Label Printer

A+ The Premium Class.
Operator's Manual
for the following products

<table>
<thead>
<tr>
<th>Family</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>A2+</td>
</tr>
<tr>
<td></td>
<td>A4+</td>
</tr>
<tr>
<td></td>
<td>A4.3+</td>
</tr>
<tr>
<td></td>
<td>A6+</td>
</tr>
<tr>
<td></td>
<td>A8+</td>
</tr>
</tbody>
</table>

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1.1 Instructions

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

**Danger!**
Draw 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).

1.2 Intended Use

- The device is manufactured in accordance with the current technological status and the recognized safety rules. However, danger to the life and limb of the user or third parties and/or damage to the device and other tangible assets can arise during use.
- The device may only be used for its intended purpose and if it is in perfect working order, and it must be used with regard to safety and dangers as stated in the operating manual.
- The device printer 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, 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 can become hot while printing. Do not touch during operation, and allow to cool down before changing material and before disassembly.
1 Introduction

- 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 is 74 dB(A) at A8+ and less than 70 dB(A) at all other types.

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

1. Cover
2. Core adapter
3. Guide
4. Roll retainer
5. Ribbon supply hub
   (Transfer printers only)
6. Ribbon take-up hub
   (Transfer printers only)
7. Internal rewinder
   (Peel-off printer version only)
8. Print mechanics
9. Mounting area for accessories incl.
   peripheral connector
10. Navigator pad
11. Display

Fig. 2 Print mechanics

12. Ribbon deflection
13. Printhead locking screw
14. Printhead retainer with printhead
15. Print roller
16. Printhead locking lever
17. Dispense plate
18. Axle with guide ring
19. Label sensor
20. Allen key
21. Rewind assist roller
   (Peel-off printer version only)
22. Locking system
   (Peel-off printer version only)
23 Power switch
24 Power connection jack
25 Slot for PC Card Type II
26 Slot for CompactFlash memory card
27 Ethernet 10/100 Base-T
28 2 USB master ports for keyboard, scanner or service key
29 USB high-speed slave port
30 Serial RS-232 C port

31 Support bracket (A8+ only)
for additional bearing of the roller and printhead assemblies and the ribbon hubs
2 Installation

2.2 Unpacking and Setting-up the Printer

- Lift the label printer out of the box via the straps.
- Check label printer for damage which may have occurred during transport.
- Set up printer on a level surface.
- Remove foam transportation safeguards near the printhead.
- Check delivery for completeness.

Contents of delivery:
- Label printer
- Power cable
- Documentation
- cablabel Lite on CD-ROM
- Documentation 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 label printers 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 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 (6).
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 label printer are grounded.

- Connect the label printer to a computer or network by a suitable cable.
For details of the configuration of the individual interfaces ➤ Configuration Manual.

2.4 Switching on the Device

When all connections have been made:
- Switch the printer on at the power switch (23).
  The printer performs a system test, and then shows the system status ready in the display (11).
If an error occurs during the system test, the symbol ⚠️ and type of error are displayed.
3 Control Panel

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 (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 printer’s own commands. Programming Manual for details.

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

Notice!

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

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

![Control Panel](image)

Fig. 5 Control Panel

3.2 Symbol Displays

The symbols shown in the following table may appear in the status line of the display, depending on the printer configuration. They enable the current printer status to be seen quickly. For the configuration of the status line ▸ Configuration Manual.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Symbol</th>
<th>Description</th>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Clock" /></td>
<td>Clock</td>
<td><img src="image" alt="Ethernet link status" /></td>
<td>Ethernet link status</td>
<td><img src="image" alt="User memory in the clock circuit" /></td>
<td>User memory in the clock circuit</td>
</tr>
<tr>
<td><img src="image" alt="Date sheet" /></td>
<td>Date sheet</td>
<td><img src="image" alt="Temperature of the printhead" /></td>
<td>Temperature of the printhead</td>
<td><img src="image" alt="Used memory" /></td>
<td>Used memory</td>
</tr>
<tr>
<td><img src="image" alt="Date/time digital" /></td>
<td>Date/time digital</td>
<td><img src="image" alt="PPP funds" /></td>
<td>PPP funds</td>
<td><img src="image" alt="Input buffer" /></td>
<td>Input buffer</td>
</tr>
<tr>
<td><img src="image" alt="Ribbon supply" /></td>
<td>Ribbon supply</td>
<td><img src="image" alt="Debug window for abc programs" /></td>
<td>Debug window for abc programs</td>
<td><img src="image" alt="Access to memory card" /></td>
<td>Access to memory card</td>
</tr>
<tr>
<td><img src="image" alt="Wi-Fi signal strength" /></td>
<td>Wi-Fi signal strength</td>
<td><img src="image" alt="Control of the lower display line is handed over to an abc program" /></td>
<td>Control of the lower display line is handed over to an abc program</td>
<td><img src="image" alt="Printer is receiving data" /></td>
<td>Printer is receiving data</td>
</tr>
</tbody>
</table>

