

350-8391

Printer LP 4024
Operating Instructions



Table of contents

Table of contents	1
Identification	1
Copyright	1
Conventions in this manual	2
Safety precautions	2
Introduction	3
Features	3
Dimensions and weight	3
Overview	4
Scope of delivery	5
Spare parts.....	5
Installation	6
Installing the ink ribbon cassette	6
Power supply	7
Installing the paper roll	7
Physical connection to the balance	8
Operation	8
Setting the interface automatically.....	8
Setting the interface manually.....	8
Cleaning and storing the printer	9
Cleaning	9
Storing	10
Troubleshooting	10

Identification

Operating instructions for accessory; 350-8391, Printer LP 4024

350-8391-100a2

June 2019

Subject to technical modifications

www.precisa.com

Copyright

No reproduction in any form of this document, in whole or in part, may be made without written authorization from Precisa Gravimetrics AG.

© Precisa Gravimetrics AG, 8953 Dietikon, Switzerland, 2019

A. MMDCLXXII • A.V.C. ROMANVS EMOINIENSIS FECT

Conventions in this manual

**DANGER**

Warning of a possible danger which can lead to death or serious physical injuries.

**WARNING**

Warning of a possibly dangerous situation which can lead to less severe injuries or damage.

**NOTE**

Tips and important rules on the correct operation of the printer.

- The term "balance" also refers to moisture analyzers.
- Keys are shown in bold type, e.g. "press the Line feed key" is stated as "press **LF**".

Safety precautions

- When the printer is used in environments with increased safety requirements, the relevant precautions must be taken.
- The printer must only be operated with a fault-free power adapter.
- The printer must only be operated with the power adapter supplied.
- If the cable, the power adapter or its cable is damaged, unplug the printer immediately from the electrical outlet and keep it from inadvertent operation.
- Do not operate the printer in an area subject to explosion risks or caustic atmospheres.
- Take care when handling with liquids, that no liquid is split into the inside of the printer, on connections of the device and the power adapter. Should this although happen, unplug the printer immediately from the electrical outlet and keep it from inadvertent operation. The printer may only be operated again after a re-check made by a service technician.
- When using the printer in combination with other appliances made by the original manufacturers as well as with appliances produced by other manufacturers, the current regulations for the safe use of the relevant attachments and their application in accordance with instructions must always be observed.

**DANGER**

If safe operation of the printer is not possible, it must be disconnected from the power supply and secured against unintentional use.

**DANGER**

Before connecting the printer to the mains, be sure that the operating voltage stated on the printer and on the power adapter agrees with the local mains voltage. If it doesn't, the equipment must not be connected to the mains at all!

**DANGER**

Be sure to hold the plug, not the cable, when disconnecting the printer from an electrical outlet!

**NOTE**

If any damage or injury occurs, liability and responsibility rest with the user.

Introduction

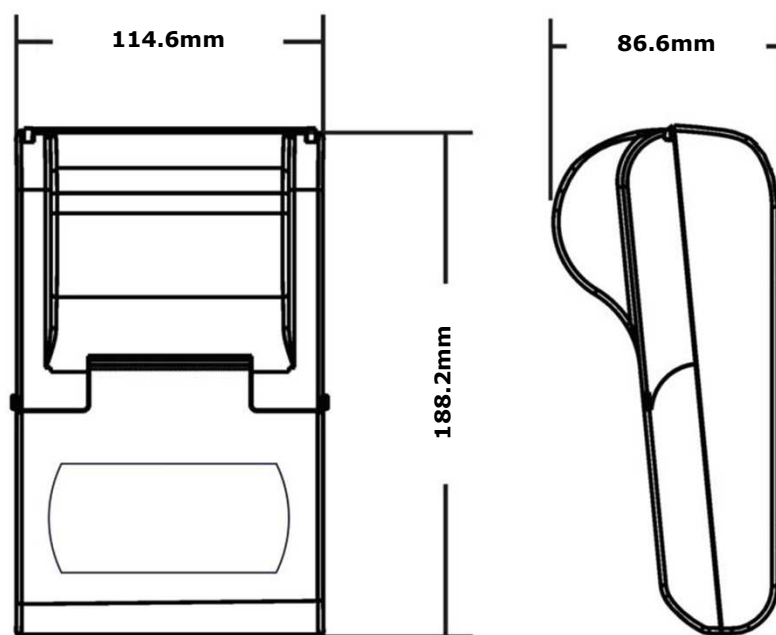
The compact LP 4024 printer is specially designed for Precisa balances and moisture analyzers and meets basic data printing needs.

