Operator's Manual

cab

Print Module
PX Series

Operator's Manual
for the following products

Family	Type
Print Module PX	PX4L
	PX4R
	PX4.3L
	PX4.3R
	PX6L
	PX6R

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Editor

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Topicality

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Please check www.cab.de for the latest update.

Terms and conditions

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

Table of Contents

1 Introduction

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

Notice!
The complete documentation is included in the scope of delivery on CD ROM, and 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, print module, 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.

- Risk of crushing when closing the cover. Touch the cover at the outside only. Do not reach into the swivel range of the cover.
- 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 print module 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 Installation

2.1 Device Overview

Fig. 1   Overview

1   Control panel
2   Slot for CompactFlash memory card
3   Display
4   Print mechanics
5   USB master port
6   Navigator pad
7   Power switch
8   Cover

Fig. 2   Print mechanics

9   Ribbon supply hub
10   Ribbon take-up hub
11   Allen key
12   Printhead retainer with printhead
13   Print roller
14   Peel-off edge
15   Printhead locking lever
16   Locking system
17   Pinch roller
18   Backfeed system locking lever
19   Backfeed roller
20   Label sensor
21   Transport roller
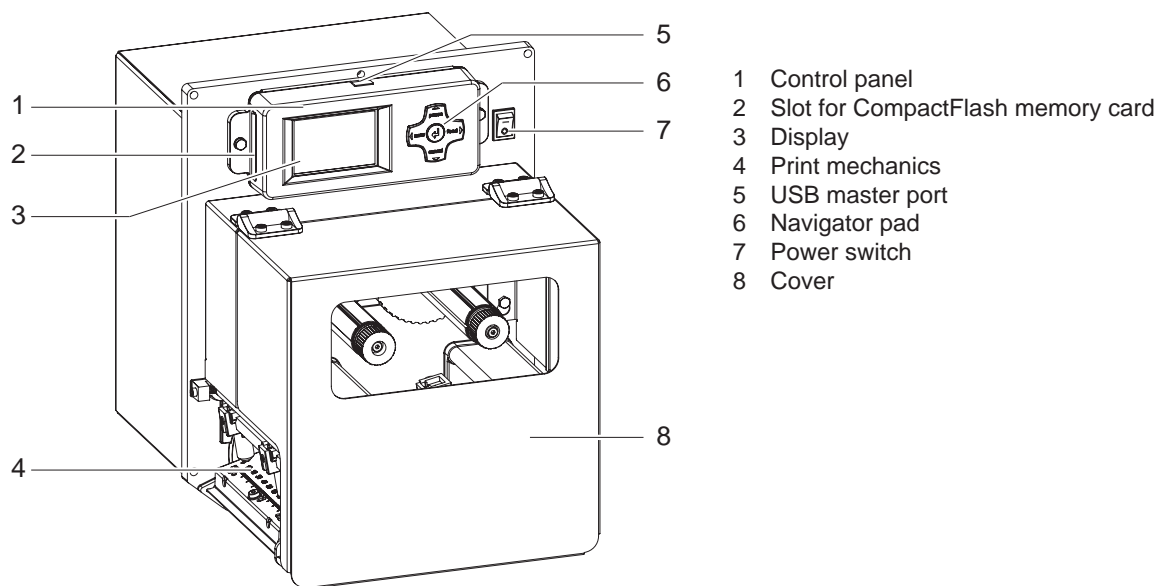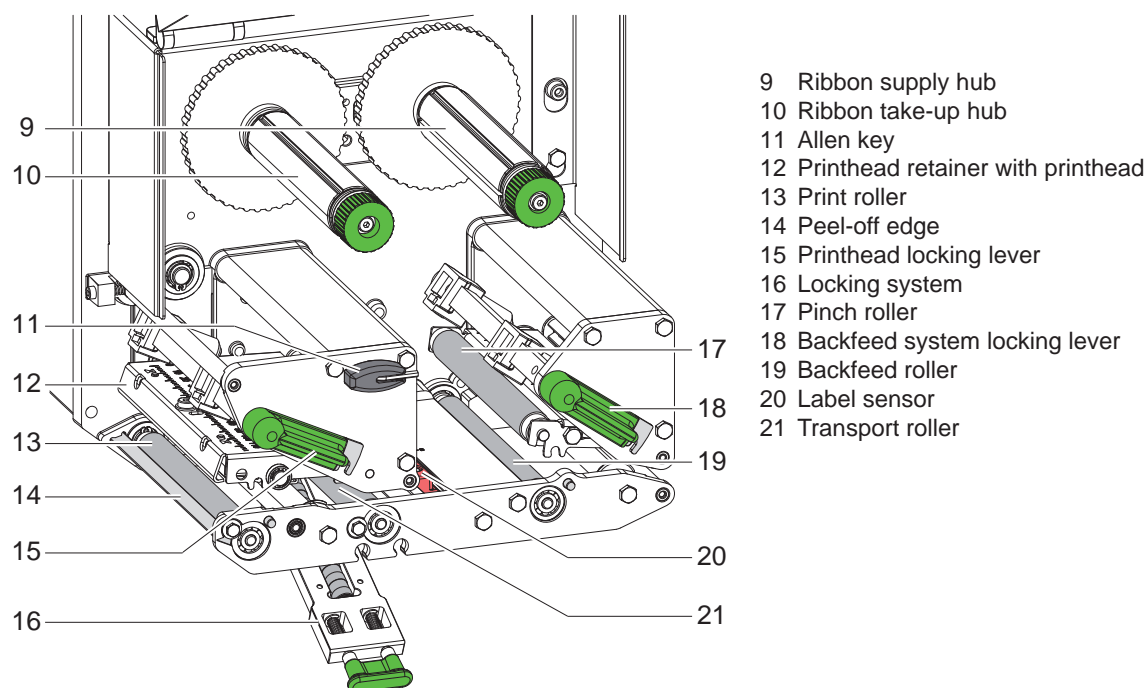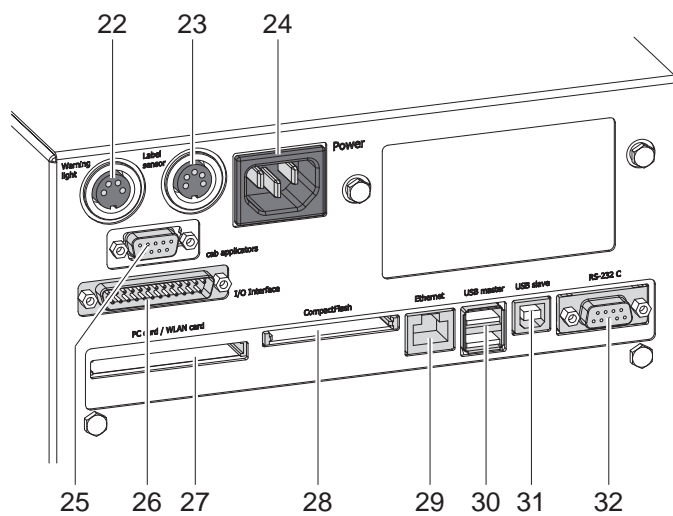
22 Connector warning light
23 Connector warning sensor labels
24 Power connection jack
25 Interface for cab applicators
26 I/O interface
27 Slot for PC Card Type II or WLAN card
28 Slot for CompactFlash memory card
29 Ethernet 10/100 Base-T
30 2 USB master ports for keyboard,
     scanner or service key
31 USB high-speed slave port
32 Serial RS-232 C port