Table 1 Symbol displays
### 3.3 Printer States

<table>
<thead>
<tr>
<th>State</th>
<th>Display</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ready</strong></td>
<td>Ready and configured symbol displays, such as time <code>:</code> and date <code>1</code></td>
<td>The printer is in the ready state and can receive data.</td>
</tr>
<tr>
<td><strong>Printing label</strong></td>
<td>Printing label and the number of the printed label in the print job.</td>
<td>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.</td>
</tr>
<tr>
<td><strong>Pause</strong></td>
<td>Pause and the symbol <code>Ⅰ</code></td>
<td>The printing process has been interrupted by the operator.</td>
</tr>
<tr>
<td><strong>Correctable error</strong></td>
<td>![Correctable error icon] and the type of error and the number of labels still to be printed.</td>
<td>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.</td>
</tr>
<tr>
<td><strong>Irrecoverable error</strong></td>
<td>![Irrecoverable error icon] and the type of error and the number of labels still to be printed.</td>
<td>An error has occurred that cannot be rectified without interrupting the print job.</td>
</tr>
</tbody>
</table>
| **Critical error** | ![Critical error icon] 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** | ![Power Save Mode icon] 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 Control Panel

3.4 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. menu or feed).
- Active functions light up orange in the offline menu (arrows, key “-“).

<table>
<thead>
<tr>
<th>Key</th>
<th>Display</th>
<th>State</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>menu</td>
<td>lights</td>
<td>Ready</td>
<td>To the offline menu</td>
</tr>
<tr>
<td>feed</td>
<td>lights</td>
<td>Ready</td>
<td>Feeds a blank label</td>
</tr>
<tr>
<td>pause</td>
<td>lights</td>
<td>Ready</td>
<td>After the end of a print job, reprint the last label</td>
</tr>
<tr>
<td></td>
<td>Printing label</td>
<td></td>
<td>Interrupt print job, printer goes into &quot;Pause&quot; state</td>
</tr>
<tr>
<td></td>
<td>Pause</td>
<td>Pause</td>
<td>Continue the print job, printer goes into &quot;Printing label&quot; state</td>
</tr>
<tr>
<td></td>
<td>flashes</td>
<td>Correctable error</td>
<td>Continue the print job after rectifying the error, printer goes into &quot;Printing label&quot; state</td>
</tr>
<tr>
<td>cancel</td>
<td>lights</td>
<td>Ready</td>
<td>Delete internal memory, the last label can no longer be reprinted</td>
</tr>
<tr>
<td></td>
<td>Printing label</td>
<td></td>
<td>Short press → cancels the current print job</td>
</tr>
<tr>
<td></td>
<td>Pause</td>
<td>Pause</td>
<td>Longer press → cancels the current print job and deletes all print jobs</td>
</tr>
<tr>
<td></td>
<td>Correctable error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>!</td>
<td>lights</td>
<td>Error</td>
<td>Call Help - Concise information for rectifying the fault will be displayed</td>
</tr>
</tbody>
</table>

Table 3  Key functions in the print mode

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

Table 4  Key functions in the offline menu
Notice!
For adjustments and simple installation work, use the accompanying Allen key located in the bottom section of the print unit. No other tools are required for the work described here.

4.1 Opening and Closing the Support Bracket A8+
For additional bearing of the roller and printhead assemblies and the ribbon hubs the A8+ is equipped with a support bracket (1).

Notice!
For loading and removing material on A8+ it is necessary to open and close the support bracket in addition to the steps described in the following chapters.

![Support bracket A8+](image)

Opening the Support Bracket
- Open cover.
- Turn lever (2) counterclockwise to lift the printhead.
- Open the support bracket (1).
  Labels and transfer ribbon can be loaded or removed.

Closing the Support Bracket
- Turn lever (2) counterclockwise until it stops.
- Close the support bracket (1). Ensure that the all pins (3) are captured by the drillings of the support bracket.
- Turn lever (2) clockwise to lock the printhead.

