Original Instructions

Labelling System

AXON 1

MADE IN GERMANY

for the following products

Type	
Labeling system	AXON 1.1/300
	AXON 1.1/600
	AXON 1.2/300
	AXON 1.2/600

Edition: 01/2026 - **Part No.** 9003675

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Further documentation

Configuration Manual cab Printers

▷ https://www.cab.de/media/pushfile.cfm?file=3257

Programming Manual cab Printers

▷ https://www.cab.de/media/pushfile.cfm?file=3047

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1 Introduction

1.1 Instructions

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

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

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

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

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

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

Note!
Advice on how to make work easier or an important step to be carried out.

Environment!
Gives you tips on protecting the environment.

▶ Handling instruction

▷ Reference to section, position, illustration number or document.

∗ Option (accessories, peripheral equipment, special fittings).

Time Information in the display.

1.2 Intended Use

- The device is intended exclusively for printing suitable labels and applying the labels onto tubes. 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.
- The device is manufactured in accordance with the current technological standards 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 that manual.
- Usage for the intended purpose also includes complying with that manual.

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.
- 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.
- 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 less than 70 dB(A).

Danger!

Danger to life and limb from power supply.

▶ **Do not open the device casing.**

Warning!

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

1.4 Environment

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

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

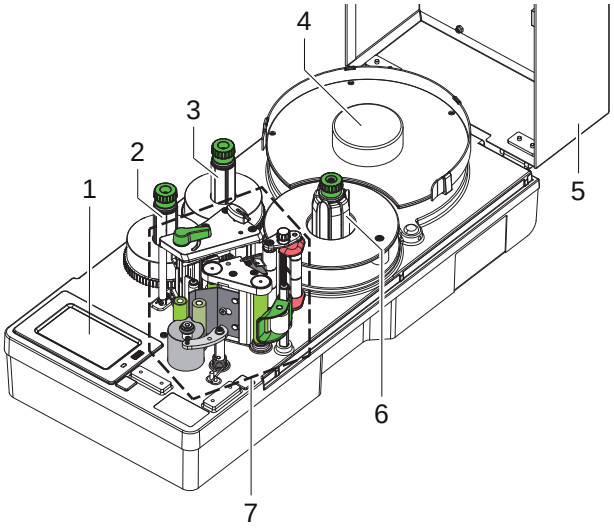
The modular construction of the device enables it to be easily disassembled into its component parts.

▶ Send the parts for recycling.

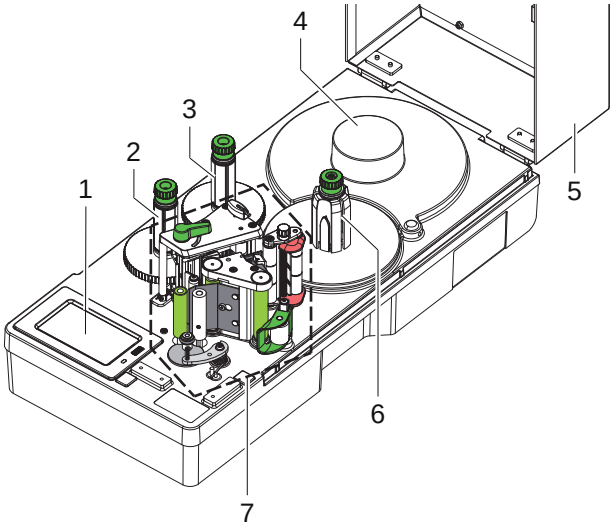
The electronic circuit board of the device is equipped with a lithium battery.

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

2.1 Device Overview



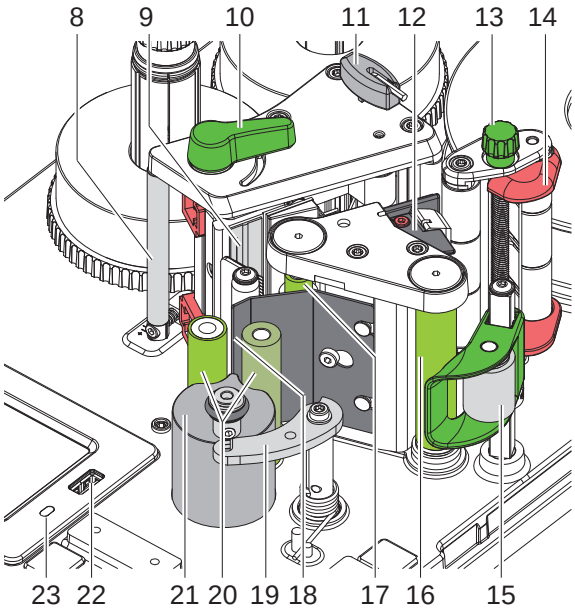
AXON 1.1



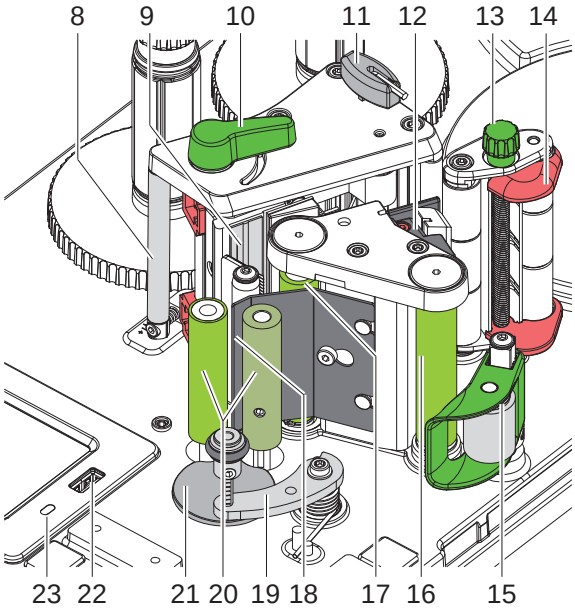
AXON 1.2

1 Touchscreen display
2 Ribbon take-up hub
3 Ribbon supply hub
4 Roll retainer
5 Cover (Option)
6 Internal rewinder
7 Print unit