Fig. 3   Connections

2.2 Unpacking and Setting-up the Print Module

▶ Lift the print module out of the box.

▶ Check print module for damage which may have occurred during transport.

▶ Check delivery for completeness.

▶ Insert the print module into the prepared construction (Mounting dimensions ▷ 10. on page 30).

▶ Remove foam transportation safeguards at the printhead and the backfeed system.

Contents of delivery:

• Print module

• Power cable

• Documentation

• cablabel Lite on CD-ROM

• Documentation on CD-ROM

Notice!
Please keep the original packaging in case the print module must be returned.

Attention!
The device and printing materials will be damaged by moisture and wetness.
▶ **Set up print modules only in dry locations protected from splash water.**

2.3 Connecting the Device

The standard available interfaces and connectors are shown in figure 3.

2.3.1 Connecting to the Power Supply

The print module 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 (24 / fig. 3).

3. Plug the power cable into a grounded socket.

2.3.2 Connecting to a Computer or Computer Network

Attention!
Inadequate or no grounding can cause malfunctions during operations.
Ensure that all computers and cables connected to the print module are grounded.

▶ Connect the print module to a computer or network by a suitable cable.

For details of the I/O interface ▷ 6. on page 18.

For details of the configuration of the other interfaces ▷ Configuration Manual.

2.4 Switching on the Device

When all connections have been made:

▶ Switch the print module on at the power switch (7 / fig. 1).
The print module 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 print module 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 (▷ Configuration Manual),
- Start the test functions (▷ Configuration Manual),
- Control stand-alone operation with a memory module (▷ Configuration Manual),
- Update the firmware (▷ Configuration Manual).

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

Settings made on the control panel make the basic settings of the print module.

Notice!
It is advantageous, whenever possible, to make adaptations to various print jobs in the software.
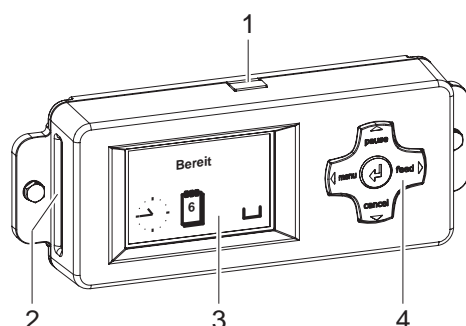
The control panel contains a graphic display (3) and the navigator pad (4) with five integrated keys.

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

Additionally the control panel has an USB master port (1) with the same functionality like the ports (30 / fig. 3) at the back side of the print module as well as a slot (2) for a CompactFlash memory card. The USB port is covered with a cap.

▶ Remove the cap if necessary.

Fig. 4   Control Panel

Notice!
A CF memory card in the control panel has to be used as "Ext. CompactFlash (CFEXT)", a memory card in the slot (27 / fig. 3) at the back side of the print module as "CompactFlash (CF)". ▷ Configuration Manual.

3.2   Symbol Displays

The symbols shown in the following table may appear in the status line of the display. They enable the current status to be seen quickly. The table contains the most important symbols.

For the configuration of the status line ▷ the Configuration Manual.

Symbol	Description	Symbol	Description	Symbol	Description
	Clock		Ribbon supply		Temperature of the printhead
	Date sheet		Wi-Fi signal strength		Access to memory card
	Date/time digital		Ethernet link status		Print module is receiving data

Table 1   Symbol displays

3.3 Operating States

State	Display	Description
Ready	`Ready` and configured symbol displays, such as time and date [1]	The print module 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 print module 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	[STOP] 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	[STOP] 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 print module off and then on again at the power switch or ▶ Press **cancel** key. Call Service if the fault occurs persistently.
Power Save Mode	ZZZZ and the key lighting is switched off	If the print module 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   Operating states

3.4   Key Functions

The key functions depend on the current operating state:

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

Key	Display		State	Function
menu	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, print module goes into "Pause" state
		`Pause`	**Pause**	Continue the print job, print module goes into "Printing label" state
	flashes	(STOP)	**Correctable error**	Continue the print job after rectifying the error, print module 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
		`Pause`	**Pause**	Longer press → cancels the current print job and deletes all print jobs
		(STOP)	**Correctable error**	
	flashes	(STOP)	**Irrecoverable error**	
↵	lights	(STOP)	**Error**	Call Help - Concise information for rectifying the fault will be displayed

Table 3   Key functions in the print mode

Key	Menu	Parameter setting	
		Parameter choice	Numeric value
↑	Return from a submenu	-	Increase of the number at the cursor position
↓	Jump into a submenu	-	Decrease of the number at the cursor position
←	Menu option to the left	Sheets to the left	Cursor shift to the left
→	Menu option to the right	Sheets to the right	Cursor shift to the right
↵	Start of a selected menu option	Confirmation of the selected value	
	Pressing 2 s: Leaving the offline menu	Pressing 2 s: Abort without changing the value	

Table 4   Key functions in the offline menu

ℹ️ **Notice!**
For adjustments and simple installation work, use the accompanying Allen key located in the upper section of the print unit. No other tools are required for the work described here.

