



Label Printer Hermes A

Family	Type
Hermes A	Hermes A2L
	Hermes A4L
	Hermes A4R
	Hermes A5L
	Hermes A5R

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1.1 Instructions

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

**Danger!**

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

**Warning!**

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

**Attention!**

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

**Notice!**

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

**Environment!**

Gives you tips on protecting the environment.



Handling instruction



Reference to section, position, illustration number or document.



Option (accessories, peripheral equipment, special fittings).

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 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 printer is designed for the integration into a production line. It is intended exclusively for printing suitable materials that have been approved by the manufacturer and for coupling a cab or non-cab applicator which transfers labels from the printer to a product. Any other use or use going beyond this shall be regarded as improper use. The manufacturer/supplier shall not be liable for damage resulting from unauthorized use; the user shall bear the risk alone.
- Usage for the intended purpose also includes complying with the operating manual, including the manufacturer's maintenance recommendations and specifications.

**Notice!**

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

1.3 Safety Instructions

- The device is configured for voltages of 100 to 240 V AC. It only has to be plugged into a grounded socket.
- 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.
- 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.
- If the device is operated with the cover open, ensure that people's clothing, hair, jewelry etc. do not come into contact with the exposed rotating parts.

- The device or parts of it, especially the printhead can become hot while printing. Do not touch during operation, and allow to cool down before changing material and before disassembly.
- 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.
- The maximum sound pressure level LpA is less than 70 dB(A).

**Danger!**

Danger to life and limb from power supply.

- **Do not open the device casing.**

1.4 Environment



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

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

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

- Send the parts for recycling.



The electronic circuit board of the device is equipped with a lithium battery.

- Take old batteries to collection boxes in shops or public waste disposal centers.

2.1 Device Overview

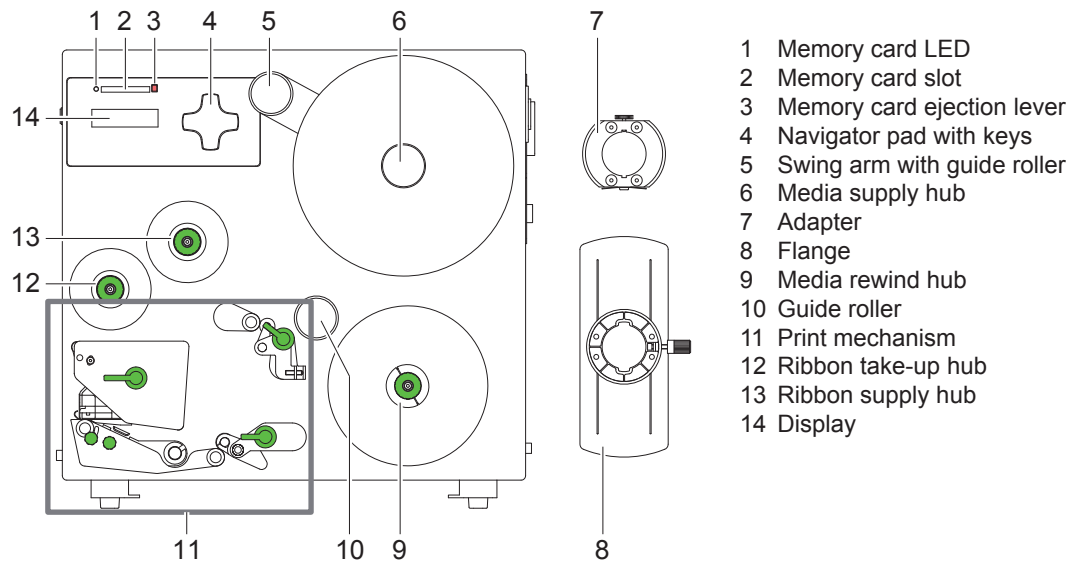


Fig. 1 Overview

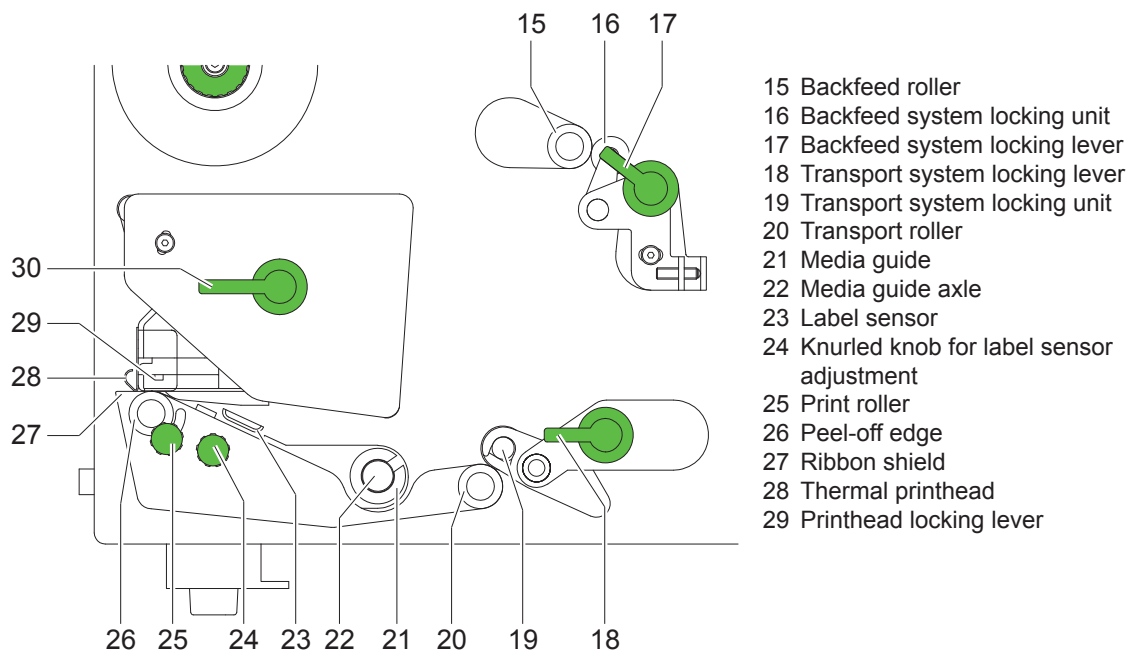


Fig. 2 Print mechanism

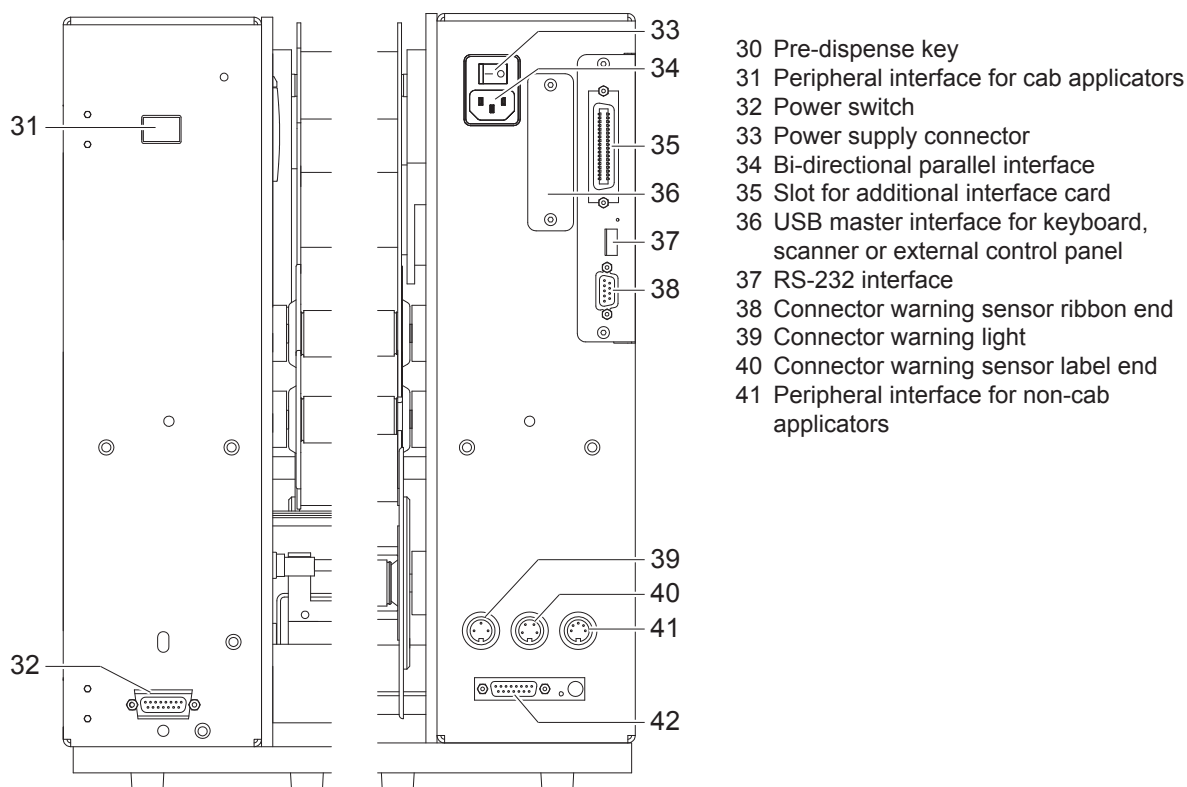


Fig. 3 Connections

2.2 Unpacking and Setting-up the Printer

- Lift the printer out of the box.
- Check printer for damage which may have occurred during transport.
- Remove foam transportation safeguards near the printhead.
- Check delivery for completeness.

Contents of delivery:

- Printer
- 2 Adapters (mounted on the media supply hub)
- Flange (mounted auf on the media supply hub)
- Power cable
- Documentation
- cablabel Lite on CD-ROM

Notice!



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



Attention!

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

- Set up printers only in dry locations protected from splash water.

2.3 Connecting to the Power Supply

The printer is equipped with a wide area power unit. The device can be operated with a supply voltage of 230 V~/50 Hz or 115 V~/60 Hz without adjustment.

1. Check that the device is switched off.
2. Plug the power cable into the power connection socket (34 / Fig. 3).
3. Plug the power cable into a grounded socket.

2.4 Connecting to a Computer



Attention!

Inadequate or no grounding can cause malfunctions during operations.

Ensure that all computers and cables connected to the printer are grounded.

2.4.1 Connecting Printer via bi-directional Parallel Interface

- ▶ Connect computer and printer with a standard parallel interface cable.
- ▶ Secure the cable connectors with screws or clamps found on the connectors.

2.4.2 Connecting Printer via Serial RS-232 Interface

- ▶ Connect computer and label printer with a suitable cable.
- ▶ Secure cable connections with the screws found at the plugs.
- ▶ Configure the RS-232 interface of the printer to match the settings of the connected computer (▷ 8.4 on page 27).

If problems occur, contact the computer manufacturer for interface assignments and note the pin assignment of the SUB-D jack described below.

	Pin	Designation	Function
	1	CD	Carrier Detect
	2	TxD	Transmit Data
	3	RxD	Receive Data
	4	DTR	Data Terminal Ready (not used)
	5	GND	Ground
	6	DSR	Data Set Ready (not used)
	7	RTS	Request to Send
	8	CTS	Clear to Send
	9	RI	Ring Indication (not used)

Table 1 Pin assignment of the RS-232 interface

2.4.3 Connecting Printer via Optional Interfaces

For information on the optional interfaces (RS-422/485, Ethernet, USB) ▷ Manuals of the several interfaces.

2.5 Switching on the Device

When all connections have been made:

- ▶ Switch the printer on at the power switch (33 / Fig. 3).
The printer performs a system test, and then shows the system status *Ready* in the display.

If an error occurs during the system test, the symbol and type of error are displayed.

3.1 Structure of the Control Panel

The user can control the operation of the printer with the control panel, for example:

- Issuing, interrupting, continuing and canceling print jobs,
- Setting printing parameters, e.g. heat level of the printhead, print speed, interface configuration, language and time of day (▷ 8. on page 24),
- Start the test functions (▷ 9. on page 28),
- Control stand-alone operation with a memory card (▷ 10. on page 40),
- Update the firmware (▷ 13. on page 50).

Many functions and settings can also be controlled by software applications or by direct programming with a computer using the printer's own commands. ▷ Programming Manual for details.

Settings made on the control panel make the basic settings of the printer.

Notice!



It is advantageous, whenever possible, to make adaptations to various print jobs in the software.

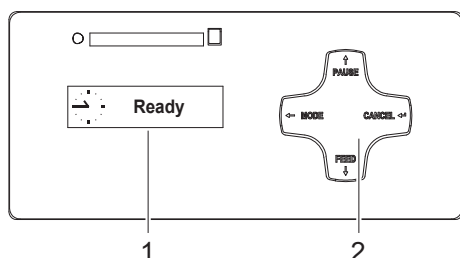


Fig. 4 Control Panel

The control panel consists of a graphic display (1) and the navigator pad (2) with four integrated keys.

The graphic display indicates the current status of the printer and the print job, indicates faults and shows the printer settings in the menu.

3.2 Printer States

State	Display	Description
Ready	Ready when receiving data : symbol when saving data on memory card : symbol	The printer is in the ready state and can receive data.
Printing label	Printing label and the number of the printed label in the print job.	The printer is currently processing an active print job. Data can be transmitted for a new print job. The new print job will start when the previous one has finished.
Pause	Pause and the symbol	The printing process has been interrupted by the operator.
Correctable error	and the type of error and the number of labels still to be printed.	An error has occurred that can be rectified by the operator without interrupting the print job. The print job can be continued after the error has been rectified.
Irrecoverable error	and the type of error and the number of labels still to be printed.	An error has occurred that cannot be rectified without interrupting the print job.
Critical error	and the type of error	An error occurs during the system test. ► Switch the printer off and then on again at the power switch or ► Press CANCEL key. Call Service if the fault occurs persistently.
Power Save Mode	and the key lighting is switched off	If the printer is not used for a lengthy period, it automatically switches to power save mode. ► To exit power save mode: Press any key on the navigator pad.

Table 2 Printer states

3.3 Key Functions

The key functions depend on the current printer state:

- Active functions: Labels and symbols on the navigator pad keys light up.
- Active functions light up white in print mode (e. g. **MODE** or **FEED**).
- Active functions light up orange in the offline menu (arrows, key ↵).




