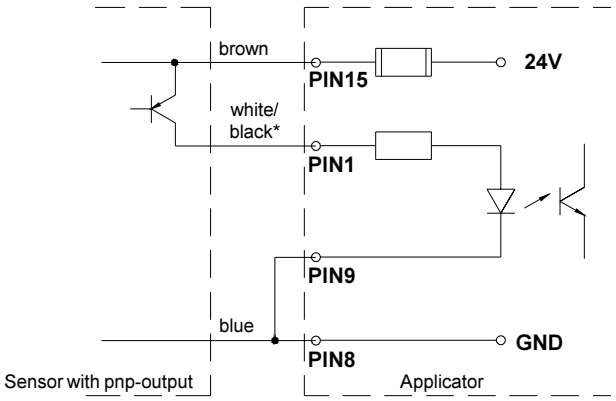
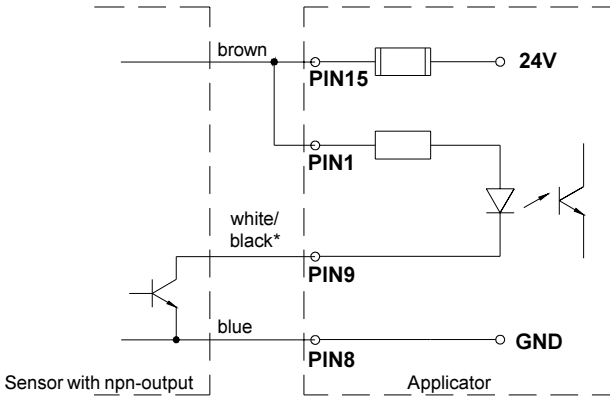


Fig. A-4 Example with releasing switch



* dependent on the used sensor

Fig. A-5 Example for an optical sensor with pnp-output



* dependent on the used sensor

Fig. A-6 Example for an optical sensor with npn-output

Appendix B - Error Messages

Error Messages of the Printer

Detailed information about printer errors (e.g. 'Paper out', 'Ribbon out', etc.), their causes and correction methods can be found in the Operator's manual for the printer (Appendix C).

With the installation of an applicator the error treatment expands. This means in particular, that after correcting the error and **before** the correction is quit with the PSE key, an additional label feed has to be released using the FF key. This synchronizes the process of printing and labelling. Possibly dispensed blank labels have to be removed manually.
After quitting the error message the label caused the error will be printed once more.

Error Messages of the Applicator

The following table gives an overview of error messages and their possible cause. It also suggests methods to resolve the problem.
After error correction, always quit the error message of the applicator with the PSE key.
To reprint the label where the applicator error occurred, a new print job has to be released.

Error message	Possible cause	Solution
Label not depos.	Label has not been placed onto the product; after the lift has moved back the label still sticks on the vacuum plate of the pad	Label the product manually
Upper position	Pad has not reached the starting position within 2s after the lift has moved back; or Pad has left the starting position unauthorized	Check the pneumatic adjustments (esp. the upper throttle valve of the cylinder); Label the product manually
Host stop/ error	Labelling process has been interrupted by an XSTP stop signal via PLC interface	Label the product manually if necessary
Refl. sensor blk.	There has been no change of the switch state at the upper control sensor (at the cylinder) between the start of the labelling process and the signal from the labelling position sensor	Check the sensor (service)
Vac. plate empty	Label has not been picked up properly by the pad; or Label fell off the pad before it could be placed onto the product	If possible, place the 'lost' label onto the product manually; Otherwise stop print job and start again with adapted parameters (e.g. count)
Lower position	Pad has not reached the labelling position within 2s after the movement of the cylinder	Check the pneumatic adjustments (esp. the lower throttle valve of the cylinder); Make sure that the securing device has been unlocked; Check the applicator for heaviness of its mechanics; Check the labelling position sensor (service); Label the product manually

Table B-1 Error Messages of the Applicator

Appendix C - Function of the LEDs of the Electronics

PCB's for the Applicator Version 1100 / 1200

PLC Port PCB

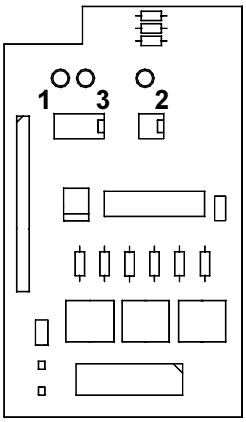


Fig. C-1 LED on the PLC port PCB

LED No.	Colour	Function	Active state
1	green	PLC signal XSTRT	ON
2	green	PLC signal XSTP	ON
3	green	PLC signal XDREE	ON