Figure 1 Overview



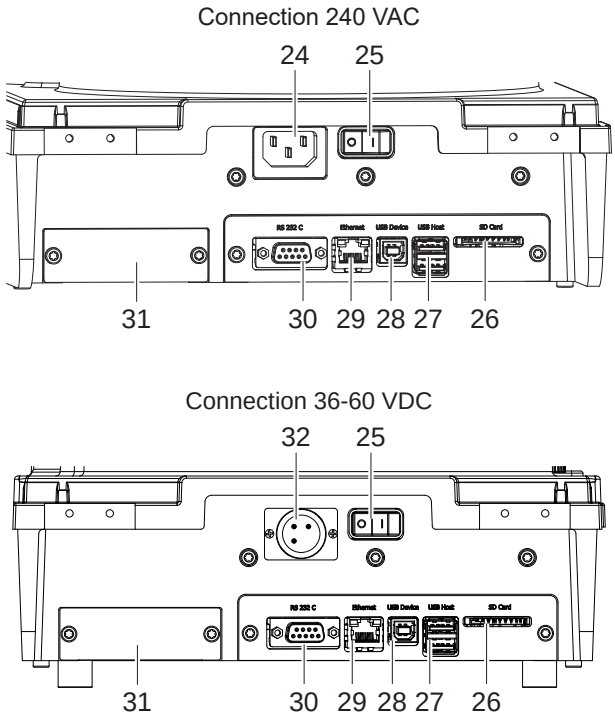
AXON 1.1



AXON 1.2

8 Ribbon deflection
9 Printhead retainer with printhead
10 Printhead locking lever
11 Allen key
12 Label sensor
13 Guide adjusting knob
14 Guide
15 Locking lever with pinch roller
16 Rewind assist roller
17 Print roller
18 Dispense plate
19 Lever with pressure roller
20 Transport roller
21 Supporting plate
22 USB host interface for USB memory stick or service key
23 LED "Power on"

Figure 2 Print unit



24 Power connection jack
25 Power switch
26 Slot for SD card
27 2 USB host interfaces for keyboard, scanner, USB memory stick, Bluetooth adapter or service key
28 USB Hi-speed device interface
29 Ethernet 10/100 Base-T
30 Serial RS-232 port
31 Slot for I/O interface (Option) or 2 Port Ethernet Switch (Option)
32 Connector 36-60 VDC male

Figure 3 Connections

2.2 Unpacking and Setting-up

Note!
Please keep the original packaging.

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

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

Contents of delivery:

- Labelling system
- Power cable
- USB interface cable
- Instructions

▶ Set up the labelling system on a level surface.

2.3 Connecting the Device

2.3.1 Connecting to the Power Supply

- ▶ Check that the device is switched off.
- ▶ Plug the power cable into the power connection socket (24).
- ▶ Plug the power cable into a grounded socket.

2.3.2 Connect DC-DC Converter 36-60 VDC (Option)

- ▶ Check that the device is switched off.
- ▶ Connect a suitable cable with XLR3 socket female at the connector (32).
  Pin 1: -
  Pin 2: GND
  Pin 3: 36 - 60 V
- ▶ Connect the cable to a DC power supply.

2.3.3 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 device are grounded.

- ▶ Connect the device to a computer or network by a suitable cable.

For details of the configuration of the individual interfaces ▷ Configuration Manual cab printers

2.4 Switching on the Device

When all connections have been made:

- ▶ Switch the device on at the power switch (25).
  The device performs a system test, and then shows the system status *Ready* in the display (1).

3 Touchscreen Display

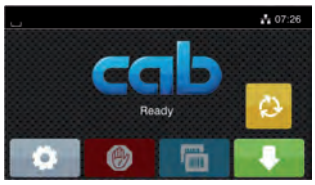
The user can control the operation of the device with the touchscreen display, for example:

- 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 cab printers,
- Control stand-alone operation with a memory module ▷ Configuration Manual cab printers,
- Update the firmware ▷ Configuration Manual cab printers.
- Many functions and settings can also be controlled by software applications or by direct programming with a computer using the printer's own commands. For details ▷ Programming Manual cab printers.

Settings made on the touchscreen display make the basic settings of the device.

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

3.1 Start Screen



After switching on

During printing

After print job

Figure 4 Start screen

The touchscreen display is operated directly by touch:

- To open a menu or select a menu item lightly touch the corresponding symbol.
- To scroll in lists slide finger up or down on the display.

	Open the menu		Repeat the last printed label
	Interrupt the print job		Short touch: Cancel the current print job Long touch: Cancel all print jobs
	Continue the print job		Feed a blank label
	Starting a labelling cycle or a pre-defined step within a labelling cycle		

Table 1 Symbols on the start screen

Note!
Inactive symbols are shaded.

In the headline several information are displayed as widgets depending on the configuration:

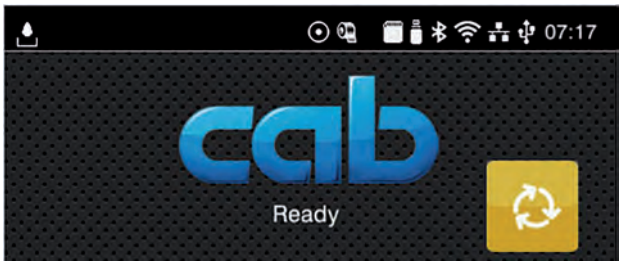


Figure 5 Widgets in the start screen

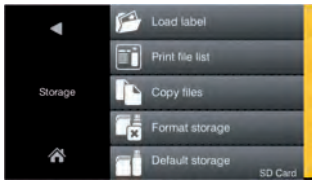
	Displays the current data transfer in the form of a falling drop.
	The *Save data stream* function is active ▷ Configuration Manual cab printers All received data are stored in a .lbl file.
	Warning ribbon end ▷ Configuration Manual cab printers The remaining diameter of the ribbon supply roll undershoots the set value.
	SD card installed
	USB memory installed
	gray: Bluetooth adapter installed, white: Bluetooth connection active
	WiFi connection active The WiFi strength is displayed by the number of white arcs.
	Ethernet connection active
	USB connection active
	abc program active
	Clock time

Table 2 Widgets in the start screen

3.2 Navigation in the Menu

Start level

Selection level



Parameter/function level

Figure 6 Menu levels

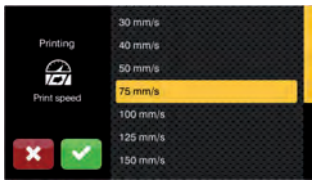
▶ To open the menu select on the start screen.

▶ Select a theme in the selection level.
Several themes have substructures again with selection levels.
To return from the current level to the upper one select . To leave the menu select .

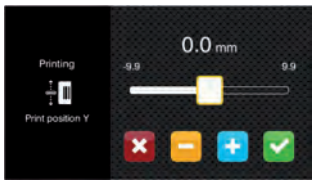
▶ Continue the selection until the parameter/function level is reached.

▶ Start a function. The function may only start after a preparatory dialog.
- or -
Select a parameter to set. The setup possibilities are depending from the parameter type.