4.1 Loading Labels
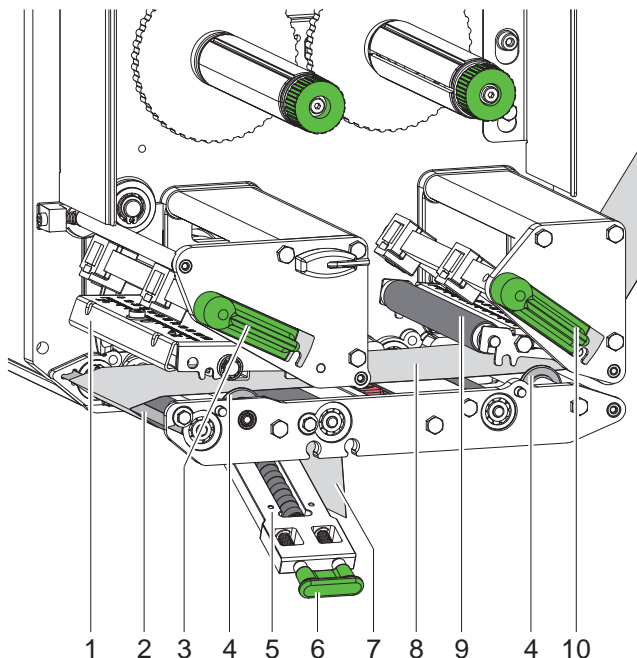
Fig. 5   Loading labels   Fig. 6   Label feed path
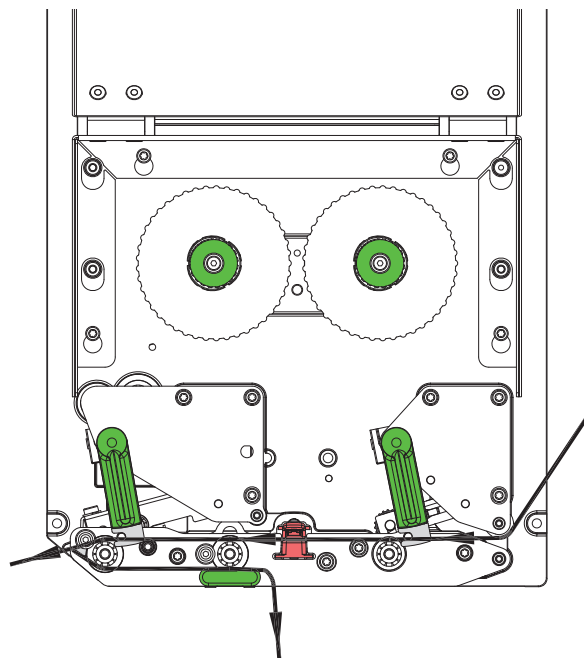
1. Open cover.
2. Turn levers (3, 10) counterclockwise to open the printhead (1) and the backfeed system (9).
3. Move guide rings (4) outwards until the media can pass between the rings and the mounting plate.
4. Guide label strip (8) to the peel-off edge (2) as shown in the figure 6 and move to the mounting plate until it stops. The printing side of the label must be shown from above.
5. For peel-off mode forward the label strip over the peel-off edge, that the strip reaches back to the locking system (5). Remove the labels from the overhanging strip.
6. Turn levers (3, 10) clockwise to close the printhead (1) and the backfeed system (9).
7. Slide guide rings (4) against the label strip.

ℹ️ **Notice!**
For a good label tracking it is necessary to brake slightly (about 3 N) the incoming material. This must be done outside of the print module.

8. For peel-off mode pull the knob (6) and swing downward the locking system (5). Guide the liner (7) from the peel-off edge (2) over the locking system (5). Tighten the liner, pull the knob (6) and swing the locking system upwards. Ensure that the knob snaps in completely into the side plate.
9. Close cover.

4.2   Setting the Label Sensor
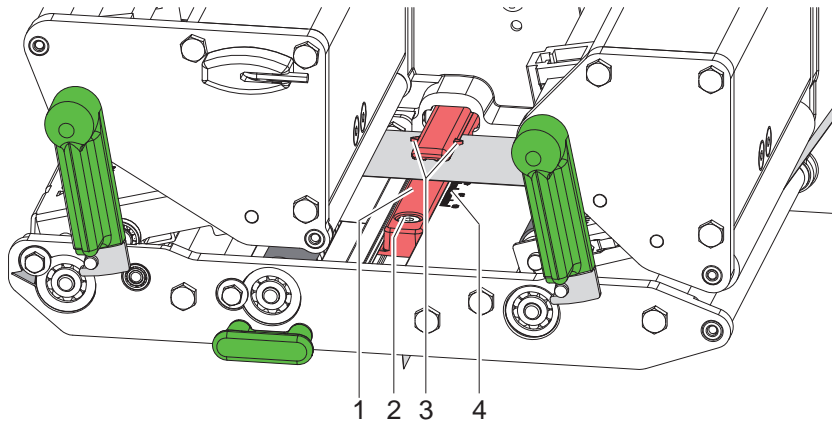
Fig. 7   Setting the label sensor

The label sensor (1) can be shifted perpendicular to the direction of media flow for adaptation to the media. The sensor unit is marked with indentation (3) on the label sensor retainer.

▶ Loosen screw (2) slightly.
▶ Position label sensor by moving it 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.
▶ Tighten screw (2).

i   **Notice!**
Using the scale (4) the label sensor also can be set before loading the labels.

4.3   Setting the Head Locking System

The printhead is pushed on via two plungers. The location of the outer plunger must be set to the width of the label medium used so as to

• achieve even print quality across the entire label width
• prevent wrinkles in the feed path of the transfer ribbon
• prevent premature wearing of the print roller and printhead.

Fig. 8   Setting the head locking system

1. Turn lever (3) clockwise to lock the printhead.
2. Loosen threaded pin (1) at outer plunger (2) with Allen key.
3. Position outer plunger (2) above the outer label edge and tighten threaded pin (1).
4. On A8+ align the middle plunger to the middle of the labels.
5. Position outer plunger (4) at the backfeed system in the same manner.