Key		Display	State	Function
MODE	lights	Ready	Ready	To the offline menu
FEED	lights	Ready	Ready	Feeds a blank label
PAUSE	lights	Ready	Ready	After the end of a print job, reprint the last label
		Printing label	Printing label	Interrupt print job, printer goes into "Pause" state
		Pause	Pause	Continue the print job, printer goes into "Printing label" state
	flashes		Correctable error	Continue the print job after rectifying the error, printer goes into "Printing label" state
CANCEL	lights	Ready	Ready	Delete internal memory, the last label can no longer be reprinted.
		Printing label	Printing label	Short press → cancels the current print job Longer press → cancels the current print job and deletes all print jobs
		Pause	Pause	
			Correctable error	
	flashes		Irrecoverable error	

Table 3 Key functions in the print mode

Key	Menu	Parameter setting	
		Parameter choice	Numeric value
↑	• Sheets upwards	• Sheets upwards	• Increase of the number at the cursor position
↓	• Sheets downwards	• Sheets downwards	• Decrease of the number at the cursor position
↵	• Jump into a submenu • Jump to the parameter setting • Start of a selected menu option		• Cursor shift to the right
		• Finish a setting with confirmation of the selected settings	
←	• Return from a submenu • At the start of the menu, return to printer state Ready		• Cursor shift to the left
		• Finish a setting with rejecting the selected settings	

Table 4 Key functions in the offline menu

4.1 Loading Labels

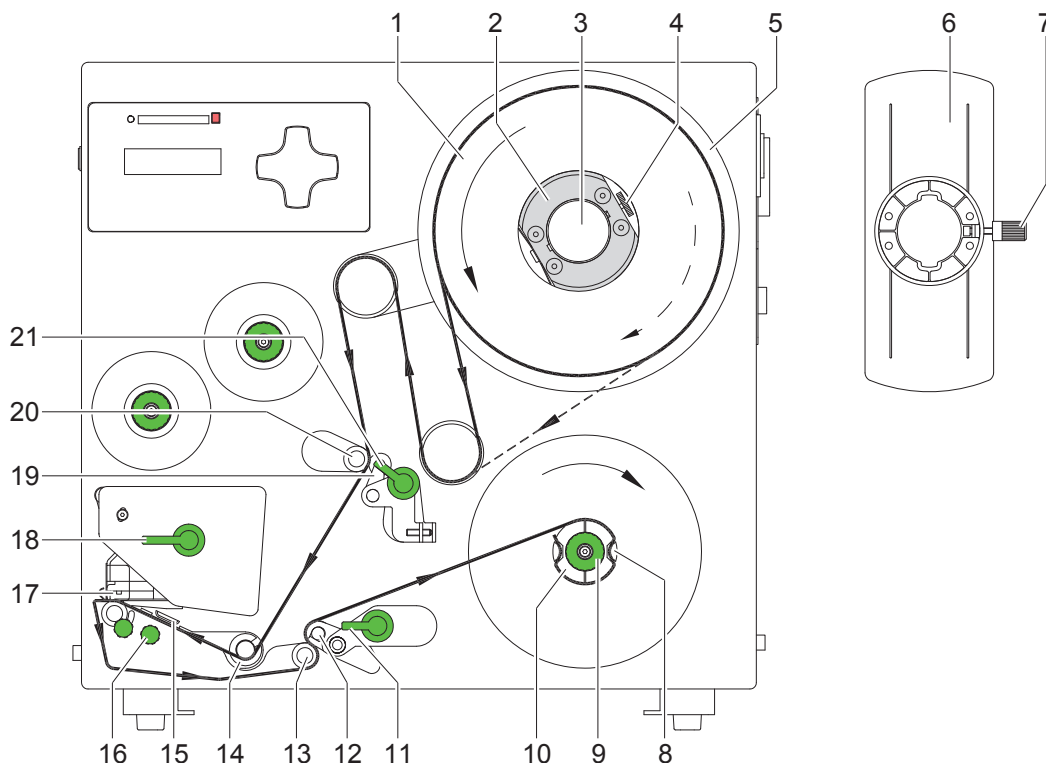


Fig. 5 Loading labels

1. On the media hub (3) there are a flange (6) and two adapters (2). Loosen the knurled screw (7) and remove the flange (6).
2. Loosen the knurled screws (4) at the adapters (2).
3. Slide the first adapter to the wind plate (5) until it blocks and tighten the knurled screw (4).
4. Place the second adapter in such a position, that the distance between the outer edge of the adapter and the wind plate (5) is a little less than the width of the label roll.
5. Place the label roll (1) onto the adapters (2) in such a way, that the labels are visible from above after unrolling, and slide the label roll against the wind plate (5).
6. Put the flange (6) on the supply hub (3) and slide it against the label roll (1).
7. Tighten the knurled knob (7).
8. Swing the three levers (11, 21 and 18) clockwise and open this way the transport system (12, 13) and the backfeed system (19, 20). The printhead (17) also will be unlocked from the print roller.
9. Slide the media guide (14) into its outermost position.
10. Unroll a length of label stock from the media roll and feed it first to the printhead (17) as shown in fig. 5.

Attention!**Possible errors at the label detection**

- Ensure that the media strip slides properly between the fittings of label sensor (15).

The label sensor (15) can be shifted perpendicular to the direction of paper flow for adaptation to the label medium. The sensor unit of the label sensor is visible from the front through the print unit and is marked by a notch in the sensor retainer.

11. Position label sensor by turning the knurled knob (16) in such a way that the sensor can detect the label gap or a reflex or cut-out mark.
 - or, if the labels deviate from a rectangular shape, -
 - Align label sensor with the front edge of the label in the direction of paper flow.

12. Feed the label stock out of the front side of the printer until there is enough material to reach the internal rewinder.
Take all labels off the outstanding liner.
13. Feed the liner as shown in figure 5 to the internal rewinder (10).
14. Slide the media strip under the rewinder clamps (8) to the wind plate.
15. Hold the rewinder and turn the knurled knob (9) counterclockwise. That way the label strip will be fixed at the rewinder.
16. Turn the rewinder (10) clockwise for tightening the label strip.
17. Slide the guide (14) against the outer edge of the label strip.
18. Swing all levers (11, 21 and 18) counterclockwise. In this way the transport system (12, 13) and the backfeed system (19, 20) will be closed and the printhead (17) will be locked.



Attention!

Possible damage (flattening) of the print roller.

► If the printer will not be used for an extended period of time, lift the printhead (17).

4.2 Adjusting the Printhead Support

When printing narrow labels (label width less than the half of the maximum print width), it is possible that the printhead will come into direct contact with the drive roller.

This will lead to premature wear on the printhead and to disturbance of the media transport. In addition, the printhead will be at a slight angle to the label, thus, the uneven pressure may result in an inconsistent image density from one edge of the label to the other.

To correct this problem, the printhead support (2) may be adjusted.

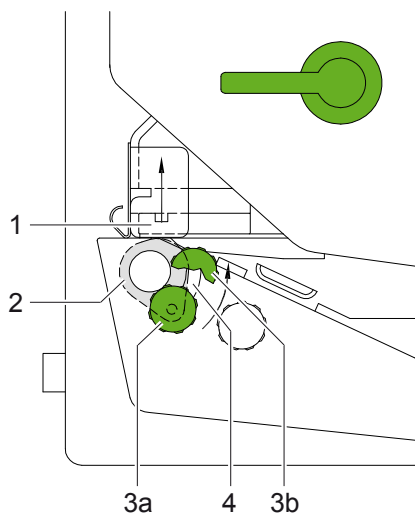


Fig. 6 Adjusting the printhead support

- Loosen the knurled screw (3) and move it as required within the adjustment slot (4). This will cause the cam shaped printhead support (2) to rotate, in effect, providing a higher or lower base on which the printhead mounting (1) rests.
- It is convenient to use the position 3a to print large labels. In this case the printhead support (2) is totally inactive. By using small labels it is necessary to adjust the printhead support. In this case insert a second strip of the label at the front side of the print roller. Now slide the knurled knob (3) as far as possible to position 3b in the adjustment slot (4), until the printhead support (2) touches the printhead mounting (1). Take away the second label strip.
- Tighten the knurled screw (3).

4.3 Adjusting the Label Tracking

It is necessary to adjust the label tracking, if the label strip sideward leaves the normal path. Such a drift may cause :

- a sideward displacement of the printed images at the label.
- a sideward displacement of the peel position.
- a paper jam or a damage of the label strip.

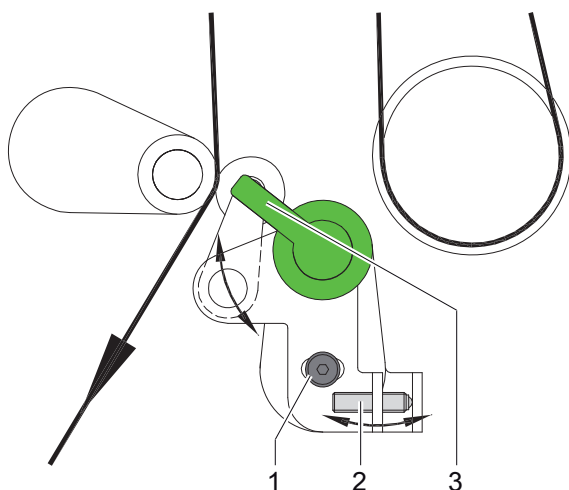


Fig. 7 Adjusting the label tracking (backfeed system)

1. Loosen the locking screw (1) at the backfeed system.
2. Adjust the label tracking by turning the set screw (2).
 - If the labels drift inwards ► Turn the set screw clockwise.
 - If the labels drift outwards ► Turn the set screw counterclockwise.
3. After every adjustment step open and close the backfeed system by turning the lever (3).
4. Tighten the locking screw (1).

4.4 Loading Transfer Ribbon

**Attention!**

Possible errors at ribbon detection

► Only use ribbons with the following characteristics:

- the trailer of the ribbon has a maximum length of 4 in (100 mm).
- the trailer is made of non conductive material or is coated with a non conductive film.
- the trailer easily can come loose from the cardboard core ($F < 3 \text{ N}$).

**Notice!**

With direct thermal printing, do not load a transfer ribbon; if one has already been loaded, remove it.

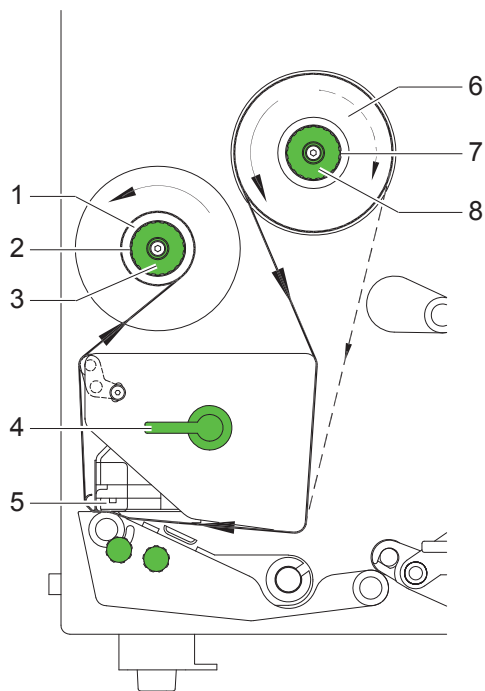


Fig. 8 Loading transfer ribbon

1. Clean printhead before loading the transfer ribbon (► 11.2 on page 45).
2. Turn lever (4) counterclockwise to open the printhead.
3. Slide transfer ribbon roll (6) onto the ribbon supply hub (7) until it stops and so that the color coating of the ribbon faces downward when being unwound.
4. Hold transfer ribbon roll (6) firmly and turn knob on ribbon supply hub (8) counterclockwise until the transfer ribbon roll is secured.
5. Slide suitable ribbon core (1) onto the transfer ribbon take-up hub (2) and secure it in the same way.
6. Guide transfer ribbon through the print unit as shown in the figure 8.
7. Secure starting end of transfer ribbon to the transfer ribbon core (1) with adhesive tape. Ensure counterclockwise rotation direction of the transfer ribbon take-up hub here.
8. Turn transfer ribbon take-up hub (2) counterclockwise to smooth out the feed path of the transfer ribbon.
9. Turn lever (4) clockwise to close the printhead.

4.5 Setting the Feed Path of the Transfer Ribbon

Transfer ribbon wrinkling can lead to print image errors. Transfer ribbon deflection can be adjusted so as to prevent wrinkles.

Notice!

A maladjustment of the printhead support may also cause ribbon wrinkling

► Adjust the printhead support (▷ 4.2 on page 13).

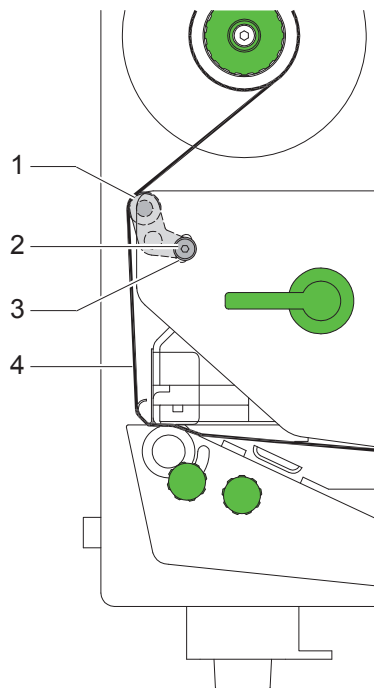


Fig. 9 Setting the feed path of the transfer ribbon

Notice!

The adjustment is best carried out during printing.



1. Loosen the locking screw (2)
2. To reduce the formation of wrinkles the ribbon must be tightened at this side where the wrinkles will be built
 - Moving screw (2) upwards ▷ Ribbon will be tightened on the outer side.
 - Moving screw (2) downwards ▷ Ribbon will be tightened on the inner side.
3. Tighten the locking screw (2).

5.1 Important Information about Printing with Hermes A

The print mode of the Hermes A is designed for fully automatic labelling. Therefore after the start of a print job Hermes A needs two additional signals for the processing of every single label :

- a start signal that releases printing and dispensing of the label
- a signal that confirms the removing of the label from the peel position.

Attention!

A simple print mode without the "start" and the "removed" signals is not available.

- If you operate Hermes A with a non-cab-applicator make sure that the applicator or the control system can generate these two signal.
- All cab applicators provide the needed signals.
- The printing without applicator is possible for assistance of the pre-dispense key (> 5.6 on page 18).

5.2 Printhead Protection

Attention!

Printhead damage caused by improper handling!

- ▶ Do not touch the underside of the printhead with the fingers or sharp objects.
- ▶ Ensure that the labels are clean.
- ▶ Ensure that the label surfaces are smooth. Rough labels act like emery paper and reduce the service life of the printhead.
- ▶ Print with the lowest possible printhead temperature.

5.3 Synchronization of the Paper Feed

After the label stock has been inserted, for peel-off mode a synchronization of the paper feed is required. That way the first label, which is detected by the label sensor, will be transported to the print position and all labels in front will be fed out of the printer. So the synchronization avoids, that blank labels are peeled-off together with the first printed label. This can cause useless first label.

- ▶ Press the **FEED** key to start the synchronization.
- ▶ Remove the blank labels peeled-off during the synchronization.

Notice!

The synchronization of the label feed will be lost also if a print job is interrupted by the **CANCEL** key. On the other hand the synchronization will not be lost by switching off the printer as long as the printhead and the transport and backfeed system are kept close.

5.4 Activation of the Peel-off Mode

To operate the Hermes A printers always the peel-off mode must be activated in the software. In Peel-off mode, the labels are automatically peeled off the liner after printing and presented for removal.

Attention!

- ▶ Activate the peel-off mode in the software.
In the direct programming this is done with the "P command" > Programming Manual.

5.5 Adjustment of the Peel Position

To optimize the taking-over of the labels by the pad there are two different parameters available for adjusting the peel position.