Attention!
Loss of print quality.
Operate or adjust the printer with closed support bracket only!
Operation with support bracket open is not prevented but the print quality may become poor.
4 Loading Material

4.2 Loading Labels from Roll

4.2.1 Removing and Installing the Core Adapter

A core adapter is mounted for better guidance of the label roll on the roll retainer when using label rolls with a core diameter ≥ 75 mm (versions A6+ and A8+).

► Remove core adapter for smaller label rolls as follows.

**Fig. 7 Core adapter**

Removing the core adapter

► Open cover (1).
► Loosen retaining screws of core adapter (2) with Allen key.
► Remove core adapter from roll retainer (4).

Installing the core adapter

► Open cover (1).
► Loosen retaining screws of core adapter (2) with Allen key.
► Slide first core adapter onto the roll retainer (4) until it stops at the housing and tighten retaining screw.
► Slide second core adapter onto the roll retainer (4) based on the roll width and tighten retaining screw.
4.2.2 Positioning the Label Roll on the Roll Retainer

1. Open cover (10).
2. Loosen knurled screw (1) and swivel guide (2) upward and push it all the way out.
3. Remove core adapter (4) for label rolls with a core diameter < 75 mm (4.2.1 on page 13).
4. Load label roll on the roll retainer in such a way that the labels can be inserted into the printhead in the right position. The printing side of the labels must be visible from above.
5. Supplying longer label strips:
   - For Peel-Off or Rewind mode: approx. 60 cm
   - For Tear-Off mode: approx. 40 cm
6. Push label roll until it contacts the housing wall.
7. Swivel guide (2) downward onto the roll retainer (3) and push it against the label roll so that the roll is braked slightly while supplying media.
8. Tighten knurled screw (1).

4.2.3 Inserting a Label Strip into the Printhead

1. Turn lever (9) counterclockwise to lift the printhead.
2. Push guide ring on axis (6) all the way out.
3. Guide label strip to the print unit above the internal rewinder (5).
4. Guide label strips below the axis (6) and through the label sensor (7) in such a way that it exits the print unit between the printhead and the print roller.
5. Push guide ring on axis (6) against the outer edge of the label strip.
4 Loading Material

4.2.4 Setting the Label Sensor

The label sensor (2) can be shifted perpendicular to the direction of paper flow for adaptation to the label medium. The sensor unit (1) of the label sensor is visible from the front through the print unit and is marked with a indentation in the label sensor retainer.

- Position label sensor with tab (3) in such a way that the sensor (1) can detect the label gap or a reflex or perforation mark.
- or, if the labels deviate from a rectangular shape, -
- Align label sensor using the tab (3) with the front edge of the label in the direction of paper flow.

For use in tear-off mode only:

- Turn lever (Fig. 8, Item 9) clockwise to lock the printhead.

The label roll is loaded for use in tear-off mode.
In rewind mode, the labels are wound up internally after printing for later use.
1. Remove the locking system for rewind mode if necessary (4.8 on page 24) and install rewind guide plate (4.7 on page 23).
2. Guide label strip around the rewind guide plate (4) to the internal rewinder (2).
3. Hold rewinder (2) firmly and turn knob (3) clockwise until it stops.
4. Push label strip under a bracket (1) of the rewinder and turn knob (3) counterclockwise until it stops. The rewinder is fully spread, thus gripping the label strip firmly.
5. Turn rewinder (2) counterclockwise to tighten the label strip.
6. Turn lever (5) clockwise to lock the printhead.

The label roll is loaded for use in rewind mode.
4 Loading Material

4.2.6 Winding up the Liner in Peel-Off mode

In Peel-Off mode, the labels are removed after printing, and only the liner is wound up internally.

1. Lift the pinch roller (4) off the rewind assist roller (5).
2. Remove labels from the first 100 mm of the liner.
3. Guide liner to the rewinder (2) around the dispense plate (6) and the rewind assist roller (5).
4. Hold rewinder (2) firmly and turn knob (3) clockwise until it stops.
5. Push liner under a bracket (1) of the rewinder (2) and turn knob (3) counterclockwise until it stops.
   The rewinder is fully spread, thus gripping the liner firmly.
6. Turn rewinder (2) counterclockwise to tighten the liner.
7. Slightly loosen top fixing screw at the locking system with Allen key and position the pinch roller (4) centrally to the liner.
8. Close the locking system and tighten top fixing screw at the locking system.
9. Turn lever (7) clockwise to lock the printhead.