Table C-1 LED on the PLC Port PCB

PCB Applicator Control

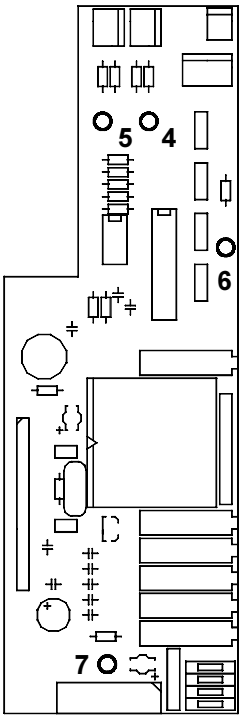


Fig. C-2 LED on the Applicator Control PCB

LED No.	Colour	Function	Active state
4	red	Labelling position sensor	OFF
5	red	Sensor signals that pad is in starting position	ON
6	yellow	Label on the pad	ON
7	yellow	Operating voltage 5V	ON

Table C-2 LED on the Applicator Control PCB

PCB for the Applicator Version 1100H / 1200H

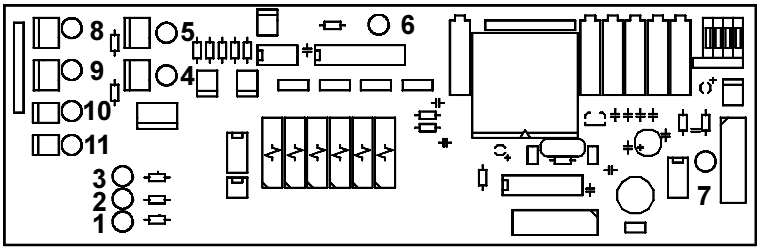


Fig. C-3 LED on the PCB

LED-No.	Colour	Function	Active state
1	green	PLC signal XSTRT	ON
2	green	PLC signal XSTP	ON
3	green	PLC signal XDREE	ON
4	red	Upper position sensor	ON
5	red	Labelling position sensor	ON
6	yellow	Label on the pad	ON
7	yellow	Operating voltage 5V	ON
8	red	no function	ON
9	red	no function	ON
10	red	no function	
11	red	no function	

Table C-3 LED on the PCB

This page is intentionally left blank.

Index

cab-Produkttechnik
Gesellschaft für Computer-
und Automations-
bausteine mbH & Co KG
Wilhelm-Schickard-Straße 14
D-76131 Karlsruhe

EC-Conformity Declaration

Herewith we declare that the following described machine, from the design and style and as we sell it, complies with the relevant EC Safety and Health Requirements. This declaration will lose the validity if there are any changes of the machine or the purpose without our consent.

Description:	Type:
Applicator	**Tamp Applicator with Lift**

Applied EC Regulations and Norms:

- EC-Machinery Directive	**98/37/EC**
- Safety of machines	EN 292 Teil2 :1995-06
- EC-Low-Voltage Directive	**73/23/EEC**
- Safety of equipment in information technology including electric office equipment	EN60950 :1992 + A1:1993 + A2 :1993
- EC Electromagnetic Compatibility Directive	**89/336/EEC**
- Threshold values for the interference of data machines	EN 55022 :1998
- Limit for harmonic current emission	EN 6100-2 :1995+A1:1998 +A2:1998+A14:1999:2000
- Limits of voltage fluctuation and flicker	EN 6100-3-3:1995
- Interference resistance in both industrial and small plants	EN 50082-1: 1992-12

Signature for the producer:

cab Produkttechnik Sömmerda
Gesellschaft für Computer-
und Automationsbausteine mbH
99610 Sömmerda

Sömmerda, 01.10.01

Erwin Fascher
Managing Director

cab-Produkttechnik
Gesellschaft für
Computer- und Automations-
bausteine mbH & Co KG
Postfach 19 04 D-76007 Karlsruhe
Wilhelm-Schickard-Straße 14 D-76131 Karlsruhe
Telefon 0721 / 66 26-0
Telefax 0721 / 66 26-249