- First the parameter "Peel position" in the printer configuration must be adjusted. That parameter should be used to compensate tolerances between different printers.
- A second peel-off parameter is available in the software. The software value does not replace the "Peel position" value of the printer configuration, but temporarily adjusts it for the current job.

Pay attention to the two-step method to adjust the peel position. It is very important to follow that procedure for a certain start after label loading and for the re-start after error treatment. For detailed information > 5.6 on page 18.

5.6 Test Operation without Applicator

Hermes A offers the possibility to carry out test printouts without installed applicator to optimize the quality of the print image and to set the peel position.

5.6.1 Test Operation without Print Job

- ▶ Load labels and ribbon
- ▶ Press the **FEED** key. A blank label is pushed to the peel position.
- ▶ Remove the blank label. After approx. 1.5 s a paper backfeed is carried out automatically.
- ▶ Check the position of the following label before paper backfeed. The front edge of the following label should still be approx. 1 mm behind the peel-off edge.
- ▶ Otherwise, adjust the peel position in the Printer Configuration ▷ 8.2 on page 25.

5.6.2 Test Operation with Print Job

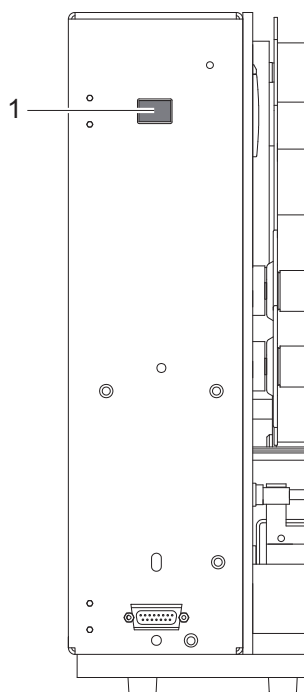


Fig. 10 Pre-dispense key

Attention!

- ▶ **First perform the basic adjustment of the configuration parameter "Peel position" with "Test Operation without Print Job" before adjusting the software parameter "Peel position".**

- ▶ Start a print job in peel-off mode.
- ▶ Press the pre-dispense key (1). A label is printed and pushed in the peel position.
- ▶ Check the position of the following label. The front edge of the following label should still be approx. 1 mm behind the peel-off edge.
- ▶ Otherwise, adjust the peel position in the software.
- ▶ Press the pre-dispense key (1) again. The printer carries out a paper backfeed. The following label is printed and pushed in the peel position.

5.7 Operation with cab-Applicators

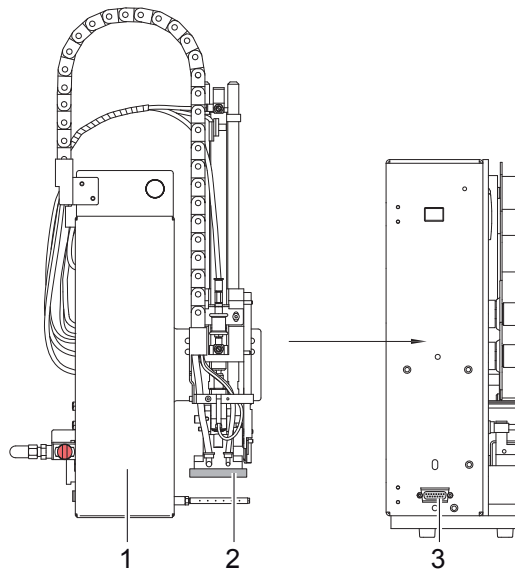


Fig. 11 cab-applicators

cab offers a own line of applicators (1) for the printers of the Hermes A family. To connect these applicators the Hermes A printer has a peripheral port with a 15-pin socket (3) at the front side.

Typically for the cab-applicators, the dispensed label will be taken by a vacuum plate (2). After that different pneumatic cylinders move the plate to the labelling position where the label will be pressed or blown onto the product. The size of the vacuum plate is specified for the label size.

For use in a networked system all cab-applicators are equipped with a PLC interface with potential free inputs and outputs.

For details ▷ Operator's Manuals of the applicators.

5.8 Operation with Non-cab-Applicators

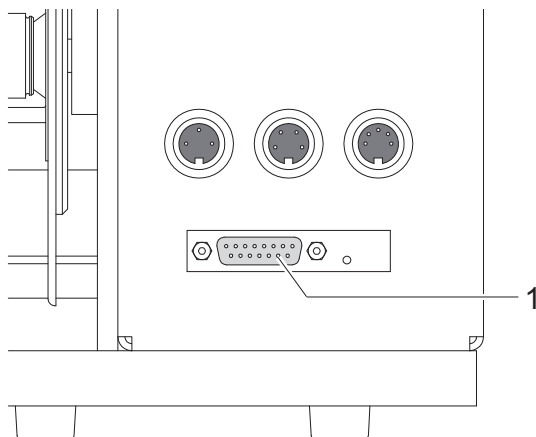


Fig. 12 Peripheral port for non-cab-applicators

The printers of the Hermes A family have a peripheral port with a 15-pin plug at the rear side of the device. By using this interface Hermes A only needs minimum configuration of signals. That way it is possible to operate many different non-cab-applicators at the Hermes A.

For the use of Hermes A with a non-cab-applicator two input signals are needed :

► "Print start"

Since the label will be dispensed from the liner directly after printing, it is necessary to make sure, that the applicator is ready to take the label when sending the signal "Print start".

► "Label was taken"

This signal is needed to start the backfeed of the label material. After the backfeed the print of the next label can be started from the front edge.

It is also necessary to activate this signal, if the parameter "Backfeed" in the setup is set to "smart". Otherwise the next "Print start" signal will not be accepted.

Beside the described input signals it is possible to get some status information via the peripheral port

▷ 6.5 on page 20.

6.1 Connector Warning Light

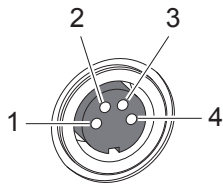


Fig. 13 Connector warning light

Pin	Direction	Name	Description	Active State
1	⊖→	24V	Internal operating voltage 24 V	
2	⊖→	/SGR	Device is switched on	low
3	⊖→	/SGE	Warning ribbon end or label end is active	low
4	⊖→	/SRT	Error	low

Table 5 Pin assignment connector warning light

6.2 Connector Warning Sensor Label End

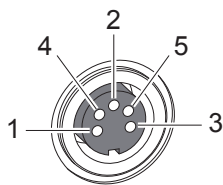


Fig. 14 Connector warning sensor label end

Pin	Direction	Name	Description	Active State
1	⊖→	24V	Internal operating voltage 24 V	
2	-	-	not used	
3	⊖←	ET	Warning label end	24V
4	⊖←	PA1	Sensor connected	0V
5	⊖→	GND	Ground (0V)	

Table 6 Pin assignment connector warning sensor label end

6.3 Connector Warning Sensor Ribbon End

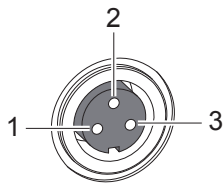


Fig. 15 Connector warning sensor ribbon end

Pin	Direction	Name	Description	Active State
1	⊖→	24V	Internal operating voltage 24 V	
2	⊖←	TB	Warning ribbon end	24V
3	⊖→	GND	Ground (0V)	

Table 7 Pin assignment connector warning sensor ribbon end

6.4 Interface for cab-Applicators

That interface is an SPI interface for data transfer between cab modules only. Therefore there is no further description in this manual.

6.5 Interface for Non-cab-Applicators

Hermes A has a 15-pin-SUB-D plug at the rear side. The signal set of this interface includes on the one hand the signals needed to couple a non-cab-applicator and on the other hand status signals of the warning sensors "label end" and "ribbon end".

All inputs and output are potential-free.



Attention!

This interface is not designated to couple a cab-applicator.

For the use of cab-applicators the Hermes printers have an additional interface with a 15-pin-SUB-D socket at the front side.

6.5.1 Pin Assignment

The interface has a 25 pin SUB-D connector.

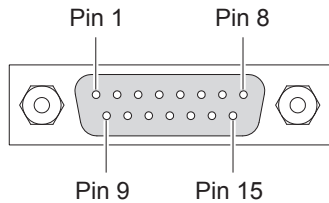


Fig. 16 Interface for non-cab-applicators

Pin	Signal	Description	Activation / Active State
1	→	Printer not ready An error has occurred or the printer is OFFLINE or in Pause state.	Contact between Pin 1 and Pin 10 is closed
2	→	Label is printed Hermes A prints a label	Contact between Pin 2 and Pin 10 is closed
3	→	Printer error An error has occurred. The operation is stopped and the error type is shown in the display	Contact between Pin 3 and Pin 10 is closed
4	→	Print job is available Hermes A has a print job	Contact between Pin 4 and Pin 10 is open
5	→	Green (The voltage at the printer is switched on) The green lamp of the warning light is compatible to the signal 'Green'.	Contact between Pin 5 and Pin 10 is closed
6	←	External error There is an error at the connected applicator or in the whole process. The print job will be broken and at the display of the printer the error message 'Host stop / error' will be shown. After removing the error the last label will be printed again. The error activates the signal 'Printer not ready', too.	+24 V between Pin 6 and Pin 13
7	←	Label was taken The printer gets the information that the connected applicator has taken the printed label from the peel position (a new label may be printed).	+24 V between Pin 7 and Pin 14
8	←	Print start This releases the start of the print if : - there is no label in the peel position - a print job was sent to the printer - the printer is ready	+24 V between Pin 8 and Pin 15
9	→	Warning transfer ribbon end The diameter of the ribbon supply roll has decreased below the adjusted minimum value.	Contact between Pin 9 and Pin 10 is closed
10	→	Reverse line for all output signals with reference potential	
11	→	Warning label end The diameter of the label supply roll has decreased below the adjusted minimum value.	Contact between Pin 11 and Pin 10 is closed
12	→	Label in present position A printed label is in the present position. Message for the connected applicator to start the labelling process.	Contact between Pin 12 and Pin 10 is closed
13	←	External error (reverse line)	
14	←	Label was taken (reverse line)	
15	←	Print start (reverse line)	

Table 8 Pin assignment of the interface for non-cab-applicators

6.5.2 Circuit Diagram of Inputs and Outputs

The **inputs** are optocouplers with a current limiting resistor of 2.4 k Ω for a voltage of 24 V in the input circuit.

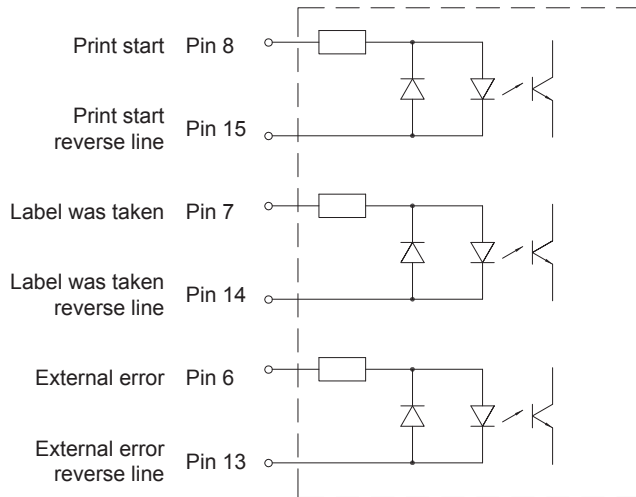


Fig. 17 Circuit of the inputs

All **outputs** are realized through solid state relays which outputs are connected with one another one-sided. The joint line is lead to the plug connector as "Reverse line".

The switch function of the outputs is to open or close the contact between the joint line and the respective output.

Electrical requirements :

$$U_{\max} = 42 \text{ V}$$

$$I_{\max} = 100 \text{ mA}$$

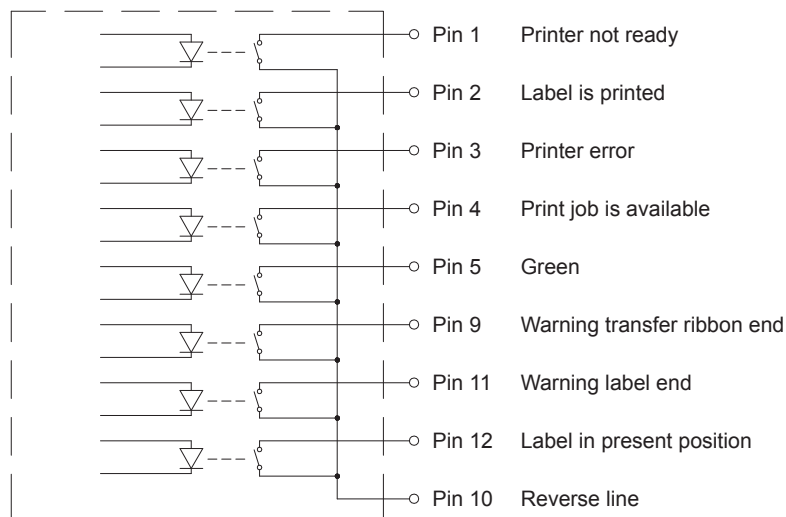


Fig. 18 Circuit of the outputs

The Offline Menu contains options to set machine and print parameters, to enter test and service functions as well to operate with the memory card.

- Press the **MODE** key in the **Ready** state to enter the OFFLINE menu.
If a memory card is installed the display shows "Memory card". Otherwise "Test" will be displayed.
























1st Menu Level	2nd Menu Level	Access
 Memory Card	 Label from card	* Only with memory card inserted
	 Print directory	
	 Copy memory card	* Only with memory card inserted PIN protection possible
	 Format card	
	 ASCII dump (Card)	* Only with memory card inserted
 Test	 Short status	
	 Status print	
	 Font list	
	 Device list	
	 ASCII Dump Mode	
	 Test grid	
	 Label profile	
 Setup	 Local settings	PIN protection possible
	 Machine parameters	
	 Print parameters	
	 Interfaces	
	 Security	
 Service	 Firmware upd.	PIN protection possible
	 Firmw. fr. card	* Only with memory card inserted PIN protection possible

Table 9 Structure of the OFFLINE menu

A host of parameters for configuring the printer are found in the **Setup** menu of the offline menu.

- Configure the printer via the operating panel during initial commissioning and when making major changes to the operational conditions.
- For changes required for processing different print jobs use software settings.



Notice!

The **Setup** menu can be protected from unauthorized access via a code number (PIN).

8.1 Local Settings

- Press the **MODE** key.
- Select **Setup** > **Local settings**.