Features

- 8 pins shuttle impact dot matrix printing, approx. 1.7 lines/sec, reliability (MCBF) 10^6 lines.
- Printout on normal paper, width 57mm, roll diameter 50mm, suitable for long-term storage.
- Two ink ribbon cartridge types, long life and standard.
- RS232 port for data input.
- Input buffer 5120 bytes.
- USB port for connection to PC for printer setting tool.
- Power supply, input 9 .. 25V, polarity protection, overcurrent protection.
- Power adapter, DC 12V/1500mA, polarity $- \ominus +$
- Operation at +5 .. +45°C, 10 .. 80% relative humidity, non condensing.

Dimensions and weight

Printer only

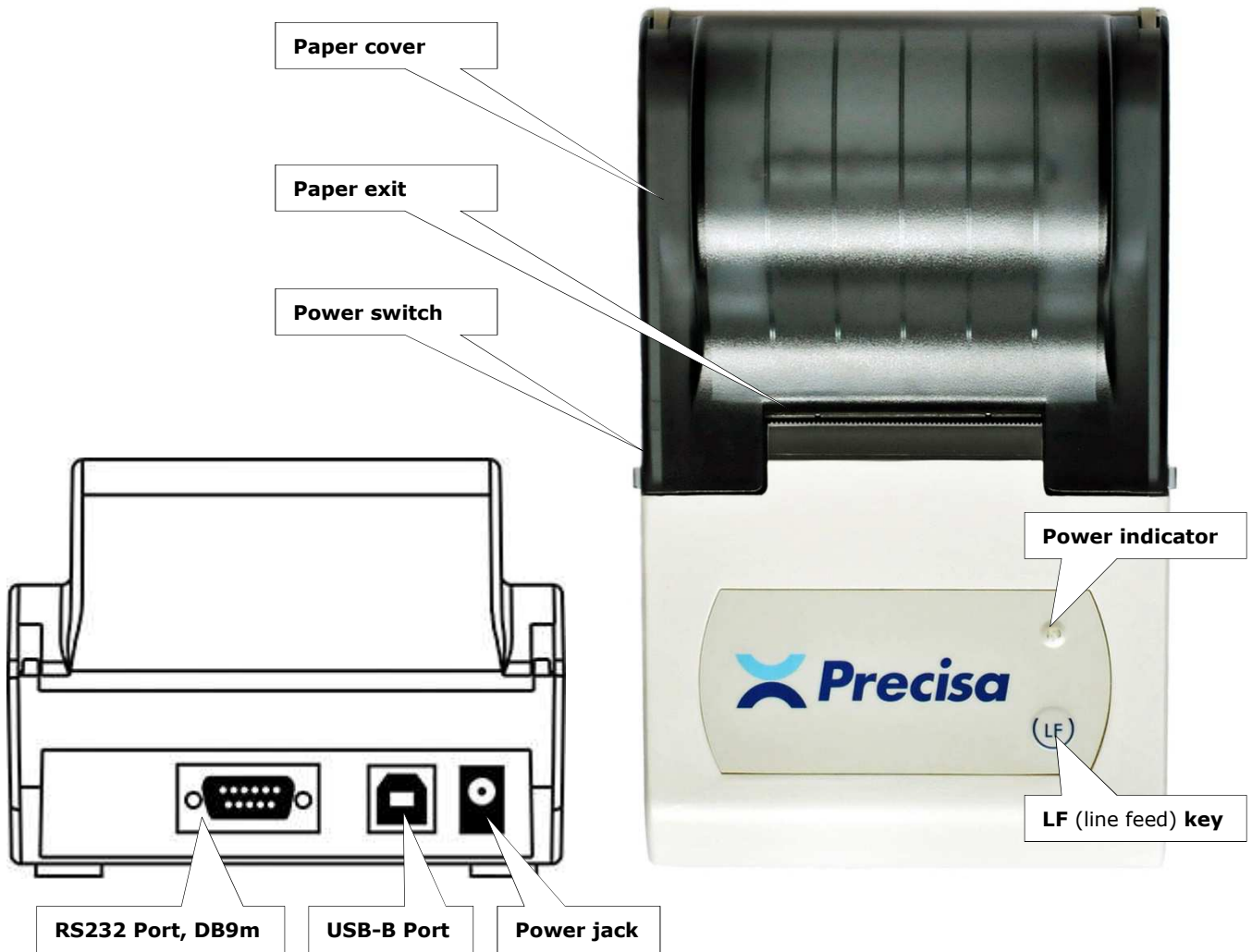


- Weight with ink ribbon and paper roll: 550g

Complete package

- Dimensions: 23.5 x 17 x 18cm (WxHxD)
- Weight: 1525g

Overview



Remarks

Power indicator

- The indicator lights up when the printer is turned on.

Line feed key

- Pressing **LF** feeds one line.
- Holding **LF** feeds continuously until released.
- Holding **LF** and then turning on the printer starts the automatic detection of the balance's interface parameters for setting them to the printer, too. Learn more in chapter "Setting the interface automatically" on page 8.