4.4   Loading Transfer Ribbon
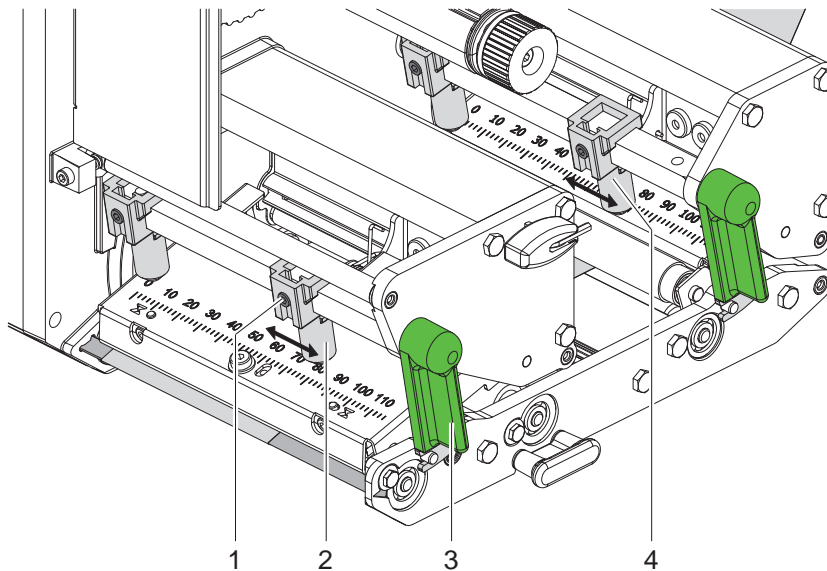
i   **Notice!**
With direct thermal printing, do not load a transfer ribbon; if one has already been loaded, remove it.
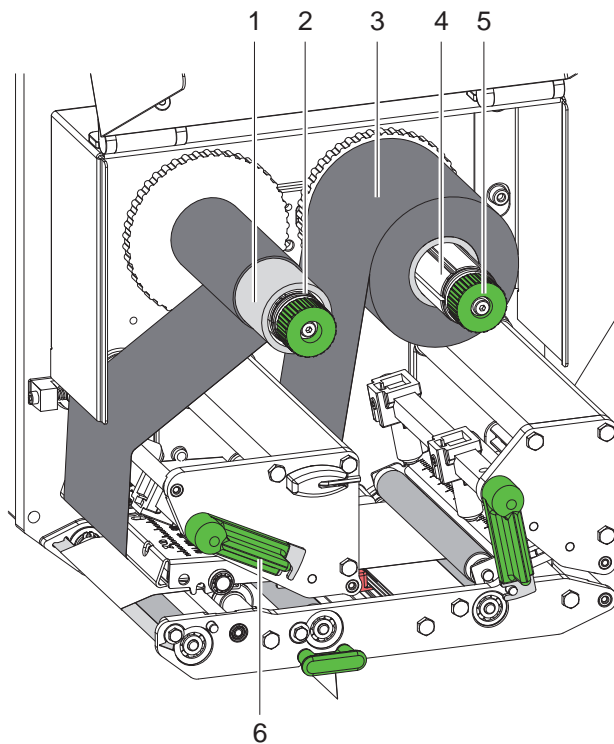
Fig. 9   Loading transfer ribbon   Fig. 10   Transfer ribbon feed path
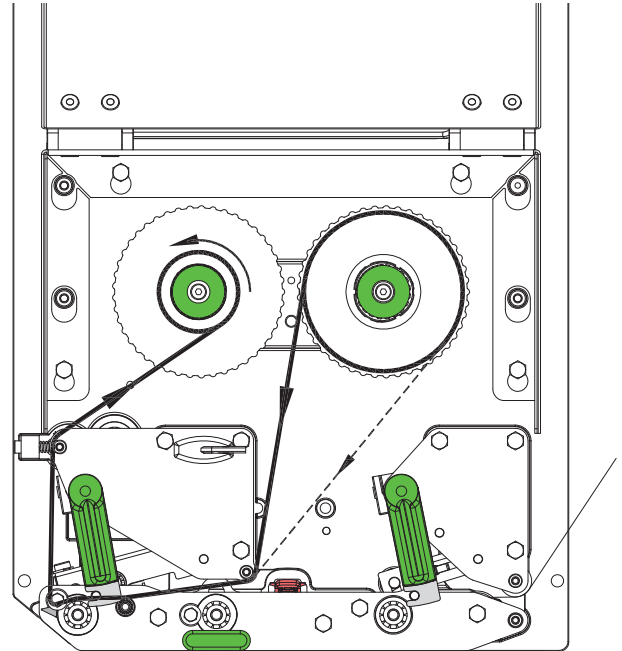
1. Clean printhead before loading the transfer ribbon (▷ 7.3 on page 22).
2. Turn lever (6) counterclockwise to open the printhead.
3. Slide transfer ribbon roll (3) onto the ribbon supply hub (4) until it stops and so that the color coating of the ribbon faces downward when being unwound.
4. Hold transfer ribbon roll (3) firmly and turn knob on ribbon supply hub (5) 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 10.
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 (6) 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 head locking system may also cause ribbon wrinkling (▷ 4.3 on page 14).**

Fig. 11   Setting the feed path of the transfer ribbon

Notice!