Parameter	Meaning	Default
Country	Setting the display language and the country-specific date and time formats. The time formats can also be overwritten via software. The changes are not saved permanently, however.	UK
Timezone	Adaptation of the time display of the printer to the time zone in relation to UTC (Universal Time Coordinated).	UTC+1
Daylight saving	Selection of the daylight saving regulation applicable for the region. The time is then changed automatically.	EU
Set date	Setting of the system date in the format DD.MM.YYYY (DD: day, MM: month, YYYY: year). The print output of the date occurs in the format set via the "Country" parameter. The date can also be changed via software. The change is not saved permanently, however.	–
Set time	Setting the system time in the HH:MM:SS format. When changing the time, ensure that the Timezone, Daylight saving and Set date parameters are set correctly. The time can also be synchronized automatically via the internet using the Ethernet interface. The print output of the time occurs in the format set via the "Country" parameter. The time can also be changed via software. The change is not saved permanently, however.	–

Table 10 Parameters of the menu **Setup** > **Local settings**

8.2 Machine Parameters

- Press the **MODE** key.
- Select **Setup** > **Machine param..**

Parameter	Meaning	Default
Printhead pos. X	Shifting of the entire print image perpendicular to the direction of paper flow. The absolute shifting is limited by the margins of the print zone. Those are determined by the width of the printing line on the printhead. The Printhead pos. X can also be set via software. The offset values from the Machine param. menu and the software are added together.	0,0 mm












Parameter	Meaning	Default
 Printhead pos. Y	Shifting of the entire print image in the direction of paper flow. With positive values, printing begins later in the direction of paper flow. Shifting of the print image in the direction of paper flow also influences the peel and cutting positions. ► Correct the <code>Peel position</code> parameter by the same value in the opposite direction. The <code>Printhead pos. Y</code> can also be set via software. The offset values from the <code>Machine param. menu</code> and the software are added together.	0,0 mm
 Applicator	Configuration of the optional applicator. ► Operating instructions of the applicator	
 > Peel position	Shift the position of the dispensed label relative to the peel-off edge. The <code>Peel position</code> can also be set via software. The offset values from the <code>Machine param. menu</code> and the software are added together.	0,0 mm
 Brightness LCD	Brightness of the LCD display from 1 to 10.	10
 Contrast LCD	Contrast of the LCD display from 4 to 8.	6
 Time Powersave	Time between the last operation and activation of energy-saving mode.	5 min
 Debug mode	Operating mode which supports the firmware programmer when localizing errors.	Off
 Backfeed position	Offset of the backfeed movement	0,0 mm

Table 11 Parameters of the menu `Setup > Machine param.`

8.3 Print Parameters

- Press the **MODE** key.
- Select `Setup >  Print param..`

Parameter	Meaning	Default
 Heat level	Heating value for compensating for the differing thermal behavior of printheads. Changing this value is then especially necessary if the printing intensity has changed after replacing the printhead. ► To adapt the printing intensity when using different media, print speeds or printing contents, you should change the heat level in the software. The settings from the <code>Print param. menu</code> and the software are added together. The <code>Heat level</code> setting also affects the test printouts.	0
 Print speed	Basic print speed setting. The print speed can be re-specified for each print job via software. The basic setting is not changed by this. The print speed setting also affects the test printouts.	100 mm/s
 Transfer print	On for thermal transfer printing: Sensor for monitoring the transfer ribbon is activated. Off for thermal direct printing: Sensor for monitoring the transfer ribbon is not activated. The setting can be overwritten for each print job via software. The basic setting is not changed by this.	On










Parameter	Meaning	Default
 Warn level ribbon	Warning via the Ethernet interface by way of an SNMP message or e-mail sent when the remaining diameter of the ribbon supply roll undershoots the set value (32–74 mm).	Off
 Ribbon saver	JScript: Ribbon saver can be activated by the software ▷ Programming Manual On: Ribbon saver is always active	JScript
 Label sensor	Method for detecting the starting end of the label. Gap Sensor: Detection using changes in the transparency between the label and label gap. Bottom-Reflect: Detection using reflex marks on the bottom of the medium.	Gap sensor
 Backfeed	Method for backfeeding the label medium. Backfeeding is necessary in the peel-off mode since a label is pushed out passed the front edge of the next label above the print line when peeling off. always: Backfeeding occurs independently of label contents. smart: Backfeeding only occurs when the next label is not yet fully prepared when peeling off the current label. Otherwise, the second label is pushed on and completed after removal of the first label without backfeeding.	smart
 Backfeed	Printhead behavior during label backfeed. head lift-off: Printhead will be lifted away from the print roller head down: Printhead remains down on the print roller	head down
 Pause reprint	Printing of another label with the information of the previous print job by pressing the pause button. This function can be executed until the print buffer is cleared with the CANCEL button.	Off
 Error-Reprint	On: With a correctable error and corresponding troubleshooting, the label being printed when the error occurs is repeated. Off: Print job is continued with the next label.	On
 Barcode error	On: With faulty barcode contents or size specifications, printing is interrupted. Off: Printing is not interrupted if an error occurs. If barcode contents are faulty, the printer attempts to replace the incorrect data with valid characters (e.g. zeros). If barcode size specifications are faulty, a gray area is printed instead of the barcode.	On
 Width ASCII dump	Width of the printing area in the ASCII Dump test function (▷ 9.6 on page 32). With the Automatic setting, the printout of the control sequences arriving at the printer occurs over the maximum printing width. The printing area width can be reduced down to 50 mm.	Automatic

Table 12 Parameters of the menu Setup > Print param.

8.4 Interfaces

- Press the **MODE** key.
- Select Setup >  Interfaces.











Parameter	Meaning	Default
 Character set	Selection of the character set table for adaptation to the computer system used. Switching the character set via software is not possible. Characters not available in the selected character set can be accessed using the Unicode table.	Windows 1252
 IEEE 1284	Bi-directional parallel interface	On
 RS-232	Interface parameters for data transfer via the serial RS-232 interface.	
 > Baud rate	Speed (in Baud) of data transfer	57.600
 > Handshake	Data transfer protocol	RTS/CTS
 RS-422/485	Menu to configure the optional RS-422/RS-485 interface ▷ Operating instructions of the interface. (only displayed when the PCB is installed)	
 Ethernet	Menu to configure the optional Ethernet interface ▷ Operating instructions of the interface. (only displayed when the PCB is installed)	
 Keyboard	Setting of the keyboard layout when using an external keyboard. (only displayed when the keyboard is installed)	
 > Layout	Country setting of the keyboard layout. With the Automatic setting, the setting from the menu Local settings > Country is used.	Automatic
 > NumLock	Activation or deactivation of the numerical keypad on the keyboard.	On

Table 13 Parameters of the menu Setup > Interfaces

8.5 Security

By activating a PIN, the Setup menu, certain memory card functions and the firmware update can be protected from unauthorized access.

The protected menu items are then marked with the  symbol and are only accessible after the PIN is entered.

- Press the **MODE** key.
- Select Setup >  Security.



Parameter	Meaning	Default
 Security	Status of the PIN activation	Off
 PIN	Setting of the PIN	0000

Table 14 Parameters of the menu Setup > Security


9.1 Overview

The printer is equipped with different test functions providing information on:

- the most important configuration parameters
- the fonts available in the printer
- important hardware components and connected peripheral devices
- the print image quality and state of the thermal printhead
- the function of label detection in conjunction with the optical properties of the label medium
- the label data sent from the computer or read out from the memory card

9.2 Short Status

The `Short status` menu provides an overview of important status information in the display of the printer.

- ▶ Press the **MODE** key.
- ▶ Select `Test >  Short status`.
- ▶ Scroll through the individual lines with the `↑` and `↓` keys.
- ▶ Exit the `Short status` menu with the `←` key.

The following configuration parameters are displayed in the `Short status` menu:

Line	Meaning	Example
1	Printer type	Hermes A4/300
2	Firmware version	Firmware V3.19
3	Date of firmware creation	(Apr 27 2009)
4	Revision number of the CPU	PCB Rev. 5
5	Revision number of the FPGA	FPGA: Rev. 3
6	Printhead resolution	TPH 300dpi
7	Length of the material printed in thermal transfer mode	TT: 231,72m
8	Length of the material printed in direct thermal mode	TH: 10,42 m
9	Operative time / number of printed labels	321h / 69785
10	Capacity of an installed CF memory card	Card: 32 MByte
11	Type of an optional interface (USB, Ethernet, RS-422/485)	Slot: -

Table 15 Display `Short status`


9.3 Status Print

* Function not available at Hermes A2 !

The `Status print` function prints a test image containing information on the configuration and status of the printer. The printout occurs using the heat level and print speed specified in the `Setup > Print param.` menu.

**Notice!**

The printout occurs without taking the label gaps into consideration. This is why endless media are most suitable for this purpose.

- ▶ Insert printable medium (labels, endless paper) which extends across the entire printing width.
- ▶ If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
- ▶ Press the **MODE** key.
- ▶ Select `Test >  Status print`.
- ▶ Start printout with the `↵` key.

The printout can be cancelled with the **CANCEL** key.

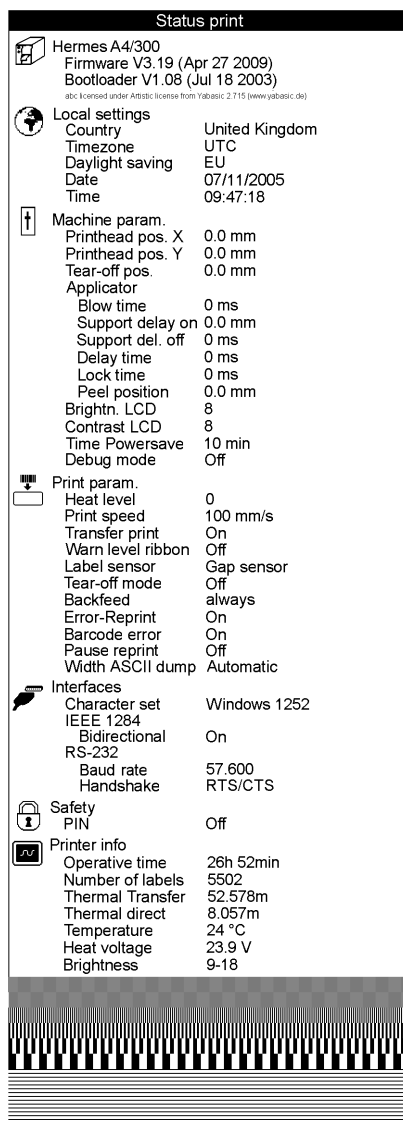


Fig. 19 Status print








Symbol	Information
	<ul style="list-style-type: none"> • Device type • Version and creation date of the firmware • Version and creation date of the system loader (bootloader)
	Current values of selected local settings (▶ 8.1 on page 24)
	Current values of selected machine parameters (▶ 8.2 on page 24).
	Current values of selected print parameters (▶ 8.3 on page 25).
	Current values of selected interface parameters (▶ 8.4 on page 27).
	Status of PIN activation (▶ 8.5 on page 27).
	<ul style="list-style-type: none"> • Operative time • Number of labels printed • Printed length with thermal transfer printing and thermal direct printing • Current measured values of the printhead temperature and heat voltage • Information on the working points of the label sensor
Line pattern	Lines differing in thickness at various distances. They are used to evaluate the print quality.

Table 16 Information in `Status print`

9.4 Font List


* Function not available at Hermes A2 !

The `Font list` function prints the most important parameters of the fonts available in the printer in tabular form. The table contains both the original fonts in the printer and other fonts loaded into the printer. The printout occurs using the heat level and print speed specified in the `Setup > Print param.` menu.



Notice!

The printout occurs without taking the label gaps into consideration. This is why endless media are most suitable for this purpose.

- ▶ Insert printable medium (labels, endless paper) which extends across the entire printing width.
- ▶ If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
- ▶ Press the **MODE** key.
- ▶ Select `Test >`  `Font list`.
- ▶ Start printout with the `↵` key.

The printout can be cancelled with the **CANCEL** key.

Font list			
No.	Name	Type	Description
-1	_DEF1	Bitmap	Default Font 12x12 dots
-2	_DEF2	Bitmap	Default Font 16x16 dots
-3	_DEF3	Bitmap	Default Font 16x32 dots
-4	OCR_A_I	Bitmap	OCR-A Size I
-5	OCR_B	Bitmap	OCR-B
3	BX000003	TrueType	Swiss 721
5	BX000005	TrueType	Swiss 721 Bold
596	BX000596	TrueType	Monospace 821
8	GCTLF2ZW	TrueType	Times New Roman

Fig. 20 Font list

Column	Meaning
No.	ID number of the font required for programming (command T).
Name	Name with which the font is saved internally.
Type	Type of font generation. It provides information on the variability of the font and is important when programming (command T).
Description	Explanations of the font: size, font family. The printout occurs in the appropriate font.

Table 17 Parameters of the `Font list`


9.5 Device List

* Function not available at Hermes A2 !

The `Device list` function prints out the most important information on hardware components of the printer and connected devices. The printout occurs using the heat level and print speed specified in the `Setup > Print param. menu`.

**Notice!**

The printout occurs without taking the label gaps into consideration. This is why endless media are most suitable for this purpose.

- ▶ Insert printable medium (labels, endless paper) which extends across the entire printing width.
- ▶ If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
- ▶ Press the **MODE** key.
- ▶ Select `Test >  Device list`.
- ▶ Start printout with the `↵` key.

The printout can be cancelled with the **CANCEL** key.

Device list	
Name	Description
CPU	Hermes A4, #125041757776 PCB-Rev. 5, FPGA-Rev. 3
TPH	300 dpi, 1248 dots
CARD	15 MByte (SanDisk SDCFB-16) #243338G0812, vde 1.10
SLOT	USB Full-Speed #046125495647, Rev. 1.00
USB [1]	Generic/Generic Hub
[0] Full	Rev. 3.00
USB [2]	cab/Applicator
[1/4] Low	Rev. 2.01
USB [3]	cab/Frontpanel
[1/1] Full	Rev. 1.02
USB [3]	cab/CompactFlash
[1/1] Full	Rev. 1.02

Fig. 21 Device list

Name	Information
CPU	Type and serial number of the CPU PCB Revision of CPU PCB and CPU
TPH	Resolution and heating dot number of the installed thermal printhead.
CARD	Capacity, manufacturer, serial number and version number of the FlashCard installed
SLOT	Type, serial number and revision number of the interface expansion card installed.
USB [a] [b/c] Speed	Type and revision of installed USB devices a: number of USB device b: number of USB device to which device a is connected c: number of interface of device b to which device a is connected Speed: data transfer speed (low, full)

Table 18 Parameters of the Device list

9.6 ASCII Dump Mode

ASCII Dump Mode offers the option of checking incoming control sequences at the interface when working with direct programming. The incoming commands at the printer are printed out as text. In addition, a corresponding error message is printed out immediately after an error occurs.

The printout occurs using the heat level and print speed specified in the `Setup > Print param.` menu and is started after four lines are have been received.



Notice!


The printout occurs without taking the label gaps into consideration and without transfer ribbon checking. This is why endless media are most suitable for this purpose.

If only media (labels, endless paper) is available which do not cover the entire printing width, the width of the printout can continuously be reduced down to 50 mm with the `Width ASCII dump` parameter (▷ 8.3 on page 26).



Notice!

In case of questions about programming, keep a printout of your label file which was created in ASCII Dump Mode handy. The printout can be transmitted clearly via fax.

- ▶ Load printable medium (labels, endless paper).
- ▶ If the printout is to occur using thermal transfer printing, insert transfer ribbon.
- ▶ If the printable medium and/or the transfer ribbon does not cover the entire printing width, reduce the width of the printout accordingly with the `Width ASCII dump` parameter (▷ 8.3 on page 26).
- ▶ Press the **MODE** key.
- ▶ Select `Test >`  `ASCII Dump Mode`.
- ▶ Switch to ASCII dump mode with the `↵` key.
- ▶ Send print jobs.
- ▶ Call up the last few lines of a label description with the **FEED** key.
- ▶ Press the **CANCEL** key to cancel the printout or switch to the **Ready** mode.