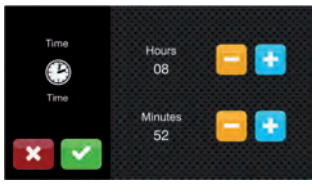
Logical parameters



Selection parameters



Numerical parameters



Date/time

Figure 7 Samples for parameter setting

	Scroll bar for rough value setting
	Decreasing the value step-by-step
	Increasing the value step-by-step
	Return without saving the setting
	Return with saving the setting
	Parameter is disabled, touching enables the parameter
	Parameter is enabled, touching disables the parameter

Table 3 Buttons for parameter setting

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

4.1 Loading Labels

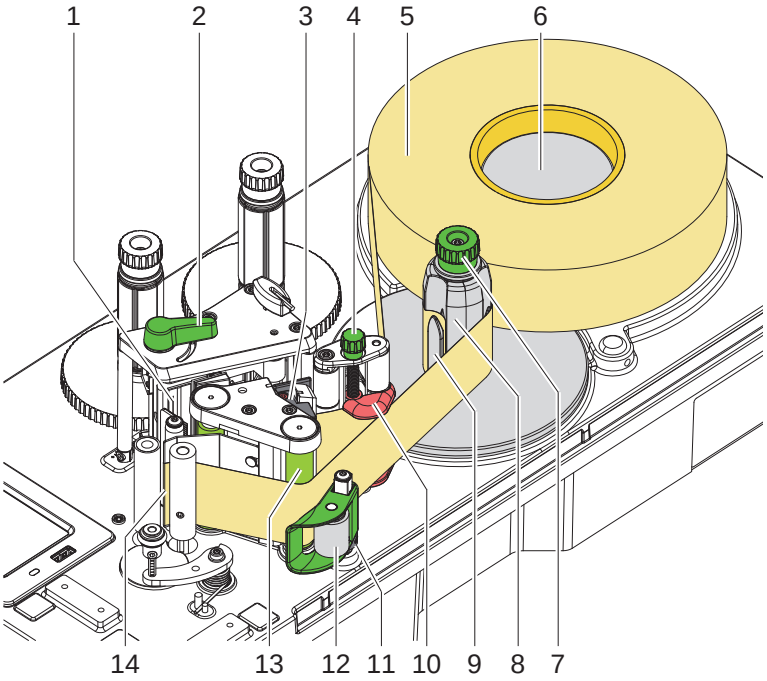


Figure 8 Loading media

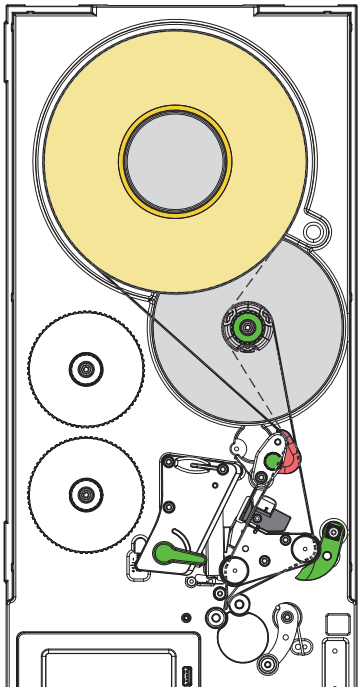


Figure 9 Label feed path

1. Put the label roll (5) onto the roll retainer (6).
2. Unroll a label strip of approx. 60 cm.
3. Turn lever (2) counterclockwise to lift the printhead (1).
4. Unlock the pinch roller (12) from the rewind assist roller (13).
5. Remove the labels from the 30 cm of the label strip.
6. Guide the label strip as shown in Figure 9 trough the label sensor (3), around the dispense plate (14) and the rewind assist roller (13) to the rewinder (8).
7. Adjust the guide (10) with the knob (4) in such a way that the label strip will be guided without clamping.
8. Hold rewinder (8) firmly and turn knob (7) clockwise until it stops.
9. Push label strip under a bracket (9) of the rewinder (8) and align the outer edge of the label strip to the label roll.
10. Turn knob (7) counterclockwise until it stops.
    The rewinder is fully spread, thus gripping the label strip firmly.
11. Turn rewinder (8) counterclockwise to tighten the label strip.
12. Align the locking system (12) to the middle of the liner.
13. Position the adjusting ring (11) directly below the locking system (12) and tighten it with the set screw.
14. Swing the pinch roller (12) to the rewind assist roller (13).
15. Turn lever (2) clockwise to lock the printhead.

4.2 Removing the Wound Roll

- ▶ Cut the label strip.
- ▶ Hold rewinder (8) firmly and turn knob (7) clockwise.
  The rewinder spindle relaxes and the wound roll is released.
- ▶ Remove wound roll from rewinder (8).

4.3 Loading Transfer Ribbon

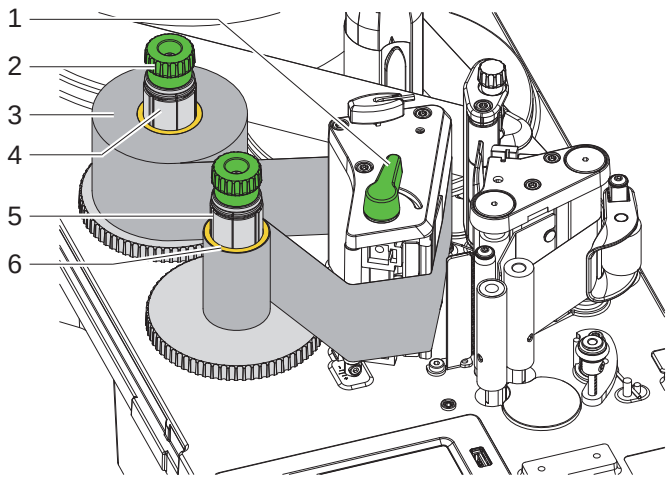


Figure 10 Loading transfer ribbon

1. Clean printhead before loading the transfer ribbon (▷ 7.3 on page 21).
2. Turn lever (1) counterclockwise to lift the printhead.
3. Slide transfer ribbon roll (3) onto the ribbon supply hub (4)
4. Hold ribbon supply hub (4) firmly and turn knob (2) counterclockwise until the transfer ribbon roll is secured.
5. Slide suitable transfer ribbon core (6) onto the transfer ribbon take-up hub (5) and secure it in the same way.
6. Guide transfer ribbon through the print unit as shown in Figure 11.
7. Secure starting end of transfer ribbon to the transfer ribbon core (6) with adhesive tape. Ensure counterclockwise rotation direction of the transfer ribbon take-up hub here.
8. Turn transfer ribbon take-up hub (5) counterclockwise to smooth out the feed path of the transfer ribbon.
9. Turn lever (1) clockwise to lock the printhead.