ⓘ **The adjustment is best carried out during printing.**

1. Read current setting on the scale (2) and record if necessary.
2. Turn screw (1) with Allen key and observe the behavior of the ribbon.
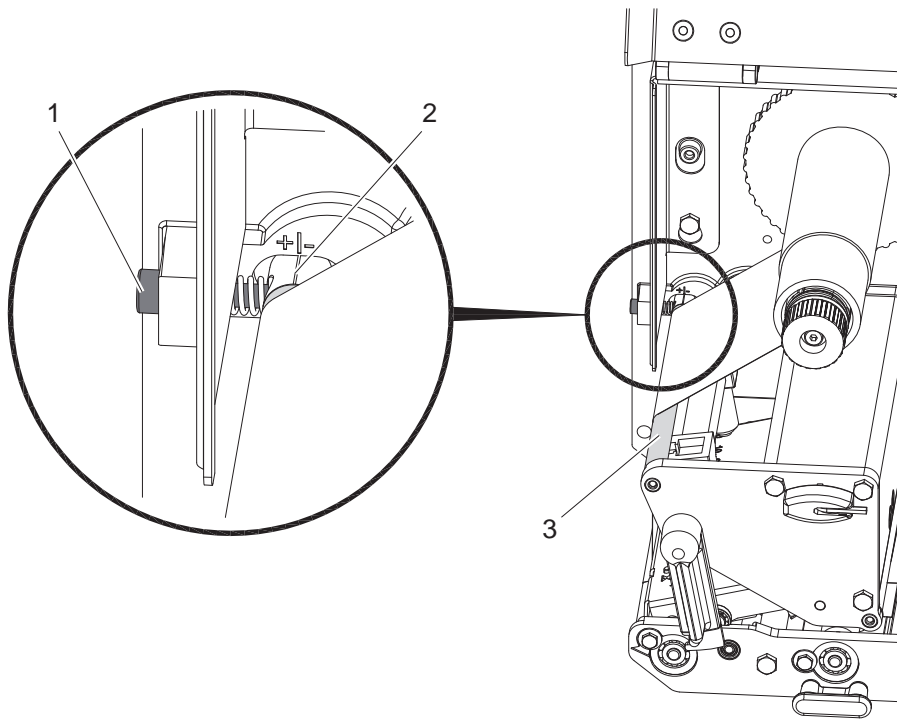   In the + direction, the inner edge of the transfer ribbon is tightened, and the outer edge is tightened in the - direction.

5.1 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.**

5.2 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 print module. 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!**
> **Synchronization is not necessary if the printhead was not opened between different print jobs, even if the print module was switched off.**

5.3 Peel-off Mode

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.**
> **This is done with the "P command" in the direct programming, ▷ Programming Manual.**

> **Notice!**
> **The print of a label must be started by the external START signal (▷ page 18). The removal of the label must be confirmed by the ETE signal (▷ page 19).**

5.4 External Rewinding

The printed labels are leaving the print module at the peel-off edge and may be wound up externally with the liner for later use.

> **Notice!**
> **The print of the labels must be started by the external START signal (▷ page 18).**

5.5 Ribbon Saving

If there is no information to print during a longer label feed, the printhead will be lifted, and the transfer ribbon will be paused from feeding. This will reduce the ribbon consumption. The minimum length for ribbon saving is defined in the firmware.

The ribbon saver can permanently be activated in the printer configuration (▷ Configuration Manual) or job-oriented by the software (▷ Programming Manual).

6 I/O Interface

For use in a network the print module is equipped with an I/O interface to start and interrupt the printing and labelling process. It also passes on state information as well as error messages to the control of the network.

6.1 Pin Assignment
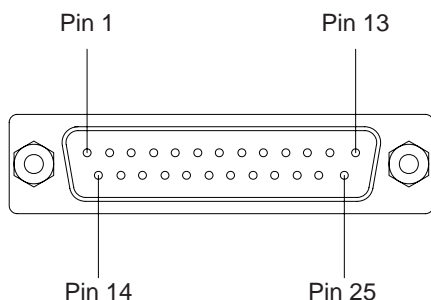
The interface has a 25 pin SUB-D connector.

Pin 1   Pin 13

Pin 14   Pin 25

Fig. 12   I/O Interface

| Pin	Signal	Name	Description	Activation / Active State
1	E1	START	Print/application start signal	+24V between Pin 1 and Pin 14 ▷ 6.2 on page 20
2	E4	WDR	Repeat print The last printed label is repeated, counters are not altered	+24V between Pin 2 and Pin 14 ▷ 6.2 on page 20
3	E2	FEED	Label feed A blank label is forwarded to synchronize the label transport; label feed is proceeded only if no print job is available or an error has occurred	Switch on +24V between Pin 3 and Pin 14
4	A4	DNB	Printer not ready An error has occurred on the system or the print module is in Pause state or Offline menu.	Contact between Pin 4 and Pin 19 (RUEL) is open
5	A3	EDG	Print job available Print jobs are stored in the print module.	Contact between Pin 5 and Pin 19 (RUEL) is closed
6	A6	FEE	Error "Out of paper" There are no (more) labels in the print module. The operation is stopped and the details and type of error can be read from the display. The last label printed while the error occurred will be repeated.	Contact between Pin 6 and Pin 19 (RUEL) is open
7	A5	FFE	Error "Out of ribbon" There is no (more) transfer ribbon in the print module. The operation is stopped and the details and type of error can be read from the display. The last label printed while the error occurred will be repeated.	Contact between Pin 7 and Pin 19 (RUEL) is open
8	A15	GND	Ground (0 V) for sensors or trigger switches	
9	A1	EDST	Print has been started The print start of a label is signalized by a 20 ms pulse.	Contact between Pin 9 and Pin 19 (RUEL) ist closed
10	A10	PTE	Label transport ON Labels are fed by the print module	Contact between Pin 10 and Pin 19 (RUEL) ist closed
11	-	-	not used	
12	A7	VWE	Warning end of labels This signal reports that there is available only a few amount of media.	Contact between Pin 12 and Pin 19 (RUEL) is open

Pin	Signal	Name	Description	Activation / Active State
13	-	-	not used	
14	E0	GND_EXT	Ground of the external 24 V	
15	-	-	not used	
16	-	-	not used	
17	A8	DRF	Printer error An error has occurred on the print module. The label print is stopped and the details and type of error can be read from the display	Contact between Pin 17 and Pin 19 (RUEL) is open
18	A2	ESP	Label in peel-off position	Contact between Pin 18 and Pin 19 (RUEL) is closed
19	A14	RUEL	Common reverse line for all output signals with reference potential e.g. EXT_24P	
20	A16	24P	Internal operating voltage +24V, Si T 100mA for external consumers e.g. sensors, trigger switches	
21	-	-	not used	
22	E3	DAL	Cancel print job The current print job is cancelled and deleted from the print buffer.	Switch on +24V between Pin 22 and Pin 14
23	E5	ETE	Label has been taken Confirmation of the superior control that the label has been taken from the peel-off position. Required for the validity of a new start signal.	Switch on +24V between Pin 23 and Pin 14
24	A9	VWF	Warning end of ribbon This signal reports that there is available only a few amount of transfer ribbon.	Contact between Pin 24 and Pin 19 (RUEL) is open
25	E6	PSE	Pause ON/OFF	Pause ON when +24V between Pin 25 and Pin 14

Table 5   Pin assignment of the I/O interface

6.2   Configuration of the I/O Signals

The I/O signals START and WDR can be operated either edge-controlled or level-controlled. The operation mode can be set in the printer configuration.

i **Notice!**
For detailed instructions for configuration ▷ Configuration Manual of the printer.