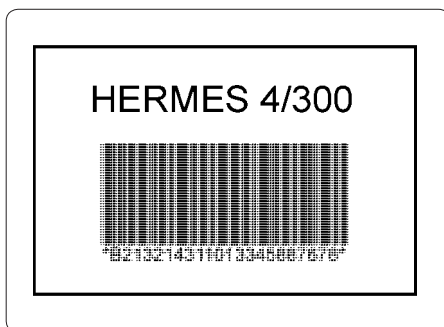


Fig. 22 Output label

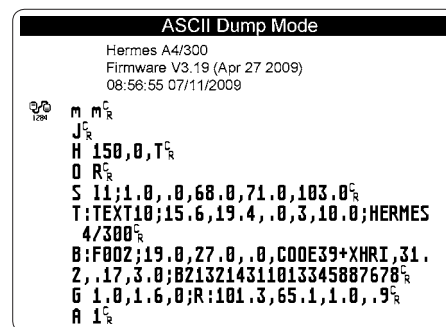


Fig. 23 Printout in ASCII Dump mode


9.7 Test Grid

The `Test grid` function prints out the geometric pattern on a background grid. This allows you to assess the evenness of the print quality.

The printout occurs using the heat level and print speed specified in the `Setup > Print param.` menu.

**Notice!**

The printout occurs without taking the label gaps into consideration. This is why endless media are most suitable for this purpose.

- ▶ Insert printable medium (labels, endless paper) which extends across the entire printing width.
 - ▶ If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
 - ▶ Press the **MODE** key.
 - ▶ Select `Test >`  `Test grid`.
 - ▶ Start printout with the `↵` key.
- The geometric pattern is printed every 5 seconds once the Test grid function is started. During the pauses between the printouts the printer can be adjusted.

The printout of the test grid can be cancelled with the **CANCEL** key.

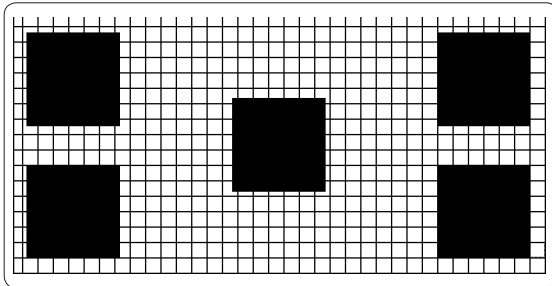


Fig. 24 Test grid

9.8 Label Profile


* Function not available at Hermes A2 !

The Label profile function carries out a longer label advance. It saves the values measured by the label sensor here and then prints them out in two diagrams. The printout is used to check label detection in conjunction with the optical properties of the label medium. The printout occurs using the heat level and print speed specified in the Setup > Print param. menu.



Notice!

The printout of the diagram occurs without taking the label gaps into consideration. This is why endless media are most suitable for the printout.

- ▶ Select the label sensor to be tested in the menu Setup > Print param. (▷ 8.3 on page 26).
- ▶ Load the label medium to be tested into the printer.
- ▶ Press the **MODE** key.
- ▶ Select Test >  Label profile.
- ▶ Start the function with the ↵ key.
The printer performs a longer label advance. The label sensor measures the transparency/reflection capacity of the label material here. The message Test print OK appears in the display once the advance is complete.
- ▶ Insert printable medium (labels, endless paper) which extends across the entire printing width.
- ▶ If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
- ▶ Start the diagram printout with the ↵ key.

The following figure shows an example label profile. The diagram shows the gradient determined for label detection. The starting edge of the label is located at the point where the rise of the gradient exhibits a minimum (see vertical dotted line).

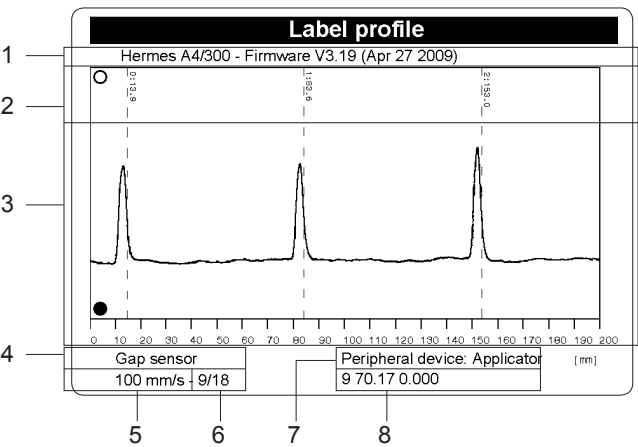


Fig. 25 Label profile

1	Printer type and firmware version
2	Coordinates in paper feed direction where media front edges were detected
3	Profile of the values measured at the sensor. These values are terms for the difference in opacity between the media and gap or in the case of the bottom reflective sensor, the reflectivity between the media and the printed mark
4	Method of media recognition (gap sensor or bottom-reflective sensor)
5	Print speed
6	Sensor adjustment results
7	Type of peripheral device connected
8	Test results for use by Maintenance technicians

Table 19 Label profile data

10.1 Bracket

The delivery program of the Hermes A series includes a bracket which allows to hang in the printer in to a production line. For that the bracket first must be mounted onto a profile. After that the printer can be hung in into the bracket and fixed by screws.

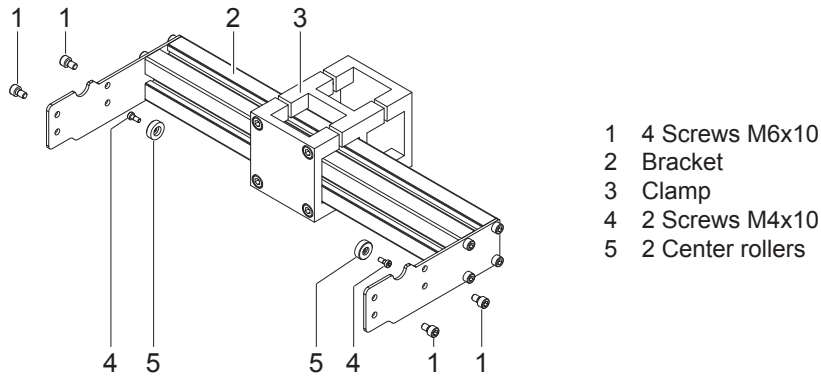


Fig. 26 Bracket

The delivery contents of the bracket include a clamp (3) for mounting the bracket (2) at a profile with a cross-section of 50 mm x 50 mm. The clamp is made of three parts assembled by screws.

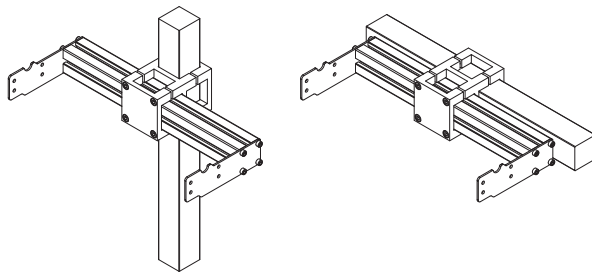


Fig. 27 Samples of bracket mounting

The clamp allows to mount the bracket onto a horizontal or vertical profile.

Besides the bracket can be moved sideward inside the clamp. This way the bracket can be adjusted to different centers of gravity when different applicators are used at the Hermes A.

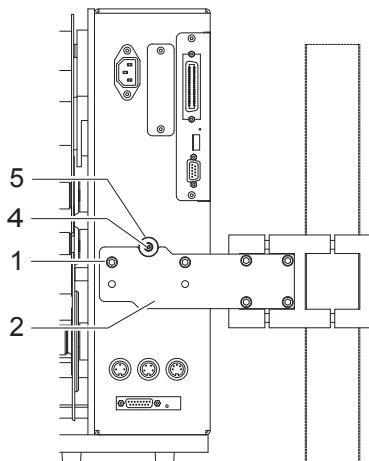


Fig. 28 Mounting the printer

The printer has at the front and the rear side of the frame one welding nut each.

- Fix a center roller (5) with a screw M4x10 (4) at each welding nut.
- Hang in the printer into the bracket by inserting the center rollers into the grooves of the bracket (2).
- Fix the printer at both sides with two each screws M6x10 (1).

10.2 Warning Sensors

The sensors recognize, when the diameter of the label supply roll respectively the transfer ribbon roll decreases below a preset threshold value.



Notice!

The messages of the sensors are only intended to inform the operator. They do not influence the operation of the printer, i.e. the operation is not interrupted.

The messages will be shown by switching on the yellow lamp of the warning light (option). The signals also can be sent to a control system by using the peripheral interface for non-cab applicators.

10.2.1 Warning Sensor Label End

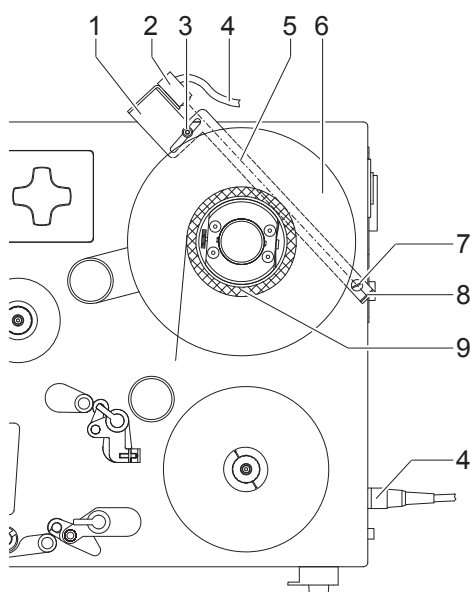
Mounting

1. Switch off the printer
2. Slide the sensor holder (1) with the warning sensor label end (2) behind the wind plate (6) of the media supply hub.
3. Attach the sensor holder with the slotted head screw (7) and the cylinder head screw (3) to the mounting plate.
4. Plug in the cable (4) at the 5-pin connector at the rear side of the frame.

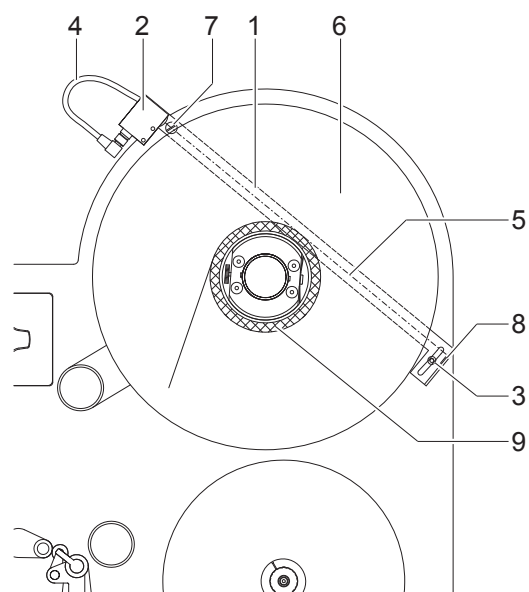
Adjustment

With this setting the threshold diameter (84 to 110 mm) for the warning message can be adjusted.

1. Slide a label roll (9) with the intended threshold diameter onto the media supply hub.
2. Switch on the printer. The sensor (2) sends out a beam (5). If the label roll does not interrupt the path of the beam, the beam is mirrored at the reflective foil (8) and detected again by the sensor. In that case the LED at the sensor is on.
3. Loosen the cylinder head screw (3) and swing the sensor holder against the axle of the media supply hub as near as possible. The LED at the sensor is off.
4. Slowly swing the sensor holder away from the axle until the LED at the sensor goes on.
5. Tighten the cylinder head screw (3).



Hermes A2, Hermes A4



Hermes A5

Fig. 28 Warning sensor label end

10.2.2 Warning Sensor Ribbon End

**Attention!**

The warning sensor ribbon end is analyzed by the printer electronics only if the warning sensor label end is installed too.

Mounting

1. Switch off the printer.
2. Attach the sensor holder (2) with the warning sensor ribbon end (3) using the screws (1) to the mounting plate.
3. Plug the cable (4) to the 3-pin connector at the rear side of the frame.

The contents of delivery include a reflective foil.

4. Remove the covering foil from the glued surface.
5. Stick the reflective foil (6) onto the bracket (5) below the ribbon hubs as shown in the figure. Make sure that the distance between the reflective foil and the mounting plate (9) is about 15 mm.

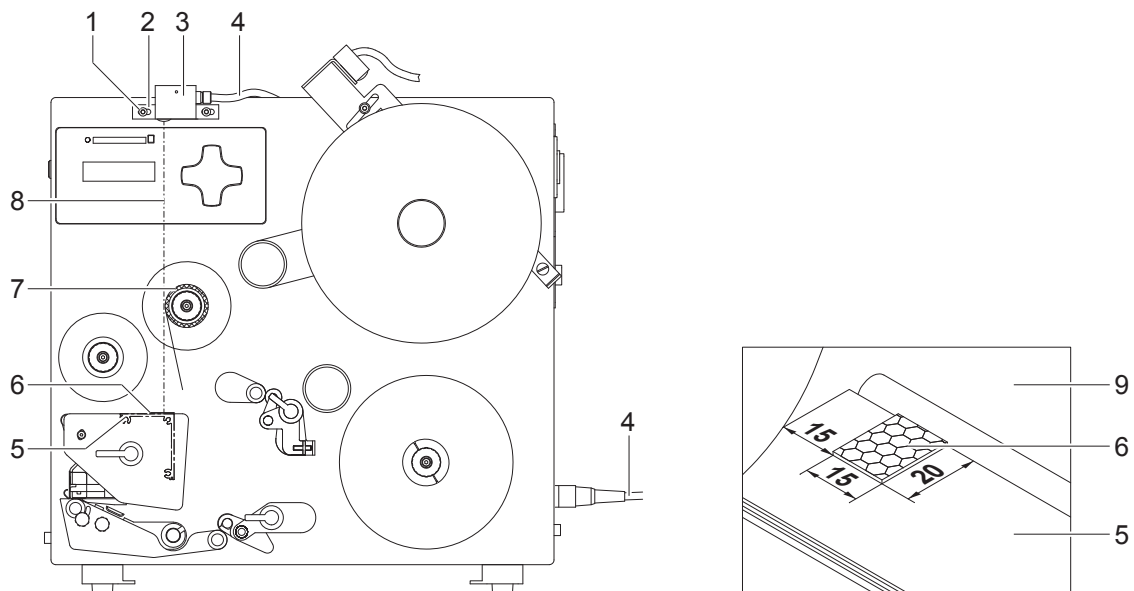


Fig. 30 Warning sensor ribbon end

Adjustment

With this setting the threshold diameter (34 to 41 mm) for the warning message can be adjusted.

1. Slide a transfer ribbon roll (4) with the intended threshold diameter onto the media supply hub.
2. Switch on the printer. The sensor (3) sends out a beam (8). If the ribbon roll does not interrupt the path of the beam, the beam is mirrored at the reflective foil (6) and detected again by the sensor. In that case the LED at the sensor is on.
3. Loosen the screws (1) and move the sensor holder to the right as far as possible. The LED at the sensor is off.
4. Slowly move back the sensor holder to the left until the LED at the sensor goes on.
5. Tighten the screws (1).