The label roll is loaded for use in peel-off mode.
4.2.7 Setting the Head Locking System

The printhead is pushed on via two plungers (on A8+ three 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. 12 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.
4 Loading Material

4.3 Removing the Wound Roll

Fig. 13 Removing the wound roll

1. Turn lever (1) counterclockwise to lift the printhead.
2. Cut label strip and wind it fully around the rewinder (3).
3. Hold rewinder (3) firmly and turn knob (2) clockwise.
   - The rewinder spindle relaxes and the wound roll (4) is released.
4. Remove wound (4) roll from rewinder (3).
4.4 Loading Fanfold Labels

1. Loosen knurled screw (1) and slide guide (2) outward completely and swivel it downward past the roll retainer (3).
2. If core adapters are mounted on the roll retainer (3), remove core adapters (▷ 4.2.1 on page 13).
3. Position label stack (4) behind the printer. Ensure that the labels on the strip are visible from above.
4. Guide label strip to print unit via the roll retainer (3).
5. Push guide (2) against the label strip, swivel it upward against the roll retainer and tighten knurled screw (1).
6. Insert label strip into printhead (▷ 4.2.3 on page 14).
7. Set label sensor (▷ 4.2.4 on page 15).
8. Set head locking system (▷ 4.2.7 on page 18).
9. Turn lever (5) clockwise to lock the printhead.
4 Loading Material

4.5 Loading Transfer Ribbon

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

Fig. 15 Feed path of the transfer ribbon

1. Clean printhead before loading the transfer ribbon (> 6.3 on page 26).
2. Turn lever (4) counterclockwise to lift the printhead.
3. Slide transfer ribbon roll (2) onto the ribbon supply hub (3) until it stops and so that the color coating of the ribbon faces downward when being unwound. No rotation direction is specified for the ribbon supply hub (3).
4. Hold transfer ribbon roll (2) firmly and turn knob on ribbon supply hub (3) counterclockwise until the transfer ribbon roll is secured.
5. Slide suitable transfer ribbon core onto the transfer ribbon take-up hub (1) and secure it in the same way.
6. Guide transfer ribbon through the print unit as shown in Fig. 15.
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 (1) counterclockwise to smooth out the feed path of the transfer ribbon.
9. Turn lever (4) clockwise to lock the printhead.
4.6 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 (> 4.2.7 on page 18).

Notice!
The adjustment is best carried out during printing.

Fig. 16  Setting the feed path of the transfer ribbon

1. Read current setting on the scale (1) and record if necessary.
2. Turn screw (2) 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.
4 Loading Material

4.7 Removing and Installing the Rewind Guide Plate, Dispense Plate or Tear-off Plate

To convert the printer for use in another operating mode, a rewind guide plate, a dispense plate or a tear-off plate may need to be installed.

Attention!
For printer versions with a locking system on the rewind assist roller, the locking system must be removed for operation in rewind mode before installation of the rewind guide plate (> 4.8 on page 24).

Fig. 17 Removing and installing the rewind guide plate, dispense plate or tear-off plate

Removing a plate
1. Loosen screws (2) several turns.
2. Slide plate (1) to the right and remove it.

Installing a plate
1. Place plate (1) onto the screws (2) and slide to the left completely.
2. Tighten screws (2).
4.8 Removing and Installing the Locking System

Removing the locking system
1. Position printer at edge of table so that the oblong hole is accessible from below.
2. Screw out screws (1) (2) and remove them.
3. Remove the pinch roller (4) and bottom plate (3).

Installing the locking system
1. Position printer at edge of table so that the oblong hole is accessible from below.
2. Place the pinch roller (4) into oblong hole and lightly tighten screw (1) of bottom plate (3) from above.
3. Lightly tighten screw (2) of bottom plate (3) from below.
4. Align the pinch roller (4) with center of label and tighten screws.
5 Printing Operation

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.

The printer is ready for operation when all connections have been made and labels and, if applicable, the transfer ribbon have been loaded.

5.1 Synchronization of the Paper Feed
After the label stock has been inserted, for peel-off or cutting 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 or that the first cut label would be too long. Both effects can cause useless first labels.

- Press the feed key to start the synchronization.
- Remove the blank labels peeled-off or cut during the synchronization.

Notice! Synchronization is not necessary if the printhead was not opened between different print jobs, even if the printer was switched off.

5.2 Tear-off Mode
In tear-off mode, labels or continuous media are printed. After printing, the label strip can be separated by hand. The label printer must be equipped with a tear-off plate for this ▶ 4.7 on page 23.