For setting the signal parameters select

Setup ⬚ -> Machine param. ⬚ -> I/O signals ⬚ .

Parameter	Meaning	Default
⬚ I/O signals	Configuration of the input signals of the I/O interface	
⬚ > Mode START	Configuration of the START signal Edge: A label will be printed by switching on 24V between START and GND_EXT. Level: In **Rewind mode** labels are printed as long as 24V are switched on between START and GND_EXT. In **Peel-off mode** a label will be printed after receiving the signal ETE as long as 24V are switched on between START and GND_EXT.	Edge
⬚ > Mode WDR	Configuration of the WDR signal Edge: A label will be repeated by switching on 24V between WDR and GND_EXT. Level: A label will be repeated as long as 24V are switched on between WDR and GND_EXT. New/repeat: A label will be repeated when 24V are switched on between WDR and GND_EXT and the START signal will be activated additionally.	Edge

Table 6   Configuration of the I/O signals

6.3   Circuit Diagram of Inputs and Outputs

The **inputs** are optocouplers with a current limiting resistor of 2.2 kΩ for a voltage of 24 V in the input circuit. All input have the common reverse line GND_EXT :

Pin 1	START
Pin 2	WDR
Pin 3	FEED
Pin 22	DAL
Pin 23	ETE
Pin 25	PSE
Pin 14	GND_EXT
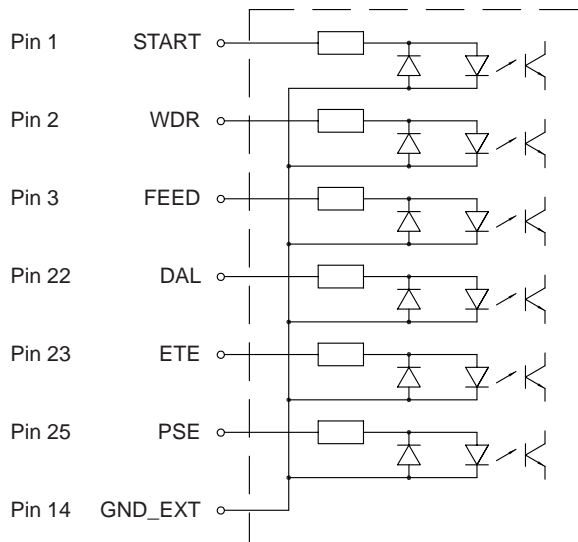
Fig. 13   Circuit of the inputs

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 RUEL signal.

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

Electrical requirements : U_{max} = 42V

I_{max} = 100mA

Pin 4	DNB
Pin 5	EDG
Pin 6	FEE
Pin 7	FFE
Pin 9	EDST
Pin 10	PTE
Pin 12	VWE
Pin 17	DRF
Pin 18	ESP
Pin 24	VWF
Pin 19	RUEL

Fig. 14   Circuit of the outputs

7.1 Cleaning Information

> **Danger!**
> **Risk of death via electric shock!**
> ▶ **Disconnect the print module from the power supply before performing any maintenance work.**

The print module 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 print module can be damaged by aggressive cleansers.**
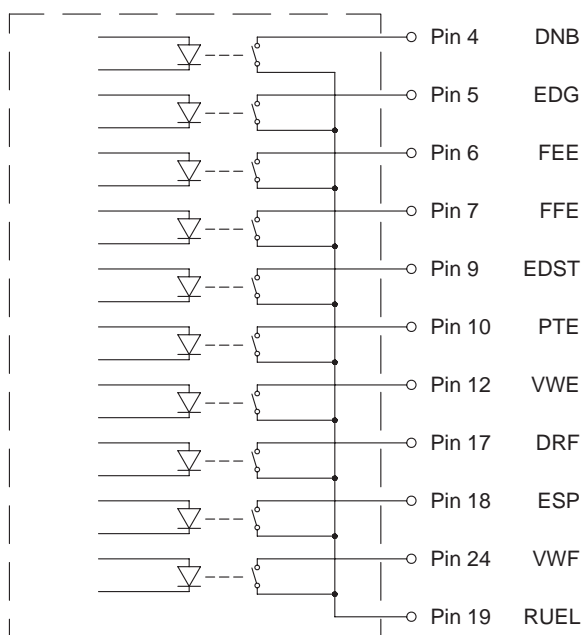> **Do not use abrasive cleaners or solvents for cleaning the external surfaces or modules.**

▶ Remove dust and paper fluff from the print area with a soft brush or vacuum cleaner.

▶ The cover of the print module can be cleaned with a standard cleanser.

7.2 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 print module.

▶ Remove deposits with roller cleaner and a soft cloth.

▶ If the roller appears damaged, replace it ▷ Service Manual.

7.3 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.**

▶ Lift the printhead.

▶ Remove labels and transfer ribbon from the print module.

▶ Clean printhead surface with special cleaning pen or a cotton swab dipped in pure alcohol.

▶ Allow printhead to dry for 2–3 minutes before commissioning the print module.