USB-B Port

- Inactive for measuring results transfer. For setting interface manually only. Learn more in chapter "Setting the interface manually" on page 8.

Scope of delivery



Pos.	Pcs.	Item
1	1	Printer
2	1	Universal power adapter
3	1	Data cable DB9m-DB9f, length 1.5m
4	1	Data cable RJ45-DB9f, length 1.5m
5	2	Ink ribbon cassette (one of them is already installed)
6	2	Paper roll
-	1	Quick start guide (not on the above picture, also available as PDF at www.precisa.com under support)

Spare parts

Pos.	Item number	Item
1	-	Printer: Not available individually
2	350-8394	Universal power adapter, 100-240V/50-60Hz; 12V/1.5A, VI
3	350-8672	Data cable DB9m-DB9f, length 1.5m, (to PC/printer LP 4024)
4	350-8557	Data cable RJ45-DB9f, length 1.5m, (to PC/printer LP 4024)
5	PN 3953-013	Ink ribbon cassette
6	350-8392	Paper roll, set of 4pcs
-	PN 3950-125	USB cable A-B, length 1.5m (for setting interface manually)

Installation

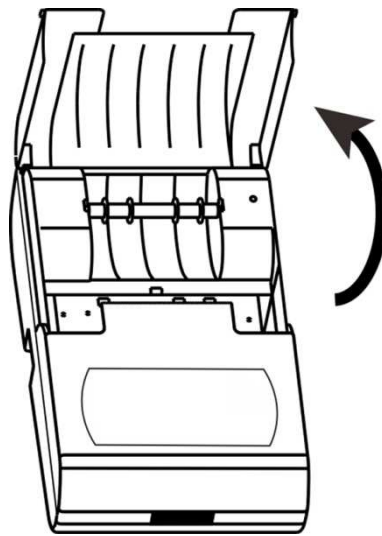
Installing the ink ribbon cassette



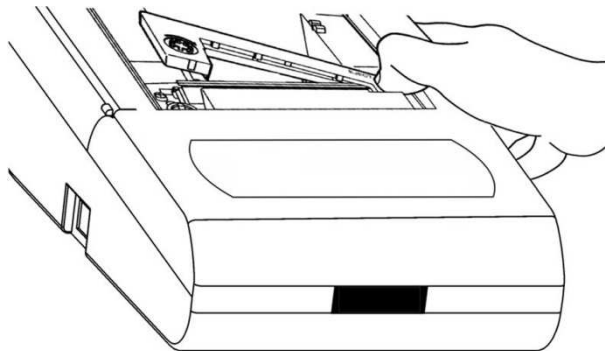
NOTE

To ensure that the ink ribbon comes before the paper, first insert the ribbon.