5.3 Peel-off Mode
In Peel-off mode, the labels are automatically peeled off the liner after printing and presented for removal. The liner is wound up by the internal rewinder. This mode is available only on the peel-off printer versions. The printer must be equipped with a dispense plate and one of the following accessory devices for this:

- Present sensor PS6 or PS8
- Peel-off adapter PS5
- Applicator A1000

Notice! Peel-off mode must be activated in the software. This is done with the "P command" in the direct programming, ▶ Programming Manual.

Notice! A sensor or an external signal releases the printout of the next label after a label has been removed from the peel-off position.

5.4 Internal Rewinding
The labels are wound up internally after printing with the carrier medium for later use. This mode is available only on the peel-off printer versions. The label printer must be equipped with a rewind guide plate for this ▶ 4.7 on page 23.
6.1 Cleaning Information

Danger!
Risk of death via electric shock!
- Disconnect the printer from the power supply before performing any maintenance work.

The label 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.

6.2 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 printer.
- Remove deposits with roller cleaner and a soft cloth.
- If the roller appears damaged, replace it — Service Manual.

6.3 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 printer.
- 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 printer.
6 Cleaning

6.4 Cleaning the Label Sensor

Attention!
Label sensor can be damaged!
The cleaning method described here cannot be used for the A6+ and A8+ label printers. There is a risk that
the label sensor cable could be ripped out.
► In the case of the A6+ and A8+ label printers, commission cleaning by the Service Department.

Attention!
Label sensor can be damaged!
Do not use sharp or hard objects or solvents to clean the label sensor.

The label sensor can become dirtied with paper dust. This can adversely affect label detection.

Fig. 19 Cleaning the label sensor

1. Turn lever (1) counterclockwise to lift the printhead.
2. Remove labels and transfer ribbon from the printer.
3. Remove Allen key (5) from its retainer.
4. Press the latch (3) and slowly pull label sensor outward via the tab (4). Ensure that the label sensor cable is not tensioned by this.
5. Clean label sensor and sensor units (2) with brush or cotton swab soaked in pure alcohol.
6. Push label sensor back via tab (3) and set it (► 4.2.4 on page 15).
7. Push Allen key (4) into retainer.
8. Reload labels and transfer ribbon.
7.1 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.

<table>
<thead>
<tr>
<th>State</th>
<th>Display</th>
<th>Key</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correctable error</td>
<td></td>
<td>pause flashes</td>
<td>3.4 on page 11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cancel lights</td>
<td></td>
</tr>
<tr>
<td>Irrecoverable error</td>
<td></td>
<td>cancel flashes</td>
<td></td>
</tr>
<tr>
<td>Critical fault</td>
<td></td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Table 5  Error states