8.1 Types of Errors

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

State	Display	Key	Remark
Correctable error	STOP	**pause** flashes **cancel** lights	▷ 3.4 on page 11
Irrecoverable error	STOP	**cancel** flashes	
Critical fault	☠	-	

Table 7   Error states

8.2 Problem Solution

Problem	Cause	Remedy
Transfer ribbon creases	Head locking system not adjusted	Adjust the head locking system. ▷ 4.3 on page 14
	Transfer ribbon too wide	Use a transfer ribbon slightly wider than the width of label.
Print image has smears or voids	Printhead is dirty	Clean the printhead ▷ 7.3 on page 22
	Temperature too high	Decrease temperature via software.
	Unsuitable combination of labels and transfer ribbon	Use different type of ribbon.
Print module does not stop after transfer ribbon runs out	Thermal printing is chosen in the software	Change to thermal transfer printing.
Print module prints a sequence of characters instead of the label format	Print module is in ASCII dump mode	Cancel the ASCII dump mode.
Print module 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.
Print module 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 ▷ 7.3 on page 22
	Printhead is defective (failure of heat elements)	Change the printhead. ▷ Service Manual.
Horizontal white lines in the print image	Print module is used with the `backfeed > smart` in the cut or peel-off mode	Set the `backfeed > always` in the setup. ▷ Configuration Manual.
Print image is irregular, one side is lighter	Printhead is dirty	Clean the printhead ▷ 7.3 on page 22
	Head locking system not adjusted	Adjust the head locking system. ▷ 4.3 on page 14

Table 8   Problem solution

8   Fault Correction

8.3   Error Messages and Fault Correction

Error message	Cause	Remedy
ADC malfunction	Hardware error	Switch the print module 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.
Barcode too big	The barcode is too big for the allocated area of the label	Reduce the size of the barcode or move it.
Battery low	Battery of the PC card is flat	Replace battery in the PC card.
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.
Device not conn.	Programming addresses a non-existent device	Either connect this device or correct the programming.
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.
FPGA malfunction	Hardware error	Switch the print module off and then on. If error recurs call service.
Head error	Hardware error	Switch the print module off and then on. If error recurs replace printhead.
Head open	Printhead not locked	Lock printhead.
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.
Invalid setup	Error in the configuration memory	Re-configure print module. 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.
Name exists	Duplicate usage of field name in the direct programming	Correct programming
No DHCP server	The print module is configured for DHCP, but there is no DHCP server, or the DHCP server is not currently available.	Switch off DHCP in the configuration, and assign a fixed IP address. Please contact your network administrator.
No label found	There are labels missing on the label material	Press **pause** key repeatedly until print module 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.
	Print module 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 Link	No network link	Check network cable and connector. Please contact your network administrator.
No record found	Refers to the optional memory card; database access error	Check programming and card contents.
No SMTP server	The print module is configured for SMTP, but there is no SMTP server, or the SMTP server is not currently available.	Switch off SMTP in the configuration. **Caution!** Then a warning cannot be sent by e-mail (EAlert). Please contact your network administrator.

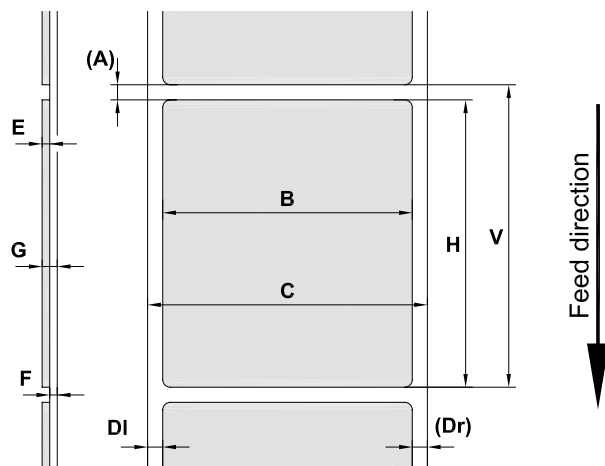| Error message	Cause	Remedy
No Timeserver	Timeserver is selected in the configuration, but there is no Timeserver, or the Timeserver is not currently available.	Switch off Timeserver in the configuration. Please contact your network administrator.
Out of paper	Out of label roll	Load labels.
	Error in 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 ▷ 7.3 on page 22 Load transfer ribbon Restart print job.
	The print module 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
Protocol error	Print module 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.
Read error	Read error when reading from the memory card	Check data of the card. Backup data, reformat card.
Remove ribbon	Transfer ribbon is loaded although the print module is set to direct thermal printing	for direct thermal printing remove ribbon
		for thermal transfer printing set the print module in the configuration or in the software to transfer printing
Ribbon sv. malf.	Hardware error	Switch the print module 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.
USB error Device stalled	A USB device has been detected, but it is not working.	Do not use the USB device.
USB error Too much current	The USB device consumes too much current.	Do not use the USB device.
USB error Unknown device	Failure to detect USB device	Do not use the USB device.
Voltage error	Hardware error	Switch the print module off and then on. If error recurs call service. It is shown which voltage has failed. Please note.
Write error	Hardware error	Repeat the write process, reformat card.
Write protected	PC card write protection is activated.	Deactivate the write protection.
Wrong revision	Error when updating the firmware. Firmware not compatible with the hardware version	Load the compatible firmware.

Table 9   Error Messages and Fault Correction

9 Labels

9.1 Label Dimensions

Fig. 15 Label dimensions

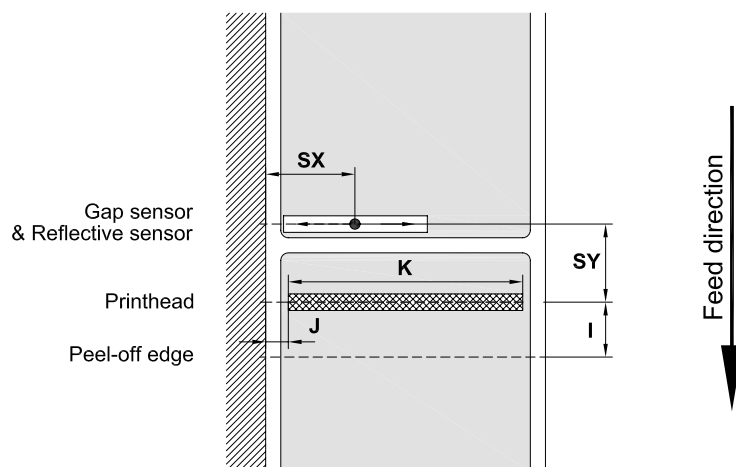| Dim.	Designation	Dim. in mm	
		PX4 / PX4.3	**PX6**
B	Label width	10 - 116	50 - 176
H	Label height	6 - 1000	
A	Label distance	> 2	
C	Width of liner	25 - 118	50 -178
Dl	Left margin	≥ 0	
Dr	Right margin	≥ 0	
E	Label thickness	0,025 - 0,7	
F	Liner thickness	0,03 - 0,1	
G	Thickness label with liner	0,055 - 0,8	
V	Label feed	> 8	
	• Small label sizes, thin materials or strong glue can lead to limitations. Critical applications need to be tested and cleared.		