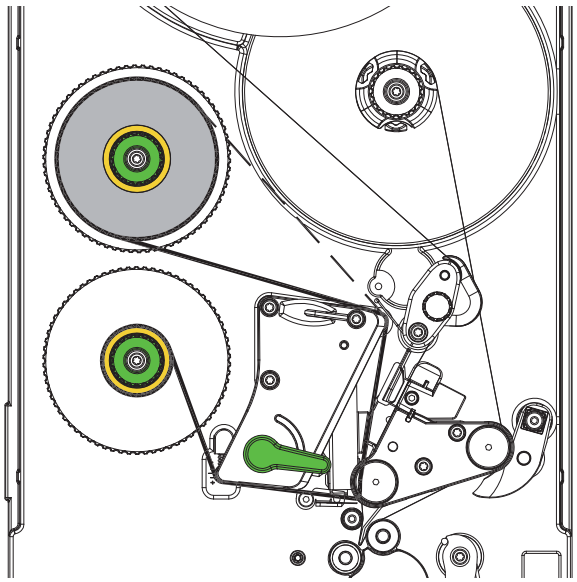


Figure 11 Transfer ribbon feed path

4.4 Setting the Feed Path of the Transfer Ribbon

Transfer ribbon wrinkling can lead to print image errors. The transfer ribbon deflection (3) can be adjusted so as to prevent wrinkles.

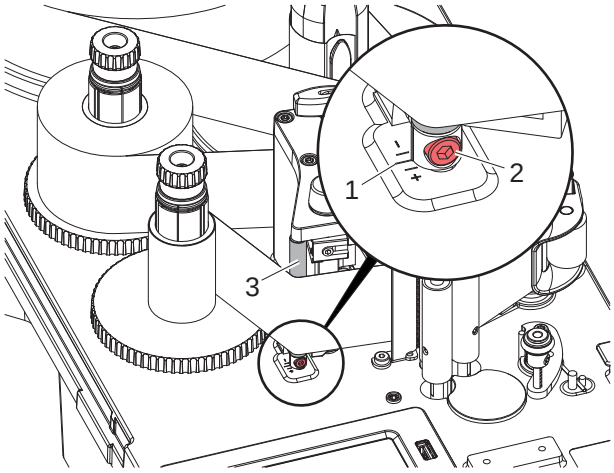


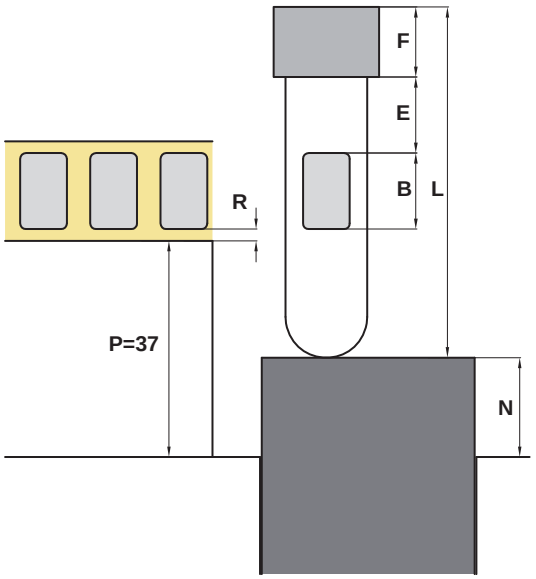
Figure 12 Setting the feed path of the transfer ribbon

Note!
The adjustment is best carried out during printing.

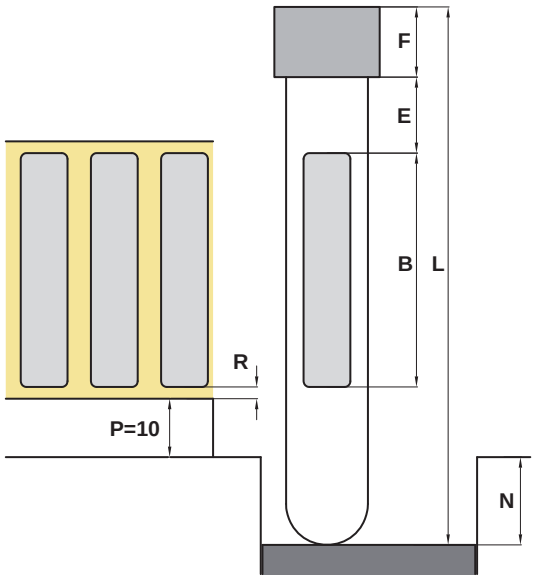
- ▶ Read current setting on the scale (1) and record if necessary.
- ▶ Turn screw (2) with Allen key and observe the behavior of the ribbon.
  In the + direction, the inner edge of the ribbon is tightened, and the outer edge is tightened in the - direction.

5.1 Adjusting the Supporting Plate

The supporting plate (2) can be set vertically to adjust the position of the label on the tube and therefore to adjust the measure E.



AXON 1.1



AXON 1.2

L	Tube length
F	Length of tread or cap
E	Distance label - upper edge labeling area
R	Distance label - liner edge
P	Distance paper guiding edge - chassis
N	Distance chassis - supporting plate Supporting plate over chassis - N > 0 Supporting plate under chassis - N < 0

The following correlation can be deduced from the figure:

$$L + \mathbf{N} = F + \mathbf{E} + B + R + P$$

The measure for the positioning of the supporting plate results in:

$$\mathbf{N} = (F + B + R + P - L) + \mathbf{E}$$

Figure 13 Measures for supporting plate positioning

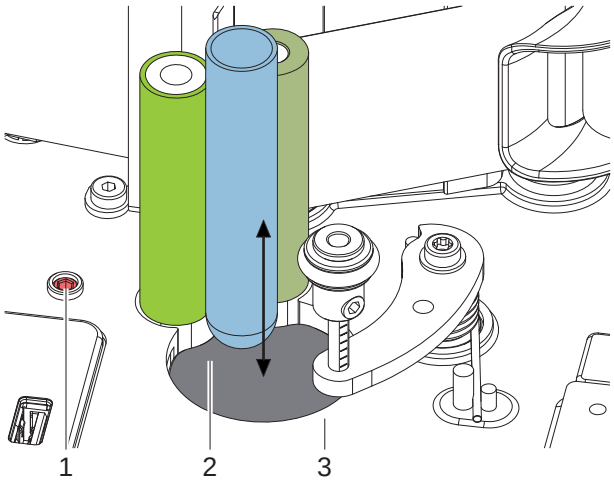


Figure 14 Setting the supporting plate

▶ Set the supporting plate (2) by turning the spindle (1) to the measure **N**.

5.2 Adjusting the Transport Rollers

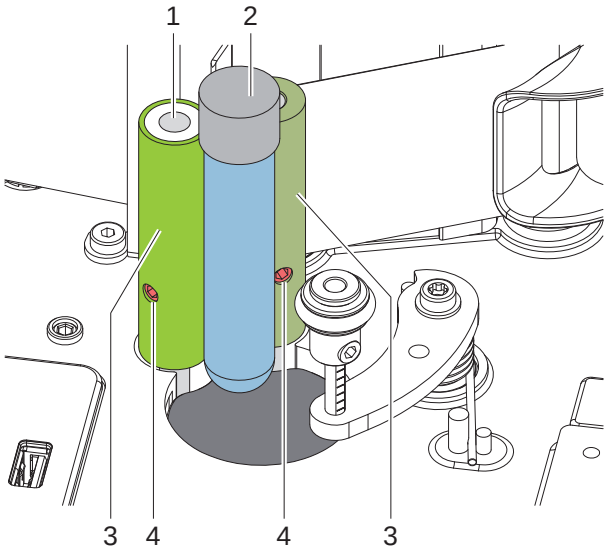


Figure 15 Adjusting the transport rollers

The transport rollers (3) can be shifted on the axles (1).