7.2 Problem Solution

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

Table 6  Problem solution
## 7 Fault Correction

### 7.3 Error Messages and Fault Correction

<table>
<thead>
<tr>
<th>Error message</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADC malfunction</td>
<td>Hardware error</td>
<td>Switch the printer off and then on. If error recurs call service.</td>
</tr>
<tr>
<td>Barcode error</td>
<td>Invalid barcode content, e.g. alphanumeric characters in a numerical barcode</td>
<td>Correct the barcode content.</td>
</tr>
<tr>
<td>Barcode too big</td>
<td>The barcode is too big for the allocated area of the label</td>
<td>Reduce the size of the barcode or move it.</td>
</tr>
<tr>
<td>Battery low</td>
<td>Battery of the PC card is flat</td>
<td>Replace battery in the PC card.</td>
</tr>
<tr>
<td>Buffer overflow</td>
<td>The input buffer memory is full and the computer is still transmitting data</td>
<td>Use data transmission via protocol (preferably RTS/CTS).</td>
</tr>
<tr>
<td>Card full</td>
<td>No more data can be stored on the memory card</td>
<td>Replace card.</td>
</tr>
<tr>
<td>Cutter blocked</td>
<td>Cutter cannot return into its home position and stays in an undefined position</td>
<td>Switch off the printer. Remove material. Switch on the printer. Restart print job. Change material</td>
</tr>
<tr>
<td>Cutter jammed</td>
<td>The cutter is unable to cut the labels but is able to return into its home position</td>
<td>Press the cancel key.</td>
</tr>
<tr>
<td>Device not conn.</td>
<td>Programming addresses a non-existent device</td>
<td>Either connect this device or correct the programming.</td>
</tr>
<tr>
<td>File not found</td>
<td>Requested file is not on the card</td>
<td>Check the contents of the card.</td>
</tr>
<tr>
<td>Font not found</td>
<td>Error with the selected download font</td>
<td>Cancel current print job. Change font.</td>
</tr>
<tr>
<td>FPGA malfunction</td>
<td>Hardware error</td>
<td>Switch the printer off and then on. If error recurs call service.</td>
</tr>
<tr>
<td>Head error</td>
<td>Hardware error</td>
<td>Switch the printer off and then on. If error recurs replace printhead.</td>
</tr>
<tr>
<td>Head open</td>
<td>Printhead not locked</td>
<td>Lock printhead.</td>
</tr>
<tr>
<td>Head too hot</td>
<td>Printhead is overheated</td>
<td>After pausing the print job will be continued automatically. If the fault recurs repeatedly, reduce the heat level or the print speed via software.</td>
</tr>
<tr>
<td>Invalid setup</td>
<td>Error in the configuration memory</td>
<td>Re-configure printer. If error recurs call service.</td>
</tr>
<tr>
<td>Memory overflow</td>
<td>Current print job contains too much information, e.g. selected font, large graphics</td>
<td>Cancel current print job. Reduce amount of data to be printed.</td>
</tr>
<tr>
<td>Name exists</td>
<td>Duplicate usage of field name in the direct programming</td>
<td>Correct programming</td>
</tr>
<tr>
<td>No DHCP server</td>
<td>The printer is configured for DHCP, but there is no DHCP server, or the DHCP server is not currently available.</td>
<td>Switch off DHCP in the configuration, and assign a fixed IP address. Please contact your network administrator.</td>
</tr>
<tr>
<td>No label found</td>
<td>There are labels missing on the label material</td>
<td>Press pause key repeatedly until printer recognizes the next label on the material.</td>
</tr>
<tr>
<td></td>
<td>The label format as set in the software does not correspond with the real label format</td>
<td>Cancel current print job. Change the label format set in the software. Restart print job.</td>
</tr>
<tr>
<td></td>
<td>Printer is loaded with continuous paper, but the software is set on labels</td>
<td>Cancel current print job. Change the label format set in the software. Restart the print job.</td>
</tr>
<tr>
<td>No label size</td>
<td>The size of the label is not defined in the programming.</td>
<td>Check programming.</td>
</tr>
<tr>
<td>No Link</td>
<td>No network link</td>
<td>Check network cable and connector. Please contact your network administrator.</td>
</tr>
<tr>
<td>Error message</td>
<td>Cause</td>
<td>Remedy</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>No record found</td>
<td>Refers to the optional memory card; database access error</td>
<td>Check programming and card contents.</td>
</tr>
<tr>
<td>No SMTP server</td>
<td>The printer is configured for SMTP, but there is no SMTP server, or the SMTP server is not currently available.</td>
<td>Switch off SMTP in the configuration. <strong>Caution!</strong> Then a warning cannot be sent by e-mail (EAlert). Please contact your network administrator.</td>
</tr>
<tr>
<td>No Timeserver</td>
<td>Timeserver is selected in the configuration, but there is no Timeserver, or the Timeserver is not currently available.</td>
<td>Switch off Timeserver in the configuration. Please contact your network administrator.</td>
</tr>
<tr>
<td>Out of paper</td>
<td>Out of label roll</td>
<td>Load labels.</td>
</tr>
<tr>
<td></td>
<td>Error in the paper feed</td>
<td>Check paper feed.</td>
</tr>
<tr>
<td>Out of ribbon</td>
<td>Out of transfer ribbon</td>
<td>Insert new transfer ribbon.</td>
</tr>
<tr>
<td></td>
<td>Transfer ribbon melted during printing</td>
<td>Cancel current print job.</td>
</tr>
<tr>
<td></td>
<td>The printer is loaded with thermal labels, but the software is set to transfer printing</td>
<td>Change the heat level via software. Clean the printhead ▶ 6.3 on page 26 Load transfer ribbon Restart print job.</td>
</tr>
<tr>
<td>Protocol error</td>
<td>Printer has received an unknown or invalid command from the computer.</td>
<td>Press the pause key to skip the command or press the cancel key to cancel the print job.</td>
</tr>
<tr>
<td>Read error</td>
<td>Read error when reading from the memory card</td>
<td>Check data of the card.</td>
</tr>
<tr>
<td></td>
<td>Backup data, reformat card.</td>
<td></td>
</tr>
<tr>
<td>Remove ribbon</td>
<td>Transfer ribbon is loaded although the printer is set to direct thermal printing</td>
<td>for direct thermal printing remove ribbon</td>
</tr>
<tr>
<td></td>
<td>for thermal transfer printing set the printer in the configuration or in the software to transfer printing</td>
<td></td>
</tr>
<tr>
<td>Structural err.</td>
<td>Error in the file list of the memory card, data access is uncertain.</td>
<td>Format memory card.</td>
</tr>
<tr>
<td>Unknown card</td>
<td>Card not formatted, Type of card not supported</td>
<td>Format card, use different type of card.</td>
</tr>
<tr>
<td>USB error Device stalled</td>
<td>A USB device has been detected, but it is not working.</td>
<td>Do not use the USB device.</td>
</tr>
<tr>
<td>USB error Too much current</td>
<td>The USB device consumes too much current.</td>
<td>Do not use the USB device.</td>
</tr>
<tr>
<td>USB error Unknown device</td>
<td>Failure to detect USB device</td>
<td>Do not use the USB device.</td>
</tr>
<tr>
<td>Voltage error</td>
<td>Hardware error</td>
<td>Switch the printer off and then on. If error recurs call service. It is shown which voltage has failed. Please note.</td>
</tr>
<tr>
<td>Write error</td>
<td>Hardware error</td>
<td>Repeat the write process, reformat card.</td>
</tr>
<tr>
<td>Write protected</td>
<td>PC card write protection is activated.</td>
<td>Deactivate the write protection.</td>
</tr>
<tr>
<td>Wrong revision</td>
<td>Error when updating the firmware. Firmware not compatible with the hardware version</td>
<td>Load the compatible firmware.</td>
</tr>
</tbody>
</table>