10.3 Warning Light

By using the warning light it is possible to recognize the state of the printer with one view.
For mounting the warning light it is recommended to use the option "Bracket".

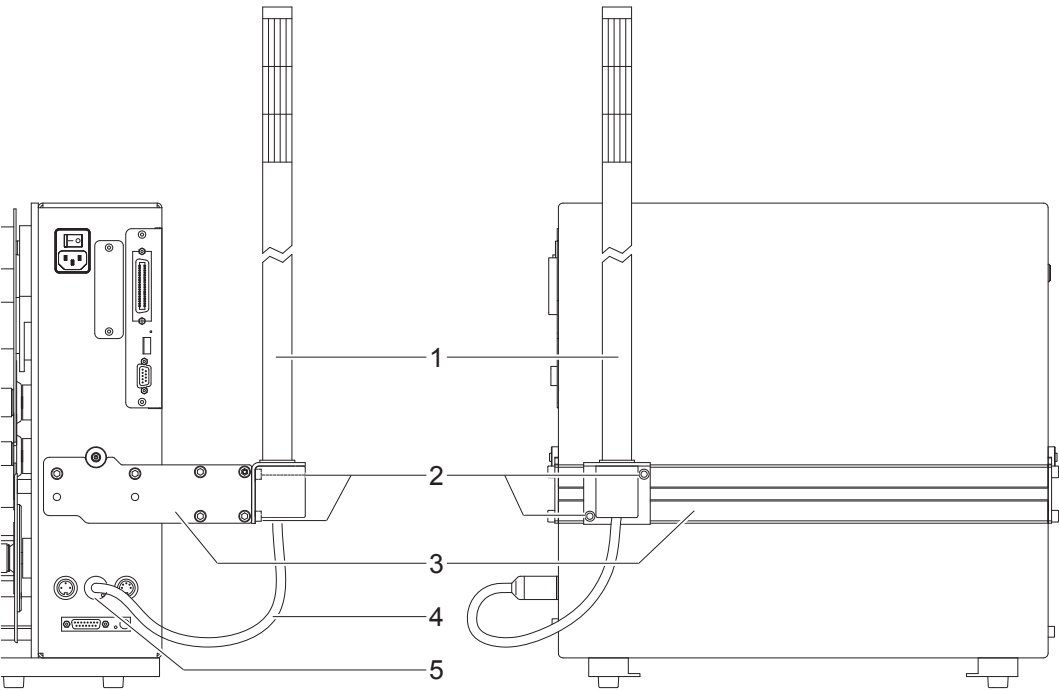


Fig. 31 Connection of the warning light

- 1. Fix the warning light (1) at the bracket (3). Use the two screws (2) which are included in the delivery contents of the light.
- 2. Contact the connection cable (4) of the warning light at the 4-pin connector (5).

During the operation the lamps have following functions :

green	Device is switched on, voltage is available
yellow	Warning : labels respectively transfer ribbon have passed the preset minimum quantity. Function is only available when the warning sensor label end is mounted
red	Printer/Applicator error Further information about the kind of error is shown at the display.

Table 20 Warning light functions

10.4 Memory Cards

Graphics, fonts, label descriptions and database information can be saved for the long-term on CompactFlash memory cards with a maximum capacity of 512 MB.



Notice!

- Always create a backup copy of the memory card in case of a malfunction.

10.4.1 Installation

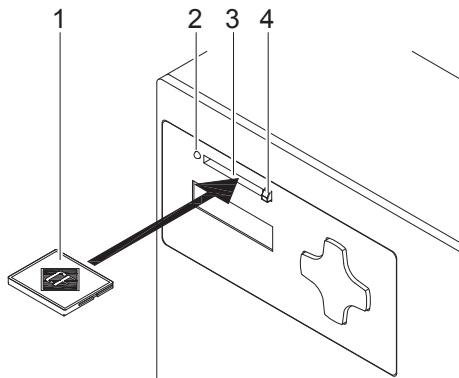


Fig 32 Installing and removing the memory card

1. With the CompactFlash card contacts facing the slot (3), insert the card (1) into the slot until the eject button (4) pops out of the cover on the front panel.



Notice!

When the memory cards are slid onto the contact pins, light physical resistance can be felt.

2. Press the **MODE** key.
3. Check whether the `Memory card` menu is shown in the display.

If the `Memory card` menu is not shown in the display, it could be because:

- the memory card is not inserted far enough into the card slot
- the memory card is entered incorrectly

4. For removing the card press the eject button (4) and remove the card from the slot (3) by hand.



Attention!

Risk of data loss.

- Do not eject the memory card if the LED (2) next to the slot (3) is illuminated.

10.4.2 Formatting

If the memory card has not been pre-formatted in a suitable way, it can be formatted in the following manners:

- Formatting in the printer via the `Format card` menu item (► 10.4.8 on page 42).
- Formatting in the printer via the interface with the `Mf;name CR` command (► "Programming Manual").

10.4.3 Directory Structure

On CompactFlash cards some folders are created during formatting.

Folder name	Contents
fonts	Font files
images	Graphic files
labels	Label description files
misc	Firmware, Setup and TMP files

Table 21 Directory structure of CompactFlash cards

10.4.4 Writing

The memory card can be written to in several ways. The most functionally secure way is writing to the card in the printer via a data interface.

Example:



With direct programming, the command sequence for saving a label (file ABC) has the following form:

Ms LBL; ABC	Command for saving the file ABC
J	|
H 100,0,T	|
S l1;0,0,68,71,104	| Contents of the file ABC
T 10,10,0,3,pt15;memory card	|
A 1[NO PRINT]	|
Ms LBL	End of save command

- After transfer of the command sequence, the file ABC is saved with the commands from J to A.
- Only one label is printed each time the file ABC is called up.
- The [NO PRINT] parameter in command A suppresses the printing of a label when the file is saved.
- To print the label a variable number of times, put command A after the ending Ms command.

10.4.5 Label from Card


Labels whose descriptions are saved on the memory card can be printed using the `Label from card` function.

1. Select `Memory card` >  `Label from card`.
2. Press the `↵` key.
The name of the label found at the top of the index of the memory card is displayed.
3. Select the desired label in the index of the card with the `↑` and `↓` keys.
4. Press the `↵` key.
If a label is selected which was saved with a fixed label quantity, the print job is started immediately.
If a label is selected with a variable number of labels to print, "Number of labels" appears on the first line of the LCD. On the second line "00001" appears with the first number flashing (cursor).
5. With the `↑` and `↓` keys the number at the cursor position may be changed. The cursor can be moved one number to the right by using the `↵` key. After confirming the last number the printout will start.
6. If the label was designed with operator prompted fields, the symbol  is shown on the display. Using a keyboard, an external device or the keys on the front panel, enter the data on the requested line. The method of entering operator prompted data is similar to the method of entering the number of labels. Letters and numbers can also be entered with the front panel keys if necessary.
7. Label selection or the number of labels selected, can be canceled by pressing the `←` key.

Access to the stored data on the memory card is also possible using the connected interface and computer.

10.4.6 Print Directory

1. Insert printable medium (labels, endless paper) which extends across the entire printing width.
2. If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
3. Press the **MODE** key.

4. Select `Memory card` >  `Print directory`.

5. Start printout with the `↵` key.

The printout contains:

- the name of the memory card
- information on the saved files
- the size of the available memory area

10.4.7 Copy Memory Card

All the data from one memory card can be copied to another one with the `Copy memory card` function. Copying between memory cards with different memory capacities is possible. You can also use memory card which already contain data as a destination card.


**Attention!**

Data loss when copying.

If files with the same name are found on the original and copy cards, the files on the copy card are overwritten without any prior notification. In addition, removal of the memory cards during the copying procedure leads to data loss.

- ▶ **Check files for the same name before copying.**
- ▶ **Only remove or insert memory cards when so instructed in the display.**

Unauthorized copying of memory cards can be prevented by using a PIN (▷ 8.5 on page 27).

1. Insert original card.
2. Press the **MODE** key.
3. Select `Memory card` >  `Copy memory card`.
4. Press the `↵` key.
A selection field with the selection `No` appears in the display.
5. Use the `↑` and `↓` keys to select `Yes`.
6. Press the `↵` key.

If the function `Copy memory card` is protected via a PIN, the printer will prompt for the PIN by displaying "PIN: 0000" on the LCD. The numbers of the PIN may be changed using the `↑` and `↓` keys. The position of the number to be changed will be flashing. You can switch to the next number by pressing the `↵` key. If the all of the numbers are entered correctly, the "Copy memory card" process will begin.
When copying larger amounts of data, the copying procedure is carried out in several copying cycles. An increasing progress indicator is shown in the display during a copy cycle.
The `Insert dest.` instruction then appears.


7. Remove original card and insert the card to be written to.
The data read from the original card is transferred to the copy card. The progress indicator in the display shrinks during this process. If only part of the data from the original card was read out, the `Insert source` instruction appears.
8. Remove copy card and insert original card again.
The next copy cycle begins.
9. Repeat the previous two steps until all data has been copied.
`OK` is shown in the display when the entire copying procedure is complete.
10. Press the `↵` key.

If the card to be written to can no longer accept data during the copying procedure, the `Card full` error message appears in the display.

10.4.8 Format Card


The `Format card` function can be used to delete all data from a memory card. This reformats the memory card. This is why you can also use the `Format card` function if the `Unknown card` or `Structural err. error` message was output when using the card.

Unauthorized deleting of memory cards can be prevented by using a PIN (▷ 8.5 on page 27).

1. Insert memory card (▷ 10.4.1 on page 39).
2. Press the **MODE** key.
3. Select `Memory card` >  `Format card`.
4. Press the \leftarrow key.
A selection field with the selection `No` appears in the display.
5. Use the \uparrow and \downarrow keys to select `Yes`.
6. Press the \leftarrow key.
7. If the function `Format card` is protected via a PIN, the printer will prompt for the PIN by displaying "PIN: 0000" on the LCD. The numbers of the PIN may be changed using the \uparrow and \downarrow keys. The position of the number to be changed will be flashing. You can switch to the next number by pressing the \leftarrow key. If the all of the numbers are entered correctly, the "Format card" process will begin.
8. Do not remove the card from the printer during the deleting procedure.
The memory volume of the card is shown in the display as soon as the deleting procedure is complete.
9. Press any key.

10.4.9 ASCII Dump (Card)

The label files found on a memory card consist of a sequence of printer commands. These command sequences can be printed in the form of text with the `ASCII dump (Card)` function.

1. Insert printable medium (labels, endless paper) which extends across the entire printing width.
 2. If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
 3. Insert memory card (▷ 10.4.1 on page 39).
 4. Press the **MODE** key.
 5. Select `Memory card` >  `ASCII dump (Card)`.
 6. Press the \leftarrow key.
The index of the memory card is shown in the display.
 7. Select the desired label file in the index of the card with the \uparrow and \downarrow keys.
 8. Start printout with the \leftarrow key.
The data printout is started after four lines are received. For this reason, it is often necessary to call up the last few lines of a label description with the **FEED** key.
- The printout of the label description can be cancelled with the **CANCEL** key.

10.5 External Keyboard

An external keyboard or a compatible input device (e.g. barcode scanner) can be connected directly to the printer. Using an external keyboard facilitates the entry of variable data while processing print jobs and printing from memory media.

Input prompts and the data received from the keyboard are shown in the display.

10.5.1 Connecting External Keyboard

Any MF-2-compatible USB keyboard which supports code set 3 can be connected to the printer.

- Insert connection cable of the keyboard into a USB master interface on the back of the printer.

10.5.2 Special Key Functions

General :

[F1]	Executes the <code>Label from card</code> memory media function.
[F2]	Prints an additional label from the last print job. Corresponds to the command A 1 CR .
[F3]	Repeats the last print job with renewed polling of the variable data and polling of the label quantity.
[F8]	Functions in the same manner as FEED .
[Enter]	Switches to the offline menu. Functions in the same manner as MODE .
[Esc]	Functions in the same manner as CANCEL .
[Space]	Functions in the same manner as PAUSE . Not for continuing after an error.

Table 22 Special key functions: general

In the offline menu and for entry of variable data:

[←]	Moves cursor left. On the top level of the offline menu, switches back to Ready mode.
[→]	Moves cursor right.
[↑]	Increases the value at the cursor position.
[↓]	Decreases the value at the cursor position.
[Enter]	Confirms the input.
[Esc]	Cancels input and returns.

Table 23 Special key functions: offline menu and data input

10.5.3 Key Assignment and Special Characters

The printer features a specific keyboard assignment table for each setting of the `Country` configuration parameter. These tables generally match the DOS keyboard assignments (▷ 8.4 on page 27).

The [Alt Gr] key has no function. All special characters obtained using this key (e.g. [] { } \) and various other special characters (e.g. " × ÷) can be obtained using the [Alt] key. Additional special characters can be output using a sequence of two characters, whereby the [Alt] key must be pressed when entering the second character.

Some special characters cannot be shown in the display of the printer. In the case, they are replaced by a character similar to the special character.



Attention!

When using a scanner ensure that the same character set is set for both the scanner and the printer.

Country-specific special characters:

► Enter the following country-specific special characters with the [Alt] key pressed.

Character	[Alt] + Key															
€	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
{	7	'			ä	à	ç	7	8	'	7	B				
}	0	=			\$	\$	à	0	9	ç	0	N				
[	8	(			ü	è	^	8	è	'	8	F				
]	9	)			"	"	\$	9	+	+	9	G				
\	ß	_			<	<	<	+	°	<		Q				
|	<	-	'		1	1	&	<	1	'		W				
'																
'			'	'	'	'	ù					í				
'			è				μ		'			ý				
^	ç						\$					š				
~	^	^	6	6	\$	\$	2	\$	ì	<	½	;				
"	=				
~	+	é			^	^	=	"	ù	4	"	+				
°			0	0				'	0	0		ř				
²	2								2							
³	3								3							
#	"				3	3	"		à	3		X				
\$								4			4	ù				
¢					8	8										
£								3			3					
¤		\$										"				
@	q	à			2	2	é	2	ò	2	2	V				
μ	m								m	m	m					
¬					6	6				6						
÷	/	/	/	/	/	/	/	/	/	/	/	/				
×																
	GR	FR	UK	US	SG	SF	BE	SU	IT	SP	DK	CZ				

GR: Deutschland
 FR: France
 UK: United Kingdom
 US: USA
 SG: Schweiz
 SF: Suisse
 BE: Belgie
 SU: Suomi
 IT: Italia
 SP: España
 DK: Danmark
 CZ: Česka republika

Table 24 Country-specific special characters entered with the [Alt] key pressed

Characters between vertical lines (| / |, | * |) are entered with the corresponding keys on the numerical keypad of the keyboard.

Other special characters:

► To enter a special character in the ZZ column first enter the corresponding character in the Z1 column and then enter the character in the Z2 column while pressing the [Alt] key.