▶ Loosen the screws (4).

▶ Set the transport rollers in such a way that

- the tubes to be labeled are guided over the longest possible length and
- the top edges of the transports rollers are below the thread or cap (2) of the tube respectively the area over the transport rollers is long enough to insert and remove the tubes.

▶ Tighten the screws (4).

5.3 Adjusting the Pressure Roller

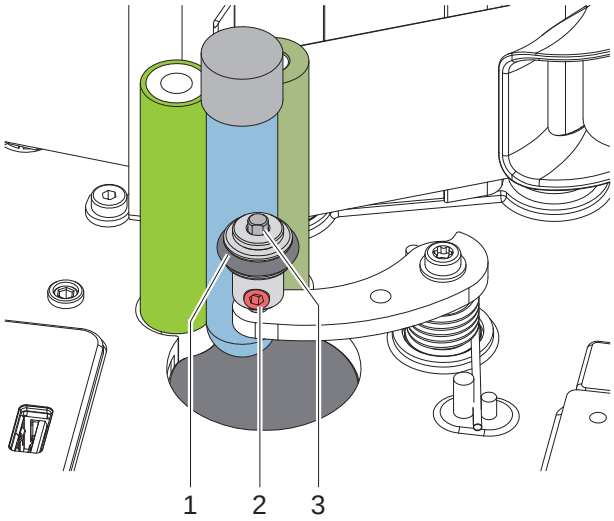


Figure 16 Adjusting the pressure roller

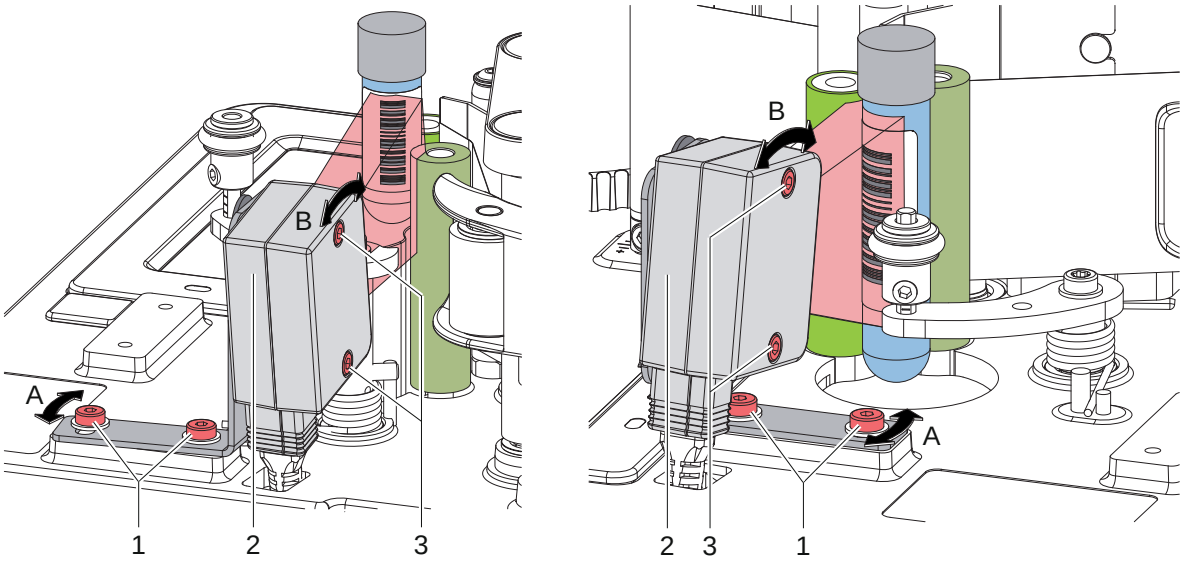
The pressure roller (1) can be shifted on the axle (3).

▶ Loosen the screw (2).

▶ Set the pressure roller in such a way, that the roller can grasp the tube in the middle.

▶ Tighten the screw (2).

5.4 Adjusting the Scanner



AXON 1.1 AXON 1.2

Figure 17 Adjusting the scanner

The optional barcode scanner must be aligned in such a way that the barcode to be scanned can be covered completely by the scan area:

Displaying the scan area

- ▶ Turn the tube after labeling with the barcode to the scanner direction.
- ▶ Start menu.
- ▶ Select *Setup* > *Verifying* > *Code checker*.
- ▶ Start function *Live image*.
  The scan area will be shown on the display.

Horizontal adjustment

- ▶ Loosen the screws (1).
- ▶ Adjust the scanner (2) in direction A.
- ▶ Tighten the screws (1).

Vertical adjustment

- ▶ Loosen the screws (3).
- ▶ Adjust the scanner (2) in direction B.
- ▶ Tighten the screws (3).

Note!
More information about the scanner ▷ Assembly Instructions CC200-SQ.

5.5 Menu Settings

Note!
In that chapter are described the specific applicator parameters of the menu *Labelling* only.
For more information about the configuration ▷ Configuration Manual cab printers**.**

- ▶ Start menu.
- ▶ Select *Setup* > *Labelling.*

Parameter	Meaning	Default
Device info	Applicator information: Software revision, hardware revision, diameter of the last product, number of label applications, error notes, number of rotations	
Teach-in product	Function to teach the applicator to the tube diameter. The result is transferred to the *Tube diameter* parameter.	
Calibrate device	Calibration of the swing arm movement.	
Peel-off position	Shift the position of the dispensed label relative to the dispensing edge. The setting can also be adjusted by the software. The settings of configuration and software are added together.	*0.0 mm*
Tube diameter	Manual setting of the tube diameter	*7,0 mm*
Opening width	Setting the distance between the transport rollers and pressure rollers for tube input	*1,0 mm*
Tube rotations	Number of tube rotations within the labelling cycle	*2,0*
Check diameter	Checking the tube diameter before labelling	*On*
Tube locking	Mode of tube locking before labeling *START signal:* A START signal must be sent to lock the tube *Automatic:* Locking occurs automatically	*Automatic*
Tube unlocking	Mode of tube unlocking after labelling *START signal:* A START signal must be sent to unlock the tube *Automatic:* Unlocking occurs automatically	*Automatic*
Check tube removal	Checking the tube removal after labelling ∗ only for *Tube unlocking = START signal*	*On*

Table 4 Parameters of the *Setup* > *Labelling* menu

Teach-in product

- ▶ Select *Teach-in product*.
  The display shows *Step 1/2 Remove tube*.
- ▶ Remove the tube from the applicator and select *Continue*.
  After a short applicator movement the display shows *Step 2/2 Insert tube*.
- ▶ Insert a tube and select *Continue*.
  After a next applicator movement the display shows *Product successfully taught-in*.
  If the result is out of the specification an error message will appear.
- ▶ Select *Continue*.