Table 7 Error Messages and Fault Correction
### 8.1 Media Dimensions

![Diagram of label and endless material](image)

**Fig. 20** Label / endless material dimensions

<table>
<thead>
<tr>
<th>Dim.</th>
<th>Designation</th>
<th>Dim. in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A2*</td>
</tr>
<tr>
<td>B</td>
<td>Label width</td>
<td>4 - 61</td>
</tr>
<tr>
<td>H</td>
<td>Label height</td>
<td>4 - 1000</td>
</tr>
<tr>
<td></td>
<td>in peel-off mode</td>
<td>12 - 200</td>
</tr>
<tr>
<td></td>
<td>Tear-off length</td>
<td>&gt; 30</td>
</tr>
<tr>
<td></td>
<td>Cut length</td>
<td>&gt; 2</td>
</tr>
<tr>
<td></td>
<td>with cutter</td>
<td>&gt; 2</td>
</tr>
<tr>
<td></td>
<td>with perforation cutter</td>
<td>&gt; 12</td>
</tr>
<tr>
<td>A</td>
<td>Label distance</td>
<td>&gt; 2</td>
</tr>
<tr>
<td>C</td>
<td>Width of liner or endless material</td>
<td>25 - 65</td>
</tr>
<tr>
<td>DI</td>
<td>Left margin</td>
<td>≥ 0</td>
</tr>
<tr>
<td>Dr</td>
<td>Right margin</td>
<td>≥ 0</td>
</tr>
<tr>
<td>E</td>
<td>Label thickness</td>
<td>0,025 - 0,7</td>
</tr>
<tr>
<td>F</td>
<td>Liner thickness</td>
<td>0,03 - 0,1</td>
</tr>
<tr>
<td>G</td>
<td>Thickness label with liner</td>
<td>0,055 - 0,8</td>
</tr>
<tr>
<td>Q</td>
<td>Thickness endless material</td>
<td>0,03 - 0,8</td>
</tr>
<tr>
<td>V</td>
<td>Label feed</td>
<td>&gt; 6</td>
</tr>
</tbody>
</table>

- Small label sizes, thin materials or strong glue can lead to limitations. Critical applications need to be tested and cleared.
- Note the bending stiffness! Material must be flexible to follow the radius of the print roller!
### 8.2 Device Dimensions