- Ensure the printer is turned off.
- Lift the paper cover.



- Put the left side of ink ribbon cassette on the gear shaft on the left side of the printer mechanism, and uplift the right side slightly. If the left side of ink ribbon cartridge does not reach the bottom, press the knob of the ink ribbon cassette and rotate it slowly towards the direction indicated by the arrow. Once the left side reaches the bottom, press the right side to make it reach the bottom, too.
- Ensure the cassette is installed correctly. Should the ribbon be bent or outside the cassette, rotate the knob slowly towards the direction indicated by the arrow, until it is completely in the cassette.
- For removing a worn-out ribbon, press the cassette at its right end marked with "Push".



NOTE

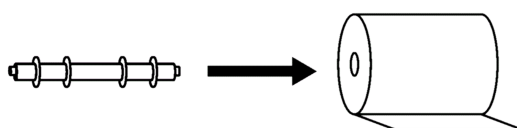
Use only original ink ribbon cassettes for an accurate printout and to avoid paper jams or damage to the printer.

Power supply

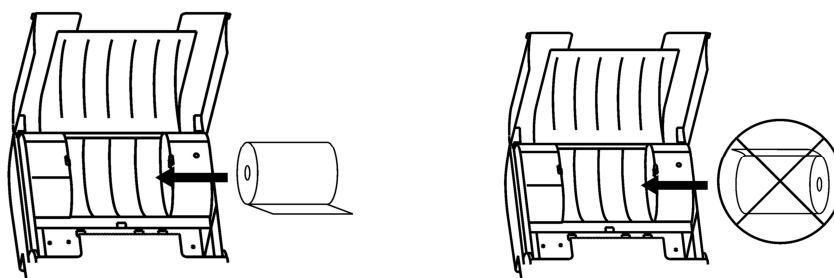
- Ensure the power adapter's converter matches with the local mains plug.
- Ensure the printer's power switch is set to off.
- Insert the power adapter's output plug into the printer's power jack.
- Connect the power adapter to the mains.
- Turn on the printer.

Installing the paper roll

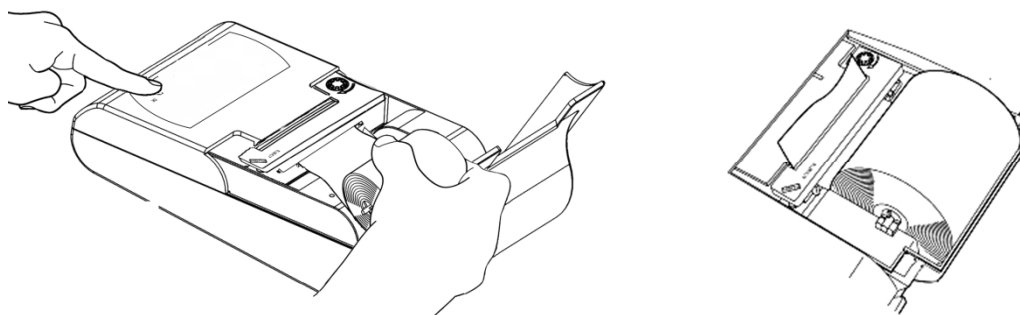
- Ensure the printer is turned on.
- Lift the paper cover.
- Insert the paper shaft into the paper roll:



- Insert the paper roll correctly:



- Keep pressing **LF** while inserting the printer paper's end into the slot of the printing mechanism until it comes out at the ribbon side:



NOTE

Use only original printing paper to avoid paper jams or damage to the printer.

Physical connection to the balance

- Ensure both, balance and printer are turned off and disconnected from the mains.
- Establish a physical connection with the appropriate data cable:
[Balance] DB9f <=> DB9m [350-8672 Data cable] DB9f <=> DB9m [Printer]
[Balance] RJ45 <=> RJ45 [350-8557 Data cable] DB9f <=> DB9m [Printer]
- Connect both, balance and printer to the mains.
- Turn on first the balance, then the printer.

Operation

Setting the interface automatically

For a smooth data transfer, the printer is able to detect the interface settings of the balance and automatically accept them to match.