Calibrate device

- ▶ Select *Calibrate device*.
  The display shows *Step 1/1 Remove tube*.
- ▶ Remove the tube from the applicator and select *Continue*.
  After an applicator movement the display shows *Device successfully calibrated*.
  If the result is out of the specification an error message will appear.
- ▶ Select *Continue*.

Attention!
Printhead damage caused by improper handling!

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

The device is ready for operation when

- all connections have been made,
- labels and, if applicable, the transfer ribbon have been loaded,
- the system has been adapted to the tube dimensions.

6.1 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 device. 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.

- ▶ Select to start the synchronization.
- ▶ Remove the blank labels peeled-off or cut during the synchronization.

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

6.2 Standard Operation

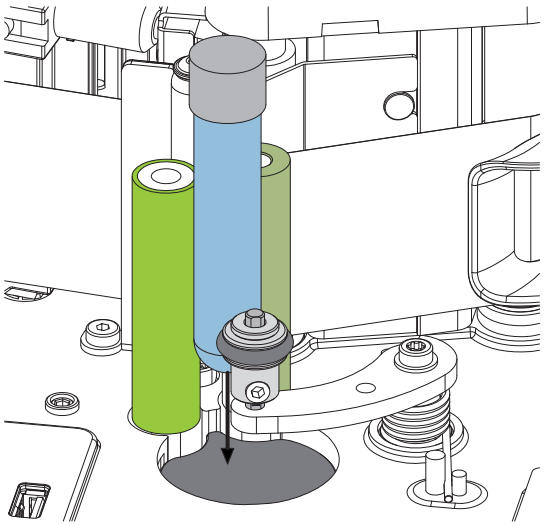
Warning!
Risk of injury by rotating parts!
During operation, rotating parts are freely accessible.
Ensure that people‘s clothing, hair, jewelry etc. do not come into contact with the exposed rotating parts.

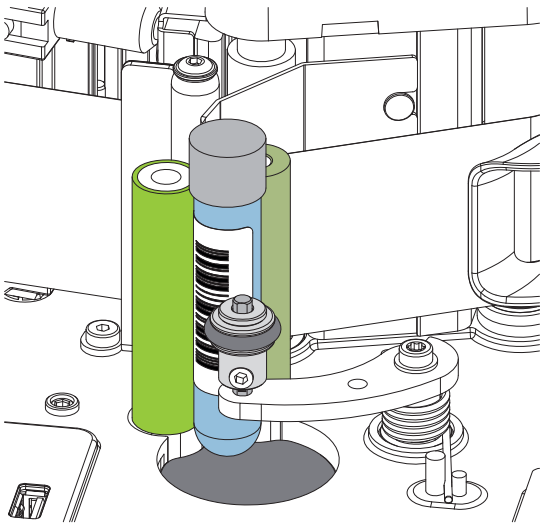
Attention!
Peel-off mode must be activated in the software.
This is done with the "P command" in the direct programming. ▷ Programming Manual cab printers

Note!
The labelling process can be modified by setting the following parameters ▷ page 18**:**

- *Setup > Labelling > Tube locking*
- *Setup > Labelling > Tube unlocking*
- *Setup > Labelling > Check tube removal*

Attention!
The following steps can be released by selecting ⟲ **or sending the IO signal START.**
Within one cycle only that release method will be accepted which was used for the first step.





- ▶ Send a print job.
- ▶ Insert the first tube.
- ▶ Press ⟲.
  The tube will be pressed against the transport rollers.
- ▶ Press ⟲.
  The first label will be printed and applied onto the turning tube.
- ▶ Press ⟲.
  The pressure roller will be unlocked
- ▶ Remove the tube.
- ▶ Press ⟲.
  The tube removal will be checked.
- ▶ Insert the next tube.
- ▶ Press ⟲ again to start next cycle.

7 Cleaning

7.1 Cleaning Information

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

The labelling system 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 labelling system 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 labelling system 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 labelling system.
- ▶ 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: every ribbon roll change

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

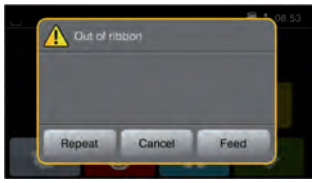
Attention!
Printhead can be damaged!
Do not use sharp or hard objects to clean the printhead.
Do not touch protective glass layer of the printhead.

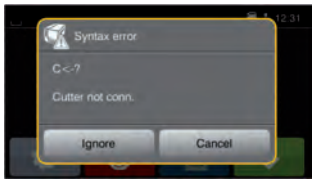
Attention!
Risk of injury from the hot printhead line.
Ensure that the printhead has cooled down before starting cleaning.

- ▶ Lift the printhead.
- ▶ Remove labels and transfer ribbon from the labelling system.
- ▶ Clean printhead surface with special cleaning pen or a cotton swab dipped in pure alcohol.
- ▶ Allow printhead to dry for 2–3 minutes before resuming printing.

8.1 Error Display

The appearance of an error will be shown on the display:





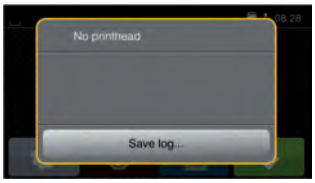


Figure 18 Error display

The error correction depends on the error type ▷ 8.2 on page 22.

The display offers the following possibilities to continue after an error occurred:

Repeat	The print job will be continued after clearing the error cause.
Cancel	The print job will be cancelled.
Feed	The paper feed will be synchronized. Then the print job can be continued.
Ignore	The error message will be ignored. The print job will be continued, possibly with limited performance.
Save log	The error does not allow print operation. For detailed analysis several system files can be saved on an external memory.

Table 5 Buttons in the error display

8.2 Error Messages and Fault Correction

Error message	Cause	Remedy
Barcode error	Invalid barcode content, e.g. alphanumeric 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.
Buffer overflow	The input buffer memory is full and the computer is still transmitting data.	Use data transmission via protocol (preferably RTS/CTS).
Device not conn.	Programming addresses a non-existent device	Either connect this device or correct the programming.
Device not locked	The tube applicator is not in operating position	Fold up the applicator.
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.
Initialization failed	Hardware error tube applicator	Switch off and on the system. 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 label found	There are labels missing on the label material	Press *Repeat* repeatedly until device 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.
No label size	The size of the label is not defined in the programming.	Check programming.
No tube detected	No tube in the labelling area	Insert tube.
Out of paper	Out of label roll	Load labels.
	Error in the paper feed	Check paper feed.