**Fig. 21** Device dimensions

<table>
<thead>
<tr>
<th>Dim.</th>
<th>Designation</th>
<th>Dim. in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A2+</td>
</tr>
<tr>
<td>IP</td>
<td>Distance printhead - peel-off edge</td>
<td>13,5</td>
</tr>
<tr>
<td>IC</td>
<td>Distance printhead - cut edge</td>
<td>18,8</td>
</tr>
<tr>
<td>IT</td>
<td>Distance printhead - tear-off edge</td>
<td>13,5</td>
</tr>
<tr>
<td>J</td>
<td>Distance 1st heating point - material edge</td>
<td>2</td>
</tr>
<tr>
<td>K</td>
<td>Print width with printhead 203 dpi</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Print width with printhead 300 dpi</td>
<td>54,2</td>
</tr>
<tr>
<td></td>
<td>Print width with printhead 600 dpi</td>
<td>57,0</td>
</tr>
<tr>
<td>SX</td>
<td>Distance gap/reflective sensor - material edge</td>
<td>5 - 26</td>
</tr>
<tr>
<td></td>
<td>i.e. permissible distance of reflex or cut-out marks to the material edge</td>
<td></td>
</tr>
<tr>
<td>SY</td>
<td>Distance gap/reflective sensor - printhead</td>
<td></td>
</tr>
</tbody>
</table>

*Table 9* Device dimensions
8. Media

8.3 Reflex Mark Dimensions

Labels with reflex marks

![Reflex mark diagram]

Fig. 22 Reflex mark dimensions

<table>
<thead>
<tr>
<th>Dim.</th>
<th>Designation</th>
<th>Dim. in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Label distance</td>
<td>&gt; 2</td>
</tr>
<tr>
<td>L</td>
<td>Width of reflex mark</td>
<td>&gt; 5</td>
</tr>
<tr>
<td>M</td>
<td>Height of reflex mark</td>
<td>3 - 10</td>
</tr>
<tr>
<td>X</td>
<td>Distance mark - material edge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for A2+</td>
<td>5 - 26</td>
</tr>
<tr>
<td></td>
<td>for A4+, A4.3+, A6+, A8+</td>
<td>5 - 53</td>
</tr>
<tr>
<td>Z</td>
<td>Distance virtual label front edge - actual label front edge</td>
<td>0 up to A / recomm. : 0</td>
</tr>
<tr>
<td></td>
<td>• Reflex marks must be on the back side of the material (liner).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Label sensor for reflex marks on the top side on request.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Specification is valid for black marks.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Recognition of colored marks may fail. Preliminary tests are needed.</td>
<td></td>
</tr>
</tbody>
</table>

Table 10 Reflex mark dimensions
8.4 Cut-out Mark Dimensions

Labels with cut-out marks

Endless material with cut-out marks

for marginal cut-out marks

minimum liner thickness 0.06 mm

Fig. 23 Cut-out mark dimensions

<table>
<thead>
<tr>
<th>Dim.</th>
<th>Designation</th>
<th>Dim. in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Label distance</td>
<td>&gt; 2</td>
</tr>
<tr>
<td>N</td>
<td>Width of cut-out mark for marginal cut-out</td>
<td>&gt; 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 8</td>
</tr>
<tr>
<td>P</td>
<td>Height of cut-out mark</td>
<td>2 - 10</td>
</tr>
<tr>
<td>X</td>
<td>Distance mark - material edge</td>
<td>5 - 26</td>
</tr>
<tr>
<td></td>
<td>for A2+</td>
<td>5 - 53</td>
</tr>
<tr>
<td></td>
<td>for A4+, A4.3+, A6+, A8+</td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>Sensor recognized virtual label front edge with gap sensor recognition</td>
<td>Rear edge cut-out</td>
</tr>
<tr>
<td>Z</td>
<td>Distance recognized front edge - actual label front edge</td>
<td>0 up to A-P</td>
</tr>
<tr>
<td></td>
<td>▶ Adjust software settings</td>
<td></td>
</tr>
</tbody>
</table>

Table 11 Cut-out mark dimensions

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

Fig. 24 Samples for cut-out marks

Not recommended! Not recommended!
9.1 EC Declaration of Conformity

We declare herewith that as a result of the manner in which the device designated below was designed, the type of construction and the devices which, as a result have been brought on to the general market comply 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:**
Transfer Printer / Thermal-direct Printer

**Type:**
A2+ / A4+ / A4.3+ / A6+ / A8+

**Applied EC Regulations and Norms:**

- Directive 2006/95/EC relating to electrical equipment designed for use within certain voltage limits
  - EN 60950-1:2006
  - EN 61558-1:2005

- Directive 2004/108/EC relating to electromagnetic compatibility
  - EN 55022:2006
  - EN 61000-3-2:2006

**Signed for, and on behalf of the Manufacturer:**

Sömmerda, 15.09.09

Erwin Fascher
Managing Director

9.2 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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