- Ensure the physical connection between balance and printer is established properly, as described in the previous chapter.
- Turn off the printer, hold **LF**, turn on the printer again and release **LF** as soon as the following message starts being printed out.

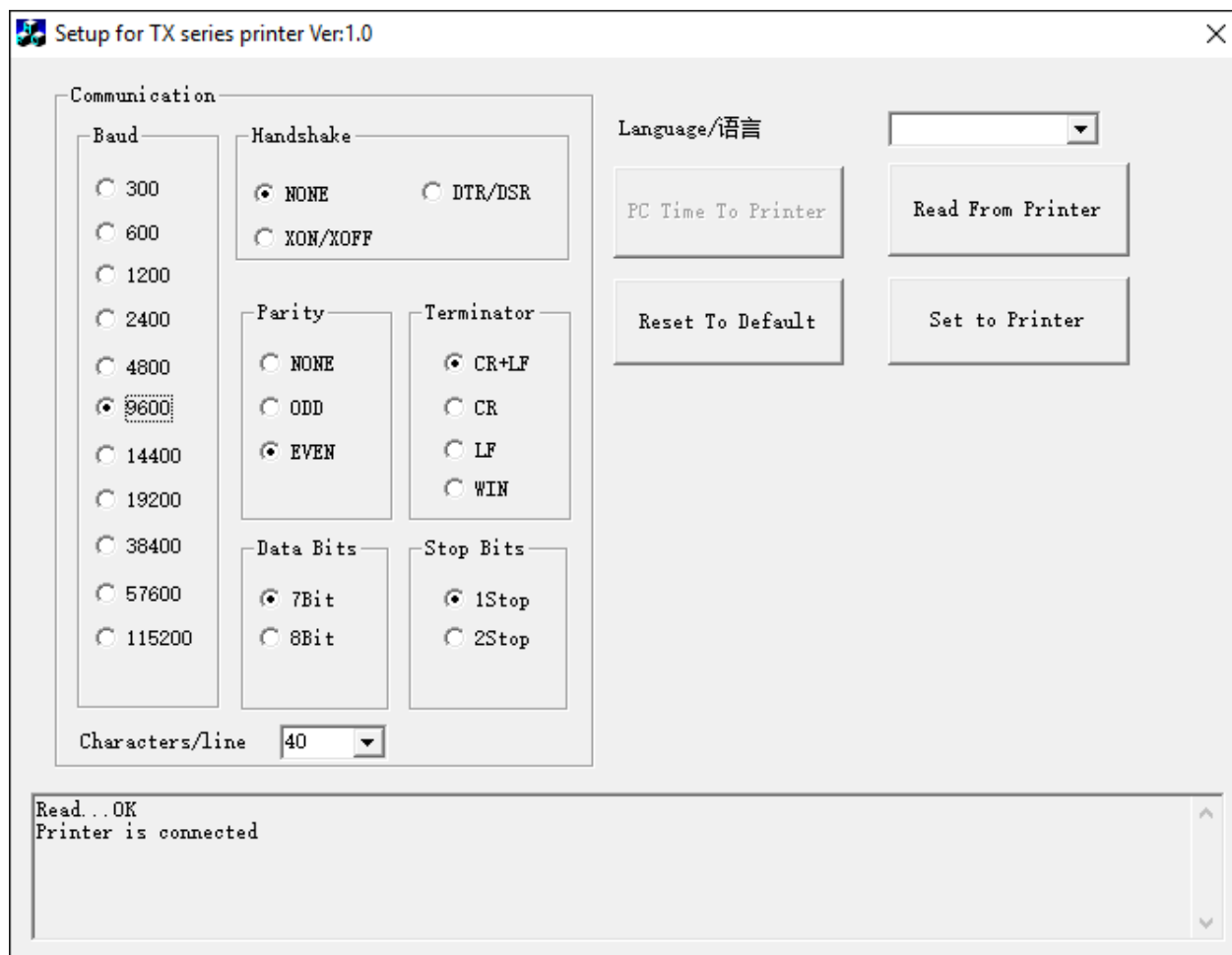
```
-----Auto-Set-----
Please send data to printer, the printer will output the results immediately, if the printer does not respond, it means that printer does not receive data.
-----
```

- Press **PRINT** on the balance. The printer applies the interface settings of the balance and prints them out.
- Confirm the settings by pressing **LF**.