ZZ	Z1	Z2	ZZ	Z1	Z2	ZZ	Z1	Z2	ZZ	Z1	Z2
À	`	A	Ö	`	O	à	°	a	ò	`	o
Á	'	A	Ó	'	O	á	°	a	ó	'	o
Â	^	A	Ô	^	O	â	—	a	ô	^	o
Ã	~	A	Õ	~	O	ç	,	c	õ	~	o
Ä	"	A	Ö	"	O	ø	|	c	ö	"	o
Å	°	A	Ø	/	O	č	'	c	ø	/	o
Æ	A	E	Œ	O	E	ď	'	d	œ	o	e
Ç	,	C	Ř	~	R	è	'	e	°	—	o
Ĉ	~	C	Š	~	S	é	'	e	ř	~	r
D'	'	D	Ù	'	U	ê	^	e	ř	'	r
È	'	E	Ú	'	U	ë	"	e	š	'	s
É	'	E	Û	^	U	ě	~	e	ß	s	s
Ê	^	E	Ü	"	U	ì	'	i	ť	'	t
Ë	"	E	Ý	'	Y	í	'	i	ù	'	u
Ĭ	'	I	Ÿ	~	Y	î	^	i	ú	'	u
Í	'	I	Ž	~	Z	ï	"	i	û	^	u
Î	^	I	à	'	a	ij	i	j	ü	"	u
Ĳ	"	I	á	'	a	í	'	i	ú	°	u
Ĵ	l	J	â	^	a	í	'	i	ý	'	y
Ł	-	L	ã	~	a	ñ	~	n	ÿ	"	y
Ñ	~	N	ä	"	a	ň	'	n	ž	'	z

Table 25 Special characters entered via a sequence of two characters

Example:

Entering the character: ñ 1st entry: [~] 2. entry: [Alt] + [n]

**Notice!**

► If necessary, use the information in Table 24 to enter the character Z1.

11.1 Cleaning Information

**Danger!**

Risk of death via electric shock!

- ▶ **Disconnect the printer from the power supply before performing any maintenance work.**

The printer requires very little maintenance.

It is important to clean the thermal printhead regularly. This guarantees a consistently good printed image and plays a major part in preventing premature wear of the printhead.

Otherwise, the maintenance is limited to monthly cleaning of the device.

**Attention!**

The printer can be damaged by aggressive cleansers.

- ▶ **Do not use abrasive cleaners or solvents for cleaning the external surfaces or modules.**

- ▶ Remove dust and paper fluff from the print area with a soft brush or vacuum cleaner.
- ▶ The cover of the printer can be cleaned with a standard cleanser.

11.2 Cleaning the Printhead

Cleaning intervals: direct thermal printing - every media roll change
 thermal transfer printing - every ribbon roll change

Substances may accumulate on the printhead during printing and adversely affect printing, e.g. differences in contrast or vertical stripes.

**Attention!**

Printhead can be damaged!

- ▶ **Do not use sharp or hard objects to clean the printhead.**
- ▶ **Do not touch protective glass layer of the printhead.**

**Attention!**

Risk of injury from the hot printhead line.

- ▶ **Ensure that the printhead has cooled down before starting cleaning.**

- ▶ Turn the lever (2) from the position a to the position b.
- ▶ Press the lever against the mounting plate (1) and turn it further to the position c. That way the printhead assembly (3) becomes wide open for easy printhead cleaning.
- ▶ Remove label material and transfer ribbon from the printer.
- ▶ Clean the printhead surface with a special cleaning pen, or use a cotton swab soaked with isopropyl alcohol.
- ▶ Allow it to dry for about 2 to 3 minutes before restarting the printer.

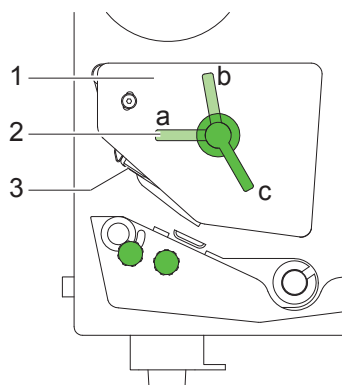


Fig. 33 Cleaning the printhead

11.3 Cleaning the Print Roller

Accumulations of dirt on the print roller may impair the media transport and the print quality.

- ▶ Lift the printhead.
- ▶ Remove labels and transfer ribbon from the printer.
- ▶ Remove deposits with roller cleaner and a soft cloth.
- ▶ If the roller appears damaged, replace it ▷ Service Manual.

11.4 Adjusting the Printhead

For optimum print quality, the line of heating elements on the printhead must be parallel and aligned correctly to the print roller. This alignment has already been performed in the factory. Nevertheless, it may become necessary to adjust it.

A misaligned printhead causes a poor print quality which appears as described below :

- the print image looks generally light, spotted, and irregular; or
- the print image appears uneven from one side to the other.

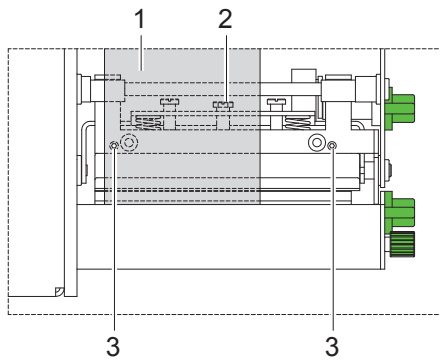


Fig. 34 Adjusting the printhead

1. Leave the material in the printer
2. For adjustment poke through ribbon (1) with a screwdriver.
3. Loosen the locking screw (2) on the printhead by half a turn.
4. By turning the two screws underneath (3) you may shift the printhead as follows :
 - By turning the screws clockwise, the printhead will be shifted backwards (about .5 mm per turn)
 - Adjust in small steps ! (quarter turns only)
 - First, turn both screws constantly until at least one side of the print image is optimum.
 - Following, adjust the screw which is located at the side of the label where the quality is still poor.
5. Open and close the printhead after every single adjustment step to make the change effective.
6. Tighten the locking screw (2).
7. Perform a test print, for instance a wide black line over the whole width of the label, and review the results.
8. Repeat steps 3 to 7 as necessary to complete the adjustment.

12.1 Types of Errors

The diagnostic system indicates on the screen if an error has occurred. The printer is set into one of the three possible error states according to the type of error.




State	Display	Key	Remark
Correctable error		PAUSE flashes CANCEL lights	▷ 3.3 on page 11
Irrecoverable error		CANCEL flashes	
Critical fault		-	

Table 26 Error states

12.2 Problem Solution

Problem	Cause	Remedy
Transfer ribbon creases	Printhead support not adjusted	Adjust printhead support ▷ 4.2 on page 13
	Transfer ribbon too wide	Use a transfer ribbon slightly wider than the width of label.
	Transfer ribbon deflection not adjusted	Adjust the transfer ribbon deflection. ▷ 4.5 on page 16
Print image has smears or voids	Printhead is dirty	Clean the printhead ▷ 11.2 on page 45
	Temperature too high	Decrease temperature via software.
	Unsuitable combination of labels and transfer ribbon	Use different type of ribbon.
Printer does not stop after transfer ribbon runs out	Thermal printing is chosen in the software	Change to thermal transfer printing.
Printer prints a sequence of characters instead of the label format	Printer is in ASCII dump mode	Cancel the ASCII dump mode.
Printer transports label media, but transfer ribbon does not move	Transfer ribbon incorrectly inserted.	Check and, if necessary, correct the transfer ribbon web and the orientation of the label side.
	Unsuitable combination of labels and transfer ribbon	Use different type of ribbon.
Printer only prints each second label	Setting of the size in the software is too large.	Change the size in the software.
Vertical white lines in the print image	Printhead is dirty	Clean the printhead ▷ 11.2 on page 45
	Printhead is defective (failure of heat elements)	Change the printhead. ▷ Service Manual.
Horizontal white lines in the print image	Printer is used with the <code>backfeed > smart</code> in the cut or peel-off mode	Set the <code>backfeed > always</code> in the setup. ▷ 8.3 on page 26
Print image is irregular, one side is lighter	Printhead is dirty	Clean the printhead ▷ 11.2 auf on page 45
	Printhead support not adjusted	Adjust printhead support ▷ 4.2 on page 13

Table 27 Problem solution

12.3 Error Messages and Fault Correction

Error message	Cause	Remedy
ADC malfunction	Hardware error	Switch the printer off and then on. If error recurs call service.
Barcode error	Invalid barcode content, e.g. alpha-numeric characters in a numerical barcode	Correct the barcode content.
Buffer overflow	The input buffer memory is full and the computer is still transmitting data.	Use data transmission via protocol (preferably RTS/CTS).
Card full	No more data can be stored on the memory card	Replace card.
dRAM malfunction	Hardware error	Switch the printer off and then on. If error recurs call service.
File not found	Requested file is not on the card	Check the contents of the card.
Font not found	Error with the selected download font	Cancel current print job, change font.
Head error	Hardware error	Switch the printer off and then on. If error recurs replace printhead.
Head open	Printhead and/or transport systems are not correct locked	Lock the printhead and/or the transport systems
Head too hot	Printhead is overheated	After pausing the print job will be continued automatically. If the fault recurs repeatedly, reduce the heat level or the print speed via software.
Host stop/ error	Labelling process has been interrupted by an stop signal via PLC interface	Reset the stop signal
Invalid data	Error while downloading graphic data.	Cancel the current print job. Re-check the data being sent.
Invalid setup	Error in the configuration memory	Re-configure printer. If error recurs call service.
LCD malfunction	Hardware error	Switch the printer off and then on. If error recurs call service.
Memory overflow	Current print job contains too much information, e.g. selected font, large graphics	Cancel current print job. Reduce amount of data to be printed.
No label found	There are labels missing on the label material	Press PAUSE key repeatedly until printer recognizes the next label on the material.
	The label format as set in the software does not correspond with the real label format	Cancel current print job. Change the label format set in the software. Restart print job.
	Printer is loaded with continuous paper, but the software is set on labels	Cancel current print job. Change the label format set in the software. Restart the print job.
No label size	The size of the label is not defined in the programming.	Check programming.
No record found	Refers to the optional memory card; database access error	Check programming and card contents.
Out of paper	Out of label roll	Load labels.
	Error in the paper feed	Check paper feed.
Out of ribbon	Out of transfer ribbon	Insert new transfer ribbon.
	Transfer ribbon melted during printing	Cancel current print job. Change the heat level via software. Clean the printhead ► 11.2 on page 45 Load transfer ribbon Restart print job.
	The printer is loaded with thermal labels, but the software is set to transfer printing	Cancel current print job. Set software to direct thermal printing. Restart print job

Error message	Cause	Remedy
Protocol error	Printer has received an unknown or invalid command from the computer.	Press the PAUSE key to skip the command or press the CANCEL key to cancel the print job.
	The interfaces of the computer and printer are set differently.	Switch the printer off. Correct the interface settings in printer setup (▷ 8.4 on page 27)
Read error	Read error when reading from the memory card	Check data of the card. Backup data, reformat card.
Ribbon sv. malf.	Hardware error	Switch the printer off and then on. If error recurs call service.
ROM malfunction	Hardware error	Switch the printer off and then on. If error recurs call service.
Structural err.	Error in the file list of the memory card, data access is uncertain.	Format memory card.
Unknown card	Card not formatted, Type of card not supported	Format card, use different type of card.
Voltage error	Hardware error	Switch the printer off and then on. If error recurs call service.
Write error	Hardware error	Repeat the write process, reformat card.
Wrong revision	Error when updating the firmware. Firmware not compatible with the hardware version	Load the compatible firmware.

Table 28 Error Messages and Fault Correction

The firmware of the printer is saved in a Flash EPROM. An firmware update can be performed using the following functions:


- `Firmware upd.`: Copy a firmware file from a computer connected to the parallel interface of the printer
- `Firmw. fr. card`: Copy a firmware file from a memory card




Notice!

The firmware file can be obtained from the internet.

13.1 Copying New Firmware via Interface

1. Press the **MODE** key.
2. Select `Service >`  `Firmware upd..`
3. Press the `↵` key.
The `Firmware-Upd` message appears in the display.
4. Press the `↵` key.
5. If the function `Firmware upd.` is protected via a PIN, the printer will prompt for the PIN by displaying "PIN: 0000" on the LCD. The numbers of the PIN may be changed using the `↑` and `↓` keys. The position of the number to be changed will be flashing. You can switch to the next number by pressing the `↵` key. If the all of the numbers are entered correctly, the "Firmware upd." process will begin.
6. Start the Windows command prompt on the PC.
7. Send the firmware file (e.g. `319_9427.ax`) to the printer.
Example : **copy /b 319_9427.ax lpt1:**
A progress indicator is displayed while the firmware is being copied. `OK` appears in the display once copying is successfully completed.
8. Press the `↵` key.

13.2 Copying New Firmware from Memory Card

1. Format CompactFlash memory card in the printer (> 10.4.8 on page 42).
The directories "fonts", "images", "labels" and "misc" are created on the memory card here.
2. Copy the firmware file to the "misc" directory of the memory card.
3. Insert the prepared memory card into the printer.
4. Press the **MODE** key.
5. Select `Service >`  `Firmw. fr. card.`
6. Press the `↵` key.
7. If the function `Firmware upd.` is protected via a PIN, the printer will prompt for the PIN by displaying "PIN: 0000" on the LCD. The numbers of the PIN may be changed using the `↑` and `↓` keys. The position of the number to be changed will be flashing. You can switch to the next number by pressing the `↵` key. If the all of the numbers are entered correctly, the "Firmware upd." process will begin.
8. The names of the firmware files found on the memory card are shown in the display.
9. If several firmware files are found on the memory card, select the desired file with the `↑` and `↓` keys.
10. Press the `↵` key.
The selected firmware file is copied. A progress indicator is displayed while the firmware is being copied. `OK` appears in the display once copying is successfully completed.
11. Press the `↵` key.

13.3 Error Messages during the Firmware Update

If an error occurs during the update, one of the following error codes is shown in the display:

- 'C' : Checksum error. /b may have been forgotten in the COPY command or the file is defective.
- 'H' : Header error. /b may have been forgotten in the COPY command or the file is defective.
- 'E' : EPROM could not be cleared.
- 'V' : Programming voltage is too low.
- 'P' : Programming error

**Attention!****Loss of function**

- ▶ If any one of the faults described above occurs, the previous firmware setting is invalid and the update has to be started again.
- In some special cases, it is possible that the printer will not return to normal operation mode after powering on after a failed firmware update.
- ▶ In this case, upload a previous firmware file over the parallel interface immediately after powering on.