Error message	Cause	Remedy
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 21 Load transfer ribbon. Restart print job.
Pinch roller open	Pinch roller at the rewind guide roller is not locked in peel-off mode	Swing the pinch roller against the rewind assist roller.
Printhead open	Printhead not locked	Lock printhead.
Printhead 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.
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 device is set to direct thermal printing	For direct thermal printing remove ribbon.
		For thermal transfer printing set the device in the configuration or in the software to transfer printing.
Ribbon ink side	Identified ribbon unwinding direction does not match to the setup setting	Ribbon loaded incorrectly. Clean the printhead ▷ 7.3 on page 21 Load the ribbon correctly.
		Setting does not match to the used ribbon. Correct the setting.
Syntax error	Labelling system has received an unknown or invalid command from the computer.	Press *Ignore* to skip the command or press *Cancel* to cancel the print job.
Tube not ejected	Tube is still in the labelling zone during removal check.	Remove the tube by hand.
Unknown card	Card not formatted, Type of card not supported	Format card, use different type of card.
Voltage error	Hardware error	Switch the labelling system 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.
Wrong tube diameter	The tube applicator has detected a tube with wrong diameter.	Insert a suitable tube.

Table 6 Error Messages and Fault Correction

8.3 Printer Status query

ESCs_Code	Errormessage on LCD
a	No tube detected
b	Wrong tube diameter.
b	Tube too small.
b	Tube too big.
c	Tube not ejected.
c	Tube not removed.
d	Lever not snapped in.
d	Lever blocked.
i	Device not locked
l	Tube detected during initialization or not calibrated.
q	Label orientation failed.
q	Label sensor blocked.

ESCs_Code	Errormessage on LCD
A	Initialization failed.
A	Unknown command received.
A	Applicator model is not set.
A	Magnet to weak or missing.
A	Magnet to Strong.
A	Calibration failed.
A	Initialization of Magazin failed.

Table 7 Error Messages ESCs Code

8.4 Problem Solution

Problem	Cause	Remedy
Transfer ribbon creases	Transfer ribbon deflection not adjusted	Adjust the transfer ribbon deflection. ▷ 4.4 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 21
	Temperature too high	Decrease temperature via software.
	Unsuitable combination of labels and transfer ribbon	Use different type of ribbon.
Device does not stop after transfer ribbon runs out	Thermal printing is chosen in the software	Change to thermal transfer printing.
Device prints a sequence of characters instead of the label format	Device is in monitor mode	Cancel the monitor mode.
Device 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.
Device 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 21
	Printhead is defective (failure of heat elements)	Change the printhead. ▷ Service
Horizontal white lines in the print image	Device is used with the *backfeed* > *smart* in the cut or peel-off mode	Set the *backfeed* > *always* in the setup. ▷ Configuration Manual cab printers
Print image is irregular, one side is lighter	Printhead is dirty	Clean the printhead ▷ 7.3 on page 21

Table 8 Problem solution

9 Technical Data

● typical ○ possible ■ standard □ option

Tube labeling system			Type	AXON 1.1		AXON 1.2	
Print head							
Print method	Thermal transfer			●	●	●	●
	Direct thermal			●	–	●	–
Print resolution			dpi	300	600	300	600
Print speed			mm/s	100	100	100	100
Print width			mm max.	25.4	25.4	56.9	54.1
Material							
Tubes / Vials	Orientation at the time of a label be applied			vertical			
	Diameter		mm	7 - 26, 16 - 38 if options are provided			
	Length, closure cap included		mm	20 - 130			
	Conicity (change in diameter)		% max.	0.8			
Labels[1]	Material			Paper, plastics such as PET, PP			
	Width		mm	5 - 25.4		5 - 56	
	Height		mm at least	12			
	Thickness		mm at least	0.05			
	Roll diameter		mm max.	205			
	Core diameter		mm	76			
	Winding			outside			
Liner	Width		mm	16 - 30		24 - 60	
	Thickness[2]		mm	0.045 - 0.05			
Ribbon	Coating			outside or inside			
	Roll diameter		mm max.	80			
	Core diameter		mm	25			
	Length		m max.	600			
	Width		mm	25 - 38.1		25 - 60	
Printer dimensions and weights							
Width x Height x Depth			mm	270 x 195 x 560			
Weight			kg approx.	12			
Label sensors / Position indicators							
Transmissive sensor			to detect	labels or punch marks and materials ending, print marks on transparent materials			
Reflective sensor	bottom or top reflex		to detect	labels and materials ending, print marks on non-transparent materials			
Sensor distance	to the contact edge	left-aligned	mm	8		5 - 12	
	center to the contact edge	centered	mm	-		-	
Interfaces							
RS232-C 1,200 to 230,400 Baud / 8 Bit				■			
USB 2.0 Hi-speed to plug a PC				■			
Ethernet 10/100 Mbit/s				LPD, RawIP printing, SOAP web service, OPC UA, WebDAV DHCP, HTTP / HTTPS, FTP / FTPS, TIME, NTP, Zeroconf, SNMP, SMTP, VNC			
1 USB host on the control panel			to plug a	service key, USB stick			
2 USB hosts on the back of the device			to plug a	keyboard, barcode scanner, USB Bluetooth adapter, USB WLAN stick			
Digital 24 VDC I/O interface				□			
Operational data							
Voltage	100 - 240 VAC, 50 / 60 Hz, PFC			■			
	36 - 60 VDC			□			
Power input				< 10 W in standby / 80 W are typical / max. 200 W			
Temperature / Humidity			In operation	+5 - 40°C / 10 - 85 %, not condensing			
			On stock	0 - 60°C / 20 - 85 %, not condensing			
			In transport	–25 - 60°C / 20 - 85 %, not condensing			
Approvals				CE (In-vitro), FCC Class A, ICES-3, cULus, CB			
				further approvals on request			
Control panel							
LCD color touchscreen	Screen diagonal		"	4.3			
	Resolution - Width x Height		px	272 x 480			

[1] Limitations may apply when using small labels, thin materials or strong adhesive. Critical applications need testing.
[2] Peeling labels off a liner requires liner materials not thicker than the labels.