Setting the interface manually

The printer's interface can be set manually by means of the LP 4024 Setup tool, which is available at www.precisa.com under support. This tool runs locally on every PC (no installation or driver needed) with Windows XP or higher.

- Ensure the printer is turned off and disconnected from the mains.
- Establish a physical connection between PC and printer:
[PC] USB-A <=> USB-A [PN 3950-125 Data cable] USB-B <=> USB-B [Printer]
As soon as the connection is established, the power indicator starts flashing red.
- Start the LP 4024 Setup tool. The power indicator lights red, the tool detects the printer's interface settings and is ready:



- Change the settings upon your requirements and finalise by clicking the "Set to Printer" button.
- Disconnect the USB data cable.
- Powercycle the printer.

Cleaning and storing the printer

Cleaning



DANGER

Before cleaning, ensure no power and data cables are connected to the printer. Be sure to hold the plug, not the cable, when disconnecting the printer from an electrical outlet!

- For cleaning wipe the printer with a soft cloth, dampened with some water and mild, non abrasive detergent at most.
- Take care that no liquid is split into the inside of the printer and on connections of the device. Should this although happen, keep it from inadvertent operation. The printer may only be operated again after a re-check made by a service technician.



DANGER

Ensure your hands are dry when connecting the power adapter to the mains for putting the printer into operation again.

Storing

- Turn off the printer after usage.
- Disconnect the power adapter from the mains and from the printer when not using the printer for a longer time.
- Store the printer in a dry place (at +5 .. +45°C, 10 .. 80% relative humidity, non condensing) in its original packaging.

Troubleshooting

Check the following points before calling service:

The power indicator doesn't light up when the power switch is turned on

- **Cause:** The power adapter is not connected.
Remedy: Connect the power adapter.
- **Cause:** The power adapter does not receive power.
Remedy: Supply power to the power adapter.
- **Cause:** The power is not compatible with the printer.
Remedy: Use a compatible power adapter.
- **Cause:** The power adapter has failed.
Remedy: Replace the power adapter.

The printout is too pale

- **Cause:** The ink ribbon is at the end of its lifetime.
Remedy: Replace the ink ribbon.

The printout is uneven

- **Cause:** The ink ribbon is slanted.
Remedy: Re-install the ink ribbon.

Paper stuck in printer

- **Cause:** Paper jam.
Remedy: Cut out the spare printing paper and hold **LF** for taking out the spare paper.

Sounds like printing, but no printout

- **Cause:** The ink ribbon is slanted.
Remedy: Re-install the ink ribbon.
- **Cause:** No ink ribbon in printer.
Remedy: Re-install the ink ribbon.

The characters are not aligned

- **Cause:** Paper jam.
Remedy: Cut out the spare printing paper and hold **LF** for taking out the spare paper.
- **Cause:** The printer paper is inserted incorrectly.
Remedy: Re-install the printing paper referring to chapter "Installing the paper roll" on page 7.

- **Cause:** Incompatible printing paper.
Remedy: Install compatible printing paper.
- **Cause:** The hard roll inside the paper roll is missing.
Remedy: Install compatible printing paper.

The printout is unclear

- **Cause:** Ink ribbon fault.
Remedy: Replace the ink ribbon.

Partially missing printout

- **Cause:** The ink ribbon wrinkles.
Remedy: Remove the ink ribbon cassette, pull out the ribbon core, and, when the ribbon is no longer folded, reinsert it by turning the ribbon gear clockwise, then reinstall the cassette.

No printout

- **Cause:** Incorrect cable connection between printer and instrument.
Remedy: Re-install the data cable referring to chapter "Physical connection to the balance" on page 8.
- **Cause:** The interface settings of the printer and balance do not match.
Remedy: Ensure that the interface settings of the printer and the instrument match referring to chapter "Setting the interface automatically" or "Setting the interface manually" on page 8.