Table 10 Label dimensions

9.2 Device Dimensions

Fig. 16   Device dimensions

Dim.	Designation	Dim. in mm		
		PX4	**PX4.3**	**PX6**
I	Distance printhead - peel-off edge	14,4		
J	Distance 1st heating point - material edge	2		
K	Print width with printhead 203 dpi Print width with printhead 300 dpi Print width with printhead 600 dpi	104,0 105,6 105,6	104,0 108,4 -	- 162,6 -
SX	Distance gap/reflective sensor - material edge i.e. permissible distance of reflex or cut-out marks to the material edge	4 - 60		
SY	Distance gap/reflective sensor - printhead	94,5		

Table 11   Device dimensions

9.3   Reflex Mark Dimensions
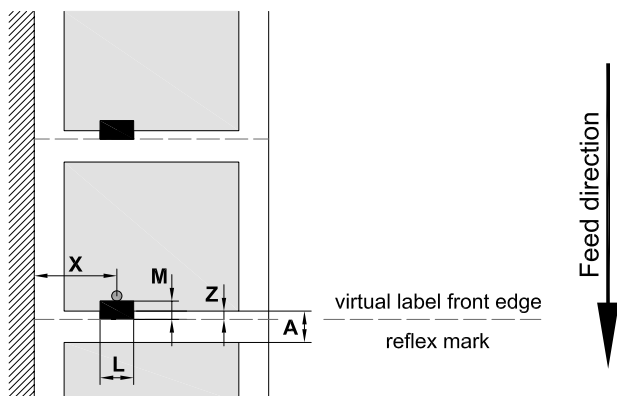
Fig. 17   Reflex mark dimensions

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	4 - 60
Z	Distance virtual label front edge - actual label front edge ▶ Adjust software settings	0 up to A / recomm. : 0
	• 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 12   Reflex mark dimensions

9.4 Cut-out Mark Dimensions
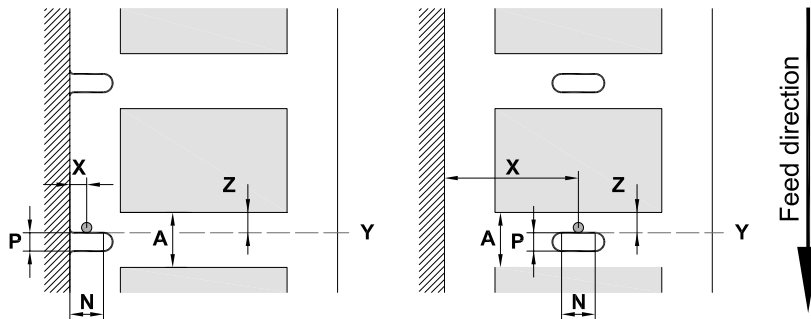
for marginal cut-out marks
minimum liner thickness 0,06 mm

Fig. 18   Cut-out mark dimensions

Dim.	Designation	Dim. in mm
A	Label distance	> 2
N	Width of cut-out mark	> 5
	for marginal cut-out	> 8
P	Height of cut-out mark	2 - 10
X	Distance mark - material edge	4 - 60
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 13   Cut-out mark dimensions

Marginal cut-out   Long hole cut-out   Rectangular cut-out   Circular cut-out   Cut-out between the labels

Not recommended !   Not recommended !
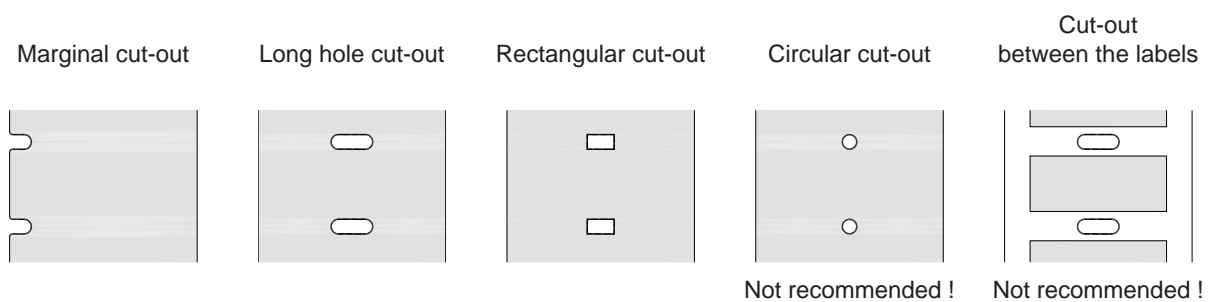
Fig. 19   Samples for cut-out marks

245
4,2
ø4,5
300+2
17.4°
17+1
13
30+1

318* / 348**
296
423* / 474**
327,5* / 387,5**
265
2+1
10
14
116* / 176**
120* / 180**

* PX4, PX4.3
** PX6

222
11,5
161
72
172* / 232**

235±0,2
117,5±0,1
M4
>R4
27
Center pin ø4
265±0,2
267+1
14,1
16
16
224+1

Fig. 20　　Mounting Dimensions

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

EU Declaration of Conformity

We declare herewith that as a result of the manner in which the machine designated below was designed, the type of construction and the machines which, as a result have been brought on to the general market comply with the relevant fundamental regulations of the EU Rules for Safety and Health. In the event of any alteration which has not been approved by us being made to any machine as designated below, this statement shall thereby be made invalid.

Device:	Type:
Print Module	**PX4L, PX4R**
	PX4.3L, PX4.3R
	PX6L, PX6R

Applied EU Regulations and Norms:

• **EC Voltage Regulations**	**2006/95/EU**
• Data and Office Machine Safety	EN 60950-1:2006
• **EC Electromagnetic Compatibility Regulations**	**2004/108/EU**
• Threshold values for the interference of Data Machines	EN 55022:2006
• Immunity characteristics Limits and methods of measurement	EN 55024:1998 + A1:2001 + A2:2003
• Limits for harmonic current emission	EN 61000-3-2:2006
• Limits of voltage fluctuation and flicker	EN 61000-3-3:1995 + A1:2001 + A2:2005

Signed for, and on behalf of the Manufacturer :

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

Sömmerda, 20.05.09

Erwin Fascher
Managing Director

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