■ standard ☐ option

Setup options		
	Print Labels Ribbon Label peel-off Apply labels Interfaces Error	Region: - Language - Country - Keyboard - Time zone Time Display: - Brightness - Low-power mode - Orientation Interpreter
Status bar		
	Receive data Record datastream Warning on a ribbon ending SD memory card plugged USB stick plugged	Bluetooth WLAN Ethernet USB slave Time
Technical control		
	Ribbon winding Warning on a ribbon ending Ribbon ending Label roll ending Tube / Vial diameter Tube / Vial available Warning on a label roll ending Cover closed*	Print head voltage Print head temperature Print head open Pinch roller open Peripheral error Code verifier*
		*AXON 1 only
Test routines		
System check	when turning on the device print heads are also detected	
Info display, test printout, analysis	Status printout Fonts list List of devices WLAN status	Test grid Label profile List of events Monitor mode
Status notifications	- Printout of device figures, such as print durations or hours of operation - Device status request by software command - Indication of errors related to a network, barcode or periphery, missing links, etc.	
Fonts		
Internal	5 bitmap fonts: 12 x 12 dots 16 x 16 dots 16 x 32 dots OCR-A OCR-B	7 vector fonts: AR Heiti Medium GB-Mono CG Triumvirate Condensed Bold Garuda HanWangHeiLight Monospace 821 Swiss 721 Swiss 721 Bold
To store	TrueType fonts	
Character sets	Windows-1250 to -1257 DOS 437, 737, 775, 850, 852, 857, 862, 864, 866, 869 EBCDIC 500 ISO 8859-1 to -10 and -13 to -16 WinOEM 720 UTF-8 MacRoman DEC MCS KOI8-R Western European Eastern European Chinese, traditional Chinese, simplified Thai	Cyrillic Greek Latin Hebrew Arabian
Bitmap	Widths and heights 1 - 3 mm Zoom factors 2 - 10 0°, 90°, 180°, 270° orientations	
Vector / TrueType	Widths and heights 0.9 - 128 mm Continuous zoom 360° orientation in steps of 1°	
Font styles	Bold, italic, underlined, outline, inverse - depending on the font type	
Character pitch	Variable or monospace	

Graphics		
Elements	Lines, arrows, rectangles, circles, ellipses - filled and gradient	
Formats	PCX, IMG, BMP, TIF, MAC, GIF, PNG	
Codes		
1D barcodes (linear)	Code 39, Code 93 Code 39 Full ASCII Code 128 A, B, C EAN 8, 13 Interleaved 2/5	
2D and stacked codes	DataMatrix DataMatrix Rectangle Extension QR code Micro QR code UPS MaxiCode Codablock F Request for further codes.	
	Codes be verified by a CC200 verifier requires approval depending on code types, sizes and contents. Check digits, plain text printout and start/stop encoding are options depending on the code type.	
Software		
Label software	cablabel S3 Lite cablabel S3 Viewer cablabel S3 Pro cablabel S3 Print	■ ■ ☐ ☐
Running also with	CODESOFT NiceLabel BarTender	AXON 2 only
Stand-alone operation		■
Windows printer drivers WHQL-certified for	Windows Vista Windows 7 Windows 8 Windows 8.1 Windows 10 Server 2008 Server 2008 R2 Server 2012 Server 2012 R2 Server 2016 Server 2019	■
Mac OS X printer drivers	at least version 10.6	■
Linux printer drivers	at least CUPS 1.2	■
Programming	JScript printer language abc Basic Compiler ZPL II (Datastream be tested in advance)	■ ■ ☐
Integration	SAP Database Connector	■ ■
Administration	Printer control Configuration on the Intranet / Internet Network Manager (in preparation)	■ ■ ■

*available for AXON 1 from September 2021

Free and Open Source software are part of cab products.
For information see **www.cab.de/opensource**

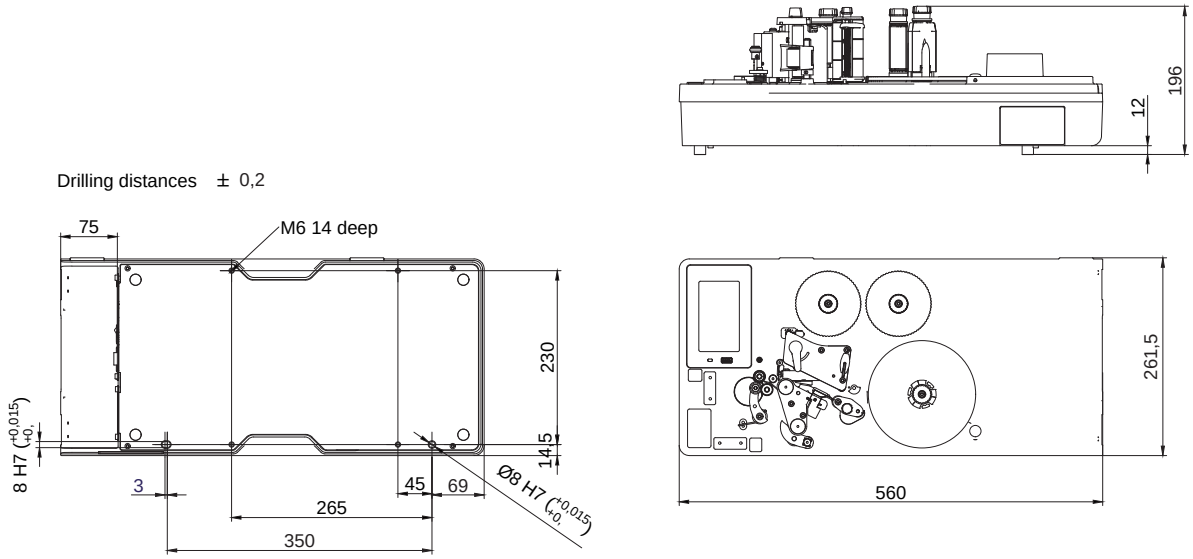


Figure 19 Mounting dimensions

11.1 EU Declaration of Conformity

cab Produkttechnik
GmbH & Co KG
Wilhelm-Schickard-Str. 14
D-76131 Karlsruhe
Germany

EU Declaration of Conformity

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

Gerät	**Labeling System**
Typ	**AXON 1.1; AXON 1.2**
Applied EU Regulations	Applied Standards
Directive 2006/42/EC on machinery	**EN ISO 12100:2010** **EN ISO 13857:2008** **EN 349:1993+A1:2008** **EN ISO 13849-1:2015** **EN 62368-1:2014**
Directive 2014/30/EU relating to electromagnetic compatibility	**EN 55032:2015** **EN 61000-3-2:2014** **EN 61000-3-3:2013** **EN 61000-6-2:2005**
Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment	**EN IEC 63000:2018**
COMMISSION DELEGATED DIRECTIVE (EU) 2015/863 of 31 March 2015 amending Annex II to Directive 2011/65/EU of the European Parliament and of the Council as regards the list of restricted substances	
Person authorised to compile the technical file	**Marcel Michalski** **cab Produkttechnik Sömmerda GmbH** **Am Unterwege 18 - 20** **D-99610 Sömmerda**
Signed for, and on behalf of the Manufacturer **cab Produkttechnik GmbH & Co KG** **Wilhelm-Schickard-Str. 14** **D-76131 Karlsruhe**	Karlsruhe, 24.02.2021 **Klaus Bardutzky** Managing Director

11.2 FCC

NOTE : This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. The equipment generates, uses, and can radiate radio frequency and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user may be required to correct the interference at his own expense.

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