14.1 Label Dimensions

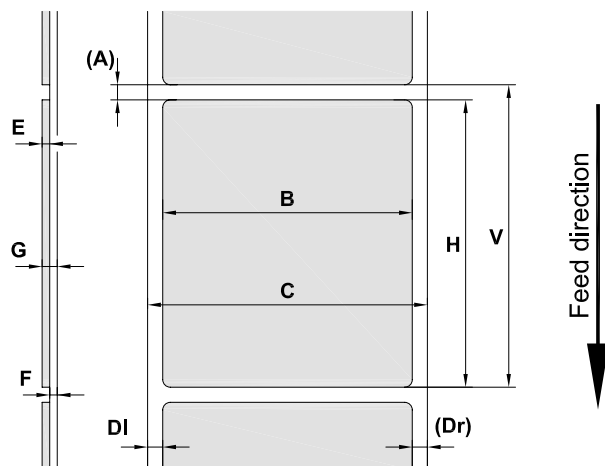


Fig. 35 Label dimensions

Dim.	Designation	Dim. in mm	
		Hermes A2	Hermes A4 / Hermes A5
B	Label width	4 - 61	4 - 116
H	Label height	4 - 200	
A	Label distance	> 2	
C	Width of liner	25 - 65	25 - 120
DI	Left margin	≥ 0	
Dr	Right margin	≥ 0	
E	Label thickness	0,055 - 0,35	
F	Liner thickness	0,05 - 0,10	
G	Thickness label with liner	0,105 - 0,45	
V	Label feed	> 6	
<ul style="list-style-type: none">Small label sizes, thin materials or strong glue can lead to limitations. Critical applications need to be tested and cleared.			

Table 29 Label dimensions

14.2 Device Dimensions

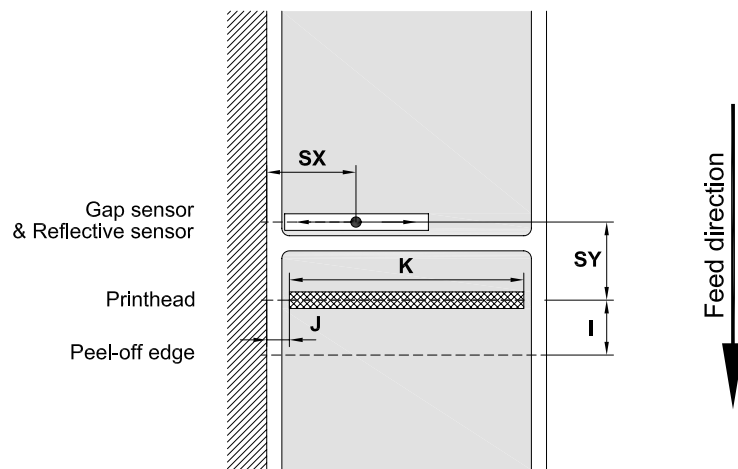


Fig. 36 Device dimensions

Dim.	Designation	Dim. in mm	
		Hermes A2	Hermes A4 / Hermes A5
I	Distance printhead - peel-off edge	12,8	
J	Distance 1st heating point - material edge	0	
K	Print width with printhead 300 dpi	-	105,6
	Print width with printhead 600 dpi	57	105,6
SX	Distance gap/reflective sensor - material edge i.e. permissible distance of reflex or cut-out marks to the material edge	2 - 47	
SY	Distance gap/reflective sensor - printhead	34,2	

Table 30 Device dimensions

14.3 Reflex Mark Dimensions

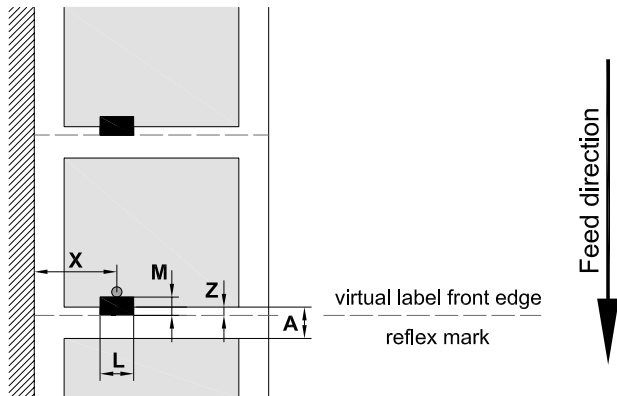
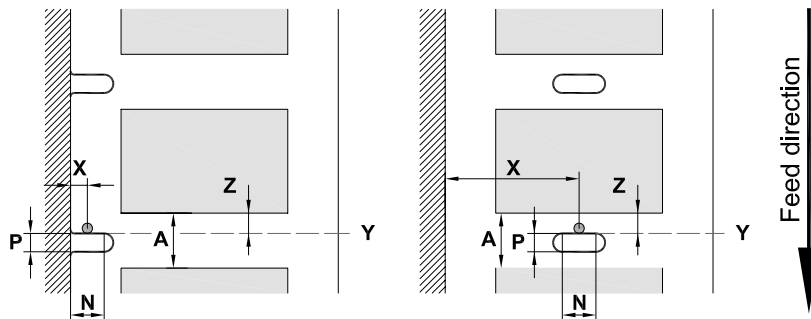


Fig. 37 Reflex mark dimensions

Dim.	Designation	Dim. in mm
A	Label distance	> 2
L	Width of reflex mark	> 5
M	Height of reflex mark	3 - 10
X	Distance mark - material edge	2 - 47
Z	Distance virtual label front edge - actual label front edge ► Adjust software settings	0 up to A / recomm. : 0
	<ul style="list-style-type: none"> Reflex marks must be on the back side of the material (liner). Label sensor for reflex marks on the top side on request. Specification is valid for black marks. Recognition of colored marks may fail. ► Preliminary tests are needed. 	

Table 31 Reflex mark dimensions

14.4 Cut-out Mark Dimensions



for marginal cut-out marks
minimum liner thickness 0,06 mm

Fig. 38 Cut-out mark dimensions

Dim.	Designation	Dim. in mm
A	Label distance	> 2
N	Width of cut-out mark for marginal cut-out	> 5 > 8
P	Height of cut-out mark	2 - 10
X	Distance mark - material edge	2 - 47
Y	Sensor recognized virtual label front edge with gap sensor recognition	Rear edge cut-out
Z	Distance recognized front edge - actual label front edge ► Adjust software settings	0 up to A-P

Table 32 Cut-out mark dimensions

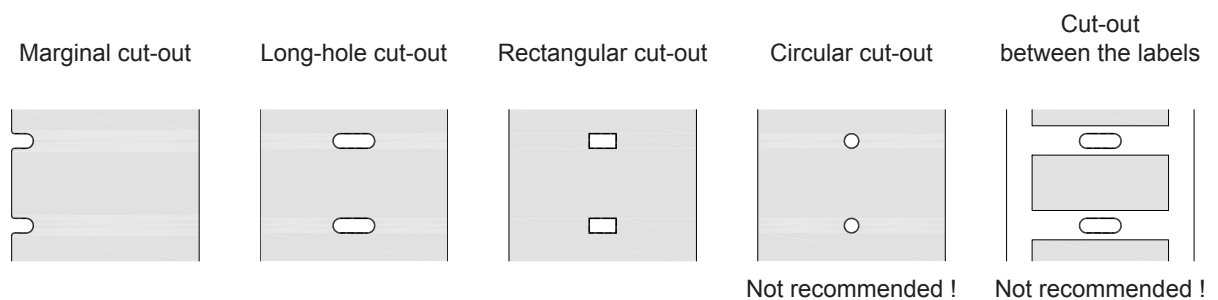


Fig. 39 Samples for cut-out marks

1. Printhead		Hermes	A2	A4	A5
Printing method			Thermal/Thermal transfer		
Print resolution dpi			600	300 / 600	
Print speed up to mm/s			100	250 / 100	
Print width up to mm			57	105.6	
2. Material					
Labels on rolls, papers, Synthetics like PET, PE, PP, PVC, PU, Acrylat, PI					
Material thickness ¹⁾ mm / weight g/m²			0.055 - 0.35 / 60 - 160		
Label width ¹⁾ mm			4 - 61	4 - 116	
Width of carrier ¹⁾ mm			25 - 65	25 - 120	
Label height ¹⁾ mm			4 - 200		
Media roll:	Total diameter up to mm		205	205	300
	Core diameter mm		76 - 100		
	Winding direction		inside or outside		
3. Ribbon					
Ink			inside or outside		
Roll diameter up to mm			80		
Core diameter mm			25		
Ribbon length variable up to m			500		
Width up to mm			56	114	
4. Internal rewinder					
Total diameter up to mm			145	145	200
Core diameter mm			38.1		
5. Dimensions					
Height mm			390	390	542
Depth mm			420	420	527
Width mm			220	276	276
Weight kg			17	18	20
6. Label sensor					
See-trough sensor for label edge or punching mark and end of material					
Reflective sensor from the bottom			for printing marks		
Distance to locating edge mm			2 - 47		
7. Electronics					
Processor 32 Bit ColdFire/CPU Speed MHz			144		
RAM MB			16		
ROM MB Flash			4		
Real time clock, printout of time and date			■		
8. Interfaces					
Parallel Centronics bi-directional acc. to IEEE 1284			■		
Serial RS 232 C 1.200 up to 230.400 baud/8 bit			■		
USB 2.0 Full Speed-slave for PC connection			□		
Ethernet 10/100 Base T, LPD, RawIP-Printing, DHCP, HTTP, FTP, SMTP, SNMP, TIME			□		
Peripheral connection			■		
RS 422, RS 485 1.200 bis 230.400 Baud/8 Bit			□		
Wireless bridge 802.11b			□		
USB Master for exter. operation panel, keyboard, scanner, Service key			■		
Sensor end of label			■		
Sensor end of ribbon			■		
Warning light			■		
Digital I/O interface for applicators from other manufact.			■		
Interface for cab applicators			■		
9. Operation data					
Power supply	100 - 240 V ~ 50/60 Hz, PFC				
Energy consumption max.	max. 250 W				
Operating temperature	10 - 35°C				
Humidity	30 - 85% not condensing				
Approvals	CE, FCC class A				
10. Operation panel					
Buttons / LED Display:	Pause, Feed, Chancel, Menue, 4 x Cursor				
LCD-graphic display	Width x height in dots	120 x 32			
	lines/characters	2 / ca. 20			
Slot for memory card: CompactFlash Type I			■		
11. Settings					
	Time, date, digital or analog clock				
	25 language settings				
	system settings, print parameters, interfaces, security				
12. Monitoring					
Stop printing if:	End of ribbon end of label printhead open				

13. Test routines		
System diagnosis	When switched on with testing of print head	
Short Status,	Font list, device list, status print profile of label, test grid, monitor mode,	
Status reports	Extensive status print with information about setting, e.g. print length counter, runtime counter etc. Request of machine state via software command. Detailed status messages on the display, e.g. network error-no link, barcode error etc.	
14. Fonts		
Font types	5 Bitmap fonts incl. OCR-A, OCR-B and 3 Vector fonts Swiss 721, Swiss 721 Bold and Monospace 821, loadable TrueType fonts.	
Character sets	Windows 1250 up to 1257, DOS 437, 737, 775, 850, 852, 857, 862, 864, 866, 869, EBCDIC 500, ISO 8859-1 up to -10 and -13 up to -16, WinOEM 720, UTF-8, Macintosh Roman, DEC MCS, KOI8-R. All West and East European, Latin, Cyrillic, Greek, Hebrew and Arabic characters are supported.	
Bitmap fonts	Size of width and height 1 - 3 mm zoom 2-10 Orientation 0°, 90°, 180°, 270°	
Vector-/TrueType fonts	Size of width and height 0,9 - 128 mm variable zoom , Orientation 360° in steps of 1°	
Font formats	Bold, italic, underlined, outline, negative, grey, vertical, depending on character fonts	
Font width	Variable	
15. Graphics		
Graphic elements	Line, arrow, box, circle, ellipse, filled, filled with fading	
Graphic formats	PCX, IMG, BMP, TIF, MAC, GIF, PNG	
16. Codes		
Linear barcodes	Code 39, Code 93 Code 39 Full ASCII Code 128 A, B, C Codabar EAN 8, 13 EAN/UCC 128 EAN/UPC Appendix 2 EAN/UPC Appendix 5 FIM HIBC	Interleaved 2/5 Ident and lead code of German Post JAN 8, 13 MSI Plessey Postnet RSS 14 UPC A, E, E0
2D Codes	Aztec, Codablock F, Data Matrix, PDF 417, Micro PDF 417, UPS Maxicode, QR-Code, RSS 14 truncated, limited, stacked und stacked omnidirectional, EAN-Datamatrix, GS1 Data Bar	
	All codes variable in height, module width and ratio. Orientation 0°, 90°, 180°, 270°. Optionally with check digit, printed characters and Start/Stop code, depending on code type.	
17. Software		
Programming	J-Script direct programming abc-Basic Compiler Database Connector	■ ■ □
System diagnosis/ Administration	printer monitoring Network Manager	■ □
cab Label software	cablabel R2 Lite cablabel R2 Pro Easylabel, Codesoft	■ □ □
Additional label software	Nicelabel, Bartender Label Matrix, Labelview	○
Windows driver	2000, XP 32/64 bit, 2003 32/64 bit, Vista 32/64 bit	■
Mac driver	OS X printer driver from version 10.3	■
Linux driver	Tested with Suse 9.0, CUPS based	■
Stand-alone operation		■
		Standard ■
		Option □
		Authorised distribution by resellers ○

Table 33 Technical Data

16.1 EC Declaration of Incorporation



Gesellschaft für Computer-
und Automations-
Bausteine mbH & Co KG
Wilhelm-Schickard-Str. 14
D-76131 Karlsruhe,
Germany


EC Declaration of Incorporation

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

Annex I, Article 1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.2.1, 1.2.4.1, 1.3.1, 1.3.2, 1.5.1, 1.5.2, 1.5.8, 1.6.3, 1.7

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

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

Device:	Label Printer
Type:	Hermes A
Applied EC Regulations and Norms:	
Directive 2006/42/EC on machinery	<ul style="list-style-type: none"> • EN ISO 12100-1:2003 • EN ISO 12100-2:2003 • EN ISO 14121-1:2007 • EN 60950-1:2006 • EN 61558-1:2005
Person authorised to compile the technical file :	Erwin Fascher Am Unterwege 18/20 99610 Sömmerda
Signed for, and on behalf of the Manufacturer :	Sömmerda, 15.03.10  Erwin Fascher Managing Director
cab Produkttechnik Sömmerda Gesellschaft für Computer- und Automationsbausteine mbH 99610 Sömmerda	

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

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

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


16.2 EC Declaration of Conformity



Gesellschaft für Computer-
und Automations-
Bausteine mbH & Co KG
Wilhelm-Schickard-Str. 14
D-76131 Karlsruhe,
Germany

EC Declaration of Conformity

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

Device:	Label Printer
Type:	Hermes A
Applied EC Regulations and Norms:	
Directive 2004/108/EC relating to electromagnetic compatibility	<ul style="list-style-type: none"> • EN 55022:2006 • EN 55024:1998+A1:2001+A2:2003 • EN 61000-3-2:2006 • EN 61000-3-3:1995+A1:2001+A2:2005
Signed for, and on behalf of the Manufacturer :	Sömmerda, 15.03.10
cab Produkttechnik Sömmerda Gesellschaft für Computer- und Automationsbausteine mbH 99610 Sömmerda	 Erwin Fascher Managing Director

16.3 Other Licences

- FCC** Requirements of the FCC regulations part 15 for class A computers.
Under disadvantageous circumstances, the operation of these devices may cause interference with radio or TV reception, which has to be eliminated by the operator.

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